



Laboratory Report of Analysis

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

Report Number: **1224142**

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: **1224142**
Project Name/Site: **WHADA**
Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

Che33 (1224142001) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
200.8 – Metals - LCS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

Che3 (1224142002) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
200.8 – Metals - LCS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

AnchBact 20-01 (1224142003) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

Cam 6 (1224142004) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

Che33 (1224142005) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

Che3 (1224142006) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

AnchBact 20-01 (1224142007) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

Cam 6 (1224142008) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

LCS for HBN 1840624 [MXX/35299 (1676809) LCS

200.8 – Metals - LCS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224182003(1676807MS) (1676812) MS

200.8 – Metals - MS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224928001(1680576MS) (1680580) MS

200.8 - Metals MS recovery for Aluminum does not meet QC criteria. The sample is nonhomogeneous.

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.

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>
Che33	1224142001	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
Che3	1224142002	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
AnchBact 20-01	1224142003	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
Cam 6	1224142004	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
Che33	1224142005	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
Che3	1224142006	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
AnchBact 20-01	1224142007	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)
Cam 6	1224142008	07/20/2022	07/20/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO ₃ by ICP-MS
EPA 300.0	Ion Chromatographic Analysis
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Detectable Results Summary

Client Sample ID: **Che33**
 Lab Sample ID: 1224142001

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	19900	ug/L
Hardness as CaCO3	63.6	mg/L
Magnesium	3370	ug/L
TOC Average, Dissolved	10.3	mg/L

Waters Department

Client Sample ID: **Che3**
 Lab Sample ID: 1224142002

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	31600	ug/L
Hardness as CaCO3	103	mg/L
Magnesium	5810	ug/L
TOC Average, Dissolved	3.86	mg/L

Waters Department

Client Sample ID: **AnchBact 20-01**
 Lab Sample ID: 1224142003

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	14000	ug/L
Hardness as CaCO3	43.0	mg/L
Magnesium	1920	ug/L
TOC Average, Dissolved	3.32	mg/L

Waters Department

Client Sample ID: **Cam 6**
 Lab Sample ID: 1224142004

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	15400	ug/L
Hardness as CaCO3	49.6	mg/L
Magnesium	2700	ug/L
TOC Average, Dissolved	5.41	mg/L
Total Phosphorus	0.0570	mg/L

Waters Department

Client Sample ID: **Che33**
 Lab Sample ID: 1224142005

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	131	ug/L
Barium	6.87	ug/L
Calcium	19700	ug/L
Magnesium	3280	ug/L
Silicon	5200	ug/L
Sodium	1800	ug/L
Zinc	23.9	ug/L

Client Sample ID: **Che3**
 Lab Sample ID: 1224142006

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Barium	22.4	ug/L
Calcium	31300	ug/L
Magnesium	5750	ug/L
Potassium	974	ug/L
Silicon	4590	ug/L
Sodium	9710	ug/L
Zinc	25.8	ug/L

Detectable Results Summary

Client Sample ID: **AnchBact 20-01**

Lab Sample ID: 1224142007

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	118	ug/L
Barium	8.46	ug/L
Calcium	13400	ug/L
Magnesium	1640	ug/L
Silicon	2540	ug/L
Sodium	1070	ug/L
Zinc	19.9	ug/L

Client Sample ID: **Cam 6**

Lab Sample ID: 1224142008

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	335	ug/L
Barium	11.1	ug/L
Calcium	14500	ug/L
Magnesium	2200	ug/L
Potassium	715	ug/L
Silicon	2900	ug/L
Sodium	2870	ug/L
Zinc	31.3	ug/L

Results of Che33

Client Sample ID: **Che33**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224142001
 Lab Project ID: 1224142

Collection Date: 07/20/22 11:00
 Received Date: 07/20/22 14:03
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		07/28/22 23:56

Batch Information

Analytical Batch: WIC6344
 Analytical Method: EPA 300.0
 Analyst: NRZ
 Analytical Date/Time: 07/28/22 23:56
 Container ID: 1224142001-E

Prep Batch: WXX14308
 Prep Method: METHOD
 Prep Date/Time: 07/28/22 11:00
 Prep Initial Wt./Vol.: 10 mL
 Prep Extract Vol: 10 mL



Results of Che33

Client Sample ID: **Che33**
Client Project ID: **WHADA**
Lab Sample ID: 1224142001
Lab Project ID: 1224142

Collection Date: 07/20/22 11:00
Received Date: 07/20/22 14:03
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		08/08/22 15:47
Magnesium	3370	50.0	15.0	ug/L	1		08/08/22 15:47

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 15:47
Container ID: 1224142001-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	63.6	5.00	5.00	mg/L	1		08/08/22 15:47

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 15:47
Container ID: 1224142001-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:17PM



Results of Che33

Client Sample ID: **Che33**
Client Project ID: **WHADA**
Lab Sample ID: 1224142001
Lab Project ID: 1224142

Collection Date: 07/20/22 11:00
Received Date: 07/20/22 14:03
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	10.3	1.00	0.400	mg/L	1		07/26/22 16:30

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 16:30
Container ID: 1224142001-D

<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		07/31/22 11:50

Batch Information

Analytical Batch: WDA5255	Prep Batch: WXX14316
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: NRZ	Prep Date/Time: 07/27/22 17:00
Analytical Date/Time: 07/31/22 11:50	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142001-E	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		08/11/22 12:24

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:24	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142001-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:17:17PM



Results of **Che3**

Client Sample ID: **Che3**
Client Project ID: **WHADA**
Lab Sample ID: 1224142002
Lab Project ID: 1224142

Collection Date: 07/20/22 12:40
Received Date: 07/20/22 14:03
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		07/29/22 00:15

Batch Information

Analytical Batch: WIC6344
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 07/29/22 00:15
Container ID: 1224142002-E

Prep Batch: WXX14308
Prep Method: METHOD
Prep Date/Time: 07/28/22 11:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:17:17PM



Results of Che3

Client Sample ID: **Che3**
Client Project ID: **WHADA**
Lab Sample ID: 1224142002
Lab Project ID: 1224142

Collection Date: 07/20/22 12:40
Received Date: 07/20/22 14:03
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	31600	500	150	ug/L	1		08/08/22 15:58
Magnesium	5810	50.0	15.0	ug/L	1		08/08/22 15:58

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 15:58
Container ID: 1224142002-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	103	5.00	5.00	mg/L	1		08/08/22 15:58

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 15:58
Container ID: 1224142002-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:17PM



Results of Che3

Client Sample ID: **Che3**
Client Project ID: **WHADA**
Lab Sample ID: 1224142002
Lab Project ID: 1224142

Collection Date: 07/20/22 12:40
Received Date: 07/20/22 14:03
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	3.86	1.00	0.400	mg/L	1		07/26/22 16:45

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 16:45
Container ID: 1224142002-D

<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		07/31/22 11:51

Batch Information

Analytical Batch: WDA5255	Prep Batch: WXX14316
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: NRZ	Prep Date/Time: 07/27/22 17:00
Analytical Date/Time: 07/31/22 11:51	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142002-E	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		08/11/22 12:26

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:26	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142002-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:17:17PM



Results of **AnchBact 20-01**

Client Sample ID: **AnchBact 20-01**
Client Project ID: **WHADA**
Lab Sample ID: 1224142003
Lab Project ID: 1224142

Collection Date: 07/20/22 11:50
Received Date: 07/20/22 14:03
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		07/29/22 00:34

Batch Information

Analytical Batch: WIC6344
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 07/29/22 00:34
Container ID: 1224142003-E

Prep Batch: WXX14308
Prep Method: METHOD
Prep Date/Time: 07/28/22 11:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:17:17PM



Results of AnchBact 20-01

Client Sample ID: **AnchBact 20-01**
Client Project ID: **WHADA**
Lab Sample ID: 1224142003
Lab Project ID: 1224142

Collection Date: 07/20/22 11:50
Received Date: 07/20/22 14:03
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	14000	500	150	ug/L	1		08/08/22 16:01
Magnesium	1920	50.0	15.0	ug/L	1		08/08/22 16:01

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:01
Container ID: 1224142003-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	43.0	5.00	5.00	mg/L	1		08/08/22 16:01

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:01
Container ID: 1224142003-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:17PM



Results of AnchBact 20-01

Client Sample ID: **AnchBact 20-01**
Client Project ID: **WHADA**
Lab Sample ID: 1224142003
Lab Project ID: 1224142

Collection Date: 07/20/22 11:50
Received Date: 07/20/22 14:03
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	3.32	1.00	0.400	mg/L	1		07/26/22 17:03

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 17:03
Container ID: 1224142003-D

<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		07/31/22 11:52

Batch Information

Analytical Batch: WDA5255	Prep Batch: WXX14316
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: NRZ	Prep Date/Time: 07/27/22 17:00
Analytical Date/Time: 07/31/22 11:52	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142003-E	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		08/11/22 12:27

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:27	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142003-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:17:17PM

Results of Cam 6

Client Sample ID: **Cam 6**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224142004
 Lab Project ID: 1224142

Collection Date: 07/20/22 13:20
 Received Date: 07/20/22 14:03
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		07/29/22 00:53

Batch Information

Analytical Batch: WIC6344
 Analytical Method: EPA 300.0
 Analyst: NRZ
 Analytical Date/Time: 07/29/22 00:53
 Container ID: 1224142004-E

Prep Batch: WXX14308
 Prep Method: METHOD
 Prep Date/Time: 07/28/22 11:00
 Prep Initial Wt./Vol.: 10 mL
 Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:17:17PM



Results of Cam 6

Client Sample ID: **Cam 6**
Client Project ID: **WHADA**
Lab Sample ID: 1224142004
Lab Project ID: 1224142

Collection Date: 07/20/22 13:20
Received Date: 07/20/22 14:03
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	15400	500	150	ug/L	1		08/08/22 16:03
Magnesium	2700	50.0	15.0	ug/L	1		08/08/22 16:03

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:03
Container ID: 1224142004-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	49.6	5.00	5.00	mg/L	1		08/08/22 16:03

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:03
Container ID: 1224142004-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:17PM



Results of Cam 6

Client Sample ID: **Cam 6**
Client Project ID: **WHADA**
Lab Sample ID: 1224142004
Lab Project ID: 1224142

Collection Date: 07/20/22 13:20
Received Date: 07/20/22 14:03
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	5.41	1.00	0.400	mg/L	1		07/26/22 17:19

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 17:19
Container ID: 1224142004-D

<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	0.0570	0.0400	0.0120	mg/L	1		07/31/22 11:53

Batch Information

Analytical Batch: WDA5255	Prep Batch: WXX14316
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: NRZ	Prep Date/Time: 07/27/22 17:00
Analytical Date/Time: 07/31/22 11:53	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142004-E	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		08/11/22 12:28

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:28	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224142004-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:17:17PM



Results of **Che33**

Client Sample ID: **Che33**
Client Project ID: **WHADA**
Lab Sample ID: 1224142005
Lab Project ID: 1224142

Collection Date: 07/20/22 11:00
Received Date: 07/20/22 14:03
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	131	20.0	6.20	ug/L	1		08/22/22 15:15
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:06
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:06
Barium	6.87	3.00	0.940	ug/L	1		08/08/22 16:06
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:06
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:06
Calcium	19700	500	150	ug/L	1		08/08/22 16:06
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:06
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:06
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:06
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:06
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:06
Magnesium	3280	50.0	15.0	ug/L	1		08/08/22 16:06
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:06
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:06
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:06
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:06
Potassium	500 U	500	150	ug/L	1		08/08/22 16:06
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:06
Silicon	5200	1000	310	ug/L	1		08/08/22 16:06
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:06
Sodium	1800	500	150	ug/L	1		08/08/22 16:06
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:06
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:06
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:06
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:06
Zinc	23.9	10.0	3.10	ug/L	1		08/08/22 16:06

Print Date: 08/25/2022 1:17:17PM

Results of Che33

Client Sample ID: **Che33**
Client Project ID: **WHADA**
Lab Sample ID: 1224142005
Lab Project ID: 1224142

Collection Date: 07/20/22 11:00
Received Date: 07/20/22 14:03
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11645
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/22/22 15:15
Container ID: 1224142005-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:06
Container ID: 1224142005-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of Che3

Client Sample ID: **Che3**
Client Project ID: **WHADA**
Lab Sample ID: 1224142006
Lab Project ID: 1224142

