



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane Suite 200  
Anchorage, AK 99503  
(907)248-8883

Report Number: **1180676**

Client Project: **Wasilla WWTP**

Dear John Marshall,

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

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

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

Sincerely,  
SGS North America Inc.

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Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

Print Date: 02/26/2018 4:25:41PM

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Member of SGS Group

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1180676**

Project Name/Site: **Wasilla WWTP**

Project Contact: **John Marshall**

Refer to sample receipt form for information on sample condition.

**1180676003MS (1434662) MS**

300.0 - Anions - MS recovery for Nitrate/Nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1180676002MS (1435040) MS**

4500P-B,E - Total Phosphorus - MS recovery is outside of QC criteria. Refer to LCS for accuracy requirements.

**1180676003MSD (1434663) MSD**

300.0 - Anions - MSD recovery for Nitrate/Nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1180676002MSD (1435041) MSD**

4500P-B,E - Total Phosphorus - MSD recovery is outside of QC criteria. Refer to LCSD for accuracy requirements.

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

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## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. 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, 6020A, 7470A, 7471B, 8015C, 8021B, 8082A, 8260C, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). 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
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>
SW5	1180676001	02/16/2018	02/16/2018	Water (Surface, Eff., Ground)
SW17	1180676002	02/16/2018	02/16/2018	Water (Surface, Eff., Ground)
SW18	1180676003	02/16/2018	02/16/2018	Water (Surface, Eff., Ground)
DUP1	1180676004	02/16/2018	02/16/2018	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM21 4500-NH3 G	Ammonia-N (W) SM21 4500-NH3 G
SM21 5210B	Biochemical Oxygen Demand SM21 5210B
SM21 9222D	Fecal Coliform (MF)
EPA 300.0	Ion Chromatographic Analysis
SM21 4500-N D	TKN by Phenate (W)
SM21 9223B	Total Coliform P/A Quant Tray
SM21 4500P-B,E	Total Phosphorus (W)
SM21 2540D	Total Suspended Solids SM20 2540D

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### Detectable Results Summary

Client Sample ID: **SW5**  
 Lab Sample ID: 1180676001  
**Microbiology Laboratory**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Biochemical Oxygen Demand	8.28	mg/L
Total Coliform	35	MPN/100mL
Ammonia-N	0.250	mg/L
Total Kjeldahl Nitrogen	0.862J	mg/L
Total Phosphorus	0.101	mg/L
Total Suspended Solids	63.0	mg/L

Client Sample ID: **SW17**  
 Lab Sample ID: 1180676002  
**Microbiology Laboratory**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Biochemical Oxygen Demand	2.03	mg/L
E. Coli	5	MPN/100mL
Fecal Coliform	3.0	col/100mL
Total Coliform	118	MPN/100mL
Ammonia-N	0.497	mg/L
Nitrate-N	2.96	mg/L
Total Kjeldahl Nitrogen	0.837J	mg/L
Total Nitrate/Nitrite-N	2.96	mg/L
Total Phosphorus	0.279	mg/L
Total Suspended Solids	6.08	mg/L

Client Sample ID: **SW18**  
 Lab Sample ID: 1180676003  
**Microbiology Laboratory**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Biochemical Oxygen Demand	2.01	mg/L
E. Coli	2	MPN/100mL
Fecal Coliform	2.0	col/100mL
Total Coliform	172	MPN/100mL
Ammonia-N	0.283	mg/L
Nitrate-N	3.97	mg/L
Total Kjeldahl Nitrogen	0.778J	mg/L
Total Nitrate/Nitrite-N	4.00	mg/L
Total Phosphorus	0.733	mg/L
Total Suspended Solids	1.16	mg/L

Client Sample ID: **DUP1**  
 Lab Sample ID: 1180676004  
**Microbiology Laboratory**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Biochemical Oxygen Demand	2.03	mg/L
E. Coli	1	MPN/100mL
Fecal Coliform	1.0	col/100mL
Total Coliform	115	MPN/100mL
Ammonia-N	0.373	mg/L
Nitrate-N	3.98	mg/L
Total Kjeldahl Nitrogen	0.784J	mg/L
Total Nitrate/Nitrite-N	3.98	mg/L
Total Phosphorus	0.742	mg/L
Total Suspended Solids	0.714J	mg/L



**Results of SW5**

Client Sample ID: **SW5**  
Client Project ID: **Wasilla WWTP**  
Lab Sample ID: 1180676001  
Lab Project ID: 1180676

Collection Date: 02/16/18 11:30  
Received Date: 02/16/18 15:18  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Microbiology Laboratory**

<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>
Biochemical Oxygen Demand	8.28	2.00	2.00	mg/L	1		02/16/18 18:21

