



## Laboratory Report of Analysis

To: ADEC-Air & Water Quality  
610 University Drive  
Fairbanks, AK 99709  
(907)451-2141

Report Number: **1225537**

Client Project: **WHADA**

Dear Morgan Brown,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

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Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **ADEC-Air & Water Quality**

SGS Project: **1225537**

Project Name/Site: **WHADA**

Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

Mercury 245.1 Total was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 09/30/2022 7:31:03AM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
SOCR-0.05	1225537001	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-0.05-DUP	1225537002	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-4.5	1225537003	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-4.5-DUP	1225537004	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-0.05	1225537005	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-0.05-DUP	1225537006	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-4.5	1225537007	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)
SOCR-4.5-DUP	1225537008	09/13/2022	09/13/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO <sub>3</sub> by ICP-MS
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Print Date: 09/30/2022 7:31:07AM

### Detectable Results Summary

Client Sample ID: **SOCR-0.05**

Lab Sample ID: 1225537001

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	19900	ug/L
Hardness as CaCO <sub>3</sub>	68.0	mg/L
Magnesium	4460	ug/L
Total Phosphorus	0.0800	mg/L

**Waters Department**

Client Sample ID: **SOCR-0.05-DUP**

Lab Sample ID: 1225537002

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	18900	ug/L
Hardness as CaCO <sub>3</sub>	65.4	mg/L
Magnesium	4450	ug/L
Total Phosphorus	0.0738	mg/L

**Waters Department**

Client Sample ID: **SOCR-4.5**

Lab Sample ID: 1225537003

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	15300	ug/L
Hardness as CaCO <sub>3</sub>	52.9	mg/L
Magnesium	3560	ug/L
Total Phosphorus	0.0625	mg/L

**Waters Department**

Client Sample ID: **SOCR-4.5-DUP**

Lab Sample ID: 1225537004

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	15600	ug/L
Hardness as CaCO <sub>3</sub>	53.5	mg/L
Magnesium	3570	ug/L
Total Phosphorus	0.0640	mg/L

**Waters Department**

Client Sample ID: **SOCR-0.05**

Lab Sample ID: 1225537005

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	6.68	ug/L
Barium	11.2	ug/L
Calcium	19200	ug/L
Magnesium	4440	ug/L
Manganese	1.87	ug/L
Potassium	1990	ug/L
Silicon	10400	ug/L
Sodium	5740	ug/L
Zinc	32.6	ug/L
TOC Average, Dissolved	8.98	mg/L

**Waters Department**

### Detectable Results Summary

Client Sample ID: **SOCR-0.05-DUP**

Lab Sample ID: 1225537006

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	6.37	ug/L
Barium	11.0	ug/L
Calcium	19200	ug/L
Magnesium	4440	ug/L
Manganese	2.36	ug/L
Potassium	1990	ug/L
Silicon	10400	ug/L
Sodium	5710	ug/L
TOC Average, Dissolved	8.97	mg/L

**Waters Department**

Client Sample ID: **SOCR-4.5**

Lab Sample ID: 1225537007

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	8.08	ug/L
Barium	8.91	ug/L
Calcium	15600	ug/L
Iron	309	ug/L
Magnesium	3580	ug/L
Manganese	2.46	ug/L
Potassium	1830	ug/L
Silicon	9550	ug/L
Sodium	3660	ug/L
Zinc	71.6	ug/L
TOC Average, Dissolved	9.73	mg/L

**Waters Department**

Client Sample ID: **SOCR-4.5-DUP**

Lab Sample ID: 1225537008

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	8.44	ug/L
Barium	8.60	ug/L
Calcium	15300	ug/L
Iron	335	ug/L
Magnesium	3500	ug/L
Manganese	2.70	ug/L
Potassium	1790	ug/L
Silicon	9410	ug/L
Sodium	3560	ug/L
TOC Average, Dissolved	9.76	mg/L

**Waters Department**



**Results of SOCR-0.05**

Client Sample ID: **SOCR-0.05**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537001  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	19900	500	150	ug/L	1		09/28/22 19:33
Magnesium	4460	50.0	15.0	ug/L	1		09/28/22 19:33

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 19:33  
Container ID: 1225537001-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	68.0	5.00	5.00	mg/L	1		09/28/22 19:33

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 09/28/22 19:33  
Container ID: 1225537001-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-0.05**

Client Sample ID: **SOCR-0.05**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537001  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		09/27/22 13:02

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 13:02  
Container ID: 1225537001-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0800	0.0400	0.0120	mg/L	1		09/28/22 17:23

**Batch Information**

Analytical Batch: WDA5336	Prep Batch: WXX14475
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 09/28/22 08:38
Analytical Date/Time: 09/28/22 17:23	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537001-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		09/16/22 17:44

**Batch Information**

Analytical Batch: WDA5324	Prep Batch: WXX14441
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: MEB	Prep Date/Time: 09/16/22 12:14
Analytical Date/Time: 09/16/22 17:44	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537001-C	Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:09AM





Results of **SOCR-0.05-DUP**

Client Sample ID: **SOCR-0.05-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537002  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	18900	500	150	ug/L	1		09/28/22 20:05
Magnesium	4450	50.0	15.0	ug/L	1		09/28/22 20:05

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:05  
Container ID: 1225537002-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	65.4	5.00	5.00	mg/L	1		09/28/22 20:05

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:05  
Container ID: 1225537002-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



Results of **SOCR-0.05-DUP**

Client Sample ID: **SOCR-0.05-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537002  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		09/27/22 13:04

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 13:04  
Container ID: 1225537002-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0738	0.0400	0.0120	mg/L	1		09/28/22 17:26

**Batch Information**

Analytical Batch: WDA5336	Prep Batch: WXX14475
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 09/28/22 08:38
Analytical Date/Time: 09/28/22 17:26	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537002-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		09/16/22 17:48

**Batch Information**

Analytical Batch: WDA5324	Prep Batch: WXX14441
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: MEB	Prep Date/Time: 09/16/22 12:14
Analytical Date/Time: 09/16/22 17:48	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537002-C	Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-4.5**

Client Sample ID: **SOCR-4.5**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537003  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	15300	500	150	ug/L	1		09/28/22 20:08
Magnesium	3560	50.0	15.0	ug/L	1		09/28/22 20:08

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:08  
Container ID: 1225537003-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	52.9	5.00	5.00	mg/L	1		09/28/22 20:08

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:08  
Container ID: 1225537003-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-4.5**

Client Sample ID: **SOCR-4.5**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537003  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		09/27/22 13:11

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 13:11  
Container ID: 1225537003-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0625	0.0400	0.0120	mg/L	1		09/28/22 17:26

**Batch Information**

Analytical Batch: WDA5336	Prep Batch: WXX14475
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 09/28/22 08:38
Analytical Date/Time: 09/28/22 17:26	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537003-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		09/16/22 17:49

**Batch Information**

Analytical Batch: WDA5324	Prep Batch: WXX14441
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: MEB	Prep Date/Time: 09/16/22 12:14
Analytical Date/Time: 09/16/22 17:49	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537003-C	Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:09AM



Results of **SOCR-4.5-DUP**

Client Sample ID: **SOCR-4.5-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537004  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	15600	500	150	ug/L	1		09/28/22 20:10
Magnesium	3570	50.0	15.0	ug/L	1		09/28/22 20:10

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:10  
Container ID: 1225537004-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	53.5	5.00	5.00	mg/L	1		09/28/22 20:10

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:10  
Container ID: 1225537004-B

Prep Batch: MX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



Results of **SOCR-4.5-DUP**

Client Sample ID: **SOCR-4.5-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537004  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		09/27/22 13:13

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 13:13  
Container ID: 1225537004-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0640	0.0400	0.0120	mg/L	1		09/28/22 17:27

**Batch Information**

Analytical Batch: WDA5336	Prep Batch: WXX14475
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 09/28/22 08:38
Analytical Date/Time: 09/28/22 17:27	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537004-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		09/16/22 17:50

**Batch Information**

Analytical Batch: WDA5324	Prep Batch: WXX14441
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: MEB	Prep Date/Time: 09/16/22 12:14
Analytical Date/Time: 09/16/22 17:50	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225537004-C	Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-0.05**

Client Sample ID: **SOCR-0.05**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537005  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:13
Antimony	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:13
Arsenic	6.68	5.00	1.50	ug/L	1		09/28/22 20:13
Barium	11.2	3.00	0.940	ug/L	1		09/28/22 20:13
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/28/22 20:13
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/28/22 20:13
Calcium	19200	500	150	ug/L	1		09/28/22 20:13
Chromium	5.00 U	5.00	2.50	ug/L	1		09/28/22 20:13
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/28/22 20:13
Copper	3.00 U	3.00	1.00	ug/L	1		09/28/22 20:13
Iron	250 U	250	78.0	ug/L	1		09/28/22 20:13
Lead	2.00 U	2.00	0.500	ug/L	1		09/28/22 20:13
Magnesium	4440	50.0	15.0	ug/L	1		09/28/22 20:13
Manganese	1.87	1.00	0.350	ug/L	1		09/28/22 20:13
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:13
Nickel	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:13
Phosphorus	200 U	200	62.0	ug/L	1		09/28/22 20:13
Potassium	1990	500	150	ug/L	1		09/28/22 20:13
Selenium	5.00 U	5.00	1.50	ug/L	1		09/28/22 20:13
Silicon	10400	1000	310	ug/L	1		09/28/22 20:13
Silver	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:13
Sodium	5740	500	150	ug/L	1		09/28/22 20:13
Thallium	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:13
Tin	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:13
Titanium	6.25 U	6.25	3.13	ug/L	1		09/28/22 20:13
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:13
Zinc	32.6	10.0	3.10	ug/L	1		09/28/22 20:13

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:13  
Container ID: 1225537005-B

Prep Batch: MXX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM

## Results of SOCR-0.05

Client Sample ID: **SOCR-0.05**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225537005  
 Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
 Received Date: 09/13/22 13:52  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	8.98	1.00	0.400	mg/L	1		09/26/22 21:03

## Batch Information

Analytical Batch: WTC3239  
 Analytical Method: SM 5310B  
 Analyst: EBH  
 Analytical Date/Time: 09/26/22 21:03  
 Container ID: 1225537005-D

Print Date: 09/30/2022 7:31:09AM





### Results of SOCR-0.05-DUP

Client Sample ID: **SOCR-0.05-DUP**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225537006  
 Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
 Received Date: 09/13/22 13:52  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:16
Antimony	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:16
Arsenic	6.37	5.00	1.50	ug/L	1		09/28/22 20:16
Barium	11.0	3.00	0.940	ug/L	1		09/28/22 20:16
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/28/22 20:16
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/28/22 20:16
Calcium	19200	500	150	ug/L	1		09/28/22 20:16
Chromium	5.00 U	5.00	2.50	ug/L	1		09/28/22 20:16
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/28/22 20:16
Copper	3.00 U	3.00	1.00	ug/L	1		09/28/22 20:16
Iron	250 U	250	78.0	ug/L	1		09/28/22 20:16
Lead	2.00 U	2.00	0.500	ug/L	1		09/28/22 20:16
Magnesium	4440	50.0	15.0	ug/L	1		09/28/22 20:16
Manganese	2.36	1.00	0.350	ug/L	1		09/28/22 20:16
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:16
Nickel	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:16
Phosphorus	200 U	200	62.0	ug/L	1		09/28/22 20:16
Potassium	1990	500	150	ug/L	1		09/28/22 20:16
Selenium	5.00 U	5.00	1.50	ug/L	1		09/28/22 20:16
Silicon	10400	1000	310	ug/L	1		09/28/22 20:16
Silver	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:16
Sodium	5710	500	150	ug/L	1		09/28/22 20:16
Thallium	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:16
Tin	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:16
Titanium	6.25 U	6.25	3.13	ug/L	1		09/28/22 20:16
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:16
Zinc	10.0 U	10.0	3.10	ug/L	1		09/28/22 20:16

### Batch Information

Analytical Batch: MMS11698  
 Analytical Method: EP200.8  
 Analyst: HGS  
 Analytical Date/Time: 09/28/22 20:16  
 Container ID: 1225537006-B

Prep Batch: MXX35472  
 Prep Method: E200.2  
 Prep Date/Time: 09/19/22 13:30  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM

## Results of SOCR-0.05-DUP

Client Sample ID: **SOCR-0.05-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537006  
Lab Project ID: 1225537

Collection Date: 09/13/22 11:06  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	8.97	1.00	0.400	mg/L	1		09/26/22 21:22

## Batch Information

Analytical Batch: WTC3239  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 09/26/22 21:22  
Container ID: 1225537006-D

Print Date: 09/30/2022 7:31:09AM



### Results of SOCR-4.5

Client Sample ID: **SOCR-4.5**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225537007  
 Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
 Received Date: 09/13/22 13:52  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:24
Antimony	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:24
Arsenic	8.08	5.00	1.50	ug/L	1		09/28/22 20:24
Barium	8.91	3.00	0.940	ug/L	1		09/28/22 20:24
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/28/22 20:24
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/28/22 20:24
Calcium	15600	500	150	ug/L	1		09/28/22 20:24
Chromium	5.00 U	5.00	2.50	ug/L	1		09/28/22 20:24
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/28/22 20:24
Copper	3.00 U	3.00	1.00	ug/L	1		09/28/22 20:24
Iron	309	250	78.0	ug/L	1		09/28/22 20:24
Lead	2.00 U	2.00	0.500	ug/L	1		09/28/22 20:24
Magnesium	3580	50.0	15.0	ug/L	1		09/28/22 20:24
Manganese	2.46	1.00	0.350	ug/L	1		09/28/22 20:24
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:24
Nickel	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:24
Phosphorus	200 U	200	62.0	ug/L	1		09/28/22 20:24
Potassium	1830	500	150	ug/L	1		09/28/22 20:24
Selenium	5.00 U	5.00	1.50	ug/L	1		09/28/22 20:24
Silicon	9550	1000	310	ug/L	1		09/28/22 20:24
Silver	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:24
Sodium	3660	500	150	ug/L	1		09/28/22 20:24
Thallium	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:24
Tin	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:24
Titanium	6.25 U	6.25	3.13	ug/L	1		09/28/22 20:24
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:24
Zinc	71.6	10.0	3.10	ug/L	1		09/28/22 20:24

### Batch Information

Analytical Batch: MMS11698  
 Analytical Method: EP200.8  
 Analyst: HGS  
 Analytical Date/Time: 09/28/22 20:24  
 Container ID: 1225537007-B

Prep Batch: MXX35472  
 Prep Method: E200.2  
 Prep Date/Time: 09/19/22 13:30  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-4.5**

Client Sample ID: **SOCR-4.5**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537007  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	9.73	1.00	0.400	mg/L	1		09/26/22 21:40

**Batch Information**

Analytical Batch: WTC3239  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 09/26/22 21:40  
Container ID: 1225537007-D

Print Date: 09/30/2022 7:31:09AM



Results of **SOCR-4.5-DUP**

Client Sample ID: **SOCR-4.5-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537008  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:26
Antimony	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:26
Arsenic	8.44	5.00	1.50	ug/L	1		09/28/22 20:26
Barium	8.60	3.00	0.940	ug/L	1		09/28/22 20:26
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/28/22 20:26
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/28/22 20:26
Calcium	15300	500	150	ug/L	1		09/28/22 20:26
Chromium	5.00 U	5.00	2.50	ug/L	1		09/28/22 20:26
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/28/22 20:26
Copper	3.00 U	3.00	1.00	ug/L	1		09/28/22 20:26
Iron	335	250	78.0	ug/L	1		09/28/22 20:26
Lead	2.00 U	2.00	0.500	ug/L	1		09/28/22 20:26
Magnesium	3500	50.0	15.0	ug/L	1		09/28/22 20:26
Manganese	2.70	1.00	0.350	ug/L	1		09/28/22 20:26
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:26
Nickel	2.00 U	2.00	0.620	ug/L	1		09/28/22 20:26
Phosphorus	200 U	200	62.0	ug/L	1		09/28/22 20:26
Potassium	1790	500	150	ug/L	1		09/28/22 20:26
Selenium	5.00 U	5.00	1.50	ug/L	1		09/28/22 20:26
Silicon	9410	1000	310	ug/L	1		09/28/22 20:26
Silver	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:26
Sodium	3560	500	150	ug/L	1		09/28/22 20:26
Thallium	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:26
Tin	1.00 U	1.00	0.310	ug/L	1		09/28/22 20:26
Titanium	6.25 U	6.25	3.13	ug/L	1		09/28/22 20:26
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/28/22 20:26
Zinc	10.0 U	10.0	3.10	ug/L	1		09/28/22 20:26

**Batch Information**

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/28/22 20:26  
Container ID: 1225537008-B

Prep Batch: MXX35472  
Prep Method: E200.2  
Prep Date/Time: 09/19/22 13:30  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:09AM



**Results of SOCR-4.5-DUP**

Client Sample ID: **SOCR-4.5-DUP**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225537008  
Lab Project ID: 1225537

Collection Date: 09/13/22 10:30  
Received Date: 09/13/22 13:52  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	9.76	1.00	0.400	mg/L	1		09/26/22 21:59

**Batch Information**

Analytical Batch: WTC3239  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 09/26/22 21:59  
Container ID: 1225537008-D

Print Date: 09/30/2022 7:31:09AM



### Method Blank

Blank ID: MB for HBN 1843924 [MXX/35472]  
Blank Lab ID: 1686470

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225537001, 1225537002, 1225537003, 1225537004, 1225537005, 1225537006, 1225537007, 1225537008

### Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aluminum	10.0U	20.0	6.20	ug/L
Antimony	0.500U	1.00	0.310	ug/L
Arsenic	2.50U	5.00	1.50	ug/L
Barium	1.50U	3.00	0.940	ug/L
Beryllium	0.200U	0.400	0.130	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Calcium	250U	500	150	ug/L
Chromium	2.50U	5.00	2.50	ug/L
Cobalt	2.00U	4.00	1.20	ug/L
Copper	1.50U	3.00	1.00	ug/L
Iron	125U	250	78.0	ug/L
Lead	1.00U	2.00	0.500	ug/L
Magnesium	25.0U	50.0	15.0	ug/L
Manganese	0.500U	1.00	0.350	ug/L
Molybdenum	1.00U	2.00	0.620	ug/L
Nickel	1.00U	2.00	0.620	ug/L
Phosphorus	100U	200	62.0	ug/L
Potassium	250U	500	150	ug/L
Selenium	2.50U	5.00	1.50	ug/L
Silicon	500U	1000	310	ug/L
Silver	0.500U	1.00	0.310	ug/L
Sodium	250U	500	150	ug/L
Thallium	0.500U	1.00	0.310	ug/L
Tin	0.500U	1.00	0.310	ug/L
Titanium	12.5U	25.0	7.75	ug/L
Vanadium	10.0U	20.0	6.20	ug/L
Zinc	4.91J	10.0	3.10	ug/L

### Batch Information

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 9/28/2022 7:25:22PM

Prep Batch: MXX35472  
Prep Method: E200.2  
Prep Date/Time: 9/19/2022 1:30:53PM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 09/30/2022 7:31:12AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [MXX35472]

Blank Spike Lab ID: 1686471

Date Analyzed: 09/28/2022 19:28

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004, 1225537005, 1225537006, 1225537007, 1225537008

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Aluminum	1000	966	97	(85-115)
Antimony	1000	1010	101	(85-115)
Arsenic	1000	973	97	(85-115)
Barium	1000	995	100	(85-115)
Beryllium	100	97.6	98	(85-115)
Cadmium	100	98.4	98	(85-115)
Calcium	10000	9730	97	(85-115)
Chromium	400	377	94	(85-115)
Cobalt	500	488	98	(85-115)
Copper	1000	985	99	(85-115)
Iron	5000	5340	107	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	10000	9780	98	(85-115)
Manganese	500	487	97	(85-115)
Molybdenum	400	370	93	(85-115)
Nickel	1000	967	97	(85-115)
Phosphorus	500	490	98	(85-115)
Potassium	10000	9970	100	(85-115)
Selenium	1000	1020	102	(85-115)
Silicon	10000	10100	101	(85-115)
Silver	100	96.5	97	(85-115)
Sodium	10000	9800	98	(85-115)
Thallium	10	9.92	99	(85-115)
Tin	100	97.6	98	(85-115)
Titanium	100	99.6	100	(85-115)
Vanadium	200	185	92	(85-115)
Zinc	1000	980	98	(85-115)

## Batch Information

Analytical Batch: **MMS11698**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35472**

Prep Method: **E200.2**

Prep Date/Time: **09/19/2022 13:30**

Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/30/2022 7:31:15AM





### Matrix Spike Summary

Original Sample ID: 1686468  
MS Sample ID: 1686473 MS  
MSD Sample ID:

Analysis Date: 09/28/2022 19:33  
Analysis Date: 09/28/2022 19:36  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001

### Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aluminum	46.5	1000	1010	96				70-130		
Antimony	0.500U	1000	1020	102				70-130		
Arsenic	10.5	1000	991	98				70-130		
Barium	17.1	1000	1010	100				70-130		
Beryllium	0.200U	100	96.4	96				70-130		
Cadmium	0.250U	100	97.7	98				70-130		
Calcium	19900	10000	29100	92				70-130		
Chromium	2.50U	400	371	93				70-130		
Cobalt	2.00U	500	484	97				70-130		
Copper	1.50U	1000	973	97				70-130		
Iron	821	5000	6050	105				70-130		
Lead	1.00U	1000	1000	100				70-130		
Magnesium	4460	10000	14000	96				70-130		
Manganese	283	500	760	96				70-130		
Molybdenum	1.03J	400	370	92				70-130		
Nickel	1.00U	1000	953	95				70-130		
Phosphorus	83.0J	500	559	95				70-130		
Potassium	2020	10000	12000	100				70-130		
Selenium	2.50U	1000	1010	101				70-130		
Silicon	10700	10000	20700	100				70-130		
Silver	0.500U	100	97.1	97				70-130		
Sodium	5630	10000	15300	97				70-130		
Thallium	0.500U	10.0	9.92	99				70-130		
Tin	0.500U	100	97.6	98				70-130		
Titanium	12.5U	100	103	103				70-130		
Vanadium	10.0U	200	185	92				70-130		
Zinc	25.9	1000	981	96				70-130		

