

### 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.

Justin Nelson Project Manager Justin.Nelson@sgs.com Date

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

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### **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 <<u>http://www.sgs.com/en/Terms-and-Conditions.aspx></u>. Attention is drawn to the limitation of liability, indenmification 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.
В	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.

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	Sample Summary										
Client Sample ID	Lab Sample ID	Collected	Received	Matrix							
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> SM21 4500-NH3 G	<u>Method Description</u> Ammonia-N (W) SM21 4500-NH3 G										
SM21 5210B	Biochemica	l Oxygen Demand	SM21 5210B								
SM21 9222D	Fecal Colifo	rm (MF)									
EPA 300.0	Ion Chroma	tographic Analysis	6								
SM21 4500-N D	TKN by Phe	enate (W)									
SM21 9223B	Total Colifor	rm P/A Quant Tray	/								
SM21 4500P-B,E	Total Phosp	horus (W)									
SM21 2540D	Total Suspe	nded Solids SM20	) 2540D								

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### **Detectable Results Summary**

_ab Sample ID: 1180676001	Parameter	Result	<u>Units</u>
Microbiology Laboratory	Biochemical Oxygen Demand	8.28	mg/L
	Total Coliform	35	MPN/100mL
Waters Department	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
	·		Ū
Client Sample ID: SW17			
Lab Sample ID: 1180676002	<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Microbiology Laboratory	Biochemical Oxygen Demand	2.03	mg/L
	E. Coli	5	MPN/100mL
	Fecal Coliform	3.0	col/100mL
	Total Coliform	118	MPN/100mL
Waters Department	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	Parameter	Result	<u>Units</u>
Microbiology Laboratory	Biochemical Oxygen Demand	2.01	mg/L
wicrobiology Laboratory	E. Coli	2.01	MPN/100mL
	Fecal Coliform	2.0	col/100mL
	Total Coliform	172	MPN/100mL
Notoro Donortmont	Ammonia-N	0.283	mg/L
Waters Department	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			
_ab Sample ID: 1180676004	Parameter	Result	<u>Units</u>
Microbiology Laboratory	Biochemical Oxygen Demand	2.03	mg/L
	E. Coli	1	MPN/100mL
	Fecal Coliform	1.0	col/100mL
	Total Coliform	115	MPN/100mL
Waters Department	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
		0.1 TL	

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Results of SW5							
Client Sample ID: <b>SW5</b> Client Project ID: <b>Wasilla WWTP</b> 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> Biochemical Oxygen Demand	<u>Result Qual</u> 8.28	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyzed</u> 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> Fecal Coliform	<u>Result Qual</u> 1.00 U	<u>LOQ/CL</u> 1.00	<u>DL</u> 1.00	<u>Units</u> col/100mL	<u>DF</u> . 1	Allowable Limits	Date Analyzed 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							
Darametar	Result Quel	LOQ/CL		Lipito	DE	Allowable	Data Analyzad
Parameter	<u>Result Qual</u> 1 U	<u>LOQ/CL</u> 1	<u>DL</u> 1	<u>Units</u> MPN/100r	<u>DF</u> ז 1	<u>Limits</u>	Date Analyzed 02/16/18 17:13
E. Coli	35	1	1	MPN/100r	ז 1		02/16/18 17:1
E. Coli Total Coliform							
Total Coliform							
Total Coliform Batch Information Analytical Batch: BTF16327 Analytical Method: SM21 9223B Analyst: K.W Analytical Date/Time: 02/16/18 17:13							
Total Coliform Batch Information Analytical Batch: BTF16327 Analytical Method: SM21 9223B Analyst: K.W Analytical Date/Time: 02/16/18 17:13							

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Results of SW5								
Client Sample ID: <b>SW5</b> Client Project ID: <b>Wasilla WWTP</b> 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			7					
<u>Parameter</u> Nitrate-N Nitrite-N Total Nitrate/Nitrite-N	<u>Result Qual</u> 0.100 U 0.100 U 0.100 U	LOQ/CL 0.200 0.200 0.200	<u>DL</u> 0.0500 0.0500 0.0500	<u>Units</u> mg/L mg/L mg/L	<u>DF</u> 1 1 1	<u>Allowable</u> Limits	<u>Date Analyz</u> 02/16/18 18: 02/16/18 18: 02/16/18 18:	
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: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	METHOD ne: 02/16/1 t./Vol.: 10 r				
Parameter Total Suspended Solids	<u>Result Qual</u> 63.0	<u>LOQ/CL</u> 5.00	<u>DL</u> 1.55	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyz</u> 02/20/18 11	
Batch Information Analytical Batch: STS5793 Analytical Method: SM21 2540D Analyst: EWW Analytical Date/Time: 02/20/18 11:40 Container ID: 1180676001-D								
<u>Parameter</u> Total Kjeldahl Nitrogen	<u>Result Qual</u> 0.862 J	<u>LOQ/CL</u> 1.00	<u>DL</u> 0.310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyz</u> 02/21/18 13	
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: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	METHOD ne: 02/20/1 t./Vol.: 25 r				
Parameter	Result Qual	LOQ/CL	DL	Units	DE	<u>Allowable</u> Limits	Date Analyz	
Ammonia-N	0.250	0.100	<u>DL</u> 0.0310	mg/L	<u>DF</u> 1		02/20/18 17:	

