



1106 Vernon Road, · Suite A, Lake Stevens, WA 98258

(425) 334-8588 · Fax (425) 335-5947
Web Address: lkstevenssewer.org

Water Quality Permit Coordinator
Northwest Regional Office
Washington State Department of Ecology
3190 160th Avenue SE
Bellevue, WA 98008-5452

Regarding: Whether a general permit is the appropriate tool to control and reduce nutrients in discharges from WWTP's to Puget Sound.

Dear Ecology:

The answer to the above question is no, a general permit is not the appropriate tool to control and reduce nutrients in discharges from WWTP's to Puget Sound. A general permit would not take into account a WWTP's receiving water, present or future capacity to remove nutrients, or the ability of its ratepayers to bear the burden of cost. This last point is perhaps the most poignant: a blanket general permit such as this would adversely affect the poorest and most vulnerable members of our population, as those communities would be held to the same standard as wealthier ones, without consideration of how the ratepayers would cover the cost. Wealthy communities will have an easier time either buying their way out of these limits or purchasing, installing and maintaining the technology needed to achieve nutrient reductions.

The Lake Stevens Sewer District believes it would be more important to invest in efforts to quantify non-point source, agricultural, and Victorian inputs of nutrients into Puget Sound before requiring the expenditure of billions of dollars. While WWTP's may appear to be low hanging fruit, that fruit is small and withered compared to other yet-to-be quantified inputs of nutrient sources to Puget Sound. If this must happen immediately, we ask that a means of funding be included in order to protect those ratepayers in the most vulnerable portions of society.

Because the receiving waters of the Lake Stevens Sewer District have not been sampled in a long time, and this comment period encouraged submitting data about receiving waters, LSSD sampled Ebey Slough upstream and downstream of its outfall. Sampling was conducted 150' north and south of the outfall via grab sample from a boat. Because Ebey Slough is a marine estuary with flow direction dependent on the tide, sampling occurred while the tide was coming in (flowing north) and when the tide was flowing out (flowing south). The mixing zone for this outfall is 215' in length, and sampling was conducted outside of this zone. During the first sampling, the downstream sample was 0.01 mg/L lower in Total Inorganic Nitrogen (TIN) than the upstream sample. When the tides changed, again the downstream sample was 0.01 mg/L lower than the upstream sample. Supplemental information for this sampling event is included in the following pages.

We are dedicated to protecting and enhancing water resources in Puget Sound, and are hoping for a collaborative approach that gets most impact per dollar spent.

Thank you for your consideration,
Caitlin Hubbard, Lake Stevens Sewer District

Ebey Slough Sampling

Background/Introduction

The WA State Department of Ecology has opened a comment period from August 21, 2019 – October 21, 2019 to answer the following question:

“Whether a general permit is the appropriate tool to control and reduce nutrients in discharges from domestic wastewater treatment plants (WWTPs) to Puget Sound. This public comment period is also an opportunity to provide us other relevant information about WWTPs and Puget Sound water quality. For example, you may submit any documented information on the characteristics of the discharge (individually or categorically) including effluent quantity, quality, and any receiving water impacts.”

The suggested Total Inorganic Nitrogen (TIN) limit for all Western Washington WWTP's is 8 mg/L. The average TIN for LSSD's final effluent in 2019 through September is 17 mg/L. The LSSD WWTP has an average ammonia load of 34 mg/L, which is a portion of TIN loading but has no official data with respect to TIN inputs. The LSSD WWTP is a Membrane Bioreactor plant with the ability to nitrify and do some denitrifying. At the time the above question was asked, the Lake Stevens Sewer District (LSSD) did not have data on hand with respect to receiving water quality, so a sampling event of its receiving water (Ebey Slough) was conducted on September 4, 2019.

Materials and Methods

Because Ebey Slough is a tidal marine estuary, water flows north when the tide is going in and south when the tide is going out. Two sampling trips were made via boat to sample upstream and downstream of the LSSD WWTP outfall; one trip when the tide was on its way in and one when the tide was on its way out. The LSSD Mixing Zone is 215 feet long, and samples were gathered outside of this zone, at approximately 150' north and south of the outfall. Samples were gathered via grab sample from the side of the boat, were preserved with 0.5 mL of H₂SO₄, and transported to Edge Analytical for analysis within the required time period.