**Batch Information**

Analytical Batch: BOD5968  
Analytical Method: SM21 5210B  
Analyst: A.L  
Analytical Date/Time: 02/16/18 18:21  
Container ID: 1180676001-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Fecal Coliform	1.00 U	1.00	1.00	col/100mL	1		02/16/18 16:57

**Batch Information**

Analytical Batch: BTF16325  
Analytical Method: SM21 9222D  
Analyst: K.W  
Analytical Date/Time: 02/16/18 16:57  
Container ID: 1180676001-A

<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>
E. Coli	1 U	1	1	MPN/100r	1		02/16/18 17:13
Total Coliform	35	1	1	MPN/100r	1		02/16/18 17:13

**Batch Information**

Analytical Batch: BTF16327  
Analytical Method: SM21 9223B  
Analyst: K.W  
Analytical Date/Time: 02/16/18 17:13  
Container ID: 1180676001-B



Results of SW5

Client Sample ID: SW5
Client Project ID: Wasilla WWTP
Lab Sample ID: 1180676001
Lab Project ID: 1180676

Collection Date: 02/16/18 11:30
Received Date: 02/16/18 15:18
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Nitrate-N, Nitrite-N, and Total Nitrate/Nitrite-N.

Batch Information

Analytical Batch: WIC5732
Analytical Method: EPA 300.0
Analyst: DMM
Analytical Date/Time: 02/16/18 18:07
Container ID: 1180676001-F
Prep Batch: WXX12204
Prep Method: METHOD
Prep Date/Time: 02/16/18 14:45
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Suspended Solids.

Batch Information

Analytical Batch: STS5793
Analytical Method: SM21 2540D
Analyst: EWW
Analytical Date/Time: 02/20/18 11:40
Container ID: 1180676001-D

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Kjeldahl Nitrogen.

Batch Information

Analytical Batch: WDA4200
Analytical Method: SM21 4500-N D
Analyst: DMM
Analytical Date/Time: 02/21/18 13:34
Container ID: 1180676001-E
Prep Batch: WXX12211
Prep Method: METHOD
Prep Date/Time: 02/20/18 18:40
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Ammonia-N.

## Results of SW5

Client Sample ID: **SW5**  
 Client Project ID: **Wasilla WWTP**  
 Lab Sample ID: 1180676001  
 Lab Project ID: 1180676

Collection Date: 02/16/18 11:30  
 Received Date: 02/16/18 15:18  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

### Batch Information

Analytical Batch: WDA4199  
 Analytical Method: SM21 4500-NH3 G  
 Analyst: EWW  
 Analytical Date/Time: 02/20/18 17:38  
 Container ID: 1180676001-E

Prep Batch: WXX12209  
 Prep Method: METHOD  
 Prep Date/Time: 02/20/18 14:23  
 Prep Initial Wt./Vol.: 6 mL  
 Prep Extract Vol: 6 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 Phosphorus	0.101	0.0200	0.00500	mg/L	1		02/21/18 14:35

### Batch Information

Analytical Batch: WDA4201  
 Analytical Method: SM21 4500P-B,E  
 Analyst: DMM  
 Analytical Date/Time: 02/21/18 14:35  
 Container ID: 1180676001-E

Prep Batch: WXX12212  
 Prep Method: SM21 4500P-B,E  
 Prep Date/Time: 02/21/18 10:06  
 Prep Initial Wt./Vol.: 25 mL  
 Prep Extract Vol: 25 mL





**Results of SW17**

Client Sample ID: **SW17**  
Client Project ID: **Wasilla WWTP**  
Lab Sample ID: 1180676002  
Lab Project ID: 1180676

Collection Date: 02/16/18 12:34  
Received Date: 02/16/18 15:18  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Microbiology Laboratory**

<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>
Biochemical Oxygen Demand	2.03	2.00	2.00	mg/L	1		02/16/18 18:21

**Batch Information**

Analytical Batch: BOD5968  
Analytical Method: SM21 5210B  
Analyst: A.L  
Analytical Date/Time: 02/16/18 18:21  
Container ID: 1180676002-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Fecal Coliform	3.0	1.00	1.00	col/100mL	1		02/16/18 16:57

**Batch Information**

Analytical Batch: BTF16325  
Analytical Method: SM21 9222D  
Analyst: K.W  
Analytical Date/Time: 02/16/18 16:57  
Container ID: 1180676002-A

<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>
E. Coli	5	1	1	MPN/100r	1		02/16/18 17:13
Total Coliform	118	1	1	MPN/100r	1		02/16/18 17:13

**Batch Information**

Analytical Batch: BTF16327  
Analytical Method: SM21 9223B  
Analyst: K.W  
Analytical Date/Time: 02/16/18 17:13  
Container ID: 1180676002-B



Results of SW17

Client Sample ID: SW17
Client Project ID: Wasilla WWTP
Lab Sample ID: 1180676002
Lab Project ID: 1180676

Collection Date: 02/16/18 12:34
Received Date: 02/16/18 15:18
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Nitrate-N, Nitrite-N, and Total Nitrate/Nitrite-N.