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### SG Results of SW5 Client Sample ID: SW5 Collection Date: 02/16/18 11:30 Received Date: 02/16/18 15:18 Client Project ID: Wasilla WWTP Lab Sample ID: 1180676001 Matrix: Water (Surface, Eff., Ground) Lab Project ID: 1180676 Solids (%): Location: Results by Waters Department **Batch Information** Analytical Batch: WDA4199 Prep Batch: WXX12209 Analytical Method: SM21 4500-NH3 G Prep Method: METHOD Analyst: EWW Prep Date/Time: 02/20/18 14:23 Prep Initial Wt./Vol.: 6 mL Analytical Date/Time: 02/20/18 17:38 Container ID: 1180676001-E Prep Extract Vol: 6 mL Allowable Parameter Result Qual LOQ/CL Units DF Date Analyzed DL <u>Limits</u> Total Phosphorus 0.101 0.0200 0.00500 mg/L 1 02/21/18 14:35 **Batch Information** Analytical Batch: WDA4201 Prep Batch: WXX12212 Prep Method: SM21 4500P-B,E Analytical Method: SM21 4500P-B,E Analyst: DMM Prep Date/Time: 02/21/18 10:06 Analytical Date/Time: 02/21/18 14:35 Prep Initial Wt./Vol.: 25 mL Container ID: 1180676001-E Prep Extract Vol: 25 mL

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Results of SW17 Client Sample ID: SW17		С	ollection D	ate: 02/16/18	3 12:34	Ļ	
Client Project ID: Wasilla WWTP Lab Sample ID: 1180676002				ate: 02/16/18 er (Surface, E			
Lab Project ID: 1180676		S	olids (%): ocation:	(,	,	,	
Results by Microbiology Laboratory							
<u>Parameter</u> Biochemical Oxygen Demand	<u>Result Qual</u> 2.03	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	Date Analyzed 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							
Parameter	Result Qual	LOQ/CL	DL	Units	DF	<u>Allowable</u> Limits	Date Analyzed
Fecal Coliform	3.0	1.00	1.00	col/100mL		<u></u>	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							
Parameter	Result Qual	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	Allowable Limits	Date Analyzed
E. Coli Total Coliform	5 118	1 1	1 1	MPN/100r MPN/100r			02/16/18 17:13 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							

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Results of SW17							
Client Sample ID: <b>SW17</b> Client Project ID: <b>Wasilla WWTP</b> Lab Sample ID: 1180676002 Lab Project ID: 1180676		C R M Si Lo					
Results by Waters Department			) ——				
<u>Parameter</u> Nitrate-N Nitrite-N Total Nitrate/Nitrite-N	<u>Result Qual</u> 2.96 0.100 U 2.96	<u>LOQ/CL</u> 0.200 0.200 0.200	<u>DL</u> 0.0500 0.0500 0.0500	<u>Units</u> mg/L mg/L mg/L	<u>DF</u> 1 1 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyz</u> 02/16/18 18: 02/16/18 18: 02/16/18 18:
Batch Information							
Analytical Batch: WIC5732 Analytical Method: EPA 300.0 Analyst: DMM Analytical Date/Time: 02/16/18 18:26 Container ID: 1180676002-F		F F	Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: METHOD me: 02/16/1 't./Vol.: 10 r			
Parameter Total Suspended Solids	<u>Result Qual</u> 6.08	<u>LOQ/CL</u> 1.03	<u>DL</u> 0.320	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyz 02/20/18 11:
Batch Information Analytical Batch: STS5793 Analytical Method: SM21 2540D Analyst: EWW Analytical Date/Time: 02/20/18 11:40 Container ID: 1180676002-D							
<u>Parameter</u> Total Kjeldahl Nitrogen	<u>Result Qual</u> 0.837 J	<u>LOQ/CL</u> 1.00	<u>DL</u> 0.310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyz</u> 02/21/18 13:
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		F F F	Prep Batch: Prep Method: Prep Date/Tir Prep Initial W Prep Extract	: METHOD me: 02/20/1 't./Vol.: 25 r			
Parameter	Result Qual	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyz 02/20/18 17:

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#### SG Results of SW17 Client Sample ID: SW17 Collection Date: 02/16/18 12:34 Received Date: 02/16/18 15:18 Client Project ID: Wasilla WWTP Lab Sample ID: 1180676002 Matrix: Water (Surface, Eff., Ground) Lab Project ID: 1180676 Solids (%): Location: Results by Waters Department **Batch Information** Analytical Batch: WDA4199 Prep Batch: WXX12209 Analytical Method: SM21 4500-NH3 G Prep Method: METHOD Analyst: EWW Prep Date/Time: 02/20/18 14:23 Analytical Date/Time: 02/20/18 17:40 Prep Initial Wt./Vol.: 6 mL Container ID: 1180676002-E Prep Extract Vol: 6 mL Allowable Parameter Result Qual LOQ/CL Units DF Date Analyzed DL <u>Limits</u> Total Phosphorus 0.279 0.0200 0.00500 mg/L 1 02/21/18 14:36 **Batch Information** Analytical Batch: WDA4201 Prep Batch: WXX12212 Analytical Method: SM21 4500P-B,E Prep Method: SM21 4500P-B,E Analyst: DMM Prep Date/Time: 02/21/18 10:06 Analytical Date/Time: 02/21/18 14:36 Prep Initial Wt./Vol.: 25 mL Container ID: 1180676002-E Prep Extract Vol: 25 mL