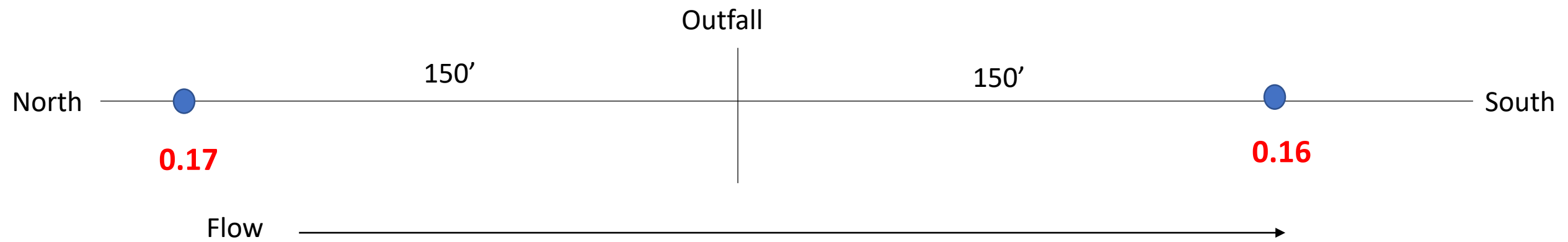
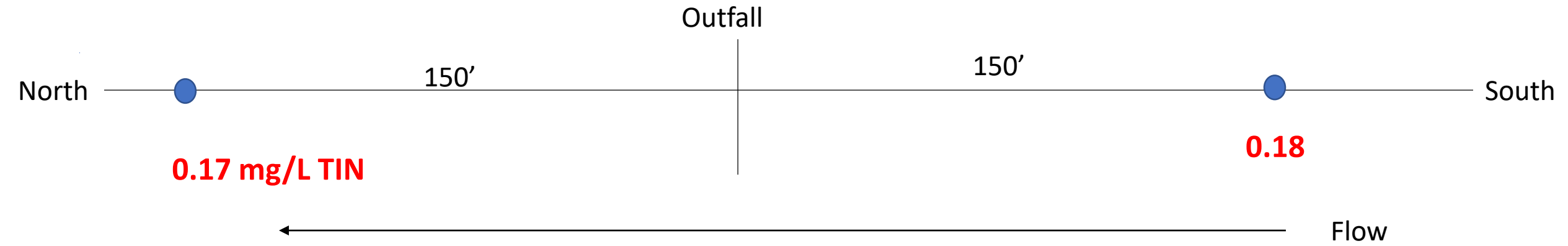
Results

| Time | Upstream TIN mg/L | Downstream TIN mg/L |
|---------------|-------------------|---------------------|
| Sept. 4, 2019 | | |
| 8:18 AM | 0.18 | 0.17 |
| | | |
| 12:25 PM | 0.17 | 0.16 |

Discussion/Analysis

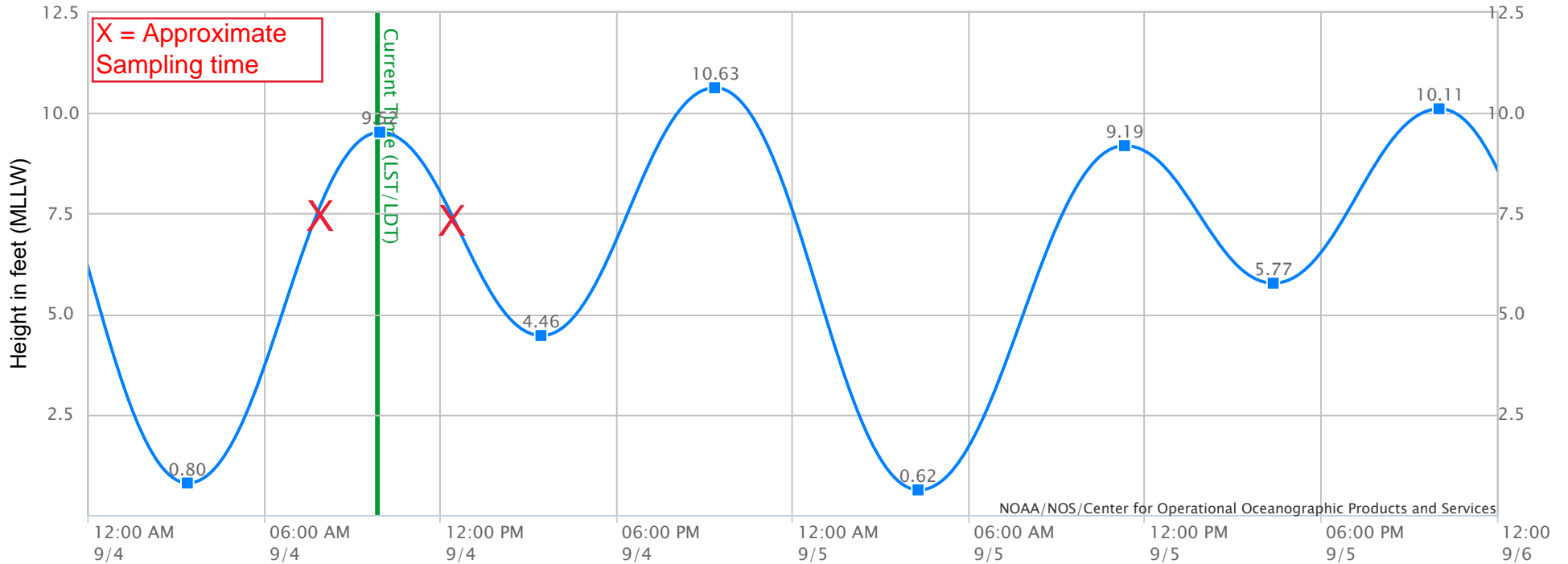
On any given day LSSD discharges roughly 2-2.5 MGD of water that has a TIN concentration of approximately 17 mg/L. It is fascinating to see that downstream measurements of TIN are less than upstream measurements in both cases. The average TIN of the four samples taken is 0.17 mg/L, 100 times less than LSSD's final effluent.

