

**BROWN'S BAY PACKING COMPANY
BC ENV PERMIT 8124
RECEIVING ENVIRONMENT MONITORING PROGRAM
THIRD QUARTER 2020**

PREPARED FOR:

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Summary

Receiving environment monitoring for the third quarter of 2020 was completed in Discovery Passage for the Brown's Bay Packing Company effluent outfall. A total of six stations were sampled including a reference station. For this quarter, five rounds of sampling were completed over a 30-day period in July and August. Sampling occurred to fulfill receiving environment monitoring requirements included as a condition of the BC Ministry of Environment (BC ENV) discharge permit (Permit 8124), to ensure compliance with provincial water quality guidelines. Sampling procedures followed receiving environment monitoring methods outlined in the discharge permit by the British Columbia Ministry of Environment.

Depth profiles for pH, salinity, temperature, and dissolved oxygen were collected *in situ* at each station. This data was used to determine if a pycnocline was present and to determine the appropriate sampling depth for the mid-depth water sample. No evidence of the plume was observed at any stations during sampling. For all stations, the mid-depth water sample was collected at 6 m as per the permit instructions. Field measurements of pH, salinity, temperature, dissolved oxygen and lab analysis results were consistent between stations, indicating that effluent from the Brown's Bay processing facility outfall is not having a measurable effect on the water quality parameters within the Discovery Passage receiving environment.

Lab analyses results of water samples collected to measure Enterococci counts, ammonia and nitrate concentration were collated and compared to applicable provincial water quality guidelines. Nutrient concentrations, Enterococci counts and hydrogen peroxide concentrations at sample stations were comparable to the reference station. All measured parameters at all stations were confirmed to be below water quality guidelines and / or permit specifications.

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1.0 Introduction

Brown's Bay Packing Company is a fish processing facility located north of the City of Campbell River, BC. The facility discharges treated effluent into Discovery Passage via an effluent pipe located on the northwest shore of Brown Bay. In July and August 2020, Mainstream Biological Consulting Inc. (MBC) conducted environmental monitoring in the receiving environment on behalf of Brown's Bay Packing Co. to satisfy the requirements of their provincial discharge permit issued under the *Environmental Management Act* (Permit #8124).

Permit requirements for the receiving environment monitoring program (REMP) specify that sampling must occur at least once per quarter. Quarters are defined as follows:

- Q1 (Jan 1 – Mar 31)
- Q2 (April 1 – Jun 30)
- Q3 (Jul 15 – Aug 31)
- Q4 (Oct 1 – Dec 31)

A minimum of 30 days must pass between quarterly sampling. In Q3, five rounds of weekly sampling must occur within 30 consecutive days. The quarterly sampling is to be done at different tide cycles such that flood, ebb and slack tides are sampled over the course of the year. An electronic report and data must be submitted to the BC Ministry of Environment (BC ENV).

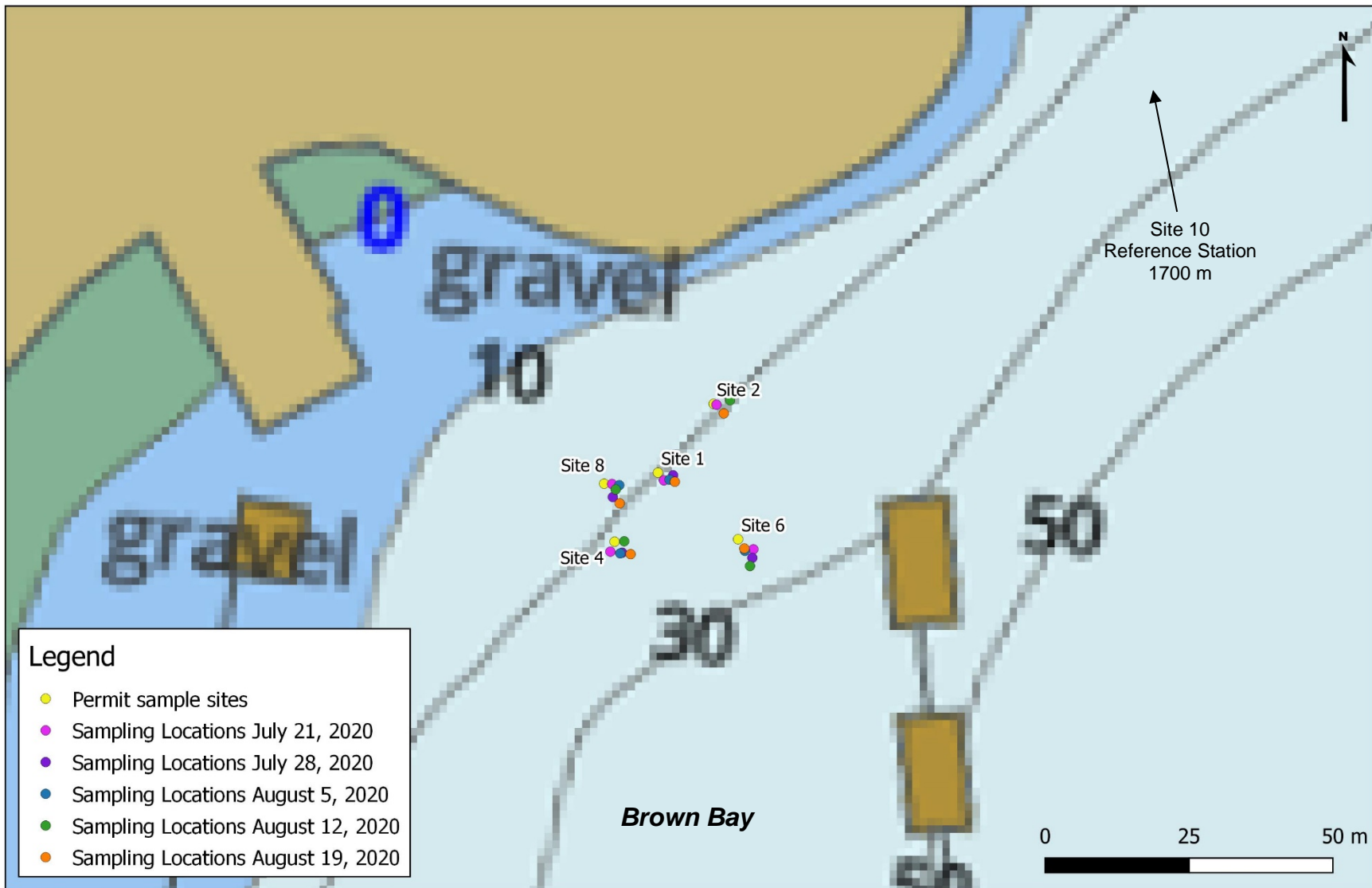
These sampling events satisfy the third quarter sampling requirements with field work completed from July 21 – August 19, 2020.

1.1 Sample Locations

Sampling was completed in Discovery Passage at station locations specified by the permit (Table 1; Figure 1). Sampling was conducted at the outfall terminus, 15 m in each cardinal direction and at a reference station 1700 m north of the outfall. These locations allow conditions to be monitored at the initial dilution zone (IDZ) determined by Great Pacific Engineering & Environment (2018).

Table 1. GPS coordinates of Brown's Bay Packing REMP sampling stations specified by Permit 8124.

Sample Station	EMS Site Number	Latitude	Longitude
Site 1 (outfall terminus)	E212103	50.16308	-125.37293
Site 2 (15 m north)	E309968	50.16319	-125.37280
Site 4 (15 m south)	E309950	50.16297	-125.37303
Site 6 (15 m east)	E309970	50.16298	-125.37273
Site 8 (15 m west)	E315370	50.16306	-125.37306
Site 10 (reference)	E309953	50.17775	-125.37900



Datum: NAD 83
 Projection: UTM Zone 10N

Map Created:
 September 8, 2020

Figure 1. Brown's Bay Packing Co. receiving environment monitoring program sample stations for the third quarter of 2020 shown in relation to the monitoring station locations included in the discharge permit (8124).

2.0 Methods

All *in situ* measurements and water sample collection were completed according to procedures outlined in the British Columbia Field Sampling Manual (2013 Edition) and as described in the discharge permit. Field sampling was completed on five occasions between July 21 and August 19, 2020.

Field sampling was completed using a 17' whaler-style boat as a work platform. A two-person crew completed the required field activities. The prescribed sample stations were located using a handheld GPS unit. The boat operator ensured that the boat remained in position at the station so that *in situ* monitoring and water sample collection could be completed, repositioning as needed to the best of their abilities. Sampling was completed at all six stations while processing was taking place, and duplicate samples were collected for two grab samples. A field blank of deionized water was prepared as a quality control measure as well as a trip blank provided by the lab. A trip blank was not included for the sampling event on July 28, 2020.

The coordinates of the sample locations were recorded using a Trimble GeoXT using TerraSync 5.60 software. GPS data was corrected post-mission with Pathfinder Office v5.40 using data from the Beaver Cove WCDA base station (BCOV).

In situ water quality data for water temperature, dissolved oxygen, pH, and salinity was collected using a YSI Professional Plus Quatro multi-parameter meter. The YSI meter was checked and calibrated in the office prior to each field sampling event. Measurements were collected at 1 m depth, then every 2 m down to 1 m above the seabed. Depths were determined using a depth sounder. Data was recorded on a field data sheet for each station and reviewed in the field to determine if the location of the effluent plume could be detected.

Three grab samples were collected at each station for lab analysis of total ammonia, nitrate-N and *Enterococci spp.* at depths of 1 m below surface, within the discharge plume or 6 m depth if the plume was not located, and 1 m above the seabed. Samples were collected using a horizontal Van Dorn water sampler, which allowed for discrete samples to be collected at the specified depths. A lead weight was secured 1 m below the Van Dorn sampler to ensure the bottle did not contact the bottom. The sampler was then lowered slowly to the bottom and stopped when the weight made contact. Two duplicate sample bottles were filled from the same Van Dorn volume as the original samples. Samples were collected and handled according to specifications provided by the laboratory (Bureau Veritas), who completed the laboratory analysis. The filled sample bottles were stored in clean coolers with ice packs during field sampling and maintained at the appropriate temperature for transportation to the lab.

If exceedances of applicable water quality guidelines were detected for any parameter analysed in the grab samples at Sites 2, 4, 6, 8, the discharge permit stipulates that a second round of sampling must occur within 30 days and include additional sites 40 m in each direction from the outfall. There were no exceedances of the applicable water quality guidelines in any samples therefore no additional sampling was required.

A test for hydrogen peroxide was conducted for each grab sample with a LaMotte SMART3 colorimeter in the field. A correction factor was determined by scanning a sample of distilled water prior to entering the field. The correction factor was then subtracted from the field results to obtain the final result. Due to delayed shipping times, additional sample reagent for the colorimeter could not be obtained for the fourth and fifth week of sampling. LaMotte peroxide low range test strips (Code 2984LR) were used as a temporary substitute. The colorimeter was used to confirm hydrogen peroxide results if the test strips registered a value greater than zero. The site performance objective (SPO) specified in the effluent discharge permit for hydrogen peroxide is 0.4 mg/L and additional sampling would be required if the final result exceeded the

SPO. No samples exceeded the SPO during this monitoring event and therefore no additional hydrogen peroxide sampling was conducted.

3.0 Results

Field sampling was completed between July 21 and August 19, 2020 while processing was taking place at the facility. The results of field and lab measurements of the water quality in the receiving environment associated with the Brown's Bay Packing facility have been separated into two sections. The receiving environment field data is presented in Section 3.1 and Appendices 1 through 5 as supporting information for the determination of the presence or absence of a pycnocline during water sample collection periods. The lab analysis results for nitrogen compounds and *Enterococci spp.* in the grab samples collected from the receiving environment and reference stations are presented in Section 3.2 for comparison to applicable provincial water quality parameters. Field results for hydrogen peroxide testing are summarized in Section 3.2. Tide conditions for the relevant sample period can be found in Table 2.

Table 2. Tides in Brown Bay receiving environment during the third quarter sampling period (TCP 2020).

Date	Sample Period		Tidal Phase	Predicted Range (m)	
	Start	End		Start	End
July 21, 2020	08:40	12:30	Ebb/Slack/Flood	1.0	1.0
July 28, 2020	07:35	13:10	Flood/Slack/Ebb	2.2	2.7
August 5, 2020	08:45	12:05	Ebb/Slack	1.7	0.9
August 12, 2020	09:00	12:00	Flood	2.6	2.8
August 19, 2020	08:50	11:50	Slack	0.9	1.0

3.1 In Situ Water Column Profile Data

Environmental data was collected at each station to create depth profiles for temperature, dissolved oxygen concentration, pH, and salinity. Data collected for each station is provided in tabular and chart format in Appendices 1 through 5.

The depth profiles for *in situ* water quality measurements did not show an obvious change through the water column, and the effluent plume could not be detected at any of the stations during the sampling event. Measurements of dissolved oxygen, pH, salinity and temperature remained consistent between stations, indicating that water at these locations is well mixed and effluent from the Brown's Bay Packing Co. is not measurably affecting water chemistry within Discovery Passage.

3.2 Grab Sample Data

Analytical results provided by Bureau Veritas (Reports C050864, C052807, C054945, C056996, C059084) are presented in the following sections relative to applicable provincial water quality guidelines and original lab reports are in Appendix 7. Water samples were collected at three depths:

- Surface – 1 m depth
- Mid – within the effluent plume if detected or at 6 m in depth if the plume was not evident
- Bottom – 1 m above the seabed

Given that depth profiles did not show the presence of a pycnocline and the effluent plume was not evident, all mid-depth water samples were collected at 6 m.

Quality assurance procedures completed during the Brown's Bay Packing Co. 2020 third quarter REMP included lab analysis of a field blank, a trip blank and two duplicates for each sampling event. A trip blank was not included from the lab for the sampling event on July 28, 2020. Results of these analyses are provided within the respective sections for each parameter.

3.2.1 Receiving Environment Nutrients

As per permit requirements, grab samples were analysed for total ammonia and nitrate (N). Applicable water quality guidelines for these parameters are included in Table 3. A summary of results is shown in Table 4. Compiled lab results including the trip blank, field blank and field duplicates are found in Appendix 6.

The BC Ministry of Environment (MOE) interim water quality guideline for chronic exposure to nitrate for marine aquatic life is 3.7 mg/L. The Canadian Council of Ministers of the Environment (CCME) guideline is 200 mg/L for chronic exposure to nitrate. The 30-day average nitrate concentration from the third quarter was below both chronic exposure guidelines. The maximum nitrate concentration was 0.355 mg/L obtained from the bottom sample of Station 8 (Table 4). Individual samples also met the acute water quality guidelines for nitrate exposure. Results at all sampling stations were comparable to those obtained at the reference station (Station 10).

Provincial guidelines for total ammonia are dependent on salinity, temperature, and pH. For the range of these parameters encountered from July 21 to August 19, 2020, the maximum allowable 30-day average concentration would be 2.2-5.6 mg/L for chronic exposure. All results for 30-day average total ammonia concentration were below the chronic water quality guideline. Individual samples showed some variability but were well below the acute water quality guideline for total ammonia concentration as well.

Lab analysis results of the field blanks and trip blanks were less than the reportable detection limit (RDL) for nitrate confirming that there was no contamination of samples during the collection, handling and transportation processes. The trip blanks were all below the RDL for total ammonia and the field blanks were below the RDL with one exception. The field blank result from July 28, 2020 for total ammonia concentration was above the RDL (Appendix 6). This sample was analyzed past the method specified hold time which increases the uncertainty of the test result. The field blank results for nitrate (N) and Enterococcus from July 28, 2020 were below the RDL indicating that there was no contamination. Results for both duplicate samples were comparable to their corresponding sample.

Table 3. Summary of applicable water quality guidelines for marine aquatic life for nitrogen compounds.

Exposure	Source	Water Quality Guideline	
		Nitrate (N) mg/L	Total Ammonia (N) mg/L
Acute	BC ENV	None proposed	15-37 ¹
	CCME	1500	None proposed
Chronic	BC ENV (30-day average)	3.7 ²	2.2-5.6 ¹
	CCME	200	None proposed

¹Nordin & Pommen 2009. Based on salinity of 30 g/kg, pH 7.6 – 8.0, and temperature 10°C, as documented during in situ depth profiling.

²Interim guideline

CCME = Canadian Council of Ministers of the Environment

Table 4. Total ammonia and nitrate (N) minimum, maximum and 30-day average concentration (mg/L) collected in the Brown's Bay outfall receiving environment for the third quarter of 2020.

Station	Depth	Nitrate (mg/L)			Ammonia (mg/L)		
		Min	Max	30-day Average	Min	Max	30-day Average ¹
1	surface	0.243	0.324	0.284	0.033	0.59	0.157
	mid	0.263	0.318	0.293	<0.025	0.3	0.131
	bottom	0.258	0.328	0.290	0.029	0.37	0.133
2	surface	0.263	0.308	0.288	0.071	0.55	0.177
	mid	0.268	0.328	0.287	<0.025	0.27	0.123
	bottom	0.259	0.333	0.290	0.033	0.19	0.084
4	surface	0.260	0.353	0.295	<0.025	0.095	0.065
	mid	0.271	0.341	0.295	0.027	0.57	0.168
	bottom	0.264	0.351	0.293	0.072	0.12	0.095
6	surface	0.233	0.349	0.284	<0.025	0.26	0.109
	mid	0.265	0.345	0.294	0.065	0.58	0.195
	bottom	0.260	0.341	0.296	0.036	0.11	0.072
8	surface	0.272	0.352	0.295	<0.025	0.39	0.141
	mid	0.270	0.349	0.296	<0.025	0.14	0.079
	bottom	0.270	0.355	0.298	<0.025	0.27	0.099
10	surface	0.239	0.309	0.280	0.045	0.69	0.200
	mid	0.282	0.315	0.297	0.034	0.81	0.219
	bottom	0.285	0.318	0.297	0.039	0.21	0.099

¹ Where total ammonia results are less than the RDL (0.025 mg/L), a value of 0.025 mg/L has been used to calculate the 30-day average.

3.2.2 Hydrogen Peroxide (H₂O₂)

Permit specifications for Brown's Bay Packing Co. require H₂O₂ to be below 0.4 mg/L in the receiving environment, measured at the 15m IDZ stations. Additional sampling is required if the permit specifications are exceeded and there are no provincial water quality guidelines for H₂O₂. The lower limit for accurately detecting H₂O₂ was 0.02 mg/L and all sites were at 0.08 mg/L or below. For Week 4 – 5 LaMotte peroxide low range test strips were used as an initial test. No colour was detected with the test strips. A limited amount of colorimeter tests was available if some hydrogen peroxide was detected. Hydrogen peroxide results are summarized in Table 5 with none of the samples exceeding the permit threshold. Field duplicates were within 0.06 mg/L of their corresponding samples and sample sites were comparable to the reference station (Station 10).

Table 5. Field results for H₂O₂ (mg/L) from samples collected from July 21 – August 19, 2020 for the third quarter receiving environment monitoring required under the discharge permit for the Brown’s Bay Packing Company outfall.

Station	Depth	Week 1	Week 2	Week 3	Week 4 ¹	Week 5 ¹
		July 21	July 28	Aug 5	Aug 12	Aug 19
1	surface	<0.02	<0.02	<0.02	0	0
	mid	<0.02	<0.02	0.02	0	0
	bottom	<0.02	0.04	<0.02	0	0
2	surface	0.03	0.02	<0.02	0	0
	mid	<0.02	<0.02	<0.02	0	0
	bottom	<0.02	<0.02	<0.02	0	0
4	surface	0.02	<0.02	<0.02	0	0
	mid	<0.02	<0.02	0.02	0	0
	bottom	0.05	0.08	<0.02	0	0
6	surface	<0.02	<0.02	<0.02	0	0
	mid	0.03	<0.02	<0.02	0	0
	bottom	0.04	<0.02	<0.02	0	0
8	surface	0.02	0.02	<0.02	0	0
	mid	0.02	<0.02	<0.02	0	0
	bottom	<0.02	0.04	<0.02	0	0
10	surface	0.02	<0.02	<0.02	0	0
	mid	<0.02	<0.02	<0.02	0	0
	bottom	<0.02	<0.02	<0.02	0	0
Field Duplicate 1		0.04 (1B)	<0.02 (1B)	0.04 (10 B)	0 (10B)	0 (1S)
Field Duplicate 2		0.08 (2B)	0.02 (2B)	<0.02 (1B)	0 (2B)	0 (2B)
RDL		0.02	0.02	0.02	0-50	0-50

¹ Samples were tested with LaMotte peroxide low range test strips

() Indicates the station of the depth of the duplicate sample, S = surface, B = bottom

3.2.3 Enterococci

Compiled lab results including field duplicates and the field blank for Enterococci can be found in Appendix 6. Water quality guidelines applicable to the Brown’s Bay Packing Co. receiving environment for Enterococci bacteria and lab results for the collected water samples are presented in Table 6. None of the samples collected during the 2020 third quarter monitoring events exceeded the water quality guidelines for recreation. The highest enterococcus count was recorded at the mid depth of Site 1 (13.0 CFU/100mL) on August 5, 2020. Lab analysis results of the field blank from week 1 – 5 was <1.0 CFU/100 ml for Enterococci, confirming that there was no contamination of samples during the collection, handling, and transportation processes. Field duplicates were comparable to their corresponding sample.

Table 6. A summary of lab results of Enterococci counts (CFU/100 mL) from samples collected for the Brown's Bay Packing outfall receiving environment monitoring program in the third quarter of 2020.

Station	Depth	Min	Max	Geometric Mean ¹
1	surface	<1.0	2.0	1.1
	mid	<1.0	13.0	1.7
	bottom	<1.0	5.0	1.4
2	surface	<1.0	1.0	1.0
	mid	<1.0	2.0	1.1
	bottom	<1.0	1.0	1.0
4	surface	<1.0	<1.0	1.0
	mid	<1.0	1.0	1.0
	bottom	<1.0	1.0	1.0
6	surface	<1.0	<1.0	1.0
	mid	<1.0	1.0	1.0
	bottom	<1.0	<1.0	1.0
8	surface	<1.0	1.0	1.0
	mid	<1.0	<1.0	1.0
	bottom	<1.0	1.0	1.0
10	surface	<1.0	<1.0	1.0
	mid	<1.0	<1.0	1.0
	bottom	<1.0	<1.0	1.0
Recreational WQG (single sample) ²		≤ 70		
Recreational WQG (5 sample minimum) ²		Geometric mean ≤ 35		

¹ Where Enterococci count results are less than the RDL (1.0 CFU/100 mL), a value of 1.0 CFU/100 mL has been used to calculate the geometric mean

² British Columbia Ministry of Environment and Climate Change Strategy 2019

4.0 Discussion and Conclusions

Total ammonia and nitrate concentrations in the receiving environment were below water quality guidelines at all stations for chronic and acute exposure. Nutrient concentrations at sample stations were comparable to the reference station. The trip blank and field blank lab analysis results were below the reportable detection limit with one exception and duplicate sample results were comparable to their corresponding depths for all parameters indicating that there was no contamination during the sample collection process. The field blank result from July 28, 2020 for total ammonia concentration was above the RDL. This sample was analyzed past the method specified hold time which increases the uncertainty of the test result. The field blank results for the other tested parameters from July 28, 2020 were below the RDL indicating that there was no contamination.

All lab analysis results for Enterococci were below guidelines for recreational contact. The geometric mean for Enterococci counts at all stations were comparable to those at the reference station.

Hydrogen peroxide concentration was below the permit specified guideline at all sample sites and no follow up monitoring was required.

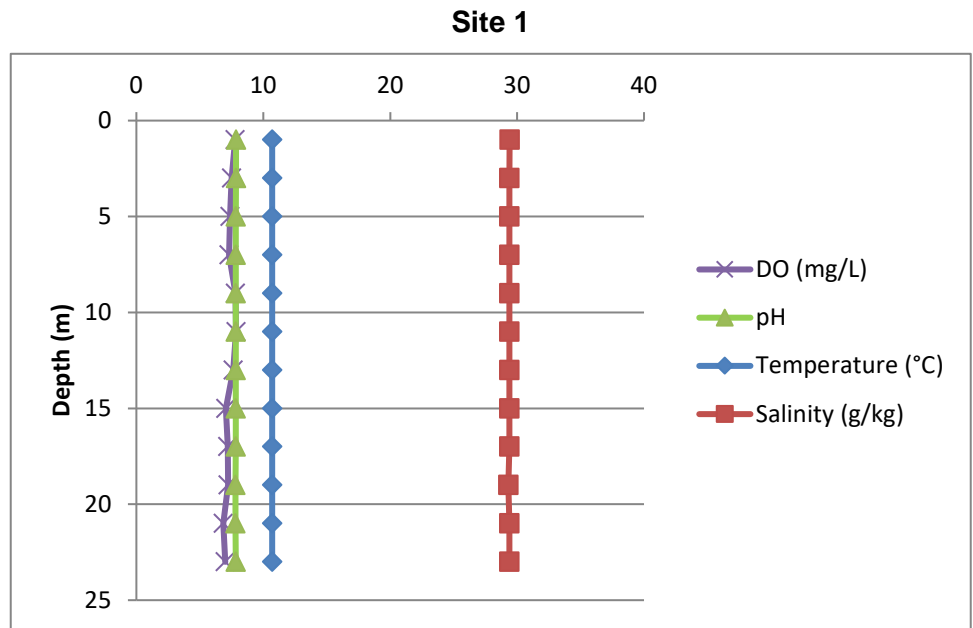
Results from the 2020 REMP indicate that effluent from the Brown's Bay processing facility has not caused measurably elevated Enterococci counts, nitrogen compounds or hydrogen peroxide concentration in the receiving environment compared to background levels.