### Batch Information

Analytical Batch: MMS11698  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 9/28/2022 7:36:00PM

Prep Batch: MXX35472  
Prep Method: DW Digest for Metals on ICP-MS  
Prep Date/Time: 9/19/2022 1:30:53PM  
Prep Initial Wt./Vol.: 20.00mL  
Prep Extract Vol: 50.00mL

Print Date: 09/30/2022 7:31:16AM

## Matrix Spike Summary

Original Sample ID: 1686469  
 MS Sample ID: 1686474 MS  
 MSD Sample ID:

Analysis Date: 09/28/2022 19:38  
 Analysis Date: 09/28/2022 19:41  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537002, 1225537003, 1225537004, 1225537005, 1225537006, 1225537007, 1225537008

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aluminum	43.6	1000	1000	96				70-130		
Antimony	0.500U	1000	1020	102				70-130		
Arsenic	2.50U	1000	978	98				70-130		
Barium	16.7	1000	1020	100				70-130		
Beryllium	0.200U	100	96.6	97				70-130		
Cadmium	0.250U	100	98.1	98				70-130		
Calcium	25700	10000	35300	96				70-130		
Chromium	2.50U	400	378	95				70-130		
Cobalt	2.00U	500	486	97				70-130		
Copper	1.50U	1000	977	98				70-130		
Iron	125U	5000	5420	108				70-130		
Lead	1.00U	1000	1000	100				70-130		
Magnesium	1260	10000	10900	96				70-130		
Manganese	19.2	500	505	97				70-130		
Molybdenum	3.17	400	375	93				70-130		
Nickel	1.00U	1000	961	96				70-130		
Phosphorus	100U	500	499	100				70-130		
Potassium	777	10000	10700	100				70-130		
Selenium	2.50U	1000	1020	102				70-130		
Silicon	1680	10000	11700	101				70-130		
Silver	0.500U	100	96.8	97				70-130		
Sodium	4070	10000	13700	96				70-130		
Thallium	0.500U	10.0	9.85	99				70-130		
Tin	0.500U	100	98.5	99				70-130		
Titanium	12.5U	100	102	102				70-130		
Vanadium	10.0U	200	186	93				70-130		
Zinc	41.2	1000	1020	98				70-130		

## Batch Information

Analytical Batch: MMS11698  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 9/28/2022 7:41:00PM

Prep Batch: MXX35472  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 9/19/2022 1:30:53PM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 09/30/2022 7:31:16AM



### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688150

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 2:16:28PM

Print Date: 09/30/2022 7:31:21AM

## Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688156

QC for Samples:

1225537001, 1225537002, 1225537003, 1225537004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 1:30:58PM

Print Date: 09/30/2022 7:31:21AM

## Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688162

QC for Samples:

1225537001, 1225537002, 1225537003, 1225537004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 12:45:27PM

Print Date: 09/30/2022 7:31:21AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [WFI3006]  
 Blank Spike Lab ID: 1688152  
 Date Analyzed: 09/27/2022 14:14

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.50	100	( 70-130 )
Nitrite-N	2.5	2.57	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.07	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**

Print Date: 09/30/2022 7:31:24AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [WFI3006]

Blank Spike Lab ID: 1688158

Date Analyzed: 09/27/2022 13:29

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.85	114	( 70-130 )
Nitrite-N	2.5	2.59	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.44	109	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [WFI3006]

Blank Spike Lab ID: 1688164

Date Analyzed: 09/27/2022 12:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.47	99	( 70-130 )
Nitrite-N	2.5	2.58	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.05	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 09/30/2022 7:31:24AM



## Matrix Spike Summary

Original Sample ID: 1688128  
 MS Sample ID: 1688129 MS  
 MSD Sample ID: 1688130 MSD

Analysis Date: 09/27/2022 12:41  
 Analysis Date: 09/27/2022 11:59  
 Analysis Date: 09/27/2022 12:01  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.591	5.00	5.59	100	5.00	5.63	101	90-110	0.58	(< 25 )

## Batch Information

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 9/27/2022 11:59:00AM

Print Date: 09/30/2022 7:31:25AM



### Matrix Spike Summary

Original Sample ID: 1225513013  
MS Sample ID: 1688131 MS  
MSD Sample ID: 1688132 MSD

Analysis Date: 09/27/2022 12:48  
Analysis Date: 09/27/2022 12:50  
Analysis Date: 09/27/2022 12:52  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.0570J	5.00	4.89	97	5.00	5.14	102	90-110	5.10	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 12:50:00PM

Print Date: 09/30/2022 7:31:25AM

## Matrix Spike Summary

Original Sample ID: 1225613001  
 MS Sample ID: 1688133 MS  
 MSD Sample ID: 1688134 MSD

Analysis Date: 09/27/2022 13:34  
 Analysis Date: 09/27/2022 13:36  
 Analysis Date: 09/27/2022 13:37  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.17	103	5.00	5.41	108	90-110	4.50	(< 25 )

## Batch Information

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 9/27/2022 1:36:00PM

Print Date: 09/30/2022 7:31:25AM

## Method Blank

Blank ID: MB for HBN 1843849 [WXX/14441]  
 Blank Lab ID: 1686139

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225537001, 1225537002, 1225537003, 1225537004

## Results by SM23 4500-N D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L

## Batch Information

Analytical Batch: WDA5324  
 Analytical Method: SM23 4500-N D  
 Instrument: Discrete Analyzer 2  
 Analyst: MEB  
 Analytical Date/Time: 9/16/2022 5:16:00PM

Prep Batch: WXX14441  
 Prep Method: METHOD  
 Prep Date/Time: 9/16/2022 12:14:00PM  
 Prep Initial Wt./Vol.: 25 mL  
 Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:29AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [WXX14441]  
 Blank Spike Lab ID: 1686140  
 Date Analyzed: 09/16/2022 17:18

Spike Duplicate ID: LCSD for HBN 1225537 [WXX14441]  
 Spike Duplicate Lab ID: 1686141  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

## Results by SM23 4500-N D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	4	3.90	97	4	3.82	96	( 75-125 )	1.90	(< 25 )

## Batch Information

Analytical Batch: **WDA5324**  
 Analytical Method: **SM23 4500-N D**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **MEB**

Prep Batch: **WXX14441**  
 Prep Method: **METHOD**  
 Prep Date/Time: **09/16/2022 12:14**  
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:31AM



### Matrix Spike Summary

Original Sample ID: 1225059001  
MS Sample ID: 1686142 MS  
MSD Sample ID: 1686143 MSD

Analysis Date: 09/16/2022 17:24  
Analysis Date: 09/16/2022 17:25  
Analysis Date: 09/16/2022 17:27  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

### Results by SM23 4500-N D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	1.00U	4.00	4.01	100	4.00	3.77	94	75-125	6.10	(< 25 )

### Batch Information

Analytical Batch: WDA5324  
Analytical Method: SM23 4500-N D  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/16/2022 5:25:00PM

Prep Batch: WXX14441  
Prep Method: Distillation TKN by Phenate (W)  
Prep Date/Time: 9/16/2022 12:14:00PM  
Prep Initial Wt./Vol.: 25.00mL  
Prep Extract Vol: 25.00mL

Print Date: 09/30/2022 7:31:33AM



### Method Blank

Blank ID: MB for HBN 1844468 [WXX/14475]  
Blank Lab ID: 1688627

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225537001, 1225537002, 1225537003, 1225537004

### Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0200U	0.0400	0.0120	mg/L

### Batch Information

Analytical Batch: WDA5336  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/28/2022 5:14:00PM

Prep Batch: WXX14475  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 9/28/2022 8:38:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:36AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225537 [WXX14475]  
 Blank Spike Lab ID: 1688628  
 Date Analyzed: 09/28/2022 17:15

Spike Duplicate ID: LCSD for HBN 1225537 [WXX14475]  
 Spike Duplicate Lab ID: 1688629  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

### Results by SM21 4500P-B,E

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.2	0.206	103	0.2	0.198	99	( 75-125 )	3.70	(< 25 )

### Batch Information

Analytical Batch: WDA5336  
 Analytical Method: SM21 4500P-B,E  
 Instrument: Discrete Analyzer 2  
 Analyst: MEB

Prep Batch: WXX14475  
 Prep Method: SM21 4500P-B,E  
 Prep Date/Time: 09/28/2022 08:38  
 Spike Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL

Print Date: 09/30/2022 7:31:38AM





### Matrix Spike Summary

Original Sample ID: 1225456001  
MS Sample ID: 1688630 MS  
MSD Sample ID: 1688631 MSD

Analysis Date: 09/28/2022 18:45  
Analysis Date: 09/28/2022 18:45  
Analysis Date: 09/28/2022 18:46  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225537001, 1225537002, 1225537003, 1225537004

### Results by SM21 4500P-B,E

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	1.39	4.00	5.57	105	4.00	5.57	105	75-125	0.07	(< 10 )

### Batch Information

Analytical Batch: WDA5336  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/28/2022 6:45:00PM

Prep Batch: WXX14475  
Prep Method: Total Phosphorus (W) Ext.  
Prep Date/Time: 9/28/2022 8:38:00AM  
Prep Initial Wt./Vol.: 1.25mL  
Prep Extract Vol: 25.00mL

Print Date: 09/30/2022 7:31:39AM



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

1225537



Profile # 385380 DBR

CLIENT: ADEC					INSTRUCTIONS: SECTIONS 1-5 MUST BE FILLED OUT. OMISSIONS MAY DELAY THE ONSET OF ANALYSIS.										Page 1 of 1				
CONTACT: Morgan Brown PHONE #: 907-451-2141					SECTION 3		PRESERVATIVE												
PROJECT NAME: WHADA PROJECT/PWSID/PERMIT #: NTP 22 464					CONTAINER #	SAMPLE TYPE:													
REPORTS TO: Morgan Brown E-MAIL: Morgan.Brown@alaska.gov						Na2SO4 Na2SO4 HNO3 HNO3 H2SO4													
INVOICE TO: ADEC QUOTE #: P.O. #:						SM9222D Fecal Coliform SM9223B E. Coli 245.1 Total Hg 200.8 Diss Metals (Lab Filter) 2340B Total hardness 5310B DOC (Lab Filter) SM4500 T-Phos, NO2 +NO3,TKN													
RESERVED FOR LAB USE	SAMPLE IDENTIFICATION				DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE	#	CONTAINER	SAMPLE TYPE	SM9222D Fecal Coliform	SM9223B E. Coli	245.1 Total Hg	200.8 Diss Metals (Lab Filter)	2340B Total hardness	5310B DOC (Lab Filter)	SM4500 T-Phos, NO2 +NO3,TKN	REMARKS/LOC ID	
IAC 5AD	SOCR-0.05				9/13/22	11:06	W	5	Grab			X	X	X	X	X			
IAC 6AD	SoCr-0.05-DUP				↓	11:06	↓	↓	↓				X	X	X	X	X		
IAC 7AD	SoCr-4.5				↓	10:30	↓	↓	↓				X	X	X	X	X		
IAC 8AD	SoCr-4.5-Dup				↓	10:30	↓	↓	↓				X	X	X	X	X		
RELINQUISHED BY: (1)					DATE	TIME	RECEIVED BY:					SECTION 4 DOD Project? No					DATA DELIVERABLE REQUIREMENTS:		
<i>[Signature]</i>					9/13/22	11:55						COC ID:							
RELINQUISHED BY: (2)					DATE	TIME	RECEIVED BY:					REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS							
RELINQUISHED BY: (3)					DATE	TIME	RECEIVED BY:												
RELINQUISHED BY: (4)					DATE	TIME	RECEIVED FOR LABORATORY BY:					TEMP BLANK °C: 5.9 DOZ OR AMBIENT [ ]					CHAIN OF CUSTODY SEAL: (CIRCLE) INTACT BROKEN <u>ABSENT</u>		
					09/13/22	13:52	<i>[Signature]</i> TO					(See attached Sample Receipt Form)					(See attached Sample Receipt Form)		

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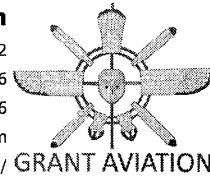
http://www.sgs.com/terms-and-conditions

# AIRBILL 10481294

I hereby declare that the goods contained herein do not contain dangerous goods.

Signed..... Date .....

**Grant Aviation**  
 6420 Kulis Dr. Anchorage, AK 99502  
**Phone:** 1 (888) 359-4726  
**Freephone:** 1 (888) 359-4726  
**Email:** res@flygrant.com  
**Web:** http://www.flygrant.com/



## FREIGHT DETAILS

**FROM/TO:** Kenai -> Anchorage International

**Flight Departs:** Sep 13 22 12:40 PM

**Receiver:** sgs attn justin nelson  
 907-206-1339

**Sender:** Department of environmental conservation  
 907-451-2141

**Accepted:** Tue, Sep 13 22 12:02:00 PM

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
Water samples in fish box	1	17	-	-	\$28.24
Total Tax:					\$1.76
Total Payments made:					\$30.00
<b>Total Unpaid:</b>					<b>\$0.00</b>

Received in good condition by: .....

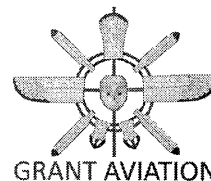
## CUSTOMER COPY

# AIRBILL 10481294

I hereby declare that the goods contained herein do not contain dangerous goods.

Signed..... Date .....

**Grant Aviation**  
 6420 Kulis Dr. Anchorage, AK 99502  
**Phone:** 1 (888) 359-4726  
**Freephone:** 1 (888) 359-4726  
**Email:** res@flygrant.com  
**Web:** http://www.flygrant.com/



## FREIGHT DETAILS

**FROM/TO:** Kenai -> Anchorage International

**Flight Departs:** Sep 13 22 12:40 PM

**Receiver:** sgs attn justin nelson  
 907-206-1339

**Sender:** Department of environmental conservation  
 907-451-2141

**Accepted:** Tue, Sep 13 22 12:02:00 PM

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
Water samples in fish box	1	17	-	-	\$28.24
TAX: Federal Excise Tax					\$1.76
Total Payments made:					\$30.00
<b>Total Unpaid:</b>					<b>\$0.00</b>

## TERMS AND CONDITIONS

Consignemnt Note Text

**Alert Expeditors Inc.**

**#420433**

Citywide Delivery • 440-3351  
8421 Flamingo Drive • Anchorage, Alaska 99502

Date 9-13-22  
From ADEC Kenai

To S65 Labs Inc

Collect  Prepay  Advance Charges

Job # ENH PO# Grant 10481294

Samples

Shipped Signature 

Received By:  Total Charge 44 of 65



SGS Workorder #:

1225537

1225537

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC? N/A

If <0°C, were sample containers ice free? N/A

Note containers received with ice:

Identify any containers received at non-compliant temperature:

*(Use form FS-0029 if more space is needed)*

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time? Yes

Do sample labels match COC? Record discrepancies. Yes

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear? Yes

*(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*

Were proper containers (type/mass/volume/preservative)used? Yes

Note: Exemption for metals analysis by 200.8/6020 in water.

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container? N/A

Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples? N/A

Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)? N/A

Were all soil VOAs field extracted with Methanol+BFB? N/A

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225537001-A	HNO3 to pH < 2	OK			
1225537001-B	HNO3 to pH < 2	OK			
1225537001-C	H2SO4 to pH < 2	OK			
1225537002-A	HNO3 to pH < 2	OK			
1225537002-B	HNO3 to pH < 2	OK			
1225537002-C	H2SO4 to pH < 2	OK			
1225537003-A	HNO3 to pH < 2	OK			
1225537003-B	HNO3 to pH < 2	OK			
1225537003-C	H2SO4 to pH < 2	OK			
1225537004-A	HNO3 to pH < 2	OK			
1225537004-B	HNO3 to pH < 2	OK			
1225537004-C	H2SO4 to pH < 2	OK			
1225537005-A	No Preservative Required	OK			
1225537005-B	HNO3 to pH < 2	OK			
1225537005-C	No Preservative Required	OK			
1225537005-D	HCL to pH < 2	OK			
1225537006-A	No Preservative Required	OK			
1225537006-B	HNO3 to pH < 2	OK			
1225537006-C	No Preservative Required	OK			
1225537006-D	HCL to pH < 2	OK			
1225537007-A	No Preservative Required	OK			
1225537007-B	HNO3 to pH < 2	OK			
1225537007-C	No Preservative Required	OK			
1225537007-D	HCL to pH < 2	OK			
1225537008-A	No Preservative Required	OK			
1225537008-B	HNO3 to pH < 2	OK			
1225537008-C	No Preservative Required	OK			
1225537008-D	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

**SGS North America, Inc**

**1225537**

**SGS Job Number: FA98951**

**Sampling Date: 09/13/22**

### Report to:

**SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
julie.shumway@sgs.com**

**ATTN: Julie Shumway**

**Total number of pages in report: 19**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Norm Farmer".

**Norm Farmer**  
**Technical Director**

**Client Service contact: Andrea Colby 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.

Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA98951-1: SOCR-0.05 .....	7
<b>4.2:</b> FA98951-2: SOCR-0.05-DUP .....	8
<b>4.3:</b> FA98951-3: SOCR-4.5 .....	9
<b>4.4:</b> FA98951-4: SOCR-4.5-DUP .....	10
<b>Section 5: Misc. Forms</b> .....	<b>11</b>
<b>5.1:</b> Chain of Custody .....	12
<b>Section 6: Metals Analysis - QC Data Summaries</b> .....	<b>14</b>
<b>6.1:</b> Prep QC MP41232: Hg .....	15

1

2

3

4

5

6





### Sample Summary

SGS North America, Inc  
1225537

Job No: FA98951

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA98951-1	09/13/22	11:06	09/15/22	AQ	Water	SOCR-0.05
FA98951-2	09/13/22	11:06	09/15/22	AQ	Water	SOCR-0.05-DUP
FA98951-3	09/13/22	10:30	09/15/22	AQ	Water	SOCR-4.5
FA98951-4	09/13/22	10:30	09/15/22	AQ	Water	SOCR-4.5-DUP

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA98951

**Site:** 1225537

**Report Date:** 9/22/2022 1:28:26 PM

On 09/15/2022, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA98951 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Metals Analysis By Method EPA 245.1

**Matrix:** AQ

**Batch ID:** MP41232

Sample(s) FA98857-1FMS, FA98857-1FMDS, FA98857-1FSDL, FA98857-1FDUP were used as the QC samples for metals. RPD(s) for Duplicate for Mercury are outside control limits for sample MP41232-D1. RPD acceptable due to low duplicate and sample concentrations.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. - Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

\_\_\_\_\_  
Kim Benham, Client Services (*Signature on File*)

## Summary of Hits

**Job Number:** FA98951  
**Account:** SGS North America, Inc  
**Project:** 1225537  
**Collected:** 09/13/22



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**FA98951-1      SOCR-0.05**

No hits reported in this sample.

**FA98951-2      SOCR-0.05-DUP**

No hits reported in this sample.

**FA98951-3      SOCR-4.5**

No hits reported in this sample.

**FA98951-4      SOCR-4.5-DUP**

No hits reported in this sample.