Batch Information

Analytical Batch: WIC5732
Analytical Method: EPA 300.0
Analyst: DMM
Analytical Date/Time: 02/16/18 18:26
Container ID: 1180676002-F
Prep Batch: WXX12204
Prep Method: METHOD
Prep Date/Time: 02/16/18 14:45
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Suspended Solids.

Batch Information

Analytical Batch: STS5793
Analytical Method: SM21 2540D
Analyst: EWW
Analytical Date/Time: 02/20/18 11:40
Container ID: 1180676002-D

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Kjeldahl Nitrogen.

Batch Information

Analytical Batch: WDA4200
Analytical Method: SM21 4500-N D
Analyst: DMM
Analytical Date/Time: 02/21/18 13:35
Container ID: 1180676002-E
Prep Batch: WXX12211
Prep Method: METHOD
Prep Date/Time: 02/20/18 18:40
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Ammonia-N.

## Results of SW17

Client Sample ID: **SW17**  
 Client Project ID: **Wasilla WWTP**  
 Lab Sample ID: 1180676002  
 Lab Project ID: 1180676

Collection Date: 02/16/18 12:34  
 Received Date: 02/16/18 15:18  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

### Batch Information

Analytical Batch: WDA4199  
 Analytical Method: SM21 4500-NH3 G  
 Analyst: EWW  
 Analytical Date/Time: 02/20/18 17:40  
 Container ID: 1180676002-E

Prep Batch: WXX12209  
 Prep Method: METHOD  
 Prep Date/Time: 02/20/18 14:23  
 Prep Initial Wt./Vol.: 6 mL  
 Prep Extract Vol: 6 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 Phosphorus	0.279	0.0200	0.00500	mg/L	1		02/21/18 14:36

### Batch Information

Analytical Batch: WDA4201  
 Analytical Method: SM21 4500P-B,E  
 Analyst: DMM  
 Analytical Date/Time: 02/21/18 14:36  
 Container ID: 1180676002-E

Prep Batch: WXX12212  
 Prep Method: SM21 4500P-B,E  
 Prep Date/Time: 02/21/18 10:06  
 Prep Initial Wt./Vol.: 25 mL  
 Prep Extract Vol: 25 mL



**Results of SW18**

Client Sample ID: **SW18**  
Client Project ID: **Wasilla WWTP**  
Lab Sample ID: 1180676003  
Lab Project ID: 1180676

Collection Date: 02/16/18 13:24  
Received Date: 02/16/18 15:18  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Microbiology Laboratory**

<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>
Biochemical Oxygen Demand	2.01	2.00	2.00	mg/L	1		02/16/18 18:21

**Batch Information**

Analytical Batch: BOD5968  
Analytical Method: SM21 5210B  
Analyst: A.L  
Analytical Date/Time: 02/16/18 18:21  
Container ID: 1180676003-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Fecal Coliform	2.0	1.00	1.00	col/100mL	1		02/16/18 16:57

**Batch Information**

Analytical Batch: BTF16325  
Analytical Method: SM21 9222D  
Analyst: K.W  
Analytical Date/Time: 02/16/18 16:57  
Container ID: 1180676003-A

<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>
E. Coli	2	1	1	MPN/100r	1		02/16/18 17:13
Total Coliform	172	1	1	MPN/100r	1		02/16/18 17:13

**Batch Information**

Analytical Batch: BTF16327  
Analytical Method: SM21 9223B  
Analyst: K.W  
Analytical Date/Time: 02/16/18 17:13  
Container ID: 1180676003-B



Results of SW18

Client Sample ID: SW18
Client Project ID: Wasilla WWTP
Lab Sample ID: 1180676003
Lab Project ID: 1180676

Collection Date: 02/16/18 13:24
Received Date: 02/16/18 15:18
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Nitrate-N, Nitrite-N, and Total Nitrate/Nitrite-N.

Batch Information

Analytical Batch: WIC5732
Analytical Method: EPA 300.0
Analyst: DMM
Analytical Date/Time: 02/16/18 17:10
Container ID: 1180676003-F
Prep Batch: WXX12204
Prep Method: METHOD
Prep Date/Time: 02/16/18 14:45
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Suspended Solids.

Batch Information

Analytical Batch: STS5793
Analytical Method: SM21 2540D
Analyst: EWW
Analytical Date/Time: 02/20/18 11:40
Container ID: 1180676003-D

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Kjeldahl Nitrogen.

Batch Information

Analytical Batch: WDA4200
Analytical Method: SM21 4500-N D
Analyst: DMM
Analytical Date/Time: 02/21/18 13:37
Container ID: 1180676003-E
Prep Batch: WXX12211
Prep Method: METHOD
Prep Date/Time: 02/20/18 18:40
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Ammonia-N.