5.0 References

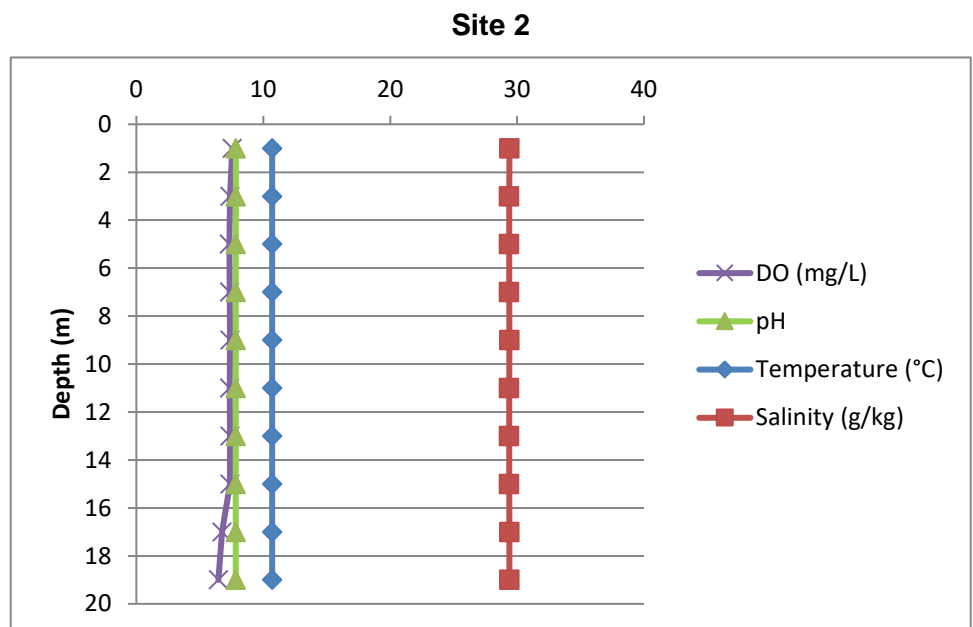
- British Columbia Ministry of Environment and Climate Change Strategy. 2019. B.C. Recreational Water Quality Guidelines: Guideline Summary. Water Quality Guideline Series, WQG-02. Prov. B.C., Victoria B.C.
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<http://tbone.biol.sc.edu/tide/tideshow.cgi>

Appendix 1 - Brown's Bay REMP Depth Profiles: July 21, 2020

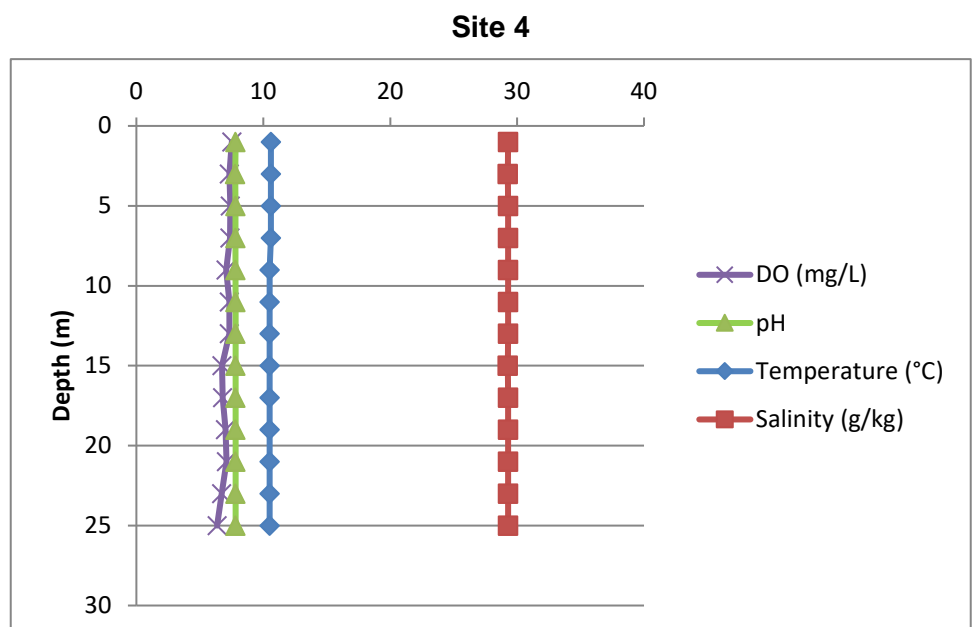
Site 1				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.79	29.41	10.7	7.85
3	7.51	29.40	10.7	7.85
5	7.38	29.39	10.7	7.84
7	7.31	29.40	10.7	7.84
9	7.81	29.40	10.7	7.83
11	7.85	29.40	10.7	7.83
13	7.62	29.40	10.7	7.83
15	7.06	29.40	10.7	7.83
17	7.20	29.40	10.7	7.83
19	7.24	29.31	10.7	7.81
21	6.85	29.39	10.7	7.82
23	7.00	29.40	10.7	7.83



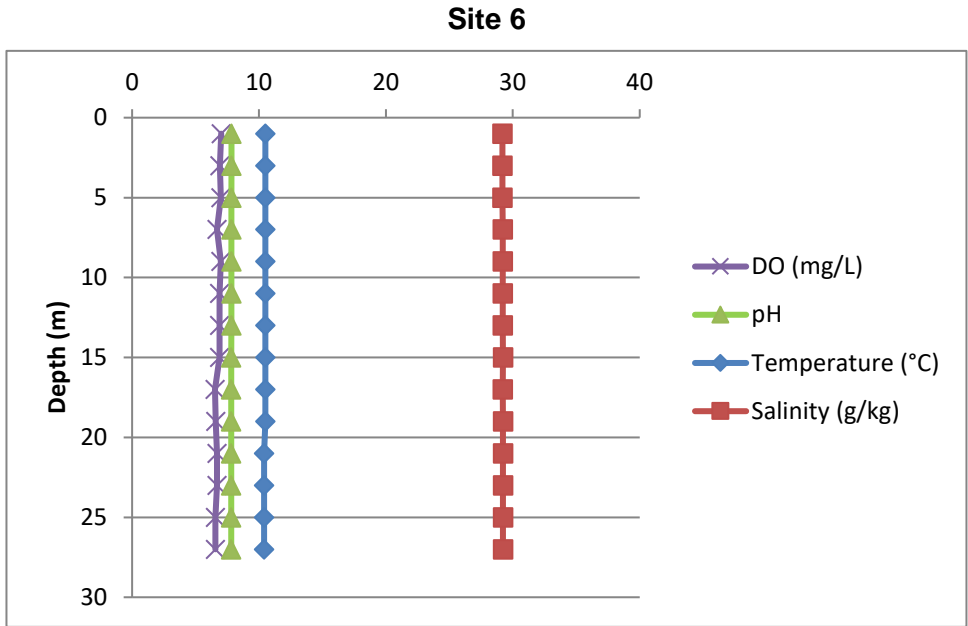
Site 2				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.56	29.40	10.7	7.84
3	7.37	29.38	10.7	7.84
5	7.34	29.38	10.7	7.83
7	7.35	29.38	10.7	7.83
9	7.37	29.39	10.7	7.83
11	7.36	29.38	10.7	7.83
13	7.39	29.38	10.7	7.83
15	7.39	29.38	10.7	7.83
17	6.74	29.39	10.7	7.83
19	6.46	29.39	10.7	7.83



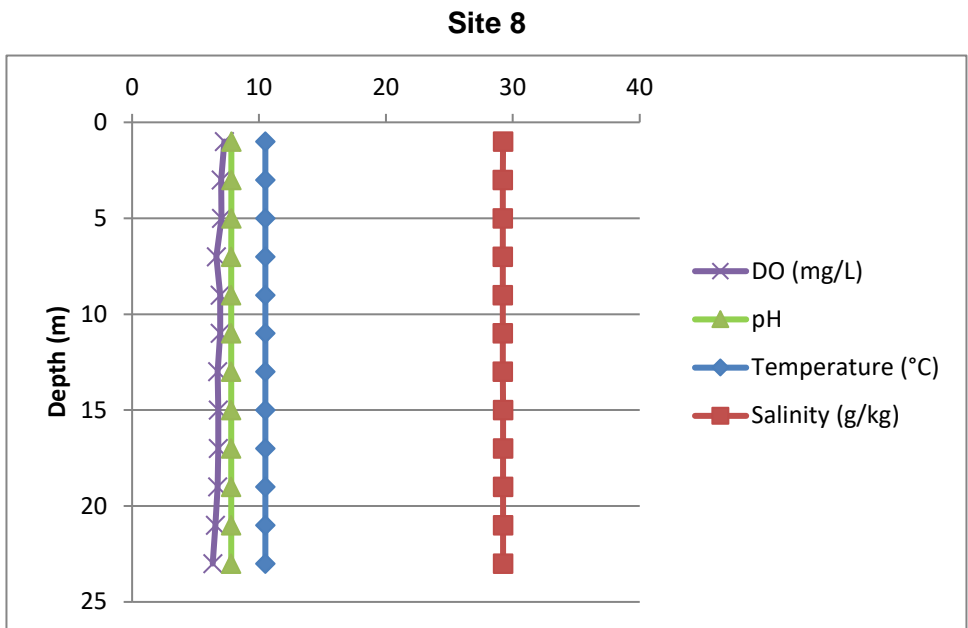
Site 4				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.52	29.29	10.6	7.82
3	7.34	29.27	10.6	7.79
5	7.40	29.28	10.6	7.80
7	7.39	29.28	10.6	7.81
9	7.07	29.28	10.5	7.81
11	7.32	29.28	10.5	7.82
13	7.33	29.28	10.5	7.82
15	6.75	29.27	10.5	7.82
17	6.80	29.28	10.5	7.82
19	7.03	29.28	10.5	7.82
21	7.11	29.28	10.5	7.82
23	6.73	29.28	10.5	7.82
25	6.36	29.28	10.5	7.82



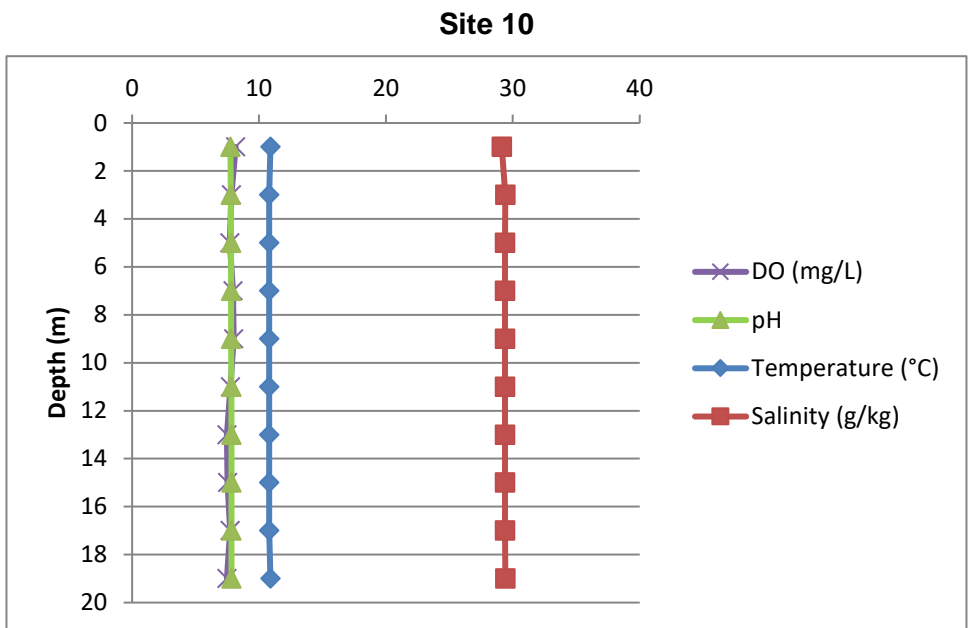
Site 6				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.02	29.19	10.5	7.83
3	6.91	29.18	10.5	7.83
5	6.99	29.19	10.5	7.82
7	6.70	29.20	10.5	7.82
9	6.99	29.20	10.5	7.82
11	6.90	29.21	10.5	7.82
13	6.89	29.21	10.5	7.82
15	6.90	29.22	10.5	7.81
17	6.53	29.21	10.5	7.81
19	6.60	29.22	10.5	7.81
21	6.70	29.22	10.4	7.81
23	6.68	29.22	10.4	7.81
25	6.55	29.22	10.4	7.81
27	6.56	29.22	10.4	7.81



Site 8				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.27	29.23	10.5	7.82
3	7.01	29.21	10.5	7.82
5	7.05	29.21	10.5	7.82
7	6.63	29.21	10.5	7.81
9	6.94	29.21	10.5	7.81
11	6.94	29.21	10.5	7.81
13	6.75	29.21	10.5	7.81
15	6.78	29.22	10.5	7.81
17	6.78	29.22	10.5	7.81
19	6.73	29.23	10.5	7.81
21	6.56	29.22	10.5	7.81
23	6.35	29.22	10.5	7.81

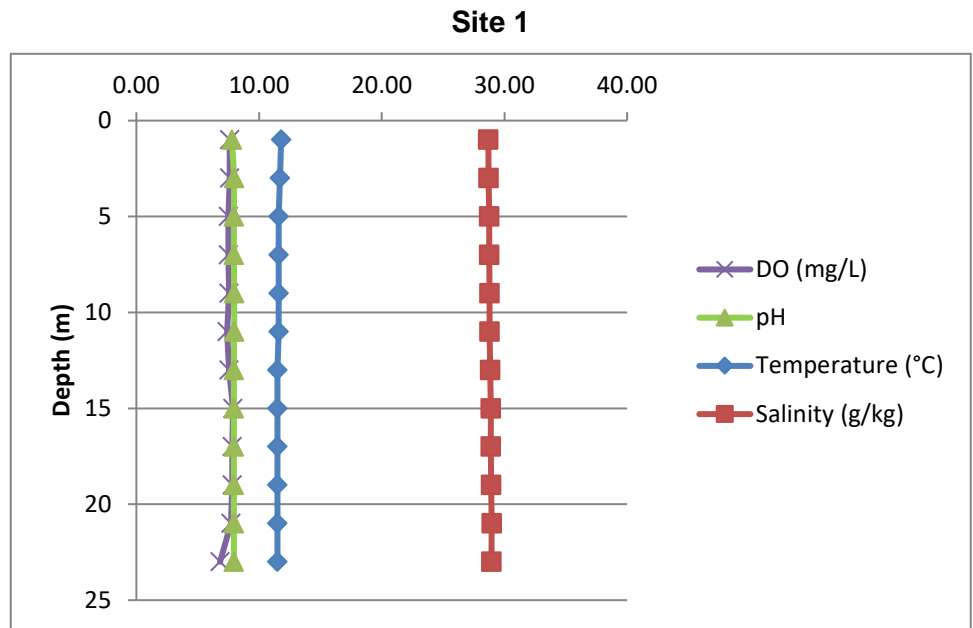


Site 10				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	8.16	29.13	10.9	7.75
3	7.83	29.40	10.8	7.78
5	7.69	29.39	10.8	7.80
7	7.96	29.39	10.8	7.80
9	8.00	29.39	10.8	7.81
11	7.74	29.39	10.8	7.82
13	7.47	29.39	10.8	7.83
15	7.53	29.38	10.8	7.83
17	7.72	29.39	10.8	7.83
19	7.47	29.41	10.9	7.83
21	7.43	29.40	10.8	7.82

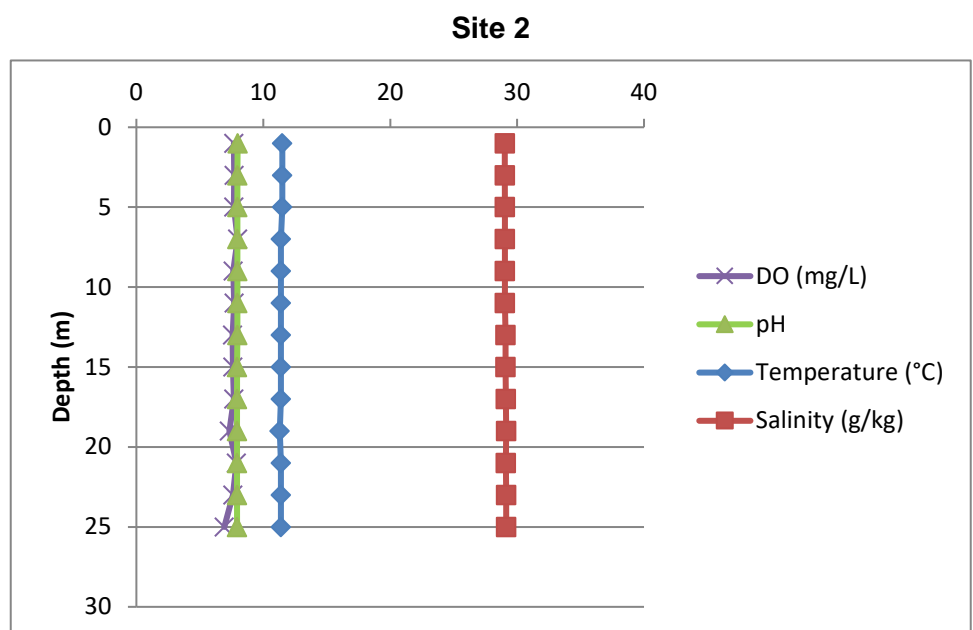


Appendix 2 - Brown's Bay REMP Depth Profiles: July 28, 2020

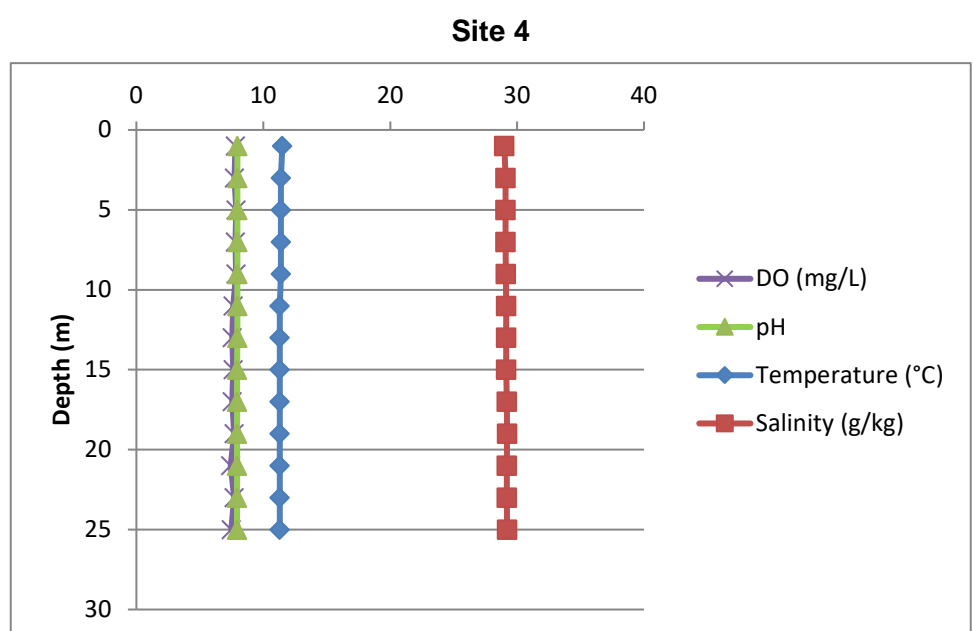
Site 1				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.60	28.69	11.8	7.79
3	7.60	28.72	11.7	7.97
5	7.51	28.77	11.6	7.95
7	7.50	28.77	11.6	7.95
9	7.56	28.78	11.6	7.96
11	7.41	28.80	11.6	7.96
13	7.55	28.84	11.5	7.95
15	7.88	28.88	11.5	7.95
17	7.81	28.90	11.5	7.95
19	7.81	28.93	11.5	7.95
21	7.70	28.96	11.5	7.95
23	6.82	28.95	11.5	7.95



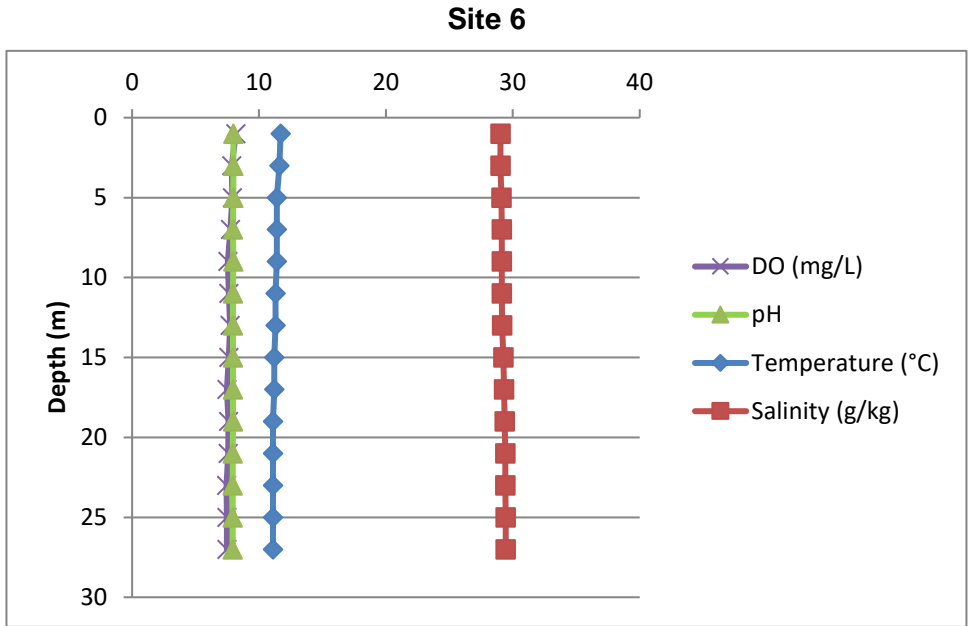
Site 2				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.67	29.03	11.5	7.98
3	7.71	29.03	11.5	7.96
5	7.68	29.04	11.5	7.96
7	7.98	29.04	11.4	7.96
9	7.63	29.04	11.4	7.95
11	7.70	29.05	11.4	7.95
13	7.58	29.09	11.4	7.95
15	7.61	29.09	11.4	7.94
17	7.68	29.12	11.4	7.93
19	7.34	29.14	11.3	7.93
21	7.89	29.12	11.4	7.93
23	7.60	29.13	11.4	7.93
25	6.93	29.13	11.4	7.94



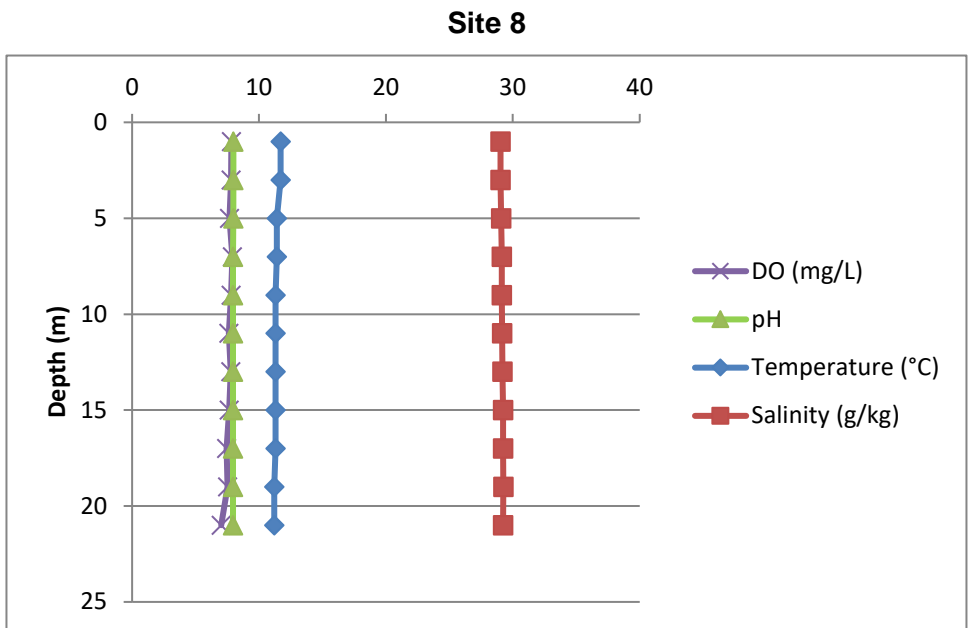
Site 4				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.81	29.00	11.5	7.96
3	7.73	29.08	11.4	7.96
5	7.87	29.09	11.4	7.95
7	7.80	29.10	11.4	7.95
9	7.86	29.12	11.4	7.95
11	7.64	29.13	11.3	7.95
13	7.55	29.14	11.3	7.95
15	7.64	29.14	11.3	7.94
17	7.55	29.18	11.3	7.94
19	7.70	29.21	11.3	7.94
21	7.43	29.20	11.3	7.94
23	7.71	29.19	11.3	7.94
25	7.49	29.21	11.3	7.93