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Results of SW18 Client Sample ID: SW18 Client Project ID: Wasilla WWTP	ł	R	eceived Da	ate: 02/16/18 ate: 02/16/18	15:18		
ab Sample ID: 1180676003 ab Project ID: 1180676		Matrix: Water (Surface, Eff., Ground) Solids (%): Location:					
Results by Microbiology Laboratory			_				
Parameter Biochemical Oxygen Demand	<u>Result Qual</u> 2.01	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyze</u> 02/16/18 18:2
Batch Information							
Analytical Batch: BOD5968 Analytical Method: SM21 5210B Analyst: A.L Analytical Date/Time: 02/16/18 18:21 Container ID: 1180676003-C							
Parameter	Result Qual	LOQ/CL	DL	<u>Units</u>	DF	<u>Allowable</u> Limits	Date Analyze
ecal Coliform	2.0	1.00	1.00	col/100mL		<u></u>	02/16/18 16:5
Analytical Method: SM21 9222D Analyst: K.W Analytical Date/Time: 02/16/18 16:57 Container ID: 1180676003-A							
Peromotor	Result Qual	1.00/01		Linita		Allowable	Data Analyza
<u>Parameter</u> E. Coli	2	<u>LOQ/CL</u> 1	<u>DL</u> 1	<u>Units</u> MPN/100r	<u>DF</u> r 1	<u>Limits</u>	Date Analyze
otal Coliform	172	1	1	MPN/100r	r 1		02/16/18 17:1
Analytical Batch: BTF16327 Analytical Method: SM21 9223B Analyst: K.W Analytical Date/Time: 02/16/18 17:13 Container ID: 1180676003-B							

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Results of SW18							
Client Sample ID: <b>SW18</b> Client Project ID: <b>Wasilla WWTP</b> 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			]				
Parameter Nitrate-N Nitrite-N Total Nitrate/Nitrite-N	<u>Result Qual</u> 3.97 0.100 U 4.00	LOQ/CL 0.200 0.200 0.200	<u>DL</u> 0.0500 0.0500 0.0500	<u>Units</u> mg/L mg/L mg/L	<u>DF</u> 1 1 1	<u>Allowable</u> Limits	Date Analyz 02/16/18 17: 02/16/18 17: 02/16/18 17:
Batch Information							
Analytical Batch: WIC5732 Analytical Method: EPA 300.0 Analyst: DMM Analytical Date/Time: 02/16/18 17:10 Container ID: 1180676003-F		F	Prep Batch: N Prep Method: Prep Date/Tir Prep Initial W Prep Extract N	METHOD ne: 02/16/1 t./Vol.: 10 i	8 14:45		
Parameter Total Suspended Solids	<u>Result Qual</u> 1.16	<u>LOQ/CL</u> 1.05	<u>DL</u> 0.326	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyz</u> 02/20/18 11:
Batch Information							
Analytical Batch: STS5793 Analytical Method: SM21 2540D Analyst: EWW Analytical Date/Time: 02/20/18 11:40 Container ID: 1180676003-D							
Devenueden	Descrit Quel	1.00/01		11-14-	DE	Allowable	Data Arrah -
<u>Parameter</u> Total Kjeldahl Nitrogen	<u>Result Qual</u> 0.778 J	<u>LOQ/CL</u> 1.00	<u>DL</u> 0.310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Limits</u>	Date Analyz 02/21/18 13:
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		F	Prep Batch: M Prep Method: Prep Date/Tir Prep Initial W Prep Extract M	METHOD me: 02/20/1 t./Vol.: 25 i	18 18:40 mL		
Deromotor	Recult Quel	1.00/01		Linita		Allowable	Data Analyz
<u>Parameter</u> Ammonia-N	<u>Result Qual</u> 0.283	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Limits</u>	Date Analyz 02/20/18 17:

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#### SG Results of SW18 Client Sample ID: SW18 Collection Date: 02/16/18 13:24 Received Date: 02/16/18 15:18 Client Project ID: Wasilla WWTP Lab Sample ID: 1180676003 Matrix: Water (Surface, Eff., Ground) Lab Project ID: 1180676 Solids (%): Location: Results by Waters Department **Batch Information** Analytical Batch: WDA4199 Prep Batch: WXX12209 Analytical Method: SM21 4500-NH3 G Prep Method: METHOD Analyst: EWW Prep Date/Time: 02/20/18 14:23 Analytical Date/Time: 02/20/18 17:42 Prep Initial Wt./Vol.: 6 mL Container ID: 1180676003-E Prep Extract Vol: 6 mL Allowable Parameter Result Qual LOQ/CL Units DF Date Analyzed DL <u>Limits</u> Total Phosphorus 0.733 0.200 0.0500 mg/L 1 02/21/18 14:45 **Batch Information** Analytical Batch: WDA4201 Prep Batch: WXX12212 Analytical Method: SM21 4500P-B,E Prep Method: SM21 4500P-B,E Analyst: DMM Prep Date/Time: 02/21/18 10:06 Analytical Date/Time: 02/21/18 14:45 Prep Initial Wt./Vol.: 2.5 mL Container ID: 1180676003-E Prep Extract Vol: 25 mL

