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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS3-23-00507

City of St. Paul
Paul Zavadil
Water Plant
BOX 901
Saint Paul, AK 99660
907-600-4358
adirks@stpaulak.com, pazavadil@stpaulak.com, awegeleben@stpaulak.com, smerculief@stpaulak.com, awegeleben@stpaulak.com, smerculief@stpaulak.com

COC Number: **49131**
Project Name: **City of St. Paul PWS 260286 CMP 2023**
PWS #: **260286**

Questions regarding this analytical report should be addressed to ARS project manager, Curtis Whisman, who can be reached by phone at 907-258-2155 or email at datareporting@aaa.aleutfederal.com.

I certify that the test results presented in this report (in either hardcopy or electronic file (EDD)) meet the requirements of the laboratory’s certifications and other applicable contract terms and conditions. Any exceptions to the certification or contract will be noted within the case narratives presented in the report. Any subcontracted sample results will be identified within the case narratives presented in the report. In the event this report is an amendment to a previously released report, the case narrative will clearly identify the original report as well as the reason(s) for reissuance. A statement of uncertainty for each analysis is available upon request. I authorize release and issuance of this report on the date signed below.

Laboratory Management, ARS Aleut Analytical

Signature

Date

Title

This report provides analytical results of the requested analysis and does not include any opinions or interpretations. ARS Aleut Analytical, LLC assumes no liability for the use or interpretation of analytical results. Results relate only to items tested. A partial reproduction of this test report is prohibited. Reproduction of this report in full requires the written approval of the laboratory.

Alaska Laboratory# AK00969



Table Of Contents

Cover Sheet	1
Table Of Contents	2
Case Narrative	3
Analytical Results	6
Sample Management Records	8



ARS Aleut Analytical, LLC Analytical Reports

for

City of St. Paul

Case Narrative



**PROJECT SAMPLE IDENTIFICATION
CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs**

Project ID	Client Sample ID	ARS Aleut Analytical Sample ID	AWL Sample ID
260286	Harbor Master Office	ARS3-23-00507-001	AWL-23-00861-001

Sample	Date Collected	Date Received	Analysis	Basis	Analysis Date/Time
001	04/03/23 11:30	04/04/23	MCR-9223BPA-AQ	As Received	04/04/23 15:23

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **ARS-062 "Sample Receiving"**. Sample date(s) and time(s) are listed as provided by the client. Turnaround time was set at 5 work days.

Samples were sent to Alaska Water Labs (AWL) on 04-04-2023 09:00 and arrived on 04-04-2023 12:02 at 7°C.

Sample 001 Comment:
Time confirmed by client - AAS

ANALYTICAL METHODS

E. Coli and Total Coliform analyses were performed using **SM9223B-PA**.

The following are subcontracted analyses and have been reported to us as having met criteria, unless otherwise noted:

MCR-9223BPA-AQ - Total Coliform/E. Coli Presence/Absence

Results for subcontracted analyses are directly behind ARS results.

ANALYTICAL RESULTS

**No QC or CRDL warnings found.

ARS3-23-00507: 9223BPA results submit to state by AWL under job ID 336127. CJW 4/18/23.

Notes (Case Narrative)

Definitions:

CRDL	Contract Required Detection Limit
CSU	Combined Standard Uncertainty
DLC	Decision Level Concentration (ANSI N42.23)
DO	Duplicate Original
DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MBL	Method Blank
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
NC	Not Calculated
NP	Not Provided
NR	Not Referenced
PQL	Practical Quantitation Limit

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
Q	One or more quality control criteria failed.
U	Result is below the MDA, MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
S	Spike
SC	Subcontracted out to another qualified laboratory
H	Holding time exceeded
E	Exceeds MCL
**	Reporting Limit is higher than MCL; Target cannot be detected
‡	Method/Matrix/Analyte not accredited for this certification

Radiochemistry Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 4.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 5.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 6.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).
- 7.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 8.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.
- 9.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Non-Potable Water**:
Gross Alpha and Gross Beta (EPA 900.0, EPA 9310); Radium 226 (EPA 903.0, EPA 903.1, EPA 9315); Radium 228 (EPA 904.0, EPA 9320); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7470A); Strontium-89 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-02-RC); Tritium (EPA 906.0); Enriched Tritium (ARS-040), Carbon-14 (ARS-019), Tritium/Carbon (ARS-151); Gamma Emitters (EPA 901.1, SM 7120B, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
- 10.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Solid and Chemical Materials**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7471B); Strontium-89 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-02); Tritium (EPA 906.0 Mod); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-01-RC); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
- 11.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Air and Emissions**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); Strontium-89 (Eichrom SRW01, HASL 300 Sr-01-RC); Strontium-90 (Eichrom SRW01, HASL 300 Sr-02-RC); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02, Eichrom TCS01)

General Comments:

- 1.0) Modified analysis procedures are procedures that are modified to meet certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "M" or "Mod" to the procedure number (i.e. 901.1M, 901.1 Mod).
- 2.0) All NIOSH method results are reported without blank corrections applied.
- 3.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.