Results of **SW18**

Client Sample ID: **SW18**  
Client Project ID: **Wasilla WWTP**  
Lab Sample ID: 1180676003  
Lab Project ID: 1180676

Collection Date: 02/16/18 13:24  
Received Date: 02/16/18 15:18  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

**Batch Information**

Analytical Batch: WDA4199  
Analytical Method: SM21 4500-NH3 G  
Analyst: EWW  
Analytical Date/Time: 02/20/18 17:42  
Container ID: 1180676003-E

Prep Batch: WXX12209  
Prep Method: METHOD  
Prep Date/Time: 02/20/18 14:23  
Prep Initial Wt./Vol.: 6 mL  
Prep Extract Vol: 6 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 Phosphorus	0.733	0.200	0.0500	mg/L	1		02/21/18 14:45

**Batch Information**

Analytical Batch: WDA4201  
Analytical Method: SM21 4500P-B,E  
Analyst: DMM  
Analytical Date/Time: 02/21/18 14:45  
Container ID: 1180676003-E

Prep Batch: WXX12212  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 02/21/18 10:06  
Prep Initial Wt./Vol.: 2.5 mL  
Prep Extract Vol: 25 mL



Results of **DUP1**

Client Sample ID: **DUP1**  
Client Project ID: **Wasilla WWTP**  
Lab Sample ID: 1180676004  
Lab Project ID: 1180676

Collection Date: 02/16/18 13:24  
Received Date: 02/16/18 15:18  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Microbiology Laboratory**

<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>
Biochemical Oxygen Demand	2.03	2.00	2.00	mg/L	1		02/16/18 18:21

**Batch Information**

Analytical Batch: BOD5968  
Analytical Method: SM21 5210B  
Analyst: A.L  
Analytical Date/Time: 02/16/18 18:21  
Container ID: 1180676004-C

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Fecal Coliform	1.0	1.00	1.00	col/100mL	1		02/16/18 16:57

**Batch Information**

Analytical Batch: BTF16325  
Analytical Method: SM21 9222D  
Analyst: K.W  
Analytical Date/Time: 02/16/18 16:57  
Container ID: 1180676004-A

<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>
E. Coli	1	1	1	MPN/100r	1		02/16/18 17:13
Total Coliform	115	1	1	MPN/100r	1		02/16/18 17:13

**Batch Information**

Analytical Batch: BTF16327  
Analytical Method: SM21 9223B  
Analyst: K.W  
Analytical Date/Time: 02/16/18 17:13  
Container ID: 1180676004-B



Results of DUP1

Client Sample ID: DUP1
Client Project ID: Wasilla WWTP
Lab Sample ID: 1180676004
Lab Project ID: 1180676

Collection Date: 02/16/18 13:24
Received Date: 02/16/18 15:18
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Nitrate-N, Nitrite-N, and Total Nitrate/Nitrite-N.

Batch Information

Analytical Batch: WIC5732
Analytical Method: EPA 300.0
Analyst: DMM
Analytical Date/Time: 02/16/18 18:45
Container ID: 1180676004-F
Prep Batch: WXX12204
Prep Method: METHOD
Prep Date/Time: 02/16/18 14:45
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Suspended Solids.

Batch Information

Analytical Batch: STS5793
Analytical Method: SM21 2540D
Analyst: EWW
Analytical Date/Time: 02/20/18 11:40
Container ID: 1180676004-D

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Total Kjeldahl Nitrogen.

Batch Information

Analytical Batch: WDA4200
Analytical Method: SM21 4500-N D
Analyst: DMM
Analytical Date/Time: 02/21/18 13:38
Container ID: 1180676004-E
Prep Batch: WXX12211
Prep Method: METHOD
Prep Date/Time: 02/20/18 18:40
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row includes Ammonia-N.



## Results of DUP1

Client Sample ID: **DUP1**  
 Client Project ID: **Wasilla WWTP**  
 Lab Sample ID: 1180676004  
 Lab Project ID: 1180676

Collection Date: 02/16/18 13:24  
 Received Date: 02/16/18 15:18  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Waters Department

### Batch Information

Analytical Batch: WDA4199  
 Analytical Method: SM21 4500-NH3 G  
 Analyst: EWW  
 Analytical Date/Time: 02/20/18 17:43  
 Container ID: 1180676004-E

Prep Batch: WXX12209  
 Prep Method: METHOD  
 Prep Date/Time: 02/20/18 14:23  
 Prep Initial Wt./Vol.: 6 mL  
 Prep Extract Vol: 6 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 Phosphorus	0.742	0.200	0.0500	mg/L	1		02/21/18 14:46