Sample Results

---

Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> SOCR-0.05	<b>Date Sampled:</b> 09/13/22
<b>Lab Sample ID:</b> FA98951-1	<b>Date Received:</b> 09/15/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225537	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/21/22	09/21/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18927

(2) Prep QC Batch: MP41232

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> SOCR-0.05-DUP	<b>Date Sampled:</b> 09/13/22
<b>Lab Sample ID:</b> FA98951-2	<b>Date Received:</b> 09/15/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225537	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/21/22	09/21/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18927

(2) Prep QC Batch: MP41232

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> SOCR-4.5	<b>Date Sampled:</b> 09/13/22
<b>Lab Sample ID:</b> FA98951-3	<b>Date Received:</b> 09/15/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225537	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/21/22	09/21/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18927

(2) Prep QC Batch: MP41232

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> SOCR-4.5-DUP	<b>Date Sampled:</b> 09/13/22
<b>Lab Sample ID:</b> FA98951-4	<b>Date Received:</b> 09/15/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225537	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/21/22	09/21/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18927

(2) Prep QC Batch: MP41232

---

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

---

Includes the following where applicable:

- Chain of Custody

SGS North America Inc.  
CHAIN OF CUSTODY RECORD



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

FA98951

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1					
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless									
PROJECT NAME: 1225537		PWSID#:		CONTAINER	Preservative Used:	HNO3	TYPE	C = COMP G = GRAB MI = Multi Incremental Soils	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: <a href="mailto:Julie_Shumway@sgs.com">Julie_Shumway@sgs.com</a>											
INVOICE TO: SGS - Alaska		QUOTE #:											
env.alaska.accounting@sgs.com		P.O. #: 1225537											
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE									
1	SOCR-0.05	09/13/2022	11:06:00	Water	1			X				1225537001	
2	SOCR-0.05-DUP	09/13/2022	11:06:00	Water	1			X				1225537002	
3	SOCR-4.5	09/13/2022	10:30:00	Water	1			X				1225537003	
4	SOCR-4.5-DUP	09/13/2022	10:30:00	Water	1			X				1225537004	
Relinquished By: (1)		Date	Time	Received By:		DOD Project?		NO	Data Deliverable Requirements:		Level 2		
Relinquished By: (2)		Date	Time	Received By:		Report to DL (J Flags)?		NO	Requested Turnaround Time and-or Special Instructions:				
Relinquished By: (3)		Date	Time	Received By:		Cooler ID:		Temp Blank °C: 2.0					
Relinquished By: (4)		Date	Time	Received For Laboratory By:		Chain of Custody Seal: (Circle)		or Ambient [ ] INTACT BROKEN ABSENT					

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
[ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

AL ASSESSMENT *[Signature]*

ABE VERIFICATION *[Signature]*

F088\_COC\_REF\_LAB\_20190411

FA98951: Chain of Custody

Page 1 of 2

5.1  
5

## SGS Sample Receipt Summary

Job Number: FA98951

Client: SGS ALASKA

Project: 1225537

Date / Time Received: 9/15/2022 9:30:00 AM

Delivery Method: FX

Airbill #s: \_\_\_\_\_

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

**Cooler Information**

Y or N

- |                             |                                     |                          |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | <u>IR Gun</u>                       |                          |
| 5. Cooler media             | <u>Ice (Bag)</u>                    |                          |

**Trip Blank Information**

Y or N

N/A

- |                                |                          |                          |                                     |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|                                | <u>W or S</u>            |                          | <u>N/A</u>                          |
| 3. Type Of TB Received         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Sample Information**

Y or N

N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Samples preserved properly                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Condition of sample                              | <u>Intact</u>                       |                                     |                                     |
| 5. Sample recvd within HT                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 6. Dates/Times/IDs on COC match Sample Label        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 7. VOCs have headspace                              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Bottles received for unspecified tests           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 9. Compositing instructions clear                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs?         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present?                      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_  
 Test Strip Lot #s: pH 0-3 230315  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_  
 pH 10-12 219813A

Number of Lab Filtered Metals: \_\_\_\_\_  
 Other: (Specify) \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: NATHANS

Date: 9/15/2022 9:30:00 AM

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA98951: Chain of Custody

Page 2 of 2

5.1  
5

## Metals Analysis

---

### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: FA98951  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225537

QC Batch ID: MP41232  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 09/21/22 09/21/22

Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Mercury	0.50	.03	.03	0.025	<0.50	0.028	<0.50

Associated samples MP41232: FA98951-1, FA98951-2, FA98951-3, FA98951-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.1  
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA98951  
 Account: SGSAKA - SGS North America, Inc  
 Project: 1225537

QC Batch ID: MP41232  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 09/21/22 09/21/22

Metal	FA98857-1F Original	DUP	RPD	QC Limits	FA98857-1F Original MS	Spikelot HGFLWS1	% Rec	QC Limits	
Mercury	0.0	0.037	200.0(a)	0-10	0.0	2.9	3	96.7	70-130

Associated samples MP41232: FA98951-1, FA98951-2, FA98951-3, FA98951-4

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA98951  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225537

QC Batch ID: MP41232  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 09/21/22

Metal	FA98857-1F Original MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	2.8	3	93.3	3.5

Associated samples MP41232: FA98951-1, FA98951-2, FA98951-3, FA98951-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

6.1.2  
 6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA98951  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225537

QC Batch ID: MP41232  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 09/21/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	2.9	3	96.7	85-115

Associated samples MP41232: FA98951-1, FA98951-2, FA98951-3, FA98951-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.3  
6



SERIAL DILUTION RESULTS SUMMARY

Login Number: FA98951  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225537

QC Batch ID: MP41232  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 09/21/22

Metal	FA98857-1F	Original	SDL 1:5	%DIF	QC Limits
-------	------------	----------	---------	------	-----------

Mercury 0.00 0.00 NC 0-10

Associated samples MP41232: FA98951-1, FA98951-2, FA98951-3, FA98951-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

## Laboratory Report of Analysis

To: ADEC-Air & Water Quality  
610 University Drive  
Fairbanks, AK 99709  
(907)451-2141

Report Number: **1225639**

Client Project: **NTP 22 464 WHADA**

Dear Morgan Brown,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **ADEC-Air & Water Quality**  
SGS Project: **1225639**  
Project Name/Site: **NTP 22 464 WHADA**  
Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

### **1225708002MS (1688137) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

### **1225708002MSD (1688138) MSD**

4500NO3-F - Nitrate/Nitrite - MSD recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

Mercury 245.1 Total was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 10/06/2022 1:17:39PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
CAM 6	1225639001	09/15/2022	09/15/2022	Water (Surface, Eff., Ground)
CHE 3	1225639002	09/15/2022	09/15/2022	Water (Surface, Eff., Ground)
ANCHBACT 20-01	1225639003	09/15/2022	09/15/2022	Water (Surface, Eff., Ground)
CHE 33	1225639004	09/15/2022	09/15/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO3 by ICP-MS
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Print Date: 10/06/2022 1:17:43PM

### Detectable Results Summary

Client Sample ID: **CAM 6**  
 Lab Sample ID: 1225639001  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	13.0	ug/L
Calcium	19300	ug/L
Magnesium	3310	ug/L
Manganese	11.4	ug/L
Silicon	3820	ug/L
Sodium	3270	ug/L
Zinc	46.3	ug/L
Calcium	19300	ug/L
Hardness as CaCO <sub>3</sub>	61.9	mg/L
Magnesium	3310	ug/L
TOC Average, Dissolved	2.08	mg/L
Total Nitrate/Nitrite-N	0.329	mg/L

**Metals by ICP/MS**

**Waters Department**

Client Sample ID: **CHE 3**  
 Lab Sample ID: 1225639002  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	21.8	ug/L
Calcium	32200	ug/L
Magnesium	8340	ug/L
Manganese	6.70	ug/L
Nickel	2.82	ug/L
Potassium	1270	ug/L
Silicon	6520	ug/L
Sodium	13800	ug/L
Zinc	29.4	ug/L
Calcium	32200	ug/L
Hardness as CaCO <sub>3</sub>	115	mg/L
Magnesium	8340	ug/L
TOC Average, Dissolved	4.32	mg/L
Total Nitrate/Nitrite-N	0.950	mg/L

**Metals by ICP/MS**

**Waters Department**

Client Sample ID: **ANCHBACT 20-01**  
 Lab Sample ID: 1225639003  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	10.2	ug/L
Calcium	15900	ug/L
Magnesium	2480	ug/L
Manganese	1.80	ug/L
Silicon	3470	ug/L
Sodium	1420	ug/L
Zinc	32.2	ug/L
Calcium	15900	ug/L
Hardness as CaCO <sub>3</sub>	49.9	mg/L
Magnesium	2480	ug/L
TOC Average, Dissolved	1.35	mg/L
Total Nitrate/Nitrite-N	0.200	mg/L

**Metals by ICP/MS**

**Waters Department**

### Detectable Results Summary

Client Sample ID: **CHE 33**  
 Lab Sample ID: 1225639004

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	29.6	ug/L
Barium	7.13	ug/L
Calcium	18500	ug/L
Magnesium	3960	ug/L
Manganese	3.30	ug/L
Potassium	593	ug/L
Silicon	6390	ug/L
Sodium	2110	ug/L
Zinc	63.4	ug/L

**Metals by ICP/MS**

Calcium	18500	ug/L
Hardness as CaCO <sub>3</sub>	62.6	mg/L
Magnesium	3960	ug/L

**Waters Department**

TOC Average, Dissolved	5.03	mg/L
Total Nitrate/Nitrite-N	0.360	mg/L



**Results of CAM 6**

Client Sample ID: **CAM 6**  
 Client Project ID: **NTP 22 464 WHADA**  
 Lab Sample ID: 1225639001  
 Lab Project ID: 1225639

Collection Date: 09/15/22 11:55  
 Received Date: 09/15/22 12:30  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/23/22 17:59
Antimony	1.00 U	1.00	0.310	ug/L	1		09/23/22 17:59
Arsenic	5.00 U	5.00	1.50	ug/L	1		09/23/22 17:59
Barium	13.0	3.00	0.940	ug/L	1		09/30/22 00:44
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/23/22 17:59
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/23/22 17:59
Calcium	19300	500	150	ug/L	1		09/23/22 17:59
Chromium	5.00 U	5.00	2.50	ug/L	1		09/23/22 17:59
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/23/22 17:59
Copper	3.00 U	3.00	1.00	ug/L	1		09/23/22 17:59
Iron	250 U	250	78.0	ug/L	1		09/23/22 17:59
Lead	2.00 U	2.00	0.500	ug/L	1		09/23/22 17:59
Magnesium	3310	50.0	15.0	ug/L	1		09/23/22 17:59
Manganese	11.4	1.00	0.350	ug/L	1		09/23/22 17:59
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/23/22 17:59
Nickel	2.00 U	2.00	0.620	ug/L	1		09/23/22 17:59
Phosphorus	200 U	200	62.0	ug/L	1		09/23/22 17:59
Potassium	500 U	500	150	ug/L	1		09/23/22 17:59
Selenium	5.00 U	5.00	1.50	ug/L	1		09/23/22 17:59
Silicon	3820	1000	310	ug/L	1		09/23/22 17:59
Silver	1.00 U	1.00	0.310	ug/L	1		09/23/22 17:59
Sodium	3270	500	150	ug/L	1		09/23/22 17:59
Thallium	1.00 U	1.00	0.310	ug/L	1		09/23/22 17:59
Tin	1.00 U	1.00	0.310	ug/L	1		09/23/22 17:59
Titanium	6.25 U	6.25	3.13	ug/L	1		09/23/22 17:59
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/23/22 17:59
Zinc	46.3	10.0	3.10	ug/L	1		09/23/22 17:59

Print Date: 10/06/2022 1:17:45PM





**Results of CAM 6**

Client Sample ID: **CAM 6**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639001  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:55  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:44  
Container ID: 1225639001-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 17:59  
Container ID: 1225639001-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



### Results of CAM 6

Client Sample ID: **CAM 6**  
 Client Project ID: **NTP 22 464 WHADA**  
 Lab Sample ID: 1225639001  
 Lab Project ID: 1225639

Collection Date: 09/15/22 11:55  
 Received Date: 09/15/22 12:30  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	19300	500	150	ug/L	1		09/23/22 17:59
Magnesium	3310	50.0	15.0	ug/L	1		09/23/22 17:59

### Batch Information

Analytical Batch: MMS11700  
 Analytical Method: EP200.8  
 Analyst: HGS  
 Analytical Date/Time: 09/30/22 00:44  
 Container ID: 1225639001-C

Prep Batch: MX35481  
 Prep Method: E200.2  
 Prep Date/Time: 09/20/22 12:42  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
 Analytical Method: EP200.8  
 Analyst: DSD  
 Analytical Date/Time: 09/23/22 17:59  
 Container ID: 1225639001-C

Prep Batch: MX35481  
 Prep Method: E200.2  
 Prep Date/Time: 09/20/22 12:42  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	61.9	5.00	5.00	mg/L	1		09/23/22 17:59

### Batch Information

Analytical Batch: MMS11691  
 Analytical Method: SM21 2340B  
 Analyst: DSD  
 Analytical Date/Time: 09/23/22 17:59  
 Container ID: 1225639001-D

Prep Batch: MX35481  
 Prep Method: E200.2  
 Prep Date/Time: 09/20/22 12:42  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



Results of CAM 6

Client Sample ID: CAM 6
Client Project ID: NTP 22 464 WHADA
Lab Sample ID: 1225639001
Lab Project ID: 1225639

Collection Date: 09/15/22 11:55
Received Date: 09/15/22 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: TOC Average, Dissolved, 2.08, 1.00, 0.400, mg/L, 1, 09/27/22 01:28

Batch Information

Analytical Batch: WTC3239
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 09/27/22 01:28
Container ID: 1225639001-F

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Nitrate/Nitrite-N, 0.329, 0.200, 0.0500, mg/L, 2, 09/27/22 15:43

Batch Information

Analytical Batch: WFI3006
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 09/27/22 15:43
Container ID: 1225639001-G

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Phosphorus, 0.0400 U, 0.0400, 0.0120, mg/L, 1, 09/28/22 17:30

Batch Information

Analytical Batch: WDA5336
Analytical Method: SM21 4500P-B,E
Analyst: MEB
Analytical Date/Time: 09/28/22 17:30
Container ID: 1225639001-G
Prep Batch: WXX14475
Prep Method: SM21 4500P-B,E
Prep Date/Time: 09/28/22 08:38
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Kjeldahl Nitrogen, 1.00 U, 1.00, 0.310, mg/L, 1, 09/29/22 15:50

Print Date: 10/06/2022 1:17:45PM



Results of **CAM 6**

Client Sample ID: **CAM 6**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639001  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:55  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

**Batch Information**

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Analyst: MEB  
Analytical Date/Time: 09/29/22 15:50  
Container ID: 1225639001-G

Prep Batch: WXX14477  
Prep Method: METHOD  
Prep Date/Time: 09/28/22 11:33  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:17:45PM



Results of CHE 3

Client Sample ID: CHE 3  
Client Project ID: NTP 22 464 WHADA  
Lab Sample ID: 1225639002  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:00  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/23/22 18:08
Antimony	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:08
Arsenic	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:08
Barium	21.8	3.00	0.940	ug/L	1		09/30/22 00:47
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/23/22 18:08
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/23/22 18:08
Calcium	32200	500	150	ug/L	1		09/23/22 18:08
Chromium	5.00 U	5.00	2.50	ug/L	1		09/23/22 18:08
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/23/22 18:08
Copper	3.00 U	3.00	1.00	ug/L	1		09/23/22 18:08
Iron	250 U	250	78.0	ug/L	1		09/23/22 18:08
Lead	2.00 U	2.00	0.500	ug/L	1		09/23/22 18:08
Magnesium	8340	50.0	15.0	ug/L	1		09/23/22 18:08
Manganese	6.70	1.00	0.350	ug/L	1		09/23/22 18:08
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/23/22 18:08
Nickel	2.82	2.00	0.620	ug/L	1		09/23/22 18:08
Phosphorus	200 U	200	62.0	ug/L	1		09/23/22 18:08
Potassium	1270	500	150	ug/L	1		09/23/22 18:08
Selenium	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:08
Silicon	6520	1000	310	ug/L	1		09/23/22 18:08
Silver	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:08
Sodium	13800	500	150	ug/L	1		09/23/22 18:08
Thallium	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:08
Tin	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:08
Titanium	6.25 U	6.25	3.13	ug/L	1		09/23/22 18:08
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/23/22 18:08
Zinc	29.4	10.0	3.10	ug/L	1		09/23/22 18:08

Print Date: 10/06/2022 1:17:45PM



**Results of CHE 3**

Client Sample ID: **CHE 3**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639002  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:00  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:47  
Container ID: 1225639002-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:08  
Container ID: 1225639002-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



**Results of CHE 3**

Client Sample ID: **CHE 3**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639002  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:00  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	32200	500	150	ug/L	1		09/23/22 18:08
Magnesium	8340	50.0	15.0	ug/L	1		09/23/22 18:08

**Batch Information**

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:47  
Container ID: 1225639002-C

Prep Batch: MXX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:08  
Container ID: 1225639002-C

Prep Batch: MXX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	115	5.00	5.00	mg/L	1		09/23/22 18:08

**Batch Information**

Analytical Batch: MMS11691  
Analytical Method: SM21 2340B  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:08  
Container ID: 1225639002-D

Prep Batch: MXX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



Results of CHE 3

Client Sample ID: CHE 3
Client Project ID: NTP 22 464 WHADA
Lab Sample ID: 1225639002
Lab Project ID: 1225639

Collection Date: 09/15/22 11:00
Received Date: 09/15/22 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: TOC Average, Dissolved, 4.32, 1.00, 0.400, mg/L, 1, 09/27/22 01:41

Batch Information

Analytical Batch: WTC3239
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 09/27/22 01:41
Container ID: 1225639002-F

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Nitrate/Nitrite-N, 0.950, 0.200, 0.0500, mg/L, 2, 09/27/22 14:47

Batch Information

Analytical Batch: WFI3006
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 09/27/22 14:47
Container ID: 1225639002-G

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Phosphorus, 0.0400 U, 0.0400, 0.0120, mg/L, 1, 09/28/22 17:31

Batch Information

Analytical Batch: WDA5336
Analytical Method: SM21 4500P-B,E
Analyst: MEB
Analytical Date/Time: 09/28/22 17:31
Container ID: 1225639002-G
Prep Batch: WXX14475
Prep Method: SM21 4500P-B,E
Prep Date/Time: 09/28/22 08:38
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Kjeldahl Nitrogen, 1.00 U, 1.00, 0.310, mg/L, 1, 09/29/22 15:56

Print Date: 10/06/2022 1:17:45PM





**Results of CHE 3**

Client Sample ID: **CHE 3**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639002  
Lab Project ID: 1225639

Collection Date: 09/15/22 11:00  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

**Batch Information**

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Analyst: MEB  
Analytical Date/Time: 09/29/22 15:56  
Container ID: 1225639002-G

Prep Batch: WXX14477  
Prep Method: METHOD  
Prep Date/Time: 09/28/22 11:33  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:17:45PM



**Results of ANCHBACT 20-01**

Client Sample ID: **ANCHBACT 20-01**  
 Client Project ID: **NTP 22 464 WHADA**  
 Lab Sample ID: 1225639003  
 Lab Project ID: 1225639

Collection Date: 09/15/22 10:15  
 Received Date: 09/15/22 12:30  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		09/23/22 18:11
Antimony	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:11
Arsenic	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:11
Barium	10.2	3.00	0.940	ug/L	1		09/30/22 00:55
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/23/22 18:11
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/23/22 18:11
Calcium	15900	500	150	ug/L	1		09/23/22 18:11
Chromium	5.00 U	5.00	2.50	ug/L	1		09/23/22 18:11
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/23/22 18:11
Copper	3.00 U	3.00	1.00	ug/L	1		09/23/22 18:11
Iron	250 U	250	78.0	ug/L	1		09/23/22 18:11
Lead	2.00 U	2.00	0.500	ug/L	1		09/23/22 18:11
Magnesium	2480	50.0	15.0	ug/L	1		09/23/22 18:11
Manganese	1.80	1.00	0.350	ug/L	1		09/23/22 18:11
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/23/22 18:11
Nickel	2.00 U	2.00	0.620	ug/L	1		09/23/22 18:11
Phosphorus	200 U	200	62.0	ug/L	1		09/23/22 18:11
Potassium	500 U	500	150	ug/L	1		09/23/22 18:11
Selenium	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:11
Silicon	3470	1000	310	ug/L	1		09/23/22 18:11
Silver	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:11
Sodium	1420	500	150	ug/L	1		09/23/22 18:11
Thallium	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:11
Tin	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:11
Titanium	6.25 U	6.25	3.13	ug/L	1		09/23/22 18:11
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/23/22 18:11
Zinc	32.2	10.0	3.10	ug/L	1		09/23/22 18:11

Print Date: 10/06/2022 1:17:45PM



Results of **ANCHBACT 20-01**

Client Sample ID: **ANCHBACT 20-01**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639003  
Lab Project ID: 1225639

Collection Date: 09/15/22 10:15  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:55  
Container ID: 1225639003-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:11  
Container ID: 1225639003-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



Results of ANCHBACT 20-01

Client Sample ID: ANCHBACT 20-01  
Client Project ID: NTP 22 464 WHADA  
Lab Sample ID: 1225639003  
Lab Project ID: 1225639

Collection Date: 09/15/22 10:15  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	15900	500	150	ug/L	1		09/23/22 18:11
Magnesium	2480	50.0	15.0	ug/L	1		09/23/22 18:11

Batch Information

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:55  
Container ID: 1225639003-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:11  
Container ID: 1225639003-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	49.9	5.00	5.00	mg/L	1		09/23/22 18:11

Batch Information

Analytical Batch: MMS11691  
Analytical Method: SM21 2340B  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:11  
Container ID: 1225639003-D

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



Results of ANCHBACT 20-01

Client Sample ID: ANCHBACT 20-01
Client Project ID: NTP 22 464 WHADA
Lab Sample ID: 1225639003
Lab Project ID: 1225639

Collection Date: 09/15/22 10:15
Received Date: 09/15/22 12:30
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: TOC Average, Dissolved, 1.35, 1.00, 0.400, mg/L, 1, 09/27/22 01:55

Batch Information

Analytical Batch: WTC3239
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 09/27/22 01:55
Container ID: 1225639003-F

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Nitrate/Nitrite-N, 0.200, 0.200, 0.0500, mg/L, 2, 09/27/22 14:49

Batch Information

Analytical Batch: WFI3006
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 09/27/22 14:49
Container ID: 1225639003-G

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Phosphorus, 0.0400 U, 0.0400, 0.0120, mg/L, 1, 09/28/22 17:32

Batch Information

Analytical Batch: WDA5336
Analytical Method: SM21 4500P-B,E
Analyst: MEB
Analytical Date/Time: 09/28/22 17:32
Container ID: 1225639003-G
Prep Batch: WXX14475
Prep Method: SM21 4500P-B,E
Prep Date/Time: 09/28/22 08:38
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Kjeldahl Nitrogen, 1.00 U, 1.00, 0.310, mg/L, 1, 09/29/22 15:58

Print Date: 10/06/2022 1:17:45PM



Results of **ANCHBACT 20-01**

Client Sample ID: **ANCHBACT 20-01**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639003  
Lab Project ID: 1225639

Collection Date: 09/15/22 10:15  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

**Batch Information**

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Analyst: MEB  
Analytical Date/Time: 09/29/22 15:58  
Container ID: 1225639003-G

Prep Batch: WXX14477  
Prep Method: METHOD  
Prep Date/Time: 09/28/22 11:33  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:17:45PM



**Results of CHE 33**

Client Sample ID: **CHE 33**  
 Client Project ID: **NTP 22 464 WHADA**  
 Lab Sample ID: 1225639004  
 Lab Project ID: 1225639