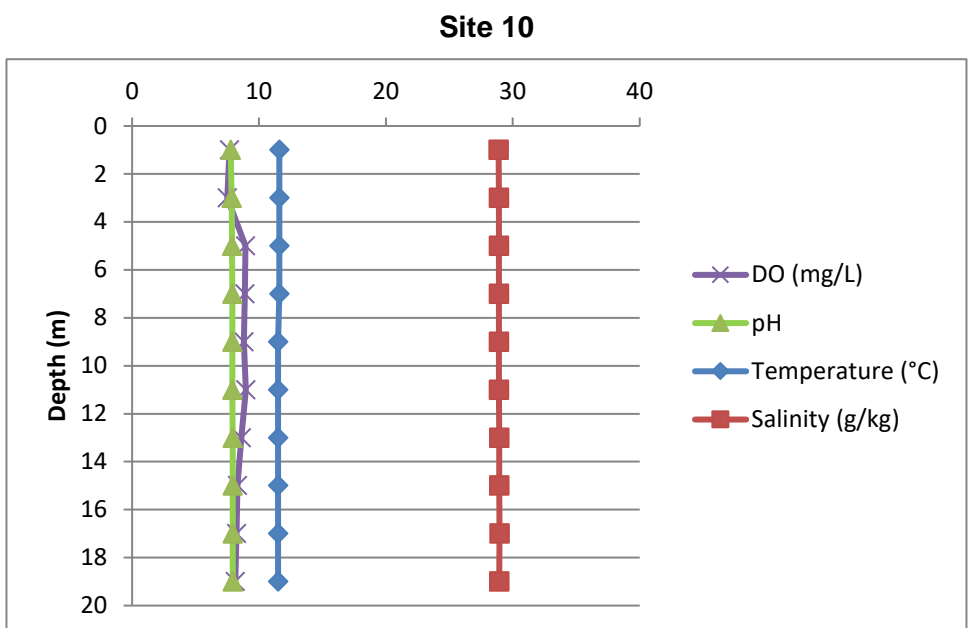
Site 6				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	8.17	29.03	11.7	7.98
3	7.85	29.02	11.6	7.98
5	7.91	29.10	11.4	7.97
7	7.74	29.12	11.4	7.96
9	7.55	29.13	11.4	7.97
11	7.63	29.13	11.3	7.95
13	7.72	29.15	11.3	7.95
15	7.63	29.25	11.2	7.94
17	7.48	29.30	11.2	7.94
19	7.60	29.35	11.1	7.94
21	7.56	29.40	11.1	7.93
23	7.44	29.42	11.1	7.93
25	7.48	29.44	11.1	7.93
27	7.48	29.44	11.1	7.93



Site 8				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.82	29.03	11.7	7.98
3	7.79	29.04	11.7	7.98
5	7.68	29.09	11.4	7.97
7	7.90	29.12	11.4	7.96
9	7.79	29.14	11.3	7.96
11	7.61	29.15	11.3	7.96
13	7.78	29.18	11.3	7.96
15	7.65	29.22	11.3	7.95
17	7.45	29.22	11.3	7.95
19	7.52	29.25	11.2	7.95
21	7.02	29.24	11.2	7.95

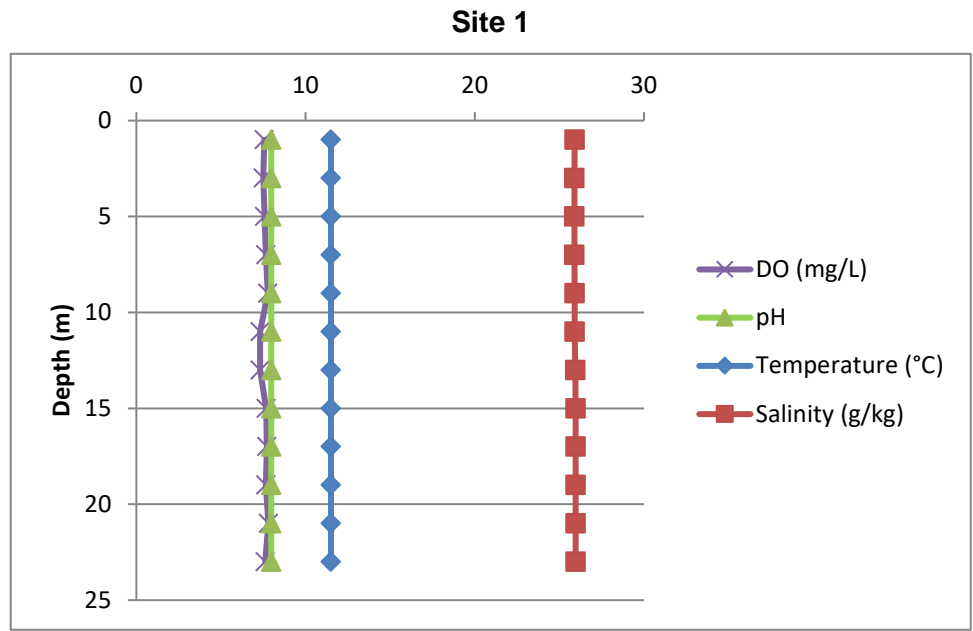


Site 10				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.67	28.88	11.6	7.77
3	7.50	28.90	11.6	7.86
5	8.93	28.90	11.6	7.88
7	8.88	28.90	11.6	7.91
9	8.80	28.90	11.5	7.91
11	8.96	28.90	11.5	7.91
13	8.60	28.93	11.5	7.92
15	8.30	28.94	11.5	7.93
17	8.23	28.95	11.5	7.93
19	8.12	28.94	11.5	7.93
21	7.86	28.94	11.5	7.93
23	7.98	28.96	11.5	7.93
25	7.90	28.97	11.5	7.93

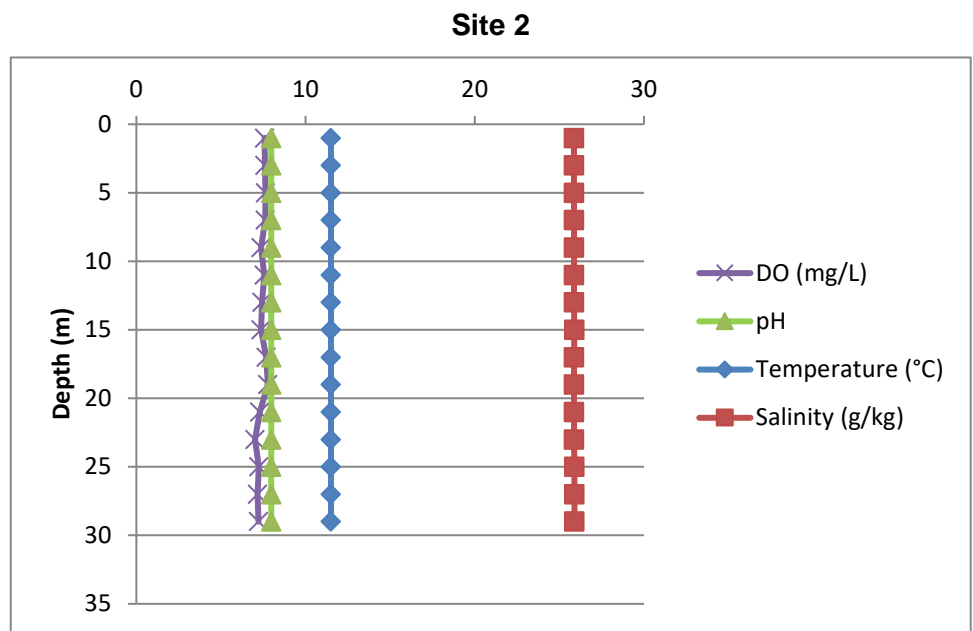


Appendix 3 - Brown's Bay REMP Depth Profiles: August 5, 2020

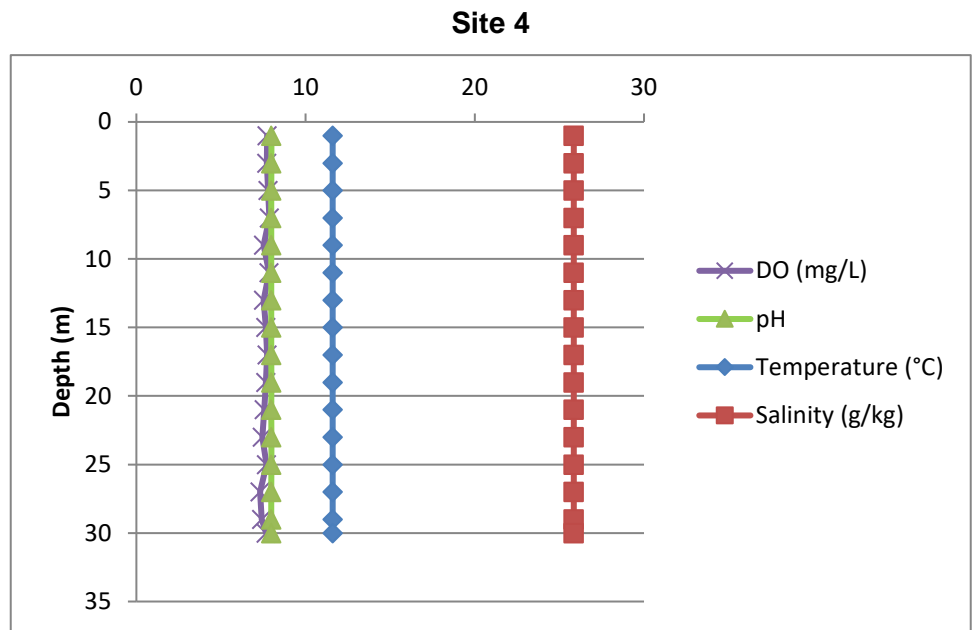
Site 1				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.56	25.90	11.5	7.97
3	7.51	25.89	11.5	7.97
5	7.57	25.89	11.5	7.97
7	7.65	25.89	11.5	7.97
9	7.77	25.90	11.5	7.97
11	7.32	25.90	11.5	7.97
13	7.31	25.94	11.5	7.97
15	7.67	25.95	11.5	7.97
17	7.71	25.95	11.5	7.97
19	7.66	25.96	11.5	7.97
21	7.80	25.96	11.5	7.97
23	7.62	25.95	11.5	7.97



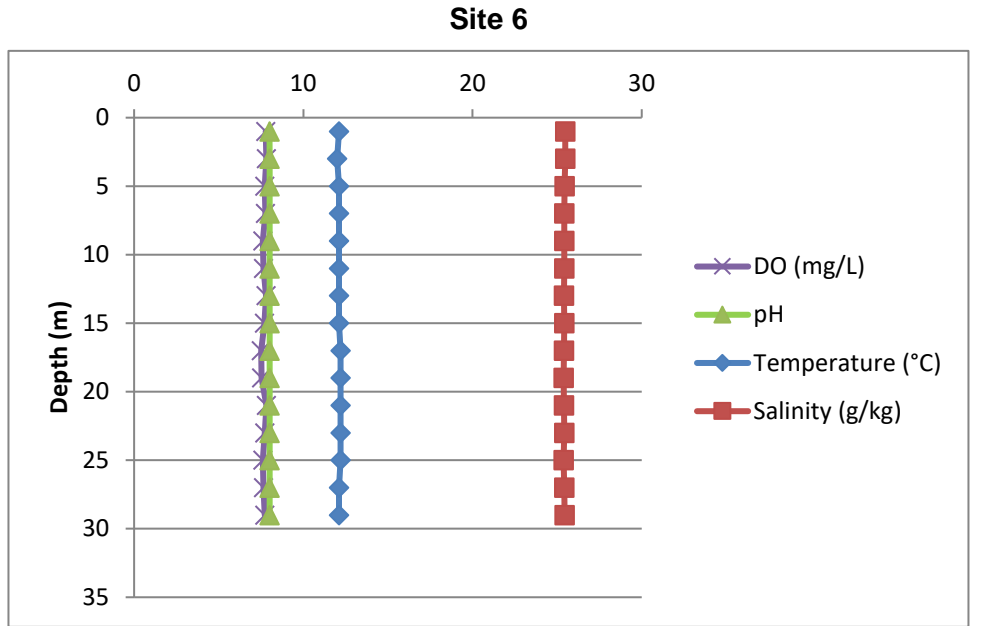
Site 2				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.58	25.86	11.5	7.97
3	7.60	25.86	11.5	7.97
5	7.63	25.86	11.5	7.97
7	7.62	25.87	11.5	7.97
9	7.37	25.87	11.5	7.97
11	7.55	25.87	11.5	7.97
13	7.43	25.86	11.5	7.97
15	7.36	25.88	11.5	7.97
17	7.67	25.87	11.5	7.97
19	7.77	25.86	11.5	7.97
21	7.30	25.87	11.5	7.97
23	7.01	25.87	11.5	7.97
25	7.23	25.88	11.5	7.97
27	7.16	25.89	11.5	7.97
29	7.21	25.89	11.5	7.97



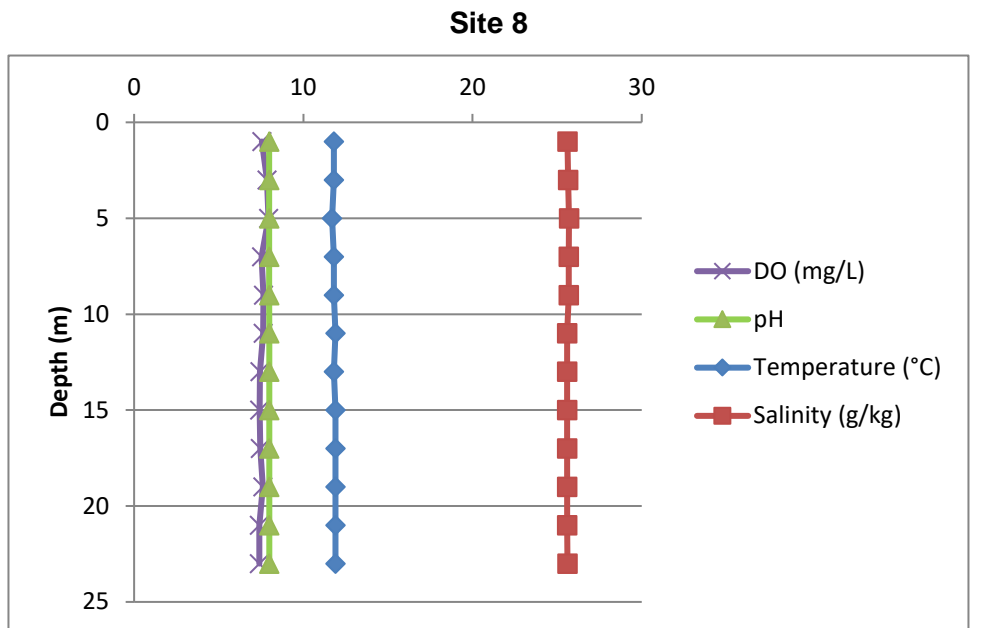
Site 4				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.73	25.85	11.6	7.98
3	7.71	25.85	11.6	7.98
5	7.79	25.85	11.6	7.97
7	7.86	25.85	11.6	7.97
9	7.52	25.85	11.6	7.97
11	7.85	25.85	11.6	7.97
13	7.52	25.85	11.6	7.97
15	7.65	25.85	11.6	7.97
17	7.73	25.85	11.6	7.97
19	7.65	25.85	11.6	7.98
21	7.56	25.85	11.6	7.97
23	7.44	25.85	11.6	7.98
25	7.69	25.85	11.6	7.98
27	7.31	25.85	11.6	7.97
29	7.40	25.85	11.6	7.97
30	7.67	25.85	11.6	7.97



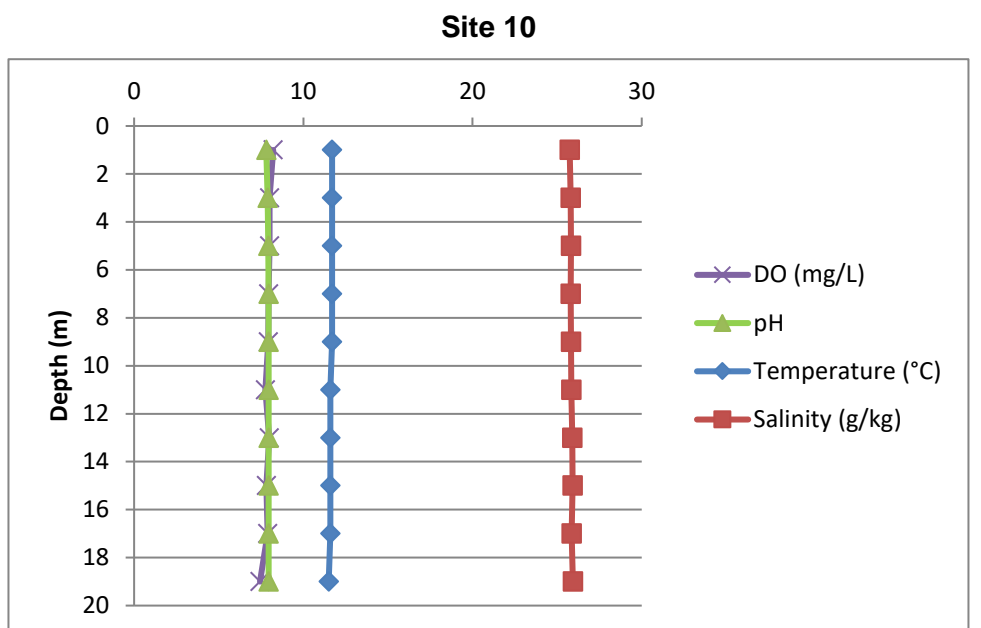
Site 6				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.78	25.48	12.1	8.00
3	7.81	25.48	12.0	8.01
5	7.73	25.44	12.1	8.01
7	7.75	25.43	12.1	8.01
9	7.61	25.43	12.1	8.01
11	7.65	25.43	12.1	8.01
13	7.80	25.40	12.1	8.01
15	7.71	25.42	12.1	8.01
17	7.51	25.40	12.2	8.01
19	7.54	25.39	12.2	8.01
21	7.82	25.40	12.2	8.01
23	7.73	25.42	12.2	8.01
25	7.60	25.38	12.2	8.01
27	7.64	25.42	12.1	8.01
29	7.73	25.44	12.1	8.01



Site 8				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.55	25.62	11.8	7.98
3	7.86	25.65	11.8	7.98
5	7.94	25.70	11.7	7.98
7	7.53	25.68	11.8	7.98
9	7.65	25.68	11.8	7.98
11	7.62	25.60	11.9	7.99
13	7.43	25.59	11.8	7.99
15	7.41	25.59	11.9	7.99
17	7.46	25.59	11.9	7.99
19	7.60	25.60	11.9	7.99
21	7.40	25.60	11.9	7.99
23	7.40	25.61	11.9	7.99

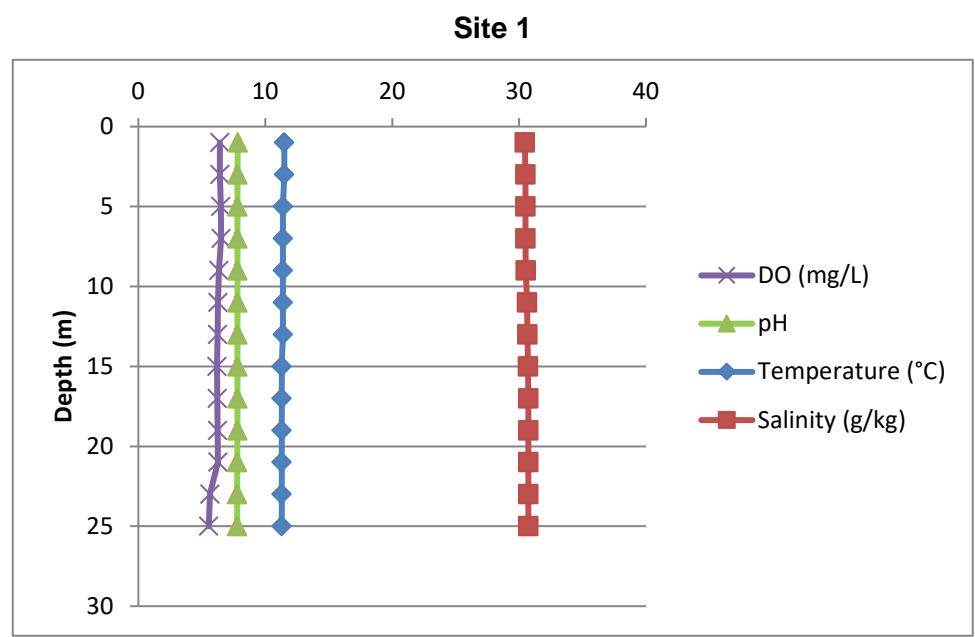


Site 10				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	8.22	25.74	11.7	7.81
3	8.00	25.80	11.7	7.89
5	8.01	25.81	11.7	7.93
7	7.95	25.80	11.7	7.94
9	7.92	25.81	11.7	7.95
11	7.75	25.83	11.6	7.95
13	7.98	25.90	11.6	7.95
15	7.82	25.91	11.6	7.95
17	7.90	25.86	11.6	7.95
19	7.44	25.93	11.5	7.95
21	7.03	25.93	11.5	7.95
23	7.18	25.91	11.5	7.95
25	7.05	25.90	11.6	7.95
27	7.04	25.89	11.6	7.95

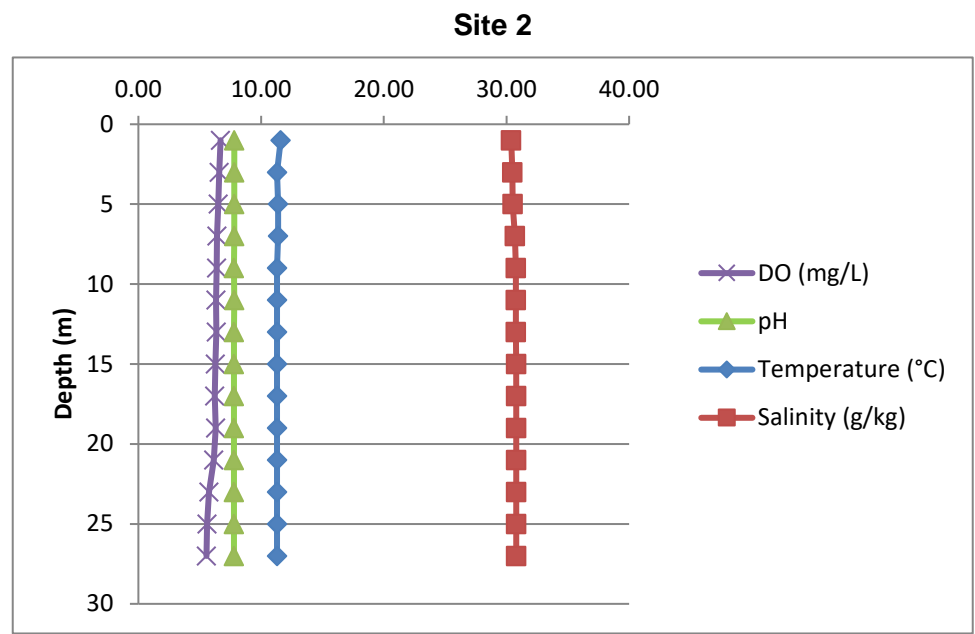


Appendix 4 - Brown's Bay REMP Depth Profiles: August 12, 2020

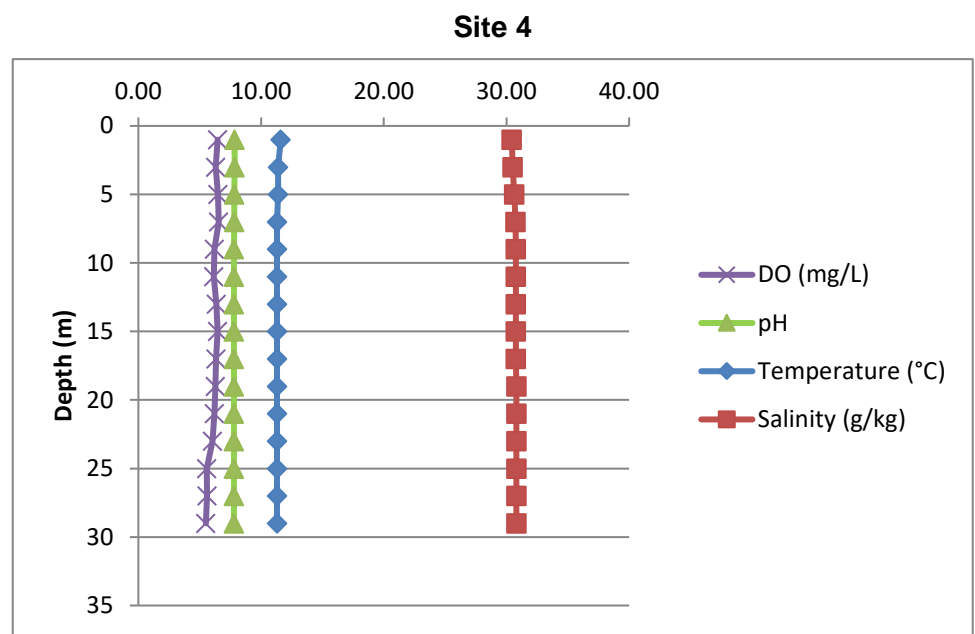
Site 1				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.42	30.45	11.5	7.83
3	6.41	30.50	11.5	7.82
5	6.49	30.51	11.4	7.81
7	6.52	30.51	11.4	7.81
9	6.35	30.52	11.4	7.81
11	6.26	30.63	11.4	7.81
13	6.24	30.65	11.4	7.80
15	6.19	30.70	11.3	7.80
17	6.22	30.72	11.3	7.80
19	6.25	30.73	11.3	7.80
21	6.28	30.73	11.3	7.79
23	5.63	30.73	11.3	7.79
25	5.55	30.73	11.3	7.79