Waters of Ebey Slough flow north to the Qwuloolt Estuary, a project with goals of restoration of natural hydrologic processes and aims of sustaining salmon and wildlife. There may be some nutrient uptake by wetland plants in this area, and that could theoretically account for the waters flowing out having lower TIN than waters flowing in. In order to ensure scientific validity, an opportunity to repeat this experiment several times would be necessary.





NOAA/NOS/CO-OPS
Tide Predictions at 9447659, EVERETT WA
 From 2019/09/04 12:00 AM LST/LDT to 2019/09/05 11:59 PM LST/LDT



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
 Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

Station Name: EVERETT, WA
 Action: Daily
 Product: Tide Predictions
 Start Date & Time: 2019/9/4 12:00 AM
 End Date & Time: 2019/9/5 11:59 PM

Source: NOAA/NOS/CO-OPS
 Prediction Type: Harmonic
 Datum: MLLW
 Height Units: Feet
 Time Zone: LST/LDT

| Date | Day | Time | Hgt | Time | Hgt | Time | Hgt | Time | Hgt |
|------|-----|------|-----|------|-----|------|-----|------|-----|
|------|-----|------|-----|------|-----|------|-----|------|-----|



Burlington, WA *Corporate Laboratory (a)*
1620 S Walnut St - Burlington, WA 98233 - 800.755.9295 • 360.757.1400
Bellingham, WA *Microbiology (b)*
805 Orchard Dr Ste 4 - Bellingham, WA 98225 - 360.715.1212

Portland, OR *Microbiology/Chemistry (c)*
9150 SW Pioneer Ct Ste W - Wilsonville, OR 97070 - 503.682.7802
Corvallis, OR *Microbiology/Chemistry (d)*
1100 NE Circle Blvd, Ste 130 - Corvallis, OR 97330 - 541.753.4946
Bend, OR *Microbiology (e)*
20332 Empire Blvd Ste 4 - Bend, OR 97701 - 541.639.8425

October 9, 2019

Page 1 of 1

Caitlin Hubbard
Lake Stevens Sewer District
1106 Vernon Rd
Lake Stevens, WA 98258

RE: 19-35418 - Receiving Water Sampling

Dear Caitlin Hubbard,

Your project: Receiving Water Sampling, was received on Friday September 13, 2019.

All samples were analyzed within the accepted holding times and were appropriately preserved and analyzed according to approved analytical protocols, unless noted in the data or QC reports. The quality control data was within laboratory acceptance limits, unless specified in the data or QC reports.

If you have questions phone us at 800 755-9295.

Respectfully

A handwritten signature in blue ink that reads "Pat Miller". The signature is fluid and cursive, with a long horizontal stroke at the end.

Patrick Miller, MS
QA Officer

Enclosures: Data Report
QC Reports
Chain of Custody



| | | | | |
|----------------|----------------------------|--------------------------|-----------------------|-----------------------------|
| Burlington, WA | Corporate Laboratory (a) | 1620 S Walnut St | Burlington, WA 98233 | 800.755.9295 • 360.757.1400 |
| Bellingham, WA | Microbiology (b) | 805 Orchard Dr Ste 4 | Bellingham, WA 98225 | 360.715.1212 |
| Portland, OR | Microbiology/Chemistry (c) | 9150 SW Pioneer Ct Ste W | Wilsonville, OR 97070 | 503.682.7802 |
| Corvallis, OR | Microbiology (d) | 540 SW Third Street | Corvallis, OR 97333 | 541.753.4946 |