Collection Date: 09/15/22 09:25  
 Received Date: 09/15/22 12:30  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	29.6	20.0	6.20	ug/L	1		09/23/22 18:14
Antimony	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:14
Arsenic	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:14
Barium	7.13	3.00	0.940	ug/L	1		09/30/22 00:58
Beryllium	0.400 U	0.400	0.130	ug/L	1		09/23/22 18:14
Cadmium	0.500 U	0.500	0.150	ug/L	1		09/23/22 18:14
Calcium	18500	500	150	ug/L	1		09/23/22 18:14
Chromium	5.00 U	5.00	2.50	ug/L	1		09/23/22 18:14
Cobalt	4.00 U	4.00	1.20	ug/L	1		09/23/22 18:14
Copper	3.00 U	3.00	1.00	ug/L	1		09/23/22 18:14
Iron	250 U	250	78.0	ug/L	1		09/23/22 18:14
Lead	2.00 U	2.00	0.500	ug/L	1		09/23/22 18:14
Magnesium	3960	50.0	15.0	ug/L	1		09/23/22 18:14
Manganese	3.30	1.00	0.350	ug/L	1		09/23/22 18:14
Molybdenum	2.00 U	2.00	0.620	ug/L	1		09/23/22 18:14
Nickel	2.00 U	2.00	0.620	ug/L	1		09/23/22 18:14
Phosphorus	200 U	200	62.0	ug/L	1		09/23/22 18:14
Potassium	593	500	150	ug/L	1		09/23/22 18:14
Selenium	5.00 U	5.00	1.50	ug/L	1		09/23/22 18:14
Silicon	6390	1000	310	ug/L	1		09/23/22 18:14
Silver	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:14
Sodium	2110	500	150	ug/L	1		09/23/22 18:14
Thallium	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:14
Tin	1.00 U	1.00	0.310	ug/L	1		09/23/22 18:14
Titanium	6.25 U	6.25	3.13	ug/L	1		09/23/22 18:14
Vanadium	20.0 U	20.0	6.20	ug/L	1		09/23/22 18:14
Zinc	63.4	10.0	3.10	ug/L	1		09/23/22 18:14

Print Date: 10/06/2022 1:17:45PM

## Results of CHE 33

Client Sample ID: **CHE 33**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639004  
Lab Project ID: 1225639

Collection Date: 09/15/22 09:25  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

## Results by Dissolved Metals by ICP/MS

### Batch Information

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:58  
Container ID: 1225639004-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:14  
Container ID: 1225639004-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL





Results of CHE 33

Client Sample ID: CHE 33  
Client Project ID: NTP 22 464 WHADA  
Lab Sample ID: 1225639004  
Lab Project ID: 1225639

Collection Date: 09/15/22 09:25  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	18500	500	150	ug/L	1		09/23/22 18:14
Magnesium	3960	50.0	15.0	ug/L	1		09/23/22 18:14

Batch Information

Analytical Batch: MMS11700  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 09/30/22 00:58  
Container ID: 1225639004-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11691  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:14  
Container ID: 1225639004-C

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	62.6	5.00	5.00	mg/L	1		09/23/22 18:14

Batch Information

Analytical Batch: MMS11691  
Analytical Method: SM21 2340B  
Analyst: DSD  
Analytical Date/Time: 09/23/22 18:14  
Container ID: 1225639004-D

Prep Batch: MX35481  
Prep Method: E200.2  
Prep Date/Time: 09/20/22 12:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:45PM



Results of CHE 33

Client Sample ID: CHE 33  
Client Project ID: NTP 22 464 WHADA  
Lab Sample ID: 1225639004  
Lab Project ID: 1225639

Collection Date: 09/15/22 09:25  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	5.03	1.00	0.400	mg/L	1		09/27/22 02:08

Batch Information

Analytical Batch: WTC3239  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 09/27/22 02:08  
Container ID: 1225639004-F

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.360	0.200	0.0500	mg/L	2		09/27/22 14:51

Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 14:51  
Container ID: 1225639004-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		09/28/22 17:32

Batch Information

Analytical Batch: WDA5336	Prep Batch: WXX14475
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 09/28/22 08:38
Analytical Date/Time: 09/28/22 17:32	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225639004-G	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		09/29/22 15:59

Print Date: 10/06/2022 1:17:45PM



**Results of CHE 33**

Client Sample ID: **CHE 33**  
Client Project ID: **NTP 22 464 WHADA**  
Lab Sample ID: 1225639004  
Lab Project ID: 1225639

Collection Date: 09/15/22 09:25  
Received Date: 09/15/22 12:30  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

**Batch Information**

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Analyst: MEB  
Analytical Date/Time: 09/29/22 15:59  
Container ID: 1225639004-G

Prep Batch: WXX14477  
Prep Method: METHOD  
Prep Date/Time: 09/28/22 11:33  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:17:45PM



**Method Blank**

Blank ID: MB for HBN 1843980 [MXX/35481]  
Blank Lab ID: 1686732

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225639001, 1225639002, 1225639003, 1225639004

**Results by EP200.8**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aluminum	10.0U	20.0	6.20	ug/L
Antimony	0.500U	1.00	0.310	ug/L
Arsenic	2.50U	5.00	1.50	ug/L
Barium	1.50U	3.00	0.940	ug/L
Beryllium	0.200U	0.400	0.130	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Calcium	250U	500	150	ug/L
Chromium	2.50U	5.00	2.50	ug/L
Cobalt	2.00U	4.00	1.20	ug/L
Copper	1.50U	3.00	1.00	ug/L
Iron	125U	250	78.0	ug/L
Lead	1.00U	2.00	0.500	ug/L
Magnesium	25.0U	50.0	15.0	ug/L
Manganese	0.500U	1.00	0.350	ug/L
Molybdenum	1.00U	2.00	0.620	ug/L
Nickel	1.00U	2.00	0.620	ug/L
Phosphorus	100U	200	62.0	ug/L
Potassium	250U	500	150	ug/L
Selenium	2.50U	5.00	1.50	ug/L
Silicon	500U	1000	310	ug/L
Silver	0.500U	1.00	0.310	ug/L
Sodium	250U	500	150	ug/L
Thallium	0.500U	1.00	0.310	ug/L
Tin	0.500U	1.00	0.310	ug/L
Titanium	12.5U	25.0	7.75	ug/L
Vanadium	10.0U	20.0	6.20	ug/L
Zinc	9.66J	10.0	3.10	ug/L

Print Date: 10/06/2022 1:17:48PM



**Method Blank**

Blank ID: MB for HBN 1843980 [MXX/35481]  
Blank Lab ID: 1686732

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225639001, 1225639002, 1225639003, 1225639004

**Results by EP200.8**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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**Batch Information**

Analytical Batch: MMS11691  
 Analytical Method: EP200.8  
 Instrument: Perkin Elmer Nexlon P5  
 Analyst: DSD  
 Analytical Date/Time: 9/23/2022 4:56:00PM

Prep Batch: MXX35481  
 Prep Method: E200.2  
 Prep Date/Time: 9/20/2022 12:42:51PM  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Analytical Batch: MMS11704  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 9/30/2022 3:19:36PM

Prep Batch: MXX35481  
 Prep Method: E200.2  
 Prep Date/Time: 9/20/2022 12:42:51PM  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Print Date: 10/06/2022 1:17:48PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [MXX35481]

Blank Spike Lab ID: 1686733

Date Analyzed: 09/23/2022 16:59

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

### Results by EP200.8

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Aluminum	1000	990	99	(85-115)
Antimony	1000	982	98	(85-115)
Arsenic	1000	1060	106	(85-115)
Barium	1000	951	95	(85-115)
Beryllium	100	111	111	(85-115)
Cadmium	100	105	105	(85-115)
Calcium	10000	10400	104	(85-115)
Chromium	400	402	100	(85-115)
Cobalt	500	502	100	(85-115)
Copper	1000	1030	103	(85-115)
Iron	5000	5200	104	(85-115)
Lead	1000	1030	103	(85-115)
Magnesium	10000	10100	101	(85-115)
Manganese	500	500	100	(85-115)
Molybdenum	400	395	99	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	537	107	(85-115)
Potassium	10000	10300	103	(85-115)
Selenium	1000	1140	114	(85-115)
Silicon	10000	10700	107	(85-115)
Silver	100	102	102	(85-115)
Sodium	10000	10000	100	(85-115)
Thallium	10	10.1	101	(85-115)
Tin	100	96.2	96	(85-115)
Titanium	100	101	101	(85-115)
Vanadium	200	201	100	(85-115)
Zinc	1000	1100	110	(85-115)

Print Date: 10/06/2022 1:17:50PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [MXX35481]  
 Blank Spike Lab ID: 1686733  
 Date Analyzed: 09/23/2022 16:59

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

## Results by EP200.8

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
-----------	-------	--------	---------	----

## Batch Information

Analytical Batch: **MMS11691**  
 Analytical Method: **EP200.8**  
 Instrument: **Perkin Elmer Nexlon P5**  
 Analyst: **DSD**

Prep Batch: **MXX35481**  
 Prep Method: **E200.2**  
 Prep Date/Time: **09/20/2022 12:42**  
 Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL  
 Dupe Init Wt./Vol.: Extract Vol:

Analytical Batch: **MMS11704**  
 Analytical Method: **EP200.8**  
 Instrument: **P7 Agilent 7800**  
 Analyst: **HGS**

Prep Batch: **MXX35481**  
 Prep Method: **E200.2**  
 Prep Date/Time: **09/20/2022 12:42**  
 Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL  
 Dupe Init Wt./Vol.: Extract Vol:



### Matrix Spike Summary

Original Sample ID: 1686731  
 MS Sample ID: 1686736 MS  
 MSD Sample ID:

Analysis Date: 09/23/2022 17:11  
 Analysis Date: 09/23/2022 17:14  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

### Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aluminum	10.0U	1000	1030	103				70-130		
Antimony	0.500U	1000	1010	101				70-130		
Arsenic	2.50U	1000	1030	103				70-130		
Barium	1.50U	1000	964	96				70-130		
Beryllium	0.200U	100	100	100				70-130		
Cadmium	0.250U	100	99.5	100				70-130		
Calcium	52000	10000	63500	115				70-130		
Chromium	2.50U	400	396	99				70-130		
Cobalt	2.00U	500	514	103				70-130		
Copper	1.50U	1000	1030	103				70-130		
Iron	198J	5000	5380	104				70-130		
Lead	1.00U	1000	1010	101				70-130		
Magnesium	18400	10000	27200	88				70-130		
Manganese	0.500U	500	504	101				70-130		
Molybdenum	7.24	400	431	106				70-130		
Nickel	1.85J	1000	1020	102				70-130		
Phosphorus	100U	500	547	109				70-130		
Potassium	1830	10000	12200	104				70-130		
Selenium	2.50U	1000	1060	106				70-130		
Silicon	5890	10000	16500	106				70-130		
Silver	0.500U	100	104	104				70-130		
Sodium	44300	10000	53900	96				70-130		
Thallium	0.500U	10.0	9.83	98				70-130		
Tin	0.500U	100	98.9	99				70-130		
Titanium	12.5U	100	103	103				70-130		
Vanadium	10.0U	200	202	101				70-130		
Zinc	46.4	1000	1050	100				70-130		

Print Date: 10/06/2022 1:17:51PM



## Matrix Spike Summary

Original Sample ID: 1686731  
 MS Sample ID: 1686736 MS  
 MSD Sample ID:

Analysis Date: 09/23/2022 17:11  
 Analysis Date: 09/23/2022 17:14  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			

## Batch Information

Analytical Batch: MMS11691  
 Analytical Method: EP200.8  
 Instrument: Perkin Elmer Nexlon P5  
 Analyst: DSD  
 Analytical Date/Time: 9/23/2022 5:14:00PM

Prep Batch: MXX35481  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 9/20/2022 12:42:51PM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Analytical Batch: MMS11704  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 9/30/2022 3:30:16PM

Prep Batch: MXX35481  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 9/20/2022 12:42:51PM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/06/2022 1:17:51PM



### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688144

QC for Samples:

1225639001, 1225639002, 1225639003, 1225639004

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 3:01:58PM

Print Date: 10/06/2022 1:17:56PM

## Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688150

QC for Samples:

1225639002, 1225639003, 1225639004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 2:16:28PM

Print Date: 10/06/2022 1:17:56PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [WFI3006]

Blank Spike Lab ID: 1688146

Date Analyzed: 09/27/2022 15:00

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.64	106	( 70-130 )
Nitrite-N	2.5	2.59	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.23	105	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [WFI3006]

Blank Spike Lab ID: 1688152

Date Analyzed: 09/27/2022 14:14

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639002, 1225639003, 1225639004

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.50	100	( 70-130 )
Nitrite-N	2.5	2.57	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.07	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 10/06/2022 1:17:59PM

## Matrix Spike Summary

Original Sample ID: 1225613001  
 MS Sample ID: 1688133 MS  
 MSD Sample ID: 1688134 MSD

Analysis Date: 09/27/2022 13:34  
 Analysis Date: 09/27/2022 13:36  
 Analysis Date: 09/27/2022 13:37  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.17	103	5.00	5.41	108	90-110	4.50	(< 25 )

## Batch Information

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 9/27/2022 1:36:00PM

Print Date: 10/06/2022 1:18:00PM

## Matrix Spike Summary

Original Sample ID: 1225625010  
 MS Sample ID: 1688135 MS  
 MSD Sample ID: 1688136 MSD

Analysis Date: 09/27/2022 14:19  
 Analysis Date: 09/27/2022 14:21  
 Analysis Date: 09/27/2022 14:23  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639002, 1225639003, 1225639004

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	1.46	5.00	6.27	96	5.00	6.57	102	90-110	4.70	(< 25 )

## Batch Information

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 9/27/2022 2:21:00PM

Print Date: 10/06/2022 1:18:00PM



### Matrix Spike Summary

Original Sample ID: 1225708002  
MS Sample ID: 1688137 MS  
MSD Sample ID: 1688138 MSD

Analysis Date: 09/27/2022 15:05  
Analysis Date: 09/27/2022 15:07  
Analysis Date: 09/27/2022 15:08  
Matrix: Drinking Water

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.236	5.00	5.95	114 *	5.00	5.96	114 *	90-110	0.14	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 3:07:00PM

Print Date: 10/06/2022 1:18:00PM





### Method Blank

Blank ID: MB for HBN 1844468 [WXX/14475]  
Blank Lab ID: 1688627

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225639001, 1225639002, 1225639003, 1225639004

### Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0200U	0.0400	0.0120	mg/L

### Batch Information

Analytical Batch: WDA5336  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/28/2022 5:14:00PM

Prep Batch: WXX14475  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 9/28/2022 8:38:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:18:05PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [WXX14475]  
 Blank Spike Lab ID: 1688628  
 Date Analyzed: 09/28/2022 17:15

Spike Duplicate ID: LCSD for HBN 1225639 [WXX14475]  
 Spike Duplicate Lab ID: 1688629  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

## Results by SM21 4500P-B,E

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.2	0.206	103	0.2	0.198	99	( 75-125 )	3.70	(< 25 )

## Batch Information

Analytical Batch: **WDA5336**  
 Analytical Method: **SM21 4500P-B,E**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **MEB**

Prep Batch: **WXX14475**  
 Prep Method: **SM21 4500P-B,E**  
 Prep Date/Time: **09/28/2022 08:38**  
 Spike Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL



### Matrix Spike Summary

Original Sample ID: 1225456001  
MS Sample ID: 1688630 MS  
MSD Sample ID: 1688631 MSD

Analysis Date: 09/28/2022 18:45  
Analysis Date: 09/28/2022 18:45  
Analysis Date: 09/28/2022 18:46  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

### Results by SM21 4500P-B,E

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	1.39	4.00	5.57	105	4.00	5.57	105	75-125	0.07	(< 10 )

### Batch Information

Analytical Batch: WDA5336  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/28/2022 6:45:00PM

Prep Batch: WXX14475  
Prep Method: Total Phosphorus (W) Ext.  
Prep Date/Time: 9/28/2022 8:38:00AM  
Prep Initial Wt./Vol.: 1.25mL  
Prep Extract Vol: 25.00mL

Print Date: 10/06/2022 1:18:08PM

## Method Blank

Blank ID: MB for HBN 1844499 [WXX/14477]  
Blank Lab ID: 1688740

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225639001, 1225639002, 1225639003, 1225639004

## Results by SM23 4500-N D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L

## Batch Information

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/29/2022 3:38:53PM

Prep Batch: WXX14477  
Prep Method: METHOD  
Prep Date/Time: 9/28/2022 11:33:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/06/2022 1:18:09PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225639 [WXX14477]  
 Blank Spike Lab ID: 1688741  
 Date Analyzed: 09/29/2022 15:40

Spike Duplicate ID: LCSD for HBN 1225639 [WXX14477]  
 Spike Duplicate Lab ID: 1688742  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

## Results by SM23 4500-N D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	4	4.97	124	4	5.00	125	( 75-125 )	0.52	(< 25 )

## Batch Information

Analytical Batch: **WDA5338**  
 Analytical Method: **SM23 4500-N D**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **MEB**

Prep Batch: **WXX14477**  
 Prep Method: **METHOD**  
 Prep Date/Time: **09/28/2022 11:33**  
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 10/06/2022 1:18:11PM



### Matrix Spike Summary

Original Sample ID: 1225639001  
MS Sample ID: 1688743 MS  
MSD Sample ID: 1688744 MSD

Analysis Date: 09/29/2022 15:50  
Analysis Date: 09/29/2022 15:54  
Analysis Date: 09/29/2022 15:55  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225639001, 1225639002, 1225639003, 1225639004

### Results by SM23 4500-N D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	1.00U	4.00	3.33	83	4.00	3.34	83	75-125	0.27	(< 25 )

### Batch Information

Analytical Batch: WDA5338  
Analytical Method: SM23 4500-N D  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 9/29/2022 3:54:28PM

Prep Batch: WXX14477  
Prep Method: Distillation TKN by Phenate (W)  
Prep Date/Time: 9/28/2022 11:33:00AM  
Prep Initial Wt./Vol.: 25.00mL  
Prep Extract Vol: 25.00mL

Print Date: 10/06/2022 1:18:12PM



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

1225639



Profile #385380 BCR

CLIENT: ADEC					INSTRUCTIONS: SECTIONS 1-5 MUST BE FILLED OUT. OMISSIONS MAY DELAY THE ONSET OF ANALYSIS.												
CONTACT: Morgan Brown					PHONE #: 907-451-2141					SECTION 3							
PROJECT NAME: WHADA					PROJECT/PWSID/PERMIT #: NTP 22 464					PRESERVATIVE							
REPORTS TO: Morgan Brown					E-MAIL: Morgan.Brown@alaska.gov												
INVOICE TO: ADEC					QUOTE #: P.O. #:												
SECTION 1	RESERVED FOR LAB USE	SAMPLE IDENTIFICATION	DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE	# CONTAINERS	SAMPLE TYPE:	Na2SO4	Na2SO4	HNO3	HNO3	H2SO4				REMARKS/LOC ID	
	① AG	CAMB	9/15/22	11:55 AM	SW		5	Comp									
	② AG	CH2 3	9/15/22	11:00 AM	SW		5	Grab									
	③ AG	ANCHBACT 20-01	9/15/22	10:15 AM	SW		5	MI (Multi-incremental)	SM9222D Fecal Coliform	SM9223B E. Coli	245.1 Total Hg	200.8 Dissolved Metals (Lab Filter)	2340B Total hardness	5301B DOC (Lab Filter)	SM4500 T-Phos, NO2 +NO3,TKN		
	④ AG	CH2 33	9/15/22	9:25 AM	SW		5										
SECTION 2	RELINQUISHED BY: (1)					DATE	TIME	RECEIVED BY:					SECTION 4 DOD Project?			DATA DELIVERABLE REQUIREMENTS:	
	RELINQUISHED BY: (2)					DATE	TIME	RECEIVED BY:					COC ID:			REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS	
	RELINQUISHED BY: (3)					DATE	TIME	RECEIVED BY:					Cooler ID:				
	RELINQUISHED BY: (4)					DATE	TIME	RECEIVED FOR LABORATORY BY:					TEMP BLANK °C: 12.3 D25 OR AMBIENT [ ]			CHAIN OF CUSTODY SEAL: (CIRCLE) INTACT BROKEN <u>ABSENT</u>	

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DLT

Client



SGS Workorder #:

1225639



1 2 2 5 6 3 9

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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<b>Chain of Custody / Temperature Requirements</b>		<i>Note: Temperature and COC seal information is found on the chain of custody form</i>
--	--	---

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  <i>(Use form FS-0029 if more space is needed)</i>		

<b>Holding Time / Documentation / Sample Condition Requirements</b>		<i>Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.</i>
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Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<i>Note: If information on containers differs from COC, default to COC information for login. If times differ &lt;1hr, record details &amp; login per COC.</i>		
Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes	
Were proper containers (type/mass/volume/preservative) used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
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Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>		
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## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225639001-A	HNO3 to pH < 2	OK			
1225639001-B	No Preservative Required	OK			
1225639001-C	No Preservative Required	OK			
1225639001-D	HNO3 to pH < 2	OK			
1225639001-E	No Preservative Required	OK			
1225639001-F	No Preservative Required	OK			
1225639001-G	H2SO4 to pH < 2	OK			
1225639002-A	HNO3 to pH < 2	OK			
1225639002-B	No Preservative Required	OK			
1225639002-C	No Preservative Required	OK			
1225639002-D	HNO3 to pH < 2	OK			
1225639002-E	No Preservative Required	OK			
1225639002-F	No Preservative Required	OK			
1225639002-G	H2SO4 to pH < 2	OK			
1225639003-A	HNO3 to pH < 2	OK			
1225639003-B	No Preservative Required	OK			
1225639003-C	No Preservative Required	OK			
1225639003-D	HNO3 to pH < 2	OK			
1225639003-E	No Preservative Required	OK			
1225639003-F	No Preservative Required	OK			
1225639003-G	H2SO4 to pH < 2	OK			
1225639004-A	HNO3 to pH < 2	OK			
1225639004-B	No Preservative Required	OK			
1225639004-C	No Preservative Required	OK			
1225639004-D	HNO3 to pH < 2	OK			
1225639004-E	No Preservative Required	OK			
1225639004-F	No Preservative Required	OK			
1225639004-G	H2SO4 to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

SGS North America, Inc

1225639

SGS Job Number: FA99145

Sampling Date: 09/15/22

Report to:

justin.nelson@sgs.com

ATTN: Distribution6

Total number of pages in report: **16**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Norm Farmer".