### Batch Information

Analytical Batch: WDA4201  
 Analytical Method: SM21 4500P-B,E  
 Analyst: DMM  
 Analytical Date/Time: 02/21/18 14:46  
 Container ID: 1180676004-E

Prep Batch: WXX12212  
 Prep Method: SM21 4500P-B,E  
 Prep Date/Time: 02/21/18 10:06  
 Prep Initial Wt./Vol.: 2.5 mL  
 Prep Extract Vol: 25 mL

## Method Blank

Blank ID: MB for HBN 1776627 [BOD/5968]

Blank Lab ID: 1434600

QC for Samples:

1180676001, 1180676002, 1180676003, 1180676004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 5210B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Biochemical Oxygen Demand	2.00U	2.00	2.00	mg/L

## Batch Information

Analytical Batch: BOD5968

Analytical Method: SM21 5210B

Instrument:

Analyst: A.L

Analytical Date/Time: 2/16/2018 6:21:00PM

Print Date: 02/26/2018 4:25:48PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [BOD5968]

Blank Spike Lab ID: 1434601

Date Analyzed: 02/16/2018 18:21

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 5210B

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Biochemical Oxygen Demand	198	201	102	( 84.6-115.4

## Batch Information

Analytical Batch: BOD5968

Analytical Method: SM21 5210B

Instrument:

Analyst: A.L

Print Date: 02/26/2018 4:25:50PM



### Method Blank

Blank ID: MB for HBN 1776628 [BTF/16325]  
Blank Lab ID: 1434604

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1180676001, 1180676002, 1180676003, 1180676004

### Results by SM21 9222D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Fecal Coliform	1.00U	1.00	1.00	col/100mL

### Batch Information

Analytical Batch: BTF16325  
Analytical Method: SM21 9222D  
Instrument:  
Analyst: K.W  
Analytical Date/Time: 2/16/2018 4:57:00PM

Print Date: 02/26/2018 4:25:51PM

## Method Blank

Blank ID: MB for HBN 1776630 [BTF/16327]

Blank Lab ID: 1434607

QC for Samples:

1180676001, 1180676002, 1180676003, 1180676004

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 9223B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Coliform	1U	1	1	MPN/100m
E. Coli	1U	1	1	MPN/100m

## Batch Information

Analytical Batch: BTF16327

Analytical Method: SM21 9223B

Instrument:

Analyst: K.W

Analytical Date/Time: 2/16/2018 3:08:00PM

Print Date: 02/26/2018 4:25:52PM



### Method Blank

Blank ID: MB for HBN 1776728 [STS/5793]

Blank Lab ID: 1434761

QC for Samples:

1180676001, 1180676002, 1180676003, 1180676004

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 2540D

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

### Batch Information

Analytical Batch: STS5793

Analytical Method: SM21 2540D

Instrument:

Analyst: EWW

Analytical Date/Time: 2/20/2018 11:40:32AM

Print Date: 02/26/2018 4:25:55PM

## Duplicate Sample Summary

Original Sample ID: 1180678001

Duplicate Sample ID: 1434764

QC for Samples:

1180676001, 1180676002, 1180676003, 1180676004

Analysis Date: 02/20/2018 11:40

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 2540D

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Suspended Solids	7.66	8.09	mg/L	5.40*	(< 5 )

## Batch Information

Analytical Batch: STS5793

Analytical Method: SM21 2540D

Instrument:

Analyst: EWW

Print Date: 02/26/2018 4:25:56PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [STS5793]  
 Blank Spike Lab ID: 1434762  
 Date Analyzed: 02/20/2018 11:40

Spike Duplicate ID: LCSD for HBN 1180676 [STS5793]  
 Spike Duplicate Lab ID: 1434763  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 2540D

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Suspended Solids	50	46.5	93	50	48.5	97	( 75-125 )	4.20	(< 5 )

## Batch Information

Analytical Batch: STS5793  
 Analytical Method: SM21 2540D  
 Instrument:  
 Analyst: EWW

Print Date: 02/26/2018 4:25:56PM



## Method Blank

Blank ID: MB for HBN 1776702 [WXX/12204]  
 Blank Lab ID: 1434660

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1180676001, 1180676002, 1180676003, 1180676004

## 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	0.0500	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: WIC5732  
 Analytical Method: EPA 300.0  
 Instrument: 930 Metrohm compact IC flex  
 Analyst: DMM  
 Analytical Date/Time: 2/16/2018 4:13:17PM

Prep Batch: WXX12204  
 Prep Method: METHOD  
 Prep Date/Time: 2/16/2018 2:45:00PM  
 Prep Initial Wt./Vol.: 10 mL  
 Prep Extract Vol: 10 mL

Print Date: 02/26/2018 4:25:58PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [WXX12204]  
 Blank Spike Lab ID: 1434661  
 Date Analyzed: 02/16/2018 16:49