October 9, 2019

Page 1 of 1

Case Narrative

Reference: **19-35418**

| Lab Sample ID | Sample Information | |
|-------------------|---|------------|
| 68563 | EBS-N1 - Ebey Slough | |
| Analytical Method | Notes | Created by |
| 351.2 | TKN: Analyst ran out of boiling stones and used boiling rods instead. Contamination expected, samples have been blank corrected. If you need a value that has not been blank corrected please contact Edge. BSP 9/26/19 | BSP |



Burlington, WA Corporate Laboratory (a)
1620 S Walnut St - Burlington, WA 98233 - 800.755.9295 • 360.757.1400
Bellingham, WA Microbiology (b)
805 Orchard Dr Ste 4 - Bellingham, WA 98225 - 360.715.1212

Portland, OR Microbiology/Chemistry (c)
9150 SW Pioneer Ct Ste W - Wilsonville, OR 97070 - 503.682.7802
Corvallis, OR Microbiology/Chemistry (d)
1100 NE Circle Blvd, Ste 130 - Corvallis, OR 97330 - 541.753.4946
Bend, OR Microbiology (e)
20332 Empire Blvd Ste 4 - Bend, OR 97701 - 541.639.8425

Data Report

Client Name: Lake Stevens Sewer District
1106 Vernon Rd
Lake Stevens, WA 98258


Reference Number: **19-35418**
Project: Receiving Water Sampling

Report Date: 10/9/19

Date Received: 9/13/19

Approved by: bj

Authorized by:


Patrick Miller, MS
QA Officer

| Sample Description: EBS-N1 Ebey Slough | | | | | | | | Matrix W | Sample Date: 9/4/19 8:18 am | | | |
|--|--------------------------|-----------------|-------|--------|-------|-----|--------------|-------------------------------|-----------------------------|---------|---------------|---------|
| Lab Number: 68563 | | Sample Comment: | | | | | | Collected By: Caitlin Hubbard | | | | |
| CAS ID# | Parameter | Result | PQL | MDL | Units | DF | Method | Lab | Analyzed | Analyst | Batch | Comment |
| NA | TOTAL NITROGEN | 0.41 | 1.0 | | mg/L | 1.0 | <SUM> | a | 9/30/19 | BSP | TN_190930 | |
| 7664-41-7 | AMMONIA | 0.05 | 0.01 | 0.007 | mg/L | 1.0 | 350.1 | a | 10/7/19 | BSP | 350.1_191007 | |
| E-10264 | TOTAL KJELDAHL NITROGEN | 0.29 BC | 0.20 | 0.0047 | mg/L | 1.0 | 351.2 | a | 9/25/19 | BSP | 351.2_190925 | |
| NA | TOTAL INORGANIC NITROGEN | 0.17 | 0.01 | | mg/L | 1.0 | EDGE_TIN | a | 10/9/19 | BSP | TIN_191009 | |
| E-10128 | TOTAL NITRATE/NITRITE | 0.12 | 0.010 | 0.004 | mg/L | 1.0 | SM4500-NO3 F | a | 9/19/19 | BSP | NO3NO2_190919 | |

| Sample Description: EBS-S1 Ebey Slough | | | | | | | | Matrix W | Sample Date: 9/4/19 8:18 am | | | |
|--|--------------------------|-----------------|-------|--------|-------|-----|--------------|-------------------------------|-----------------------------|---------|---------------|---------|
| Lab Number: 68564 | | Sample Comment: | | | | | | Collected By: Caitlin Hubbard | | | | |
| CAS ID# | Parameter | Result | PQL | MDL | Units | DF | Method | Lab | Analyzed | Analyst | Batch | Comment |
| NA | TOTAL NITROGEN | 0.35 | 1.0 | | mg/L | 1.0 | <SUM> | a | 9/30/19 | BSP | TN_190930 | |
| 7664-41-7 | AMMONIA | 0.05 | 0.01 | 0.007 | mg/L | 1.0 | 350.1 | a | 10/7/19 | BSP | 350.1_191007 | |
| E-10264 | TOTAL KJELDAHL NITROGEN | 0.22 BC | 0.20 | 0.0047 | mg/L | 1.0 | 351.2 | a | 9/25/19 | BSP | 351.2_190925 | |
| NA | TOTAL INORGANIC NITROGEN | 0.18 | 0.01 | | mg/L | 1.0 | EDGE_TIN | a | 10/9/19 | BSP | TIN_191009 | |
| E-10128 | TOTAL NITRATE/NITRITE | 0.13 | 0.010 | 0.004 | mg/L | 1.0 | SM4500-NO3 F | a | 9/19/19 | BSP | NO3NO2_190919 | |