Norm Farmer  
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.

Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA99145-1: CAM 6 .....	7
<b>4.2:</b> FA99145-2: CHE 3 .....	8
<b>4.3:</b> FA99145-3: ANCHBACT 20-01 .....	9
<b>4.4:</b> FA99145-4: CHE 33 .....	10
<b>Section 5: Misc. Forms</b> .....	<b>11</b>
<b>5.1:</b> Chain of Custody .....	12
<b>Section 6: Metals Analysis - QC Data Summaries</b> .....	<b>14</b>
<b>6.1:</b> Prep QC MP41262: Hg .....	15

1

2

3

4

5

6



### Sample Summary

SGS North America, Inc  
1225639

Job No: FA99145

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA99145-1	09/15/22	11:55	09/22/22	AQ	Water	CAM 6
FA99145-2	09/15/22	11:00	09/22/22	AQ	Water	CHE 3
FA99145-3	09/15/22	10:15	09/22/22	AQ	Water	ANCHBACT 20-01
FA99145-4	09/15/22	09:25	09/22/22	AQ	Water	CHE 33

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA99145

**Site:** 1225639

**Report Date:** 10/3/2022 1:40:12 PM

On 09/22/2022, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA99145 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Metals Analysis By Method EPA 245.1

**Matrix:** AQ

**Batch ID:** MP41262

Insufficient sample volume for Matrix QC.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

## Summary of Hits

**Job Number:** FA99145  
**Account:** SGS North America, Inc  
**Project:** 1225639  
**Collected:** 09/15/22



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**FA99145-1**      **CAM 6**

No hits reported in this sample.

**FA99145-2**      **CHE 3**

No hits reported in this sample.

**FA99145-3**      **ANCHBACT 20-01**

No hits reported in this sample.

**FA99145-4**      **CHE 33**

No hits reported in this sample.

Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> CAM 6	<b>Date Sampled:</b> 09/15/22
<b>Lab Sample ID:</b> FA99145-1	<b>Date Received:</b> 09/22/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225639	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/30/22	09/30/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18941

(2) Prep QC Batch: MP41262

---

RL = Reporting Limit



## Report of Analysis

<b>Client Sample ID:</b> CHE 3	<b>Date Sampled:</b> 09/15/22
<b>Lab Sample ID:</b> FA99145-2	<b>Date Received:</b> 09/22/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225639	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/30/22	09/30/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18941

(2) Prep QC Batch: MP41262

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> ANCHBACT 20-01	<b>Date Sampled:</b> 09/15/22
<b>Lab Sample ID:</b> FA99145-3	<b>Date Received:</b> 09/22/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225639	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/30/22	09/30/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18941

(2) Prep QC Batch: MP41262

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> CHE 33	<b>Date Sampled:</b> 09/15/22
<b>Lab Sample ID:</b> FA99145-4	<b>Date Received:</b> 09/22/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225639	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	09/30/22	09/30/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18941

(2) Prep QC Batch: MP41262

---

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

SGS North America Inc.  
CHAIN OF CUSTODY RECORD

FA 99145



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1225639		PWSID#: _____		CONCENTRATION	Preservative Used: HNO3	TYPE: C = COMPS = GRAB MI = Multi Incremental Soils	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: <a href="mailto:Julie.Shumway@sgs.com">Julie.Shumway@sgs.com</a>									
INVOICE TO: SGS - Alaska		QUOTE #: _____									
env.alaska.accounting@sgs.com		P.O. #: 1225639									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE							
1	CAM 6	09/15/2022	11:55:00	Water	1	X				1225639001	
2	CHE 3	09/15/2022	11:00:00	Water	1	X				1225639002	
3	ANCBACT 20-01	09/15/2022	10:15:00	Water	1	X				1225639003	
4	CHE 33	09/15/2022	09:25:00	Water	1	X				1225639004	
Relinquished By: (1)		Date	Time	Received By:	DOD Project? NO		Report to DL (J Flags)? NO		Data Deliverable Requirements: Level 2		
<i>J Shumway</i>		9/21/22	1058	<i>Mel Mini</i>	1500		Cooler ID:		Requested Turnaround Time and-or Special Instructions:		
Relinquished By: (2)		Date	Time	Received By:	Temp Blank °C: 4.4 IBI						
Relinquished By: (3)		Date	Time	Received By:	Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT						
Relinquished By: (4)		Date	Time	Received For Laboratory By:	or Ambient [ ]						

[ X ] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
[ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

F088\_COC\_REF\_LAB\_20190411

INITIAL ASSESSMENT ZB

LABEL VERIFICATION [Signature]

FA99145: Chain of Custody

Page 1 of 2

5.1  
5

## SGS Sample Receipt Summary

Job Number: FA99145

Client: SGS SAKA

Project: 1225639

Date / Time Received: 9/22/2022 3:00:00 PM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 7327

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.4);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

**Cooler Information**

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

**Trip Blank Information**

Y or N

N/A

- 1. Trip Blank present / cooler
  - 2. Trip Blank listed on COC
- W or S      N/A
- 3. Type Of TB Received

**Sample Information**

Y or N

N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Intact
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_      Number of 5035 Field Kits: \_\_\_\_\_      Number of Lab Filtered Metals: \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315      pH 10-12 219813A      Other: (Specify) \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SAMUELM

Date: 9/22/2022 3:00:00 PM

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA99145: Chain of Custody

Page 2 of 2

5.1  
5

## Metals Analysis

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### QC Data Summaries

---

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: FA99145  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225639

QC Batch ID: MP41262  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 09/30/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	-0.043	<0.50

Associated samples MP41262: FA99145-1, FA99145-2, FA99145-3, FA99145-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.1  
6



SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA99145  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225639

QC Batch ID: MP41262  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 09/30/22 09/30/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	85-115	2.9	3	96.7	85-115

Associated samples MP41262: FA99145-1, FA99145-2, FA99145-3, FA99145-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

6.1.2

6

## Laboratory Report of Analysis

To: ADEC-Air & Water Quality  
610 University Drive  
Fairbanks, AK 99709  
(907)451-2141

Report Number: **1225957**

Client Project: **WHADA**

Dear Morgan Brown,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

### Case Narrative

SGS Client: **ADEC-Air & Water Quality**

SGS Project: **1225957**

Project Name/Site: **WHADA**

Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

**MB for HBN 1845075 [MXX/35532] (1689762) MB**

200.8 - Metals analyte Zinc is detected in the MB above the LOQ. The associated sample concentrations are either less than the LOQ or 5 times greater than the concentration in the MB.

**1225945005B(1690916MS) (1690918) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1225945005B(1690916MSD) (1690919) MSD**

4500NO3-F - Nitrate/Nitrite - MSD recovery for nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1225971001MS (1690920) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

Mercury 245.1 Total was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 10/31/2022 3:47:07PM

### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
WA01	1225957001	09/29/2022	09/29/2022	Water (Surface, Eff., Ground)
WA04	1225957002	09/29/2022	09/29/2022	Water (Surface, Eff., Ground)
WA01	1225957003	09/29/2022	09/29/2022	Water (Surface, Eff., Ground)
WA04	1225957004	09/29/2022	09/29/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO3 by ICP-MS
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Print Date: 10/31/2022 3:47:10PM

### Detectable Results Summary

Client Sample ID: **WA01**  
 Lab Sample ID: 1225957001

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	17000	ug/L
Hardness as CaCO3	54.0	mg/L
Magnesium	2770	ug/L
Total Nitrate/Nitrite-N	0.383	mg/L

**Waters Department**

Client Sample ID: **WA04**  
 Lab Sample ID: 1225957002

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	29200	ug/L
Hardness as CaCO3	91.1	mg/L
Magnesium	4440	ug/L
Total Nitrate/Nitrite-N	0.499	mg/L

**Waters Department**

Client Sample ID: **WA01**  
 Lab Sample ID: 1225957003

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	24.9	ug/L
Barium	11.0	ug/L
Calcium	16800	ug/L
Magnesium	2700	ug/L
Manganese	2.81	ug/L
Potassium	553	ug/L
Silicon	4750	ug/L
Sodium	2720	ug/L
Zinc	37.0	ug/L
TOC Average, Dissolved	3.85	mg/L

**Waters Department**

Client Sample ID: **WA04**  
 Lab Sample ID: 1225957004

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	63.4	ug/L
Barium	12.9	ug/L
Calcium	29000	ug/L
Magnesium	4330	ug/L
Manganese	3.13	ug/L
Potassium	916	ug/L
Silicon	5290	ug/L
Sodium	3990	ug/L
Zinc	23.9	ug/L
TOC Average, Dissolved	4.47	mg/L

**Waters Department**



**Results of WA01**

Client Sample ID: **WA01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957001  
Lab Project ID: 1225957

Collection Date: 09/29/22 12:05  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	17000	500	150	ug/L	1		10/13/22 15:56
Magnesium	2770	50.0	15.0	ug/L	1		10/13/22 15:56

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 15:56  
Container ID: 1225957001-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	54.0	5.00	5.00	mg/L	1		10/13/22 15:56

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 15:56  
Container ID: 1225957001-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:13PM



**Results of WA01**

Client Sample ID: **WA01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957001  
Lab Project ID: 1225957

Collection Date: 09/29/22 12:05  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.383	0.200	0.0500	mg/L	2		10/11/22 12:52

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 12:52  
Container ID: 1225957001-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:04

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:04	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225957001-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:33

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:33	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225957001-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:47:13PM





Results of **WA04**

Client Sample ID: **WA04**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957002  
Lab Project ID: 1225957

Collection Date: 09/29/22 13:10  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	29200	500	150	ug/L	1		10/13/22 15:58
Magnesium	4440	50.0	15.0	ug/L	1		10/13/22 15:58

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 15:58  
Container ID: 1225957002-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	91.1	5.00	5.00	mg/L	1		10/13/22 15:58

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 15:58  
Container ID: 1225957002-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:13PM



Results of **WA04**

Client Sample ID: **WA04**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957002  
Lab Project ID: 1225957

Collection Date: 09/29/22 13:10  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.499	0.200	0.0500	mg/L	2		10/11/22 12:53

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 12:53  
Container ID: 1225957002-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:05

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:05	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225957002-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:34

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:34	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225957002-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:47:13PM



**Results of WA01**

Client Sample ID: **WA01**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225957003  
 Lab Project ID: 1225957

Collection Date: 09/29/22 12:05  
 Received Date: 09/29/22 14:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	24.9	20.0	6.20	ug/L	1		10/11/22 20:52
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:52
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:52
Barium	11.0	3.00	0.940	ug/L	1		10/11/22 20:52
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 20:52
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 20:52
Calcium	16800	500	150	ug/L	1		10/11/22 20:52
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 20:52
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 20:52
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 20:52
Iron	250 U	250	78.0	ug/L	1		10/11/22 20:52
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 20:52
Magnesium	2700	50.0	15.0	ug/L	1		10/11/22 20:52
Manganese	2.81	1.00	0.350	ug/L	1		10/11/22 20:52
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:52
Nickel	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:52
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 20:52
Potassium	553	500	150	ug/L	1		10/11/22 20:52
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:52
Silicon	4750	1000	310	ug/L	1		10/11/22 20:52
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:52
Sodium	2720	500	150	ug/L	1		10/11/22 20:52
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:52
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:52
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 20:52
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 20:52
Zinc	37.0	10.0	3.10	ug/L	1		10/27/22 13:06

Print Date: 10/31/2022 3:47:13PM



**Results of WA01**

Client Sample ID: **WA01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957003  
Lab Project ID: 1225957

Collection Date: 09/29/22 12:05  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:06  
Container ID: 1225957003-B

Prep Batch: MX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 20:52  
Container ID: 1225957003-B

Prep Batch: MX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:13PM

## Results of WA01

Client Sample ID: **WA01**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225957003  
 Lab Project ID: 1225957

Collection Date: 09/29/22 12:05  
 Received Date: 09/29/22 14:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	3.85	1.00	0.400	mg/L	1		10/13/22 19:21

## Batch Information

Analytical Batch: WTC3244  
 Analytical Method: SM 5310B  
 Analyst: EBH  
 Analytical Date/Time: 10/13/22 19:21  
 Container ID: 1225957003-D

Print Date: 10/31/2022 3:47:13PM



**Results of WA04**

Client Sample ID: **WA04**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225957004  
 Lab Project ID: 1225957

Collection Date: 09/29/22 13:10  
 Received Date: 09/29/22 14:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	63.4	20.0	6.20	ug/L	1		10/11/22 20:54
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:54
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:54
Barium	12.9	3.00	0.940	ug/L	1		10/11/22 20:54
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 20:54
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 20:54
Calcium	29000	500	150	ug/L	1		10/11/22 20:54
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 20:54
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 20:54
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 20:54
Iron	250 U	250	78.0	ug/L	1		10/11/22 20:54
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 20:54
Magnesium	4330	50.0	15.0	ug/L	1		10/11/22 20:54
Manganese	3.13	1.00	0.350	ug/L	1		10/11/22 20:54
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:54
Nickel	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:54
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 20:54
Potassium	916	500	150	ug/L	1		10/11/22 20:54
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:54
Silicon	5290	1000	310	ug/L	1		10/11/22 20:54
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:54
Sodium	3990	500	150	ug/L	1		10/11/22 20:54
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:54
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:54
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 20:54
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 20:54
Zinc	23.9	10.0	3.10	ug/L	1		10/27/22 13:08

Print Date: 10/31/2022 3:47:13PM



**Results of WA04**

Client Sample ID: **WA04**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957004  
Lab Project ID: 1225957

Collection Date: 09/29/22 13:10  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:08  
Container ID: 1225957004-B

Prep Batch: MX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 20:54  
Container ID: 1225957004-B

Prep Batch: MX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:13PM



**Results of WA04**

Client Sample ID: **WA04**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225957004  
Lab Project ID: 1225957

Collection Date: 09/29/22 13:10  
Received Date: 09/29/22 14:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	4.47	1.00	0.400	mg/L	1		10/13/22 19:36

**Batch Information**

Analytical Batch: WTC3244  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 10/13/22 19:36  
Container ID: 1225957004-D

Print Date: 10/31/2022 3:47:13PM



## Method Blank

Blank ID: MB for HBN 1845075 [MXX/35532]

Blank Lab ID: 1689762

QC for Samples:

1225957003, 1225957004

Matrix: Water (Surface, Eff., Ground)

## Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aluminum	10.0U	20.0	6.20	ug/L
Antimony	0.500U	1.00	0.310	ug/L
Arsenic	2.50U	5.00	1.50	ug/L
Barium	1.50U	3.00	0.940	ug/L
Beryllium	0.200U	0.400	0.130	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Calcium	250U	500	150	ug/L
Chromium	2.50U	5.00	2.50	ug/L
Cobalt	2.00U	4.00	1.20	ug/L
Copper	1.50U	3.00	1.00	ug/L
Iron	125U	250	78.0	ug/L
Lead	1.00U	2.00	0.500	ug/L
Magnesium	25.0U	50.0	15.0	ug/L
Manganese	0.500U	1.00	0.350	ug/L
Molybdenum	1.00U	2.00	0.620	ug/L
Nickel	1.00U	2.00	0.620	ug/L
Phosphorus	100U	200	62.0	ug/L
Potassium	250U	500	150	ug/L
Selenium	2.50U	5.00	1.50	ug/L
Silicon	500U	1000	310	ug/L
Silver	0.500U	1.00	0.310	ug/L
Sodium	250U	500	150	ug/L
Thallium	0.500U	1.00	0.310	ug/L
Tin	0.500U	1.00	0.310	ug/L
Titanium	12.5U	25.0	7.75	ug/L
Vanadium	10.0U	20.0	6.20	ug/L

## Batch Information

Analytical Batch: MMS11714  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/11/2022 8:01:00PM

Prep Batch: MXX35532  
 Prep Method: E200.2  
 Prep Date/Time: 10/5/2022 10:42:21AM  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:16PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [MXX35532]  
 Blank Spike Lab ID: 1689763  
 Date Analyzed: 10/11/2022 20:04

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957003, 1225957004

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Aluminum	1000	998	100	(85-115)
Antimony	1000	1040	104	(85-115)
Arsenic	1000	987	99	(85-115)
Barium	1000	996	100	(85-115)
Beryllium	100	103	103	(85-115)
Cadmium	100	102	102	(85-115)
Calcium	10000	10100	101	(85-115)
Chromium	400	401	100	(85-115)
Cobalt	500	500	100	(85-115)
Copper	1000	1010	101	(85-115)
Iron	5000	5280	106	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	10000	10400	104	(85-115)
Manganese	500	498	100	(85-115)
Molybdenum	400	391	98	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	511	102	(85-115)
Potassium	10000	10200	102	(85-115)
Selenium	1000	1020	102	(85-115)
Silicon	10000	10500	105	(85-115)
Silver	100	100	100	(85-115)
Sodium	10000	10400	104	(85-115)
Thallium	10	10.2	102	(85-115)
Tin	100	103	103	(85-115)
Titanium	100	103	103	(85-115)
Vanadium	200	197	98	(85-115)

## Batch Information

Analytical Batch: **MMS11714**  
 Analytical Method: **EP200.8**  
 Instrument: **P7 Agilent 7800**  
 Analyst: **HGS**

Prep Batch: **MXX35532**  
 Prep Method: **E200.2**  
 Prep Date/Time: **10/05/2022 10:42**  
 Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL  
 Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/31/2022 3:47:18PM

## Matrix Spike Summary

Original Sample ID: 1689749  
 MS Sample ID: 1689766 MS  
 MSD Sample ID:

Analysis Date: 10/11/2022 20:14  
 Analysis Date: 10/11/2022 20:17  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957003, 1225957004

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aluminum	10.0U	1000	993	99				70-130		
Antimony	1.47	1000	1040	103				70-130		
Arsenic	2.50U	1000	986	99				70-130		
Barium	8.76	1000	992	98				70-130		
Beryllium	0.134J	100	103	103				70-130		
Cadmium	0.250U	100	102	102				70-130		
Calcium	8230	10000	18100	99				70-130		
Chromium	2.50U	400	397	99				70-130		
Cobalt	2.00U	500	495	99				70-130		
Copper	3.33	1000	1010	100				70-130		
Iron	125U	5000	5160	103				70-130		
Lead	0.794J	1000	1020	102				70-130		
Magnesium	1490	10000	11700	102				70-130		
Manganese	12.6	500	505	99				70-130		
Molybdenum	3.11	400	387	96				70-130		
Nickel	3.93	1000	997	99				70-130		
Phosphorus	100U	500	496	99				70-130		
Potassium	263J	10000	10500	102				70-130		
Selenium	1.54J	1000	1020	102				70-130		
Silicon	784J	10000	11100	103				70-130		
Silver	0.500U	100	99.7	100				70-130		
Sodium	1320	10000	11500	102				70-130		
Thallium	0.500U	10.0	10.3	103				70-130		
Tin	0.500U	100	101	101				70-130		
Titanium	12.5U	100	104	104				70-130		
Vanadium	10.0U	200	196	98				70-130		

## Batch Information

Analytical Batch: MMS11714  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/11/2022 8:17:00PM

Prep Batch: MX35532  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/5/2022 10:42:21AM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:47:20PM

## Method Blank

Blank ID: MB for HBN 1845076 [MXX/35533]

Blank Lab ID: 1689767

QC for Samples:

1225957001, 1225957002

Matrix: Water (Surface, Eff., Ground)

## Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Calcium	250U	500	150	ug/L
Magnesium	25.0U	50.0	15.0	ug/L

## Batch Information

Analytical Batch: MMS11717

Analytical Method: EP200.8

Instrument: P7 Agilent 7800

Analyst: HGS

Analytical Date/Time: 10/13/2022 3:21:00PM

Prep Batch: MXX35533

Prep Method: E200.2

Prep Date/Time: 10/5/2022 9:57:23AM

Prep Initial Wt./Vol.: 20 mL

Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:21PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [MXX35533]  
Blank Spike Lab ID: 1689768  
Date Analyzed: 10/13/2022 15:24

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Calcium	10000	9910	99	( 85-115 )
Magnesium	10000	10100	101	( 85-115 )

## Batch Information

Analytical Batch: **MMS11717**  
Analytical Method: **EP200.8**  
Instrument: **P7 Agilent 7800**  
Analyst: **HGS**

Prep Batch: **MXX35533**  
Prep Method: **E200.2**  
Prep Date/Time: **10/05/2022 09:57**  
Spike Init Wt./Vol.: 10000 ug/L Extract Vol: 50 mL  
Dupe Init Wt./Vol.: Extract Vol:

## Matrix Spike Summary

Original Sample ID: 1689751  
 MS Sample ID: 1689771 MS  
 MSD Sample ID:

Analysis Date: 10/13/2022 15:34  
 Analysis Date: 10/13/2022 15:37  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Calcium	64300	10000	73200	89				70-130		
Magnesium	17800	10000	27100	94				70-130		

## Batch Information

Analytical Batch: MMS11717  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/13/2022 3:37:00PM

Prep Batch: MXX35533  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/5/2022 9:57:23AM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:47:24PM

## Method Blank

Blank ID: MB for HBN 1846699 [MXX/35571]

Blank Lab ID: 1692375

QC for Samples:

1225957003, 1225957004

Matrix: Water (Surface, Eff., Ground)

## Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Zinc	6.02J	10.0	3.10	ug/L

## Batch Information

Analytical Batch: MMS11732

Analytical Method: EP200.8

Instrument: P7 Agilent 7800

Analyst: HGS

Analytical Date/Time: 10/28/2022 12:56:19PM

Prep Batch: MXX35571

Prep Method: E200.2

Prep Date/Time: 10/19/2022 3:00:38PM

Prep Initial Wt./Vol.: 20 mL

Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:47:29PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [MXX35571]  
Blank Spike Lab ID: 1692376  
Date Analyzed: 10/27/2022 12:26