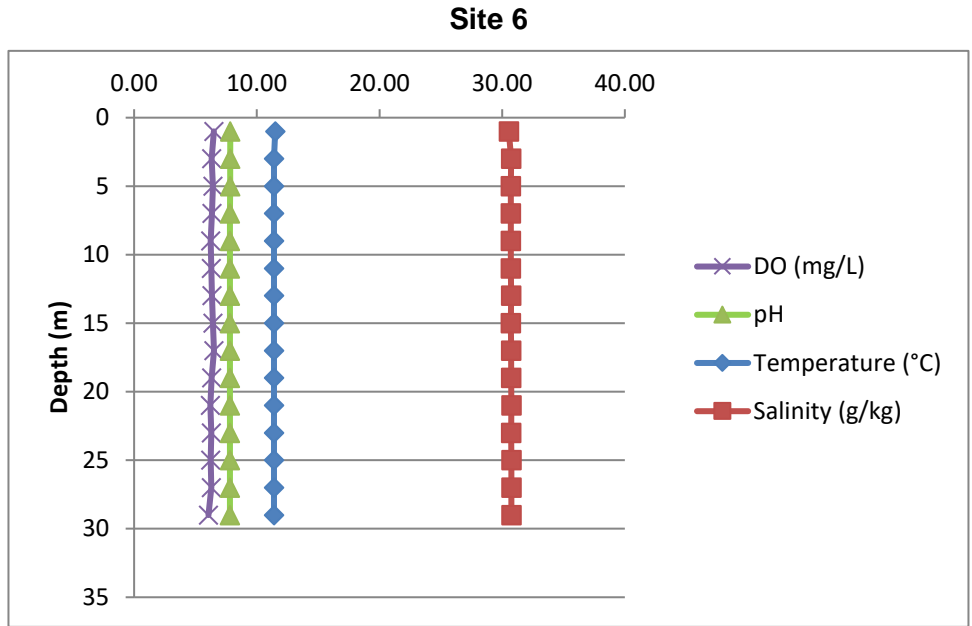
Site 2				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.70	30.39	11.6	7.82
3	6.60	30.49	11.3	7.81
5	6.51	30.51	11.4	7.81
7	6.42	30.68	11.4	7.81
9	6.39	30.76	11.3	7.80
11	6.34	30.76	11.3	7.81
13	6.36	30.78	11.3	7.80
15	6.29	30.79	11.3	7.79
17	6.22	30.80	11.3	7.79
19	6.30	30.80	11.3	7.80
21	6.14	30.80	11.3	7.79
23	5.76	30.80	11.3	7.80
25	5.59	30.80	11.3	7.80
27	5.55	30.80	11.3	7.80



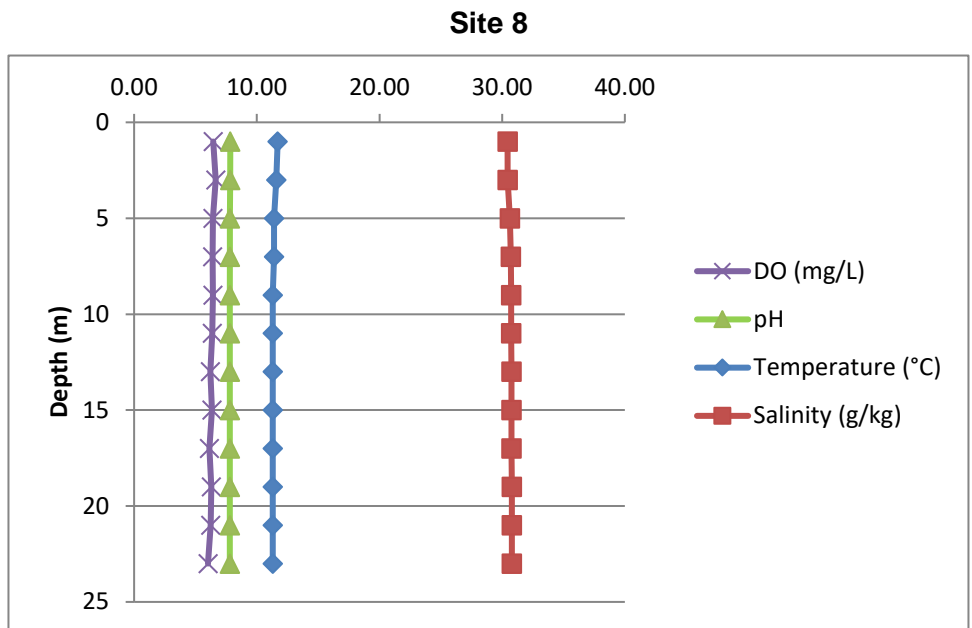
Site 4				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.46	30.44	11.6	7.84
3	6.30	30.52	11.4	7.85
5	6.48	30.65	11.4	7.81
7	6.55	30.74	11.3	7.81
9	6.21	30.76	11.3	7.80
11	6.15	30.77	11.3	7.79
13	6.35	30.77	11.3	7.80
15	6.46	30.78	11.3	7.80
17	6.33	30.78	11.3	7.79
19	6.27	30.81	11.3	7.80
21	6.20	30.81	11.3	7.80
23	6.04	30.81	11.3	7.80
25	5.58	30.81	11.3	7.80
27	5.60	30.81	11.3	7.80
29	5.50	30.81	11.3	7.80



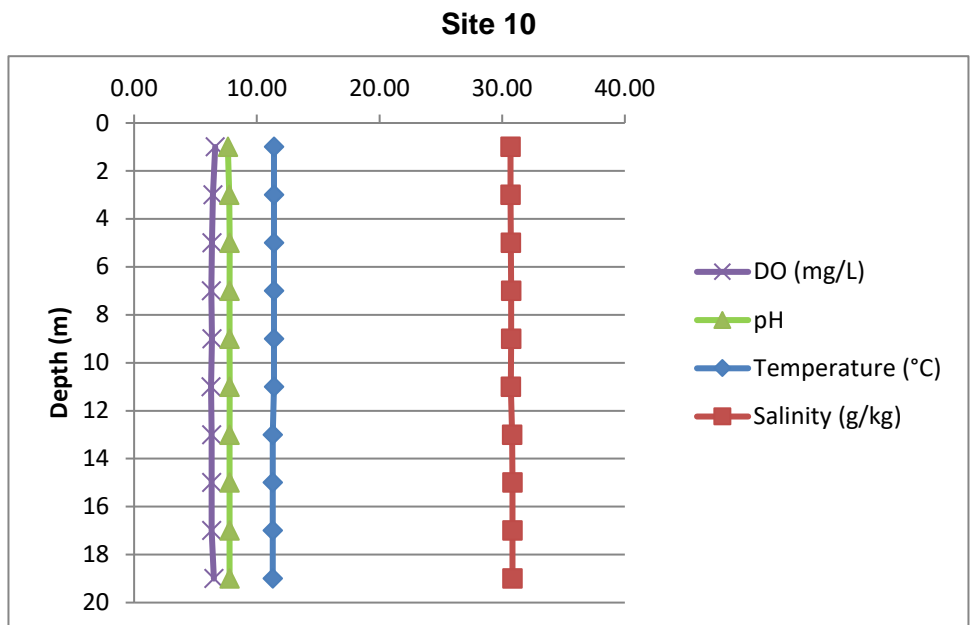
Site 6				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.50	30.54	11.5	7.84
3	6.31	30.73	11.4	7.82
5	6.42	30.71	11.4	7.82
7	6.35	30.70	11.4	7.81
9	6.24	30.70	11.4	7.81
11	6.30	30.70	11.4	7.81
13	6.35	30.72	11.4	7.81
15	6.42	30.71	11.4	7.81
17	6.51	30.72	11.4	7.81
19	6.31	30.74	11.4	7.81
21	6.22	30.75	11.4	7.81
23	6.28	30.74	11.4	7.81
25	6.23	30.75	11.4	7.81
27	6.30	30.75	11.4	7.81
29	6.06	30.75	11.4	7.81



Site 8				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.45	30.44	11.7	7.84
3	6.65	30.45	11.6	7.83
5	6.41	30.64	11.4	7.81
7	6.40	30.70	11.4	7.81
9	6.41	30.73	11.3	7.80
11	6.37	30.73	11.3	7.80
13	6.21	30.76	11.3	7.80
15	6.34	30.77	11.3	7.80
17	6.13	30.77	11.3	7.80
19	6.29	30.79	11.3	7.80
21	6.25	30.79	11.3	7.80
23	6.02	30.79	11.3	7.80

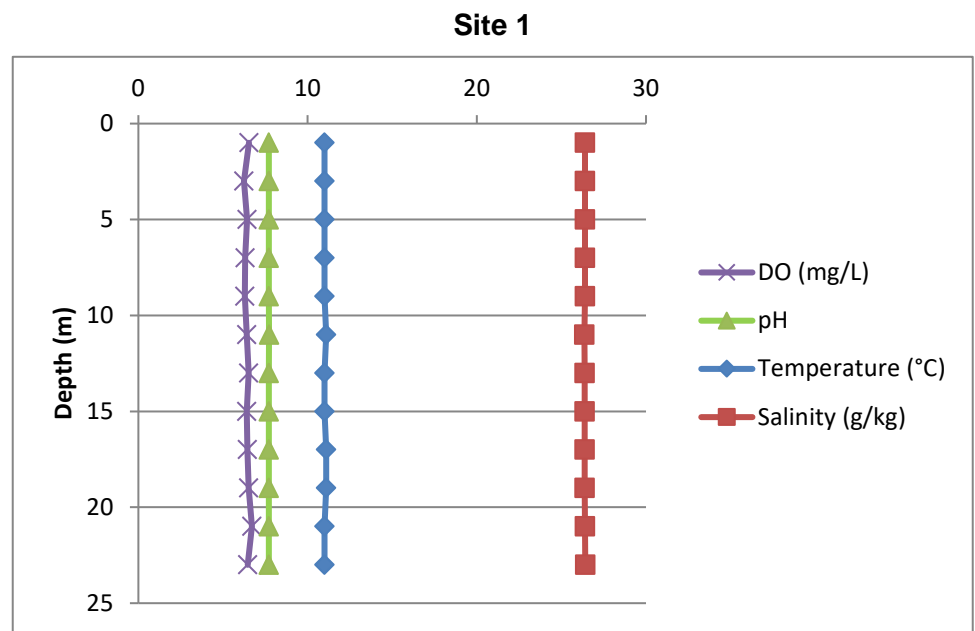


Site 10				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.61	30.69	11.4	7.64
3	6.42	30.68	11.4	7.75
5	6.34	30.70	11.4	7.79
7	6.29	30.74	11.4	7.78
9	6.35	30.73	11.4	7.78
11	6.27	30.70	11.4	7.79
13	6.32	30.81	11.3	7.78
15	6.33	30.84	11.3	7.78
17	6.31	30.84	11.3	7.78
19	6.50	30.84	11.3	7.78
21	6.20	30.84	11.3	7.77
23	5.76	30.84	11.3	7.78

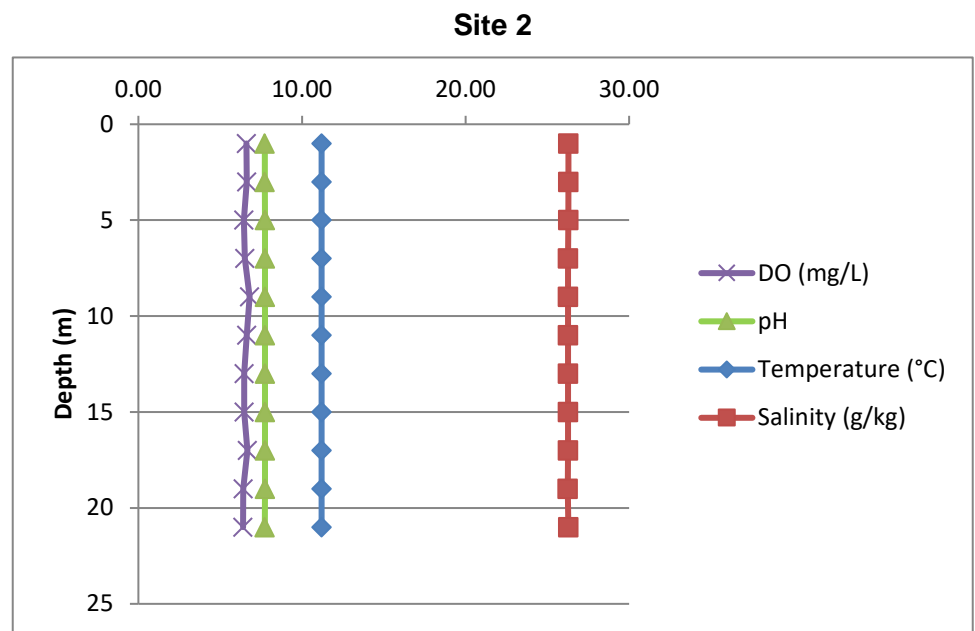


Appendix 5 - Brown's Bay REMP Depth Profiles: August 19, 2020

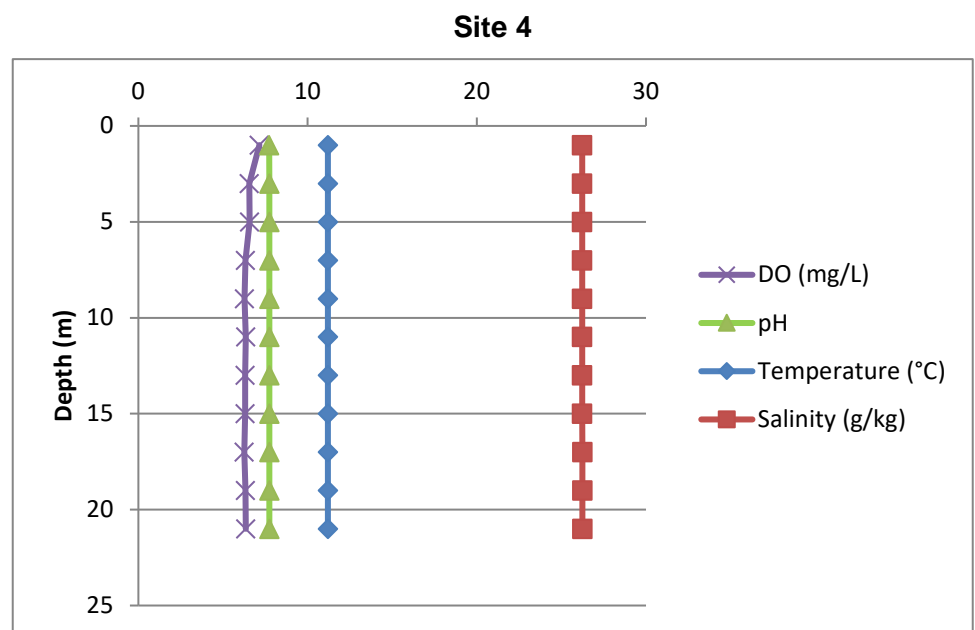
Site 1				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.53	26.39	11.0	7.71
3	6.24	26.39	11.0	7.71
5	6.42	26.39	11.0	7.71
7	6.31	26.40	11.0	7.71
9	6.29	26.39	11.0	7.71
11	6.41	26.36	11.1	7.72
13	6.52	26.38	11.0	7.71
15	6.41	26.38	11.0	7.71
17	6.45	26.38	11.1	7.71
19	6.52	26.38	11.1	7.71
21	6.71	26.39	11.0	7.71
23	6.46	26.41	11.0	7.71



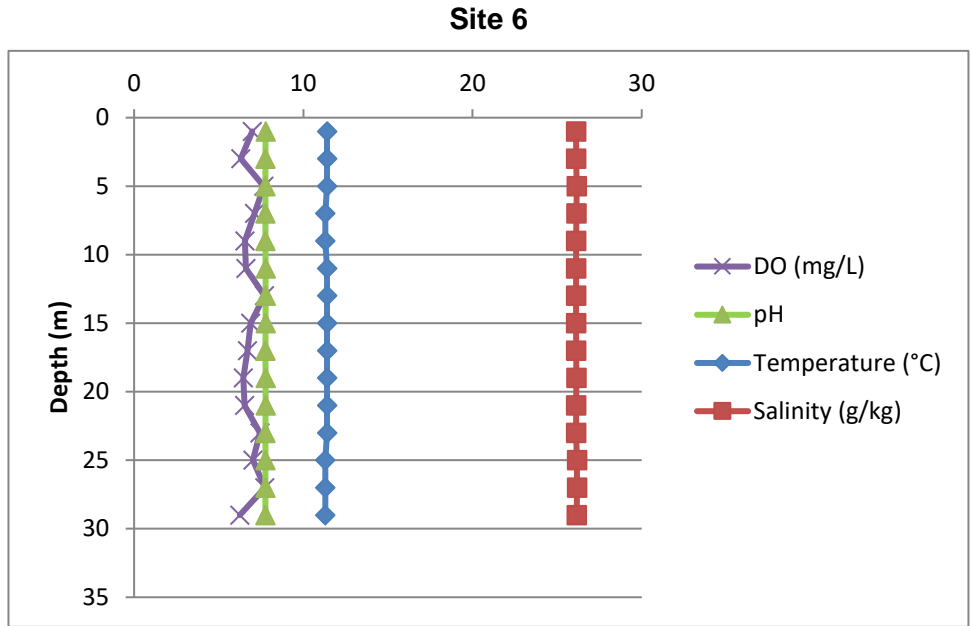
Site 2				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.60	26.29	11.2	7.73
3	6.62	26.29	11.2	7.73
5	6.44	26.28	11.2	7.74
7	6.50	26.26	11.2	7.74
9	6.80	26.27	11.2	7.74
11	6.63	26.27	11.2	7.74
13	6.46	26.27	11.2	7.74
15	6.47	26.27	11.2	7.74
17	6.66	26.27	11.2	7.74
19	6.41	26.25	11.2	7.74
21	6.40	26.28	11.2	7.73



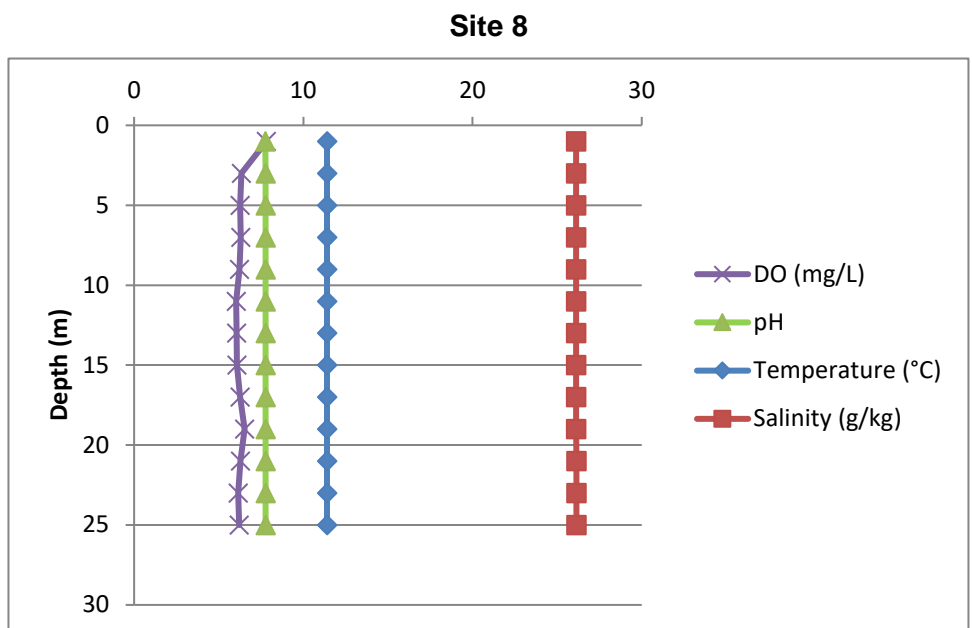
Site 4				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.15	26.23	11.2	7.73
3	6.55	26.23	11.2	7.74
5	6.58	26.23	11.2	7.74
7	6.33	26.23	11.2	7.74
9	6.27	26.23	11.2	7.74
11	6.35	26.23	11.2	7.74
13	6.31	26.23	11.2	7.74
15	6.31	26.23	11.2	7.74
17	6.26	26.24	11.2	7.74
19	6.32	26.24	11.2	7.74
21	6.34	26.24	11.2	7.74



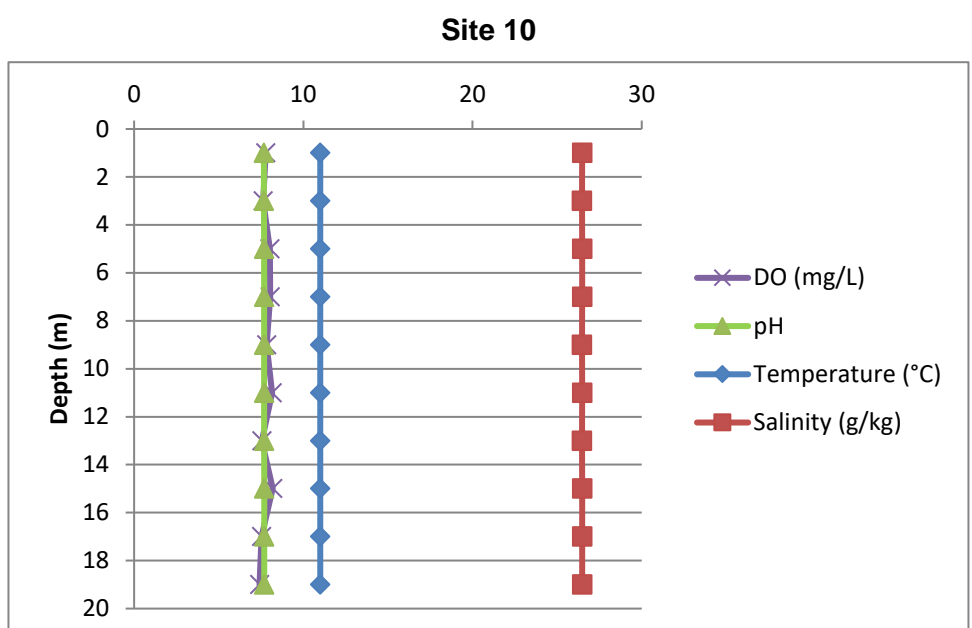
Site 6				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	6.98	26.13	11.4	7.77
3	6.31	26.13	11.4	7.76
5	7.67	26.15	11.4	7.76
7	7.12	26.14	11.3	7.76
9	6.55	26.13	11.3	7.76
11	6.60	26.12	11.4	7.77
13	7.70	26.12	11.4	7.77
15	6.88	26.12	11.4	7.77
17	6.69	26.13	11.4	7.76
19	6.46	26.14	11.4	7.77
21	6.52	26.13	11.4	7.77
23	7.44	26.13	11.4	7.76
25	7.02	26.17	11.3	7.76
27	7.73	26.17	11.3	7.76
29	6.25	26.16	11.3	7.76



Site 8				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.82	26.13	11.4	7.75
3	6.34	26.12	11.4	7.77
5	6.27	26.13	11.4	7.77
7	6.31	26.13	11.4	7.77
9	6.22	26.13	11.4	7.77
11	6.03	26.13	11.4	7.77
13	6.06	26.13	11.4	7.77
15	6.08	26.13	11.4	7.77
17	6.27	26.13	11.4	7.77
19	6.52	26.13	11.4	7.77
21	6.29	26.14	11.4	7.77
23	6.15	26.14	11.4	7.77
25	6.21	26.14	11.4	7.77



Site 10				
Sample Depth (m)	DO (mg/L)	Sal (g/kg)	Temp (°C)	pH
1	7.77	26.48	11.0	7.67
3	7.62	26.47	11.0	7.67
5	8.03	26.48	11.0	7.68
7	8.05	26.48	11.0	7.68
9	7.84	26.47	11.0	7.68
11	8.16	26.48	11.0	7.68
13	7.55	26.47	11.0	7.68
15	8.19	26.48	11.0	7.69
17	7.53	26.48	11.0	7.69
19	7.41	26.48	11.0	7.69
21	7.98	26.48	11.0	7.69
23	7.82	26.48	11.0	7.69
25	7.58	26.48	11.0	7.67



Appendix 6 – Compiled Lab Results

Total ammonia concentration (mg/L) in samples collected for the third quarter Brown's Bay Packing receiving environment monitoring program 2020.