ARS Aleut Analytical, LLC Analytical Reports

for

City of St. Paul

Analytical Results

Alaska Laboratory# AK01000

Client ARS
Contact Amanda Seba

Project Name ARS3-23-00507-1-1

AWL # AWL-23-00861

PWS # AK2260286

Please direct any questions regarding the final report to Mary@AKWaterLabs.com or Matt@AKWaterLabs.com, or call 907-373-6130.

The results presented in this report meet the requirement of the laboratory's certifications and internal QC processes. Any exceptions will be noted in the case narratives attached. Subcontract Data has been entered into the AWL Final Report, however the full subcontract report is available upon request.

The attached should contain analytical results for the analyses submitted on the client chain of custody. The information includes no opinions of the analysts or labs, data is represented after meeting certified testing requirements, and quality control measures.

Reproduction of the report in full requires the written approval of the laboratory.

Signature of Laboratory Management Date

Alaska Laboratory# AK01000

Client Project Name ARS3-23-00507-1-1 AWL # AWL-23-00861
 Receipt Date and Time 4/4/2023 12:02 Due Date 4/11/2023
 Cooler/Sample Temp (C) 6.66C (RT#1) Sampler Initials AD
 Sample Receipt Comments Sample received by MCC on 4/4/2023 at 6.66C (RT#1) on frozen ice. Client provided container.

Samples Received

Microbiological						
Sample Location	AWL ID	Collection Date/ Time	Analysis Date/Time	Analysis	Notes	Location Name
ARS3-23-00507-001	AWL-23-00861-001	4/3/2023 11:30	4/4/2023 15:23	Total Coliform PA	#2914	Harbor Master Office

Analytical Methods

Analyte	Method	Comments
Total Coliform	SM9223B PA	
E coli.	SM9223B PA	

Cert Required AK DW
CMDP # 336127

Log In Initials: VJG 4/5/2023
 DQO Initials: AKS 4-6-23

Comments: Standard / Routine

Definitions:

DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
MRL	Method Reporting Limit
MB	Method Blank
MCL	Maximum Contaminant Level
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
TNTC	Count is Too Numerous To Count
<MDL	Result recovery is below the detectable laboratory limit, listed as the MDL

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
U	Result is below the MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
H	Holding time exceeded
E	Exceeds MCL
Q	One or more quality control criteria failed.

General Comments:

- 1.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.

Alaska Laboratory# AK01000

Client ARS
 Contact Amanda Seba
 Project ARS3-23-00507-1-1 **Collection**
 DW Y/N Y Date / time 4/3/2023 11:30
 PWS# AK2260286
 CI Residual 0.3 AWL Batch ID: 040423-01-PA18
 AWL # AWL-23-00861 Routine
 Sample ARS3-23-00507-001 FCID DS001
 Location
 AWL ID/ Fraction AWL-23-00861-001 Matrix DW SPID SPDS001TCR

Analyte	Result	Units	MDL	MCL	Flags	DF	Method	Analyst	Date/Time	Notes
Total Coliform	Absent	Presence/ Absence	1	1	U	1	SM9223B-PA	AKS/ BFM	4/4/2023 15:23	
E coli.	Absent	Presence/ Absence	1	1	U	1	SM9223B-PA	AKS/ BFM	4/4/2023 15:23	

Analyst Batching initials/date BFM 4/7/23
 Analyst Reviewer initials/date MCC 4-10-23



PWS Upload Information

Lab Name & Address:

Alaska Water Labs (AWL)
281 N. Main Street
Suite 101
Wasilla, AK 99654

COC Number: ARS3-23-00507-1-1

PWS Number: 260286

Sample Name	Location	Purpose	Start Date	Sampled By	State Facility ID	State Point ID	Chlorine Residual
ARS3-23-00507-001	Harbor Master Office	Routine	4/3/2023 11:30	AD	DS001	SPDS001TCR	0.3
Comments: Time confirmed by client - AAS							



2023 CMP Customer Verify event # with coordinator

Microbiological Analysis Chain of Custody

Anchorage Laboratory
907 East Dowling Road Suite 24
Anchorage, Alaska 99518
(907) 258-2155

Lab Use Only	
Bottle ID:	2914
Date Received:	4-4-23
Time Received:	9:00
Received by:	ARS
Temp:	5.3
Delivered By:	Couner

Std 1 BD 2BD (Rush at additional cost) LGN: _____

Items in **BOLD** MUST be filled out by the sampler. Missing information may result in lab rejection of the sample.