Print Date: 02/26/2018 4:25:46PM

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Results of <b>DUP1</b> Client Sample ID: <b>DUP1</b> Client Project ID: <b>Wasilla WWTP</b> 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 <b>Microbiology Laboratory</b> Parameter Biochemical Oxygen Demand	<u>Result Qual</u> 2.03	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> Limits	<u>Date Analyze</u> 02/16/18 18:2	
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> Fecal Coliform	<u>Result Qual</u> 1.0	<u>LOQ/CL</u> 1.00	<u>DL</u> 1.00	<u>Units</u> col/100mL	<u>DF</u> . 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyze</u> 02/16/18 16:5	
Batch Information Analytical Batch: BTF16325 Analytical Method: SM21 9222D Analyst: K.W Analytical Date/Time: 02/16/18 16:57 Container ID: 1180676004-A								
Parameter	<u>Result Qual</u>	LOQ/CL	DL	<u>Units</u>	<u>DF</u>	<u>Allowable</u> Limits	Date Analyze	
E. Coli Total Coliform	1 115	1 1	1 1	MPN/100r MPN/100r			02/16/18 17: <sup>2</sup> 02/16/18 17: <sup>2</sup>	
Batch Information Analytical Batch: BTF16327 Analytical Method: SM21 9223B Analyst: K.W Analytical Date/Time: 02/16/18 17:13 Container ID: 1180676004-B								

Print Date: 02/26/2018 4:25:46PM

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Results of DUP1							
Client Sample ID: <b>DUP1</b> Client Project ID: <b>Wasilla WWTP</b> 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			_				
<u>Parameter</u> Nitrate-N Nitrite-N Total Nitrate/Nitrite-N	<u>Result Qual</u> 3.98 0.100 U 3.98	LOQ/CL 0.200 0.200 0.200	<u>DL</u> 0.0500 0.0500 0.0500	<u>Units</u> mg/L mg/L mg/L	<u>DF</u> 1 1 1	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u> 02/16/18 18:4 02/16/18 18:4 02/16/18 18:4
Batch Information							
Analytical Batch: WIC5732 Analytical Method: EPA 300.0 Analyst: DMM Analytical Date/Time: 02/16/18 18:45 Container ID: 1180676004-F		F F F	Prep Batch: N Prep Method: Prep Date/Tir Prep Initial W Prep Extract N	METHOD me: 02/16/1 t./Vol.: 10 r			
<u>Parameter</u> Total Suspended Solids	<u>Result Qual</u> 0.714 J	<u>LOQ/CL</u> 1.02	<u>DL</u> 0.316	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyze 02/20/18 11:4
Batch Information Analytical Batch: STS5793 Analytical Method: SM21 2540D Analyst: EWW Analytical Date/Time: 02/20/18 11:40 Container ID: 1180676004-D							
<u>Parameter</u> Total Kjeldahl Nitrogen	<u>Result Qual</u> 0.784 J	<u>LOQ/CL</u> 1.00	<u>DL</u> 0.310	<u>Units</u> mg/L	<u>DF</u> 1	<u>Allowable</u> <u>Limits</u>	Date Analyze 02/21/18 13:3
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		F F F	Prep Batch: N Prep Method: Prep Date/Tir Prep Initial W Prep Extract N	METHOD me: 02/20/1 t./Vol.: 25 r			
Parameter	<u>Result Qual</u> 0.373	<u>LOQ/CL</u> 0.100	<u>DL</u> 0.0310	<u>Units</u> mg/L	<u>DF</u> 1	Allowable Limits	Date Analyze 02/20/18 17:4

Print Date: 02/26/2018 4:25:46PM

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# Results of DUP1 Client Sample ID: DUP1 Client Project ID: Wasilla WWTP Lab Sample ID: 1180676004 Lab Project ID: 1180676 Results by Waters Department

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

Container ID: 1180676004-E

**Batch Information** 

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>	LOQ/CL	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable</u>	<u>Date Analyzed</u>
Total Phosphorus	0.742	0.200	0.0500	mg/L	1	<u>Limits</u>	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		F F F	Prep Batch: \ Prep Method: Prep Date/Tir Prep Initial W Prep Extract \	SM21 450 me: 02/21/1 t./Vol.: 2.5	0P-B,E 8 10:06		

Print Date: 02/26/2018 4:25:46PM

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Method Blank		·			
Blank ID: MB for HBN 177 Blank Lab ID: 1434600	6627 [BOD/5968]	Matriz	k: Water (Surf	ace, Eff., Ground)	
QC for Samples: 1180676001, 1180676002, 1	180676003, 1180676004				
Results by SM21 5210B					
Parameter Biochemical Oxygen Demand	Results 2.00U	<u>LOQ/CL</u> 2.00	<u>DL</u> 2.00	<u>Units</u> mg/L	
Batch Information					
Analytical Batch: BOD596 Analytical Method: SM21 Instrument: Analyst: A.L	5210B				
Analytical Date/Time: 2/1	6/2018 6:21:00PM				

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

Blank Spike Summary				
Blank Spike ID: LCS for HBN Blank Spike Lab ID: 1434601 Date Analyzed: 02/16/2018 QC for Samples: 11806760	18:21			Water (Surface, Eff., Ground)
Results by SM21 5210B			_	
		Blank Spike	(mg/L)	
Parameter Biochemical Oxygen Demand	<u>Spike</u> 198	Result 201	<u>Rec (%)</u> 102	<u>CL</u> ( 84.6-115.4
Batch Information				
Analyst: A.L				

 $\rightarrow$ 

Method Blank		·			
Blank ID: MB for HBN 1 Blank Lab ID: 1434604	776628 [BTF/16325]	Matr	x: Water (Sur	face, Eff., Ground)	
QC for Samples: 1180676001, 1180676002	2, 1180676003, 1180676004				
Results by <b>SM21 9222</b>	)				
Parameter Fecal Coliform	<u>Results</u> 1.00U	<u>LOQ/CL</u> 1.00	<u>DL</u> 1.00	<u>Units</u> col/100mL	
Batch Information					
Analytical Batch: BTF Analytical Method: SM Instrument: Analyst: K.W Analytical Date/Time:					

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

Method Blank				
Blank ID: MB for HBN Blank Lab ID: 143460	1776630 [BTF/16327] 7	Matrix	: Water (Sur	face, Eff., Ground)
QC for Samples: 1180676001, 118067600	02, 1180676003, 1180676004			
Results by SM21 9223	B	)		
Parameter	<u>Results</u>	LOQ/CL	<u>DL</u>	<u>Units</u>
Total Coliform	1U	1	1	MPN/100m
E. Coli	1U	1	1	MPN/100m
atch Information				
Analytical Batch: BT Analytical Method: S Instrument:				
Analyst: K.W	2/16/2018 3:08:0001			
Analytical Date/Time:	Z/10/2010 J.00.00FIVI			

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

728 [STS/5793]	Matrix	: Water (Surfa	ce, Eff., Ground)	
80676003, 1180676004				
	)			
<u>Results</u> 0.500U	<u>LOQ/CL</u> 1.00	<u>DL</u> 0.310	<u>Units</u> mg/L	
2540D /2018 11:40:32AM				
	80676003, 1180676004 <u>Results</u> 0.500U 2540D	80676003, 1180676004           Results         LOQ/CL           0.500U         1.00	80676003, 1180676004           Results         LOQ/CL         DL           0.500U         1.00         0.310	80676003, 1180676004           Results         LOQ/CL         DL         Units           0.500U         1.00         0.310         mg/L

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

Ouplicate Sample Summary	/				
Driginal Sample ID: 118067 Duplicate Sample ID: 14347	e Sample ID: 1434764 Matrix: Water (Surface, Eff., Ground)				
C for Samples:					
180676001, 1180676002, 1	180676003, 1180	676004			
Results by SM21 2540D					
IAME	<u>Original</u>	Duplicate	<u>Units</u>	<u>RPD (%)</u>	RPD CL
otal Suspended Solids	7.66	8.09	mg/L	5.40*	(< 5)
Batch Information					
Analytical Batch: STS5793 Analytical Method: SM21 254 Instrument: Analyst: EWW	10D				

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



Blank Spike Summary									
Blank Spike ID: LCS for HE Blank Spike Lab ID: 143470 Date Analyzed: 02/20/201	62	STS5793]		[ST Spi	S5793] ke Duplica	ite Lab ID:	D for HBN 1 1434763 Eff., Ground		
QC for Samples: 118067	76001, 1180676	8002, 1180	0676003, 118	30676004					
Results by SM21 2540D									
		lank Spike				cate (mg/L)			
<u>Parameter</u> Fotal Suspended Solids	<u>Spike</u> 50	<u>Result</u> 46.5	<u>Rec (%)</u> 93	<u>Spike</u> 50	<u>Result</u> 48.5	<u>Rec (%)</u> 97	<u>CL</u> (75-125)	<u>RPD (%)</u> 4.20	<u>RPD CL</u> (< 5 )
Batch Information									
Analytical Batch: <b>STS5793</b> Analytical Method: <b>SM21 25</b> Instrument: Analyst: <b>EWW</b>	540D								

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

0C for Samples: 180676001, 1180676002,	1180676003, 1180676004				
Results by EPA 300.0					
<u>Parameter</u> Nitrate-N Nitrite-N	<u>Results</u> 0.100U 0.100U	<u>LOQ/CL</u> 0.200 0.200	<u>DL</u> 0.0500 0.0500	<u>Units</u> mg/L mg/L	
otal Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L	
Analytical Batch: WIC5	732	Prep Ba	tch: WXX12204		
Analytical Method: EPA Instrument: 930 Metroh Analyst: DMM Analytical Date/Time: 2	m compact IC flex	Prep Da Prep Ini	ethod: METHOD te/Time: 2/16/20 tial Wt./Vol.: 10 r tract 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

		Blank Spike	e (mg/L)	
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>
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: WIC573				Prep Batch: WXX12204
Analytical Method: EPA 3 Instrument: 930 Metrohm		×		Prep Method: METHOD Prep Date/Time: 02/16/2018 14:45
Analyst: DMM	compact to he	~		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

	Ma	trix Spike (	mg/L)		Spike	e Duplicate	e (mg/L)	)			
Sample	<u>Spike</u>	Result	Rec	(%)	Spike	Result	Rec (	<u>%)</u>	CL	<u>RPD (%)</u>	RPD CL
3.97	5.00	6.57	52	*	5.00	6.50	51	*	90-110	0.98	(< 15)
0.100U	5.00	1.66	33	*	5.00	1.64	33	*	90-110	1.30	(< 15)
4.00	10.0	8.22	42	*	10.0	8.14	41	*	90-110	1.10	(< 15)
	3.97 0.100U	SampleSpike3.975.000.100U5.00	Sample         Spike         Result           3.97         5.00         6.57           0.100U         5.00         1.66	3.97         5.00         6.57         52           0.100U         5.00         1.66         33	Sample         Spike         Result         Rec (%)           3.97         5.00         6.57         52 *           0.100U         5.00         1.66         33 *	Sample         Spike         Result         Rec (%)         Spike           3.97         5.00         6.57         52         *         5.00           0.100U         5.00         1.66         33         *         5.00	Sample         Spike         Result         Rec (%)         Spike         Result           3.97         5.00         6.57         52         *         5.00         6.50           0.100U         5.00         1.66         33         *         5.00         1.64	Sample         Spike         Result         Rec (%)         Spike         Result         Rec (           3.97         5.00         6.57         52         *         5.00         6.50         51           0.100U         5.00         1.66         33         *         5.00         1.64         33	Sample         Spike         Result         Rec (%)         Spike         Result         Rec (%)           3.97         5.00         6.57         52         5.00         6.50         51         *           0.100U         5.00         1.66         33         *         5.00         1.64         33         *	Sample         Spike         Result         Rec (%)         Spike         Result         Rec (%)         CL           3.97         5.00         6.57         52         *         5.00         6.50         51         *         90-110           0.100U         5.00         1.66         33         *         5.00         1.64         33         *         90-110	Sample         Spike         Result         Rec (%)         Spike         Result         Rec (%)         CL         RPD (%)           3.97         5.00         6.57         52         *         5.00         6.50         51         *         90-110         0.98           0.100U         5.00         1.66         33         *         5.00         1.64         33         *         90-110         1.30

#### 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

Ammonia-N 0.0500U 0.100 0.0310 mg/L	Parameter       Results       LOQ/CL       DL       Units         Ammonia-N       0.0500U       0.100       0.0310       mg/L         atch Information         Analytical Batch: WDA4199       Prep Batch: WXX12209       Prep Method: METHOD         Analytical Method: SM21 4500-NH3 G       Prep Date/Time: 2/20/2018       2:23:00PM         Instrument: Discrete Analyzer 2       Prep Initial Wt./Vol.: 6 mL       Prep Initial Wt./Vol.: 6 mL				Linite
Ammonia-N       0.0500U       0.100       0.0310       mg/L         Match Information       Prep Batch: WXX12209       Prep Batch: WXX12209         Analytical Batch: WDA4199       Prep Method: METHOD       Prep Method: METHOD         Instrument: Discrete Analyzer 2       Prep Date/Time: 2/20/2018       2:23:00PM         Analyst: EWW       Prep Initial Wt./Vol.: 6 mL       Prep Initial Wt./Vol.: 6 mL	Ammonia-N       0.0500U       0.100       0.0310       mg/L         Match Information       Prep Batch: WXX12209       Maintering       Prep Method: METHOD         Analytical Batch: WDA4199       Prep Method: METHOD       Prep Date/Time: 2/20/2018       2:23:00PM         Instrument: Discrete Analyzer 2       Prep Initial Wt./Vol.: 6 mL       Prep Initial Wt./Vol.: 6 mL				Linite
Analytical Method:SM21 4500-NH3 GPrep Method:METHODInstrument:Discrete Analyzer 2Prep Date/Time:2/20/20182:23:00PMAnalyst:EWWPrep Initial Wt./Vol.:6 mL	Analytical Batch: WDA4199Prep Batch: WXX12209Analytical Method: SM21 4500-NH3 GPrep Method: METHODInstrument: Discrete Analyzer 2Prep Date/Time: 2/20/2018 2:23:00PMAnalyst: EWWPrep Initial Wt./Vol.: 6 mL			0.0310	
		PM	Prep Me Prep Da Prep Init	ethod: METHOD te/Time: 2/20/20 ial Wt./Vol.: 6 ml	
			PM	Prep Da Prep Init	Prep Date/Time: 2/20/20 Prep Initial Wt./Vol.: 6 ml

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



Blank	Spike	Summary
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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

		Blank Spike	e (mg/L)	9	Spike Duplic	cate (mg/L)			
Parameter	Spike	Result	Rec (%)	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Ammonia-N	1	1.04	104	1	0.944	94	(75-125)	9.30	(< 25)
Batch Information				Dro	Dotob: M	IXX40000			
Analytical Batch: WDA4199 Analytical Method: SM21 450	00-NH3 G				o Batch: W o Method:				
Instrument: Discrete Analyze						e: 02/20/201	8 14:23		
Analyst: EWW						0	Extract Vol:		
				Dup	e Init Wt./V	'ol.: 1 ma/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

		Ma	trix Spike (	mg/L)	Spike	e Duplicate	e (mg/L)			
Parameter	Sample	Spike	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
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					o Method:		) i by SM21 4 018 2:23:0		(W)	

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

lank ID: MB for HBN 17 lank Lab ID: 1435027	76790 [WXX/12211]	Matrix	k: Water (Surfa	ce, Eff., Ground)	
C for Samples: 180676001, 1180676002,	1180676003, 1180676004				
Results by SM21 4500-N	D –				
Parameter	Results	LOQ/CL	<u>DL</u>	<u>Units</u>	
otal Kjeldahl Nitrogen	0.500U	1.00	0.310	mg/L	
atch Information					
Analytical Batch: WDA4			tch: WXX12211		
Analytical Method: SM2 Instrument: Discrete Ana			ethod: METHOD te/Time: 2/20/20		
Analyst: DMM			tial Wt./Vol.: 25		
An al the all Date /The avenue	21/2018 1:30:44PM	Drop Ev	tract 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

		Blank Spike	(mg/L)	5	Spike Duplic	ate (mg/L)			
Parameter	<u>Spike</u>	Result	<u>Rec (%)</u>	<u>Spike</u>	Result	<u>Rec (%)</u>	CL	<u>RPD (%)</u>	RPD CL
Total Kjeldahl Nitrogen	4	3.68	92	4	3.71	93	(75-125)	1.00	(< 25)
Batch Information									
Batch Information Analytical Batch: WDA4200				Pre	p Batch: W	XX12211			
	N D				o Batch: W				
Analytical Batch: WDA4200				Pre	o Method:		8 18:40		
Analytical Batch: WDA4200 Analytical Method: SM21 4500-N				Pre Pre	o Method: o Date/Time	METHOD e: 02/20/201	8 18:40 Extract Vol:	25 mL	

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



Instrument: Discrete Analyzer 2

Analytical Date/Time: 2/21/2018 1:39:33PM

Analyst: DMM

#### Matrix Spike Summary Original Sample ID: 1180676004 Analysis Date: 02/21/2018 13:38 MS Sample ID: 1435030 MS Analysis Date: 02/21/2018 13:39 MSD Sample ID: 1435031 MSD Analysis Date: 02/21/2018 13:40 Matrix: Water (Surface, Eff., Ground) 1180676001, 1180676002, 1180676003, 1180676004 QC for Samples: Results by SM21 4500-N D Matrix Spike (mg/L) Spike Duplicate (mg/L) Parameter Sample Spike Result Rec (%) <u>Spike</u> Result <u>Rec (%)</u> <u>CL</u> RPD (%) RPD CL Total Kjeldahl Nitrogen 0.784J 75-125 4.00 4.49 93 4.00 4.62 96 2.90 (< 25) **Batch Information** Analytical Batch: WDA4200 Prep Batch: WXX12211 Analytical Method: SM21 4500-N D 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

ank ID: MB for HBN 177 ank Lab ID: 1435037 C for Samples: 80676001, 1180676002, <sup>2</sup>	76792 [WXX/12212] 1180676003, 1180676004	Matrix	e, Eff., Ground)		
esults by SM21 4500P-E	3,E				
Parameter Total Phosphorus	<u>Results</u> 0.0100U	<u>LOQ/CL</u> 0.0200	<u>DL</u> 0.00500	<u>Units</u> mg/L	
atch Information					
Analytical Batch: WDA42 Analytical Method: SM22 Instrument: Discrete Ana Analyst: DMM Analytical Date/Time: 2/2	1 4500P-B,E alyzer 2	Prep Me Prep Da Prep Init	tch: WXX12212 ethod: SM21 4500 te/Time: 2/21/20 tial Wt./Vol.: 25 m tract Vol: 25 mL	18 10:06:00AM	

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									
		Blank Spike	e (mg/L)	5	Spike Duplic	cate (mg/L)			
Parameter	<u>Spike</u>	Result	Rec (%)	Spike	Result	<u>Rec (%)</u>	<u>CL</u>	<u>RPD (%)</u>	RPD CL
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 450	0P-B,E er 2			Pre		/XX12212 SM21 4500F e: 02/21/201	,		

Print Date: 02/26/2018 4:26:08PM



Analyst: DMM

Analytical Date/Time: 2/21/2018 2:37:15PM

#### Matrix Spike Summary Original Sample ID: 1180676002 Analysis Date: 02/21/2018 14:36 MS Sample ID: 1435040 MS Analysis Date: 02/21/2018 14:37 MSD Sample ID: 1435041 MSD Analysis Date: 02/21/2018 14:38 Matrix: Water (Surface, Eff., Ground) 1180676001, 1180676002, 1180676003, 1180676004 QC for Samples: Results by SM21 4500P-B,E Matrix Spike (mg/L) Spike Duplicate (mg/L) Parameter Sample Spike Result Rec (%) <u>Spike</u> Result <u>Rec (%)</u> RPD (%) RPD CL CL **Total Phosphorus** 0.279 0.200 .416 69 0.200 0.412 66 75-125 0.99 (< 25) **Batch Information** Analytical Batch: WDA4201 Prep Batch: WXX12212 Analytical Method: SM21 4500P-B,E Prep Method: Total Phosphorus (W) Ext. Instrument: Discrete Analyzer 2 Prep Date/Time: 2/21/2018 10:06:00AM

Prep Initial Wt./Vol.: 25.00mL

Prep Extract Vol: 25.00mL

Print Date: 02/26/2018 4:26:09PM

SGS North America Inc.

Member of SGS Group





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Locations Nationwide Alaska Maryland New Jersey New York North Carolina Indiana