Station	Depth	Week 1	Week 2	Week 3	Week 4	Week 5	30 day Average
		21-Jul	28-Jul	05-Aug	12-Aug	19-Aug	
1	surface	0.044	0.59	0.071	0.033	0.045	0.157
	mid	<0.025	0.30	0.14	0.038	0.15	0.131
	bottom	0.073	0.37	0.064	0.029	0.13	0.133
2	surface	0.071	0.55	0.072	0.095	0.098	0.177
	mid	0.11	0.27	<0.025	0.10	0.11	0.123
	bottom	0.073	0.19	0.063	0.033	0.060	0.084
4	surface	0.095	0.06	0.069	<0.025	0.078	0.065
	mid	0.10	0.57	0.035	0.027	0.11	0.168
	bottom	0.099	0.12	0.072	0.085	0.10	0.095
6	surface	<0.025	0.26	0.046	0.13	0.082	0.109
	mid	0.065	0.58	0.11	0.10	0.12	0.195
	bottom	0.11	0.036	0.084	0.056	0.076	0.072
8	surface	0.085	0.39	<0.025	0.12	0.087	0.141
	mid	0.085	0.14	0.048	<0.025	0.095	0.079
	bottom	<0.025	0.27	0.085	0.065	0.052	0.099
10	surface	0.10	0.69	0.045	0.056	0.11	0.200
	mid	0.091	0.81	0.085	0.034	0.074	0.219
	bottom	0.039	0.21	0.072	0.063	0.11	0.099
Field Duplicate 1		0.12 (1B)	0.37 (1B)	0.029 (10B)	0.071 (10B)	0.097 (1S)	-
Field Duplicate 2		0.11 (2B)	0.16 (2B)	0.048 (1B)	0.073 (2B)	0.11 (2B)	-
Trip Blank		<0.025	-	<0.025	<0.025	<0.025	-
Field Blank		<0.025	0.16	<0.025	<0.025	0.033	-
Reportable detection limit		0.025	0.025	0.025	0.025	0.025	-

Highlighted cells indicate the sample was analyzed past method specified hold time. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Where the result is less than the RDL, the value of the RDL was used to calculate the 30-day average.

() indicate the station and depth where the duplicate was taken S = surface, B = bottom.

Nitrate (N) concentration (mg/L) in samples collected for the third quarter Brown's Bay Packing receiving environment monitoring program 2020.

Station	Depth	Week 1	Week 2	Week 3	Week 4	Week 5	30 day Average
		21-Jul	28-Jul	05-Aug	12-Aug	19-Aug	
1	surface	0.324	0.279	0.281	0.243	0.291	0.284
	mid	0.318	0.298	0.284	0.263	0.302	0.293
	bottom	0.328	0.296	0.268	0.258	0.298	0.290
2	surface	0.308	0.283	0.284	0.263	0.304	0.288
	mid	0.328	0.273	0.268	0.268	0.298	0.287
	bottom	0.333	0.295	0.282	0.259	0.283	0.290
4	surface	0.353	0.294	0.277	0.260	0.290	0.295
	mid	0.341	0.292	0.278	0.271	0.295	0.295
	bottom	0.351	0.286	0.269	0.264	0.294	0.293
6	surface	0.349	0.293	0.233	0.263	0.284	0.284
	mid	0.345	0.297	0.265	0.273	0.290	0.294
	bottom	0.341	0.307	0.260	0.276	0.295	0.296
8	surface	0.352	0.292	0.273	0.272	0.288	0.295
	mid	0.349	0.291	0.281	0.270	0.289	0.296
	bottom	0.355	0.297	0.273	0.270	0.293	0.298
10	surface	0.309	0.283	0.239	0.266	0.304	0.280
	mid	0.312	0.292	0.285	0.282	0.315	0.297
	bottom	0.318	0.287	0.285	0.288	0.309	0.297
Field Duplicate 1		0.328 (1B)	0.290 (1B)	0.278 (10B)	0.284 (10B)	0.308 (1S)	-
Field Duplicate 2		0.324 (2B)	0.302 (2B)	0.286 (1B)	0.272 (2B)	0.295 (2B)	-
Trip Blank		<0.020	-	<0.020	<0.020	<0.020	-
Field Blank		<0.020	<0.020	<0.020	<0.020	<0.020	-
Reportable detection limit		0.020	0.020	0.020	0.020	0.020	-

() indicate the station and depth where the duplicate was taken S = surface, B = bottom.

Enterococci counts (CFU/100mL) of samples collected for the third quarter Brown's Bay Packing receiving environment monitoring program 2020.

Station	Depth	Week 1	Week 2	Week 3	Week 4	Week 5	Geometric Mean
		21-Jul	28-Jul	05-Aug	12-Aug	19-Aug	
1	surface	<1.0	1.0	2.0	<1.0	1.0	1.1
	mid	<1.0	<1.0	13	1.0	<1.0	1.7
	bottom	<1.0	<1.0	5.0	<1.0	<1.0	1.4
2	surface	<1.0	1.0	<1.0	<1.0	<1.0	1.0
	mid	<1.0	<1.0	2.0	<1.0	<1.0	1.1
	bottom	<1.0	<1.0	1.0	<1.0	<1.0	1.0
4	surface	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
	mid	<1.0	<1.0	1.0	<1.0	<1.0	1.0
	bottom	<1.0	<1.0	1.0	<1.0	<1.0	1.0
6	surface	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
	mid	<1.0	1.0	<1.0	<1.0	<1.0	1.0
	bottom	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
8	surface	<1.0	<1.0	<1.0	<1.0	1.0	1.0
	mid	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
	bottom	<1.0	<1.0	1.0	<1.0	<1.0	1.0
10	surface	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
	mid	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
	bottom	<1.0	<1.0	<1.0	<1.0	<1.0	1.0
Field Duplicate 1		<1.0 (1B)	1.0 (1B)	<1.0 (10B)	<1.0 (10B)	<1.0 (1S)	-
Field Duplicate 2		<1.0 (2B)	<1.0 (2B)	3 (1B)	<1.0 (2B)	<1.0 (2B)	-
Field Blank		<1.0	<1.0	<1.0	<1.0	<1.0	-
Reportable detection limit		1.0	1.0	1.0	1.0	1.0	-

Highlighted cells indicate the sample was analyzed past method specified hold time. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Where the result is less than the RDL, the value of the RDL was used to calculate the geometric mean.

() indicate the station and depth where the duplicate was taken S = surface, B = bottom.

Appendix 7 – Bureau Veritas Lab Results



Your Project #: MISC 274
 Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
 1310 MARWALK CRES
 CAMPBELL RIVER, BC
 CANADA V9W 5X1

Your C.O.C. #: 511775-48-01, 511775-47-01, 511775-49-01

Report Date: 2020/07/28
 Report #: R2908492
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C050864

Received: 2020/07/22, 08:17

Sample Matrix: Sea Water
 # Samples Received: 22

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Enterococcus spp.	21	N/A	2020/07/22 BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	19	N/A	2020/07/24 AB SOP-00007	SM 23 4500 NH3 A G m
Ammonia-N Unpreserved Low Level (1, 2)	3	N/A	2020/07/25 AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	22	N/A	2020/07/22 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	22	N/A	2020/07/22 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	22	N/A	2020/07/22 BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental

(2) Dissolved Ammonia > Total Ammonia Imbalance: When applicable, Dissolved Ammonia and Total Ammonia results were reviewed and data quality meets acceptable levels unless otherwise noted. Dissolved Ammonia > Dissolved Total Kjeldahl Nitrogen Imbalance: When applicable, Dissolved Ammonia and Dissolved Total Kjeldahl Nitrogen results were reviewed and data quality meets acceptable levels unless otherwise noted.



Your Project #: MISC 274
Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
1310 MARWALK CRES
CAMPBELL RIVER, BC
CANADA V9W 5X1

Your C.O.C. #: 511775-48-01, 511775-47-01, 511775-49-01

Report Date: 2020/07/28
Report #: R2908492
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C050864
Received: 2020/07/22, 08:17

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bvlabs.com
Phone# (604) 734 7276

=====
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BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YC8781		YC8782	YC8783		YC8784		
Sampling Date		2020/07/21 09:30		2020/07/21 09:40	2020/07/21 09:45		2020/07/21 10:15		
COC Number		511775-48-01		511775-48-01	511775-48-01		511775-48-01		
	UNITS	SITE 1-S	QC Batch	SITE 1-M	SITE 1-B	QC Batch	SITE 2-S	RDL	QC Batch

ANIONS									
Nitrite (N)	mg/L	<0.0050	9931663	<0.0050	<0.0050	9931669	<0.0050	0.0050	9931663
Calculated Parameters									
Nitrate (N)	mg/L	0.324	9930992	0.318	0.328	9930992	0.308	0.020	9930992
Nutrients									
Total Ammonia (N)	mg/L	0.044 (1)	9933754	<0.025 (1)	0.073 (1)	9933754	0.071 (1)	0.025	9933760
Nitrate plus Nitrite (N)	mg/L	0.324	9931660	0.318	0.328	9931664	0.308	0.020	9931660
RDL = Reportable Detection Limit									
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									

BV Labs ID		YC8785	YC8786		YC8787	YC8788		
Sampling Date		2020/07/21 10:20	2020/07/21 10:30		2020/07/21 11:00	2020/07/21 11:05		
COC Number		511775-48-01	511775-48-01		511775-48-01	511775-48-01		
	UNITS	SITE 2-M	SITE 2-B	QC Batch	SITE 4-S	SITE 4-M	RDL	QC Batch

ANIONS								
Nitrite (N)	mg/L	<0.0050	<0.0050	9931663	<0.0050	<0.0050	0.0050	9931669
Calculated Parameters								
Nitrate (N)	mg/L	0.328	0.333	9930992	0.353	0.341	0.020	9930992
Nutrients								
Total Ammonia (N)	mg/L	0.11 (1)	0.073 (1)	9933754	0.095 (1)	0.10 (1)	0.025	9933754
Nitrate plus Nitrite (N)	mg/L	0.328	0.333	9931660	0.353	0.341	0.020	9931664
RDL = Reportable Detection Limit								
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.								



BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YC8789		YC8790	YC8791		YC8792		
Sampling Date		2020/07/21 11:10		2020/07/21 11:35	2020/07/21 11:45		2020/07/21 11:50		
COC Number		511775-48-01		511775-48-01	511775-47-01		511775-47-01		
	UNITS	SITE 4-B	QC Batch	SITE 6-S	SITE 6-M	QC Batch	SITE 6-B	RDL	QC Batch

ANIONS									
Nitrite (N)	mg/L	<0.0050	9931669	<0.0050	<0.0050	9931669	<0.0050	0.0050	9931669
Calculated Parameters									
Nitrate (N)	mg/L	0.351	9930992	0.349	0.345	9930992	0.341	0.020	9930992
Nutrients									
Total Ammonia (N)	mg/L	0.099 (1)	9935187	<0.025 (1)	0.065 (1)	9933754	0.11 (1)	0.025	9935187
Nitrate plus Nitrite (N)	mg/L	0.351	9931664	0.349	0.345	9931664	0.341	0.020	9931664
RDL = Reportable Detection Limit									
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									

BV Labs ID		YC8793	YC8794	YC8795	YC8796		YC8797		
Sampling Date		2020/07/21 12:15	2020/07/21 12:20	2020/07/21 12:30	2020/07/21 08:50		2020/07/21 08:55		
COC Number		511775-47-01	511775-47-01	511775-47-01	511775-47-01		511775-47-01		
	UNITS	SITE 8-S	SITE 8-M	SITE 8-B	SITE 10-S	QC Batch	SITE 10-M	RDL	QC Batch

ANIONS									
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	9931669	<0.0050	0.0050	9931669
Calculated Parameters									
Nitrate (N)	mg/L	0.352	0.349	0.355	0.309	9930992	0.312	0.020	9930992
Nutrients									
Total Ammonia (N)	mg/L	0.085 (1)	0.085 (1)	<0.025 (1)	0.10 (1)	9933754	0.091 (1)	0.025	9935187
Nitrate plus Nitrite (N)	mg/L	0.352	0.349	0.355	0.309	9931664	0.312	0.020	9931664
RDL = Reportable Detection Limit									
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									



BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YC8798	YC8799		YC8800		YC8801		
Sampling Date		2020/07/21 09:00	2020/07/21 09:45		2020/07/21 10:30		2020/07/21		
COC Number		511775-47-01	511775-47-01		511775-47-01		511775-49-01		
	UNITS	SITE 10-B	FIELD DUP 1	QC Batch	FIELD DUP 2	QC Batch	TRIP BLANK	RDL	QC Batch
ANIONS									
Nitrite (N)	mg/L	<0.0050	<0.0050	9931669	<0.0050	9931663	<0.0050	0.0050	9931669
Calculated Parameters									
Nitrate (N)	mg/L	0.318	0.328	9930992	0.324	9930992	<0.020	0.020	9930992
Nutrients									
Total Ammonia (N)	mg/L	0.039 (1)	0.12 (1)	9933754	0.11 (1)	9933754	<0.025 (1)	0.025	9933760
Nitrate plus Nitrite (N)	mg/L	0.318	0.328	9931664	0.324	9931660	<0.020	0.020	9931664
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									

BV Labs ID		YC8802		
Sampling Date		2020/07/21 12:40		
COC Number		511775-49-01		
	UNITS	FIELD BLANK	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	<0.0050	0.0050	9931669
Calculated Parameters				
Nitrate (N)	mg/L	<0.020	0.020	9930992
Nutrients				
Total Ammonia (N)	mg/L	<0.025 (1)	0.025	9933754
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	9931664
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.				



BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

MICROBIOLOGY (SEA WATER)

BV Labs ID		YC8781	YC8782	YC8783	YC8784	YC8785	YC8786		
Sampling Date		2020/07/21 09:30	2020/07/21 09:40	2020/07/21 09:45	2020/07/21 10:15	2020/07/21 10:20	2020/07/21 10:30		
COC Number		511775-48-01	511775-48-01	511775-48-01	511775-48-01	511775-48-01	511775-48-01		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	SITE 2-M	SITE 2-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9931528
RDL = Reportable Detection Limit									

BV Labs ID		YC8787	YC8788	YC8789	YC8790	YC8791	YC8792		
Sampling Date		2020/07/21 11:00	2020/07/21 11:05	2020/07/21 11:10	2020/07/21 11:35	2020/07/21 11:45	2020/07/21 11:50		
COC Number		511775-48-01	511775-48-01	511775-48-01	511775-48-01	511775-47-01	511775-47-01		
	UNITS	SITE 4-S	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	SITE 6-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9931528
RDL = Reportable Detection Limit									

BV Labs ID		YC8793	YC8794	YC8795	YC8796	YC8797	YC8798		
Sampling Date		2020/07/21 12:15	2020/07/21 12:20	2020/07/21 12:30	2020/07/21 08:50	2020/07/21 08:55	2020/07/21 09:00		
COC Number		511775-47-01	511775-47-01	511775-47-01	511775-47-01	511775-47-01	511775-47-01		
	UNITS	SITE 8-S	SITE 8-M	SITE 8-B	SITE 10-S	SITE 10-M	SITE 10-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9931528
RDL = Reportable Detection Limit									

BV Labs ID		YC8799	YC8800	YC8802		
Sampling Date		2020/07/21 09:45	2020/07/21 10:30	2020/07/21 12:40		
COC Number		511775-47-01	511775-47-01	511775-49-01		
	UNITS	FIELD DUP 1	FIELD DUP 2	FIELD BLANK	RDL	QC Batch
Microbiological Param.						
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	1.0	9931528
RDL = Reportable Detection Limit						



BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C
-----------	-------

Sample YC8789 [SITE 4-B] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YC8792 [SITE 6-B] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YC8797 [SITE 10-M] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C050864
Report Date: 2020/07/28

QUALITY ASSURANCE REPORT

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9931660	Nitrate plus Nitrite (N)	2020/07/22	105	80 - 120	109	80 - 120	<0.020	mg/L	NC	25		
9931663	Nitrite (N)	2020/07/22	84	80 - 120	100	80 - 120	<0.0050	mg/L	NC	20		
9931664	Nitrate plus Nitrite (N)	2020/07/22	104	80 - 120	109	80 - 120	<0.020	mg/L	2.2	25		
9931669	Nitrite (N)	2020/07/22	96	80 - 120	100	80 - 120	<0.0050	mg/L	NC	20		
9933754	Total Ammonia (N)	2020/07/24	92	80 - 120	105	80 - 120	<0.0050	mg/L	14 (1)	20	113	N/A
9933760	Total Ammonia (N)	2020/07/24	99	80 - 120	102	80 - 120	<0.0050	mg/L	NC	20	108	N/A
9935187	Total Ammonia (N)	2020/07/25	99	80 - 120	109	80 - 120	0.0054, RDL=0.0050 (2)	mg/L	11 (1)	20	103	N/A

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

(2) Method Blank <2X RDL.



BUREAU
VERITAS

BV Labs Job #: C050864

Report Date: 2020/07/28

MAINSTREAM BIOLOGICAL CONSULTING INC.

Client Project #: MISC 274

Site Location: BBP ENV

Sampler Initials: EC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

Harry (Peng) Liang, Senior Analyst

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Maxxam Analytics International Corporation o/a Maxxam Analytics
4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel: (604) 734 7276 Toll-free: 800-563-6266 Fax: (604) 731-2386 www.maxxam.ca

INVOICE TO:

Company Name: #4052 MAINSTREAM BIOLOGICAL CONSULTING INC
 Contact Name: MONICA STEWARDSON
 Address: 1310 MARWALK CRES
 CAMPBELL RIVER BC V9W 5X1
 Phone: (250) 287-2462 Fax: (250) 287-2452
 Email: monica@mainstreambio.ca

Report Information

Company Name: _____
 Contact Name: MONICA STEWARDSON
 Address: _____
 Phone: _____ Fax: _____
 Email: monica@mainstreambio.ca

Project Information

Quotation #: ~~B61659~~ B90411
 P.O. #: _____
 Project #: _____
 Project Name: MISC Z74
 BBP ENV
 Site #: _____
 Sampled By: EC MK



C050864_COC

Bottle Order #: _____
 511775
 Project Manager: Debbie Nordbruket

Regulatory Criteria:

CSR
 CCME
 BC Water Quality
 Other: _____

Special Instructions:

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Metals Field Filtered ? (Y/N)	Nitrate	Ammonia	Enterococci																
-------------------------------	---------	---------	-------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT:
 (will be applied if Rush TAT is not specified)
 Standard TAT = 5-7 Working days for most tests

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details

Regular (Standard) TAT

Job Specific Rush TAT (if applies to entire submission)

1 DAY 2 Day 3 Day Date Required: _____

Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y/N)	Nitrate	Ammonia	Enterococci											
1	Site 1-S	2020/07/21	9:30	seawater		X	X	X											3
2	Site 1-M		9:40			X	X	X											
3	Site 1-B		9:45			X	X	X											
4	Site 2-S		10:15			X	X	X											
5	Site 2-M		10:20			X	X	X											
6	Site 2-B		10:30			X	X	X											
7	Site 4-S		11:00			X	X	X											
8	Site 4-M		11:05			X	X	X											
9	Site 4-B		11:10			X	X	X											
10	Site 6-S	2020/07/21	11:35	seawater		X	X	X											3

RELINQUISHED BY: (Signature/Print) Mitchell Kloppenburg **Date: (YY/MM/DD)** 2020/07/21 **Time** 1:48

RECEIVED BY: (Signature/Print) J. P. Tack **Date: (YY/MM/DD)** 2020/07/22 **Time** 08:17

jars used and not submitted _____

Lab Use Only

Time Sensitive Temperature (°C) on Receipt: 6.5.4 Custody Seal Intact on Cooler? Yes No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



Maxxam Analytics International Corporation o/a Maxxam Analytics
 4606 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel: (604) 734 7276 Toll-free 800-563-6266 Fax: (604) 731 2386 www.maxxam.ca

INVOICE TO:		Report Information		Project Information	
Company Name	#4652 MAINSTREAM BIOLOGICAL CONSULTING INC	Company Name		Quotation #	801659 B90411
Contact Name	MONICA STEWARDSON	Contact Name	MONICA STEWARDSON	P O #	
Address	1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address		Project #	MISC 274 BBP ENV
Phone	(250) 287-2462 Fax: (250) 287-2452	Phone		Project Name	
Email	monica@mainstreambio.ca	Email	monica@mainstreambio.ca	Site #	
				Sampled By	EL MK



C050864_COC

Bottle Order #: 511775
 Project Manager: Debbie Nordstruet

Regulatory Criteria:	Special Instructions	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)			Turnaround Time (TAT) Required:
<input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other: _____		Nitrate	Ammonia	Enterococci	Please provide advance notice for rush projects Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details Job Specific Rush TAT (if applies to entire submission) 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM						Metals Field Filtered ? (Y/N)			# of Bottles	Comments
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix						
1	Site 6-M	2020/07/21	11:45	seawater	X	X	X	3		
2	Site 6-B		11:50		X	X	X			
3	Site 8-S		12:15		X	X	X			
4	Site 8-M		12:20		X	X	X			
5	Site 8-B		12:30		X	X	X			
6	Site 10-S		8:50		X	X	X			
7	Site 10-M		8:55		X	X	X			
8	Site 10-B		9:00		X	X	X			
9	Field Dup 1		9:45		X	X	X			
10	Field Dup 2	2020/07/21	10:30	seawater	X	X	X	3		

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Lab Use Only		
M. Kloppenburg Mitchell Kloppenburg	2020/07/21	1:48	M. Pedro TACC	2020/07/21	08:17		Time Sensitive	Temperature (°C) on Receipt	Custody Seal Intact on Cooler?
							<input type="checkbox"/>	6.5.4	N/A <input type="checkbox"/> Yes <input type="checkbox"/> No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



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Page 33

INVOICE TO:

Company Name: #4652 MAINSTREAM BIOLOGICAL CONSULTING IN
 Contact Name: MONICA STEWARDSON
 Address: 1310 MARWALK CRES
 CAMPBELL RIVER BC V9W 5X1
 Phone: (250) 287-2462 Fax: (250) 287-2452
 Email: monica@mainstreambio.ca

Report Information

Company Name: _____
 Contact Name: MONICA STEWARDSON
 Address: _____
 Phone: _____ Fax: _____
 Email: monica@mainstreambio.ca

Project Information

Quotation # ~~B61669~~ B90411
 P.O. # _____
 Project # MISC 274
 Project Name: BBP ENV
 Site # _____
 Sampled By: EC MK



C050864_COC

Bottle Order #: _____
 511775
 Project Manager
 Debbie Nordbruger

Regulatory Criteria:

CSR
 CCME
 BC Water Quality
 Other: _____

Special Instructions

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Metals Field Filled? (Y/N)	Nitrate	Ammonia	Enterococci																	
----------------------------	---------	---------	-------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Turnaround Time (TAT) Required

Please provide advance notice for rush projects

Regular (Standard) TAT:
 (will be applied if Rush TAT is not specified)
 Standard TAT = 5-7 Working days for most tests.
 Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

1 DAY 2 Day 3 Day Date Required: _____

Rush Confirmation Number: _____ (call lab for #)

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filled? (Y/N)	Nitrate	Ammonia	Enterococci													# of Bottles	Comments
1	Trip Blank	2020/07/14	---	water		X	X														2	
2	Field Blank	2020/07/21	12:40	water		X	X	X													3	
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

RELINQUISHED BY: (Signature/Print) Mitchell Kloppenburg **Date: (YY/MM/DD)** 2020/07/21 **Time** 1:48

RECEIVED BY: (Signature/Print) M. P. TACE **Date: (YY/MM/DD)** 2020/07/22 **Time** 08:17

jars used and not submitted _____

Lab Use Only

Time Sensitive Temperature (°C) on Receipt 6.5.4 Custody Seal Intact on Cooler? Yes No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

White: Maxxam Yellow: Client

Maxxam Analytics International Corporation o/a Maxxam Analytics



Your Project #: MISC 274
 Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
 1310 MARWALK CRES
 CAMPBELL RIVER, BC
 CANADA V9W 5X1

Your C.O.C. #: 465291-33-01, 465291-34-01, 465291-35-01

Report Date: 2020/08/05
 Report #: R2911308
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C052807

Received: 2020/07/29, 08:20

Sample Matrix: Sea Water
 # Samples Received: 21

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Enterococcus spp.	21	N/A	2020/07/29 BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	9	N/A	2020/07/30 AB SOP-00007	SM 23 4500 NH3 A G m
Ammonia-N Unpreserved Low Level (1, 2)	12	N/A	2020/08/01 AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	21	N/A	2020/07/29 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	21	N/A	2020/07/29 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	21	N/A	2020/07/29 BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental

(2) Dissolved Ammonia > Total Ammonia Imbalance: When applicable, Dissolved Ammonia and Total Ammonia results were reviewed and data quality meets acceptable levels unless otherwise noted. Dissolved Ammonia > Dissolved Total Kjeldahl Nitrogen Imbalance: When applicable, Dissolved Ammonia and Dissolved Total Kjeldahl Nitrogen results were reviewed and data quality meets acceptable levels unless otherwise noted.