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	5	4.66	93	( 90-110 )
Nitrite-N	5	4.89	98	( 90-110 )
Total Nitrate/Nitrite-N	10	9.55	96	( 90-110 )

## Batch Information

Analytical Batch: **WIC5732**  
 Analytical Method: **EPA 300.0**  
 Instrument: **930 Metrohm compact IC flex**  
 Analyst: **DMM**

Prep Batch: **WXX12204**  
 Prep Method: **METHOD**  
 Prep Date/Time: **02/16/2018 14:45**  
 Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL  
 Dupe Init Wt./Vol.: Extract Vol:

Print Date: 02/26/2018 4:26:00PM

## Matrix Spike Summary

Original Sample ID: 1180676003  
 MS Sample ID: 1434662 MS  
 MSD Sample ID: 1434663 MSD

Analysis Date: 02/16/2018 17:10  
 Analysis Date: 02/16/2018 17:29  
 Analysis Date: 02/16/2018 17:48  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)					
		Spike	Result	Rec (%)	Spike	Result	Rec (%)	CL	RPD (%)	RPD CL
Nitrate-N	3.97	5.00	6.57	52 *	5.00	6.50	51 *	90-110	0.98	(< 15 )
Nitrite-N	0.100U	5.00	1.66	33 *	5.00	1.64	33 *	90-110	1.30	(< 15 )
Total Nitrate/Nitrite-N	4.00	10.0	8.22	42 *	10.0	8.14	41 *	90-110	1.10	(< 15 )

## Batch Information

Analytical Batch: WIC5732  
 Analytical Method: EPA 300.0  
 Instrument: 930 Metrohm compact IC flex  
 Analyst: DMM  
 Analytical Date/Time: 2/16/2018 5:29:35PM

Prep Batch: WXX12204  
 Prep Method: EPA 300.0 Extraction Waters/Liquids  
 Prep Date/Time: 2/16/2018 2:45:00PM  
 Prep Initial Wt./Vol.: 10.00mL  
 Prep Extract Vol: 10.00mL

Print Date: 02/26/2018 4:26:01PM



### Method Blank

Blank ID: MB for HBN 1776778 [WXX/12209]  
Blank Lab ID: 1434981

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1180676001, 1180676002, 1180676003, 1180676004

### Results by SM21 4500-NH3 G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Ammonia-N	0.0500U	0.100	0.0310	mg/L

### Batch Information

Analytical Batch: WDA4199  
Analytical Method: SM21 4500-NH3 G  
Instrument: Discrete Analyzer 2  
Analyst: EWW  
Analytical Date/Time: 2/20/2018 5:28:50PM

Prep Batch: WXX12209  
Prep Method: METHOD  
Prep Date/Time: 2/20/2018 2:23:00PM  
Prep Initial Wt./Vol.: 6 mL  
Prep Extract Vol: 6 mL

Print Date: 02/26/2018 4:26:01PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [WXX12209]  
 Blank Spike Lab ID: 1434982  
 Date Analyzed: 02/20/2018 17:30

Spike Duplicate ID: LCSD for HBN 1180676 [WXX12209]  
 Spike Duplicate Lab ID: 1434983  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 4500-NH3 G

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Ammonia-N	1	1.04	104	1	0.944	94	( 75-125 )	9.30	(< 25 )

## Batch Information

Analytical Batch: **WDA4199**  
 Analytical Method: **SM21 4500-NH3 G**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **EWV**

Prep Batch: **WXX12209**  
 Prep Method: **METHOD**  
 Prep Date/Time: **02/20/2018 14:23**  
 Spike Init Wt./Vol.: 1 mg/L Extract Vol: 6 mL  
 Dupe Init Wt./Vol.: 1 mg/L Extract Vol: 6 mL

Print Date: 02/26/2018 4:26:02PM

## Matrix Spike Summary

Original Sample ID: 1180665003  
 MS Sample ID: 1434984 MS  
 MSD Sample ID: 1434985 MSD

Analysis Date: 02/20/2018 17:33  
 Analysis Date: 02/20/2018 17:35  
 Analysis Date: 02/20/2018 17:37  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 4500-NH3 G

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Ammonia-N	2.20	2.00	4.03	91	2.00	3.94	87	75-125	2.10	(< 25 )

## Batch Information

Analytical Batch: WDA4199  
 Analytical Method: SM21 4500-NH3 G  
 Instrument: Discrete Analyzer 2  
 Analyst: EWW  
 Analytical Date/Time: 2/20/2018 5:35:34PM

Prep Batch: WXX12209  
 Prep Method: Ammonia by SM21 4500F prep (W)  
 Prep Date/Time: 2/20/2018 2:23:00PM  
 Prep Initial Wt./Vol.: 3.00mL  
 Prep Extract Vol: 6.00mL