Collection Date: 07/20/22 12:40
Received Date: 07/20/22 14:03
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		08/08/22 16:09
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:09
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:09
Barium	22.4	3.00	0.940	ug/L	1		08/08/22 16:09
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:09
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:09
Calcium	31300	500	150	ug/L	1		08/08/22 16:09
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:09
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:09
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:09
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:09
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:09
Magnesium	5750	50.0	15.0	ug/L	1		08/08/22 16:09
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:09
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:09
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:09
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:09
Potassium	974	500	150	ug/L	1		08/08/22 16:09
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:09
Silicon	4590	1000	310	ug/L	1		08/08/22 16:09
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:09
Sodium	9710	500	150	ug/L	1		08/08/22 16:09
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:09
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:09
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:09
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:09
Zinc	25.8	10.0	3.10	ug/L	1		08/08/22 16:09

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:09
Container ID: 1224142006-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:17PM



Results of AnchBact 20-01

Client Sample ID: **AnchBact 20-01**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224142007
 Lab Project ID: 1224142

Collection Date: 07/20/22 11:50
 Received Date: 07/20/22 14:03
 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	118	100	31.0	ug/L	5		08/24/22 13:08
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:11
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:11
Barium	8.46	3.00	0.940	ug/L	1		08/08/22 16:11
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:11
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:11
Calcium	13400	500	150	ug/L	1		08/08/22 16:11
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:11
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:11
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:11
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:11
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:11
Magnesium	1640	50.0	15.0	ug/L	1		08/08/22 16:11
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:11
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:11
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:11
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:11
Potassium	500 U	500	150	ug/L	1		08/08/22 16:11
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:11
Silicon	2540	1000	310	ug/L	1		08/08/22 16:11
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:11
Sodium	1070	500	150	ug/L	1		08/08/22 16:11
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:11
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:11
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:11
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:11
Zinc	19.9	10.0	3.10	ug/L	1		08/08/22 16:11

Print Date: 08/25/2022 1:17:17PM

Results of AnchBact 20-01

Client Sample ID: **AnchBact 20-01**
Client Project ID: **WHADA**
Lab Sample ID: 1224142007
Lab Project ID: 1224142

Collection Date: 07/20/22 11:50
Received Date: 07/20/22 14:03
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:08
Container ID: 1224142007-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:11
Container ID: 1224142007-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of **Cam 6**

Client Sample ID: **Cam 6**
Client Project ID: **WHADA**
Lab Sample ID: 1224142008
Lab Project ID: 1224142

Collection Date: 07/20/22 13:20
Received Date: 07/20/22 14:03
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	335	100	31.0	ug/L	5		08/24/22 13:10
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:19
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:19
Barium	11.1	3.00	0.940	ug/L	1		08/08/22 16:19
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:19
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:19
Calcium	14500	500	150	ug/L	1		08/08/22 16:19
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:19
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:19
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:19
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:19
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:19
Magnesium	2200	50.0	15.0	ug/L	1		08/08/22 16:19
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:19
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:19
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:19
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:19
Potassium	715	500	150	ug/L	1		08/08/22 16:19
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:19
Silicon	2900	1000	310	ug/L	1		08/08/22 16:19
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:19
Sodium	2870	500	150	ug/L	1		08/08/22 16:19
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:19
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:19
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:19
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:19
Zinc	31.3	10.0	3.10	ug/L	1		08/08/22 16:19

Print Date: 08/25/2022 1:17:17PM

Results of Cam 6

Client Sample ID: **Cam 6**
Client Project ID: **WHADA**
Lab Sample ID: 1224142008
Lab Project ID: 1224142

Collection Date: 07/20/22 13:20
Received Date: 07/20/22 14:03
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:10
Container ID: 1224142008-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:19
Container ID: 1224142008-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Method Blank

Blank ID: MB for HBN 1840624 [MXX/35299]
Blank Lab ID: 1676808

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1224142001, 1224142002, 1224142003, 1224142004, 1224142005, 1224142006, 1224142007, 1224142008

Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Aluminum	31.8*	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	206J	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	4.01J	10.0	3.10	ug/L

Print Date: 08/25/2022 1:17:20PM



Method Blank

Blank ID: MB for HBN 1840624 [MXX/35299]
Blank Lab ID: 1676808

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1224142001, 1224142002, 1224142003, 1224142004, 1224142005, 1224142006, 1224142007, 1224142008

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: MMS11624
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/8/2022 3:34:00PM

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 8/1/2022 1:05:10PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11640
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: DSD
Analytical Date/Time: 8/19/2022 2:04:03PM

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 8/1/2022 1:05:10PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:17:20PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1224142 [MXX35299]

Blank Spike Lab ID: 1676809

Date Analyzed: 08/08/2022 15:36

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004, 1224142005, 1224142006, 1224142007, 1224142008

Results by EP200.8

Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Aluminum	1000	981	98	(85-115)
Antimony	1000	1010	101	(85-115)
Arsenic	1000	1000	100	(85-115)
Barium	1000	980	98	(85-115)
Beryllium	100	99.6	100	(85-115)
Cadmium	100	98.1	98	(85-115)
Calcium	5000	3620	72	*
Chromium	400	407	102	(85-115)
Cobalt	500	512	102	(85-115)
Copper	1000	1050	105	(85-115)
Iron	5000	5100	102	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	5000	5250	105	(85-115)
Manganese	500	507	101	(85-115)
Molybdenum	400	387	97	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	470	94	(85-115)
Potassium	5000	5120	102	(85-115)
Selenium	1000	989	99	(85-115)
Silicon	10000	10100	101	(85-115)
Silver	100	98.2	98	(85-115)
Sodium	5000	5150	103	(85-115)
Thallium	10	9.64	96	(85-115)
Tin	100	96.5	97	(85-115)
Titanium	100	98.8	99	(85-115)
Vanadium	200	199	99	(85-115)
Zinc	1000	1030	103	(85-115)

Batch Information

Analytical Batch: **MMS11624**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35299**

Prep Method: **E200.2**

Prep Date/Time: **08/01/2022 13:05**

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/25/2022 1:17:23PM

Matrix Spike Summary

Original Sample ID: 1676806
 MS Sample ID: 1676811 MS
 MSD Sample ID:

Analysis Date: 08/08/2022 15:47
 Analysis Date: 08/08/2022 15:50
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001

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	133	1000	1200	107				70-130		
Antimony	0.315J	1000	1020	102				70-130		
Arsenic	2.50U	1000	1000	100				70-130		
Barium	7.77	1000	986	98				70-130		
Beryllium	0.200U	100	101	101				70-130		
Cadmium	0.250U	100	98.2	98				70-130		
Calcium	19900	5000	23600	74				70-130		
Chromium	2.50U	400	405	101				70-130		
Cobalt	2.00U	500	513	103				70-130		
Copper	1.50U	1000	1040	104				70-130		
Iron	333	5000	5430	102				70-130		
Lead	1.00U	1000	1030	103				70-130		
Magnesium	3370	5000	8620	105				70-130		
Manganese	11.7	500	513	100				70-130		
Molybdenum	1.00U	400	391	98				70-130		
Nickel	0.929J	1000	1010	101				70-130		
Phosphorus	100U	500	493	99				70-130		
Potassium	398J	5000	5570	103				70-130		
Selenium	2.50U	1000	998	100				70-130		
Silicon	5340	10000	15600	103				70-130		
Silver	0.500U	100	98.2	98				70-130		
Sodium	1810	5000	6860	101				70-130		
Thallium	0.500U	10.0	9.73	97				70-130		
Tin	0.500U	100	97	97				70-130		
Titanium	12.5U	100	109	109				70-130		
Vanadium	10.0U	200	200	100				70-130		
Zinc	80.9	1000	1110	103				70-130		

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 3:50:00PM

Prep Batch: MX35299
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/1/2022 1:05:10PM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Print Date: 08/25/2022 1:17:24PM

Matrix Spike Summary

Original Sample ID: 1676807
 MS Sample ID: 1676812 MS
 MSD Sample ID:

Analysis Date: 08/08/2022 15:53
 Analysis Date: 08/08/2022 15:55
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142002, 1224142003, 1224142004, 1224142005, 1224142006, 1224142007, 1224142008

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	35.5	1000	1070	103				70-130		
Antimony	0.858J	1000	1020	102				70-130		
Arsenic	5.65	1000	1010	100				70-130		
Barium	22.8	1000	1000	98				70-130		
Beryllium	0.200U	100	98.9	99				70-130		
Cadmium	0.250U	100	97.2	97				70-130		
Calcium	77300	5000	80100	57 *				70-130		
Chromium	2.50U	400	404	101				70-130		
Cobalt	2.00U	500	497	99				70-130		
Copper	1.12J	1000	997	100				70-130		
Iron	125U	5000	5030	101				70-130		
Lead	1.00U	1000	1030	103				70-130		
Magnesium	23700	5000	28500	96				70-130		
Manganese	0.425J	500	495	99				70-130		
Molybdenum	1.65J	400	394	98				70-130		
Nickel	1.24J	1000	974	97				70-130		
Phosphorus	100U	500	488	98				70-130		
Potassium	268J	5000	5420	103				70-130		
Selenium	11.5	1000	1000	99				70-130		
Silicon	2150	10000	12200	100				70-130		
Silver	0.500U	100	97.3	97				70-130		
Sodium	1540	5000	6430	98				70-130		
Thallium	0.500U	10.0	9.83	98				70-130		
Tin	0.500U	100	97.5	98				70-130		
Titanium	12.5U	100	99.9	100				70-130		
Vanadium	10.0U	200	197	98				70-130		
Zinc	24.6	1000	1030	100				70-130		

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 3:55:00PM

Prep Batch: MXX35299
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/1/2022 1:05:10PM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Print Date: 08/25/2022 1:17:24PM

Method Blank

Blank ID: MB for HBN 1841826 [MXX/35377]
Blank Lab ID: 1680577

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224142005, 1224142007, 1224142008

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

Batch Information

Analytical Batch: MMS11645
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/22/2022 3:02:16PM

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 8/21/2022 12:00:03PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224142 [MXX35377]

Blank Spike Lab ID: 1680578

Date Analyzed: 08/22/2022 15:04

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142005, 1224142007, 1224142008

Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Aluminum	1000	975	98	(85-115)

Batch Information

Analytical Batch: **MMS11645**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35377**

Prep Method: **E200.2**

Prep Date/Time: **08/21/2022 12:00**

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

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1680576
 MS Sample ID: 1680580 MS
 MSD Sample ID:

Analysis Date: 08/24/2022 13:00
 Analysis Date: 08/24/2022 13:02
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142005, 1224142007, 1224142008

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	343J	1000	539	20 *				70-130		

Batch Information

Analytical Batch: MMS11648
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/24/2022 1:02:55PM

Prep Batch: MX35377
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/21/2022 12:00:00PM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Method Blank

Blank ID: MB for HBN 1840547 [WXX/14308]
 Blank Lab ID: 1676319

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1224142001, 1224142002, 1224142003, 1224142004

Results by EPA 300.0

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0700	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: WIC6344
 Analytical Method: EPA 300.0
 Instrument: 930 Metrohm compact IC flex
 Analyst: NRZ
 Analytical Date/Time: 7/28/2022 3:24:28PM

Prep Batch: WXX14308
 Prep Method: METHOD
 Prep Date/Time: 7/28/2022 11:00:00AM
 Prep Initial Wt./Vol.: 10 mL
 Prep Extract Vol: 10 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224142 [WXX14308]
 Blank Spike Lab ID: 1676320
 Date Analyzed: 07/28/2022 15:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004

Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	5	4.88	98	(90-110)
Nitrite-N	5	4.80	96	(90-110)
Total Nitrate/Nitrite-N	10	9.68	97	(90-110)

Batch Information

Analytical Batch: **WIC6344**
 Analytical Method: **EPA 300.0**
 Instrument: **930 Metrohm compact IC flex**
 Analyst: **NRZ**

Prep Batch: **WXX14308**
 Prep Method: **METHOD**
 Prep Date/Time: **07/28/2022 11:00**
 Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL
 Dupe Init Wt./Vol.: Extract Vol:

Method Blank

Blank ID: MB for HBN 1840569 [WXX/14316]
Blank Lab ID: 1676548

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224142001, 1224142002, 1224142003, 1224142004

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: WDA5255
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: NRZ
Analytical Date/Time: 7/31/2022 11:38:02AM

Prep Batch: WXX14316
Prep Method: SM21 4500P-B,E
Prep Date/Time: 7/27/2022 5:00:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224142 [WXX14316]
 Blank Spike Lab ID: 1676549
 Date Analyzed: 07/31/2022 11:39

Spike Duplicate ID: LCSD for HBN 1224142 [WXX14316]
 Spike Duplicate Lab ID: 1676550
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004

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	0.198	99	(75-125)	2.70	(< 25)

Batch Information

Analytical Batch: **WDA5255**
 Analytical Method: **SM21 4500P-B,E**
 Instrument: **Discrete Analyzer 2**
 Analyst: **NRZ**