Your Project #: MISC 274
Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
1310 MARWALK CRES
CAMPBELL RIVER, BC
CANADA V9W 5X1

Your C.O.C. #: 465291-33-01, 465291-34-01, 465291-35-01

Report Date: 2020/08/05
Report #: R2911308
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C052807
Received: 2020/07/29, 08:20

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bvlabs.com
Phone# (604) 734 7276

=====

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RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YD9887	YD9888	YD9889	YD9890	YD9891		
Sampling Date		2020/07/28 08:20	2020/07/28 11:00	2020/07/28 11:05	2020/07/28 11:25	2020/07/28 11:30		
COC Number		465291-33-01	465291-33-01	465291-33-01	465291-33-01	465291-33-01		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	SITE 2-M	RDL	QC Batch

ANIONS								
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	9940192
Calculated Parameters								
Nitrate (N)	mg/L	0.279	0.298	0.296	0.283	0.273	0.020	9939583
Nutrients								
Total Ammonia (N)	mg/L	0.59 (1)	0.30 (1)	0.37 (1)	0.55 (1)	0.27 (1)	0.030	9941477
Nitrate plus Nitrite (N)	mg/L	0.279	0.298	0.296	0.283	0.273	0.020	9940187
RDL = Reportable Detection Limit								
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.								

BV Labs ID		YD9892			YD9893			YD9894		
Sampling Date		2020/07/28 11:35			2020/07/28 12:00			2020/07/28 12:05		
COC Number		465291-33-01			465291-33-01			465291-33-01		
	UNITS	SITE 2-B	RDL	QC Batch	SITE 4-S	RDL	QC Batch	SITE 4-M	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	0.0050	9940194	<0.0050	0.0050	9940192	<0.0050	0.0050	9940192
Calculated Parameters										
Nitrate (N)	mg/L	0.295	0.020	9939583	0.294	0.020	9939583	0.292	0.020	9939583
Nutrients										
Total Ammonia (N)	mg/L	0.19 (1)	0.030	9941477	0.060 (1)	0.025	9944237	0.57 (1)	0.030	9941477
Nitrate plus Nitrite (N)	mg/L	0.295	0.020	9940193	0.294	0.020	9940187	0.292	0.020	9940187
RDL = Reportable Detection Limit										
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										



BUREAU
VERITAS

BV Labs Job #: C052807
Report Date: 2020/08/05

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YD9895		YD9896	YD9897		YD9898		
Sampling Date		2020/07/28 12:10		2020/07/28 12:25	2020/07/28 12:30		2020/07/28 12:35		
COC Number		465291-33-01		465291-33-01	465291-34-01		465291-34-01		
	UNITS	SITE 4-B	QC Batch	SITE 6-S	SITE 6-M	QC Batch	SITE 6-B	RDL	QC Batch

ANIONS									
Nitrite (N)	mg/L	<0.0050	9940192	<0.0050	<0.0050	9940194	<0.0050	0.0050	9940192
Calculated Parameters									
Nitrate (N)	mg/L	0.286	9939583	0.293	0.297	9939583	0.307	0.020	9939583
Nutrients									
Total Ammonia (N)	mg/L	0.12 (1)	9944237	0.26 (1)	0.58 (1)	9944237	0.036 (1)	0.025	9944237
Nitrate plus Nitrite (N)	mg/L	0.286	9940187	0.293	0.297	9940193	0.307	0.020	9940187
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									

BV Labs ID		YD9899		YD9900	YD9901			YD9902		
Sampling Date		2020/07/28 13:00		2020/07/28 13:05	2020/07/28 13:10			2020/07/28 07:45		
COC Number		465291-34-01		465291-34-01	465291-34-01			465291-34-01		
	UNITS	SITE 8-S	QC Batch	SITE 8-M	SITE 8-B	RDL	QC Batch	SITE 10-S	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	9940194	<0.0050	<0.0050	0.0050	9940192	<0.0050	0.0050	9940192
Calculated Parameters										
Nitrate (N)	mg/L	0.292	9939583	0.291	0.297	0.020	9939583	0.283	0.020	9939583
Nutrients										
Total Ammonia (N)	mg/L	0.39 (1)	9944237	0.14 (1)	0.27 (1)	0.025	9944237	0.69 (1)	0.030	9941477
Nitrate plus Nitrite (N)	mg/L	0.292	9940193	0.291	0.297	0.020	9940187	0.283	0.020	9940187
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										



BUREAU
VERITAS

BV Labs Job #: C052807
Report Date: 2020/08/05

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YD9903		YD9904	YD9905		YD9906		
Sampling Date		2020/07/28 07:50		2020/07/28 07:55	2020/07/28 11:05		2020/07/28 11:35		
COC Number		465291-34-01		465291-34-01	465291-34-01		465291-34-01		
	UNITS	SITE 10-M	QC Batch	SITE 10-B	FIELD DUP 1	QC Batch	FIELD DUP 2	RDL	QC Batch
ANIONS									
Nitrite (N)	mg/L	<0.0050	9940194	<0.0050	<0.0050	9940192	<0.0050	0.0050	9940194
Calculated Parameters									
Nitrate (N)	mg/L	0.292	9939583	0.287	0.290	9939583	0.302	0.020	9939583
Nutrients									
Total Ammonia (N)	mg/L	0.81 (1)	9941477	0.21 (1)	0.37 (1)	9944237	0.16 (1)	0.025	9944237
Nitrate plus Nitrite (N)	mg/L	0.292	9940193	0.287	0.290	9940187	0.302	0.020	9940193
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									

BV Labs ID		YD9913		
Sampling Date		2020/07/28 13:20		
COC Number		465291-35-01		
	UNITS	FIELD BLANK	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	<0.0050	0.0050	9940194
Calculated Parameters				
Nitrate (N)	mg/L	<0.020	0.020	9939583
Nutrients				
Total Ammonia (N)	mg/L	0.16 (1)	0.025	9944719
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	9940193
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly. Matrix spike exceeds acceptance limits due to matrix interference.				



BUREAU
VERITAS

BV Labs Job #: C052807
Report Date: 2020/08/05

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

MICROBIOLOGY (SEA WATER)

BV Labs ID		YD9887	YD9888	YD9889	YD9890	YD9891	YD9892		
Sampling Date		2020/07/28 08:20	2020/07/28 11:00	2020/07/28 11:05	2020/07/28 11:25	2020/07/28 11:30	2020/07/28 11:35		
COC Number		465291-33-01	465291-33-01	465291-33-01	465291-33-01	465291-33-01	465291-33-01		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	SITE 2-M	SITE 2-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	1.0	<1.0	<1.0	1.0	9940180
RDL = Reportable Detection Limit									

BV Labs ID		YD9893	YD9894	YD9895	YD9896	YD9897	YD9898		
Sampling Date		2020/07/28 12:00	2020/07/28 12:05	2020/07/28 12:10	2020/07/28 12:25	2020/07/28 12:30	2020/07/28 12:35		
COC Number		465291-33-01	465291-33-01	465291-33-01	465291-33-01	465291-34-01	465291-34-01		
	UNITS	SITE 4-S	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	SITE 6-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	1.0	9940180
RDL = Reportable Detection Limit									

BV Labs ID		YD9899	YD9900	YD9901	YD9902	YD9903	YD9904		
Sampling Date		2020/07/28 13:00	2020/07/28 13:05	2020/07/28 13:10	2020/07/28 07:45	2020/07/28 07:50	2020/07/28 07:55		
COC Number		465291-34-01	465291-34-01	465291-34-01	465291-34-01	465291-34-01	465291-34-01		
	UNITS	SITE 8-S	SITE 8-M	SITE 8-B	SITE 10-S	SITE 10-M	SITE 10-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9940180
RDL = Reportable Detection Limit									

BV Labs ID		YD9905	YD9906	YD9913		
Sampling Date		2020/07/28 11:05	2020/07/28 11:35	2020/07/28 13:20		
COC Number		465291-34-01	465291-34-01	465291-35-01		
	UNITS	FIELD DUP 1	FIELD DUP 2	FIELD BLANK	RDL	QC Batch
Microbiological Param.						
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	1.0	9940180
RDL = Reportable Detection Limit						



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.7°C
Package 2	9.7°C
Package 3	7.0°C

Sample YD9893 [SITE 4-S] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9895 [SITE 4-B] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9896 [SITE 6-S] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9897 [SITE 6-M] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9898 [SITE 6-B] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9899 [SITE 8-S] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9900 [SITE 8-M] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9901 [SITE 8-B] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9902 [SITE 10-S] : Sample was analyzed past method specific hold time for Enterococcus spp..

Sample YD9903 [SITE 10-M] : Sample was analyzed past method specific hold time for Enterococcus spp..

Sample YD9904 [SITE 10-B] : Sample was analyzed past method specific hold time for Enterococcus spp.. Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9905 [FIELD DUP 1] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9906 [FIELD DUP 2] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Sample YD9913 [FIELD BLANK] : Sample was analyzed past method specified hold time for Ammonia-N Unpreserved Low Level. Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised.

Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C052807

Report Date: 2020/08/05

QUALITY ASSURANCE REPORT

MAINSTREAM BIOLOGICAL CONSULTING INC.

Client Project #: MISC 274

Site Location: BBP ENV

Sampler Initials: EC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9940187	Nitrate plus Nitrite (N)	2020/07/29	102	80 - 120	108	80 - 120	<0.020	mg/L	0.13	25		
9940192	Nitrite (N)	2020/07/29	94	80 - 120	104	80 - 120	<0.0050	mg/L	NC	20		
9940193	Nitrate plus Nitrite (N)	2020/07/29	95	80 - 120	105	80 - 120	<0.020	mg/L	1.0	25		
9940194	Nitrite (N)	2020/07/29	93	80 - 120	106	80 - 120	<0.0050	mg/L	0	20		
9941477	Total Ammonia (N)	2020/07/30	NC	80 - 120	118	80 - 120	<0.0050	mg/L			128	N/A
9944237	Total Ammonia (N)	2020/08/01	108	80 - 120	108	80 - 120	<0.0050	mg/L	NC (1)	20	112	N/A
9944719	Total Ammonia (N)	2020/08/01	54 (2)	80 - 120	108	80 - 120	<0.0050	mg/L	1.8	20	113	N/A

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

(2) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



BUREAU
VERITAS

BV Labs Job #: C052807
Report Date: 2020/08/05

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Ghayasuddin Khan, M.Sc., P.Chem., QP, Scientific Specialist, Inorganics

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Maxxam Analytics International Corporation or Maxxam Analytics
 4506 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel: (604) 734 7276 Toll-Free 800-563-6266 Fax: (604) 731 2366 www.maxxam.ca

INVOICE TO:		Report Information		Project Information	
Company Name: #4652 MAINSTREAM BIOLOGICAL CONSULTING INC	Company Name: MONICA STEWARDSON	Quotation #: B90411	P.O. #		
Contact Name: MONICA STEWARDSON	Contact Name: MONICA STEWARDSON	P.D. #	Project Name: MISC 274		
Address: 1310 MARWALK CRES	Address:	Project #	BBP ENK		
Address: CAMPBELL RIVER BC V9W 5X1	Address:	Project Name	Site #		
Phone: (250) 287-2462 Fax: (250) 287-2452	Phone:	Site #	Sampled By: EC MK		
Email: monica@mainstreambio.ca	Email: monica@mainstreambio.ca	Sampled By:	EC MK		



Job Order #: 165291
 Project Manager: Debbie Nordstruet

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other: _____	Special Instructions	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	Turnaround Time (TAT) Required: Please provide advance notice for rush projects
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SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metal Field Filtered? (Y/N)	Nitrate	Ammonia	E.terococci	# of Bottles	Comments
1	Site 1-S	2020/07/28	8:20	seawater		X	X	X	3	
2	site 1-M		11:00			X	X	X		
3	site 1-B		11:05			X	X	X		
4	Site 2-S		11:25			X	X	X		
5	Site 2-M		11:30			X	X	X		
6	site 2-B		11:35			X	X	X		
7	Site 4-S		12:00			X	X	X		
8	Site 4-M		12:05			X	X	X		
9	Site 4-B		12:10			X	X	X		
10	Site 6-S	2020/07/28	12:25	seawater		X	X	X	3	

RELINQUISHED BY: (Signature/Print) Emily Cicon	Date: (YY/MM/DD) 20/07/28	Time 15:30	RECEIVED BY: (Signature/Print) M. P. ...	Date: (YY/MM/DD) 2020/07/29	Time 08:20	# jars used and not submitted	Lab Use Only	
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.						Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 7, 6, 10 10, 10, 9 6, 7, 8	Custody Seal Intact on Cooler? N/A <input type="checkbox"/> Yes <input type="checkbox"/> No

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 4806 Canada Way, Burnaby, British Columbia Canada V5G 1K5 Tel: (604) 734 7276 Toll-Free 800-563-6266 Fax: (604) 731 2386 www.maxxam.ca

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INVOICE TO:		Report Information		Project Information	
Company Name	#4852 MAINSTREAM BIOLOGICAL CONSULTING IN	Company Name		Quotation #	B910911
Contact Name	MONICA STEWARDSON	Contact Name	MONICA STEWARDSON	P.O. #	
Address	1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address		Project #	MEX 274 BBP ENV
Phone	(250) 287-2462 Fax: (250) 287-2452	Phone		Project Name	
Email	monica@mainstreambio.ca	Email	monica@mainstreambio.ca	Site #	
				Sampled By	ECMK



C052807_COC

Bottle Order #:
465291
Project Manager
Debbie Nordbrugel



CM465291-34-01

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other _____	Special Instructions	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	Turnaround Time (TAT) Required: Please provide advance notice for rush projects
		Nitrate Ammonia Enterococci	Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. <input checked="" type="checkbox"/>
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM			Job Specific Rush TAT (if applies to entire submission) 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered (Y/N)	Nitrate	Ammonia	Enterococci						# of Bottles	Comments
1	Site 6-M	2020/07/28	12:30	seawater		X	X	X						3	
2	Site 6-B		12:35			X	X	X							
3	Site 8-S		13:00			X	X	X							
4	Site 8-M		13:05			X	X	X							
5	Site 8-B		13:10			X	X	X							
6	Site 10-S		7:45			X	X	X							
7	Site 10-M		7:50			X	X	X							
8	Site 10-B		7:55			X	X	X							
9	Field Dup 1	✓	11:05	✓		X	X	X						✓	
10	Field Dup 2	2020/07/28	11:35	seawater		X	X	X						3	

RELINQUISHED BY: (Signature/Print) Emily Licon	Date: (YY/MM/DD) 20/07/28	Time 15:30	RECEIVED BY: (Signature/Print) MUPENDO TACE	Date: (YY/MM/DD) 2020/07/29	Time 08:20	# jars used and not submitted	Lab Use Only
							Time Sensitive <input type="checkbox"/>
							Temperature (°C) on Receipt 7, 6, 10 10, 10, 9 6, 7, 8
							Custody Seal Intact on Cooler? N/A <input type="checkbox"/> Yes <input type="checkbox"/> No

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

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INVOICE TO:		Report Information		Project Information	
Company Name	#4652 MAINSTREAM BIOLOGICAL CONSULTING IN	Company Name	MONICA STEWARDSON	Quotation #	B90411
Contact Name	MONICA STEWARDSON	Contact Name	MONICA STEWARDSON	P.O. #	
Address	1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address		Project #	MISC 274 BRP ENV
Phone	(250) 287-2462 Fax: (250) 287-2452	Phone		Project Name	
Email	monica@mainstreambio.ca	Email	monica@mainstreambio.ca	Site #	
				Sampled By	EC MK



Bottle Order #: 465291
 Project Manager: Debbie Nordbruger

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other: _____	Special Instructions: 	ANALYSIS REQUESTED (PLEASE BE SPECIFIC) Metals Field Filtered? (Y/N) Nitrate Ammonia Enterococci	Turnaround Time (TAT) Required: Please provide advance notice for rush projects Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
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SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM										
Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Nitrate	Ammonia	Enterococci			
1	Field Blank	2020/07/28	13:20	seawater	X	X	X			3
2										
3										
4										
5										
6										
7										
8										
9										
10										

RELINQUISHED BY: (Signature/Print) Emily Cicon	Date: (YY/MM/DD) 20/07/28	Time 15:30	RECEIVED BY: (Signature/Print) M. Pedro Tack	Date: (YY/MM/DD) 2020/07/29	Time 08:20	# jars used and not submitted 	Lab Use Only Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 7, 6, 10 10, 10, 9 6, 7, 8	Custody Seal Intact on Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	-------------------------------------	----------------------	--	---------------------------------------	----------------------	--	--	---	---

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

Maxxam Analytics International Corporation o/a Maxxam Analytics



Your Project #: MISC 274
 Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
 1310 MARWALK CRES
 CAMPBELL RIVER, BC
 CANADA V9W 5X1

Your C.O.C. #: 587343-01-01, 587343-02-01, 587343-03-01

Report Date: 2020/08/10
 Report #: R2913418
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C054945

Received: 2020/08/06, 08:06

Sample Matrix: Sea Water
 # Samples Received: 20

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Enterococcus spp.	20	N/A	2020/08/06	BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	20	N/A	2020/08/07	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	20	N/A	2020/08/06	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	20	N/A	2020/08/06	BBY WI-00033	Auto Calc

Sample Matrix: Water
 # Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Enterococcus spp.	1	N/A	2020/08/06	BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	2	N/A	2020/08/07	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	2	N/A	2020/08/06	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	2	N/A	2020/08/06	BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.



Your Project #: MISC 274
Site Location: BBP ENV

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
1310 MARWALK CRES
CAMPBELL RIVER, BC
CANADA V9W 5X1

Your C.O.C. #: 587343-01-01, 587343-02-01, 587343-03-01

Report Date: 2020/08/10
Report #: R2913418
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C054945

Received: 2020/08/06, 08:06

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental

(2) Dissolved Ammonia > Total Ammonia Imbalance: When applicable, Dissolved Ammonia and Total Ammonia results were reviewed and data quality meets acceptable levels unless otherwise noted. Dissolved Ammonia > Dissolved Total Kjeldahl Nitrogen Imbalance: When applicable, Dissolved Ammonia and Dissolved Total Kjeldahl Nitrogen results were reviewed and data quality meets acceptable levels unless otherwise noted.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.

Customer Solutions, Western Canada Customer Experience Team

Email: customersolutionswest@bvlabs.com

Phone# (604) 734 7276

=====

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BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YF0489		YF0490		YF0491	YF0492	YF0493		
Sampling Date		2020/08/05 09:35		2020/08/05 09:40		2020/08/05 09:50	2020/08/05 10:10	2020/08/05 10:15		
COC Number		587343-01-01		587343-01-01		587343-01-01	587343-01-01	587343-01-01		
	UNITS	SITE 1-S	QC Batch	SITE 1-M	QC Batch	SITE 1-B	SITE 2-S	SITE 2-M	RDL	QC Batch

Calculated Parameters

Nitrate (N)	mg/L	0.281	9949314	0.284	9949314	0.268	0.284	0.268	0.020	9949314
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Nutrients

Total Ammonia (N)	mg/L	0.071 (1)	9951202	0.14 (1)	9951203	0.064 (1)	0.072 (1)	<0.025 (1)	0.025	9951202
Nitrate plus Nitrite (N)	mg/L	0.281	9949751	0.284	9949751	0.268	0.284	0.268	0.020	9949751

RDL = Reportable Detection Limit

(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

BV Labs ID		YF0494		YF0495		YF0496	YF0497	YF0498		
Sampling Date		2020/08/05 10:25		2020/08/05 10:40		2020/08/05 10:50	2020/08/05 10:55	2020/08/05 11:55		
COC Number		587343-01-01		587343-01-01		587343-01-01	587343-01-01	587343-01-01		
	UNITS	SITE 2-B	QC Batch	SITE 4-S	QC Batch	SITE 4-M	SITE 4-B	SITE 6-S	RDL	QC Batch

Calculated Parameters

Nitrate (N)	mg/L	0.282	9949314	0.277	9949314	0.278	0.269	0.233	0.020	9949314
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Nutrients

Total Ammonia (N)	mg/L	0.063 (1)	9951202	0.069 (1)	9951203	0.035 (1)	0.072 (1)	0.046 (1)	0.025	9951202
Nitrate plus Nitrite (N)	mg/L	0.282	9949751	0.277	9949751	0.278	0.269	0.233	0.020	9949751

RDL = Reportable Detection Limit

(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

BV Labs ID		YF0500		YF0501		YF0502	YF0503	YF0504		
Sampling Date		2020/08/05 12:00		2020/08/05 12:05		2020/08/05 11:20	2020/08/05 11:30	2020/08/05 11:35		
COC Number		587343-02-01		587343-02-01		587343-02-01	587343-02-01	587343-02-01		
	UNITS	SITE 6-M	QC Batch	SITE 6-B	QC Batch	SITE 8-S	SITE 8-M	SITE 8-B	RDL	QC Batch

Calculated Parameters

Nitrate (N)	mg/L	0.265	9949314	0.260	9949314	0.273	0.281	0.273	0.020	9949314
-------------	------	-------	---------	-------	---------	-------	-------	-------	-------	---------

Nutrients

Total Ammonia (N)	mg/L	0.11 (1)	9951202	0.084 (1)	9951203	<0.025 (1)	0.048 (1)	0.085 (1)	0.025	9951202
Nitrate plus Nitrite (N)	mg/L	0.265	9949751	0.260	9949751	0.273	0.281	0.273	0.020	9949751

RDL = Reportable Detection Limit

(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YF0505		YF0506	YF0507	YF0508	YF0509		
Sampling Date		2020/08/05 08:55		2020/08/05 09:00	2020/08/05 09:05	2020/08/05 09:05	2020/08/05 09:50		
COC Number		587343-02-01		587343-02-01	587343-02-01	587343-02-01	587343-02-01		
	UNITS	SITE 10-S	QC Batch	SITE 10-M	SITE 10-B	FIELD DUP 1	FIELD DUP 2	RDL	QC Batch
Calculated Parameters									
Nitrate (N)	mg/L	0.239	9949314	0.285	0.285	0.278	0.286	0.020	9949314
Nutrients									
Total Ammonia (N)	mg/L	0.045 (1)	9951203	0.085 (1)	0.072 (1)	0.029 (1)	0.048 (1)	0.025	9951202
Nitrate plus Nitrite (N)	mg/L	0.239	9949748	0.285	0.285	0.278	0.286	0.020	9949751
RDL = Reportable Detection Limit									
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.									



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

MICROBIOLOGY (SEA WATER)

BV Labs ID		YF0489	YF0490	YF0491	YF0492	YF0493	YF0494		
Sampling Date		2020/08/05 09:35	2020/08/05 09:40	2020/08/05 09:50	2020/08/05 10:10	2020/08/05 10:15	2020/08/05 10:25		
COC Number		587343-01-01	587343-01-01	587343-01-01	587343-01-01	587343-01-01	587343-01-01		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	SITE 2-M	SITE 2-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	2.0	13	5.0	<1.0	2.0	1.0	1.0	9949537
RDL = Reportable Detection Limit									

BV Labs ID		YF0495	YF0496	YF0497	YF0498	YF0500	YF0501		
Sampling Date		2020/08/05 10:40	2020/08/05 10:50	2020/08/05 10:55	2020/08/05 11:55	2020/08/05 12:00	2020/08/05 12:05		
COC Number		587343-01-01	587343-01-01	587343-01-01	587343-01-01	587343-02-01	587343-02-01		
	UNITS	SITE 4-S	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	SITE 6-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	1.0	1.0	<1.0	<1.0	<1.0	1.0	9949537
RDL = Reportable Detection Limit									

BV Labs ID		YF0502	YF0503	YF0504	YF0505	YF0506	YF0507		
Sampling Date		2020/08/05 11:20	2020/08/05 11:30	2020/08/05 11:35	2020/08/05 08:55	2020/08/05 09:00	2020/08/05 09:05		
COC Number		587343-02-01	587343-02-01	587343-02-01	587343-02-01	587343-02-01	587343-02-01		
	UNITS	SITE 8-S	SITE 8-M	SITE 8-B	SITE 10-S	SITE 10-M	SITE 10-B	RDL	QC Batch

Microbiological Param.									
Enterococcus spp.	CFU/100mL	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	1.0	9949537
RDL = Reportable Detection Limit									

BV Labs ID		YF0508	YF0509		
Sampling Date		2020/08/05 09:05	2020/08/05 09:50		
COC Number		587343-02-01	587343-02-01		
	UNITS	FIELD DUP 1	FIELD DUP 2	RDL	QC Batch

Microbiological Param.					
Enterococcus spp.	CFU/100mL	<1.0	3.0	1.0	9949537
RDL = Reportable Detection Limit					



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF WATER

BV Labs ID		YF0510	YF0511		
Sampling Date		2020/08/05 12:20	2020/08/05		
COC Number		587343-03-01	587343-03-01		
	UNITS	FEILD BLANK	TRIP BLANK	RDL	QC Batch
Calculated Parameters					
Nitrate (N)	mg/L	<0.020	<0.020	0.020	9949314
Nutrients					
Total Ammonia (N)	mg/L	<0.025 (1)	<0.025 (1)	0.025	9951203
Nitrate plus Nitrite (N)	mg/L	<0.020	<0.020	0.020	9949742
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.					