Print Date: 02/26/2018 4:26:03PM

## Method Blank

Blank ID: MB for HBN 1776790 [WXX/12211]  
Blank Lab ID: 1435027

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 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: WDA4200  
Analytical Method: SM21 4500-N D  
Instrument: Discrete Analyzer 2  
Analyst: DMM  
Analytical Date/Time: 2/21/2018 1:30:44PM

Prep Batch: WXX12211  
Prep Method: METHOD  
Prep Date/Time: 2/20/2018 6:40:00PM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 02/26/2018 4:26:04PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [WXX12211]  
 Blank Spike Lab ID: 1435028  
 Date Analyzed: 02/21/2018 13:32

Spike Duplicate ID: LCSD for HBN 1180676 [WXX12211]  
 Spike Duplicate Lab ID: 1435029  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 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	3.68	92	4	3.71	93	( 75-125 )	1.00	(< 25 )

## Batch Information

Analytical Batch: **WDA4200**  
 Analytical Method: **SM21 4500-N D**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **DMM**

Prep Batch: **WXX12211**  
 Prep Method: **METHOD**  
 Prep Date/Time: **02/20/2018 18:40**  
 Spike Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL  
 Dupe Init Wt./Vol.: 4 mg/L Extract Vol: 25 mL

Print Date: 02/26/2018 4:26:05PM



## Matrix Spike Summary

Original Sample ID: 1180676004  
 MS Sample ID: 1435030 MS  
 MSD Sample ID: 1435031 MSD

Analysis Date: 02/21/2018 13:38  
 Analysis Date: 02/21/2018 13:39  
 Analysis Date: 02/21/2018 13:40  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 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	0.784J	4.00	4.49	93	4.00	4.62	96	75-125	2.90	(< 25 )

## Batch Information

Analytical Batch: WDA4200  
 Analytical Method: SM21 4500-N D  
 Instrument: Discrete Analyzer 2  
 Analyst: DMM  
 Analytical Date/Time: 2/21/2018 1:39:33PM

Prep Batch: WXX12211  
 Prep Method: Distillation TKN by Phenate (W)  
 Prep Date/Time: 2/20/2018 6:40:00PM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

Print Date: 02/26/2018 4:26:06PM

## Method Blank

Blank ID: MB for HBN 1776792 [WXX/12212]  
Blank Lab ID: 1435037

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1180676001, 1180676002, 1180676003, 1180676004

## Results by SM21 4500P-B,E

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Phosphorus	0.0100U	0.0200	0.00500	mg/L

## Batch Information

Analytical Batch: WDA4201  
Analytical Method: SM21 4500P-B,E  
Instrument: Discrete Analyzer 2  
Analyst: DMM  
Analytical Date/Time: 2/21/2018 2:32:20PM

Prep Batch: WXX12212  
Prep Method: SM21 4500P-B,E  
Prep Date/Time: 2/21/2018 10:06:00AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 02/26/2018 4:26:07PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1180676 [WXX12212]  
 Blank Spike Lab ID: 1435038  
 Date Analyzed: 02/21/2018 14:33

Spike Duplicate ID: LCSD for HBN 1180676 [WXX12212]  
 Spike Duplicate Lab ID: 1435039  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## 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	0.199	99	0.2	0.201	101	( 85-115 )	1.10	(< 25 )

## Batch Information

Analytical Batch: **WDA4201**  
 Analytical Method: **SM21 4500P-B,E**  
 Instrument: **Discrete Analyzer 2**  
 Analyst: **DMM**

Prep Batch: **WXX12212**  
 Prep Method: **SM21 4500P-B,E**  
 Prep Date/Time: **02/21/2018 10:06**  
 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: 1180676002  
 MS Sample ID: 1435040 MS  
 MSD Sample ID: 1435041 MSD

Analysis Date: 02/21/2018 14:36  
 Analysis Date: 02/21/2018 14:37  
 Analysis Date: 02/21/2018 14:38  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1180676001, 1180676002, 1180676003, 1180676004

## 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	0.279	0.200	.416	69 *	0.200	0.412	66 *	75-125	0.99	(< 25 )

## Batch Information

Analytical Batch: WDA4201  
 Analytical Method: SM21 4500P-B,E  
 Instrument: Discrete Analyzer 2  
 Analyst: DMM  
 Analytical Date/Time: 2/21/2018 2:37:15PM

Prep Batch: WXX12212  
 Prep Method: Total Phosphorus (W) Ext.  
 Prep Date/Time: 2/21/2018 10:06:00AM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

CLIENT: StantecInstructions: Sections 1 - 5 must be filled out.  
Omissions may delay the onset of analysis.Page 1 of 1CONTACT: Jake Alward / John MarshallPHONE NO: 343-5202