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957003, 1225957004

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Zinc	1000	991	99	( 85-115 )

## Batch Information

Analytical Batch: **MMS11730**  
Analytical Method: **EP200.8**  
Instrument: **P7 Agilent 7800**  
Analyst: **HGS**

Prep Batch: **MXX35571**  
Prep Method: **E200.2**  
Prep Date/Time: **10/19/2022 15:00**  
Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/31/2022 3:47:31PM



## Matrix Spike Summary

Original Sample ID: 1692367  
 MS Sample ID: 1692379 MS  
 MSD Sample ID:

Analysis Date: 10/27/2022 12:36  
 Analysis Date: 10/27/2022 12:39  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957003, 1225957004

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Zinc	32.2	1000	988	96				70-130		

## Batch Information

Analytical Batch: MMS11730  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/27/2022 12:39:19PM

Prep Batch: MXX35571  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/19/2022 3:00:38PM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:47:32PM

## Method Blank

Blank ID: MB for HBN 1845813 (WFI/3009)

Blank Lab ID: 1690929

QC for Samples:

1225957001, 1225957002

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI3009

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 10/11/2022 12:24:06PM

Print Date: 10/31/2022 3:47:33PM



### Method Blank

Blank ID: MB for HBN 1845813 (WFI/3009)

Blank Lab ID: 1690936

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3009

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 10/11/2022 11:36:50AM

Print Date: 10/31/2022 3:47:33PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [WFI3009]

Blank Spike Lab ID: 1690931

Date Analyzed: 10/11/2022 12:22

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.62	105	( 70-130 )
Nitrite-N	2.5	2.49	100	( 90-110 )
Total Nitrate/Nitrite-N	5	5.11	102	( 90-110 )

## Batch Information

Analytical Batch: **WFI3009**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 10/31/2022 3:47:35PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [WFI3009]  
Blank Spike Lab ID: 1690938  
Date Analyzed: 10/11/2022 11:35

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.32	93	( 70-130 )
Nitrite-N	2.5	2.35	94	( 90-110 )
Total Nitrate/Nitrite-N	5	4.66	93	( 90-110 )

## Batch Information

Analytical Batch: **WFI3009**  
Analytical Method: **SM21 4500NO3-F**  
Instrument: **Astoria segmented flow**  
Analyst: **EBH**

Print Date: 10/31/2022 3:47:35PM



### Matrix Spike Summary

Original Sample ID: 1690916  
MS Sample ID: 1690918 MS  
MSD Sample ID: 1690919 MSD

Analysis Date: 10/11/2022 11:43  
Analysis Date: 10/11/2022 11:45  
Analysis Date: 10/11/2022 11:47  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Nitrate-N	0.293	2.50	3.26	119	2.50	3.45	126	70-130	5.80	(< 25 )
Nitrite-N	0.100U	2.50	2	80 *	2.50	2.15	86 *	90-110	7.10	(< 25 )
Total Nitrate/Nitrite-N	0.307	5.00	5.26	99	5.00	5.60	106	90-110	6.30	(< 25 )

### Batch Information

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 10/11/2022 11:45:36AM

Print Date: 10/31/2022 3:47:37PM



### Matrix Spike Summary

Original Sample ID: 1225971001  
MS Sample ID: 1690920 MS  
MSD Sample ID: 1690921 MSD

Analysis Date: 10/11/2022 13:13  
Analysis Date: 10/11/2022 13:14  
Analysis Date: 10/11/2022 13:16  
Matrix: Drinking Water

QC for Samples: 1225957001, 1225957002

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	5.85	10.0	14.3	84 *	10.0	15.2	94	90-110	6.40	(< 25 )

### Batch Information

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 10/11/2022 1:14:00PM

Print Date: 10/31/2022 3:47:37PM



### Method Blank

Blank ID: MB for HBN 1845141 [WXX/14500]

Blank Lab ID: 1690021

QC for Samples:

1225957001, 1225957002

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0200U	0.0400	0.0120	mg/L

### Batch Information

Analytical Batch: WDA5353  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 10/6/2022 11:49:00AM

Prep Batch: WXX14500  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 10/6/2022 10:08:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:47:42PM



## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [WXX14500]  
 Blank Spike Lab ID: 1690022  
 Date Analyzed: 10/06/2022 11:50

Spike Duplicate ID: LCSD for HBN 1225957 [WXX14500]  
 Spike Duplicate Lab ID: 1690023  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

## Results by SM21 4500P-B,E

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.2	0.204	102	0.2	0.196	98	( 75-125 )	3.70	(< 25 )

## Batch Information

Analytical Batch: **WDA5353**  
 Analytical Method: **SM21 4500P-B,E**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **MEB**

Prep Batch: **WXX14500**  
 Prep Method: **SM21 4500P-B,E**  
 Prep Date/Time: **10/06/2022 10:08**  
 Spike Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL

Print Date: 10/31/2022 3:47:44PM



### Matrix Spike Summary

Original Sample ID: 1225881001  
MS Sample ID: 1690024 MS  
MSD Sample ID: 1690025 MSD

Analysis Date: 10/06/2022 11:52  
Analysis Date: 10/06/2022 11:53  
Analysis Date: 10/06/2022 11:54  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

### Results by SM21 4500P-B,E

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.0633	0.200	.27	103	0.200	0.267	102	75-125	0.89	(< 10 )

### Batch Information

Analytical Batch: WDA5353  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 10/6/2022 11:53:00AM

Prep Batch: WXX14500  
Prep Method: Total Phosphorus (W) Ext.  
Prep Date/Time: 10/6/2022 10:08:00AM  
Prep Initial Wt./Vol.: 25.00mL  
Prep Extract Vol: 25.00mL

Print Date: 10/31/2022 3:47:45PM

## Method Blank

Blank ID: MB for HBN 1845773 [WXX/14507]

Blank Lab ID: 1690731

QC for Samples:

1225957001, 1225957002

Matrix: Water (Surface, Eff., Ground)

## Results by SM23 4500-N D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L

## Batch Information

Analytical Batch: WDA5356

Analytical Method: SM23 4500-N D

Instrument: Discrete Analyzer 2

Analyst: IGK

Analytical Date/Time: 10/10/2022 6:29:37PM

Prep Batch: WXX14507

Prep Method: METHOD

Prep Date/Time: 10/10/2022 6:00:00PM

Prep Initial Wt./Vol.: 25 mL

Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:47:46PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225957 [WXX14507]  
 Blank Spike Lab ID: 1690732  
 Date Analyzed: 10/10/2022 18:30

Spike Duplicate ID: LCSD for HBN 1225957 [WXX14507]  
 Spike Duplicate Lab ID: 1690733  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

## Results by SM23 4500-N D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	4	4.06	102	4	3.75	94	( 75-125 )	7.90	(< 25 )

## Batch Information

Analytical Batch: **WDA5356**  
 Analytical Method: **SM23 4500-N D**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **IGK**

Prep Batch: **WXX14507**  
 Prep Method: **METHOD**  
 Prep Date/Time: **10/10/2022 18:00**  
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL



### Matrix Spike Summary

Original Sample ID: 1225957002  
MS Sample ID: 1690734 MS  
MSD Sample ID: 1690735 MSD

Analysis Date: 10/10/2022 18:34  
Analysis Date: 10/10/2022 18:36  
Analysis Date: 10/10/2022 18:37  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225957001, 1225957002

### Results by SM23 4500-N D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	1.00U	4.00	3.94	98	4.00	4.12	103	75-125	4.60	(< 25 )

### Batch Information

Analytical Batch: WDA5356  
Analytical Method: SM23 4500-N D  
Instrument: Discrete Analyzer 2  
Analyst: IGK  
Analytical Date/Time: 10/10/2022 6:36:11PM

Prep Batch: WXX14507  
Prep Method: Distillation TKN by Phenate (W)  
Prep Date/Time: 10/10/2022 6:00:00PM  
Prep Initial Wt./Vol.: 25.00mL  
Prep Extract Vol: 25.00mL

Print Date: 10/31/2022 3:47:49PM



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

1225957



Profile# 385380 over

SECTION 1	CLIENT: ADEC				INSTRUCTIONS: SECTIONS 1-5 MUST BE FILLED OUT. OMISSIONS MAY DELAY THE ONSET OF ANALYSIS.							Page 1 of 1						
	CONTACT: Morgan Brown PHONE #: 907-451-2141				SECTION 3			PRESERVATIVE										
	PROJECT NAME: WHADA		PROJECT/PWSID/PERMIT #: NTP 22 464		CONTAINERS	SAMPLE TYPE:		Na2SO4	Na2SO4	HNO3	HNO3	H2SO4						
	REPORTS TO: Morgan Brown		E-MAIL: Morgan.Brown@alaska.gov			Comp	Grab	MI (Multi-incremental)	SM9222D Fecal Coliform	SM9223B E. Coli	245.1 Total Hg	200.8 Diss Metals (Lab Filter)	2340B Total hardness	5310B DOC (Lab Filter)	SM4500 T-Phos, NO2 +NO3,TKN			
	INVOICE TO: ADEC		QUOTE #:															
		P.O. #:																
SECTION 2	RESERVED FOR LAB USE	SAMPLE IDENTIFICATION	DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE												REMARKS/LOC ID	
	1AC (SAD)	WA01	9/29/22	12:05	SW	5	G			X	X	X	X	X				
	2AC (SAD)	WA04	9/29/22	1:10PM	SW	5	G			X	X	X	X	X				
SECTION 5	RELINQUISHED BY: (1)		DATE	TIME	RECEIVED BY:			SECTION 4			DOD Project?			DATA DELIVERABLE REQUIREMENTS:				
	RELINQUISHED BY: (2)		DATE	TIME	RECEIVED BY:			COC ID:										
	RELINQUISHED BY: (3)		DATE	TIME	RECEIVED BY:			Cooler ID:						REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS				
	RELINQUISHED BY: (4)		DATE	TIME	RECEIVED FOR LABORATORY BY:			TEMP BLANK °C: 5.6 1262			OR AMBIENT [ ]			CHAIN OF CUSTODY SEAL: (CIRCLE) INTACT BROKEN <u>ABSENT</u>				

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SGS Workorder #:

1225957

1225957

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

<b>Chain of Custody / Temperature Requirements</b>		<i>Note: Temperature and COC seal information is found on the chain of custody form</i>
--	--	---

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  (Use form FS-0029 if more space is needed)		

<b>Holding Time / Documentation / Sample Condition Requirement</b>		<i>Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.</i>
--	--	---

Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<i>Note: If information on containers differs from COC, default to COC information for login. If times differ &lt;1hr, record details &amp; login per COC.</i>		
Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes	
Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
---	--	--

Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>		
--	--	--



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225957001-A	HNO3 to pH < 2	OK			
1225957001-B	HNO3 to pH < 2	OK			
1225957001-C	H2SO4 to pH < 2	OK			
1225957002-A	HNO3 to pH < 2	OK			
1225957002-B	HNO3 to pH < 2	OK			
1225957002-C	H2SO4 to pH < 2	OK			
1225957003-A	No Preservative Required	OK			
1225957003-B	HNO3 to pH < 2	OK			
1225957003-C	No Preservative Required	OK			
1225957003-D	HCL to pH < 2	OK			
1225957004-A	No Preservative Required	OK			
1225957004-B	HNO3 to pH < 2	OK			
1225957004-C	No Preservative Required	OK			
1225957004-D	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

SGS North America, Inc

1225957

SGS Job Number: FA99406

Sampling Date: 09/29/22

Report to:

SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
justin.nelson@sgs.com; env.alaska.reflabteam@sgs.com  
  
ATTN: Justin Nelson

Total number of pages in report: 17



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer  
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA99406-1: WA01 .....	7
<b>4.2:</b> FA99406-2: WA04 .....	8
<b>Section 5: Misc. Forms</b> .....	<b>9</b>
<b>5.1:</b> Chain of Custody .....	10
<b>Section 6: Metals Analysis - QC Data Summaries</b> .....	<b>12</b>
<b>6.1:</b> Prep QC MP41342: Hg .....	13

1

2

3

4

5

6



## Sample Summary

SGS North America, Inc  
1225957

Job No: FA99406

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA99406-1	09/29/22	12:05	10/05/22	AQ	Water	WA01
FA99406-2	09/29/22	13:10	10/05/22	AQ	Water	WA04

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA99406

**Site:** 1225957

**Report Date:** 10/19/2022 4:45:22 PM

On 10/05/2022, 2 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 16.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA99406 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Metals Analysis By Method EPA 245.1

**Matrix:** AQ

**Batch ID:** MP41342

Sample(s) FA99616-1DUP, FA99616-1MS, FA99616-1MSD, FA99616-1SDL were used as the QC samples for metals.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

## Summary of Hits

**Job Number:** FA99406  
**Account:** SGS North America, Inc  
**Project:** 1225957  
**Collected:** 09/29/22



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**FA99406-1**      **WA01**

No hits reported in this sample.

**FA99406-2**      **WA04**

No hits reported in this sample.

Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> WA01	<b>Date Sampled:</b> 09/29/22
<b>Lab Sample ID:</b> FA99406-1	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225957	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

---

RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> WA04	<b>Date Sampled:</b> 09/29/22
<b>Lab Sample ID:</b> FA99406-2	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225957	

4.2  
4

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

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RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

SGS North America Inc.  
CHAIN OF CUSTODY RECORD

FA99406



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1				
CONTACT: <del>Julie Shumway</del>		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless								
PROJECT NAME: 1225957		PWSID#: NPDL#:		CONTAINER	Preservative Used: HNO3	TYPE C = COMP G = GRAB MI = Multi Incremental Soils	Mercury 245.1 Total	MS	MSD	SGS lab #	Location ID	
REPORTS TO: <del>Julie Shumway</del>		E-MAIL: <del>Julie.Shumway@sgs.com</del>										
INVOICE TO: SGS - Alaska		QUOTE #:										
env.alaska.accounting@sgs.com		P.O. #: 1225957										
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE								
1	WA01	09/29/2022	12:05:00	Water	1	X				1225957001		
2	WA04	09/29/2022	13:10:00	Water	1	X				1225957002		
Relinquished By: (1)		Date	Time	Received By:	DOD Project?		Report to DL (J Flags)?		Data Deliverable Requirements:			
		10/4	1100	10/5/22	NO		NO		Level 2			
Relinquished By: (2)		Date	Time	Received By:	Cooler ID:							
Relinquished By: (3)		Date	Time	Received By:	Requested Turnaround Time and-or Special Instructions:							
Relinquished By: (4)		Date	Time	Received For Laboratory By:	Temp Blank °C: 15.8°C				Chain of Custody Seal: (Circle)			
					or Ambient [ ]				INTACT BROKEN ABSENT			

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
[ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

LAB ASSESSMENT

LABEL VERIFICATION

F088\_COC\_REF\_LAB\_20190411

FA99406: Chain of Custody

Page 1 of 2

5.1  
5

## SGS Sample Receipt Summary

Job Number: FA99406

Client: SGS/SAKA

Project: 1225957

Date / Time Received: 10/5/2022 10:00:00 AM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 7670

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (15.8);

Cooler Temps (Corrected) °C: Cooler 1: (16.4);

**Cooler Information**

Y or N

- |                             |                                     |                          |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | <u>IR Gun</u>                       |                          |
| 5. Cooler media             | <u>Ice (Bag)</u>                    |                          |

**Trip Blank Information**

Y or N

N/A

- |                                |                          |                          |                                     |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|                                | <u>W or S</u>            |                          | <u>N/A</u>                          |
| 3. Type Of TB Received         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Sample Information**

Y or N

N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Samples preserved properly                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Condition of sample                              | <u>Intact</u>                       |                                     |                                     |
| 5. Sample recvd within HT                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 6. Dates/Times/IDs on COC match Sample Label        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 7. VOCs have headspace                              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Bottles received for unspecified tests           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 9. Compositing instructions clear                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs?         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present?                      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 \_\_\_\_\_ 230315 \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_  
 pH 10-12 \_\_\_\_\_ 219813A \_\_\_\_\_

Number of Lab Filtered Metals: \_\_\_\_\_  
 Other: (Specify) \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SAMUELM

Date: 10/5/2022 10:00:00 A

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA99406: Chain of Custody

Page 2 of 2

5.1  
5

## Metals Analysis

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: FA99406  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225957

QC Batch ID: MP41342  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 10/18/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	-0.011	<0.50

Associated samples MP41342: FA99406-1, FA99406-2

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.1  
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA99406  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225957

QC Batch ID: MP41342  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 10/18/22 10/18/22

Metal	FA99616-1 Original	DUP	RPD	QC Limits	FA99616-1 Original MS	Spikelot HGFLWS1	% Rec	QC Limits	
Mercury	0.0	0.0	NC	0-10	0.0	2.4	3	80.0	70-130

Associated samples MP41342: FA99406-1, FA99406-2

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

6.1.2  
 6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA99406  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225957

QC Batch ID: MP41342  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 10/18/22

Metal	FA99616-1 Original MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
-------	---------------------------	---------------------	-------	------------	-------------

Mercury	0.0	2.5	3	83.3	4.1
---------	-----	-----	---	------	-----

Associated samples MP41342: FA99406-1, FA99406-2

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

6.1.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA99406  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225957

QC Batch ID: MP41342  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 10/18/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
-------	---------------	---------------------	-------	--------------

Mercury 3.0 3 100.0 85-115

Associated samples MP41342: FA99406-1, FA99406-2

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested



SERIAL DILUTION RESULTS SUMMARY

Login Number: FA99406  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225957

QC Batch ID: MP41342  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 10/18/22

Metal	FA99616-1	Original	SDL 1:5	%DIF	QC Limits
-------	-----------	----------	---------	------	-----------

Mercury 0.00 0.00 NC 0-10

Associated samples MP41342: FA99406-1, FA99406-2

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.4  
6



## Laboratory Report of Analysis

To: ADEC-Air & Water Quality  
610 University Drive  
Fairbanks, AK 99709  
(907)451-2141

Report Number: **1225959**

Client Project: **WHADA**

Dear Morgan Brown,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **ADEC-Air & Water Quality**

SGS Project: **1225959**

Project Name/Site: **WHADA**

Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

**MB for HBN 1845075 [MXX/35532] (1689762) MB**

200.8 - Metals analyte Zinc is detected in the MB above the LOQ. The associated sample concentrations are either less than the LOQ or 5 times greater than the concentration in the MB.

**1225945005B(1690916MS) (1690918) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1225945005B(1690916MSD) (1690919) MSD**

4500NO3-F - Nitrate/Nitrite - MSD recovery for nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1225971001MS (1690920) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

Mercury 245.1 Total was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 10/31/2022 3:48:27PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Che 3	1225959001	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
Che 33	1225959002	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
AnchBact20-01	1225959003	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
Cam 6	1225959004	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
Che 3	1225959005	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
Che 33	1225959006	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
AnchBact20-01	1225959007	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)
Cam 6	1225959008	09/30/2022	09/30/2022	Water (Surface, Eff., Ground)

Method

SM 5310B  
 SM21 2340B  
 EP200.8  
 EP200.8  
 SM21 4500NO3-F  
 SM23 4500-N D  
 SM21 4500P-B,E

Method Description

Dissolved Organic Carbon  
 Hardness as CaCO3 by ICP-MS  
 Metals in Drinking Water by ICP-MS DISSO  
 Metals in Water by 200.8 ICP-MS  
 Nitrate/Nitrite Flow injection Pres.  
 TKN by Phenate (W)  
 Total Phosphorus (W)

### Detectable Results Summary

Client Sample ID: **Che 3**  
 Lab Sample ID: 1225959001

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	40600	ug/L
Hardness as CaCO3	132	mg/L
Magnesium	7540	ug/L
Total Nitrate/Nitrite-N	0.814	mg/L

**Waters Department**

Client Sample ID: **Che 33**  
 Lab Sample ID: 1225959002

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	21900	ug/L
Hardness as CaCO3	69.1	mg/L
Magnesium	3500	ug/L
Total Nitrate/Nitrite-N	0.397	mg/L

**Waters Department**

Client Sample ID: **AnchBact20-01**  
 Lab Sample ID: 1225959003

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	21000	ug/L
Hardness as CaCO3	62.5	mg/L
Magnesium	2420	ug/L
Total Nitrate/Nitrite-N	0.323	mg/L

**Waters Department**

Client Sample ID: **Cam 6**  
 Lab Sample ID: 1225959004

**Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	24900	ug/L
Hardness as CaCO3	76.4	mg/L
Magnesium	3420	ug/L
Total Nitrate/Nitrite-N	0.468	mg/L

**Waters Department**

Client Sample ID: **Che 3**  
 Lab Sample ID: 1225959005

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	22.2	ug/L
Calcium	40500	ug/L
Magnesium	7760	ug/L
Manganese	6.24	ug/L
Potassium	1290	ug/L
Silicon	6110	ug/L
Sodium	12500	ug/L
Zinc	46.0	ug/L
TOC Average, Dissolved	4.23	mg/L

**Waters Department**

### Detectable Results Summary

Client Sample ID: **Che 33**  
 Lab Sample ID: 1225959006  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	24.6	ug/L
Barium	7.29	ug/L
Calcium	22300	ug/L
Magnesium	3640	ug/L
Manganese	2.01	ug/L
Nickel	3.75	ug/L
Potassium	552	ug/L
Silicon	5800	ug/L
Sodium	1960	ug/L
Zinc	40.3	ug/L
TOC Average, Dissolved	4.12	mg/L

**Waters Department**

Client Sample ID: **AnchBact20-01**  
 Lab Sample ID: 1225959007  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	11.3	ug/L
Calcium	20300	ug/L
Magnesium	2380	ug/L
Manganese	2.83	ug/L
Silicon	3500	ug/L
Sodium	1450	ug/L
Zinc	37.5	ug/L
TOC Average, Dissolved	1.39	mg/L