Prep Batch: **WXX14316**
 Prep Method: **SM21 4500P-B,E**
 Prep Date/Time: **07/27/2022 17:00**
 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: 1223683001
 MS Sample ID: 1676532 MS
 MSD Sample ID: 1676533 MSD

Analysis Date: 07/31/2022 11:40
 Analysis Date: 07/31/2022 11:41
 Analysis Date: 07/31/2022 11:42
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004

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	0.212	0.200	.408	98	0.200	0.396	92	75-125	2.90	(< 25)

Batch Information

Analytical Batch: WDA5255
 Analytical Method: SM21 4500P-B,E
 Instrument: Discrete Analyzer 2
 Analyst: NRZ
 Analytical Date/Time: 7/31/2022 11:41:55AM

Prep Batch: WXX14316
 Prep Method: Total Phosphorus (W) Ext.
 Prep Date/Time: 7/27/2022 5:00:00PM
 Prep Initial Wt./Vol.: 25.00mL
 Prep Extract Vol: 25.00mL

Method Blank

Blank ID: MB for HBN 1841273 [WXX/14348]
Blank Lab ID: 1678710

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224142001, 1224142002, 1224142003, 1224142004

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: WDA5274
Analytical Method: SM23 4500-N D
Instrument: Discrete Analyzer 2
Analyst: NRZ
Analytical Date/Time: 8/11/2022 12:16:58PM

Prep Batch: WXX14348
Prep Method: METHOD
Prep Date/Time: 8/10/2022 4:41:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:17:45PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224142 [WXX14348]
 Blank Spike Lab ID: 1678711
 Date Analyzed: 08/11/2022 12:18

Spike Duplicate ID: LCSD for HBN 1224142 [WXX14348]
 Spike Duplicate Lab ID: 1678712
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004

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	3.72	93	4	3.75	94	(75-125)	0.59	(< 25)

Batch Information

Analytical Batch: **WDA5274**
 Analytical Method: **SM23 4500-N D**
 Instrument: **Discrete Analyzer 2**
 Analyst: **NRZ**

Prep Batch: **WXX14348**
 Prep Method: **METHOD**
 Prep Date/Time: **08/10/2022 16:41**
 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: 1224242002
MS Sample ID: 1678713 MS
MSD Sample ID: 1678714 MSD

Analysis Date: 08/11/2022 12:38
Analysis Date: 08/11/2022 12:22
Analysis Date: 08/11/2022 12:23
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224142001, 1224142002, 1224142003, 1224142004

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	4.13	103	4.00	3.77	94	75-125	9.30	(< 25)

Batch Information

Analytical Batch: WDA5274
Analytical Method: SM23 4500-N D
Instrument: Discrete Analyzer 2
Analyst: NRZ
Analytical Date/Time: 8/11/2022 12:22:13PM

Prep Batch: WXX14348
Prep Method: Distillation TKN by Phenate (W)
Prep Date/Time: 8/10/2022 4:41:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/25/2022 1:17:49PM



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

1224142



D# 385380CP3

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								
SECTION 1	PROJECT NAME: WHADA				CONTAINER #	SAMPLE TYPE:	Na2SO4	Na2SO4	HNO3		HNO3		H2SO4		
	PROJECT/ PWSID/ PERMIT #: NTP 22 464						Comp								
	E-MAIL: Morgan.Brown@alaska.gov							Grab							
REPORTS TO: Morgan Brown				INVOICE TO: ADEC				MI (Multi-incremental)				REMARKS/ LOC ID			
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											
①	A-DeChe33	7-20-22	11:00	SW	5	G			X	X	X	X	X	⑤ A-B	
②	A-DeChe3	7-20-22	12:40	SW	5	G			X	X	X	X	X	⑥ A-B	
③	A-DeAnchbact 20-01	7-20-22	11:50	SW	5	G			X	X	X	X	X	⑦ A-B	
④	A-DeCam 6	7-20-22	1:20 PM	SW	5	G			X	X	X	X	X	⑧ A-B	

RELINQUISHED BY:(1) <i>Kum</i>			DATE: <i>7-20-22</i>	TIME: <i>2:07</i>	RECEIVED BY: <i>[Signature]</i>	SECTION 4 DOD Project?	DATA DELIVERABLE REQUIREMENTS:
RELINQUISHED BY:(2)			DATE	TIME	RECEIVED BY:	REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS	
RELINQUISHED BY:(3)			DATE	TIME	RECEIVED BY:	TEMP BLANK °C: <i>2.4</i>	
RELINQUISHED BY:(4)			DATE: <i>7/21/22</i>	TIME: <i>14:03</i>	RECEIVED FOR LABORATORY BY: <i>[Signature]</i>	OR AMBIENT [] <i>DG2</i>	
						CHAIN OF CUSTODY SEAL: (CIRCLE)	
						INTACT BROKEN ABSENT	
						(See attached Sample Receipt Form)	

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SGS Workorder #:

1224142

1224142

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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Chain of Custody / Temperature Requirements		<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)		

Holding Time / Documentation / Sample Condition Requirement		<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 <1hr, record details & 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	

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):
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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>
1224142001-A	HNO3 to pH < 2	OK			
1224142001-B	HNO3 to pH < 2	OK			
1224142001-C	No Preservative Required	OK			
1224142001-D	HCL to pH < 2	OK			
1224142001-E	H2SO4 to pH < 2	OK			
1224142002-A	HNO3 to pH < 2	OK			
1224142002-B	HNO3 to pH < 2	OK			
1224142002-C	No Preservative Required	OK			
1224142002-D	HCL to pH < 2	OK			
1224142002-E	H2SO4 to pH < 2	OK			
1224142003-A	HNO3 to pH < 2	OK			
1224142003-B	HNO3 to pH < 2	OK			
1224142003-C	No Preservative Required	OK			
1224142003-D	HCL to pH < 2	OK			
1224142003-E	H2SO4 to pH < 2	OK			
1224142004-A	HNO3 to pH < 2	OK			
1224142004-B	HNO3 to pH < 2	OK			
1224142004-C	No Preservative Required	OK			
1224142004-D	HCL to pH < 2	OK			
1224142004-E	H2SO4 to pH < 2	OK			
1224142005-A	No Preservative Required	OK			
1224142005-B	HNO3 to pH < 2	OK			
1224142006-A	No Preservative Required	OK			
1224142006-B	HNO3 to pH < 2	OK			
1224142007-A	No Preservative Required	OK			
1224142007-B	HNO3 to pH < 2	OK			
1224142008-A	No Preservative Required	OK			
1224142008-B	HNO3 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

1224142

SGS Job Number: FA97668

Sampling Date: 07/20/22

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: 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.

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Sample Summary

SGS North America, Inc
1224142

Job No: FA97668

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA97668-1	07/20/22	11:00	07/27/22	AQ	Water	CHE33
FA97668-2	07/20/22	12:40	07/27/22	AQ	Water	CHE3
FA97668-3	07/20/22	11:50	07/27/22	AQ	Water	ANCBACT 20-01
FA97668-4	07/20/22	13:20	07/27/22	AQ	Water	CAM 6



SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc

Job No: FA97668

Site: 1224142

Report Date: 8/4/2022 3:39:19 PM

On 07/27/2022, 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 1.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA97668 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: MP41030

Insufficient sample available 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: FA97668
Account: SGS North America, Inc
Project: 1224142
Collected: 07/20/22



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

FA97668-1 **CHE33**

No hits reported in this sample.

FA97668-2 **CHE3**

No hits reported in this sample.

FA97668-3 **ANCHBACT 20-01**

No hits reported in this sample.

FA97668-4 **CAM 6**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: CHE33	Date Sampled: 07/20/22
Lab Sample ID: FA97668-1	Date Received: 07/27/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224142	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: CHE3	Date Sampled: 07/20/22
Lab Sample ID: FA97668-2	Date Received: 07/27/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224142	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: ANCHBACT 20-01	Date Sampled: 07/20/22
Lab Sample ID: FA97668-3	Date Received: 07/27/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224142	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: CAM 6	Date Sampled: 07/20/22
Lab Sample ID: FA97668-4	Date Received: 07/27/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224142	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

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

FA97668



Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: SGS Orlando, FL				Page 1 of 1			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1224142		PWSID#:		CONTAINER	Preservative Used:	HVC3	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: Julie.Shumway@sgs.com									
INVOICE TO: SGS - Alaska		QUOTE #:									
env.alaska.accounting@sgs.com		P.O. #: 1224142									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE							
1	Che33	07/20/2022	11:00:00	Water	1		X			1224142001	
2	Che3	07/20/2022	12:40:00	Water	1		X			1224142002	
3	AnchBact 20-01	07/20/2022	11:50:00	Water	1		X			1224142003	
4	Cam 6	07/20/2022	13:20:00	Water	1		X			1224142004	
Relinquished By: (1)		Date	Time	Received By:	DOD Project?		NO	Data Deliverable Requirements:			
<i>J. Shumway</i>		7/20/22	0950	<i>Ind Mini</i>	Report to DL (J Flags)?		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:		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

INITIAL ASSESSMENT SM

LABEL VERIFICATION ZB

F088_COC_REF_LAB_20190411

FA97668: Chain of Custody

Page 1 of 2

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SGS Sample Receipt Summary

Job Number: FA97668

Client: SGS SAKA

Project: 1224142

Date / Time Received: 7/27/2022 4:00:00 PM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 5530

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.4);

Cooler Temps (Corrected) °C: Cooler 1: (1.8);

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	IR Gun		
5. Cooler media	Ice (Bag)		

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	Intact			
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"/>
	W	or	S	N/A
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: 7/27/2022 4:00:00 PM

Reviewer: _____

Date: _____

FA97668: Chain of Custody

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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: FA97668
Account: SGS/SAKA - SGS North America, Inc
Project: 1224142

QC Batch ID: MP41030
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 08/03/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	0.16	<0.50

Associated samples MP41030: FA97668-1, FA97668-2, FA97668-3, FA97668-4

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: FA97668
 Account: SGS/SAKA - SGS North America, Inc
 Project: 1224142

QC Batch ID: MP41030
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 08/03/22 08/03/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.2	3	106.7	85-115	3.2	3	106.7	85-115

Associated samples MP41030: FA97668-1, FA97668-2, FA97668-3, FA97668-4

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: **1224149**

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: **1224149**

Project Name/Site: **WHADA**

Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

WA01 (1224149001) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
4500P-B,E - Total Phosphorus - Sample was analyzed outside of hold time.

WA01-DUP (1224149002) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
4500P-B,E - Total Phosphorus - Sample was analyzed outside of hold time.

WA04 (1224149003) PS

300.0 - Anions - The LOQ was raised due to matrix interference.
4500P-B,E - Total Phosphorus - Sample was analyzed outside of hold time.

WA04-DUP (1224149004) PS

4500P-B,E - Total Phosphorus - Sample was analyzed outside of hold time.

LCS for HBN 1840624 [MXX/35299 (1676809) LCS

200.8 – Metals - LCS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224182003(1676807MS) (1676812) MS

200.8 – Metals - MS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224928001(1680576MS) (1680580) MS

200.8 - Metals MS recovery for Aluminum does not meet QC criteria. The sample is nonhomogeneous.

1224429002MS (1680924) MS

4500P-B,E - Total Phosphorus - PS analyzed past hold time.

1224429002MSD (1680925) MSD

4500P-B,E - Total Phosphorus - PS analyzed past hold time.

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.

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	1224149001	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA01-DUP	1224149002	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA04	1224149003	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA04-DUP	1224149004	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA01	1224149005	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA01-DUP	1224149006	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA04	1224149007	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)
WA04-DUP	1224149008	07/21/2022	07/21/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO ₃ by ICP-MS
EPA 300.0	Ion Chromatographic Analysis
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Detectable Results Summary

Client Sample ID: **WA01**
 Lab Sample ID: 1224149001

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	13700	ug/L
Hardness as CaCO3	43.7	mg/L
Magnesium	2320	ug/L
TOC Average, Dissolved	6.40	mg/L

Waters Department

Client Sample ID: **WA01-DUP**
 Lab Sample ID: 1224149002

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	13900	ug/L
Hardness as CaCO3	44.2	mg/L
Magnesium	2320	ug/L
TOC Average, Dissolved	6.46	mg/L

Waters Department

Client Sample ID: **WA04**
 Lab Sample ID: 1224149003

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	23900	ug/L
Hardness as CaCO3	75.2	mg/L
Magnesium	3760	ug/L
TOC Average, Dissolved	6.64	mg/L
Total Phosphorus	0.0641	mg/L

Waters Department

Client Sample ID: **WA04-DUP**
 Lab Sample ID: 1224149004

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	23800	ug/L
Hardness as CaCO3	74.6	mg/L
Magnesium	3650	ug/L
TOC Average, Dissolved	6.76	mg/L
Total Phosphorus	0.0768	mg/L

Waters Department

Client Sample ID: **WA01**
 Lab Sample ID: 1224149005

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	155	ug/L
Barium	8.80	ug/L
Calcium	14100	ug/L
Magnesium	2210	ug/L
Silicon	3620	ug/L
Sodium	2100	ug/L
Zinc	15.6	ug/L

Client Sample ID: **WA01-DUP**
 Lab Sample ID: 1224149006

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	139	ug/L
Barium	9.00	ug/L
Calcium	14000	ug/L
Magnesium	2210	ug/L
Silicon	3600	ug/L
Sodium	2110	ug/L
Zinc	26.5	ug/L

Detectable Results Summary

Client Sample ID: **WA04**
 Lab Sample ID: 1224149007
Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	300	ug/L
Barium	10.7	ug/L
Calcium	23300	ug/L
Magnesium	3420	ug/L
Potassium	538	ug/L
Silicon	4350	ug/L
Sodium	3210	ug/L
Zinc	16.2	ug/L

Client Sample ID: **WA04-DUP**
 Lab Sample ID: 1224149008
Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	275	ug/L
Barium	10.6	ug/L
Calcium	22800	ug/L
Magnesium	3370	ug/L
Potassium	530	ug/L
Silicon	4300	ug/L
Sodium	3170	ug/L
Zinc	16.2	ug/L



Results of **WA01**

Client Sample ID: **WA01**
Client Project ID: **WHADA**
Lab Sample ID: 1224149001
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		08/01/22 19:41

Batch Information

Analytical Batch: WIC6346
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 08/01/22 19:41
Container ID: 1224149001-E

Prep Batch: WXX14321
Prep Method: METHOD
Prep Date/Time: 08/01/22 13:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:18:40PM



Results of WA01

Client Sample ID: **WA01**
Client Project ID: **WHADA**
Lab Sample ID: 1224149001
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
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	13700	500	150	ug/L	1		08/08/22 16:22
Magnesium	2320	50.0	15.0	ug/L	1		08/08/22 16:22

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:22
Container ID: 1224149001-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	43.7	5.00	5.00	mg/L	1		08/08/22 16:22

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:22
Container ID: 1224149001-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:18:40PM



Results of WA01

Client Sample ID: **WA01**
Client Project ID: **WHADA**
Lab Sample ID: 1224149001
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
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	6.40	1.00	0.400	mg/L	1		07/26/22 15:26

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 15:26
Container ID: 1224149001-D

<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		08/22/22 20:47

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:47	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149001-E	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		08/11/22 12:32

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:32	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149001-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA01-DUP**

Client Sample ID: **WA01-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149002
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		08/01/22 20:00

Batch Information

Analytical Batch: WIC6346
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 08/01/22 20:00
Container ID: 1224149002-E

Prep Batch: WXX14321
Prep Method: METHOD
Prep Date/Time: 08/01/22 13:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA01-DUP**

Client Sample ID: **WA01-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149002
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
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	13900	500	150	ug/L	1		08/08/22 16:25
Magnesium	2320	50.0	15.0	ug/L	1		08/08/22 16:25

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:25
Container ID: 1224149002-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	44.2	5.00	5.00	mg/L	1		08/08/22 16:25

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:25
Container ID: 1224149002-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA01-DUP**

Client Sample ID: **WA01-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149002
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
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	6.46	1.00	0.400	mg/L	1		07/26/22 15:42

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 15:42
Container ID: 1224149002-D

<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		08/22/22 20:48

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:48	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149002-E	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		08/11/22 12:33

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:33	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149002-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA04**

Client Sample ID: **WA04**
Client Project ID: **WHADA**
Lab Sample ID: 1224149003
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		08/01/22 21:16

Batch Information

Analytical Batch: WIC6346
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 08/01/22 21:16
Container ID: 1224149003-E

Prep Batch: WXX14321
Prep Method: METHOD
Prep Date/Time: 08/01/22 13:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:18:40PM



Results of WA04

Client Sample ID: **WA04**
Client Project ID: **WHADA**
Lab Sample ID: 1224149003
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
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	23900	500	150	ug/L	1		08/08/22 16:28
Magnesium	3760	50.0	15.0	ug/L	1		08/08/22 16:28

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:28
Container ID: 1224149003-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	75.2	5.00	5.00	mg/L	1		08/08/22 16:28

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:28
Container ID: 1224149003-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA04**

Client Sample ID: **WA04**
Client Project ID: **WHADA**
Lab Sample ID: 1224149003
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
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	6.64	1.00	0.400	mg/L	1		07/26/22 15:58

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 15:58
Container ID: 1224149003-D

<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	0.0641	0.0400	0.0120	mg/L	1		08/22/22 20:49

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:49	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149003-E	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		08/11/22 12:35

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:35	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149003-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA04-DUP**

Client Sample ID: **WA04-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149004
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by

<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	1.00 U	1.00	0.250	mg/L	5		08/01/22 21:35

Batch Information

Analytical Batch: WIC6346
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 08/01/22 21:35
Container ID: 1224149004-E

Prep Batch: WXX14321
Prep Method: METHOD
Prep Date/Time: 08/01/22 13:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 08/25/2022 1:18:40PM



Results of **WA04-DUP**

Client Sample ID: **WA04-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149004
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
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	23800	500	150	ug/L	1		08/08/22 16:30
Magnesium	3650	50.0	15.0	ug/L	1		08/08/22 16:30

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:30
Container ID: 1224149004-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
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	74.6	5.00	5.00	mg/L	1		08/08/22 16:30

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 16:30
Container ID: 1224149004-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/25/2022 1:18:40PM



Results of WA04-DUP

Client Sample ID: **WA04-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149004
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
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	6.76	1.00	0.400	mg/L	1		07/26/22 16:17

Batch Information

Analytical Batch: WTC3209
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 07/26/22 16:17
Container ID: 1224149004-D

<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	0.0768	0.0400	0.0120	mg/L	1		08/22/22 20:50

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:50	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149004-E	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		08/11/22 12:36

Batch Information

Analytical Batch: WDA5274	Prep Batch: WXX14348
Analytical Method: SM23 4500-N D	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 08/10/22 16:41
Analytical Date/Time: 08/11/22 12:36	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224149004-E	Prep Extract Vol: 25 mL

Print Date: 08/25/2022 1:18:40PM



Results of WA01

Client Sample ID: **WA01**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224149005
 Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
 Received Date: 07/21/22 15:22
 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	155	100	31.0	ug/L	5		08/24/22 13:13
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:33
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:33
Barium	8.80	3.00	0.940	ug/L	1		08/08/22 16:33
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:33
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:33
Calcium	14100	500	150	ug/L	1		08/08/22 16:33
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:33
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:33
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:33
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:33
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:33
Magnesium	2210	50.0	15.0	ug/L	1		08/08/22 16:33
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:33
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:33
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:33
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:33
Potassium	500 U	500	150	ug/L	1		08/08/22 16:33
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:33
Silicon	3620	1000	310	ug/L	1		08/08/22 16:33
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:33
Sodium	2100	500	150	ug/L	1		08/08/22 16:33
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:33
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:33
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:33
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:33
Zinc	15.6	10.0	3.10	ug/L	1		08/08/22 16:33

Print Date: 08/25/2022 1:18:40PM

Results of WA01

Client Sample ID: **WA01**
Client Project ID: **WHADA**
Lab Sample ID: 1224149005
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:13
Container ID: 1224149005-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:33
Container ID: 1224149005-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of **WA01-DUP**

Client Sample ID: **WA01-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149006
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
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	139	100	31.0	ug/L	5		08/24/22 13:16
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:36
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:36
Barium	9.00	3.00	0.940	ug/L	1		08/08/22 16:36
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:36
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:36
Calcium	14000	500	150	ug/L	1		08/08/22 16:36
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:36
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:36
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:36
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:36
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:36
Magnesium	2210	50.0	15.0	ug/L	1		08/08/22 16:36
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:36
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:36
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:36
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:36
Potassium	500 U	500	150	ug/L	1		08/08/22 16:36
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:36
Silicon	3600	1000	310	ug/L	1		08/08/22 16:36
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:36
Sodium	2110	500	150	ug/L	1		08/08/22 16:36
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:36
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:36
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:36
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:36
Zinc	26.5	10.0	3.10	ug/L	1		08/08/22 16:36

Print Date: 08/25/2022 1:18:40PM

Results of WA01-DUP

Client Sample ID: **WA01-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149006
Lab Project ID: 1224149

Collection Date: 07/21/22 11:35
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:16
Container ID: 1224149006-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:36
Container ID: 1224149006-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of **WA04**

Client Sample ID: **WA04**
Client Project ID: **WHADA**
Lab Sample ID: 1224149007
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
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	300	100	31.0	ug/L	5		08/24/22 13:19
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:38
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:38
Barium	10.7	3.00	0.940	ug/L	1		08/08/22 16:38
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:38
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:38
Calcium	23300	500	150	ug/L	1		08/08/22 16:38
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:38
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:38
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:38
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:38
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:38
Magnesium	3420	50.0	15.0	ug/L	1		08/08/22 16:38
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:38
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:38
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:38
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:38
Potassium	538	500	150	ug/L	1		08/08/22 16:38
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:38
Silicon	4350	1000	310	ug/L	1		08/08/22 16:38
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:38
Sodium	3210	500	150	ug/L	1		08/08/22 16:38
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:38
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:38
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:38
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:38
Zinc	16.2	10.0	3.10	ug/L	1		08/08/22 16:38

Print Date: 08/25/2022 1:18:40PM

Results of WA04

Client Sample ID: **WA04**
Client Project ID: **WHADA**
Lab Sample ID: 1224149007
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:19
Container ID: 1224149007-B

Prep Batch: MX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:38
Container ID: 1224149007-B

Prep Batch: MX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of WA04-DUP

Client Sample ID: **WA04-DUP**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224149008
 Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
 Received Date: 07/21/22 15:22
 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	275	100	31.0	ug/L	5		08/24/22 13:27
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:41
Arsenic	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:41
Barium	10.6	3.00	0.940	ug/L	1		08/08/22 16:41
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 16:41
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 16:41
Calcium	22800	500	150	ug/L	1		08/08/22 16:41
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 16:41
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 16:41
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 16:41
Iron	250 U	250	78.0	ug/L	1		08/08/22 16:41
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 16:41
Magnesium	3370	50.0	15.0	ug/L	1		08/08/22 16:41
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 16:41
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:41
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 16:41
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 16:41
Potassium	530	500	150	ug/L	1		08/08/22 16:41
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 16:41
Silicon	4300	1000	310	ug/L	1		08/08/22 16:41
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:41
Sodium	3170	500	150	ug/L	1		08/08/22 16:41
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:41
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 16:41
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 16:41
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 16:41
Zinc	16.2	10.0	3.10	ug/L	1		08/08/22 16:41

Print Date: 08/25/2022 1:18:40PM

Results of WA04-DUP

Client Sample ID: **WA04-DUP**
Client Project ID: **WHADA**
Lab Sample ID: 1224149008
Lab Project ID: 1224149

Collection Date: 07/21/22 12:45
Received Date: 07/21/22 15:22
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Batch Information

Analytical Batch: MMS11648
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/24/22 13:27
Container ID: 1224149008-B

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 08/21/22 12:00
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 16:41
Container ID: 1224149008-B

Prep Batch: MXX35299
Prep Method: E200.2
Prep Date/Time: 08/01/22 13:05
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Method Blank

Blank ID: MB for HBN 1840624 [MXX/35299]
 Blank Lab ID: 1676808

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1224149001, 1224149002, 1224149003, 1224149004, 1224149005, 1224149006, 1224149007, 1224149008

Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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	206J	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	4.01J	10.0	3.10	ug/L

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 3:34:00PM

Prep Batch: MXX35299
 Prep Method: E200.2
 Prep Date/Time: 8/1/2022 1:05:10PM
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224149 [MXX35299]

Blank Spike Lab ID: 1676809

Date Analyzed: 08/08/2022 15:36

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004, 1224149005, 1224149006, 1224149007, 1224149008

Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Antimony	1000	1010	101	(85-115)
Arsenic	1000	1000	100	(85-115)
Barium	1000	980	98	(85-115)
Beryllium	100	99.6	100	(85-115)
Cadmium	100	98.1	98	(85-115)
Calcium	5000	3620	72	*
Chromium	400	407	102	(85-115)
Cobalt	500	512	102	(85-115)
Copper	1000	1050	105	(85-115)
Iron	5000	5100	102	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	5000	5250	105	(85-115)
Manganese	500	507	101	(85-115)
Molybdenum	400	387	97	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	470	94	(85-115)
Potassium	5000	5120	102	(85-115)
Selenium	1000	989	99	(85-115)
Silicon	10000	10100	101	(85-115)
Silver	100	98.2	98	(85-115)
Sodium	5000	5150	103	(85-115)
Thallium	10	9.64	96	(85-115)
Tin	100	96.5	97	(85-115)
Titanium	100	98.8	99	(85-115)
Vanadium	200	199	99	(85-115)
Zinc	1000	1030	103	(85-115)

Batch Information

Analytical Batch: **MMS11624**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35299**

Prep Method: **E200.2**

Prep Date/Time: **08/01/2022 13:05**

Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1676807
 MS Sample ID: 1676812 MS
 MSD Sample ID:

Analysis Date: 08/08/2022 15:53
 Analysis Date: 08/08/2022 15:55
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004, 1224149005, 1224149006, 1224149007, 1224149008

Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Antimony	0.858J	1000	1020	102				70-130		
Arsenic	5.65	1000	1010	100				70-130		
Barium	22.8	1000	1000	98				70-130		
Beryllium	0.200U	100	98.9	99				70-130		
Cadmium	0.250U	100	97.2	97				70-130		
Calcium	77300	5000	80100	57	*			70-130		
Chromium	2.50U	400	404	101				70-130		
Cobalt	2.00U	500	497	99				70-130		
Copper	1.12J	1000	997	100				70-130		
Iron	125U	5000	5030	101				70-130		
Lead	1.00U	1000	1030	103				70-130		
Magnesium	23700	5000	28500	96				70-130		
Manganese	0.425J	500	495	99				70-130		
Molybdenum	1.65J	400	394	98				70-130		
Nickel	1.24J	1000	974	97				70-130		
Phosphorus	100U	500	488	98				70-130		
Potassium	268J	5000	5420	103				70-130		
Selenium	11.5	1000	1000	99				70-130		
Silicon	2150	10000	12200	100				70-130		
Silver	0.500U	100	97.3	97				70-130		
Sodium	1540	5000	6430	98				70-130		
Thallium	0.500U	10.0	9.83	98				70-130		
Tin	0.500U	100	97.5	98				70-130		
Titanium	12.5U	100	99.9	100				70-130		
Vanadium	10.0U	200	197	98				70-130		
Zinc	24.6	1000	1030	100				70-130		

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 3:55:00PM

Prep Batch: MXX35299
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/1/2022 1:05:10PM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Print Date: 08/25/2022 1:18:46PM

Method Blank

Blank ID: MB for HBN 1841826 [MXX/35377]
Blank Lab ID: 1680577

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224149005, 1224149006, 1224149007, 1224149008

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

Batch Information

Analytical Batch: MMS11645
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/22/2022 3:02:16PM

Prep Batch: MXX35377
Prep Method: E200.2
Prep Date/Time: 8/21/2022 12:00:03PM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224149 [MXX35377]

Blank Spike Lab ID: 1680578

Date Analyzed: 08/22/2022 15:04

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149005, 1224149006, 1224149007, 1224149008

Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Aluminum	1000	975	98	(85-115)

Batch Information

Analytical Batch: **MMS11645**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35377**

Prep Method: **E200.2**

Prep Date/Time: **08/21/2022 12:00**

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

Dupe Init Wt./Vol.: Extract Vol:

Matrix Spike Summary

Original Sample ID: 1680576
 MS Sample ID: 1680580 MS
 MSD Sample ID:

Analysis Date: 08/24/2022 13:00
 Analysis Date: 08/24/2022 13:02
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149005, 1224149006, 1224149007, 1224149008

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	343J	1000	539	20 *				70-130		

Batch Information

Analytical Batch: MMS11648
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/24/2022 1:02:55PM

Prep Batch: MX35377
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/21/2022 12:00:00PM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Method Blank

Blank ID: MB for HBN 1840683 [WXX/14321]
Blank Lab ID: 1677094

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224149001, 1224149002, 1224149003, 1224149004

Results by EPA 300.0

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0700	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: WIC6346
Analytical Method: EPA 300.0
Instrument: 930 Metrohm compact IC flex
Analyst: NRZ
Analytical Date/Time: 8/1/2022 2:37:30PM

Prep Batch: WXX14321
Prep Method: METHOD
Prep Date/Time: 8/1/2022 1:00:00PM
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224149 [WXX14321]
 Blank Spike Lab ID: 1677095
 Date Analyzed: 08/01/2022 14:56

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004

Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	5	4.91	98	(90-110)
Nitrite-N	5	5.01	100	(90-110)
Total Nitrate/Nitrite-N	10	9.92	99	(90-110)

Batch Information

Analytical Batch: **WIC6346**
 Analytical Method: **EPA 300.0**
 Instrument: **930 Metrohm compact IC flex**
 Analyst: **NRZ**

Prep Batch: **WXX14321**
 Prep Method: **METHOD**
 Prep Date/Time: **08/01/2022 13:00**
 Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL
 Dupe Init Wt./Vol.: Extract Vol:

Method Blank

Blank ID: MB for HBN 1841273 [WXX/14348]
 Blank Lab ID: 1678710

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
 1224149001, 1224149002, 1224149003, 1224149004

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: WDA5274
 Analytical Method: SM23 4500-N D
 Instrument: Discrete Analyzer 2
 Analyst: NRZ
 Analytical Date/Time: 8/11/2022 12:16:58PM

Prep Batch: WXX14348
 Prep Method: METHOD
 Prep Date/Time: 8/10/2022 4:41:00PM
 Prep Initial Wt./Vol.: 25 mL
 Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224149 [WXX14348]
 Blank Spike Lab ID: 1678711
 Date Analyzed: 08/11/2022 12:18

Spike Duplicate ID: LCSD for HBN 1224149
 [WXX14348]
 Spike Duplicate Lab ID: 1678712
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004

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	3.72	93	4	3.75	94	(75-125)	0.59	(< 25)

Batch Information

Analytical Batch: **WDA5274**
 Analytical Method: **SM23 4500-N D**
 Instrument: **Discrete Analyzer 2**
 Analyst: **NRZ**

Prep Batch: **WXX14348**
 Prep Method: **METHOD**
 Prep Date/Time: **08/10/2022 16:41**
 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: 1224242002
 MS Sample ID: 1678713 MS
 MSD Sample ID: 1678714 MSD

Analysis Date: 08/11/2022 12:38
 Analysis Date: 08/11/2022 12:22
 Analysis Date: 08/11/2022 12:23
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004

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	4.13	103	4.00	3.77	94	75-125	9.30	(< 25)

Batch Information

Analytical Batch: WDA5274
 Analytical Method: SM23 4500-N D
 Instrument: Discrete Analyzer 2
 Analyst: NRZ
 Analytical Date/Time: 8/11/2022 12:22:13PM

Prep Batch: WXX14348
 Prep Method: Distillation TKN by Phenate (W)
 Prep Date/Time: 8/10/2022 4:41:00PM
 Prep Initial Wt./Vol.: 25.00mL
 Prep Extract Vol: 25.00mL

Print Date: 08/25/2022 1:19:07PM

Method Blank

Blank ID: MB for HBN 1841948 [WXX/14367]
Blank Lab ID: 1680919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224149001, 1224149002, 1224149003, 1224149004

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: WDA5283
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: MEB
Analytical Date/Time: 8/22/2022 8:24:54PM

Prep Batch: WXX14367
Prep Method: SM21 4500P-B,E
Prep Date/Time: 8/22/2022 12:44:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224149 [WXX14367]
 Blank Spike Lab ID: 1680920
 Date Analyzed: 08/22/2022 20:25

Spike Duplicate ID: LCSD for HBN 1224149 [WXX14367]
 Spike Duplicate Lab ID: 1680921
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004

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	0.196	98	0.2	0.195	98	(75-125)	0.20	(< 25)

Batch Information

Analytical Batch: **WDA5283**
 Analytical Method: **SM21 4500P-B,E**
 Instrument: **Discrete Analyzer 2**
 Analyst: **MEB**

Prep Batch: **WXX14367**
 Prep Method: **SM21 4500P-B,E**
 Prep Date/Time: **08/22/2022 12:44**
 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: 1224429002
MS Sample ID: 1680924 MS
MSD Sample ID: 1680925 MSD

Analysis Date: 08/22/2022 20:43
Analysis Date: 08/22/2022 20:44
Analysis Date: 08/22/2022 20:44
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224149001, 1224149002, 1224149003, 1224149004

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	0.0179J	0.200	.242	112	0.200	0.237	110	75-125	2.00	(< 25)

Batch Information

Analytical Batch: WDA5283
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: MEB
Analytical Date/Time: 8/22/2022 8:44:02PM

Prep Batch: WXX14367
Prep Method: Total Phosphorus (W) Ext.
Prep Date/Time: 8/22/2022 12:44:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/25/2022 1:19:12PM



PA 385380 cpm

1224149



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

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									
INVOICE TO: ADEC QUOTE #: P.O. #:							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		
RESERVED FOR LAB USE	SAMPLE IDENTIFICATION	DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE											REMARKS/LOC ID	
DA-D,e	WAQ1	7-21-22	11:35	SW	S	6			X	X	X	X	X		5 A-B	
BA-D,e	WAQ1-DUP	7-21-22	11:35	SW	S	6			X	X	X	X	X		6 A-B	
DA-D,e	WAQ4	7-21-22	12:45	SW	S	6			X	X	X	X	X		7 A-B	
BA-D,e	WAQ4-DUP	7-21-22	12:45	SW	S	6			X	X	X	X	X		8 A-B	
RELINQUISHED BY: (1) <i>Kear</i>					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) <i>W. L. ...</i>					DATE	TIME	RECEIVED FOR LABORATORY BY:					TEMP BLANK °C: <u>3.1</u> <u>D59</u>		CHAIN OF CUSTODY SEAL: (CIRCLE)		
										OR AMBIENT []		INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> <u>ABSENT</u>				
										(See attached Sample Receipt Form)		(See attached Sample Receipt Form)				

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SGS Workorder #:

1224149

1224149

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

Chain of Custody / Temperature Requirements	<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)		

Holding Time / Documentation / Sample Condition Requirement	<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 <1hr, record details & 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	

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>
1224149001-A	HNO3 to pH < 2	OK			
1224149001-B	HNO3 to pH < 2	OK			
1224149001-C	No Preservative Required	OK			
1224149001-D	HCL to pH < 2	OK			
1224149001-E	H2SO4 to pH < 2	OK			
1224149002-A	HNO3 to pH < 2	OK			
1224149002-B	HNO3 to pH < 2	OK			
1224149002-C	No Preservative Required	OK			
1224149002-D	HCL to pH < 2	OK			
1224149002-E	H2SO4 to pH < 2	OK			
1224149003-A	HNO3 to pH < 2	OK			
1224149003-B	HNO3 to pH < 2	OK			
1224149003-C	No Preservative Required	OK			
1224149003-D	HCL to pH < 2	OK			
1224149003-E	H2SO4 to pH < 2	OK			
1224149004-A	HNO3 to pH < 2	OK			
1224149004-B	HNO3 to pH < 2	OK			
1224149004-C	No Preservative Required	OK			
1224149004-D	HCL to pH < 2	OK			
1224149004-E	H2SO4 to pH < 2	OK			
1224149005-A	No Preservative Required	OK			
1224149005-B	HNO3 to pH < 2	OK			
1224149006-A	No Preservative Required	OK			
1224149006-B	HNO3 to pH < 2	OK			
1224149007-A	No Preservative Required	OK			
1224149007-B	HNO3 to pH < 2	OK			
1224149008-A	No Preservative Required	OK			
1224149008-B	HNO3 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

1224149

SGS Job Number: FA97612

Sampling Date: 07/21/22

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: **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 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.

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Sample Summary

SGS North America, Inc
1224149

Job No: FA97612

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA97612-1	07/21/22	11:35	07/26/22	AQ	Water	WA01
FA97612-2	07/21/22	11:35	07/26/22	AQ	Water	WA01-DUP
FA97612-3	07/21/22	12:45	07/26/22	AQ	Water	WA04
FA97612-4	07/21/22	12:45	07/26/22	AQ	Water	WA04-DUP

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc

Job No: FA97612

Site: 1224149

Report Date: 8/4/2022 3:55:22 PM

On 07/26/2022, 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 4.8 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA97612 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: MP41030

Insufficient sample available 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: FA97612
Account: SGS North America, Inc
Project: 1224149
Collected: 07/21/22



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

FA97612-1 **WA01**

No hits reported in this sample.

FA97612-2 **WA01-DUP**

No hits reported in this sample.

FA97612-3 **WA04**

No hits reported in this sample.

FA97612-4 **WA04-DUP**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: WA01	Date Sampled: 07/21/22
Lab Sample ID: FA97612-1	Date Received: 07/26/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224149	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: WA01-DUP	Date Sampled: 07/21/22
Lab Sample ID: FA97612-2	Date Received: 07/26/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224149	

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	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: WA04	Date Sampled: 07/21/22
Lab Sample ID: FA97612-3	Date Received: 07/26/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224149	

4.3
4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

RL = Reporting Limit

Report of Analysis

Client Sample ID: WA04-DUP	Date Sampled: 07/21/22
Lab Sample ID: FA97612-4	Date Received: 07/26/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224149	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	< 0.50	0.50	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

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

FA97612



Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: SGS Orlando, FL				Page 1 of 1																																																																																																																																																																																																																													
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless																																																																																																																																																																																																																																	
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RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE	#	Preservative Used:	HNOC	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID																																																																																																																																																																																																																									
1	WA01	07/21/2022	11:35:00	Water	1			X			1224149001																																																																																																																																																																																																																										
2	WA01-DUP	07/21/2022	11:35:00	Water	1			X			1224149002																																																																																																																																																																																																																										
3	WA04	07/21/2022	12:45:00	Water	1			X			1224149003																																																																																																																																																																																																																										
4	WA04-DUP	07/21/2022	12:45:00	Water	1			X			1224149004																																																																																																																																																																																																																										
Relinquished By: (1)		Date	Time	Received By:	7/26/22		DOD Project?		NO		Data Deliverable Requirements:																																																																																																																																																																																																																										
<i>J. Shumway</i>		7/25/22	1101	<i>Julie Shumway</i>	930		Report to DL (J Flags)?		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:		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

INITIAL ASSESSMENT *[Signature]*

LABEL VERIFICATION *[Signature]*

4.4 *[Signature]*

F088_COC_REF_LAB_20190411

FA97612: Chain of Custody

Page 1 of 2

5.1
5

SGS Sample Receipt Summary

Job Number: FA97612

Client: SGS SAKA

Project: 1224149

Date / Time Received: 7/26/2022 9:30:00 AM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 5460

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: 1

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

Cooler Temps (Corrected) °C: Cooler 1: (4.8);

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 _____
 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: 7/26/2022 9:30:00 AM

Reviewer: _____

Date: _____

FA97612: 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: FA97612
Account: SGS/SAKA - SGS North America, Inc
Project: 1224149

QC Batch ID: MP41030
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 08/03/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	0.16	<0.50

Associated samples MP41030: FA97612-1, FA97612-2, FA97612-3, FA97612-4

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: FA97612
 Account: SGS/SAKA - SGS North America, Inc
 Project: 1224149

QC Batch ID: MP41030
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 08/03/22 08/03/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
-------	---------------	---------------------	-------	--------------	---------------	---------------------	-------	--------------

Mercury	3.2	3	106.7	85-115	3.2	3	106.7	85-115
---------	-----	---	-------	--------	-----	---	-------	--------

Associated samples MP41030: FA97612-1, FA97612-2, FA97612-3, FA97612-4

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: **1224242**

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: **1224242**

Project Name/Site: **WHADA**

Project Contact: **Morgan Brown**

Refer to sample receipt form for information on sample condition.

WHADA-SoCr-4.5 (1224242001) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

WHADA-SoCr-0.05 (1224242002) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

WHADA-SoCr-4.5 (1224242003) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

WHADA-SoCr-0.05 (1224242004) PS

200.8 – Metals - LCS/MS recoveries for Calcium do not meet QC criteria. Sample result for this analyte is estimated.

LCS for HBN 1840723 [MXX/35309 (1677213) LCS

200.8 – Metals - LCS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224242001(1677210MS) (1677215) MS

200.8 – Metals - MS recovery for Calcium does not meet QC criteria. Sample result for this analyte is estimated.

1224355001MSD (1678985) MSD

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

1224429002MS (1680924) MS

4500P-B,E - Total Phosphorus - PS analyzed past hold time.

1224429002MSD (1680925) MSD

4500P-B,E - Total Phosphorus - PS analyzed past hold time.

Mercury 245.1 Total were 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.

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>
WHADA-SoCr-4.5	1224242001	07/25/2022	07/25/2022	Water (Surface, Eff., Ground)
WHADA-SoCr-0.05	1224242002	07/25/2022	07/25/2022	Water (Surface, Eff., Ground)
WHADA-SoCr-4.5	1224242003	07/25/2022	07/25/2022	Water (Surface, Eff., Ground)
WHADA-SoCr-0.05	1224242004	07/25/2022	07/25/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM 5310B	Dissolved Organic Carbon
SM21 2340B	Hardness as CaCO ₃ by ICP-MS
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO ₃ -F	Nitrate/Nitrite Flow injection Pres.
SM23 4500-N D	TKN by Phenate (W)
SM21 4500P-B,E	Total Phosphorus (W)

Print Date: 08/23/2022 5:01:59PM

Detectable Results Summary

Client Sample ID: **WHADA-SoCr-4.5**

Lab Sample ID: 1224242001

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	20500	ug/L
Hardness as CaCO ₃	70.0	mg/L
Magnesium	4540	ug/L

Waters Department

TOC Average, Dissolved	7.66	mg/L
Total Phosphorus	0.0867	mg/L

Client Sample ID: **WHADA-SoCr-0.05**

Lab Sample ID: 1224242002

Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Calcium	23300	ug/L
Hardness as CaCO ₃	80.1	mg/L
Magnesium	5300	ug/L

Waters Department

TOC Average, Dissolved	6.85	mg/L
Total Phosphorus	0.0759	mg/L

Client Sample ID: **WHADA-SoCr-4.5**

Lab Sample ID: 1224242003

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Aluminum	30.2	ug/L
Arsenic	9.87	ug/L
Barium	11.9	ug/L
Calcium	20200	ug/L
Iron	325	ug/L
Magnesium	4480	ug/L
Manganese	1.25	ug/L
Potassium	1720	ug/L
Silicon	11200	ug/L
Sodium	4540	ug/L
Zinc	27.6	ug/L

Client Sample ID: **WHADA-SoCr-0.05**

Lab Sample ID: 1224242004

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Arsenic	7.09	ug/L
Barium	13.9	ug/L
Calcium	23300	ug/L
Magnesium	5300	ug/L
Potassium	1870	ug/L
Silicon	11800	ug/L
Sodium	7060	ug/L



Results of **WHADA-SoCr-4.5**

Client Sample ID: **WHADA-SoCr-4.5**
Client Project ID: **WHADA**
Lab Sample ID: 1224242001
Lab Project ID: 1224242

Collection Date: 07/25/22 13:15
Received Date: 07/25/22 17:12
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u>
Calcium	20500		500	150	ug/L	1		08/08/22 12:33
Magnesium	4540		50.0	15.0	ug/L	1		08/08/22 12:33

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 12:33
Container ID: 1224242001-B

Prep Batch: MX35309
Prep Method: E200.2
Prep Date/Time: 08/03/22 10:18
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u>
Hardness as CaCO3	70.0		5.00	5.00	mg/L	1		08/08/22 12:33

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 12:33
Container ID: 1224242001-B

Prep Batch: MX35309
Prep Method: E200.2
Prep Date/Time: 08/03/22 10:18
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/23/2022 5:02:02PM



Results of **WHADA-SoCr-4.5**

Client Sample ID: **WHADA-SoCr-4.5**
Client Project ID: **WHADA**
Lab Sample ID: 1224242001
Lab Project ID: 1224242

Collection Date: 07/25/22 13:15
Received Date: 07/25/22 17:12
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	7.66	1.00	0.400	mg/L	1		08/01/22 22:11

Batch Information

Analytical Batch: WTC3213
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 08/01/22 22:11
Container ID: 1224242001-D

<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		08/12/22 10:19

Batch Information

Analytical Batch: WFI2999
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 08/12/22 10:19
Container ID: 1224242001-E

<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	0.0867	0.0400	0.0120	mg/L	1		08/22/22 20:38

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:38	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224242001-E	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		08/11/22 12:37

Print Date: 08/23/2022 5:02:02PM

Results of WHADA-SoCr-4.5

Client Sample ID: **WHADA-SoCr-4.5**
Client Project ID: **WHADA**
Lab Sample ID: 1224242001
Lab Project ID: 1224242

Collection Date: 07/25/22 13:15
Received Date: 07/25/22 17:12
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Batch Information

Analytical Batch: WDA5274
Analytical Method: SM23 4500-N D
Analyst: NRZ
Analytical Date/Time: 08/11/22 12:37
Container ID: 1224242001-E

Prep Batch: WXX14348
Prep Method: METHOD
Prep Date/Time: 08/10/22 16:41
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/23/2022 5:02:02PM



Results of WHADA-SoCr-0.05

Client Sample ID: WHADA-SoCr-0.05
Client Project ID: WHADA
Lab Sample ID: 1224242002
Lab Project ID: 1224242

Collection Date: 07/25/22 11:12
Received Date: 07/25/22 17:12
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Metals by ICP/MS

Table with 8 columns: Parameter, Result, Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Calcium and Magnesium.

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 12:44
Container ID: 1224242002-B
Prep Batch: MX35309
Prep Method: E200.2
Prep Date/Time: 08/03/22 10:18
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Table with 8 columns: Parameter, Result, Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Hardness as CaCO3.

Batch Information

Analytical Batch: MMS11624
Analytical Method: SM21 2340B
Analyst: HGS
Analytical Date/Time: 08/08/22 12:44
Container ID: 1224242002-B
Prep Batch: MX35309
Prep Method: E200.2
Prep Date/Time: 08/03/22 10:18
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/23/2022 5:02:02PM



Results of **WHADA-SoCr-0.05**

Client Sample ID: **WHADA-SoCr-0.05**
Client Project ID: **WHADA**
Lab Sample ID: 1224242002
Lab Project ID: 1224242

Collection Date: 07/25/22 11:12
Received Date: 07/25/22 17:12
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	6.85	1.00	0.400	mg/L	1		08/01/22 22:26

Batch Information

Analytical Batch: WTC3213
Analytical Method: SM 5310B
Analyst: EBH
Analytical Date/Time: 08/01/22 22:26
Container ID: 1224242002-D

<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		08/12/22 10:21

Batch Information

Analytical Batch: WFI2999
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 08/12/22 10:21
Container ID: 1224242002-E

<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	0.0759	0.0400	0.0120	mg/L	1		08/22/22 20:39

Batch Information

Analytical Batch: WDA5283	Prep Batch: WXX14367
Analytical Method: SM21 4500P-B,E	Prep Method: SM21 4500P-B,E
Analyst: MEB	Prep Date/Time: 08/22/22 12:44
Analytical Date/Time: 08/22/22 20:39	Prep Initial Wt./Vol.: 25 mL
Container ID: 1224242002-E	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		08/11/22 12:38

Print Date: 08/23/2022 5:02:02PM



Results of **WHADA-SoCr-0.05**

Client Sample ID: **WHADA-SoCr-0.05**
Client Project ID: **WHADA**
Lab Sample ID: 1224242002
Lab Project ID: 1224242

Collection Date: 07/25/22 11:12
Received Date: 07/25/22 17:12
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Waters Department**

Batch Information

Analytical Batch: WDA5274
Analytical Method: SM23 4500-N D
Analyst: NRZ
Analytical Date/Time: 08/11/22 12:38
Container ID: 1224242002-E

Prep Batch: WXX14348
Prep Method: METHOD
Prep Date/Time: 08/10/22 16:41
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/23/2022 5:02:02PM



Results of WHADA-SoCr-4.5

Client Sample ID: WHADA-SoCr-4.5
Client Project ID: WHADA
Lab Sample ID: 1224242003
Lab Project ID: 1224242

Collection Date: 07/25/22 13:15
Received Date: 07/25/22 17:12
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Dissolved Metals by ICP/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various metals like Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon, Silver, Sodium, Thallium, Tin, Titanium, Vanadium, Zinc.

Batch Information

Analytical Batch: MMS11624
Analytical Method: EP200.8
Analyst: HGS
Analytical Date/Time: 08/08/22 12:47
Container ID: 1224242003-B

Prep Batch: MXX35309
Prep Method: E200.2
Prep Date/Time: 08/03/22 10:18
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/23/2022 5:02:02PM



Results of WHADA-SoCr-0.05

Client Sample ID: **WHADA-SoCr-0.05**
 Client Project ID: **WHADA**
 Lab Sample ID: 1224242004
 Lab Project ID: 1224242

Collection Date: 07/25/22 11:12
 Received Date: 07/25/22 17:12
 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		08/08/22 12:49
Antimony	1.00 U	1.00	0.310	ug/L	1		08/08/22 12:49
Arsenic	7.09	5.00	1.50	ug/L	1		08/08/22 12:49
Barium	13.9	3.00	0.940	ug/L	1		08/08/22 12:49
Beryllium	0.400 U	0.400	0.130	ug/L	1		08/08/22 12:49
Cadmium	0.500 U	0.500	0.150	ug/L	1		08/08/22 12:49
Calcium	23300	500	150	ug/L	1		08/08/22 12:49
Chromium	5.00 U	5.00	2.50	ug/L	1		08/08/22 12:49
Cobalt	4.00 U	4.00	1.20	ug/L	1		08/08/22 12:49
Copper	3.00 U	3.00	1.00	ug/L	1		08/08/22 12:49
Iron	250 U	250	78.0	ug/L	1		08/08/22 12:49
Lead	2.00 U	2.00	0.500	ug/L	1		08/08/22 12:49
Magnesium	5300	50.0	15.0	ug/L	1		08/08/22 12:49
Manganese	1.00 U	1.00	0.350	ug/L	1		08/08/22 12:49
Molybdenum	2.00 U	2.00	0.620	ug/L	1		08/08/22 12:49
Nickel	2.00 U	2.00	0.620	ug/L	1		08/08/22 12:49
Phosphorus	200 U	200	62.0	ug/L	1		08/08/22 12:49
Potassium	1870	500	150	ug/L	1		08/08/22 12:49
Selenium	5.00 U	5.00	1.50	ug/L	1		08/08/22 12:49
Silicon	11800	1000	310	ug/L	1		08/08/22 12:49
Silver	1.00 U	1.00	0.310	ug/L	1		08/08/22 12:49
Sodium	7060	500	150	ug/L	1		08/08/22 12:49
Thallium	1.00 U	1.00	0.310	ug/L	1		08/08/22 12:49
Tin	1.00 U	1.00	0.310	ug/L	1		08/08/22 12:49
Titanium	6.25 U	6.25	3.13	ug/L	1		08/08/22 12:49
Vanadium	20.0 U	20.0	6.20	ug/L	1		08/08/22 12:49
Zinc	10.0 U	10.0	3.10	ug/L	1		08/08/22 12:49

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Analyst: HGS
 Analytical Date/Time: 08/08/22 12:49
 Container ID: 1224242004-B

Prep Batch: MXX35309
 Prep Method: E200.2
 Prep Date/Time: 08/03/22 10:18
 Prep Initial Wt./Vol.: 20 mL
 Prep Extract Vol: 50 mL

Print Date: 08/23/2022 5:02:02PM



Method Blank

Blank ID: MB for HBN 1840723 [MXX/35309]
Blank Lab ID: 1677212

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224242001, 1224242002, 1224242003, 1224242004

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	4.78J	10.0	3.10	ug/L

Print Date: 08/23/2022 5:02:04PM



Method Blank

Blank ID: MB for HBN 1840723 [MXX/35309]
Blank Lab ID: 1677212

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224242001, 1224242002, 1224242003, 1224242004

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: MMS11624
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: HGS
Analytical Date/Time: 8/8/2022 12:20:00PM

Prep Batch: MXX35309
Prep Method: E200.2
Prep Date/Time: 8/3/2022 10:18:54AM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11640
Analytical Method: EP200.8
Instrument: P7 Agilent 7800
Analyst: DSD
Analytical Date/Time: 8/19/2022 2:06:45PM

Prep Batch: MXX35309
Prep Method: E200.2
Prep Date/Time: 8/3/2022 10:18:54AM
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Print Date: 08/23/2022 5:02:04PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [MXX35309]

Blank Spike Lab ID: 1677213

Date Analyzed: 08/08/2022 12:23

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002, 1224242003, 1224242004

Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Aluminum	1000	993	99	(85-115)
Antimony	1000	1010	101	(85-115)
Arsenic	1000	1000	100	(85-115)
Barium	1000	981	98	(85-115)
Beryllium	100	98.2	98	(85-115)
Cadmium	100	97.4	97	(85-115)
Calcium	5000	3570	71	*
Chromium	400	410	102	(85-115)
Cobalt	500	517	103	(85-115)
Copper	1000	1050	105	(85-115)
Iron	5000	5080	102	(85-115)
Lead	1000	1010	101	(85-115)
Magnesium	5000	5220	104	(85-115)
Manganese	500	503	101	(85-115)
Molybdenum	400	390	98	(85-115)
Nickel	1000	1010	101	(85-115)
Phosphorus	500	470	94	(85-115)
Potassium	5000	5090	102	(85-115)
Selenium	1000	999	100	(85-115)
Silicon	10000	10100	101	(85-115)
Silver	100	98.2	98	(85-115)
Sodium	5000	5050	101	(85-115)
Thallium	10	9.59	96	(85-115)
Tin	100	96.4	96	(85-115)
Titanium	100	98.5	99	(85-115)
Vanadium	200	202	101	(85-115)
Zinc	1000	1030	103	(85-115)

Batch Information

Analytical Batch: **MMS11624**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35309**

Prep Method: **E200.2**

Prep Date/Time: **08/03/2022 10:18**

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 08/23/2022 5:02:06PM



Matrix Spike Summary

Original Sample ID: 1677210
 MS Sample ID: 1677215 MS
 MSD Sample ID:

Analysis Date: 08/08/2022 12:33
 Analysis Date: 08/08/2022 12:36
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001

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	42.4	1000	1030	99				70-130		
Antimony	0.500U	1000	1010	101				70-130		
Arsenic	14.4	1000	1020	101				70-130		
Barium	14.2	1000	990	98				70-130		
Beryllium	0.200U	100	98.4	98				70-130		
Cadmium	0.250U	100	97.9	98				70-130		
Calcium	20500	5000	23500	60	*			70-130		
Chromium	2.50U	400	410	103				70-130		
Cobalt	2.00U	500	515	103				70-130		
Copper	1.50U	1000	1040	104				70-130		
Iron	807	5000	5890	102				70-130		
Lead	1.00U	1000	1020	102				70-130		
Magnesium	4540	5000	9630	102				70-130		
Manganese	114	500	612	100				70-130		
Molybdenum	1.00U	400	394	99				70-130		
Nickel	1.00U	1000	1020	102				70-130		
Phosphorus	70.1J	500	550	96				70-130		
Potassium	1730	5000	6830	102				70-130		
Selenium	2.50U	1000	995	100				70-130		
Silicon	11400	10000	21200	98				70-130		
Silver	0.500U	100	98.2	98				70-130		
Sodium	4590	5000	9470	97				70-130		
Thallium	0.500U	10.0	9.67	97				70-130		
Tin	0.500U	100	96.3	96				70-130		
Titanium	12.5U	100	101	101				70-130		
Vanadium	10.0U	200	204	102				70-130		
Zinc	11.3	1000	1040	103				70-130		

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 12:36:00PM

Prep Batch: MXX35309
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/3/2022 10:18:54AM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Print Date: 08/23/2022 5:02:07PM



Matrix Spike Summary

Original Sample ID: 1677211
 MS Sample ID: 1677216 MS
 MSD Sample ID:

Analysis Date: 08/08/2022 12:39
 Analysis Date: 08/08/2022 12:41
 Analysis Date:
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242002, 1224242003, 1224242004

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	11.9J	1000	964	95				70-130		
Antimony	0.928J	1000	1020	102				70-130		
Arsenic	2.50U	1000	1000	100				70-130		
Barium	36.1	1000	1010	98				70-130		
Beryllium	0.200U	100	96.9	97				70-130		
Cadmium	0.250U	100	97	97				70-130		
Calcium	66000	5000	72400	129				70-130		
Chromium	2.50U	400	405	101				70-130		
Cobalt	2.00U	500	505	101				70-130		
Copper	54.1	1000	1070	101				70-130		
Iron	125U	5000	5080	102				70-130		
Lead	7.14	1000	1030	102				70-130		
Magnesium	12100	5000	17600	110				70-130		
Manganese	0.496J	500	499	100				70-130		
Molybdenum	3.16	400	396	98				70-130		
Nickel	2.42	1000	991	99				70-130		
Phosphorus	100U	500	481	96				70-130		
Potassium	351J	5000	5470	102				70-130		
Selenium	2.50U	1000	990	99				70-130		
Silicon	4630	10000	14800	101				70-130		
Silver	0.500U	100	96.5	97				70-130		
Sodium	8670	5000	13900	104				70-130		
Thallium	0.500U	10.0	9.69	97				70-130		
Tin	1.11	100	98.3	97				70-130		
Titanium	12.5U	100	99.6	100				70-130		
Vanadium	10.0U	200	198	99				70-130		
Zinc	267	1000	1290	103				70-130		

Batch Information

Analytical Batch: MMS11624
 Analytical Method: EP200.8
 Instrument: P7 Agilent 7800
 Analyst: HGS
 Analytical Date/Time: 8/8/2022 12:41:00PM

Prep Batch: MXX35309
 Prep Method: DW Digest for Metals on ICP-MS
 Prep Date/Time: 8/3/2022 10:18:54AM
 Prep Initial Wt./Vol.: 20.00mL
 Prep Extract Vol: 50.00mL

Print Date: 08/23/2022 5:02:07PM

Method Blank

Blank ID: MB for HBN 1841339 (WFI/2999)

Blank Lab ID: 1678995

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: WFI2999

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 8/12/2022 11:42:07AM

Print Date: 08/23/2022 5:02:12PM

Method Blank

Blank ID: MB for HBN 1841339 (WFI/2999)

Blank Lab ID: 1679001

QC for Samples:

1224242001, 1224242002

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: WFI2999

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 8/12/2022 10:56:37AM

Print Date: 08/23/2022 5:02:12PM



Method Blank

Blank ID: MB for HBN 1841339 (WFI/2999)

Blank Lab ID: 1679007

QC for Samples:

1224242001, 1224242002

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: WFI2999

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 8/12/2022 10:11:07AM

Print Date: 08/23/2022 5:02:12PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [WFI2999]
 Blank Spike Lab ID: 1678997
 Date Analyzed: 08/12/2022 11:40

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	2.04	82	(70-130)
Nitrite-N	2.5	2.54	102	(90-110)
Total Nitrate/Nitrite-N	5	4.58	92	(90-110)

Batch Information

Analytical Batch: **WFI2999**
 Analytical Method: **SM21 4500NO3-F**
 Instrument: **Astoria segmented flow**
 Analyst: **EBH**

Print Date: 08/23/2022 5:02:14PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [WFI2999]
 Blank Spike Lab ID: 1679003
 Date Analyzed: 08/12/2022 10:54

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.30	92	(70-130)
Nitrite-N	2.5	2.47	99	(90-110)
Total Nitrate/Nitrite-N	5	4.77	95	(90-110)

Batch Information

Analytical Batch: **WFI2999**
 Analytical Method: **SM21 4500NO3-F**
 Instrument: **Astoria segmented flow**
 Analyst: **EBH**

Print Date: 08/23/2022 5:02:14PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [WFI2999]
 Blank Spike Lab ID: 1679009
 Date Analyzed: 08/12/2022 10:09

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.44	98	(70-130)
Nitrite-N	2.5	2.47	99	(90-110)
Total Nitrate/Nitrite-N	5	4.91	98	(90-110)

Batch Information

Analytical Batch: **WFI2999**
 Analytical Method: **SM21 4500NO3-F**
 Instrument: **Astoria segmented flow**
 Analyst: **EBH**

Print Date: 08/23/2022 5:02:14PM



Matrix Spike Summary

Original Sample ID: 1224315001
MS Sample ID: 1678982 MS
MSD Sample ID: 1678983 MSD

Analysis Date: 08/12/2022 10:14
Analysis Date: 08/12/2022 10:16
Analysis Date: 08/12/2022 10:18
Matrix: Drinking Water

QC for Samples: 1224242001, 1224242002

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	0.100U	5.00	5.39	108	5.00	5.51	110	90-110	2.10	(< 25)

Batch Information

Analytical Batch: WFI2999
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EBH
Analytical Date/Time: 8/12/2022 10:16:00AM

Print Date: 08/23/2022 5:02:16PM



Matrix Spike Summary

Original Sample ID: 1224355001
MS Sample ID: 1678984 MS
MSD Sample ID: 1678985 MSD

Analysis Date: 08/12/2022 11:00
Analysis Date: 08/12/2022 11:01
Analysis Date: 08/12/2022 11:03
Matrix: Drinking Water

QC for Samples: 1224242001, 1224242002

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	3.36	5.00	7.86	90	5.00	7.60	85 *	90-110	3.30	(< 25)

Batch Information

Analytical Batch: WFI2999
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EBH
Analytical Date/Time: 8/12/2022 11:01:00AM

Print Date: 08/23/2022 5:02:16PM

Matrix Spike Summary

Original Sample ID: 1224220001
 MS Sample ID: 1678988 MS
 MSD Sample ID: 1678989 MSD

Analysis Date: 08/12/2022 9:29
 Analysis Date: 08/12/2022 9:30
 Analysis Date: 08/12/2022 9:32
 Matrix: Drinking Water

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	0.617	5.00	5.9	106	5.00	6.02	108	90-110	2.00	(< 25)

Batch Information

Analytical Batch: WFI2999
 Analytical Method: SM21 4500NO3-F
 Instrument: Astoria segmented flow
 Analyst: EBH
 Analytical Date/Time: 8/12/2022 9:30:00AM

Print Date: 08/23/2022 5:02:16PM



Method Blank

Blank ID: MB for HBN 1841273 [WXX/14348]

Blank Lab ID: 1678710

QC for Samples:

1224242001, 1224242002

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: WDA5274

Analytical Method: SM23 4500-N D

Instrument: Discrete Analyzer 2

Analyst: NRZ

Analytical Date/Time: 8/11/2022 12:16:58PM

Prep Batch: WXX14348

Prep Method: METHOD

Prep Date/Time: 8/10/2022 4:41:00PM

Prep Initial Wt./Vol.: 25 mL

Prep Extract Vol: 25 mL

Print Date: 08/23/2022 5:02:20PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [WXX14348]
 Blank Spike Lab ID: 1678711
 Date Analyzed: 08/11/2022 12:18

Spike Duplicate ID: LCSD for HBN 1224242
 [WXX14348]
 Spike Duplicate Lab ID: 1678712
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

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	3.72	93	4	3.75	94	(75-125)	0.59	(< 25)

Batch Information

Analytical Batch: **WDA5274**
 Analytical Method: **SM23 4500-N D**
 Instrument: **Discrete Analyzer 2**
 Analyst: **NRZ**

Prep Batch: **WXX14348**
 Prep Method: **METHOD**
 Prep Date/Time: **08/10/2022 16:41**
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 08/23/2022 5:02:22PM



Matrix Spike Summary

Original Sample ID: 1224242002
MS Sample ID: 1678713 MS
MSD Sample ID: 1678714 MSD

Analysis Date: 08/11/2022 12:38
Analysis Date: 08/11/2022 12:22
Analysis Date: 08/11/2022 12:23
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

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	4.13	103	4.00	3.77	94	75-125	9.30	(< 25)

Batch Information

Analytical Batch: WDA5274
Analytical Method: SM23 4500-N D
Instrument: Discrete Analyzer 2
Analyst: NRZ
Analytical Date/Time: 8/11/2022 12:22:13PM

Prep Batch: WXX14348
Prep Method: Distillation TKN by Phenate (W)
Prep Date/Time: 8/10/2022 4:41:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/23/2022 5:02:23PM



Method Blank

Blank ID: MB for HBN 1841948 [WXX/14367]
Blank Lab ID: 1680919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1224242001, 1224242002

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: WDA5283
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: MEB
Analytical Date/Time: 8/22/2022 8:24:54PM

Prep Batch: WXX14367
Prep Method: SM21 4500P-B,E
Prep Date/Time: 8/22/2022 12:44:00PM
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 08/23/2022 5:02:24PM

Blank Spike Summary

Blank Spike ID: LCS for HBN 1224242 [WXX14367]
 Blank Spike Lab ID: 1680920
 Date Analyzed: 08/22/2022 20:25

Spike Duplicate ID: LCSD for HBN 1224242
 [WXX14367]
 Spike Duplicate Lab ID: 1680921
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

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	0.196	98	0.2	0.195	98	(75-125)	0.20	(< 25)

Batch Information

Analytical Batch: **WDA5283**
 Analytical Method: **SM21 4500P-B,E**
 Instrument: **Discrete Analyzer 2**
 Analyst: **MEB**

Prep Batch: **WXX14367**
 Prep Method: **SM21 4500P-B,E**
 Prep Date/Time: **08/22/2022 12:44**
 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: 08/23/2022 5:02:27PM



Matrix Spike Summary

Original Sample ID: 1224429002
MS Sample ID: 1680924 MS
MSD Sample ID: 1680925 MSD

Analysis Date: 08/22/2022 20:43
Analysis Date: 08/22/2022 20:44
Analysis Date: 08/22/2022 20:44
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1224242001, 1224242002

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	0.0179J	0.200	.242	112	0.200	0.237	110	75-125	2.00	(< 25)

Batch Information

Analytical Batch: WDA5283
Analytical Method: SM21 4500P-B,E
Instrument: Discrete Analyzer 2
Analyst: MEB
Analytical Date/Time: 8/22/2022 8:44:02PM

Prep Batch: WXX14367
Prep Method: Total Phosphorus (W) Ext.
Prep Date/Time: 8/22/2022 12:44:00PM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 08/23/2022 5:02:28PM



#385380CPM

1224242



SGS NORTH AMERICA INC. CHAIN OF CUSTODY RECORD

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		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	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. #:						Grab										
RESERVED FOR LAB USE	SAMPLE IDENTIFICATION	DATE MM/DD/YY	TIME HH:MM	MATRIX/MATRIX CODE												REMARKS/LOC ID
IAE	WHADA-SoCr-4.5	7/25/22	13:15	Water	5	Grab			X	X	X	X	X			3AB
DAE	WHADA-SoCr-0.05	↓	11:12	↓	↓	↓			X	X	X	X	X			4AB
RELINQUISHED BY: (1) [Signature]					DATE	TIME	RECEIVED BY: [Signature]					SECTION 4 DOD Project? NO		DATA DELIVERABLE REQUIREMENTS:		
RELINQUISHED BY: (2)					DATE	TIME	RECEIVED BY: [Signature]					COC ID: Cooler ID: REQUESTED TURNAROUND TIME AND/OR SPECIAL INSTRUCTIONS				
RELINQUISHED BY: (3)					DATE	TIME	RECEIVED BY: [Signature]					TEMP BLANK °C: 4.2 D95 OR AMBIENT [] CHAIN OF CUSTODY SEAL: (CIRCLE) INTACT BROKEN ABSENT				
RELINQUISHED BY: (4)					DATE	TIME	RECEIVED FOR LABORATORY BY: [Signature]					(See attached Sample Receipt Form) (See attached Sample Receipt Form)				

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Alert Expeditors Inc.

#420647

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

Date 725
From Grant

To SGS

Collect Prepay Advance Charges

Job # PO#

Box

Shipped Signature

Received By: _____ Total Charge _____ 35 of 51



SGS Workorder #:

1224242

1224242

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>
1224242001-A	HNO3 to pH < 2	OK			
1224242001-B	HNO3 to pH < 2	OK			
1224242001-C	No Preservative Required	OK			
1224242001-D	HCL to pH < 2	OK			
1224242001-E	H2SO4 to pH < 2	OK			
1224242002-A	HNO3 to pH < 2	OK			
1224242002-B	HNO3 to pH < 2	OK			
1224242002-C	No Preservative Required	OK			
1224242002-D	HCL to pH < 2	OK			
1224242002-E	H2SO4 to pH < 2	OK			
1224242003-A	No Preservative Required	OK			
1224242003-B	No Preservative Required	OK			
1224242004-A	No Preservative Required	OK			
1224242004-B	No Preservative Required	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

1224242

SGS Job Number: FA97738

Sampling Date: 07/25/22

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: **14**



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.

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4.2: FA97738-2: WHADA-SOCR-0.05	8
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Section 6: Metals Analysis - QC Data Summaries	12
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Sample Summary

SGS North America, Inc
1224242

Job No: FA97738

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA97738-1	07/25/22	13:15	07/29/22	AQ	Water	WHADA-SOCR-4.5
FA97738-2	07/25/22	11:12	07/29/22	AQ	Water	WHADA-SOCR-0.05

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc

Job No: FA97738

Site: 1224242

Report Date: 8/4/2022 3:41:10 PM

On 07/29/2022, 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 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA97738 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: MP41030

Insufficient sample available 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: FA97738
Account: SGS North America, Inc
Project: 1224242
Collected: 07/25/22



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FA97738-1	WHADA-SOCR-4.5					
Mercury		0.078 J	0.50	0.10	ug/l	EPA 245.1
FA97738-2	WHADA-SOCR-0.05					
Mercury		0.056 J	0.50	0.10	ug/l	EPA 245.1

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: WHADA-SOCR-4.5	Date Sampled: 07/25/22
Lab Sample ID: FA97738-1	Date Received: 07/29/22
Matrix: AQ - Water	Percent Solids: n/a
Project: 1224242	

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.078 J	0.50	0.10	0.030	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
 LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

4.1
4

Report of Analysis

Client Sample ID:	WHADA-SOCR-0.05	Date Sampled:	07/25/22
Lab Sample ID:	FA97738-2	Date Received:	07/29/22
Matrix:	AQ - Water	Percent Solids:	n/a
Project:	1224242		

Total Metals Analysis

Analyte	Result	LOQ	LOD	DL	Units	DF	Prep	Analyzed By	Method	Prep Method
Mercury	0.056 J	0.50	0.10	0.030	ug/l	1	08/03/22	08/03/22 JC	EPA 245.1 ¹	EPA 245.1 ²

(1) Instrument QC Batch: MA18829

(2) Prep QC Batch: MP41030

LOQ = Limit of Quantitation DL = Detection Limit U = Indicates a result < LOD
 LOD = Limit of Detection B = Analyte found in associated blank J = Indicates a result > = DL (MDL) but < LOQ

4.2
4

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SGS North America Inc.
CHAIN OF CUSTODY RECORD

FA97738



Locations Nationwide
Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: SGS ORLANDO, FL				Page 1 of 1												
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless																
PROJECT NAME: 1224242		PWSID#:		<table border="1"> <tr> <td rowspan="3">CONTAINER</td> <td>Preservative Used:</td> <td rowspan="3">HgNO3</td> <td rowspan="3">Mercury 245.1, Total</td> <td rowspan="3">MS</td> <td rowspan="3">MSD</td> <td rowspan="3">SGS lab #</td> <td rowspan="3">Location ID</td> </tr> <tr> <td>TYPE</td> </tr> <tr> <td>C = COMP G = GRAB MI = Multi Incremental Soils</td> </tr> </table>						CONTAINER	Preservative Used:	HgNO3	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID	TYPE	C = COMP G = GRAB MI = Multi Incremental Soils	
CONTAINER	Preservative Used:	HgNO3	Mercury 245.1, Total								MS							MSD	SGS lab #	Location ID
	TYPE																			
	C = COMP G = GRAB MI = Multi Incremental Soils																			
REPORTS TO: Julie Shumway		E-MAIL: Julie.Shumway@sgs.com																		
INVOICE TO: SGS - Alaska		QUOTE #:																		
env.alaska.accounting@sgs.com		P.O. #: 1224242																		
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE	#	Preservative Used:	HgNO3	Mercury 245.1, Total	MS	MSD	SGS lab #	Location ID								
1	WHADA-SoCr-4.5	07/25/2022	13:15:00	Water	1	X					1224242001									
2	WHADA-SoCr-0.05	07/25/2022	11:12:00	Water	1	X					1224242002									
Relinquished By: (1)		Date	Time	Received By:	DOD Project?		Report to DL (J Flags)?		Data Deliverable Requirements:											
<i>Julie Shumway</i>		<i>7/28/22</i>	<i>1105</i>	<i>Paul Mori</i>	7/29/22		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:		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

F088_COC_REF_LAB_20190411

INITIAL ASSESSMENT *MS*

LABEL VERIFICATION *MS*

A. B. SIM

FA97738: Chain of Custody

Page 1 of 2

5.1
5

SGS Sample Receipt Summary

Job Number: FA97738

Client: SGSAKA

Project: 1224242

Date / Time Received: 7/29/2022 2:30:00 PM

Delivery Method: FEDEX

Airbill #s: _____

Therm ID: IR 1;

Therm CF: 0.4;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.6);

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

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"/> |

W or S N/A

- | | | | |
|------------------------|--------------------------|--------------------------|-------------------------------------|
| 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: 7/29/2022 2:30:00 PM

Reviewer: _____

Date: _____

FA97738: 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: FA97738
Account: SGS/SAKA - SGS North America, Inc
Project: 1224242

QC Batch ID: MP41030
Matrix Type: AQUEOUS

Methods: EPA 245.1
Units: ug/l

Prep Date: 08/03/22

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.50	.03	.03	0.16	<0.50

Associated samples MP41030: FA97738-1, FA97738-2

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: FA97738
 Account: SGSAKA - SGS North America, Inc
 Project: 1224242

QC Batch ID: MP41030
 Matrix Type: AQUEOUS

Methods: EPA 245.1
 Units: ug/l

Prep Date: 08/03/22 08/03/22

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.2	3	106.7	85-115	3.2	3	106.7	85-115

Associated samples MP41030: FA97738-1, FA97738-2

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

6.1.2

6