Section 3

Preservative

PROJECT NAME: Wasilla WWTPPROJECT/  
PWSID/  
PERMIT#:#  
C  
O  
N  
T  
A  
I  
N  
E  
R  
SType  
C =  
COMP  
G =  
GRAB  
MI =  
Multi  
Incremental  
Soils

REPORTS TO: E-MAIL:

john.marshall@stantec.com

INVOICE TO: QUOTE #:

P.O. #: 204700415RESERVED  
for lab use

SAMPLE IDENTIFICATION

DATE  
mm/dd/yyTIME  
HH:MMMATRIX/  
MATRIX  
CODE1 A-FSW 502/16/1811306GBODTSSTKNAmmoniaTotal PhosphorusFCTC (quant)Nitrate/NitriteREMARKS/  
LOC ID~~2 A-F <sup>NSW</sup>~~~~SW 15~~~~02/16/18~~~~1234~~~~6~~~~G~~3 A-FSW 1702/16/1812346G3 A-FSW 1802/16/1813246G4 A-FDup 102/16/1813246GRelinquished By: (1) [Signature]

Date

2/16/18

Time

15:18Received By: [Signature]

Section 4

DOD Project? Yes No

Data Deliverable Requirements:

Relinquished By: (2) [Signature]

Date

Time

Received By: [Signature]

Cooler ID:

Requested Turnaround Time and/or Special Instructions:

Relinquished By: (3) [Signature]

Date

Time

Received By: [Signature]Temp Blank °C: 1.1 D41

Chain of Custody Seal: (Circle)

Relinquished By: (4) [Signature]

Date

2/16/18

Time

15:18Received For Laboratory By: [Signature] NSW

or Ambient [ ]

INTACT BROKEN **ABSENT**

(See attached Sample Receipt Form)

(See attached Sample Receipt Form)



e-Sample Receipt Form

SGS Workorder #:

1180676



1 1 8 0 6 7 6

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>	<input checked="" type="checkbox"/>	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<input type="checkbox"/> n/a	
COC accompanied samples?	<input checked="" type="checkbox"/> yes	
<input type="checkbox"/> n/a **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	<input checked="" type="checkbox"/> yes	Cooler ID: 1 @ 1.1 °C Therm. ID: D41
	<input type="checkbox"/> n/a	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/> n/a	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/> n/a	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/> n/a	Cooler ID: @ °C Therm. ID:
*If >6°C, were samples collected <8 hours ago?	<input type="checkbox"/> n/a	
If <0°C, were sample containers ice free?	<input type="checkbox"/> n/a	
If samples received <u>without</u> a temperature blank, the "cooler temperature" will be documented in lieu of the temperature blank & "COOLER TEMP" will be noted to the right. In cases where neither a temp blank nor cooler temp can be obtained, note "ambient" or "chilled".		
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<input checked="" type="checkbox"/> yes	
Do samples <b>match COC**</b> (i.e., sample IDs, dates/times collected)?	<input checked="" type="checkbox"/> yes	
**Note: If times differ <1hr, record details & login per COC.		
Were analyses requested unambiguous? (i.e., method is specified for analyses with >1 option for analysis)	<input checked="" type="checkbox"/> yes	
Were proper containers (type/mass/volume/preservative***) used?	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> n/a ***Exemption permitted for metals (e.g.200.8/6020A).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<input type="checkbox"/> n/a	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<input type="checkbox"/> n/a	
Were all soil VOAs field extracted with MeOH+BFB?	<input type="checkbox"/> n/a	
<b>Note to Client:</b> 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>
1180676001-A	Na2S2O3 for Chlorine Redu	OK			
1180676001-B	Na2S2O3 for Chlorine Redu	OK			
1180676001-C	No Preservative Required	OK			
1180676001-D	No Preservative Required	OK			
1180676001-E	H2SO4 to pH < 2	OK			
1180676001-F	No Preservative Required	OK			
1180676002-A	Na2S2O3 for Chlorine Redu	OK			
1180676002-B	Na2S2O3 for Chlorine Redu	OK			
1180676002-C	No Preservative Required	OK			
1180676002-D	No Preservative Required	OK			
1180676002-E	H2SO4 to pH < 2	OK			
1180676002-F	No Preservative Required	OK			
1180676003-A	Na2S2O3 for Chlorine Redu	OK			
1180676003-B	Na2S2O3 for Chlorine Redu	OK			
1180676003-C	No Preservative Required	OK			
1180676003-D	No Preservative Required	OK			
1180676003-E	H2SO4 to pH < 2	OK			
1180676003-F	No Preservative Required	OK			
1180676004-A	Na2S2O3 for Chlorine Redu	OK			
1180676004-B	Na2S2O3 for Chlorine Redu	OK			
1180676004-C	No Preservative Required	OK			
1180676004-D	No Preservative Required	OK			
1180676004-E	H2SO4 to pH < 2	OK			
1180676004-F	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.

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.