West Virgina Kentucky www.us.sgs.com

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-	Jake 1 CONTACT:	Alward / PHO John Marshall	DNE NO: 34	3-5207	2	Sec	tion 3					Preser	vative					
		PWS				# C		l (	1	4025H	40541	HOSCH	Naz Sir	Nav Shy				
ő	REPORTS TO	D: E-M	AIL:			0	Туре	- -		<u> </u>				_<				
	INVOICE TO:		Ohn. Mare DTE #:	shall@st	rantec.com	N T A	C = COMP G =					phane		1	上も			
		P.0	#: 20470	0415		I N	GRAB MI = Multi				<u>ام</u>	NCS		ONG	$\bigvee$			
	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/ MATRIX CODE	E R S	incre- mental Soils	008	755	NY L	Ammanix	Total Phosopharus	FC	TC [ WUMH	Nitrate //itite			REMARKS/ LOC ID
	DA-F	SWS	02/16/18	1130		Ь	G	1	1	Ň	,	1	``	1	1			LOOID
	DA-F NEW	SW 15	04/16/18			6-	Ġ-											
	3ª OAF	SW M	02/16/18	1234		6	G	\	1	١	۲	1	(	1	1			
Б	(3)A-F	SW 18	02/16/18	1324		6	G	1	١	١	1	X	L.	١	N			
Sect	- F 3 - F 9 - F	DUPI	02/16/18	1324		6	Ġ	<u> </u>	۲	١	l	۱	١	١	(			
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┢	Relinguishe	в Ву: (1)	Date	Time	Received By	:				Sect	ion 4	DOD	Projec	t? Yes	s No	Dat	a Delive	erable Requirements:
	top		2/16/18	15:18	Sector of the sector				$\geq$	Cool	er ID:							
	Relinquished	I By: (2)	Date	Time	Received By	:					sted Tu	rnarou	nd Tim	e and/c	or Spec	ial Inst	ruction	s:
S no	1																	
Section 5	Relinquished	i By: (3)	Date	Time	Received By	:												
l <sup>oo</sup>										Temp	Blank °(	C: 🕴	D	11		Ch	ain of C	ustody Seal: (Circle)
	Relinquished	d By: (4)	Date	Time	Received Fe	Labor	atory By:						pient [			INT	ACT	
			2/16/18	1518	1m	/ N	5W			(See	attache	ed Sam	ple Re	ceipt F	orm)	(See a	ttached	Sample Receipt Form)

[ ] 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



e-Sample Receipt Form

Workorder #:	
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Review Criteria	Condition (Yes	, No, N/A		Exceptio	ns Note	ed below	
Chain of Custody / Temperature Requi	rements	y	es Exemp	-		er hand carries	s/delivers.
Were Custody Seals intact? Note # &							
COC accompanied sa	amples? yes						
n/a **Exemption permitted if			irs ago, or	for samples v	vhere chil	ling is not requ	lired
	yes	Cooler ID:		1	@	1.1 °C Therr	n. ID: <b>D41</b>
	n/a	Cooler ID:			@	°C Therr	n. ID:
Temperature blank compliant* (i.e., 0-6 °C afte	er CF)? n/a	Cooler ID:			@	°C Therr	n. ID:
	n/a	Cooler ID:			@	°C Therr	n. ID:
	n/a	Cooler ID:			@	°C Therr	n. ID:
*If >6°C, were samples collected <8 hours	ago? n/a						
If <0°C, were sample containers ice	e free? n/a						
If samples received <u>without</u> a temperature blank, the							
temperature" will be documented in lieu of the temperature b "COOLER TEMP" will be noted to the right. In cases where ne							
temp blank nor cooler temp can be obtained, note "ambi							
"с	chilled".						
Note: Identify containers received at non-compliant temper	rature.						
Use form FS-0029 if more space is n							
Holding Time / Documentation / Sample Condition Re	equirements	Note: Refe	r to form F	-083 "Sample	Guide" f	or specific hold	ling times.
Were samples received within holding	g time? yes						
Do samples match COC** (i.e.,sample IDs,dates/times colle	ected)? yes						
**Note: If times differ <1hr, record details & login per	r COC.						
Were analyses requested unambiguous? (i.e., method is speci							
analyses with >1 option for an	nalysis)						
		n	/a ***Exer	mption permit	ted for m	etals (e.g,200.	<u>8/6020A).</u>
Were proper containers (type/mass/volume/preservative***	)used? yes						
Volatile / LL-Hg Reg							
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with sar							
Were all water VOA vials free of headspace (i.e., bubbles $\leq$	6mm)? n/a	1					
Were all soil VOAs field extracted with MeOH	+BFB? n/a						
Note to Client: Any "No", answer above indicates not	n-compliance	with standa	rd procedu	res and may	impact da	ta quality.	
Additiona	al notes (if a	applicable)	):				
	· · · ·						



### **Sample Containers and Preservatives**

<u>Container Id</u>	<u>Preservative</u>	<u>Container</u> Condition	<u>Container Id</u>	<u>Preservative</u>	<u>Container</u> Condition
1180676001-A	Na2S2O3 for Chlorine Redu	ОК			
1180676001-B	Na2S2O3 for Chlorine Redu	ОК			
1180676001-C	No Preservative Required	ОК			
1180676001-D	No Preservative Required	ОК			
1180676001-E	H2SO4 to pH < 2	ОК			
1180676001-F	No Preservative Required	ОК			
1180676002-A	Na2S2O3 for Chlorine Redu	ОК			
1180676002-B	Na2S2O3 for Chlorine Redu	ОК			
1180676002-C	No Preservative Required	ОК			
1180676002-D	No Preservative Required	ОК			
1180676002-E	H2SO4 to pH < 2	ОК			
1180676002-F	No Preservative Required	ОК			
1180676003-A	Na2S2O3 for Chlorine Redu	ОК			
1180676003-B	Na2S2O3 for Chlorine Redu	ОК			
1180676003-C	No Preservative Required	ОК			
1180676003-D	No Preservative Required	ОК			
1180676003-E	H2SO4 to pH < 2	ОК			
1180676003-F	No Preservative Required	ОК			
1180676004-A	Na2S2O3 for Chlorine Redu	ОК			
1180676004-B	Na2S2O3 for Chlorine Redu	ОК			
1180676004-C	No Preservative Required	ОК			
1180676004-D	No Preservative Required	ОК			
1180676004-E	H2SO4 to pH < 2	ОК			
1180676004-F	No Preservative Required	ОК			

### 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 let # of the preservative added