| Sample Description: EBS-N2 Ebey Slough | | | | | | | | Matrix W | Sample Date: 9/4/19 12:25 pm | | | |
|--|--------------------------|-----------------|-------|--------|-------|-----|--------------|-------------------------------|------------------------------|---------|---------------|---------|
| Lab Number: 68565 | | Sample Comment: | | | | | | Collected By: Caitlin Hubbard | | | | |
| CAS ID# | Parameter | Result | PQL | MDL | Units | DF | Method | Lab | Analyzed | Analyst | Batch | Comment |
| NA | TOTAL NITROGEN | 0.52 | 1.0 | | mg/L | 1.0 | <SUM> | a | 9/30/19 | BSP | TN_190930 | |
| 7664-41-7 | AMMONIA | 0.04 | 0.01 | 0.007 | mg/L | 1.0 | 350.1 | a | 10/7/19 | BSP | 350.1_191007 | |
| E-10264 | TOTAL KJELDAHL NITROGEN | 0.39 BC | 0.20 | 0.0047 | mg/L | 1.0 | 351.2 | a | 9/25/19 | BSP | 351.2_190925 | |
| NA | TOTAL INORGANIC NITROGEN | 0.17 | 0.01 | | mg/L | 1.0 | EDGE_TIN | a | 10/9/19 | BSP | TIN_191009 | |
| E-10128 | TOTAL NITRATE/NITRITE | 0.13 | 0.010 | 0.004 | mg/L | 1.0 | SM4500-NO3 F | a | 9/19/19 | BSP | NO3NO2_190919 | |

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
D.F. - Dilution Factor

If you have any questions concerning this report contact us at the above phone number.

Data Report

| Sample Description: EBS-S2 Ebey Slough | | | | | | | | Matrix W | Sample Date: 9/4/19 12:25 pm | | | |
|--|-----------|--------|-----|-----------------|-------|----|--------|-------------------------------|------------------------------|---------|-------|---------|
| Lab Number: 68566 | | | | Sample Comment: | | | | Collected By: Caitlin Hubbard | | | | |
| CAS ID# | Parameter | Result | PQL | MDL | Units | DF | Method | Lab | Analyzed | Analyst | Batch | Comment |

| | | | | | | | | | | | | |
|-----------|---------------------------------|-------|-------|--------|------|-----|--------------|---|---------|-----|---------------|--|
| NA | TOTAL NITROGEN | 0.12 | 1.0 | | mg/L | 1.0 | <SUM> | a | 9/30/19 | BSP | TN_190930 | |
| 7664-41-7 | AMMONIA | 0.04 | 0.01 | 0.007 | mg/L | 1.0 | 350.1 | a | 10/7/19 | BSP | 350.1_191007 | |
| E-10264 | TOTAL KJELDAHL NITROGEN | ND BC | 0.20 | 0.0047 | mg/L | 1.0 | 351.2 | a | 9/25/19 | BSP | 351.2_190925 | |
| NA | TOTAL INORGANIC NITROGEN | 0.16 | 0.01 | | mg/L | 1.0 | EDGE_TIN | a | 10/9/19 | BSP | TIN_191009 | |
| E-10128 | TOTAL NITRATE/NITRITE | 0.12 | 0.010 | 0.004 | mg/L | 1.0 | SM4500-NO3 F | a | 9/19/19 | BSP | NO3NO2_190919 | |

Notes:

ND = Not detected above the listed practical quantitation limit (PQL) or not above the Method Detection Limit (MDL), if requested.
 PQL = Practical Quantitation Limit is the lowest level that can be achieved within specified limits of precision and accuracy during routine laboratory operating conditions.
 D.F. - Dilution Factor



**SAMPLE INDEPENDENT
QUALITY CONTROL REPORT**

Calibration Check

Reference Number: **19-35418**

Report Date: 10/09/19

| Batch | Analyte | Result | True Value | Units | Method | % Recovery | Limits* | QC Qualifier | QC Type | Comment |
|---------------|---------------------------|--------|------------|-------|--------------|------------|---------|--------------|---------|---------|
| 350.1_191007 | 0 AMMONIA | 2.54 | 2.50 | mg/L | 350.1 | 102 | 90-110 | CAL | | |
| 351.2_190925 | 0 TOTAL KJELDAHL NITROGEN | 2.43 | 2.50 | mg/L | 351.2 | 97 | 90-110 | CAL | | |
| NO3NO2_190915 | 0 TOTAL NITRATE/NITRITE | 2.48 | 2.50 | mg/L | SM4500-NO3 F | 99 | 90-110 | CAL | | |

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.