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

MICROBIOLOGY (WATER)

BV Labs ID		YF0510		
Sampling Date		2020/08/05 12:20		
COC Number		587343-03-01		
	UNITS	FEILD BLANK	RDL	QC Batch
Microbiological Param.				
Enterococcus spp.	CFU/100mL	<1.0	1.0	9949537
RDL = Reportable Detection Limit				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

QUALITY ASSURANCE REPORT

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9949742	Nitrate plus Nitrite (N)	2020/08/06	67 (1)	80 - 120	108	80 - 120	<0.020	mg/L	0.29	25		
9949748	Nitrate plus Nitrite (N)	2020/08/06	95	80 - 120	110	80 - 120	<0.020	mg/L	5.6	25		
9949751	Nitrate plus Nitrite (N)	2020/08/06	106	80 - 120	109	80 - 120	<0.020	mg/L	NC	25		
9951202	Total Ammonia (N)	2020/08/07	84	80 - 120	107	80 - 120	<0.0050	mg/L	NC (2)	20	108	N/A
9951203	Total Ammonia (N)	2020/08/07	105	80 - 120	106	80 - 120	<0.0050	mg/L	NC (2)	20	114	N/A

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Detection limits raised due to dilution to bring analyte within the calibrated range.



BUREAU
VERITAS

BV Labs Job #: C054945
Report Date: 2020/08/10

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC 274
Site Location: BBP ENV
Sampler Initials: EC

VALIDATION SIGNATURE PAGE



The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink, appearing to read 'D. Huang', written over a horizontal line.

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



INVOICE TO:		Report Information		Project Information	
Company Name #4652 MAINSTREAM BIOLOGICAL CONSULTING IN	Company Name	Quotation # B90411	Barcode:  C054945_COC		
Contact Name MONICA STEWARDSON	Contact Name	P.O. #	Title Order #:  587343		
Address 1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address	Project # MISC 274	Project Manager		
Phone (250) 287-2462 Fax: (250) 287-2452	Phone	Project Name BBP ENV	Customer Solutions		
Email monica@mainstreambio.ca	Email	Site #	Sampled By EC MK		

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other _____	Special Instructions	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	Turnaround Time (TAT) Required: Please provide advance notice for rush projects Regular (Standard) TAT: (will be applied if Rush TAT is not specified): Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. <input checked="" type="checkbox"/>
SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS		Metals Field Filtered? (Y/N)	Job Specific Rush TAT (if applies to entire submission) 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	Ammonia-N	Enterococcus spp.	Nitrate, Nitrite-							# of Bottles	Comments
1	site 1-S	20/08/05	9:35	SEAW		X	X	X							3	
2	site 1-M		9:40	SEAW		X	X	X							1	
3	site 1-B		9:50	SEAW		X	X	X								
4	site 2-S		10:10	SEAW		X	X	X								
5	site 2-M		10:15	SEAW		X	X	X								
6	site 2-B		10:25	SEAW		X	X	X								
7	site 4-S		10:40	SEAW		X	X	X								
8	site 4-M		10:50	SEAW		X	X	X								
9	site 4-B	↓	10:55	SEAW		X	X	X							↓	
10	site 6-S	20/08/05	11:55	SEAW		X	X	X							3	

RELINQUISHED BY: (Signature/Print) <i>Emily Ciccon</i>	Date: (YY/MM/DD) 20/08/05	Time 14:00	RECEIVED BY: (Signature/Print) <i>M. Pedro Tack</i>	Date: (YY/MM/DD) 20/08/06	Time 08:06	# jars used and not submitted	Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 8.7.9	Custody Seal Intact on Cooler? N/A <input type="checkbox"/> Yes <input type="checkbox"/> No
<p>* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.</p> <p>* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.</p>									



INVOICE TO:		Report Information		Project Information	
Company Name #4652 MAINSTREAM BIOLOGICAL CONSULTING IN	Company Name	Quotation # B90411	Barcode C054945_COC		
Contact Name MONICA STEWARDSON	Contact Name	P.O. #	Order #		
Address 1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address	Project # MISC 274	587343		
Phone (250) 287-2462 Fax: (250) 287-2452	Phone	Project Name BBP ENV	Project Manager		
Email monica@mainstreambio.ca	Email	Site # FL MK	Customer Solutions		

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other	Special Instructions	ANALYSIS REQUESTED (PLEASE BE SPECIFIC)	Turnaround Time (TAT) Required: Please provide advance notice for rush projects
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SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered? (Y/N)	Ammonia-N	Enterococcus spp.	Nitrate, Nitrite											
1 Site 6	Site 6-M	20/08/05	12:00	SEAW		X	X	X											3
2	Site 6-B	1	12:05	SEAW		X	X	X											1
3	Site 8-S	1	11:20	SEAW		X	X	X											
4	Site 8-M	1	11:30	SEAW		X	X	X											
5	Site 8-B	1	11:35	SEAW		X	X	X											
6	Site 10-S	1	8:55	SEAW		X	X	X											
7	Site 10-M	1	9:00	SEAW		X	X	X											
8	Site 10-B	1	9:05	SEAW		X	X	X											
9	Field Dup 1	1	9:05	SEAW		X	X	X											↓
10	Field Dup 2	20/08/05	9:50	SEAW		X	X	X											3

RELINQUISHED BY: (Signature/Print) Emily Licon	Date: (YY/MM/DD) 20/08/05	Time 14:00	RECEIVED BY: (Signature/Print) M. Pedro Tack	Date: (YY/MM/DD) 20/08/06	Time 08:06	# Jars used and not submitted	Lab Use Only
						Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 8.7.9
						Custody Seal Intact on Cooler? N/A <input type="checkbox"/> Yes <input type="checkbox"/> No	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



INVOICE TO:		Report Information		Project Information	
Company Name	#4652 MAINSTREAM BIOLOGICAL CONSULTING IN	Company Name		Quotation #	B90411
Contact Name	MONICA STEWARDSON	Contact Name		P.O. #	
Address	1310 MARWALK CRES CAMPBELL RIVER BC V9W 5X1	Address		Project #	MISC 274 BBP ENV
Phone	(250) 287-2462 Fax: (250) 287-2452	Phone		Project Name	
Email	monica@mainstreambio.ca	Email		Site #	
				Sampled By	EC MK



C054945_COC

Order #:

587343

Project Manager



C#587343-03-01

Customer Solutions

Regulatory Criteria: <input type="checkbox"/> CSR <input type="checkbox"/> CCME <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other _____	Special Instructions 	ANALYSIS REQUESTED (PLEASE BE SPECIFIC) <table border="1"> <tr> <td>Metals Field Filtered ? (Y/N)</td> <td>Ammonia-N</td> <td>Enterococcus spp.</td> <td>Nitrate, Nitrite</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Metals Field Filtered ? (Y/N)	Ammonia-N	Enterococcus spp.	Nitrate, Nitrite																		Turnaround Time (TAT) Required: Please provide advance notice for rush projects Regular (Standard) TAT: (will be applied if Rush TAT is not specified) Standard TAT = 5-7 Working days for most tests. Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details. <input checked="" type="checkbox"/> Job Specific Rush TAT (if applies to entire submission) 1 DAY <input type="checkbox"/> 2 Day <input type="checkbox"/> 3 Day <input type="checkbox"/> Date Required: _____ <input type="checkbox"/> Rush Confirmation Number: _____ (call lab for #)
Metals Field Filtered ? (Y/N)	Ammonia-N	Enterococcus spp.	Nitrate, Nitrite																					

SAMPLES MUST BE KEPT COOL (< 10°C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Metals Field Filtered ? (Y/N)	Ammonia-N	Enterococcus spp.	Nitrate, Nitrite													# of Bottles	Comments	
1	TRIP BLANK			SEAW	X	X	X																
2	FIELD BLANK	20/08/05	12:20	seawater	X	X	X														3		
3	Trip Blank	20/08/05	—	water	X		X														2		
4																							
5																							
6																							
7																							
8																							
9																							
10																							

RELINQUISHED BY: (Signature/Print) <i>Emily Cicco</i> Emily Cicco	Date: (YY/MM/DD) 20/08/05	Time 14:00	RECEIVED BY: (Signature/Print) <i>Lupero Ace</i> Lupero Ace	Date: (YY/MM/DD) 20/08/06	Time 08:06	# jars used and not submitted 	Time Sensitive <input type="checkbox"/>	Temperature (°C) on Receipt 8.7.9	Custody Seal intact on Cooler? N/A <input type="checkbox"/> Yes <input type="checkbox"/> No
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* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.
 * IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.



Your Project #: MISC274
 Site Location: BBP BC ENV REMP
 Your C.O.C. #: 08485196, 08485192, 08485188

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
 1310 MARWALK CRES
 CAMPBELL RIVER, BC
 CANADA V9W 5X1

Report Date: 2020/08/18
 Report #: R2916874
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C056996

Received: 2020/08/13, 08:00

Sample Matrix: Sea Water
 # Samples Received: 22

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Enterococcus spp.	21	N/A	2020/08/13	BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	22	N/A	2020/08/15	AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	22	N/A	2020/08/13	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	22	N/A	2020/08/13	BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	22	N/A	2020/08/14	BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental

(2) Dissolved Ammonia > Total Ammonia Imbalance: When applicable, Dissolved Ammonia and Total Ammonia results were reviewed and data quality meets acceptable levels unless otherwise noted. Dissolved Ammonia > Dissolved Total Kjeldahl Nitrogen Imbalance: When applicable, Dissolved Ammonia and Dissolved Total Kjeldahl Nitrogen results were reviewed and data quality meets acceptable levels unless otherwise noted.



Your Project #: MISC274
Site Location: BBP BC ENV REMP
Your C.O.C. #: 08485196, 08485192, 08485188

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
1310 MARWALK CRES
CAMPBELL RIVER, BC
CANADA V9W 5X1

Report Date: 2020/08/18
Report #: R2916874
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C056996
Received: 2020/08/13, 08:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bvlab.com
Phone# (604) 734 7276

=====
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BUREAU
VERITAS

BV Labs Job #: C056996
Report Date: 2020/08/18

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REM-P
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YG2446	YG2447		YG2448		YG2449	YG2450		
Sampling Date		2020/08/12 10:00	2020/08/12 10:05		2020/08/12 10:10		2020/08/12 10:20	2020/08/12 10:25		
COC Number		08485196	08485196		08485196		08485196	08485196		
	UNITS	SITE 1-S	SITE 1-M	QC Batch	SITE 1-B	QC Batch	SITE 2-S	SITE 2-M	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	9958438	0.0056	9958438	<0.0050	<0.0050	0.0050	9958438
Calculated Parameters										
Nitrate (N)	mg/L	0.243	0.263	9957919	0.258	9957919	0.263	0.268	0.020	9957919
Nutrients										
Total Ammonia (N)	mg/L	0.033 (1)	0.038 (1)	9960389	0.029 (1)	9960430	0.095 (1)	0.10 (1)	0.025	9960389
Nitrate plus Nitrite (N)	mg/L	0.243	0.263	9958436	0.264	9958436	0.263	0.268	0.020	9958436
RDL = Reportable Detection Limit										
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										

BV Labs ID		YG2451	YG2452	YG2453	YG2454	YG2455	YG2456		
Sampling Date		2020/08/12 10:30	2020/08/12 10:50	2020/08/12 10:55	2020/08/12 11:00	2020/08/12 11:50	2020/08/12 11:55		
COC Number		08485196	08485196	08485196	08485196	08485192	08485192		
	UNITS	SITE 2-B	SITE 4-S	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	0.0057	0.0061	<0.0050	<0.0050	0.0060	<0.0050	0.0050	9958438	
Calculated Parameters										
Nitrate (N)	mg/L	0.259	0.260	0.271	0.264	0.263	0.273	0.020	9957919	
Nutrients										
Total Ammonia (N)	mg/L	0.033 (1)	<0.025 (1)	0.027 (1)	0.085 (1)	0.13 (1)	0.10 (1)	0.025	9960389	
Nitrate plus Nitrite (N)	mg/L	0.265	0.266	0.271	0.264	0.269	0.273	0.020	9958436	
RDL = Reportable Detection Limit										
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										



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BV Labs Job #: C056996
Report Date: 2020/08/18

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REM
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YG2457	YG2458	YG2459	YG2460	YG2461		YG2462		
Sampling Date		2020/08/12 12:00	2020/08/12 11:20	2020/08/12 11:25	2020/08/12 11:30	2020/08/12 09:20		2020/08/12 09:25		
COC Number		08485192	08485192	08485192	08485192	08485192		08485192		
	UNITS	SITE 6-B	SITE 8-S	SITE 8-M	SITE 8-B	SITE 10-S	QC Batch	SITE 10-M	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	0.0058	9958438	<0.0050	0.0050	9958442
Calculated Parameters										
Nitrate (N)	mg/L	0.276	0.272	0.270	0.270	0.266	9957919	0.282	0.020	9957919
Nutrients										
Total Ammonia (N)	mg/L	0.056 (1)	0.12 (1)	<0.025 (1)	0.065 (1)	0.056 (1)	9960389	0.034 (1)	0.025	9960430
Nitrate plus Nitrite (N)	mg/L	0.276	0.272	0.270	0.270	0.272	9958436	0.282	0.020	9958441
RDL = Reportable Detection Limit										
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										

BV Labs ID		YG2463	YG2464	YG2465	YG2466		YG2467		
Sampling Date		2020/08/12 09:30	2020/08/12 09:30	2020/08/12 10:30	2020/08/12 12:10		2020/08/12		
COC Number		08485192	08485188	08485188	08485188		08485188		
	UNITS	SITE 10-B	FIELD DUP 1	FIELD DUP 2	FIELD DUP	QC Batch	TRIP BLANK	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	9958442	<0.0050	0.0050	9958438	
Calculated Parameters										
Nitrate (N)	mg/L	0.288	0.284	0.272	<0.020	9957919	<0.020	0.020	9957919	
Nutrients										
Total Ammonia (N)	mg/L	0.063 (1)	0.071 (2)	0.073 (2)	<0.025 (2)	9960389	<0.025 (2)	0.025	9960389	
Nitrate plus Nitrite (N)	mg/L	0.288	0.284	0.272	<0.020	9958441	<0.020	0.020	9958436	
RDL = Reportable Detection Limit										
(1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										
(2) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.										



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BV Labs Job #: C056996
Report Date: 2020/08/18

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REM-P
Sampler Initials: EC

MICROBIOLOGY (SEA WATER)

BV Labs ID		YG2446	YG2447	YG2448	YG2449	YG2450	YG2451	YG2452		
Sampling Date		2020/08/12 10:00	2020/08/12 10:05	2020/08/12 10:10	2020/08/12 10:20	2020/08/12 10:25	2020/08/12 10:30	2020/08/12 10:50		
COC Number		08485196	08485196	08485196	08485196	08485196	08485196	08485196		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	SITE 2-M	SITE 2-B	SITE 4-S	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9958559
RDL = Reportable Detection Limit										

BV Labs ID		YG2453	YG2454	YG2455	YG2456	YG2457	YG2458	YG2459		
Sampling Date		2020/08/12 10:55	2020/08/12 11:00	2020/08/12 11:50	2020/08/12 11:55	2020/08/12 12:00	2020/08/12 11:20	2020/08/12 11:25		
COC Number		08485196	08485196	08485192	08485192	08485192	08485192	08485192		
	UNITS	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	SITE 6-B	SITE 8-S	SITE 8-M	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9958559
RDL = Reportable Detection Limit										

BV Labs ID		YG2460	YG2461	YG2462	YG2463	YG2464	YG2465	YG2466		
Sampling Date		2020/08/12 11:30	2020/08/12 09:20	2020/08/12 09:25	2020/08/12 09:30	2020/08/12 09:30	2020/08/12 10:30	2020/08/12 12:10		
COC Number		08485192	08485192	08485192	08485192	08485188	08485188	08485188		
	UNITS	SITE 8-B	SITE 10-S	SITE 10-M	SITE 10-B	FIELD DUP 1	FIELD DUP 2	FIELD DUP	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9958559
RDL = Reportable Detection Limit										



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	8.0°C
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Results relate only to the items tested.



BUREAU
VERITAS

BV Labs Job #: C056996
Report Date: 2020/08/18

QUALITY ASSURANCE REPORT

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REMP
Sampler Initials: EC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9958436	Nitrate plus Nitrite (N)	2020/08/13	90	80 - 120	107	80 - 120	<0.020	mg/L	5.6	25		
9958438	Nitrite (N)	2020/08/13	100	80 - 120	104	80 - 120	<0.0050	mg/L	NC	20		
9958441	Nitrate plus Nitrite (N)	2020/08/13	93	80 - 120	108	80 - 120	<0.020	mg/L	2.0	25		
9958442	Nitrite (N)	2020/08/13	99	80 - 120	104	80 - 120	<0.0050	mg/L	NC	20		
9960389	Total Ammonia (N)	2020/08/15	111	80 - 120	101	80 - 120	<0.0050	mg/L	NC	20	116	N/A
9960430	Total Ammonia (N)	2020/08/15	110	80 - 120	101	80 - 120	0.0062, RDL=0.0050 (1)	mg/L	16	20	115	N/A

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Blank within 2X RDL



BUREAU
VERITAS

BV Labs Job #: C056996

Report Date: 2020/08/18

MAINSTREAM BIOLOGICAL CONSULTING INC.

Client Project #: MISC274

Site Location: BBP BC ENV REMP

Sampler Initials: EC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink, appearing to read 'D. Huang', written over a horizontal line.

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



08485192

CHAIN OF CUSTODY

Invoice Information	Report Information (if differs from invoice)	Project Information	Turnaround Time (TAT) Required
Company: <u>Mainstream Biological Consulting</u>	Company: _____	Quotation: <u>90411</u>	<input checked="" type="checkbox"/> 5 - 7 Days Regular (Most analyses)
Contact Name: <u>Monica Stewardson</u>	Contact Name: _____	P.O. #/AFE#: _____	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: <u>1310 Marwalk Crescent</u>	Address: _____	Project ID: <u>MISC274</u>	Rush TAT (Surcharges will be applied)
<u>Campbell River, BC PC: V9W 5X1</u>	PC: _____	Site Location: <u>BBP BC ENV REMP</u>	<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days
Phone/Fax: <u>250-287-2462</u>	Phone/Fax: _____	Site #: _____	<input type="checkbox"/> 1 Day <input type="checkbox"/> 3-4 Days
Email: <u>monica@mainstreambio.ca</u>	Email: _____	Sampled By: <u>EC MK</u>	Date Required: _____
Copies: <u>administration@mainstreambio.ca</u>	Copies: _____		Rush Confirmation #: _____

Laboratory Use Only				Analysis Requested															Regulatory Criteria																																																																						
Seal Present	<input checked="" type="checkbox"/>	Temp		<table border="1"> <tr> <td><input type="checkbox"/> MTBE</td> <td><input type="checkbox"/> VOC / BTEX / F1</td> <td><input type="checkbox"/> EPH / HEPH / PAH</td> <td><input type="checkbox"/> F2 - F4</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Sulphate</td> <td><input type="checkbox"/> COD</td> <td><input type="checkbox"/> Alkalinity</td> <td><input type="checkbox"/> Ammonia</td> <td rowspan="6" style="writing-mode: vertical-rl; transform: rotate(180deg);">HOLD - DO NOT ANALYZE</td> </tr> <tr> <td><input type="checkbox"/> BTEX / VPH</td> <td><input type="checkbox"/> VOC / BTEX / F1</td> <td><input type="checkbox"/> EPH / HEPH / PAH</td> <td><input type="checkbox"/> F2 - F4</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Fluoride</td> <td><input type="checkbox"/> BOD</td> <td><input type="checkbox"/> Conductivity</td> <td><input type="checkbox"/> Nitrate</td> </tr> <tr> <td><input type="checkbox"/> TEH</td> <td><input type="checkbox"/> Filtered?</td> <td><input type="checkbox"/> Filtered?</td> <td><input type="checkbox"/> Total Metals</td> <td><input type="checkbox"/> Total Mercury</td> <td><input type="checkbox"/> Chloride</td> <td><input type="checkbox"/> TDS</td> <td><input type="checkbox"/> pH</td> <td><input type="checkbox"/> Nitrite</td> <td><input type="checkbox"/> Enterococci</td> </tr> <tr> <td><input type="checkbox"/> BTEX / VPH</td> <td><input type="checkbox"/> VOC / BTEX / F1</td> <td><input type="checkbox"/> EPH / HEPH / PAH</td> <td><input type="checkbox"/> F2 - F4</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Sulphate</td> <td><input type="checkbox"/> COD</td> <td><input type="checkbox"/> Alkalinity</td> <td><input type="checkbox"/> Ammonia</td> </tr> <tr> <td><input type="checkbox"/> TEH</td> <td><input type="checkbox"/> Filtered?</td> <td><input type="checkbox"/> Filtered?</td> <td><input type="checkbox"/> Total Metals</td> <td><input type="checkbox"/> Total Mercury</td> <td><input type="checkbox"/> Chloride</td> <td><input type="checkbox"/> TDS</td> <td><input type="checkbox"/> pH</td> <td><input type="checkbox"/> Nitrite</td> <td><input type="checkbox"/> Enterococci</td> </tr> <tr> <td><input type="checkbox"/> BTEX / VPH</td> <td><input type="checkbox"/> VOC / BTEX / F1</td> <td><input type="checkbox"/> EPH / HEPH / PAH</td> <td><input type="checkbox"/> F2 - F4</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Field Preserved?</td> <td><input type="checkbox"/> Sulphate</td> <td><input type="checkbox"/> COD</td> <td><input type="checkbox"/> Alkalinity</td> <td><input type="checkbox"/> Ammonia</td> </tr> </table>															<input type="checkbox"/> MTBE	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	HOLD - DO NOT ANALYZE	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Fluoride	<input type="checkbox"/> BOD	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Nitrate	<input type="checkbox"/> TEH	<input type="checkbox"/> Filtered?	<input type="checkbox"/> Filtered?	<input type="checkbox"/> Total Metals	<input type="checkbox"/> Total Mercury	<input type="checkbox"/> Chloride	<input type="checkbox"/> TDS	<input type="checkbox"/> pH	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Enterococci	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	<input type="checkbox"/> TEH	<input type="checkbox"/> Filtered?	<input type="checkbox"/> Filtered?	<input type="checkbox"/> Total Metals	<input type="checkbox"/> Total Mercury	<input type="checkbox"/> Chloride	<input type="checkbox"/> TDS	<input type="checkbox"/> pH	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Enterococci	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	<input type="checkbox"/> BC CSR	<input type="checkbox"/> YK CSR
<input type="checkbox"/> MTBE	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4																<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia	HOLD - DO NOT ANALYZE																																																														
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<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> EPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Ammonia																																																																														
Seal Intact	<input checked="" type="checkbox"/>	Temp		<input type="checkbox"/> CCME	<input type="checkbox"/> Drinking Water	<input checked="" type="checkbox"/> BC Water Quality	<input type="checkbox"/> Other																																																																																		
Cooling Media	<input checked="" type="checkbox"/>	Temp	897																																																																																						
Seal Present		Temp																																																																																							
Seal Intact		Temp																																																																																							
Cooling Media		Temp																																																																																							
Sample Identification				Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers																Special Instructions																																																																		
1	Site 6 - S	2020/08/12	11:50	seawater	3																																																																																				
2	Site 6 - M	↓	11:55	seawater	3																																																																																				
3	Site 6 - B		12:00	seawater	3																																																																																				
4	Site 8 - S		11:20	seawater	3																																																																																				
5	Site 8 - M		11:25	seawater	3																																																																																				
6	Site 8 - B		11:30	seawater	3																																																																																				
7	Site 10 - S		9:20	seawater	3																																																																																				
8	Site 10 - M		9:25	seawater	3																																																																																				
9	Site 10 - B	2020/08/12	9:30	seawater	3																																																																																				
10																																																																																									

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlab.com/terms-and-conditions>

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd)	Time (hh:mm)	Received by: (Signature/ Print)	Date (yyyy/mm/dd)	Time (hh:mm)	BV Job #
<u>Emily Ciron</u>	2020/08/12	13:30	<u>Jupetro TACK</u>	2020/08/13	08:00	

COC-1020

BBY FCD-00077/9



Invoice Information	Report Information (if differs from invoice)	Project Information	Turnaround Time (TAT) Required
Company: Mainstream Biological Consulting	Company:	Quotation: 90411	<input checked="" type="checkbox"/> 5 - 7 Days Regular (Most analyses)
Contact Name: Monica Stewardson	Contact Name:	P.O. #/AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 1310 Marwalk Crescent	Address:	Project ID: MISC274	Rush TAT (Surcharges will be applied)
Campbell River, BC PC: V9W 5X1	PC:	Site Location: BBP BC ENV REMP	<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days
Phone/Fax: 250-287-2462	Phone/Fax:	Site #:	<input type="checkbox"/> 1 Day <input type="checkbox"/> 3-4 Days
Email: monica@mainstreambio.ca	Email:	Sampled By: EC MK	Date Required: _____
Copies: administration@mainstreambio.ca	Copies:		Rush Confirmation #: _____

Laboratory Use Only				Analysis Requested														Regulatory Criteria											
Seal Present	Seal Intact	Cooling Media	Cooler ID	Depot Reception	# of Containers	<input type="checkbox"/> MTBE	<input type="checkbox"/> VOC / BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> PAH	<input type="checkbox"/> LEPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Sulphate	<input type="checkbox"/> COD	<input type="checkbox"/> BOD	<input type="checkbox"/> Alkalinity	<input checked="" type="checkbox"/> Ammonia	<input type="checkbox"/> BC CSR	<input type="checkbox"/> YK CSR	<input type="checkbox"/> CCME	<input type="checkbox"/> Drinking Water	<input checked="" type="checkbox"/> BC Water Quality	<input type="checkbox"/> Other			
YES	NO		Temp			8	9	7																					
Seal Present	Seal Intact	Cooling Media	Cooler ID					<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> PAH	<input type="checkbox"/> LEPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Chloride	<input type="checkbox"/> Fluoride	<input type="checkbox"/> TDS	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Nitrate							
YES	NO		Temp																										
Seal Present	Seal Intact	Cooling Media	Cooler ID																										
YES	NO		Temp																										

Sample Identification		Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> PAH	<input type="checkbox"/> LEPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Chloride	<input type="checkbox"/> Fluoride	<input type="checkbox"/> TDS	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Nitrite	<input type="checkbox"/> Nitrate	Enterococci	HOLD - DO NOT ANALYZE	Special Instructions	
1	Field Dup 1	2020/08/12	9:30	seawater	3																X	X		
2	Field Dup 2	↓	10:30	seawater	3																X	X		
3	Field Blank	↓	12:10	seawater	3																X	X		
4	Trip Blank	2020/08/12	—	seawater	2																X			
5																								
6																								
7																								
8																								
9																								
10																								

Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas Laboratories' standard Terms and Conditions. Signing of this Chain of Custody document is acknowledgment and acceptance of our terms available at <http://www.bvlabs.com/terms-and-conditions>

Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	BV Job #
<i>Emily Cicon</i>	2020/08/12	13:30	<i>Miguelo Tera</i>	2020/08/13	08:00	



Your Project #: MISC274
 Site Location: BBP BC ENV REMP
 Your C.O.C. #: 08485368, 08485364, 08485360

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
 1310 MARWALK CRES
 CAMPBELL RIVER, BC
 CANADA V9W 5X1

Report Date: 2020/08/25
 Report #: R2920127
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C059084

Received: 2020/08/20, 08:04

Sample Matrix: Sea Water
 # Samples Received: 22

Analyses	Date		Laboratory Method	Analytical Method
	Quantity	Extracted		
Enterococcus spp.	21	N/A	2020/08/20 BBY4SOP-00006	SM 9230C m
Ammonia-N Unpreserved Low Level (1, 2)	22	N/A	2020/08/22 AB SOP-00007	SM 23 4500 NH3 A G m
Nitrate + Nitrite (N)	21	N/A	2020/08/20 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrate + Nitrite (N)	1	N/A	2020/08/24 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	21	N/A	2020/08/20 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrite (N) by CFA	1	N/A	2020/08/24 BBY6SOP-00010	SM 23 4500-NO3- I m
Nitrogen - Nitrate (as N)	21	N/A	2020/08/21 BBY WI-00033	Auto Calc
Nitrogen - Nitrate (as N)	1	N/A	2020/08/25 BBY WI-00033	Auto Calc

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by BV Labs Calgary Environmental

(2) Dissolved Ammonia > Total Ammonia Imbalance: When applicable, Dissolved Ammonia and Total Ammonia results were reviewed and data quality meets acceptable levels unless otherwise noted. Dissolved Ammonia > Dissolved Total Kjeldahl Nitrogen Imbalance: When applicable, Dissolved Ammonia and Dissolved Total Kjeldahl Nitrogen results were reviewed and data quality meets acceptable levels unless otherwise noted.