**Waters Department**

Client Sample ID: **Cam 6**  
 Lab Sample ID: 1225959008  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	14.1	ug/L
Calcium	24700	ug/L
Magnesium	3400	ug/L
Manganese	14.3	ug/L
Potassium	505	ug/L
Silicon	3810	ug/L
Sodium	4250	ug/L
Zinc	37.8	ug/L
TOC Average, Dissolved	2.21	mg/L

**Waters Department**



**Results of Che 3**

Client Sample ID: **Che 3**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959001  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	40600	500	150	ug/L	1		10/13/22 16:01
Magnesium	7540	50.0	15.0	ug/L	1		10/13/22 16:01

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:01  
Container ID: 1225959001-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	132	5.00	5.00	mg/L	1		10/13/22 16:01

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:01  
Container ID: 1225959001-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM





**Results of Che 3**

Client Sample ID: **Che 3**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959001  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.814	0.200	0.0500	mg/L	2		10/11/22 12:55

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 12:55  
Container ID: 1225959001-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:06

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:06	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959001-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:38

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:38	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959001-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Che 33**

Client Sample ID: **Che 33**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959002  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	21900	500	150	ug/L	1		10/13/22 16:04
Magnesium	3500	50.0	15.0	ug/L	1		10/13/22 16:04

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:04  
Container ID: 1225959002-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	69.1	5.00	5.00	mg/L	1		10/13/22 16:04

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:04  
Container ID: 1225959002-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Che 33**

Client Sample ID: **Che 33**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959002  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.397	0.200	0.0500	mg/L	2		10/11/22 12:57

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 12:57  
Container ID: 1225959002-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:07

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:07	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959002-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:40

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:40	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959002-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:48:33PM



**Results of AnchBact20-01**

Client Sample ID: **AnchBact20-01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959003  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	21000	500	150	ug/L	1		10/13/22 16:06
Magnesium	2420	50.0	15.0	ug/L	1		10/13/22 16:06

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:06  
Container ID: 1225959003-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	62.5	5.00	5.00	mg/L	1		10/13/22 16:06

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:06  
Container ID: 1225959003-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of AnchBact20-01**

Client Sample ID: **AnchBact20-01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959003  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.323	0.200	0.0500	mg/L	2		10/11/22 12:59

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 12:59  
Container ID: 1225959003-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:08

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:08	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959003-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:41

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:41	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959003-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Cam 6**

Client Sample ID: **Cam 6**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959004  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Calcium	24900	500	150	ug/L	1		10/13/22 16:09
Magnesium	3420	50.0	15.0	ug/L	1		10/13/22 16:09

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:09  
Container ID: 1225959004-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	76.4	5.00	5.00	mg/L	1		10/13/22 16:09

**Batch Information**

Analytical Batch: MMS11717  
Analytical Method: SM21 2340B  
Analyst: HGS  
Analytical Date/Time: 10/13/22 16:09  
Container ID: 1225959004-B

Prep Batch: MX35533  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 09:57  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Cam 6**

Client Sample ID: **Cam 6**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959004  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.468	0.200	0.0500	mg/L	2		10/11/22 13:00

**Batch Information**

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 10/11/22 13:00  
Container ID: 1225959004-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Phosphorus	0.0400 U	0.0400	0.0120	mg/L	1		10/06/22 12:09

**Batch Information**

Analytical Batch: WDA5353	Prep Batch: WXX14500
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 10/06/22 10:08
Analytical Date/Time: 10/06/22 12:09	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959004-C	Prep Extract Vol: 25 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Kjeldahl Nitrogen	1.00 U	1.00	0.310	mg/L	1		10/10/22 18:45

**Batch Information**

Analytical Batch: WDA5356	Prep Batch: WXX14507
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: IGK	Prep Date/Time: 10/10/22 18:00
Analytical Date/Time: 10/10/22 18:45	Prep Initial Wt./Vol.: 25 mL
Container ID: 1225959004-C	Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:48:33PM



Results of **Che 3**

Client Sample ID: **Che 3**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959005  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		10/11/22 20:57
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:57
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:57
Barium	22.2	3.00	0.940	ug/L	1		10/11/22 20:57
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 20:57
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 20:57
Calcium	40500	500	150	ug/L	1		10/11/22 20:57
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 20:57
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 20:57
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 20:57
Iron	250 U	250	78.0	ug/L	1		10/11/22 20:57
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 20:57
Magnesium	7760	50.0	15.0	ug/L	1		10/11/22 20:57
Manganese	6.24	1.00	0.350	ug/L	1		10/11/22 20:57
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:57
Nickel	2.00 U	2.00	0.620	ug/L	1		10/11/22 20:57
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 20:57
Potassium	1290	500	150	ug/L	1		10/11/22 20:57
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 20:57
Silicon	6110	1000	310	ug/L	1		10/11/22 20:57
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:57
Sodium	12500	500	150	ug/L	1		10/11/22 20:57
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:57
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 20:57
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 20:57
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 20:57
Zinc	46.0	10.0	3.10	ug/L	1		10/27/22 13:11

Print Date: 10/31/2022 3:48:33PM





**Results of Che 3**

Client Sample ID: **Che 3**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959005  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:11  
Container ID: 1225959005-B

Prep Batch: MX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 20:57  
Container ID: 1225959005-B

Prep Batch: MX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Che 3**

Client Sample ID: **Che 3**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959005  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	4.23	1.00	0.400	mg/L	1		10/13/22 19:50

**Batch Information**

Analytical Batch: WTC3244  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 10/13/22 19:50  
Container ID: 1225959005-D

Print Date: 10/31/2022 3:48:33PM



Results of **Che 33**

Client Sample ID: **Che 33**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959006  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	24.6	20.0	6.20	ug/L	1		10/11/22 21:05
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:05
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:05
Barium	7.29	3.00	0.940	ug/L	1		10/11/22 21:05
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 21:05
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 21:05
Calcium	22300	500	150	ug/L	1		10/11/22 21:05
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 21:05
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 21:05
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 21:05
Iron	250 U	250	78.0	ug/L	1		10/11/22 21:05
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 21:05
Magnesium	3640	50.0	15.0	ug/L	1		10/11/22 21:05
Manganese	2.01	1.00	0.350	ug/L	1		10/11/22 21:05
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 21:05
Nickel	3.75	2.00	0.620	ug/L	1		10/11/22 21:05
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 21:05
Potassium	552	500	150	ug/L	1		10/11/22 21:05
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:05
Silicon	5800	1000	310	ug/L	1		10/11/22 21:05
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:05
Sodium	1960	500	150	ug/L	1		10/11/22 21:05
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:05
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:05
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 21:05
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 21:05
Zinc	40.3	10.0	3.10	ug/L	1		10/27/22 13:14

Print Date: 10/31/2022 3:48:33PM



**Results of Che 33**

Client Sample ID: **Che 33**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959006  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:15  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:14  
Container ID: 1225959006-B

Prep Batch: MX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 21:05  
Container ID: 1225959006-B

Prep Batch: MX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM

## Results of Che 33

Client Sample ID: **Che 33**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225959006  
 Lab Project ID: 1225959

Collection Date: 09/30/22 09:15  
 Received Date: 09/30/22 11:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	4.12	1.00	0.400	mg/L	1		10/13/22 20:05

## Batch Information

Analytical Batch: WTC3244  
 Analytical Method: SM 5310B  
 Analyst: EBH  
 Analytical Date/Time: 10/13/22 20:05  
 Container ID: 1225959006-D

Print Date: 10/31/2022 3:48:33PM



**Results of AnchBact20-01**

Client Sample ID: **AnchBact20-01**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225959007  
 Lab Project ID: 1225959

Collection Date: 09/30/22 09:50  
 Received Date: 09/30/22 11:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		10/11/22 21:08
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:08
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:08
Barium	11.3	3.00	0.940	ug/L	1		10/11/22 21:08
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 21:08
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 21:08
Calcium	20300	500	150	ug/L	1		10/11/22 21:08
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 21:08
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 21:08
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 21:08
Iron	250 U	250	78.0	ug/L	1		10/11/22 21:08
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 21:08
Magnesium	2380	50.0	15.0	ug/L	1		10/11/22 21:08
Manganese	2.83	1.00	0.350	ug/L	1		10/11/22 21:08
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 21:08
Nickel	2.00 U	2.00	0.620	ug/L	1		10/11/22 21:08
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 21:08
Potassium	500 U	500	150	ug/L	1		10/11/22 21:08
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:08
Silicon	3500	1000	310	ug/L	1		10/11/22 21:08
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:08
Sodium	1450	500	150	ug/L	1		10/11/22 21:08
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:08
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:08
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 21:08
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 21:08
Zinc	37.5	10.0	3.10	ug/L	1		10/27/22 13:16

Print Date: 10/31/2022 3:48:33PM



**Results of AnchBact20-01**

Client Sample ID: **AnchBact20-01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959007  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:16  
Container ID: 1225959007-B

Prep Batch: MXX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 21:08  
Container ID: 1225959007-B

Prep Batch: MXX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of AnchBact20-01**

Client Sample ID: **AnchBact20-01**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959007  
Lab Project ID: 1225959

Collection Date: 09/30/22 09:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	1.39	1.00	0.400	mg/L	1		10/13/22 20:19

**Batch Information**

Analytical Batch: WTC3244  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 10/13/22 20:19  
Container ID: 1225959007-D

Print Date: 10/31/2022 3:48:33PM





**Results of Cam 6**

Client Sample ID: **Cam 6**  
 Client Project ID: **WHADA**  
 Lab Sample ID: 1225959008  
 Lab Project ID: 1225959

Collection Date: 09/30/22 10:50  
 Received Date: 09/30/22 11:15  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Aluminum	20.0 U	20.0	6.20	ug/L	1		10/11/22 21:10
Antimony	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:10
Arsenic	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:10
Barium	14.1	3.00	0.940	ug/L	1		10/11/22 21:10
Beryllium	0.400 U	0.400	0.130	ug/L	1		10/11/22 21:10
Cadmium	0.500 U	0.500	0.150	ug/L	1		10/11/22 21:10
Calcium	24700	500	150	ug/L	1		10/11/22 21:10
Chromium	5.00 U	5.00	2.50	ug/L	1		10/11/22 21:10
Cobalt	4.00 U	4.00	1.20	ug/L	1		10/11/22 21:10
Copper	3.00 U	3.00	1.00	ug/L	1		10/11/22 21:10
Iron	250 U	250	78.0	ug/L	1		10/11/22 21:10
Lead	2.00 U	2.00	0.500	ug/L	1		10/11/22 21:10
Magnesium	3400	50.0	15.0	ug/L	1		10/11/22 21:10
Manganese	14.3	1.00	0.350	ug/L	1		10/11/22 21:10
Molybdenum	2.00 U	2.00	0.620	ug/L	1		10/11/22 21:10
Nickel	2.00 U	2.00	0.620	ug/L	1		10/11/22 21:10
Phosphorus	200 U	200	62.0	ug/L	1		10/11/22 21:10
Potassium	505	500	150	ug/L	1		10/11/22 21:10
Selenium	5.00 U	5.00	1.50	ug/L	1		10/11/22 21:10
Silicon	3810	1000	310	ug/L	1		10/11/22 21:10
Silver	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:10
Sodium	4250	500	150	ug/L	1		10/11/22 21:10
Thallium	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:10
Tin	1.00 U	1.00	0.310	ug/L	1		10/11/22 21:10
Titanium	6.25 U	6.25	3.13	ug/L	1		10/11/22 21:10
Vanadium	20.0 U	20.0	6.20	ug/L	1		10/11/22 21:10
Zinc	37.8	10.0	3.10	ug/L	1		10/27/22 13:19

Print Date: 10/31/2022 3:48:33PM



**Results of Cam 6**

Client Sample ID: **Cam 6**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959008  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

**Batch Information**

Analytical Batch: MMS11730  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/27/22 13:19  
Container ID: 1225959008-B

Prep Batch: MX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/22 15:00  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Analyst: HGS  
Analytical Date/Time: 10/11/22 21:10  
Container ID: 1225959008-B

Prep Batch: MX35532  
Prep Method: E200.2  
Prep Date/Time: 10/05/22 10:42  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:33PM



**Results of Cam 6**

Client Sample ID: **Cam 6**  
Client Project ID: **WHADA**  
Lab Sample ID: 1225959008  
Lab Project ID: 1225959

Collection Date: 09/30/22 10:50  
Received Date: 09/30/22 11:15  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
TOC Average, Dissolved	2.21	1.00	0.400	mg/L	1		10/13/22 21:02

**Batch Information**

Analytical Batch: WTC3244  
Analytical Method: SM 5310B  
Analyst: EBH  
Analytical Date/Time: 10/13/22 21:02  
Container ID: 1225959008-D

Print Date: 10/31/2022 3:48:33PM



### Method Blank

Blank ID: MB for HBN 1845075 [MXX/35532]  
Blank Lab ID: 1689762

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225959005, 1225959006, 1225959007, 1225959008

### Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aluminum	10.0U	20.0	6.20	ug/L
Antimony	0.500U	1.00	0.310	ug/L
Arsenic	2.50U	5.00	1.50	ug/L
Barium	1.50U	3.00	0.940	ug/L
Beryllium	0.200U	0.400	0.130	ug/L
Cadmium	0.250U	0.500	0.150	ug/L
Calcium	250U	500	150	ug/L
Chromium	2.50U	5.00	2.50	ug/L
Cobalt	2.00U	4.00	1.20	ug/L
Copper	1.50U	3.00	1.00	ug/L
Iron	125U	250	78.0	ug/L
Lead	1.00U	2.00	0.500	ug/L
Magnesium	25.0U	50.0	15.0	ug/L
Manganese	0.500U	1.00	0.350	ug/L
Molybdenum	1.00U	2.00	0.620	ug/L
Nickel	1.00U	2.00	0.620	ug/L
Phosphorus	100U	200	62.0	ug/L
Potassium	250U	500	150	ug/L
Selenium	2.50U	5.00	1.50	ug/L
Silicon	500U	1000	310	ug/L
Silver	0.500U	1.00	0.310	ug/L
Sodium	250U	500	150	ug/L
Thallium	0.500U	1.00	0.310	ug/L
Tin	0.500U	1.00	0.310	ug/L
Titanium	12.5U	25.0	7.75	ug/L
Vanadium	10.0U	20.0	6.20	ug/L

### Batch Information

Analytical Batch: MMS11714  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 10/11/2022 8:01:00PM

Prep Batch: MXX35532  
Prep Method: E200.2  
Prep Date/Time: 10/5/2022 10:42:21AM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:35PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [MXX35532]

Blank Spike Lab ID: 1689763

Date Analyzed: 10/11/2022 20:04

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959005, 1225959006, 1225959007, 1225959008

### Results by EP200.8

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Aluminum	1000	998	100	(85-115)
Antimony	1000	1040	104	(85-115)
Arsenic	1000	987	99	(85-115)
Barium	1000	996	100	(85-115)
Beryllium	100	103	103	(85-115)
Cadmium	100	102	102	(85-115)
Calcium	10000	10100	101	(85-115)
Chromium	400	401	100	(85-115)
Cobalt	500	500	100	(85-115)
Copper	1000	1010	101	(85-115)
Iron	5000	5280	106	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	10000	10400	104	(85-115)
Manganese	500	498	100	(85-115)
Molybdenum	400	391	98	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	511	102	(85-115)
Potassium	10000	10200	102	(85-115)
Selenium	1000	1020	102	(85-115)
Silicon	10000	10500	105	(85-115)
Silver	100	100	100	(85-115)
Sodium	10000	10400	104	(85-115)
Thallium	10	10.2	102	(85-115)
Tin	100	103	103	(85-115)
Titanium	100	103	103	(85-115)
Vanadium	200	197	98	(85-115)

### Batch Information

Analytical Batch: **MMS11714**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35532**

Prep Method: **E200.2**

Prep Date/Time: **10/05/2022 10:42**

Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/31/2022 3:48:38PM



### Matrix Spike Summary

Original Sample ID: 1689749  
 MS Sample ID: 1689766 MS  
 MSD Sample ID:

Analysis Date: 10/11/2022 20:14  
 Analysis Date: 10/11/2022 20:17  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959005, 1225959006, 1225959007, 1225959008

### Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Aluminum	10.0U	1000	993	99				70-130		
Antimony	1.47	1000	1040	103				70-130		
Arsenic	2.50U	1000	986	99				70-130		
Barium	8.76	1000	992	98				70-130		
Beryllium	0.134J	100	103	103				70-130		
Cadmium	0.250U	100	102	102				70-130		
Calcium	8230	10000	18100	99				70-130		
Chromium	2.50U	400	397	99				70-130		
Cobalt	2.00U	500	495	99				70-130		
Copper	3.33	1000	1010	100				70-130		
Iron	125U	5000	5160	103				70-130		
Lead	0.794J	1000	1020	102				70-130		
Magnesium	1490	10000	11700	102				70-130		
Manganese	12.6	500	505	99				70-130		
Molybdenum	3.11	400	387	96				70-130		
Nickel	3.93	1000	997	99				70-130		
Phosphorus	100U	500	496	99				70-130		
Potassium	263J	10000	10500	102				70-130		
Selenium	1.54J	1000	1020	102				70-130		
Silicon	784J	10000	11100	103				70-130		
Silver	0.500U	100	99.7	100				70-130		
Sodium	1320	10000	11500	102				70-130		
Thallium	0.500U	10.0	10.3	103				70-130		
Tin	0.500U	100	101	101				70-130		
Titanium	12.5U	100	104	104				70-130		
Vanadium	10.0U	200	196	98				70-130		

### Batch Information

Analytical Batch: MMS11714  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/11/2022 8:17:00PM

Prep Batch: MXX35532  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/5/2022 10:42:21AM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:48:39PM

## Method Blank

Blank ID: MB for HBN 1845076 [MXX/35533]  
Blank Lab ID: 1689767

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225959001, 1225959002, 1225959003, 1225959004

## Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Calcium	250U	500	150	ug/L
Magnesium	25.0U	50.0	15.0	ug/L

## Batch Information

Analytical Batch: MMS11717  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 10/13/2022 3:21:00PM

Prep Batch: MXX35533  
Prep Method: E200.2  
Prep Date/Time: 10/5/2022 9:57:23AM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:40PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [MXX35533]

Blank Spike Lab ID: 1689768

Date Analyzed: 10/13/2022 15:24

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Calcium	10000	9910	99	( 85-115 )
Magnesium	10000	10100	101	( 85-115 )

## Batch Information

Analytical Batch: **MMS11717**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35533**

Prep Method: **E200.2**

Prep Date/Time: **10/05/2022 09:57**

Spike Init Wt./Vol.: 10000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:



## Matrix Spike Summary

Original Sample ID: 1689751  
 MS Sample ID: 1689771 MS  
 MSD Sample ID:

Analysis Date: 10/13/2022 15:34  
 Analysis Date: 10/13/2022 15:37  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Calcium	64300	10000	73200	89				70-130		
Magnesium	17800	10000	27100	94				70-130		

## Batch Information

Analytical Batch: MMS11717  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/13/2022 3:37:00PM

Prep Batch: MXX35533  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/5/2022 9:57:23AM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:48:43PM



### Method Blank

Blank ID: MB for HBN 1846699 [MXX/35571]  
Blank Lab ID: 1692375

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225959005, 1225959006, 1225959007, 1225959008

### Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Zinc	6.02J	10.0	3.10	ug/L

### Batch Information

Analytical Batch: MMS11732  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 10/28/2022 12:56:19PM

Prep Batch: MXX35571  
Prep Method: E200.2  
Prep Date/Time: 10/19/2022 3:00:38PM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 10/31/2022 3:48:48PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [MXX35571]  
 Blank Spike Lab ID: 1692376  
 Date Analyzed: 10/27/2022 12:26

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959005, 1225959006, 1225959007, 1225959008

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Zinc	1000	991	99	( 85-115 )

## Batch Information

Analytical Batch: **MMS11730**  
 Analytical Method: **EP200.8**  
 Instrument: **P7 Agilent 7800**  
 Analyst: **HGS**

Prep Batch: **MXX35571**  
 Prep Method: **E200.2**  
 Prep Date/Time: **10/19/2022 15:00**  
 Spike Init Wt./Vol.: 1000 ug/L Extract Vol: 50 mL  
 Dupe Init Wt./Vol.: Extract Vol:

Print Date: 10/31/2022 3:48:50PM

## Matrix Spike Summary

Original Sample ID: 1692367  
 MS Sample ID: 1692379 MS  
 MSD Sample ID:

Analysis Date: 10/27/2022 12:36  
 Analysis Date: 10/27/2022 12:39  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959005, 1225959006, 1225959007, 1225959008

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Zinc	32.2	1000	988	96				70-130		

## Batch Information

Analytical Batch: MMS11730  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 10/27/2022 12:39:19PM

Prep Batch: MX35571  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 10/19/2022 3:00:38PM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 10/31/2022 3:48:51PM

## Method Blank

Blank ID: MB for HBN 1845813 (WFI/3009)

Blank Lab ID: 1690929

QC for Samples:

1225959001, 1225959002, 1225959003, 1225959004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI3009

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 10/11/2022 12:24:06PM

Print Date: 10/31/2022 3:48:53PM



### Method Blank

Blank ID: MB for HBN 1845813 (WFI/3009)

Blank Lab ID: 1690936

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3009

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 10/11/2022 11:36:50AM

Print Date: 10/31/2022 3:48:53PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [WFI3009]

Blank Spike Lab ID: 1690931

Date Analyzed: 10/11/2022 12:22

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.62	105	( 70-130 )
Nitrite-N	2.5	2.49	100	( 90-110 )
Total Nitrate/Nitrite-N	5	5.11	102	( 90-110 )

## Batch Information

Analytical Batch: **WFI3009**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [WFI3009]  
 Blank Spike Lab ID: 1690938  
 Date Analyzed: 10/11/2022 11:35