**SAMPLE INDEPENDENT
QUALITY CONTROL REPORT**

Laboratory Fortified Blank

Reference Number: **19-35418**

Report Date: 10/09/19

| Batch | Analyte | Result | True Value | Units | Method | % Recovery | Limits* | QC Qualifier | QC Type | Comment |
|--------------|---------------------------|--------|------------|-------|--------|------------|---------|--------------|---------|---------|
| 351.2_190925 | 0 TOTAL KJELDAHL NITROGEN | 2.10 | 2.00 | mg/L | 351.2 | 105 | 90-110 | LFB | | |

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.



**SAMPLE INDEPENDENT
QUALITY CONTROL REPORT**

Laboratory Reagent Blank

Reference Number: **19-35418**

Report Date: 10/09/19

| Batch | Analyte | Result | True Value | Units | Method | % Recovery | Limits* | QC Qualifier Type | QC Comment |
|--------------|---------------------------|--------|------------|-------|--------|------------|---------|-------------------|------------|
| 350.1_191007 | 0 AMMONIA | ND | | mg/L | 350.1 | | 0-0 | LRB | |
| 351.2_190925 | 0 TOTAL KJELDAHL NITROGEN | ND | | mg/L | 351.2 | | 0-0 | LRB | |

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.



**SAMPLE INDEPENDENT
QUALITY CONTROL REPORT**

Method Blank

Reference Number: **19-35418**

Report Date: 10/09/19

| Batch | Analyte | Result | True Value | Units | Method | % Recovery | Limits* | QC Qualifier | QC Type | Comment |
|---------------|---------------------------|--------|------------|-------|--------------|------------|---------|--------------|---------|---------|
| 350.1_191007 | 0 AMMONIA | ND | | mg/L | 350.1 | | 0-0 | | MB | |
| 351.2_190925 | 0 TOTAL KJELDAHL NITROGEN | ND | | mg/L | 351.2 | | 0-0 | | MB | |
| NO3NO2_190915 | 0 TOTAL NITRATE/NITRITE | ND | | mg/L | SM4500-NO3 F | | 0-0 | | MB | |

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.



**SAMPLE INDEPENDENT
QUALITY CONTROL REPORT**

Quality Control Sample

Reference Number: **19-35418**

Report Date: 10/09/19

| Batch | Analyte | Result | True Value | Units | Method | % Recovery | Limits* | QC Qualifier | QC Type | Comment |
|---------------|---------------------------|--------|------------|-------|--------------|------------|---------|--------------|---------|---------|
| 350.1_191007 | 0 AMMONIA | 4.15 | 4.00 | mg/L | 350.1 | 104 | 85-115 | | QCS | |
| 351.2_190925 | 0 TOTAL KJELDAHL NITROGEN | 2.67 | 2.78 | mg/L | 351.2 | 96 | 85-115 | | QCS | |
| NO3NO2_190915 | 0 TOTAL NITRATE/NITRITE | 1.00 | 1.00 | mg/L | SM4500-NO3 F | 100 | 90-110 | | QCS | |

*Notation:

% Recovery = (Result of Analysis)/(True Value) * 100

NA = Indicates % Recovery could not be calculated.

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.



**SAMPLE DEPENDENT
 QUALITY CONTROL REPORT**
 Duplicate, Matrix Spike/Matrix Spike Duplicate and Confirmation Result Report

| Batch | Sample | Analyte | Result | Duplicate | | Units | %RPD | Limits | QC | | Comments |
|----------------------|--------|-------------------------|--------|-----------|--|-------|-------------|--------|-----------|------|----------|
| | | | | Result | | | | | Qualifier | Type | |
| Duplicate | | | | | | | | | | | |
| 350.1_191007 | | | | | | | | | | | |
| | 70315 | AMMONIA | 1.20 | 1.19 | | mg/L | 0.8 | 0-20 | | | DUP |
| | 70782 | AMMONIA | 0.16 | 0.16 | | mg/L | 0.0 | 0-20 | | | DUP |
| | 71279 | AMMONIA | 0.52 | 0.52 | | mg/L | 0.0 | 0-20 | | | DUP |
| 351.2_190925 | | | | | | | | | | | |
| | 67942 | TOTAL KJELDAHL NITROGEN | 0.53 | 0.84 | | mg/L | 45.3 | 0-20 | | | DUP |
| | 68596 | TOTAL KJELDAHL NITROGEN | ND | ND | | mg/L | NA | 0-20 | | | DUP |
| NO3NO2_190919 | | | | | | | | | | | |
| | 66596 | TOTAL NITRATE/NITRITE | 0.26 | 0.26 | | mg/L | 0.0 | 0-20 | | | DUP |
| | 66604 | TOTAL NITRATE/NITRITE | 0.27 | 0.27 | | mg/L | 0.0 | 0-20 | | | DUP |
| | 67943 | TOTAL NITRATE/NITRITE | 1.03 | 1.02 | | mg/L | 1.0 | 0-20 | | | DUP |
| | 68599 | TOTAL NITRATE/NITRITE | 0.15 | 0.16 | | mg/L | 6.5 | 0-20 | | | DUP |