Your Project #: MISC274
Site Location: BBP BC ENV REMP
Your C.O.C. #: 08485368, 08485364, 08485360

Attention: MONICA STEWARDSON

MAINSTREAM BIOLOGICAL CONSULTING INC.
1310 MARWALK CRES
CAMPBELL RIVER, BC
CANADA V9W 5X1

Report Date: 2020/08/25
Report #: R2920127
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C059084
Received: 2020/08/20, 08:04

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Customer Solutions, Western Canada Customer Experience Team
Email: customersolutionswest@bvlab.com
Phone# (604) 734 7276

=====
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RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YH3399		YH3400		YH3401	YH3402	YH3403		
Sampling Date		2020/08/19 09:45		2020/08/19 09:50		2020/08/19 09:55	2020/08/19 10:15	2020/08/19 10:20		
COC Number		08485368		08485368		08485368	08485368	08485368		
	UNITS	SITE 1-S	QC Batch	SITE 1-M	QC Batch	SITE 1-B	SITE 2-S	SITE 2-M	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	9967830	<0.0050	9967830	<0.0050	<0.0050	<0.0050	0.0050	9967835
Calculated Parameters										
Nitrate (N)	mg/L	0.291	9967074	0.302	9967074	0.298	0.304	0.298	0.020	9967074
Nutrients										
Total Ammonia (N)	mg/L	0.045 (1)	9969627	0.15 (2)	9969631	0.13 (3)	0.098 (1)	0.11 (1)	0.025	9969627
Nitrate plus Nitrite (N)	mg/L	0.291	9967828	0.302	9967828	0.298	0.304	0.298	0.020	9967831

RDL = Reportable Detection Limit
 (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.
 (2) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.
 Matrix spike exceeds acceptance limits due to probable matrix interference. Detection limits raised due to dilution to bring analyte within the calibrated range.
 (3) Detection limits raised due to dilution to bring analyte within the calibrated range.

BV Labs ID		YH3404	YH3405		YH3406		YH3407	YH3410		
Sampling Date		2020/08/19 10:25	2020/08/19 10:35		2020/08/19 10:40		2020/08/19 10:45	2020/08/19 11:05		
COC Number		08485368	08485368		08485368		08485368	08485364		
	UNITS	SITE 2-B	SITE 4-S	QC Batch	SITE 4-M	QC Batch	SITE 4-B	SITE 6-S	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	9967830	<0.0050	9967835	<0.0050	<0.0050	0.0050	9967830
Calculated Parameters										
Nitrate (N)	mg/L	0.283	0.290	9967074	0.295	9967074	0.294	0.284	0.020	9967074
Nutrients										
Total Ammonia (N)	mg/L	0.060 (1)	0.078 (2)	9969627	0.11 (2)	9969627	0.10 (2)	0.082 (1)	0.025	9969627
Nitrate plus Nitrite (N)	mg/L	0.283	0.290	9967828	0.295	9967831	0.294	0.284	0.020	9967828

RDL = Reportable Detection Limit
 (1) Detection limits raised due to dilution to bring analyte within the calibrated range.
 (2) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.



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BV Labs Job #: C059084
Report Date: 2020/08/25

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REMP
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YH3411	YH3412	YH3413	YH3414	YH3415		YH3416		
Sampling Date		2020/08/19 11:10	2020/08/19 11:20	2020/08/19 11:40	2020/08/19 11:45	2020/08/19 11:50		2020/08/19 09:15		
COC Number		08485364	08485364	08485364	08485364	08485364		08485364		
	UNITS	SITE 6-M	SITE 6-B	SITE 8-S	SITE 8-M	SITE 8-B	QC Batch	SITE 10-S	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	9967835	<0.0050	0.0050	9967830
Calculated Parameters										
Nitrate (N)	mg/L	0.290	0.295	0.288	0.289	0.293	9967074	0.304	0.020	9967074
Nutrients										
Total Ammonia (N)	mg/L	0.12 (1)	0.076 (1)	0.087 (2)	0.095 (1)	0.052 (1)	9969627	0.11 (3)	0.025	9969627
Nitrate plus Nitrite (N)	mg/L	0.290	0.295	0.288	0.289	0.293	9967831	0.304	0.020	9967828

RDL = Reportable Detection Limit

- (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.
- (2) Detection limits raised due to dilution to bring analyte within the calibrated range.
- (3) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.

Matrix spike exceeds acceptance limits due to probable matrix interference.

BV Labs ID		YH3417	YH3418	YH3419	YH3420		YH3421		
Sampling Date		2020/08/19 09:20	2020/08/19 09:25	2020/08/19 09:45	2020/08/19 10:25		2020/08/19 12:00		
COC Number		08485364	08485364	08485360	08485360		08485360		
	UNITS	SITE 10-M	SITE 10-B	FIELD DUP 1	FIELD DUP 2	QC Batch	FIELD BLANK	RDL	QC Batch

ANIONS										
Nitrite (N)	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	9967835	<0.0050	0.0050	9972236	
Calculated Parameters										
Nitrate (N)	mg/L	0.315	0.309	0.308	0.295	9967074	<0.020	0.020	9967074	
Nutrients										
Total Ammonia (N)	mg/L	0.074 (1)	0.11 (1)	0.097 (2)	0.11 (1)	9969627	0.033 (1)	0.025	9969631	
Nitrate plus Nitrite (N)	mg/L	0.315	0.309	0.308	0.295	9967831	<0.020	0.020	9972234	

RDL = Reportable Detection Limit

- (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.
- (2) Detection limits raised due to dilution to bring analyte within the calibrated range.



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BV Labs Job #: C059084
Report Date: 2020/08/25

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REMP
Sampler Initials: EC

RESULTS OF CHEMICAL ANALYSES OF SEA WATER

BV Labs ID		YH3422		
Sampling Date		2020/08/19		
COC Number		08485360		
	UNITS	TRIP BLANK	RDL	QC Batch
ANIONS				
Nitrite (N)	mg/L	<0.0050	0.0050	9967835
Calculated Parameters				
Nitrate (N)	mg/L	<0.020	0.020	9967074
Nutrients				
Total Ammonia (N)	mg/L	<0.025 (1)	0.025	9969627
Nitrate plus Nitrite (N)	mg/L	<0.020	0.020	9967831
RDL = Reportable Detection Limit (1) Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.				



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BV Labs Job #: C059084
Report Date: 2020/08/25

MAINSTREAM BIOLOGICAL CONSULTING INC.
Client Project #: MISC274
Site Location: BBP BC ENV REMP
Sampler Initials: EC

MICROBIOLOGY (SEA WATER)

BV Labs ID		YH3399	YH3400	YH3401	YH3402		YH3403	YH3404		
Sampling Date		2020/08/19 09:45	2020/08/19 09:50	2020/08/19 09:55	2020/08/19 10:15		2020/08/19 10:20	2020/08/19 10:25		
COC Number		08485368	08485368	08485368	08485368		08485368	08485368		
	UNITS	SITE 1-S	SITE 1-M	SITE 1-B	SITE 2-S	QC Batch	SITE 2-M	SITE 2-B	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	1.0	<1.0	<1.0	<1.0	9967575	<1.0	<1.0	1.0	9967702
RDL = Reportable Detection Limit										

BV Labs ID		YH3405	YH3406	YH3407	YH3410	YH3411	YH3412	YH3413		
Sampling Date		2020/08/19 10:35	2020/08/19 10:40	2020/08/19 10:45	2020/08/19 11:05	2020/08/19 11:10	2020/08/19 11:20	2020/08/19 11:40		
COC Number		08485368	08485368	08485368	08485364	08485364	08485364	08485364		
	UNITS	SITE 4-S	SITE 4-M	SITE 4-B	SITE 6-S	SITE 6-M	SITE 6-B	SITE 8-S	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	1.0	9967702
RDL = Reportable Detection Limit										

BV Labs ID		YH3414	YH3415	YH3416	YH3417	YH3418	YH3419	YH3420		
Sampling Date		2020/08/19 11:45	2020/08/19 11:50	2020/08/19 09:15	2020/08/19 09:20	2020/08/19 09:25	2020/08/19 09:45	2020/08/19 10:25		
COC Number		08485364	08485364	08485364	08485364	08485364	08485360	08485360		
	UNITS	SITE 8-M	SITE 8-B	SITE 10-S	SITE 10-M	SITE 10-B	FIELD DUP 1	FIELD DUP 2	RDL	QC Batch

Microbiological Param.										
Enterococcus spp.	CFU/100mL	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	9967702
RDL = Reportable Detection Limit										

BV Labs ID		YH3421		
Sampling Date		2020/08/19 12:00		
COC Number		08485360		
	UNITS	FIELD BLANK	RDL	QC Batch

Microbiological Param.				
Enterococcus spp.	CFU/100mL	<1.0	1.0	9967702
RDL = Reportable Detection Limit				



GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	7.7°C
-----------	-------

Sample YH3421 [FIELD BLANK] : Sample was analyzed past method specified hold time for Nitrate + Nitrite (N). Exceedance of hold time increases the uncertainty of test results but does not necessarily imply that results are compromised. Sample was analyzed past method specified hold time for Nitrite (N) by CFA.

Results relate only to the items tested.



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BV Labs Job #: C059084

Report Date: 2020/08/25

QUALITY ASSURANCE REPORT

MAINSTREAM BIOLOGICAL CONSULTING INC.

Client Project #: MISC274

Site Location: BBP BC ENV REMP

Sampler Initials: EC

QC Batch	Parameter	Date	Matrix Spike		Spiked Blank		Method Blank		RPD		QC Standard	
			% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
9967828	Nitrate plus Nitrite (N)	2020/08/20	100	80 - 120	107	80 - 120	<0.020	mg/L	1.9	25		
9967830	Nitrite (N)	2020/08/20	103	80 - 120	103	80 - 120	<0.0050	mg/L	NC	20		
9967831	Nitrate plus Nitrite (N)	2020/08/20	102	80 - 120	109	80 - 120	<0.020	mg/L	1.9	25		
9967835	Nitrite (N)	2020/08/20	103	80 - 120	103	80 - 120	<0.0050	mg/L	NC	20		
9969627	Total Ammonia (N)	2020/08/22	76 (1)	80 - 120	101	80 - 120	0.0094, RDL=0.0050 (2)	mg/L	NC	20	105	N/A
9969631	Total Ammonia (N)	2020/08/22	75 (1)	80 - 120	96	80 - 120	0.0095, RDL=0.0050 (3)	mg/L	NC	20	104	N/A
9972234	Nitrate plus Nitrite (N)	2020/08/24	104	80 - 120	109	80 - 120	<0.020	mg/L	0.70	25		
9972236	Nitrite (N)	2020/08/24	105	80 - 120	106	80 - 120	<0.0050	mg/L	NC	20		

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) Within 2X RDL.

(3) Blank within 2X RDL.



BUREAU
VERITAS

BV Labs Job #: C059084

Report Date: 2020/08/25

MAINSTREAM BIOLOGICAL CONSULTING INC.

Client Project #: MISC274

Site Location: BBP BC ENV REMP

Sampler Initials: EC

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

A handwritten signature in black ink, appearing to read 'David Huang', written over a horizontal line.

David Huang, M.Sc., P.Chem., QP, Scientific Services Manager

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08485368

CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information		Turnaround Time (TAT) Required	
Company: <u>Mainstream Biological Consulting</u>		Company: _____		Quotation: <u>90411</u>		<input checked="" type="checkbox"/> 5 - 7 Days Regular (Most analyses)	
Contact Name: <u>Monica Stewardson</u>		Contact Name: _____		P.O. #/AFE#: _____		PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS	
Address: <u>1310 Marwalk Crescent</u>		Address: _____		Project ID: _____		Rush TAT (Surcharges will be applied)	
<u>Campbell River, BC PC: V9W 5X1</u>		PC: _____		Site Location: <u>MISC274</u>		<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days	
Phone/Fax: <u>250-287-2462</u>		Phone/Fax: _____		Site #: _____		<input type="checkbox"/> 1 Day <input type="checkbox"/> 3-4 Days	
Email: <u>monica@mainstreambio.ca</u>		Email: _____		Sampled By: <u>EC MK</u>		Date Required: _____	
Copies: <u>administration@mainstreambio.ca</u>		Copies: _____				Rush Confirmation #: _____	

Laboratory Use Only				Analysis Requested															Regulatory Criteria																		
YES	NO	Cooler ID	Temp	Depot Reception															Regulatory Criteria																		
	<input checked="" type="checkbox"/>	1	887																<input type="checkbox"/> BC CSR <input type="checkbox"/> YK CSR <input type="checkbox"/> CCME <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other																		
	<input checked="" type="checkbox"/>																																				
	<input checked="" type="checkbox"/>																																				
	<input checked="" type="checkbox"/>																																				
Sample Identification				Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / VPH	<input type="checkbox"/> MTBE	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> PAH	<input type="checkbox"/> LEPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> TEH	<input type="checkbox"/> Dissolved Metals	<input type="checkbox"/> Filtered?	<input type="checkbox"/> Preserved?	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Total Mercury	<input type="checkbox"/> Field Preserved?	<input type="checkbox"/> Chloride	<input type="checkbox"/> Sulphate	<input type="checkbox"/> Fluoride	<input type="checkbox"/> TDS	<input type="checkbox"/> BOD	<input type="checkbox"/> COD	<input type="checkbox"/> pH	<input type="checkbox"/> Conductivity	<input type="checkbox"/> Alkalinity	<input type="checkbox"/> Nitrite	<input checked="" type="checkbox"/> Ammonia	Enterococci	HOLD - DO NOT ANALYZE	Special Instructions		
1		Site 1 - S		2020/08/19	9:45	seawater	3																														
2		Site 1 - M			9:50	seawater	3																														
3		Site 1 - B			9:55	seawater	3																														
4		Site 2 - S			10:15	seawater	3																														
5		Site 2 - M			10:20	seawater	3																														
6		Site 2 - B			10:25	seawater	3																														
7		Site 4 - S			10:35	seawater	3																														
8		Site 4 - M			10:40	seawater	3																														
9		Site 4 - B		2020/08/19	10:45	seawater	3																														
10																																					

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
<u>Emily Cicon</u>	2020/08/19	13:30	<u>JUPERO TACK</u>	2020/08/20	08:04



C059084_COC



08485364

CHAIN OF CUSTODY RECORD

Invoice Information	Report Information (if differs from invoice)	Project Information	Turnaround Time (TAT) Required
Company: Mainstream Biological Consulting	Company:	Quotation: 90411	<input checked="" type="checkbox"/> 5-7 Days Regular (Most analyses)
Contact Name: Monica Stewardson	Contact Name:	P.O. #/AFE#:	PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS
Address: 1310 Marwalk Crescent Campbell River, BC PC: V9W 5X1	Address:	Project ID: MISC274	Rush TAT (Surcharges will be applied)
Phone/Fax: 250-287-2462	Phone/Fax:	Site Location: BBP BC ENV REMP	<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days
Email: monica@mainstreambio.ca	Email:	Site #:	<input type="checkbox"/> 1 Day <input type="checkbox"/> 3-4 Days
Copies: administration@mainstreambio.ca	Copies:	Sampled By: EC MK	Date Required:
			Rush Confirmation #:

Laboratory Use Only				Analysis Requested															Regulatory Criteria						
YES	NO	Cooler ID	Temp	Depot Reception															Regulatory Criteria						
	X	1																	<input type="checkbox"/> BC CSR <input type="checkbox"/> YK CSR <input type="checkbox"/> CCME <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other						
	X		887																						
Sample Identification				Date Sampled (yyyy/mm/dd)	Time Sampled (hh:mm)	Matrix	# of Containers	<input type="checkbox"/> BTEX / VPH	<input type="checkbox"/> VOC / BTEX / VPH	<input type="checkbox"/> VOC / BTEX / F1	<input type="checkbox"/> PAH	<input type="checkbox"/> LEPH / HEPH / PAH	<input type="checkbox"/> F2 - F4	<input type="checkbox"/> TEH	<input type="checkbox"/> Dissolved Metals	<input type="checkbox"/> Dissolved Mercury	<input type="checkbox"/> Total Metals	<input type="checkbox"/> Total Mercury	<input type="checkbox"/> Chloride	<input type="checkbox"/> TSS	<input type="checkbox"/> pH	<input type="checkbox"/> Nitrite	Enterococci	Special Instructions	
1	Site 6 - S	2020/08/19	11:05	seawater	3																		X	X	
2	Site 6 - M		11:10	seawater	3																		X	X	
3	Site 6 - B		11:20	seawater	3																		X	X	
4	Site 8 - S		11:40	seawater	3																		X	X	
5	Site 8 - M		11:45	seawater	3																		X	X	
6	Site 8 - B		11:50	seawater	3																		X	X	
7	Site 10 - S		9:15	seawater	3																		X	X	
8	Site 10 - M		9:20	seawater	3																		X	X	
9	Site 10 - B	2020/08/19	9:25	seawater	3																		X	X	
10																									

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Relinquished by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):	Received by: (Signature/ Print)	Date (yyyy/mm/dd):	Time (hh:mm):
<i>Emily Ciccon</i> Emily Ciccon	2020/08/19	13:30	<i>LEONARDO TACA</i> LEONARDO TACA	2020/08/20	08:04



C059084_COC



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CHAIN OF CUSTODY RECORD

Invoice Information		Report Information (if differs from invoice)		Project Information			Turnaround Time (TAT) Required																																																							
Company:	Mainstream Biological Consulting	Company:		Quotation:	90411			<input checked="" type="checkbox"/> 5 - 7 Days Regular (Most analyses)																																																						
Contact Name:	Monica Stewardson	Contact Name:		P.O. #/AFE#:				PLEASE PROVIDE ADVANCE NOTICE FOR RUSH PROJECTS																																																						
Address:	1310 Marwalk Crescent Campbell River, BC PC: V9W 5X1	Address:		Project ID:	MISC274			Rush TAT (Surcharges will be applied)																																																						
Phone/Fax:	250-287-2462	Phone/Fax:		Site Location:	BBP BC ENV REMP			<input type="checkbox"/> Same Day <input type="checkbox"/> 2 Days																																																						
Email:	monica@mainstreambio.ca	Email:		Site #:				<input type="checkbox"/> 1 Day <input type="checkbox"/> 3-4 Days																																																						
Copies:	administration@mainstreambio.ca	Copies:		Sampled By:	EC MK			Date Required: _____																																																						
Laboratory Use Only			Analysis Requested			Regulatory Criteria																																																								
<table border="1"> <tr><td>Seal Present</td><td><input checked="" type="checkbox"/></td><td>Temp</td><td></td></tr> <tr><td>Seal Intact</td><td><input checked="" type="checkbox"/></td><td>Temp</td><td></td></tr> <tr><td>Cooling Media</td><td><input checked="" type="checkbox"/></td><td>Temp</td><td>0 8 7</td></tr> </table>			Seal Present	<input checked="" type="checkbox"/>	Temp		Seal Intact	<input checked="" type="checkbox"/>	Temp		Cooling Media	<input checked="" type="checkbox"/>	Temp	0 8 7	<table border="1"> <tr><td>MTBE</td><td><input type="checkbox"/></td></tr> <tr><td>VOC / BTEX / VPH</td><td><input type="checkbox"/></td></tr> <tr><td>VOC / BTEX / F1</td><td><input type="checkbox"/></td></tr> <tr><td>LEPH / HEPH / PAH</td><td><input type="checkbox"/></td></tr> <tr><td>F2 - F4</td><td><input type="checkbox"/></td></tr> <tr><td>TEH</td><td><input type="checkbox"/></td></tr> <tr><td>Dissolved Metals</td><td><input type="checkbox"/></td></tr> <tr><td>Dissolved Mercury</td><td><input type="checkbox"/></td></tr> <tr><td>Total Metals</td><td><input type="checkbox"/></td></tr> <tr><td>Total Mercury</td><td><input type="checkbox"/></td></tr> <tr><td>Chloride</td><td><input type="checkbox"/></td></tr> <tr><td>Fluoride</td><td><input type="checkbox"/></td></tr> <tr><td>Sulphate</td><td><input type="checkbox"/></td></tr> <tr><td>TDS</td><td><input type="checkbox"/></td></tr> <tr><td>BOD</td><td><input type="checkbox"/></td></tr> <tr><td>Conductivity</td><td><input type="checkbox"/></td></tr> <tr><td>Alkalinity</td><td><input type="checkbox"/></td></tr> <tr><td>Nitrite</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Nitrate</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Ammonia</td><td><input checked="" type="checkbox"/></td></tr> <tr><td>Enterococci</td><td><input type="checkbox"/></td></tr> </table>			MTBE	<input type="checkbox"/>	VOC / BTEX / VPH	<input type="checkbox"/>	VOC / BTEX / F1	<input type="checkbox"/>	LEPH / HEPH / PAH	<input type="checkbox"/>	F2 - F4	<input type="checkbox"/>	TEH	<input type="checkbox"/>	Dissolved Metals	<input type="checkbox"/>	Dissolved Mercury	<input type="checkbox"/>	Total Metals	<input type="checkbox"/>	Total Mercury	<input type="checkbox"/>	Chloride	<input type="checkbox"/>	Fluoride	<input type="checkbox"/>	Sulphate	<input type="checkbox"/>	TDS	<input type="checkbox"/>	BOD	<input type="checkbox"/>	Conductivity	<input type="checkbox"/>	Alkalinity	<input type="checkbox"/>	Nitrite	<input checked="" type="checkbox"/>	Nitrate	<input checked="" type="checkbox"/>	Ammonia	<input checked="" type="checkbox"/>	Enterococci	<input type="checkbox"/>	<input type="checkbox"/> BC CSR <input type="checkbox"/> YK CSR <input type="checkbox"/> CCME <input type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> BC Water Quality <input type="checkbox"/> Other		
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2	Field Dup 2	↓	10:25	seawater	3																																																									
3	Field Blank	↓	12:00	seawater	3																																																									
4	Trip Blank	2020/08/19	-	seawater	2																																																									
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<i>Emily Cicon</i> Emily Cicon	2020/08/19	13:30	<i>Julio Pedro Tavares</i> JULIO PEDRO TAVARES	2020/08/20	08:04

COC-1020



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