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.32	93	( 70-130 )
Nitrite-N	2.5	2.35	94	( 90-110 )
Total Nitrate/Nitrite-N	5	4.66	93	( 90-110 )

## Batch Information

Analytical Batch: **WFI3009**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**



## Matrix Spike Summary

Original Sample ID: 1690916  
 MS Sample ID: 1690918 MS  
 MSD Sample ID: 1690919 MSD

Analysis Date: 10/11/2022 11:43  
 Analysis Date: 10/11/2022 11:45  
 Analysis Date: 10/11/2022 11:47  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Nitrate-N	0.293	2.50	3.26	119	2.50	3.45	126	70-130	5.80	(< 25 )
Nitrite-N	0.100U	2.50	2	80 *	2.50	2.15	86 *	90-110	7.10	(< 25 )
Total Nitrate/Nitrite-N	0.307	5.00	5.26	99	5.00	5.60	106	90-110	6.30	(< 25 )

## Batch Information

Analytical Batch: WFI3009  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 10/11/2022 11:45:36AM

Print Date: 10/31/2022 3:48:57PM



### Matrix Spike Summary

Original Sample ID: 1225971001  
MS Sample ID: 1690920 MS  
MSD Sample ID: 1690921 MSD

Analysis Date: 10/11/2022 13:13  
Analysis Date: 10/11/2022 13:14  
Analysis Date: 10/11/2022 13:16  
Matrix: Drinking Water

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	5.85	10.0	14.3	84 *	10.0	15.2	94	90-110	6.40	(< 25 )

### Batch Information

Analytical Batch: WFI3009  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 10/11/2022 1:14:00PM

Print Date: 10/31/2022 3:48:57PM



### Method Blank

Blank ID: MB for HBN 1845141 [WXX/14500]  
Blank Lab ID: 1690021

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225959001, 1225959002, 1225959003, 1225959004

### Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0200U	0.0400	0.0120	mg/L

### Batch Information

Analytical Batch: WDA5353  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: MEB  
Analytical Date/Time: 10/6/2022 11:49:00AM

Prep Batch: WXX14500  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 10/6/2022 10:08:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:49:01PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [WXX14500]  
 Blank Spike Lab ID: 1690022  
 Date Analyzed: 10/06/2022 11:50

Spike Duplicate ID: LCSD for HBN 1225959 [WXX14500]  
 Spike Duplicate Lab ID: 1690023  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM21 4500P-B,E

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.2	0.204	102	0.2	0.196	98	( 75-125 )	3.70	(< 25 )

## Batch Information

Analytical Batch: **WDA5353**  
 Analytical Method: **SM21 4500P-B,E**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **MEB**

Prep Batch: **WXX14500**  
 Prep Method: **SM21 4500P-B,E**  
 Prep Date/Time: **10/06/2022 10:08**  
 Spike Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 0.2 mg/L Extract Vol: 25 mL

## Matrix Spike Summary

Original Sample ID: 1225881001  
 MS Sample ID: 1690024 MS  
 MSD Sample ID: 1690025 MSD

Analysis Date: 10/06/2022 11:52  
 Analysis Date: 10/06/2022 11:53  
 Analysis Date: 10/06/2022 11:54  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM21 4500P-B,E

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Phosphorus	0.0633	0.200	.27	103	0.200	0.267	102	75-125	0.89	(< 10 )

## Batch Information

Analytical Batch: WDA5353  
 Analytical Method: SM21 4500P-B,E  
 Instrument: Discrete Analyzer 2  
 Analyst: MEB  
 Analytical Date/Time: 10/6/2022 11:53:00AM

Prep Batch: WXX14500  
 Prep Method: Total Phosphorus (W) Ext.  
 Prep Date/Time: 10/6/2022 10:08:00AM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

## Method Blank

Blank ID: MB for HBN 1845773 [WXX/14507]  
 Blank Lab ID: 1690731

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM23 4500-N D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L

## Batch Information

Analytical Batch: WDA5356  
 Analytical Method: SM23 4500-N D  
 Instrument: Discrete Analyzer 2  
 Analyst: IGK  
 Analytical Date/Time: 10/10/2022 6:29:37PM

Prep Batch: WXX14507  
 Prep Method: METHOD  
 Prep Date/Time: 10/10/2022 6:00:00PM  
 Prep Initial Wt./Vol.: 25 mL  
 Prep Extract Vol: 25 mL

Print Date: 10/31/2022 3:49:06PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225959 [WXX14507]  
 Blank Spike Lab ID: 1690732  
 Date Analyzed: 10/10/2022 18:30

Spike Duplicate ID: LCSD for HBN 1225959  
 [WXX14507]  
 Spike Duplicate Lab ID: 1690733  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

### Results by SM23 4500-N D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	4	4.06	102	4	3.75	94	( 75-125 )	7.90	(< 25 )

### Batch Information

Analytical Batch: **WDA5356**  
 Analytical Method: **SM23 4500-N D**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **IGK**

Prep Batch: **WXX14507**  
 Prep Method: **METHOD**  
 Prep Date/Time: **10/10/2022 18:00**  
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 10/31/2022 3:49:08PM

## Matrix Spike Summary

Original Sample ID: 1225957002  
 MS Sample ID: 1690734 MS  
 MSD Sample ID: 1690735 MSD

Analysis Date: 10/10/2022 18:34  
 Analysis Date: 10/10/2022 18:36  
 Analysis Date: 10/10/2022 18:37  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225959001, 1225959002, 1225959003, 1225959004

## Results by SM23 4500-N D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Kjeldahl Nitrogen	1.00U	4.00	3.94	98	4.00	4.12	103	75-125	4.60	(< 25 )

## Batch Information

Analytical Batch: WDA5356  
 Analytical Method: SM23 4500-N D  
 Instrument: Discrete Analyzer 2  
 Analyst: IGK  
 Analytical Date/Time: 10/10/2022 6:36:11PM

Prep Batch: WXX14507  
 Prep Method: Distillation TKN by Phenate (W)  
 Prep Date/Time: 10/10/2022 6:00:00PM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

Print Date: 10/31/2022 3:49:10PM





SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

1225959



Profile # 385380 D112

<b>CLIENT:</b> ADEC <b>CONTACT:</b> Morgan Brown <b>PHONE #:</b> 907-451-2141 <b>PROJECT NAME:</b> WHADA <b>PROJECT/PWSID/PERMIT #:</b> NTP 22 464 <b>REPORTS TO:</b> Morgan Brown <b>E-MAIL:</b> Morgan.Brown@alaska.gov <b>INVOICE TO:</b> ADEC <b>QUOTE #:</b> <b>P.O. #:</b>						<b>INSTRUCTIONS: SECTIONS 1-5 MUST BE FILLED OUT. OMISSIONS MAY DELAY THE ONSET OF ANALYSIS.</b>						<b>SECTION 3</b> <b>PRESERVATIVE</b> Na2SO4 Na2SO4 HNO3 HNO3 H2SO4 SM9222D Fecal Coliform SM9223B E. Coli 245.1 Total Hg 200.8 Diss Metals (Lab Filter) 2340B Total hardness 5310B DOC (Lab Filter) SM4500 T-Phos, NO2 +NO3,TKN										
<b>SECTION 1</b> RESERVED FOR LAB USE	<b>SAMPLE IDENTIFICATION</b>					<b>#</b> <b>C</b> <b>O</b> <b>N</b> <b>T</b> <b>A</b> <b>I</b> <b>N</b> <b>E</b> <b>R</b> <b>S</b>	<b>SAMPLE TYPE:</b> Comp Grab MI (Multi-incremental)	SM9222D Fecal Coliform	SM9223B E. Coli	245.1 Total Hg	200.8 Diss Metals (Lab Filter)	2340B Total hardness	5310B DOC (Lab Filter)	SM4500 T-Phos, NO2 +NO3,TKN	<b>REMARKS/LOC ID</b>							
	DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE																			
	1AC (SAD) Che 3	09/30/22	10:15	SW	5											G	X	X	X	X	X	
	2AC (CAD) Che 33	9/30/22	9:15	SW	5											G	X	X	X	X	X	
	3AC (SAD) Arch Bact 20-01	9/30/22	9:50	SW	5											G	X	X	X	X	X	
4AC (SAD) Camb	9/30/22	10:50	SW	5	G	X	X	X	X	X												
<b>SECTION 5</b> <b>RELINQUISHED BY:</b> (1) <i>[Signature]</i> <b>DATE:</b> 9/30/22 <b>TIME:</b> 11:12 <b>RECEIVED BY:</b> <i>[Signature]</i>						<b>SECTION 4</b> DOD Project? <input type="checkbox"/> <b>DATA DELIVERABLE REQUIREMENTS:</b>																
<b>RELINQUISHED BY:</b> (2) <i>[Signature]</i> <b>DATE:</b> <b>TIME:</b> <b>RECEIVED BY:</b>						<b>COC ID:</b> <b>Cooler ID:</b> <b>REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS</b>																
<b>RELINQUISHED BY:</b> (3) <i>[Signature]</i> <b>DATE:</b> <b>TIME:</b> <b>RECEIVED BY:</b>						<b>TEMP BLANK °C:</b> 1.7 P62 <b>OR AMBIENT [ ]</b> (See attached Sample Receipt Form)																
<b>RELINQUISHED BY:</b> (4) <i>[Signature]</i> <b>DATE:</b> 9/30/22 <b>TIME:</b> 11:15 <b>RECEIVED FOR LABORATORY BY:</b> <i>[Signature]</i>						<b>CHAIN OF CUSTODY SEAL: (CIRCLE)</b> INTACT BROKEN <b>ABSENT</b> (See attached Sample Receipt Form)																

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SGS Workorder #:

1225959

1225959

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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<b>Chain of Custody / Temperature Requirements</b>		<i>Note: Temperature and COC seal information is found on the chain of custody form</i>
--	--	---

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  (Use form FS-0029 if more space is needed)		

<b>Holding Time / Documentation / Sample Condition Requirement</b>		<i>Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.</i>
--	--	---

Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<i>Note: If information on containers differs from COC, default to COC information for login. If times differ &lt;1hr, record details &amp; login per COC.</i>		
Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes	
Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
---	--	--

Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	N/A	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	N/A	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>		
--	--	--



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225959001-A	HNO3 to pH < 2	OK			
1225959001-B	HNO3 to pH < 2	OK			
1225959001-C	H2SO4 to pH < 2	OK			
1225959002-A	HNO3 to pH < 2	OK			
1225959002-B	HNO3 to pH < 2	OK			
1225959002-C	H2SO4 to pH < 2	OK			
1225959003-A	HNO3 to pH < 2	OK			
1225959003-B	HNO3 to pH < 2	OK			
1225959003-C	H2SO4 to pH < 2	OK			
1225959004-A	HNO3 to pH < 2	OK			
1225959004-B	HNO3 to pH < 2	OK			
1225959004-C	H2SO4 to pH < 2	OK			
1225959005-A	No Preservative Required	OK			
1225959005-B	HNO3 to pH < 2	OK			
1225959005-C	No Preservative Required	OK			
1225959005-D	HCL to pH < 2	OK			
1225959006-A	No Preservative Required	OK			
1225959006-B	HNO3 to pH < 2	OK			
1225959006-C	No Preservative Required	OK			
1225959006-D	HCL to pH < 2	OK			
1225959007-A	No Preservative Required	OK			
1225959007-B	HNO3 to pH < 2	OK			
1225959007-C	No Preservative Required	OK			
1225959007-D	HCL to pH < 2	OK			
1225959008-A	No Preservative Required	OK			
1225959008-B	HNO3 to pH < 2	OK			
1225959008-C	No Preservative Required	OK			
1225959008-D	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

SGS North America, Inc

1225959

SGS Job Number: FA99405

Sampling Date: 09/30/22

Report to:

SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
justin.nelson@sgs.com; env.alaska.reflabteam@sgs.com  
  
ATTN: Justin Nelson

Total number of pages in report: **19**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink that reads "Norm Farmer".

Norm Farmer  
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA99405-1: CHE 3 .....	7
<b>4.2:</b> FA99405-2: CHE 33 .....	8
<b>4.3:</b> FA99405-3: ANCHBACT20-01 .....	9
<b>4.4:</b> FA99405-4: CAM 6 .....	10
<b>Section 5: Misc. Forms</b> .....	<b>11</b>
<b>5.1:</b> Chain of Custody .....	12
<b>Section 6: Metals Analysis - QC Data Summaries</b> .....	<b>14</b>
<b>6.1:</b> Prep QC MP41342: Hg .....	15

1

2

3

4

5

6



### Sample Summary

SGS North America, Inc  
1225959

Job No: FA99405

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA99405-1	09/30/22	10:15	10/05/22	AQ	Water	CHE 3
FA99405-2	09/30/22	09:15	10/05/22	AQ	Water	CHE 33
FA99405-3	09/30/22	09:50	10/05/22	AQ	Water	ANCHBACT20-01
FA99405-4	09/30/22	10:50	10/05/22	AQ	Water	CAM 6

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA99405

**Site:** 1225959

**Report Date:** 10/19/2022 4:44:23 PM

On 10/05/2022, 4 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 16.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA99405 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Metals Analysis By Method EPA 245.1

**Matrix:** AQ

**Batch ID:** MP41342

Sample(s) FA99616-1DUP, FA99616-1MS, FA99616-1MSD, FA99616-1SDL were used as the QC samples for metals.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

## Summary of Hits

**Job Number:** FA99405  
**Account:** SGS North America, Inc  
**Project:** 1225959  
**Collected:** 09/30/22



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**FA99405-1**      **CHE 3**

No hits reported in this sample.

**FA99405-2**      **CHE 33**

No hits reported in this sample.

**FA99405-3**      **ANCHBACT20-01**

No hits reported in this sample.

**FA99405-4**      **CAM 6**

No hits reported in this sample.



Sample Results

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Report of Analysis

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## Report of Analysis

<b>Client Sample ID:</b> CHE 3	<b>Date Sampled:</b> 09/30/22
<b>Lab Sample ID:</b> FA99405-1	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225959	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

---

RL = Reporting Limit

4.1  
4

## Report of Analysis

<b>Client Sample ID:</b> CHE 33	<b>Date Sampled:</b> 09/30/22
<b>Lab Sample ID:</b> FA99405-2	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225959	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

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RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> ANCHBACT20-01	<b>Date Sampled:</b> 09/30/22
<b>Lab Sample ID:</b> FA99405-3	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225959	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

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RL = Reporting Limit

## Report of Analysis

<b>Client Sample ID:</b> CAM 6	<b>Date Sampled:</b> 09/30/22
<b>Lab Sample ID:</b> FA99405-4	<b>Date Received:</b> 10/05/22
<b>Matrix:</b> AQ - Water	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225959	

### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	10/18/22	10/18/22 JC	EPA 245.1 <sup>1</sup>	EPA 245.1 <sup>2</sup>

(1) Instrument QC Batch: MA18984

(2) Prep QC Batch: MP41342

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RL = Reporting Limit

4.4  
4

Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

SGS North America Inc.  
CHAIN OF CUSTODY RECORD

FA99405



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1																																											
CONTACT: <u>Julie Shumway</u> PHONE NO: (907) 562-2343				Additional Comments: All soils report out in dry weight unless																																															
PROJECT NAME: 1225959		PWSID#: _____		NPD#: _____		<table border="1"> <tr> <th>#</th> <th>Preservative Used:</th> <th>TYPE</th> <th>Mercury 245,1, Total</th> <th>MS</th> <th>MSD</th> <th>SGS lab #</th> <th>Location ID</th> </tr> <tr> <td>1</td> <td></td> <td>Water</td> <td>X</td> <td></td> <td></td> <td>1225959001</td> <td></td> </tr> <tr> <td>2</td> <td></td> <td>Water</td> <td>X</td> <td></td> <td></td> <td>1225959002</td> <td></td> </tr> <tr> <td>3</td> <td></td> <td>Water</td> <td>X</td> <td></td> <td></td> <td>1225959003</td> <td></td> </tr> <tr> <td>4</td> <td></td> <td>Water</td> <td>X</td> <td></td> <td></td> <td>1225959004</td> <td></td> </tr> </table>						#	Preservative Used:	TYPE	Mercury 245,1, Total	MS	MSD	SGS lab #	Location ID	1		Water	X			1225959001		2		Water	X			1225959002		3		Water	X			1225959003		4		Water	X			1225959004	
#	Preservative Used:	TYPE	Mercury 245,1, Total	MS	MSD							SGS lab #	Location ID																																						
1		Water	X									1225959001																																							
2		Water	X									1225959002																																							
3		Water	X			1225959003																																													
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REPORTS TO: <u>Julie Shumway</u> E-MAIL: <u>Julie.Shumway@sgs.com</u>				E-MAIL: <u>Justin.Nelson@sgs.com</u>		E-MAIL: <u>Env.Alaska.RefLabTeam@sgs.com</u>																																													
INVOICE TO: SGS - Alaska				QUOTE #: _____		P.O. #: 1225959																																													
env.alaska.accounting@sgs.com																																																			
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE																																															
1	Che 3	09/30/2022	10:15:00	Water	1	X																																													
2	Che 33	09/30/2022	09:15:00	Water	1	X																																													
3	AnchBact20-01	09/30/2022	09:50:00	Water	1	X																																													
4	Cam 6	09/30/2022	10:50:00	Water	1	X																																													
Relinquished By: (1)		Date	Time	Received By:	DOD Project?		Report to DL (J Flags)?		Data Deliverable Requirements:																																										
		10/4	1100	1000	NO		NO		Level 2																																										
Relinquished By: (2)		Date	Time	Received By:	Cooler ID:																																														
					Requested Turnaround Time and-or Special Instructions:																																														
Relinquished By: (3)		Date	Time	Received By:	Temp Blank °C: 15.8°C		Chain of Custody Seal: (Circle)																																												
Relinquished By: (4)		Date	Time	Received For Laboratory By:	or Ambient [ ]		INTACT BROKEN ABSENT																																												

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
[ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

INITIAL ASSESSMENT ZB  
LABEL VERIFICATION [Signature]

F088\_COC\_REF\_LAB\_20190411

## SGS Sample Receipt Summary

Job Number: FA99405

Client: SGS SAKA

Project: 1225959

Date / Time Received: 10/5/2022 10:00:00 AM

Delivery Method: FEDEX

Airbill #s: 1483 4802 7670

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (15.8);

Cooler Temps (Corrected) °C: Cooler 1: (16.4);

**Cooler Information**

Y or N

- |                             |                                     |                          |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | <u>IR Gun</u>                       |                          |
| 5. Cooler media             | <u>Ice (Bag)</u>                    |                          |

**Sample Information**

Y or N    N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Samples preserved properly                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Condition of sample                              | <u>Intact</u>                       |                                     |                                     |
| 5. Sample recvd within HT                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 6. Dates/Times/IDs on COC match Sample Label        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 7. VOCs have headspace                              | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 8. Bottles received for unspecified tests           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 9. Compositing instructions clear                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs?         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present?                      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Trip Blank Information**

Y or N    N/A

- |                                |                          |                          |                                     |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|                                | <u>W or S</u> <u>N/A</u> |                          |                                     |
| 3. Type Of TB Received         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_      Number of 5035 Field Kits: \_\_\_\_\_      Number of Lab Filtered Metals: \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315      pH 10-12 219813A      Other: (Specify) \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SAMUELM

Date: 10/5/2022 10:00:00 A

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA99405: Chain of Custody

Page 2 of 2

5.1  
5



## Metals Analysis

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY  
Part 2 - Method Blanks

Login Number: FA99405  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225959

QC Batch ID: MP41342  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 10/18/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	-0.011	<0.50

Associated samples MP41342: FA99405-1, FA99405-2, FA99405-3, FA99405-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested

6.1.1  
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA99405  
 Account: SGSAKA - SGS North America, Inc  
 Project: 1225959

QC Batch ID: MP41342  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 10/18/22 10/18/22

Metal	FA99616-1 Original	DUP	RPD	QC Limits	FA99616-1 Original MS	Spikelot HGFLWS1	% Rec	QC Limits	
Mercury	0.0	0.0	NC	0-10	0.0	2.4	3	80.0	70-130

Associated samples MP41342: FA99405-1, FA99405-2, FA99405-3, FA99405-4

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.1.2  
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: FA99405  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225959

QC Batch ID: MP41342  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 10/18/22

Metal	FA99616-1 Original MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
-------	---------------------------	---------------------	-------	------------	-------------

Mercury	0.0	2.5	3	83.3	4.1
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Associated samples MP41342: FA99405-1, FA99405-2, FA99405-3, FA99405-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (N) Matrix Spike Rec. outside of QC limits  
 (anr) Analyte not requested

6.1.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: FA99405  
 Account: SGS/SAKA - SGS North America, Inc  
 Project: 1225959

QC Batch ID: MP41342  
 Matrix Type: AQUEOUS

Methods: EPA 245.1  
 Units: ug/l

Prep Date: 10/18/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
-------	---------------	---------------------	-------	--------------

Mercury 3.0 3 100.0 85-115

Associated samples MP41342: FA99405-1, FA99405-2, FA99405-3, FA99405-4

Results < IDL are shown as zero for calculation purposes  
 (\*) Outside of QC limits  
 (anr) Analyte not requested

6.1.3  
 6

SERIAL DILUTION RESULTS SUMMARY

Login Number: FA99405  
Account: SGS/SAKA - SGS North America, Inc  
Project: 1225959

QC Batch ID: MP41342  
Matrix Type: AQUEOUS

Methods: EPA 245.1  
Units: ug/l

Prep Date: 10/18/22

Metal	FA99616-1	Original	SDL 1:5	%DIF	QC	Limits
-------	-----------	----------	---------	------	----	--------

Mercury 0.00 0.00 NC 0-10

Associated samples MP41342: FA99405-1, FA99405-2, FA99405-3, FA99405-4

Results < IDL are shown as zero for calculation purposes  
(\* ) Outside of QC limits  
(anr) Analyte not requested