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of an analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

FORM: QC Dependent.rpt

| Batch | Sample | Analyte | Result | Duplicate | | Spike Conc | Units | Percent Recovery | | Limits* | %RPD | Limits* | QC Qualifier | Type | Comments |
|---|--------|-------------------------|--------|--------------|--------------|------------|-------|------------------|-----|---------|------|---------|--------------|------|----------|
| | | | | Spike Result | Spike Result | | | MS | MSD | | | | | | |
| Laboratory Fortified Matrix (MS) | | | | | | | | | | | | | | | |
| 350.1_191007 | | | | | | | | | | | | | | | |
| | 70315 | AMMONIA | 1.20 | 2.16 | 2.18 | 1.00 | mg/L | 96 | 98 | 70-130 | 2.1 | 0-20 | | LFM | |
| | 70782 | AMMONIA | 0.16 | 1.15 | 1.15 | 1.00 | mg/L | 99 | 99 | 70-130 | 0.0 | 0-20 | | LFM | |
| | 71279 | AMMONIA | 0.52 | 1.55 | 1.56 | 1.00 | mg/L | 103 | 104 | 70-130 | 1.0 | 0-20 | | LFM | |
| 351.2_190925 | | | | | | | | | | | | | | | |
| | 67942 | TOTAL KJELDAHL NITROGEN | 0.53 | 2.23 | | 2.00 | mg/L | 85 | | 70-130 | NA | 0-20 | | LFM | |
| | 68596 | TOTAL KJELDAHL NITROGEN | ND | 2.41 | | 2.00 | mg/L | 121 | | 70-130 | NA | 0-20 | | LFM | |
| NO3NO2_190919 | | | | | | | | | | | | | | | |
| | 66596 | TOTAL NITRATE/NITRITE | 0.26 | 1.31 | 1.29 | 1.00 | mg/L | 105 | 103 | 80-120 | 1.9 | 0-20 | | LFM | |
| | 66604 | TOTAL NITRATE/NITRITE | 0.27 | 1.25 | 1.26 | 1.00 | mg/L | 98 | 99 | 80-120 | 1.0 | 0-20 | | LFM | |
| | 67943 | TOTAL NITRATE/NITRITE | 1.03 | 2.05 | 2.06 | 1.00 | mg/L | 102 | 103 | 80-120 | 1.0 | 0-20 | | LFM | |
| | 68599 | TOTAL NITRATE/NITRITE | 0.15 | 1.18 | 1.18 | 1.00 | mg/L | 103 | 103 | 80-120 | 0.0 | 0-20 | | LFM | |

%RPD = Relative Percent Difference

NA = Indicates %RPD could not be calculated

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) analyses are used to determine the accuracy (MS) and precision (MSD) of an analytical method in a given sample matrix. Therefore, the usefulness of this report is limited to samples of similar matrices analyzed in the same analytical batch.

Only Duplicate sample with detections are listed in this report

Limits are intended for water matrices only. These criteria are for guidance only when reported with soils/solids.

FORM: QC Dependent.rpt

Qualifier Definitions

Reference Number: 19-35418

Report Date: 10/09/19

| Qualifier | Definition |
|-----------|--|
| BC | Indicates that the result was blank corrected. |

Note: Some qualifier definitions found on this page may pertain to results or QC data which are not printed with this report.

Field Notes

| | |
|--|--|
| <p>Date Time</p> <p>4/14/2019</p> | <p>sample event # 1 : 8:18 Am : tide going in</p> <p>sample event # 2 : 12:26 PM : tide going out</p> |
| <p>Weather</p> <p>Field Representative</p> | <p>#1 : Overcast, 60°, Caitlin + Amy</p> <p>#2 : Partly Cloudy, 65°, Caitlin + Ron</p> |
| <p>Location</p> | <p>Approximately 150' upstream + downstream of LSSD outfall into Ebey Slough</p> |
| <p>Description</p> | <p>0700 mobilize equipment to blue Subaru: dead battery. Mob. to Amy's car. Stop at plant for extra sample bottle - bottle unavailable. Arrive at boat 0745, load gear in + set out for LSSD outfall. 0818 gather samples appx 150' North + 150' South of Outfall. Description of waters: lots of debris, partially sunk boats (6 of them). Saw 3 harbor seals. Stopped boat twice because of sticks in the propeller. Made it back to dock at 0915. Head back to office. 1130 mobilize back to dock. Arrive at dock at 12:00 & set out for LSSD outfall. 1225 arrive at sampling location & gather samples at approximately same locations. Place samples in cooler, head back to the dock. Arrive at dock at 1:00 & head back to office.</p> |