Client: Saint Paul Water System Reporting Contact: Adrian Dirks
 Address: PO Box 901 City, State, Zip: Saint Paul, AK 99660
 Phone: 907-600-4358 Email: adirks@atpaulak.com

Date Sampled: 04/03/23 Time Sampled: _____ PWS ID#: 260286

Location Sampled: Harbor Master Office Project ID: 2023 CMP

Sampler Name Printed: Adrian Dirks Sign/Date Here: Ad. M. Dirks 04/03/23

Drinking Water: Treated: Total Chlorine: 0.30 mg/L Ultraviolet Filtered _____
 Untreated

Non-Drinking Water: Salt Water Wastewater Raw Source Water Pool and Spa

- Analysis Requested:** **Standard Drinking Water: Total Coliform Bacteria/E. coli – Presence/Absence Results**
 Drinking Water: Total Coliform Bacteria – Quanti-tray MPN
 Wastewater: Fecal Coliform Bacteria – Membrane Filtration.....Hold Time: EPA 8 hours
 Wastewater: Enterococcus Bacteria – Quanti-tray MPN.....Hold Time: EPA 8 hours
 Marine: Fecal Coliform Bacteria – Membrane FiltrationHold Time: EPA 8 hours
 Marine: Enterococcus Bacteria – Quanti-tray MPN..... Hold Time: EPA 8 hours
Above samples accepted Monday through Thursday until 1:00 pm
 Pool and Spa: Heterotrophic Plate Count – Simplate and Total Coliform – Quanti-tray MPN
Above samples accepted Monday through Wednesday until 1:00 pm
 Other: Specify Analysis: _____

Samples received after Wednesday at 1pm for Pool/Spa, and Thursday after 1pm for Total Coliforms require weekend analysis with an additional \$150 fee. Sample receive times may change with Holiday hours

Contact your lab for details and weekend costs.

SAMPLING INSTRUCTIONS

Step Two



2: Remove all hoses, aerators or screens from the faucet. Avoid filling from swivel faucets or kitchen sinks. After removing screens, disinfect the faucet by dipping the spout in a cap of bleach for 30 seconds.

Step Three



3: Run water for at least 3-5 minutes to ensure that water has not been sitting in the pipes or tanks for a long time. WASH YOUR HANDS WITH SOAP AND WARM WATER!

Step Four



4: Open sample bottle carefully. Remove the red plastic sterile strip from the bottle and fill the bottle to at least the fill line (120mL). Do not fill up to the top, allow 1" of head space.

Step Five



5: Screw cap on tight. Take care not to touch the inside of the cap or bottle. If this happens, start with a new bottle.

Step Six



6: Fill out paperwork completely, include the time and date sampled Drop off or send the sample to the lab in secure packaging so the bottle does not break.

IMPORTANT: The lab must receive the sample when the lab is open for business and within 24 hours of collection.

Sampling protocol adapted from and photos from: ADEC Drinking Water Publication "Taking a Total Coliform Bacteria Sample Properly" at: <http://www.dec.state.ak.us/eh/dw/publications/publications.html>



ARS Aleut Analytical, LLC Analytical Reports

for

City of St. Paul

Sample Management Records



2023 CMP Customer Verify event # with coordinator

Microbiological Analysis Chain of Custody

Anchorage Laboratory
907 East Dowling Road Suite 24
Anchorage, Alaska 99518
(907) 258-2155

Lab Use Only	
Bottle ID:	2914
Date Received:	4-4-23
Time Received:	9:00
Received by:	ARS
Temp:	5.3
Delivered By:	Courier

___ Std ___ 1 BD ___ 2BD (Rush at additional cost) LGN: _____

Items in **BOLD** MUST be filled out by the sampler. Missing information may result in lab rejection of the sample.

Client: Saint Paul Water System Reporting Contact: Adrian Dirks

Address: PO Box 901 City, State, Zip: Saint Paul, AK 99660

Phone: 907-600-4358 Email: adirks@atpaulak.com

Date Sampled: 04/03/23 Time Sampled: _____ PWS ID#: 260286

Location Sampled: Harbor Master Office Project ID: 2023 CMP

Sampler Name Printed: Adrian Dirks Sign/Date Here: Adrian M. Dirks 04/03/23

Drinking Water: Treated: Total Chlorine: 0.30 mg/L Ultraviolet Filtered
 Untreated

Non-Drinking Water: Salt Water Wastewater Raw Source Water Pool and Spa

- Analysis Requested:** **Standard Drinking Water: Total Coliform Bacteria/E. coli – Presence/Absence Results**
- Drinking Water: Total Coliform Bacteria – Quanti-tray MPN**
 - Wastewater: Fecal Coliform Bacteria – Membrane Filtration.....Hold Time: EPA 8 hours**
 - Wastewater: Enterococcus Bacteria – Quanti-tray MPN.....Hold Time: EPA 8 hours**
 - Marine: Fecal Coliform Bacteria – Membrane FiltrationHold Time: EPA 8 hours**
 - Marine: Enterococcus Bacteria – Quanti-tray MPN..... Hold Time: EPA 8 hours**
- Above samples accepted Monday through Thursday until 1:00 pm
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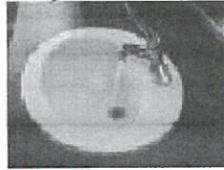
SAMPLING INSTRUCTIONS

Step Two



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Step Three



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Step Five



5: Screw cap on tight. Take care not to touch the inside of the cap or bottle. If this happens, start with a new bottle.

Step Six



6: Fill out paperwork completely, include the time and date sampled Drop off or send the sample to the lab in secure packaging so the bottle does not break.

IMPORTANT: The lab must receive the sample when the lab is open for business and within 24 hours of collection.

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