CHAIN OF CUSTODY / ANALYSIS REQUEST (PLEASE COMPLETE ALL APPLICABLE SHADED SECTIONS)



| | |
|--|--|
| Report To: <u>Lake Stevens Sewer District</u> | Billing Email: <u>accounts payable@lkstevens</u> |
| Address: <u>1106 Vernon Road Ste A</u> | Bill To: <u>Lake Stevens Sewer District</u> |
| City: <u>Lake Stevens</u> State: <u>WA</u> Zip: <u>98258</u> | Address <u>1106 Vernon Road Ste A</u> |
| Attn: <u>Caitlin Hubbard</u> | City: <u>Lake Stevens</u> State: <u>WA</u> Zip: <u>98258</u> |
| Phone: <u>425-309-4085</u> Fax: | Phone: <u>425-334-8588</u> P.O.#: |
| Report Email: <u>chubbard@lkstevenssewer.org</u> | Card: VISA M/C Expires: |
| Project Name: <u>Receiving Water Sampling</u> | Card#: |

| | |
|--|--|
| FOR LAB USE | |
| REF# | |
| CHECK REGULATORY PROGRAM | |
| <input type="checkbox"/> Safe Drinking Water Act | |
| <input type="checkbox"/> Clean Water Act | |
| <input type="checkbox"/> RCRA / CERCLA | |
| <input type="checkbox"/> Other | |

ANALYTICAL

Main Lab (800-755-9295)
1620 South Walnut St. Burlington, WA 98233

Microbiology (888-725-1212)
805 W. Orchard Dr. Suite 4 Bellingham, WA 98225

Portland Lab (503-682-7802)
9150 SW Pioneer Ct. Suite W Wilsonville, OR 97070

Corvallis Lab (541-753-4946)
540 SW 3rd St. Corvallis, OR 97333

Bend Lab (541-639-8425)
20332 Empire Ave. Suite F4 Bend, OR 97703

- INSTRUCTIONS "PLEASE READ"**
1. Use one line per sample location.
 2. Be specific in test requests.
 3. List each metal individually.
 4. Check off analysis to be performed for each sample location.
 5. Enter number of containers.

Turn Around Time Required

Standard

Half-Time (50% Surcharge)

Quickest (100% Surcharge) Phone Call Req.

Emergency (Phone Call Required)

Analysis Requested

| Sample ID | Location | Sample Matrix (See Below) | Grab or Composite | Date | Time | TOTAL INORGANIC NITROGEN | Analysis Requested | | | | | | | | | | Number Of Containers | Special Instruction/ Conditions on Receipt |
|-----------|----------|---------------------------|-------------------|--------|------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|----------------------|--|
| | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| 1 | EBS-N1 | W | G | 9-4-19 | 0818 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 2 | EBS-S1 | " | " | " | 0818 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 3 | EBS-N2 | " | " | " | 1225 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 4 | EBS-S2 | " | " | " | 1225 | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 5 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 6 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 7 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 8 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 9 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |
| 10 | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | | |

Sampled By: Caitlin Hubbard Phone: 425-309-4085 Fax: Email: chubbard@lkstevenssewer.org 4 Total Containers

Sample Receipt requested (Must include FAX or Email)

* Sample Matrix

W - Water SW - Surface Water WW - Wastewater OL - Oil
 DW - Drinking Water GW - Ground Water S - Soil Other _____

| Relinquished By | Date | Time | Received By | Date | Time |
|------------------------|----------------|-------------|-------------|----------------|-------------|
| <u>Caitlin Hubbard</u> | <u>9-13-19</u> | <u>1225</u> | <u>Kuz</u> | <u>9/13/19</u> | <u>1225</u> |
| | | | | | |

| | Yes | No | N/A |
|--|-------------------------------------|--------------------------|-------------------------------------|
| Custody Seals Intact, <u>W</u> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Sample Temp <u>10.1</u> C Satisfactory | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Evidence Of Cooling | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Samples Received Intact | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Chain Of Custody & Labels Agree | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |