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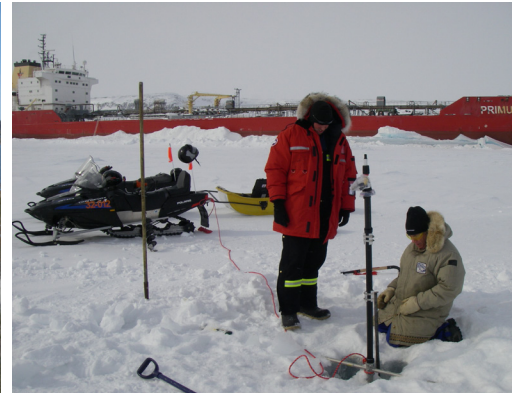
Doris North Gold Mine Project:

2011 Roberts Bay Physical Oceanography Baseline Report



Hope Bay Mining Limited

DORIS NORTH GOLD MINE PROJECT 2011 Roberts Bay Physical Oceanography Baseline Report



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DORIS NORTH GOLD MINE PROJECT

2011 ROBERTS BAY PHYSICAL

OCEANOGRAPHY BASELINE REPORT

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Vancouver, British Columbia

Executive Summary

Executive Summary

The 2011 Roberts Bay Physical Oceanography program was conducted by Rescan Environmental Services Ltd. (Rescan) on behalf of Hope Bay Mining Ltd. (HBML), for the Doris North Gold Mine Project. The Doris North Property is located approximately 125 km southwest of Cambridge Bay, Nunavut, on the south shore of Melville Sound. The nearest communities are Omingmaktok (Bay Chimo; 75 km to the southwest of the property), Cambridge Bay, and Kingaok (Bathurst Inlet; 160 km to the southwest of the property).

This report presents the results of the 2011 Roberts Bay Physical Oceanography program. The primary objective of the 2011 program was to collect physical oceanographic data (i.e., water column structure and current velocities) in Roberts Bay in case HBML should decide to expand the Doris North Project as per the Doris North amendment package submitted to the Nunavut Water Board (NWB) and Nunavut Impact Review Board (NIRB) in November 2011 (HBML 2011). However, HBML's current plans are to transition the Doris North Project to Care and Maintenance.

The 2011 Roberts Bay Physical Oceanography program was designed to capture marine baseline data relevant to a potential discharge of treated Tailings Impoundment Area (TIA) water into Roberts Bay. The program consisted of an extensive physical oceanographic survey of Roberts Bay between February and October 2011 to characterize the winter and summer water column structure and circulation within the bay. To accomplish this, profiles of temperature, salinity, and dissolved oxygen were collected six times over the length of Roberts Bay. Oceanic currents were also measured, first at the proposed TIA discharge site in southern Roberts Bay (38 m depth; February to April), then at the entrance of Roberts Bay (85 m depth; April to October) to gain an understanding of the exchange processes of the bay with Melville Sound. The following paragraphs briefly summarize the results of the program:

Discrete Water Column Profiles

A conductivity, temperature, and depth (CTD) profiling instrument fitted with a dissolved oxygen probe was used to sample several stations during the survey period in Roberts Bay. In the winter months, the water column was weakly stratified beneath the ice cover, and generally consisted of a roughly two-layered thermohaline structure with a 20 to 30 m cold (-1.4 to -1.5°C), less saline (25 to 26), oxygen-rich (11.0 to 12.0 mg/L) top layer above a warmer (-0.4 to -0.2°C), saltier (27 to 28) and less oxygenated (9.0 to 10.5 mg/L) bottom layer. While the limited mixing between both layers resulted in slightly lower dissolved oxygen concentrations in the lower layer, the bottom waters still remained above the marine CCME interim guideline of 8.0 mg/L for dissolved oxygen (CCME 2011).

Ice melting and breakup occurred around the end of June and early July, after which wind overhauled the thermohaline structure of the bay. In July and August, wind-driven mixing in the surface waters led to a stably stratified structure with a warmer (4 to 8°C), fresher (20 to 21) top layer above a colder (-2 to 0 °C), more saline (26 to 28) bottom layer. The depth of the surface mixed layer ranged from 5 to 10 m in early July to over 25 m in September due to continuous mixing of high temperatures within the interior of the water column.

The summer dissolved oxygen profiles varied much more extensively than their winter counterparts, due to the combination of physical and biological processes acting on the oxygen pool. In July, low oxygen concentrations were generally recorded near the water surface due to the rapidly warming temperatures, down to a minimum of 6.8 mg/L (lower than the marine CCME interim guideline; CCME 2011). High and saturated dissolved oxygen concentrations were observed in the 20 to 25 m directly

below the top surface layer (>12 mg/L) due to active phytoplankton primary production. In August, dissolved oxygen values were lower than the July values, ranging from 8.4 to 9.5 mg/L in the upper few metres and from 8.2 to 8.6 mg/L in bottom waters. The lowest recorded values of just over 8.0 mg/L still represent saturation levels of 66 to 70%, which are within acceptable marine CCME guidelines. In September, dissolved oxygen concentrations were over 10.0 mg/L at all sampled locations, likely due to the eventual homogenization and oxygenation of the water column through continual wind mixing.

Time Series of Surface Winds and Riverine Inputs

Between May and late October 2011, wind speed and direction were logged continuously by the southern shore of Roberts Bay and showed a fairly persistent pattern alternating between general eastern and western directions, with strong inputs from the north in early summer. Wind velocities were typically in the range of 2 to 7 m/s. In August, westerly and northerly winds weakened slightly, and easterlies increased in frequency and intensity with about 50% above 10 m/s. Freshwater flows were logged in two streams feeding into Roberts Bay, with discharge rates peaking at 6 to 7 m³/s in late June and early July due to ice and snow melt on land. Flows decreased through July to very low discharge rates (less than 1 m³/s) in August, September and October.

Time Series of Deep-Water CTD

A CTD instrument fitted with a dissolved oxygen probe was deployed on the 85 m depth mooring to log deep-water properties continuously between May and October. Large changes in dissolved oxygen and temperature were detected between May 30 and June 14, prior to ice melt. During this event, dissolved oxygen increased from roughly 8.5 mg/L to 10.5 mg/L, while deep-water temperature decreased by more than 0.5°C, from -0.25°C to -0.8°C. Through August and September, temperature, salinity and density generally increased very gradually through slow mixing with incoming waters from Melville Sound. There was no evidence of strong oxygen depletion in the deep-waters of Roberts Bay during the deployment.

Time Series of Oceanic Currents

Acoustic Doppler Current Profilers (ADCPs) were also deployed to semi-continuously measure water column current velocities in Roberts Bay at the 38 m station from February to April 2011 and at the 85 m station from April to October 2011. During the winter months, Roberts Bay waters displayed a very sluggish, generally clockwise circulation characterized by overall weak mean horizontal currents (<1 cm/s), with occasionally larger currents formed by sinking brine-rejection in the shallow, southern waters of the bay. There was very limited interaction with Melville Sound waters, aside from weak advection currents and some mixing of horizontal fronts.

Beginning at the ice melting/breakup period in early July, the wind drag, and to a lesser extent the freshwater inputs, drove the clockwise circulation of the bay. Strong upwelling and divergent currents formed near the water surface due to wind/wave interactions. A distinct two-layer thermohaline structure with a positive estuarine flow emerged at the bay's mouth for the majority of the observations, with the top 20 to 30 m of the water column flushing out of the bay at average horizontal velocities of 1 to 2 cm/s, with maximum velocities of 25 cm/s and beyond. The bottom depths were characterized by a slow (usually less than <1 cm/s) landward flow of incoming waters from Melville Sound. Despite the relatively weak mean velocities, there was significant variability recorded in both north/south current speeds and directions throughout the summer, indicating at least a significant, order of magnitude increase in the exchange of waters between Roberts Bay and Melville Sound.

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Extensive support was provided by the HBML Environment and Social Responsibility (ESR) Department, the Health, Safety and Loss Prevention (HSLP) Department, and camp management, as well as Great Slave Helicopters, Braden Burry Expediting, and Nuna Logistics.

This report was prepared for HBML by Rescan Environmental Services Ltd. The 2011 Physical Oceanography Baseline fieldwork was conducted by Rescan scientists Soleil Switzer (M.Sc., R.P.Bio.), Arman Kaltayev (M.Sc., R.P.Bio.), Craig Hatt (Dip. Eng. Tech.), and Katsky Venter (M.Sc.). The report was written by Philippe Benoit (M.Sc.) and David Crawford (Ph.D., M.Sc.), and was reviewed by Mike Henry (Ph.D.) and Deborah Muggli (Ph.D., M.Sc., R.P.Bio.). The project was managed by Deborah Muggli.

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2011 ROBERTS BAY PHYSICAL

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Glossary, Abbreviations, and Units of Measurement

Glossary, Abbreviations, and Units of Measurement

Glossary and Abbreviations

Terminology used in this document is defined where it is first used. The following list will assist readers who may choose to review only portions of the document.

ADCP	Acoustic Doppler Current Profiler
Baroclinic/Baroclinity	characteristic of a stratified fluid that has misaligned pressure and density gradients, a fundamental requirement for the generation of eddies
CCME	Canadian Council of Ministers of the Environment
CTD	conductivity, temperature, and depth profiler
Current velocity	by convention, the direction of a current (degrees) is given as the direction <i>towards</i> which the current is heading
DBN	double braid nylon
Density	weight of water per unit volume (kg/m^3); calculated from temperature, salinity and pressure
σ_t	alternative symbol for density; refers to the difference between the density of a water sample and that of pure water ($1,000 \text{ kg}/\text{m}^3$)
Density compensation	when seawater maintains constant density through time due to competing temperature and salinity changes
DO	dissolved oxygen
Doppler shift	change in frequency of a wave (often sound or light) for an observer moving relative to the source of the wave
Ekman motion/transport	refers to the direction of water transport at a 90 degree angle to the right of the surface wind direction in the Northern Hemisphere (left in the Southern Hemisphere). Ekman motion rises from an imbalance between surface currents being generated due to the balance between the Coriolis force and wind drag
ESR	Environment and Social Responsibility department
Halocline	depth zone where salinity changes sharply
HBML	Hope Bay Mining Limited
HSLP	Health, Safety and Loss Prevention department
‘Negative’ estuary	an estuary where freshwater losses from evaporation or ice formation exceed freshwater additions (e.g., river discharge, rain, ice melting). This leads to a landward longitudinal density gradient, which drives a strong surface volume inflow from the ocean in response to the freshwater scarcity, and a correspondingly weaker near-bottom seaward outflow
NIRB	Nunavut Impact Review Board

NWB	Nunavut Water Board
‘Positive’ estuary	an estuary where freshwater additions (e.g., river discharge, rain, ice melting) exceeds freshwater losses from evaporation or freezing. This leads to a seaward longitudinal density gradient, which drives a strong surface volume outflow to the ocean in response to the supplementary freshwater, and a correspondingly weaker near-bottom inflow of seawater
PSS	practical salinity scale
Pycnocline	depth zone where density changes sharply
RBW	Roberts Bay West station
Rescan	Rescan Environmental Services Ltd.
Salinity	dimensionless (i.e., no units) scaling used to represent the total mass of solid material dissolved in a sample of water divided by the mass of that sample. The scaling used is based the PSS-78 standard, which relates the conductivity ratio of a seawater sample to a KCl solution (for additional details see Unesco (1985))
ST	summer transect
Std	standard deviation
Taut-line	line or rope under tension; a taut-line mooring is under tension due to the buoyancy provided by the buoys at the surface end of the line and an anchor at the water bottom.
Thermocline	depth zone where temperature changes sharply
Thermohaline	relating to temperature and salinity
TIA	tailings impoundment area
TRDI	Teledyne RD Instruments
Unesco	United Nations Educational, Scientific and Cultural Organization
V	velocity; e.g., V _{north} refers to the velocity in the northern direction.
Wind Velocity	by convention, the direction of a wind (degrees) is given as the direction <i>from</i> which the wind is blowing
WT	winter transect

Units of Measurement

Physical Quantity	Unit	Abbreviation
Current Velocity	centimetres per second	cm/s or cm/sec
Density	kilograms per cubic metre	kg/m ³
Dissolved Oxygen Concentration	milligrams per liter	mg/L
Dissolved Oxygen Saturation	percent of atmospheric saturation	%
Temperature	degrees Celsius	°C
Water Pressure	decibars	dbar
Wind Velocity	metres per second	m/s

1. Introduction

1. Introduction

1.1 STUDY BACKGROUND AND PURPOSE

The Doris North Gold Mine Project, managed by Hope Bay Mining Ltd. (HBML), is located approximately 125 km southwest of Cambridge Bay, Nunavut, on the south shore of Melville Sound. The nearest communities are Omingmaktok (75 km to the southwest of the property), Cambridge Bay, and Kingaok (Bathurst Inlet; 160 km to the southwest of the property). Figure 1.1-1 provides a general location map for the Doris North Project.

HBML recently considered expanding the Doris North Project as per the Doris North amendment package submitted to the NWB and NIRB in November 2011 (HBML 2011). The amendment included expanding the mine life by accessing additional resources via the Doris North Portal, and also included the potential discharge of mine water from the Tailings Impoundment Area (TIA) to Roberts Bay. The TIA water would potentially be saline in nature, and the amendment application requested a change from the currently-permitted discharge location in Doris Creek to Roberts Bay. However, as of February 1, 2012, HBML plans to transition the Doris North Project to Care and Maintenance.

This report presents the results of the 2011 Physical Oceanography Baseline program that was conducted to support the amendment application to relocate treated TIA discharge to Roberts Bay. The overall objective of the program was to describe the general water column structure and circulation within Roberts Bay, during both the ice-covered and open-water periods. Much of the information collected was used to construct and run a 3D hydrodynamic model of Roberts Bay, as the numerical simulation results were needed to supplement the amendment package. Details of the computational work will be provided in a separate report.

Data were collected for the following parameters as part of the program:

- o Water column temperature, salinity and oxygen profiles;
- o Wind and riverine discharge time-series;
- o Bottom water continuous measurements of temperature, salinity and oxygen; and
- o Water column horizontal and vertical currents.

The locations sampled for currents in Roberts Bay were designated to address both the potential near-field (end of the proposed pipeline at 38 m depth) and far-field (exchange point with Melville Sound at 85 m depth) influence of the proposed TIA discharge. Chapter 2 describes the general methods used, Chapter 3 presents the results and Chapter 4 summarizes the report findings in terms of winter and summer circulation. Additional raw data are provided in Appendices 3-1, 3-2 and 3-3.

1.2 SITE DESCRIPTION

Roberts Bay is a small inlet within Melville Sound located on the northern shore of mainland Nunavut at 68° 12' N, 106° 38' W, approximately 125 km southwest of Cambridge Bay, Nunavut. Although marine data has been collected on a sporadic basis around the Doris North area since the mid-1990's, detailed baseline information gathering on the marine physical water column structure and dissolved oxygen content became prominent in 2009 and has occurred on a yearly basis since then (Rescan 2010, 2011b, 2011c and 2012b).



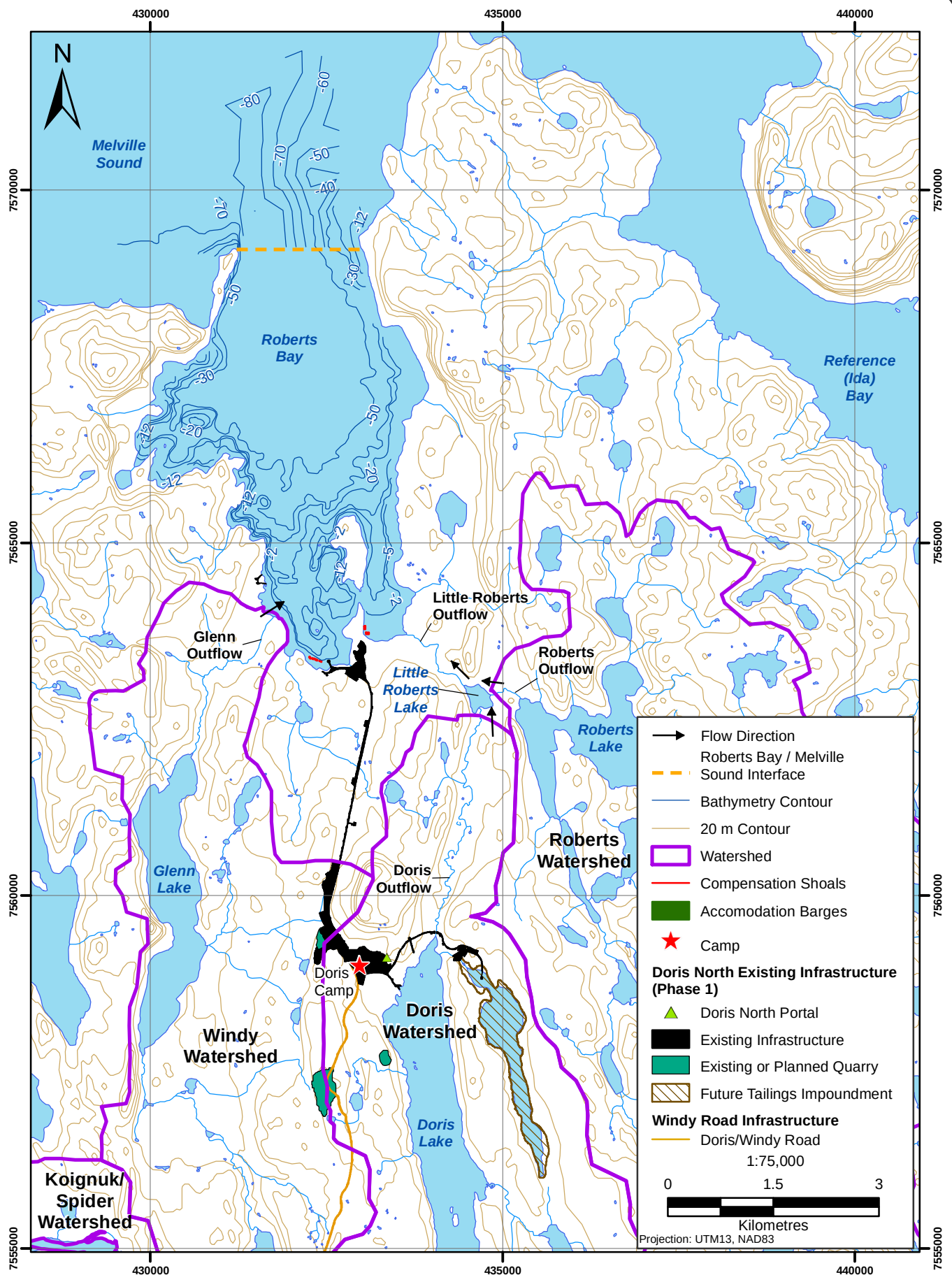
Figure 1,/-1

Roberts Bay is a broad estuary, with a maximum north-south length of 5 km and east-west width of 4 km (surface area: 14.3 km²). The total volume of Roberts Bay is approximately 5.1×10^8 m³ with a mean depth of 36 m and maximum depth of 88 m at its mouth. The southernmost section of the inlet is shallow (<20 m), and deepens to between 40 m and 90 m towards Melville Sound. Water exchange in Roberts Bay has free access to Melville Sound as there is no sill present in the inlet. Freshwater enters the bay from a number of tributaries, although primarily from Little Roberts Outflow and less so from Glenn Outflow. Little Roberts Outflow drains Little Roberts Lake, which receives water from Doris Outflow and Roberts Outflow. Glenn Outflow flows from Glenn Lake. Figure 1.2-1 shows a map of the freshwater catchments around Roberts Bay.

The area is characterized by two main tidal cycles: the fortnightly spring-neap cycle and the daily diurnal cycle consisting of one high tide and one low tide per day. The tides are very weak with a tidal range for spring tides (new and full moon) of around 0.4 m, and for neap tides (1st and 3rd quarter moons) between 0.2 and 0.3 m. An example of the tidal signature for Roberts Bay is shown in Figure 1.2-2, where water level height data was decomposed into tidal and non-tidal components using classical harmonic analysis (see Pawlowicz, Beardsley and Lentz (2002) for complete details). Preliminary data surveys indicated that circulation in the bay was influenced by winds rather than by tides, with tidal currents weaker than the down-slope density flows originating from brine rejection during ice formation (HBML 2011).

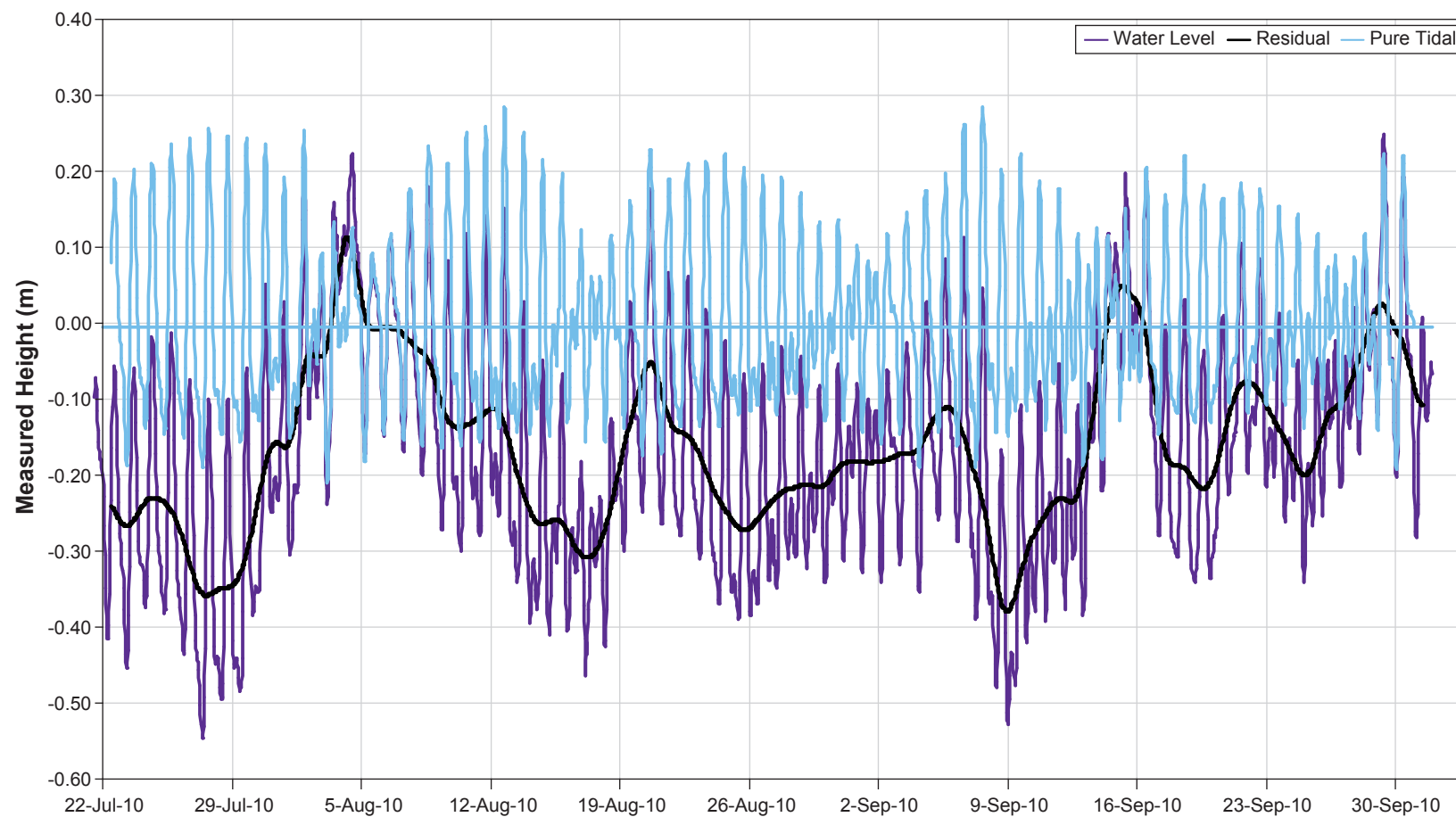
Typically, sea ice begins to form in October and melts in late June or early July, thus becoming a persistent and dominant feature of the water column for approximately eight months of the year. In winter, exchange with Melville Sound is limited because winds driving the circulation are isolated from surface waters by the land-fast ice cover. Sea-ice melting occurs in the late spring and early summer in response to rapidly increasing solar intensity, day length and air temperature, and is facilitated by high winds helping the ice breakup. Melting is accompanied by an increase in freshwater flows from the surrounding watershed into the bay resulting from melting of land-based snow and ice (i.e., freshet).

The subsequent exposure of surface waters to wind stresses and freshwater discharges are most likely to be the main driving force in generating the summer circulation pattern and increased water transport out of Roberts Bay into Melville Sound. Winds create surface currents through drag stress forces on the water, and this meteorological forcing can be sustained in one direction over much greater timescales than do tidal oscillations. Riverine inputs can also set up horizontal pressure gradients that drive surface flow seaward and the corresponding deep water flow landward. They contribute to vertical stratification (e.g., by forming a two-layer system with less dense water overlaying denser bottom water), which inhibits the vertical mixing due to wind stress. Thus, these components were measured to help interpret the water column structure and current measurements in Roberts Bay.



**Roberts Bay and Surrounding
Freshwater Catchments**

Figure 1.2-1



Note: Residual refers to water level changes due to physical processes other than tides (e.g. wind waves, freshwater discharges, etc.)

Water Level Measurements in Roberts Bay with Tidal and Non-tidal Components

2. Methods

2. Methods

2.1 SAMPLING STATIONS

Discrete thermohaline and dissolved oxygen profiles were collected throughout Roberts Bay at 14 distinct sampling stations from March to September 2011. Ocean currents were measured from February 10 to October 3, 2011 using a moored Acoustic Doppler Current Profiler (ADCP) at two different sites within the bay. Wind velocity and riverine input data were also collected from May to October 2011 to provide information on the primary forcing mechanisms that drive the three-dimensional circulation in Roberts Bay. A map of all important sampling locations within Roberts Bay is found in Figure 2.1-1.

2.2 TEMPERATURE, SALINITY, AND DISSOLVED OXYGEN PROFILES

2.2.1 CTD Sampling Dates and Sites

Discrete physical oceanographic profiles (e.g., salinity, temperature, and dissolved oxygen) were collected three times in Roberts Bay during the under-ice season (March 18, April 21-24, and May 20) and three times during the open-water season (July 21, August 14, and September 22) in 2011 (see Figure 2.1-1 for the station locations). Under-ice profiles were collected along an eight-site winter transect (WT sites), and open-water profiles were collected along a seven-site summer transect (ST sites). The full profiling schedule is presented in Table 2.2-1, which lists the particular sites sampled during each trip.

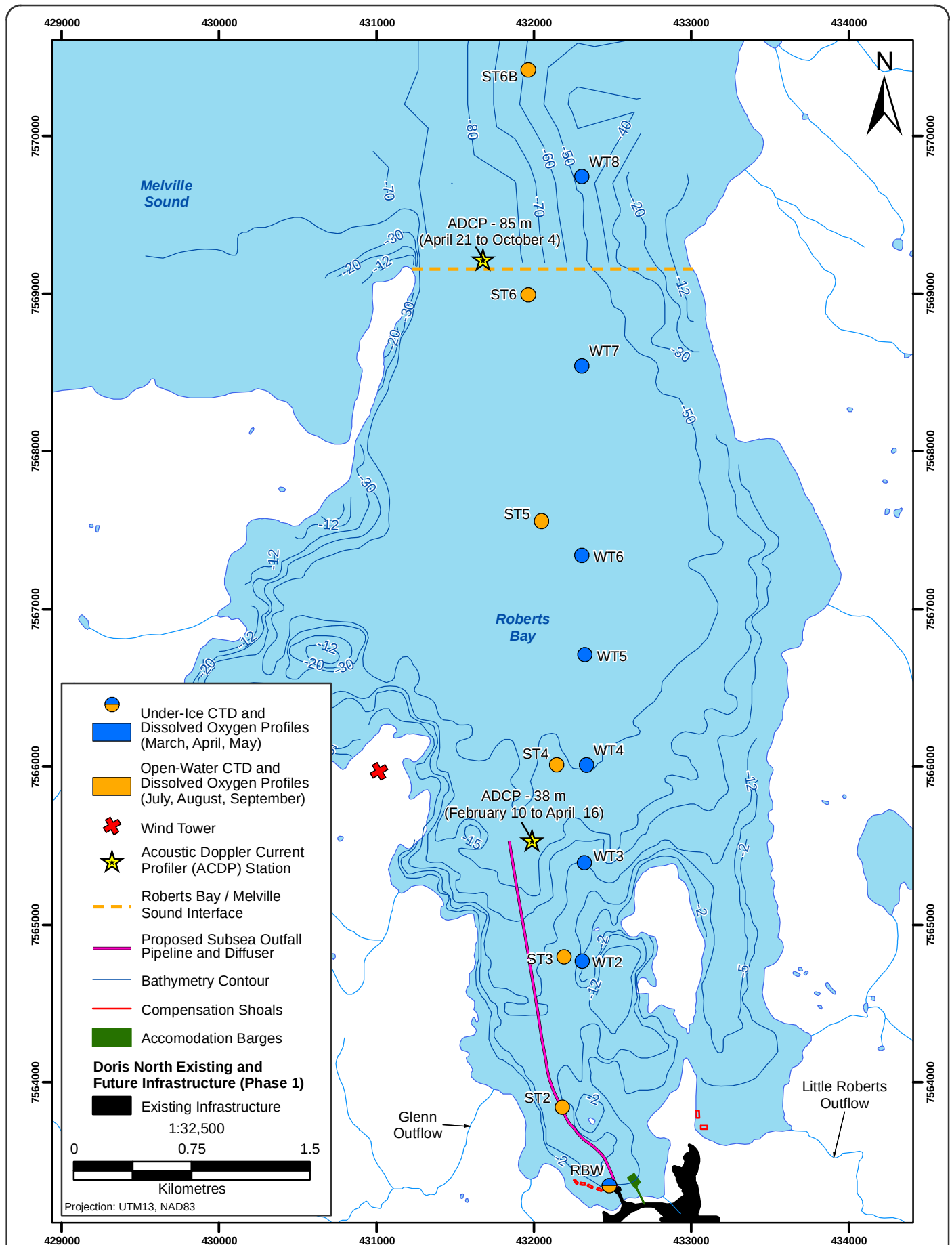
Table 2.2-1. Sampling Dates of Physical Oceanographic Profiles (CTD casts), Doris North Project, 2011

Month	Under-Ice Winter Transect (WT) Sampling Sites							
	RBW	WT2	WT3	WT4	WT5	WT6	WT7	WT8
March	-	-	-	X	-	-	X	X
April	X	X	-	X	-	X	-	X
May	X	X	X	X	X	X	X	X
Month	Open-Water Summer Transect (ST) Sampling Sites							
	RBW	ST2	ST3	ST4	ST5	ST6	ST6B	
July	X	X	X	X	X	X	X	
August	X	X	X	X	X	X	X	
September	X	X	X	X	X	X	X	

Notes: Dissolved oxygen profiles were collected in August and September using an YSI optical meter; RBW - Roberts Bay West. Dashes indicate sites and dates that were not surveyed due to malfunction of CTD of auger.

2.2.2 Under-ice Profiles

At each site, under-ice water was accessed by drilling a 25 cm diameter hole through the ice. A vertical profile of temperature, salinity, conductivity, and dissolved oxygen was collected using an *in situ* RBR-XR420 conductivity, temperature, and depth probe (CTD) fitted with an Aanderaa Optode dissolved oxygen sensor (model#3835). The unit was lowered just beneath the ice layer and allowed to equilibrate for 1 to 2 minutes (to cool or warm the instrument to *in situ* temperatures). It was then



**Roberts Bay Physical Oceanographic
Sampling Stations, Doris North Project, 2011**

Figure 2.1-1

lowered through the water column on a cable at an approximate speed of 0.5 m/s to within 1 m of the sea floor. The data logged during this process were downloaded once back at Doris camp. Data from the downcast were used to derive physical profiles.

On occasion, the CTD gave incorrect data readings (e.g., less dense water at depth due to the failure of the conductivity readings) due to the extremely cold temperatures encountered during the ice-covered months. These data were excluded from the report and were noted in the graphs.

Not all winter transect sites could be sampled in March and April 2011 due to logistical constraints, which included extreme cold affecting the CTD data acquisition and auger malfunctions. Only three of the eight WT sites were sampled in March and five were sampled in April. All under-ice sampling sites were accessed using snowmobiles.

2.2.3 Open-water Profiles

The open-water profiles were collected by lowering the CTD over the side of a flat-bottomed aluminum boat using the same methods as above. The oxygen sensor on the CTD stopped working during the August sampling trip and the dissolved oxygen data was subsequently collected during August and September using an YSI optical dissolved oxygen meter. The probe from this device was lowered at 1 m intervals over the upper 10 m, 2 m intervals between 10 m to 20 m, and 5 m intervals from 20 m to within 1 m of the sediments.

2.3 SURFACE WINDS AND RIVERINE DISCHARGE - TIME SERIES

2.3.1 Winds

Wind data was collected from the western shore of Roberts Bay from May 2 to October 29, 2011. A wind monitoring station was installed on May 2, 2011 (Figure 2.1-1) and consisted of one wind monitoring sensor atop a 10 m high antenna, and a data logger with the supplemental accessories installed on a 3 m tripod. The station was situated at the same location as a previous weather station, which operated temporarily in the 1990's. This site was on a flat, wide-open, unobstructed area that did not create vertical turbulence. The automated station monitored wind speed and direction with a RM Young/Model 10503 sensor and recorded with a Campbell Scientific CR800 data logger. The wind sensor was positioned 3 m above the ground and was oriented to true north by GPS and verified by a compass by considering the magnetic delineation.

2.3.2 Rainfall

The nearest rainfall gauge was located at the Doris meteorological station, which was situated between the camp and Doris Lake (Rescan 2012a). The monthly accumulated rainfall is summarized in Table 2.3-1.

Table 2.3-1. Total Rainfall at Doris Meteorological Station, Doris North Project, 2011

Month	Rainfall (mm)
May	9.1
June	32.0
July	21.1
August	12.7
September	32.0

Note: The Doris meteorological station was located approximately 8 km southeast from the Roberts Bay wind station.

2.3.3 Stream Discharges

Riverine data was collected at Doris Outflow from June 12 to October 17, 2011 and Roberts Outflow from June 21 to September 25, 2011. These streams flow into Little Roberts Lake, which empties into Roberts Bay through Little Roberts Outflow. Annual hydrographs were created for each stream using manual flow and water level (stage) measurements to generate stage-discharge ratings curves. These curves were then used to convert continuous water level data into a continuous stream flow time-series. The full methodology used for these measurements is outlined in the 2010 Hydrology Baseline Report (Rescan 2011a).

2.4 CURRENTS AND TEMPERATURE/SALINITY/OXYGEN - TIME SERIES

2.4.1 Current Monitoring Sites

Two mooring deployment sites were chosen in Roberts Bay: a station in the southern portion of the bay at the end-of-pipe location for the proposed TIA discharge (38 m deep), and a station at the Roberts Bay/Melville Sound border (85 m deep; Figure 2.1-1). The 38 m station deployment consisted of a top-ice mounted instrumentation that only measured velocities, which was operational from February 10 to April 16. The 85 m station deployment first started as a similar top-ice deployment for the period of April 21 to May 11; afterwards it was switched to bottom taut-line deployments from May 22 to July 17 and again from July 17 to October 4, to accommodate the eventual ice melting. The latter two moorings also included an attached CTD/DO sampling instrument that collected information on the physical properties of the deep waters moving into and out of Roberts Bay. The schematics of the moorings for all deployment periods are shown in Figure 2.4-1.

2.4.2 Instrumentation

2.4.2.1 Acoustic Doppler Current Profiler (ADCP)

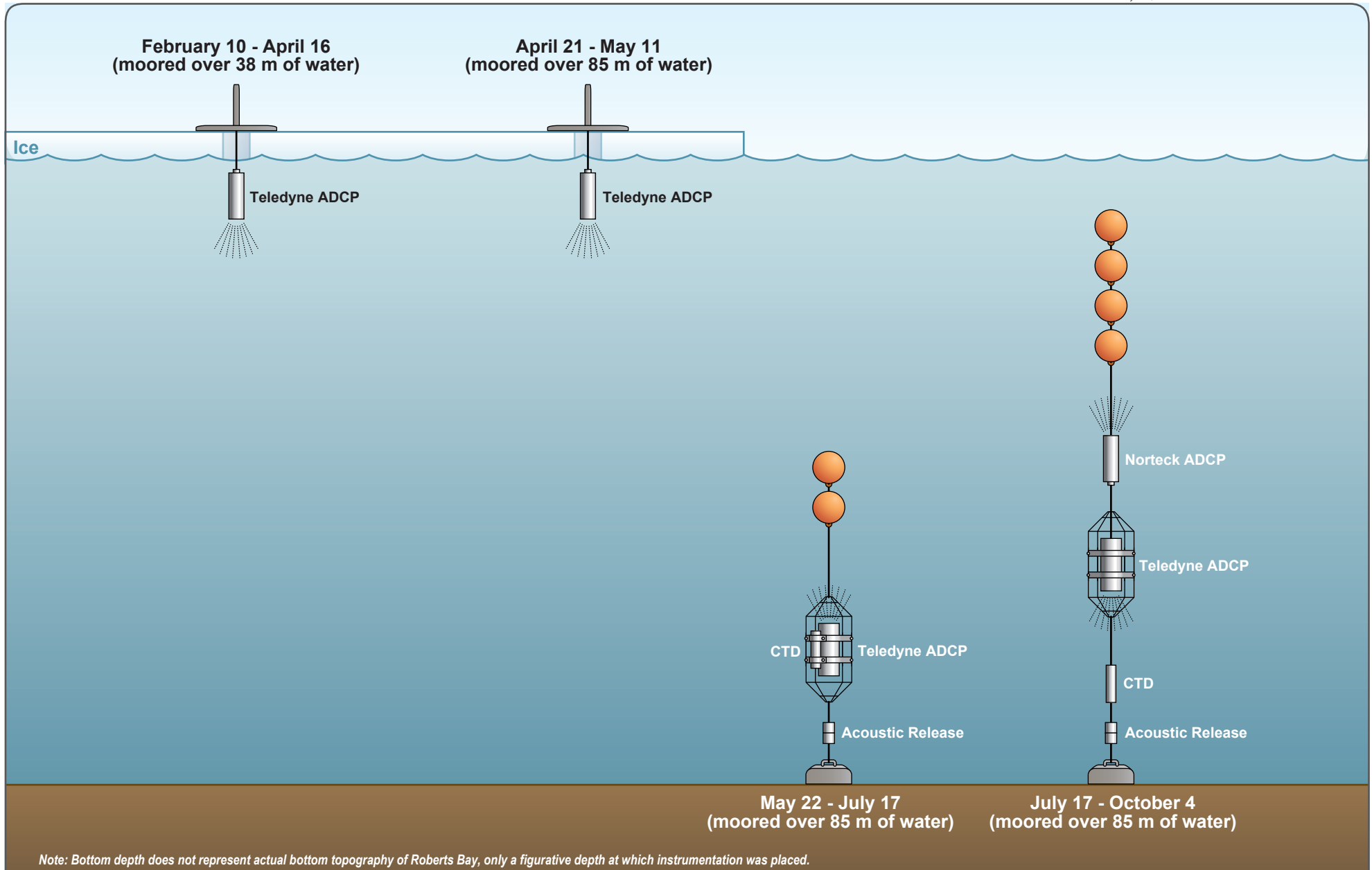
The Sentinel Workhorse ADCP, manufactured by Teledyne RD Instruments (TRDI) of Poway, California, USA was used at the two measurement sites in Roberts Bay (Figure 2.1-1). The ADCP technology is widely used for oceanic environmental monitoring applications. The ADCP unit provides precise measurements of ocean currents (both the horizontal and vertical components) at levels within the water column, from near-surface to near-bottom.

The ADCP instruments measure velocity by detecting the Doppler shift in acoustic frequency, arising from water current movements of transmitted acoustic pulses. From April to July 2011, the 300 kHz version of the instrument measured water velocities at a vertical spacing of 3 m at the 38 m site near the head of Roberts Bay, and at the 85 m site at the entrance of Roberts Bay.

A Nortek Aquadopp ADCP was also utilized in combination with the Workhorse ADCP on the July 17 to October 4 deployment to sample the upper water column at a higher resolution. The Nortek is designed for a wide range of applications and can be deployed on the sea bottom, on a mooring rig, buoy or on any other fixed structure. The 600 kHz Aquadopp measured water velocities at a vertical spacing of 2 m at the 85 m measurement site. Additional details of the ADCP setups for each mooring can be found in Appendix 3-3.

2.4.2.2 Conductivity, Temperature, Depth (CTD) and Dissolved Oxygen (DO)

An RBR XR-420 CTD with an attached Aanderaa Optode dissolved oxygen sensor was mounted on the ADCP cage during the taut-line deployments (85 m) of May 22 to July 17 and July 17 to October 4. This instrument package provided continuous measurements of the following data at 1 h intervals: temperature (°C), pressure (dbar), depth (m), salinity, density (kg/m³), and dissolved oxygen (mg/L).



These parameters were measured to track water mass changes in the bottom waters of the Roberts Bay/Melville Sound border.

2.4.3 Top-Ice Mounted Moorings

2.4.3.1 February 10 - April 16

For the February through April deployment, the ADCP was suspended from the ice with its transducers oriented downwards at the 38 m depth station. The instrument was attached to a vertical aluminum pole, and a second horizontal pole was used to keep the instrument suspended at the ice surface, as well as to orient the ADCP compass. The transducer faces of the instrument were calculated to be at a depth of 3.8 m with respect to the top surface of the ice. The ADCP was set to record in instrument XYZ geometric coordinates, and the reference beam #3 was oriented using the horizontal pole at the surface. See Plate 2.4-1 for photographs of the top ice installation details.



Plate 2.4-1. Deployment of the ice-mounted 300 kHz ADCP in February 2011. The ADCP was downward looking, at a depth of 3.8 m from the ice surface.

2.4.3.2 April 21 - May 11

A similar ice-mounted setup described above was used for the April through May deployment; however, the instrumentation was moved to the 85 m depth station.

2.4.4 Bottom Taut-line Mounted Moorings

2.4.4.1 May 22 to July 17

In May, while anticipating the eventual ice breakup, the ADCP was switched to a bottom taut-line mooring where it was situated about 3 m off the sea floor at the entrance of Roberts Bay. The anchor consisted of four condemned steel mechanical jacks, weighing approximately 55 kg in air, which were roped together and attached to the bottom weight chain. The chain and jacks were approximately 2.3 m long when stretched out.

The following items made up the rest of the mooring (moving towards the surface):

- o 2 m DBN line;
- o EdgeTech bottom acoustic release;

- o ADCP in fabricated steel cage with Benthos Pinger and RBR-420 CTD/DO sensing instrument attached;
- o 1 m DBN rope; and
- o two Viny 12B3 floats.

Plate 2.4-2 shows a photograph of the taut-line mooring with instruments attached.



Plate 2.4-2. Photograph of the bottom taut-line mooring in April 2011, before deployment at 85 m site at mouth of Roberts Bay.

2.4.4.2 July 17 to October 4

The mooring for the last deployment was lengthened and the TRDI ADCP was attached about 55 m off bottom, looking downward. A second ADCP, a Nortek profiler 600 kHz, was then attached just above the TRDI ADCP, but looking upwards. The anchor consisted of a steel block of 200 kg weight (in air).

The following items made up the rest of the mooring (moving towards the surface):

- o 4 m DBN line;
- o EdgeTech bottom acoustic release;
- o RBR-420 CTD/DO sensing instrument (attached to Amsteel rope 0.5 m above the release);
- o 50 m of Amsteel rope;
- o 600 kHz RDI ADCP (pointing towards the bottom). Housed in fabricated steel cage with Benthos Pinger;
- o 0.6 m DBN rope with Nortek Aquadopp pre-attached (facing towards the surface); and
- o two pairs of Viny 12B3 floats.

2.4.5 ADCP Data Processing

To distil the thousands of raw current profiles into a manageable series of figures for this report, some post-measurement processing was required. Due to the large amount of data available for the Roberts Bay currents, only a few measurement depths were selected for reporting in the Appendices. In the case of the 38 m deep site, three depth levels were chosen for processing, while for the 85 m deep site four levels were chosen. The depths were selected based on a preliminary assessment of the dataset that identified them as giving maximum information on the water column circulation, while minimizing processing time. The basic standard ADCP data quality procedures for the selected depth bins, as well as extensive current statistics summaries (e.g., data quality and frequency tables, compass plots, etc.) are detailed in Appendix 3-3.

For presenting results, all depths sampled by the ADCPs were utilized to properly assess the current structure throughout the complete water column. Figures presented in the results section were done using significant time-averaging processing for conciseness. A low frequency median filter was applied to extract 6-hourly current means for each ADCP depth bin, from which weekly mean current profiles were calculated. To provide estimates of the effective range in current magnitudes and directions for each measurement week, generalized extreme value probability distributions (Muraleedharan et al. 2011) were fitted to each weekly ensemble. These types of distributions provide a more accurate picture of the current distributions around each calculated mean than the typical standard deviation calculation that relies on Gaussian probability curves. The subsequent 90% confidence intervals were computed for each week of data.

Compass plots displaying the mean current magnitudes and directions based on 10 m averaged depth bins were also calculated for all north/south current figures. Due to the errors associated with acoustic reflection off boundaries (e.g., surface, ice or sediments), data within 5 to 10 m of the surface and bottom depths were omitted from further analysis.

3. Results and Discussion

3. Results and Discussion

3.1 TEMPERATURE, SALINITY AND OXYGEN PROFILES

3.1.1 Under-ice Profiles

Under-ice profiles of temperature, salinity, density and dissolved oxygen are shown in Figure 3.1-1 for March, April and May. Contours of temperature, salinity and density are shown in Figures 3.1-2, 3.1-3, and 3.1-4.

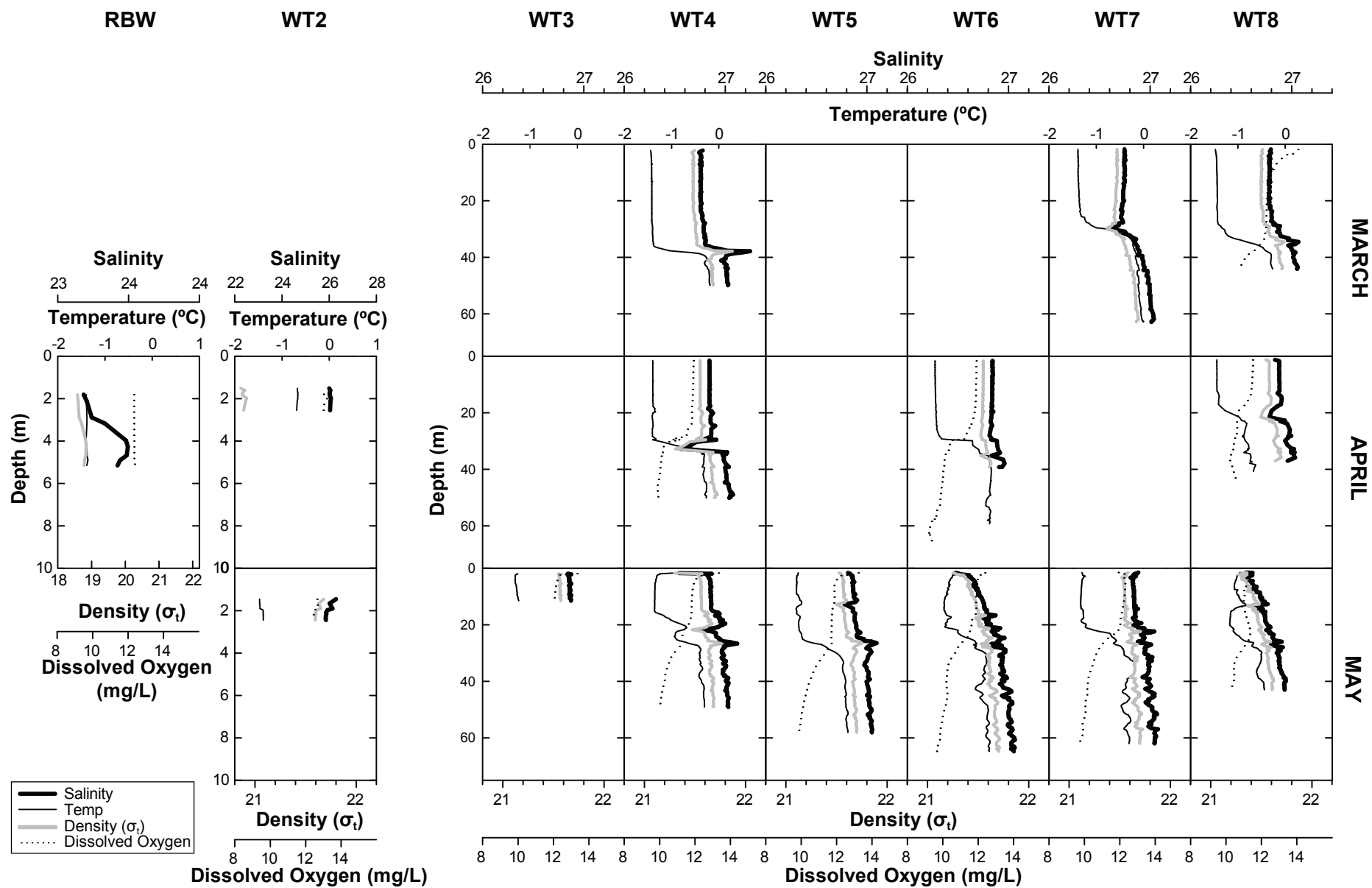
The thermal structure of the water column maintained a distinct two-layered profile for all winter months, with temperatures in the range of -1.2°C to -1.45°C in the top layer and -0.5°C to 0°C in the bottom layer (Figures 3.1-1 and 3.1-2). A steep thermocline was present at roughly 30 to 40 m in March and at 20 to 30 m in April and May. Salinity varied from 26.75 at the surface to just over 27 in deeper waters throughout most of Roberts Bay (Figures 3.1-1 and 3.1-3), with only a very weak halocline at around 30 to 40 m. For reference, the freezing temperature of seawater at 26.75 salinity is approximately -1.46°C . There was no significant evidence of an increase in salinity in the upper water column, which might be observed as a result of brine rejection from sea ice. However, brine rejection can be episodic and may not have been captured during the specific profiling dates.

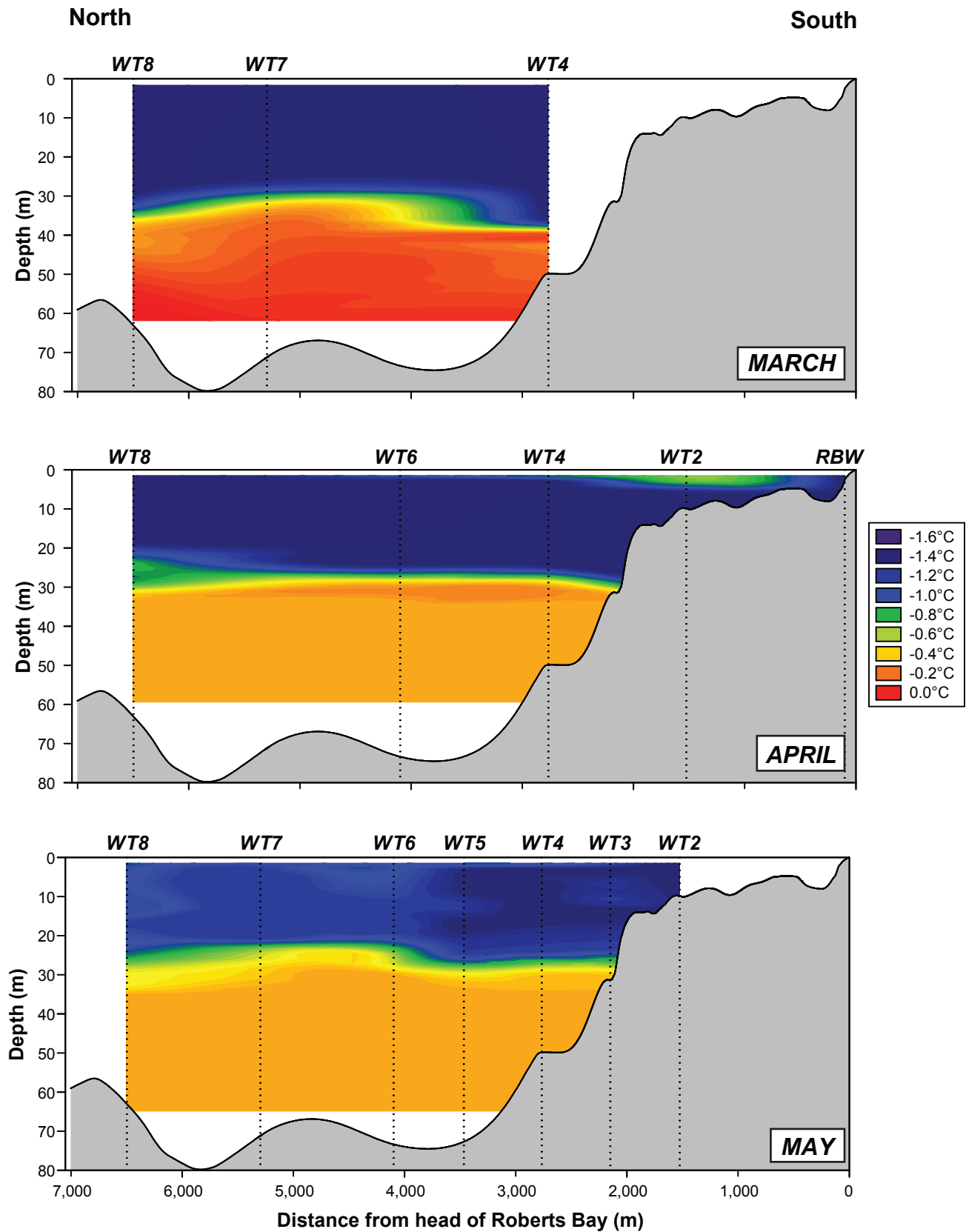
The stability of a water column is governed by density (as measured by sigma-t, σ_t), where a stable column has a positive density gradient with depth, and vice versa for an unstable column (Gill 1982). Under the ice, the water column was relatively weakly stratified with a low density gradient with depth, maintaining σ_t values within the 21.5 to 21.7 range (Figures 3.1-1 and 3.1-4) in waters away from the shore. A strong pycnocline (i.e., an abrupt change in density) was observed at around 30 to 35 m depth in March, but this feature mostly disappeared by April.

A strong density anomaly was found at the shallow station RBW, which was only sampled in April (see Figures 3.1-1 to 3.1-4). The low salinity (23.18 to 23.49) and correspondingly low densities (18.58 to $18.78 \sigma_t$), suggest that either a small patch of melting ice or an increase in freshwater input near the head of the bay diluted seawater at the station.

Oxygen distributions during the ice-covered period (see Figure 3.1-1) generally had a two-layer structure that was diametrically opposed to the temperature distributions, with an upper layer comprised of a large range in elevated dissolved oxygen concentrations (11.8 to 14.1 mg/L) and high saturation values (94 to 111%) sitting over a bottom layer of slightly lower dissolved oxygen (9.9 to 10.2 mg/L) and saturation values (81 to 88%).

Given the mid-column stratification limiting mixing between both layers, the dissolved oxygen deficiency in the bottom waters likely resulted from deep-water and sediment organic matter oxidation. Oxygen consumption remained relatively weak, however, with dissolved oxygen never reaching values lower than the marine CCME interim guideline of 8 mg/L (CCME 2011), and there was only a negligible decline of oxygen values throughout the winter period.





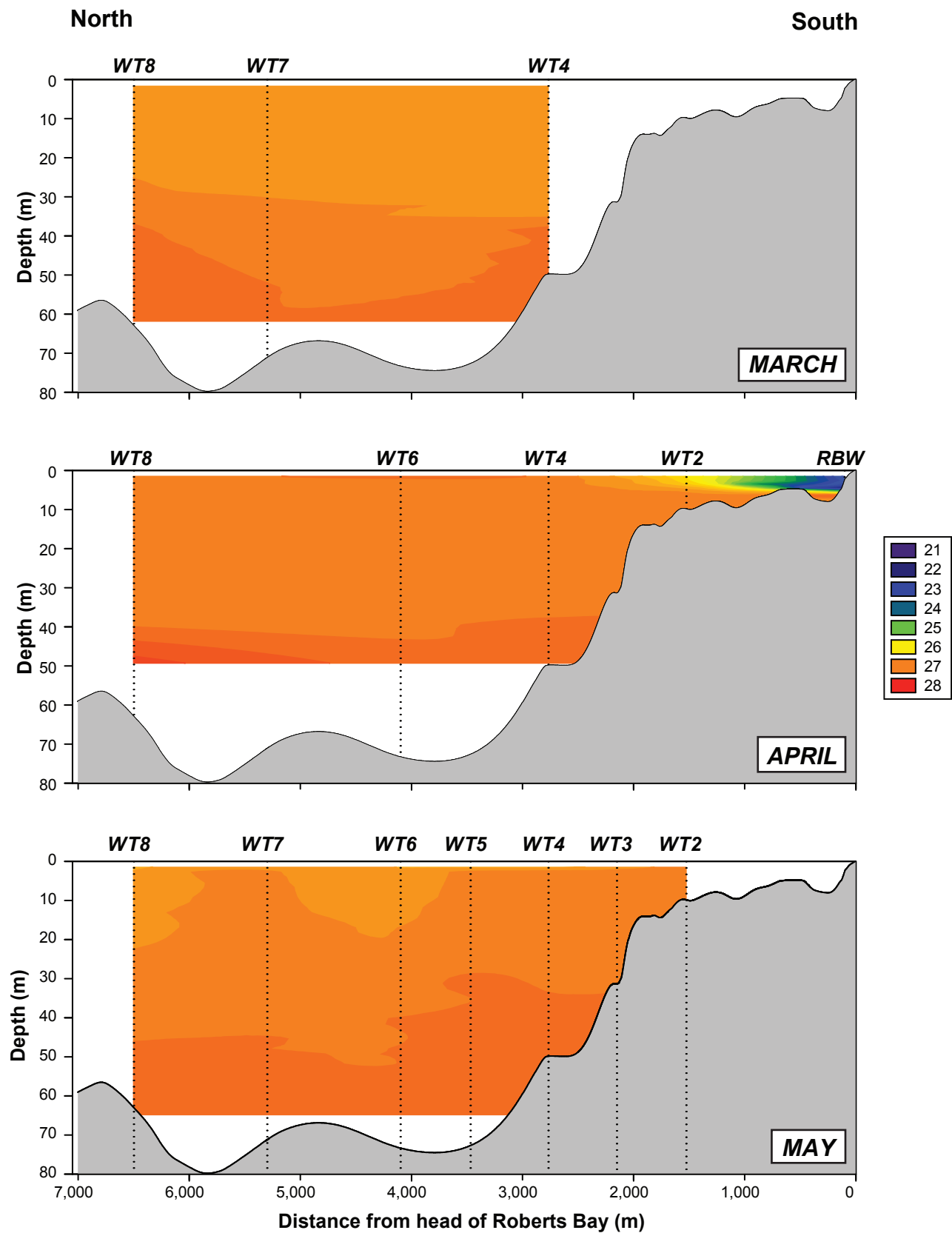
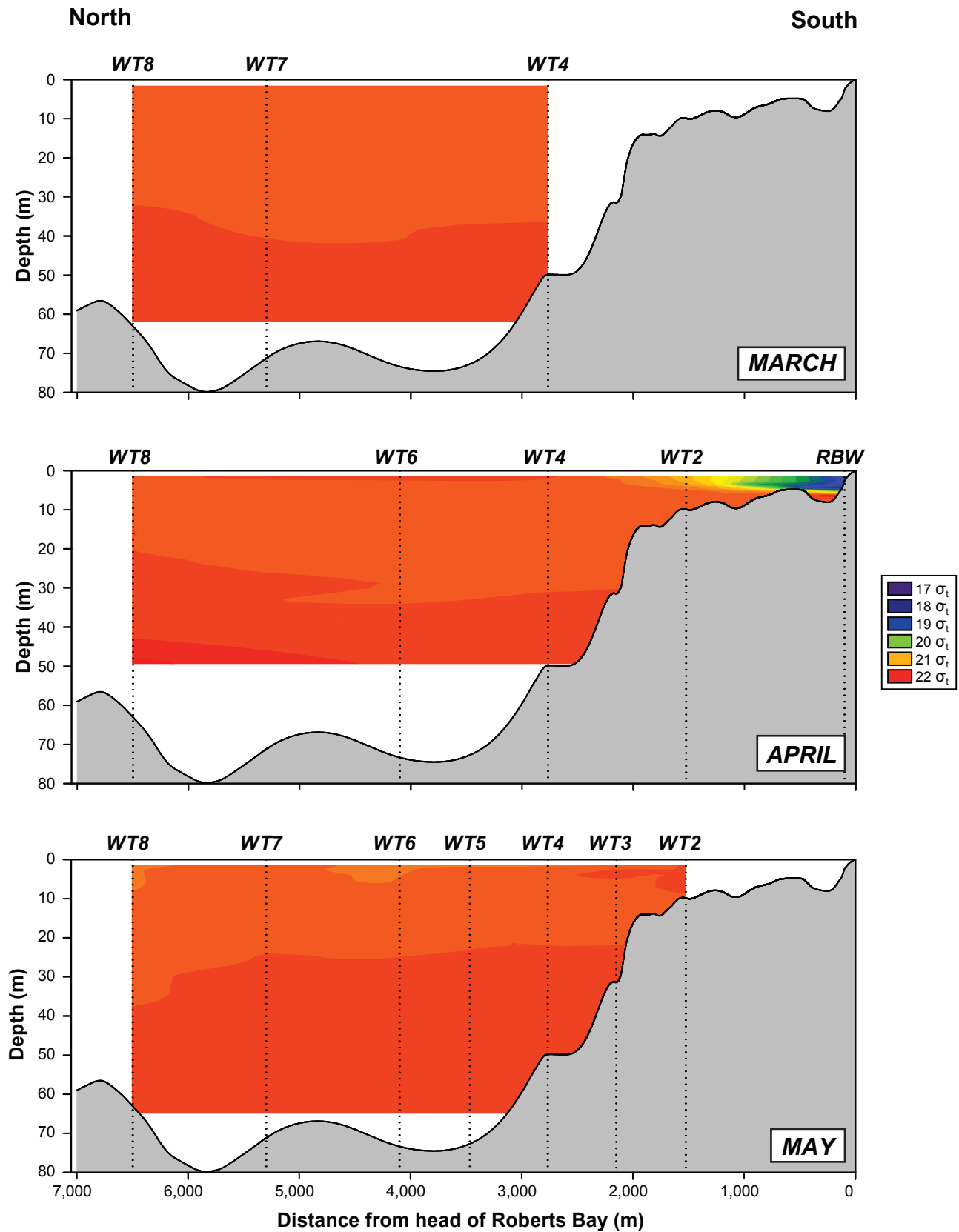


Figure 3.1-3



3.1.2 Open-water Profiles

Profiles of temperature, salinity, density and dissolved oxygen are shown in Figure 3.1-5 for July, August and September. Contours of temperature, salinity and density are shown in Figures 3.1-6, 3.1-7, and 3.1-8. Note that because of seasonal variations, the scales used in Figures 3.1-5 through 3.1-8 for temperature, salinity and density differ from those used in Figures 3.1-1 through 3.1-4. All raw data can be found in Appendix 3-1.

In the open water surveys of summer and fall, the water column structure changed dramatically due to the lower surface salinities from melted ice and increased riverine freshwater input, and higher surface temperatures due to increased solar radiation and air temperatures. In July, maximum surface temperatures ranged from 6.7 to 11.2°C, up from mean temperatures of approximately -1.4°C during the ice-covered winter months. Temperature was again strongly stratified in a two-layered thermohaline structure, with a warmer and fresher upper layer above colder more saline deeper waters. The transition between both layers occurred around 5 m depth where temperatures hovered close to 0°C (Figures 3.1-5 and 3.1-6).

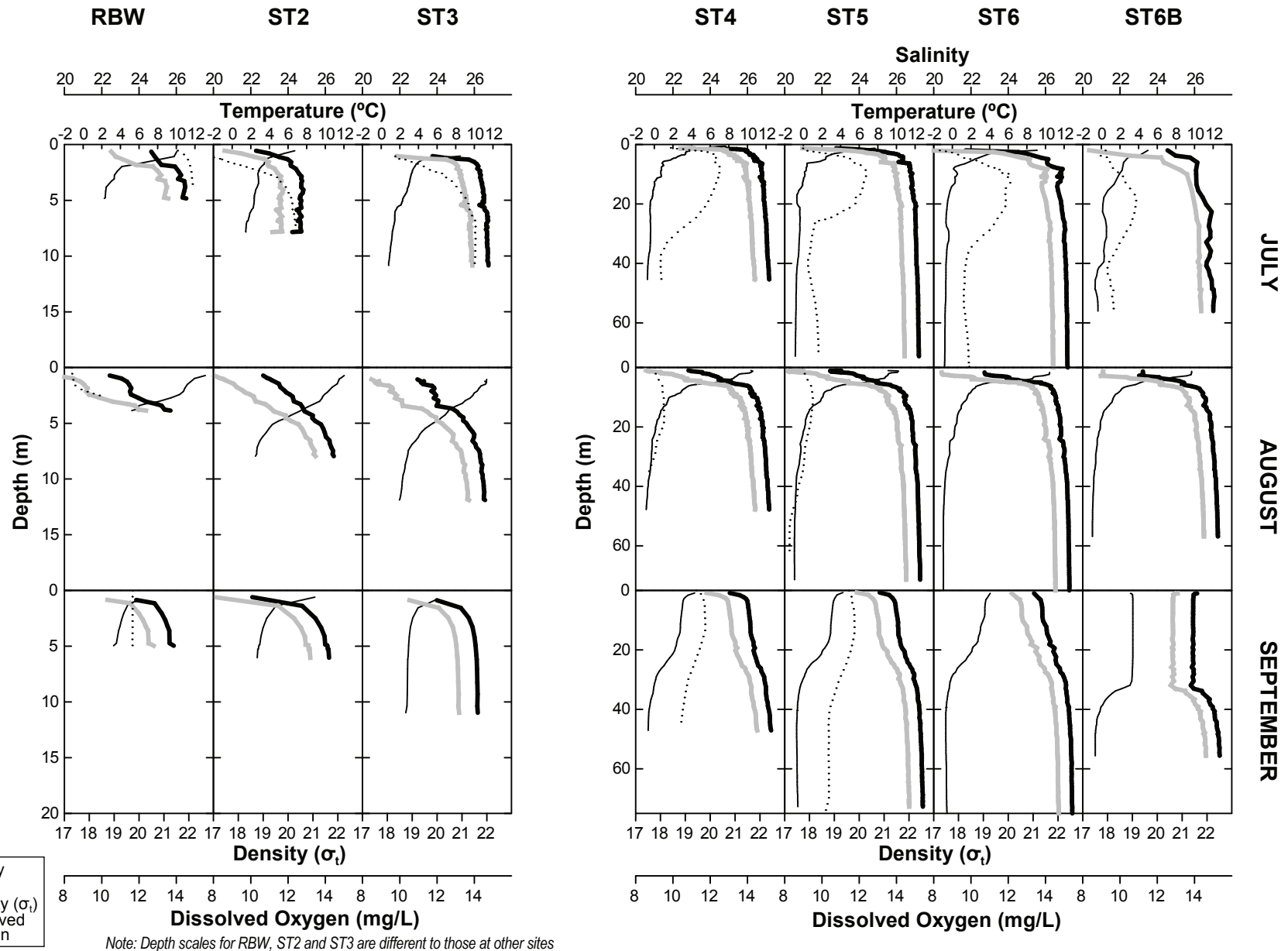
Surface temperatures in August continued to increase, reaching maximum values above 16°C at the shallow station RBW. Figure 3.1-6 suggests that continuous winds mixed the warmer surface waters deeper into the water column, doubling the effective surface mixed layer depth to 10 m. The thickening of the upper layer continued well into September, where the upper mixed-layer reached more than 20 m deep, while maximum temperatures cooled to 3 to 4°C.

Salinity stratification was also evident in the surface waters of Roberts Bay in July and August, and closely followed the temperature structure. Surface salinities were generally in the range of 22.2 to 26.2, down considerably from May. The sharp halocline at roughly 5 m depth led to salinities of 26.7 to 27.3 in the deeper waters (Figures 3.1-5 and 3.1-7). Progressive wind mixing resulted in a weakening of the halocline in September as dense saline waters were mixed into the surface layer. This was most pronounced at ST6B where salinity became well mixed and homogenous down to a depth of around 30 m.

Density stratification showed a pronounced pycnocline throughout most of the summer, lessening towards the end of August and September (Figures 3.1-5 and 3.1-8). Near-surface densities generally ranged from 17.4 to 19.7 σ_t in July, and deeper waters were typically around 21.6 to 21.8 σ_t . Similar to the trends observed in both temperature and salinity, the low density surface waters were progressively mixed with more dense, deeper waters throughout August and September, increasing the top mixed-layer depth to 25 to 30 m (Figures 3.1-5 and 3.1-8).

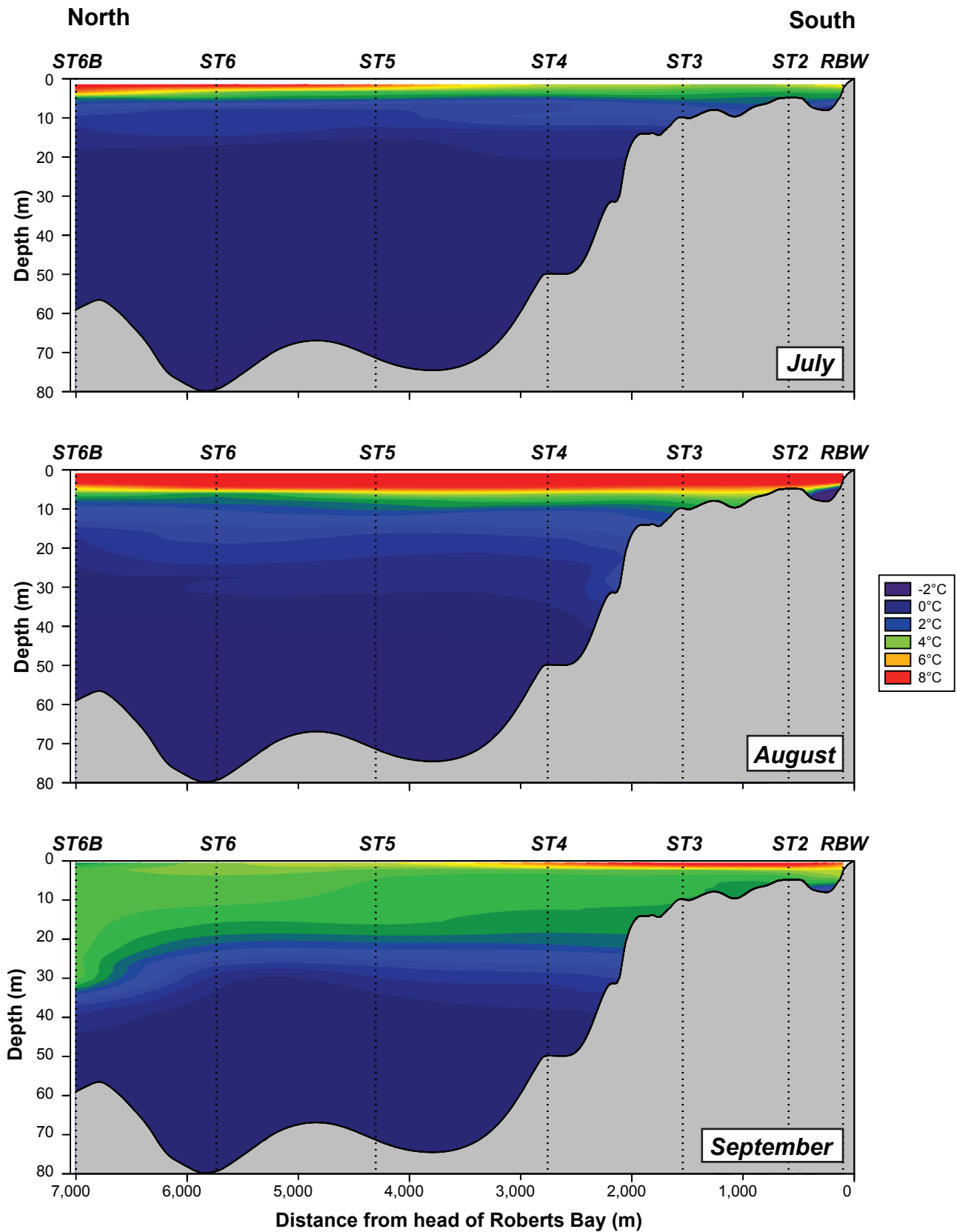
Horizontally, along the length of the bay, there was little variation in temperature (Figures 3.1-5 and 3.1-6) in summer and fall, at least relative to the strong thermal stratification observed with depth. However, the surface waters approaching the head of the bay tended to be slightly warmer. Slightly lower salinities and densities were observed at the shallow site ST2 in July (Figures 3.1-5, 3.1-7 and 3.1-8) than those observed at the same site in April (Figure 3.1-1), which was possibly associated with an increase in freshwater input (see Section 3.2.2 for freshwater input in June/July).

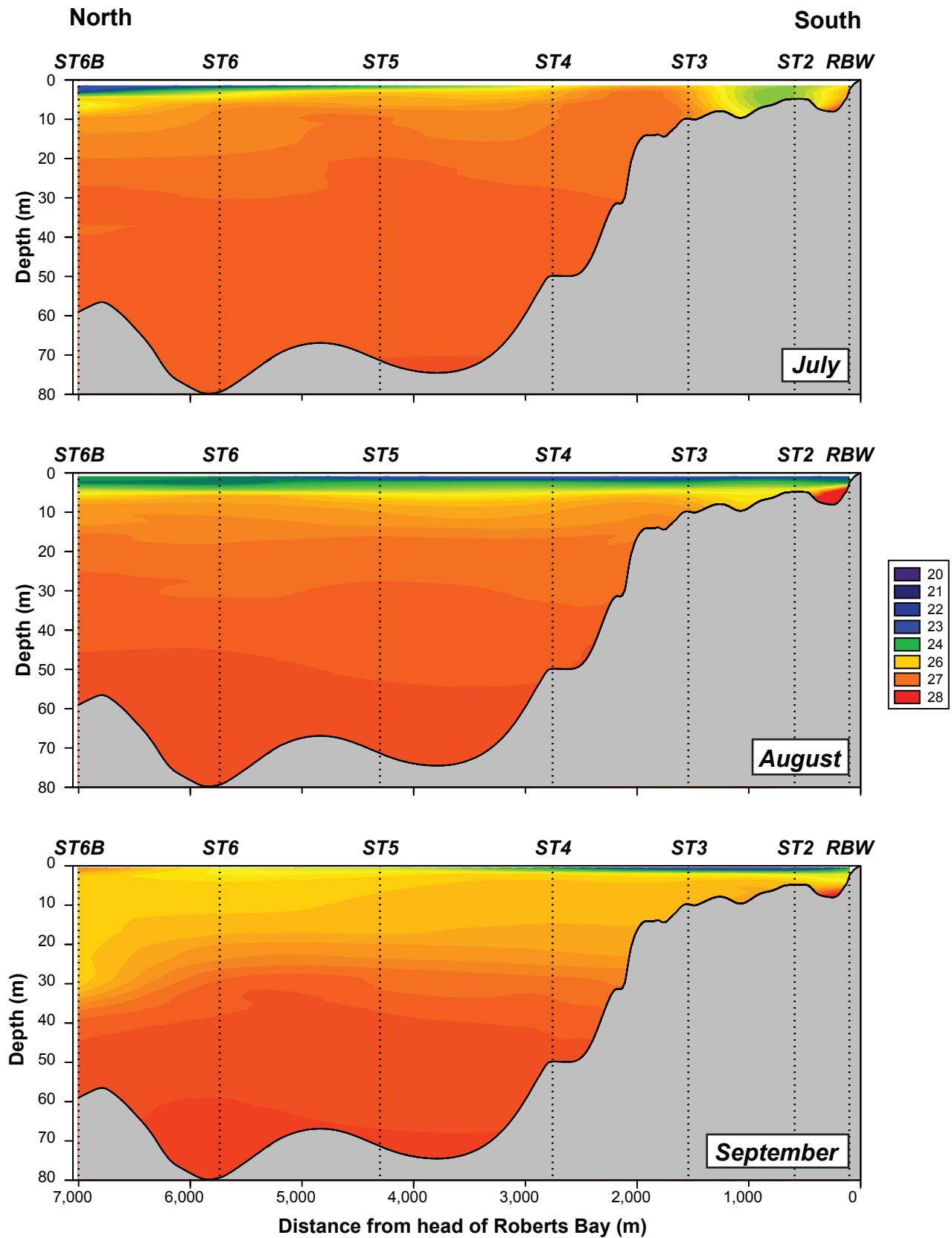
The dissolved oxygen profiles in the summer showed evidence of both physical and biological processes acting on the oxygen pool. In July, low surface oxygen concentrations were recorded, down to a minimum of 6.8 mg/L at ST2 (lower than marine CCME interim guideline of 8.0 mg/L; CCME 2011). However, such low concentrations were generally associated with high water temperatures (Figure 3.1-7) and thus likely resulted from atmospheric dis-equilibrium (i.e., high temperatures equate lower oxygen concentrations at 100% saturation than lower temperatures; see Garcia and Gordon 1992, 1993). Just below the surface layer (i.e., below 8 m depth), dissolved oxygen increased sharply to values above 12 mg/L.

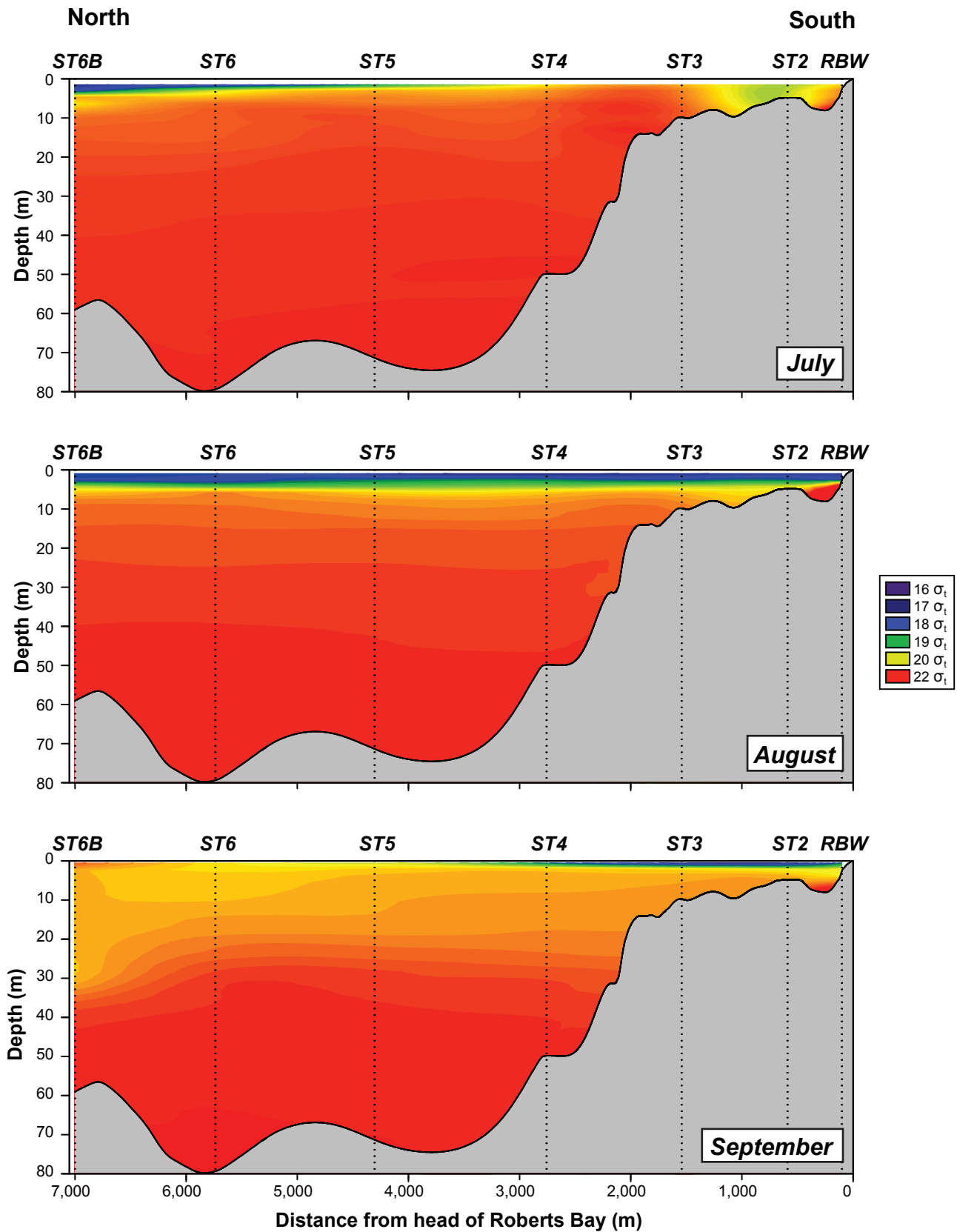


Open-Water Profiles of Temperature, Salinity, Density and
Dissolved Oxygen in Roberts Bay, Doris North Project, July–September 2011

Figure 3.1-5







The other stations in July typically had surface dissolved oxygen concentrations ranging from 9.0 to 10.0 mg/L, increasing to a subsurface maximum between 12.5 and 14.1 mg/L in the upper 10 m, before declining to around 8.5 to 9.5 mg/L in deeper waters. The subsurface dissolved oxygen maximum observed in the upper 20 m across the July transect (Figure 3.1-5) was accompanied by large oxygen saturation values of around 100 to 120%. Such a phenomenon was likely a result of rapid phytoplankton growth driven by the large sunlight and nutrient availability after the ice cover melt, a feature often observed in Arctic coasts and shelves (Carmack and Wassmann 2006).

August dissolved oxygen values were lower than the July values, ranging from 8.4 to 9.5 mg/L in the upper few metres and from 8.2 to 8.6 mg/L in bottom waters. Lower values probably result from a decrease in phytoplankton activity in the surface layer due to nutrient limitation and from the decomposition of earlier phytoplankton blooms in deeper waters. The lowest values of just over 8.0 mg/L still represent saturation levels of 66 to 70%, which are within acceptable marine CCME guidelines.

In September, dissolved oxygen levels at stations ST4 and ST5 increased to near-surface values and were fairly constant at 11.0 to 11.7 mg/L, but declined to just over 10.0 mg/L deeper in the water column. The larger surface values are associated with saturations over 100%, likely due to a phytoplankton bloom caused by the mixing of nutrients in the surface layer, which resulted in increased dissolved oxygen concentrations that had not equilibrated with the atmosphere yet. This is consistent with phytoplankton data from 2010 (Rescan 2011b) showing an increase in the abundance of diatoms in September 2010, which was related to an increase in wind mixing nitrate into the surface layer.

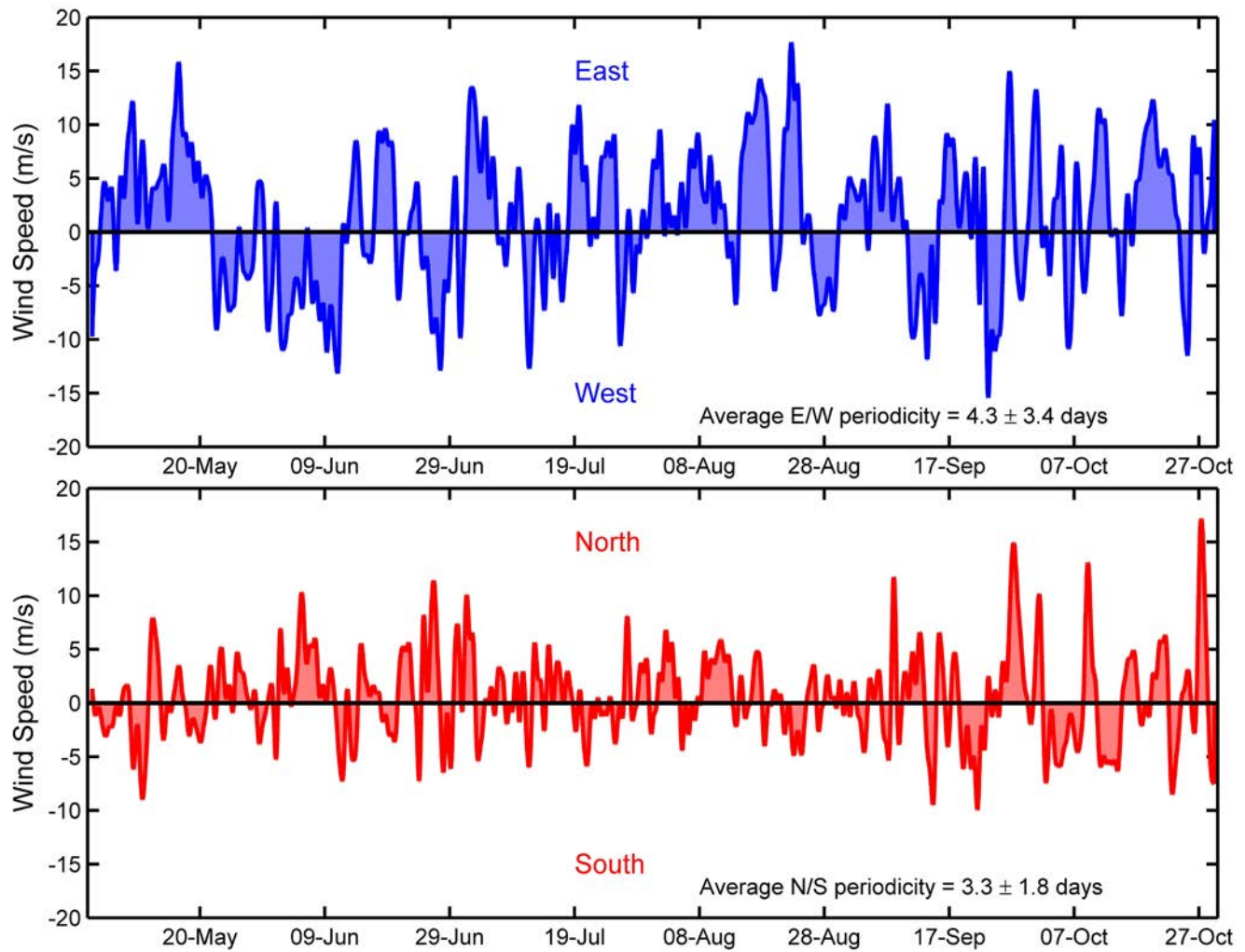
3.2 SURFACE WINDS AND RIVERINE DISCHARGE - TIME SERIES

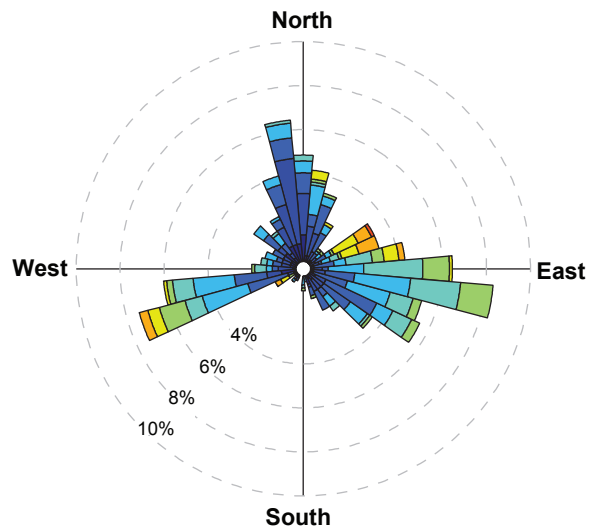
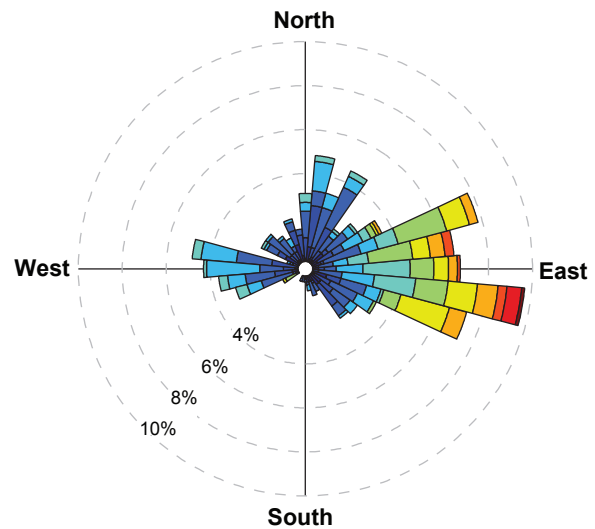
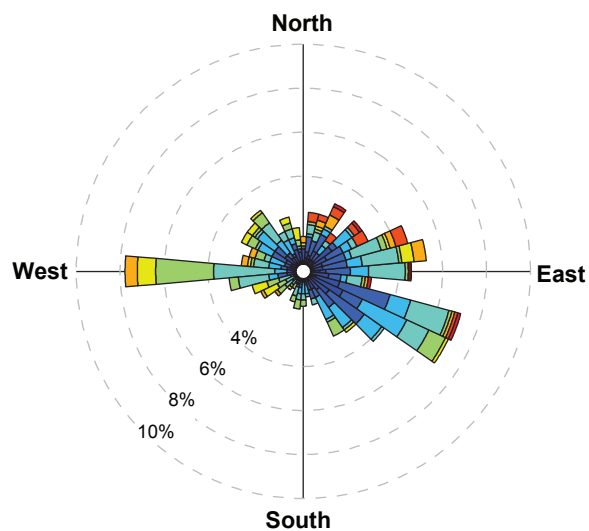
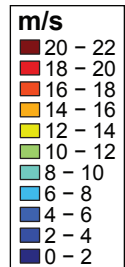
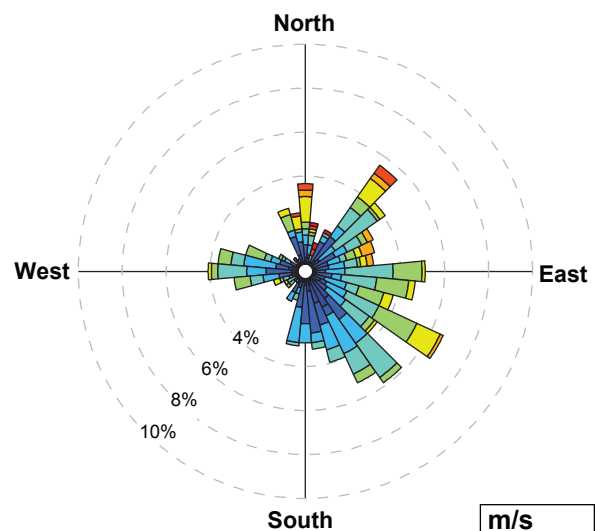
3.2.1 Winds

Wind speed and direction were logged continuously on the western side of Roberts Bay between May 2 and October 29, 2011. There was a fairly persistent pattern throughout this period with wind alternating regularly between the general directions of east and west, but with some also blowing from the north (Figure 3.2-1). Southern winds were much less significant, except later in October. Wind speeds were typically in the range 2 to 7 m/s, though there were a number in the range of 10 to 15 m/s, particularly from the east (Figure 3.2-1). Weather systems maintained an average east/west periodicity in wind directions of 3.87 ± 1.85 days from May 2 to July 17 and 4.05 ± 2.67 days from July 17 to October 4. North/south periodicities varied from 3.01 ± 1.89 days from May 2 to July 17 to 3.34 ± 1.85 days from July 17 to October 4.

The wind speed data were also broken down into monthly plots for the open-water periods of summer and fall (wind rose plots; Figure 3.2-2). In July, most of the winds blew from the east, west and north. Later in August, westerly and northerly winds tended to weaken, whereas the maximum wind speeds from an easterly direction increased, with roughly 50% of winds above 10 m/s. Winds in September were predominantly from the east, northeast, or west. The easterly winds in September were not as strong as those in August, and northeasterly winds were lower in frequency than in August, but of slightly higher strength. Westerly winds declined considerably by October, when the bulk of the winds came anywhere between northeast and southeast.

Despite the potential for wind to influence vertical water column structure in summer, surface mixing of the water column in 2011 was probably inhibited by the water column stability generated by near-surface density gradients. In August, density gradients were maintained despite the increasingly strong easterly winds. It was only in September when heat loss from the surface, and possibly decreased freshwater flows, began to break down the density gradients and allow deeper vertical mixing.



July 2011**August 2011****September 2011****October 2011**

The winds over Roberts Bay in the summer thus appear to more readily influence the horizontal circulation pattern in the first 10 m of the water column, rather than the vertical mixing processes.

The raw wind data for the Roberts Bay meteorological station can be found in Appendix 3-2.

3.2.2 River Discharges

Freshwater input comes from a number of streams entering mainly along the southern shore of Roberts Bay. An example of typical freshwater flows from these streams is given in Figure 3.2-3. Roberts Outflow and Doris Creek converge into Little Roberts Lake, which empties into southeastern Roberts Bay via Little Roberts Outflow. Peak flows of 4 to 7 m³/s were observed in each stream in late June and early July as ice and snow melted on land; these flows decreased rapidly through July to very low rates of 0.1 to 0.5 m³/s in August, September and later.

The freshwater flow into the bay in June and July was a factor (although less important than sea ice melt) in driving the strong salinity and density gradients observed in near-surface waters in summer, particularly in the southern region of Roberts Bay. However, average flow rates for these two streams only represent a total monthly input for June/July of the order of 1% of the volume of Roberts Bay. The combined river flow for all streams therefore only represents a maximum of a few percent of the bay's total volume in the months with highest flow rates. Thus, while freshwater runoff generally plays an important role in the vertical structure and positive estuarine circulation of estuaries, the limited freshwater discharge from the surrounding watersheds likely had a minimal direct role in the two-layer, positive estuarine circulation and flushing of Roberts Bay.

The raw hydrograph data for Roberts and Doris Outflows are given in Appendix 3-2.

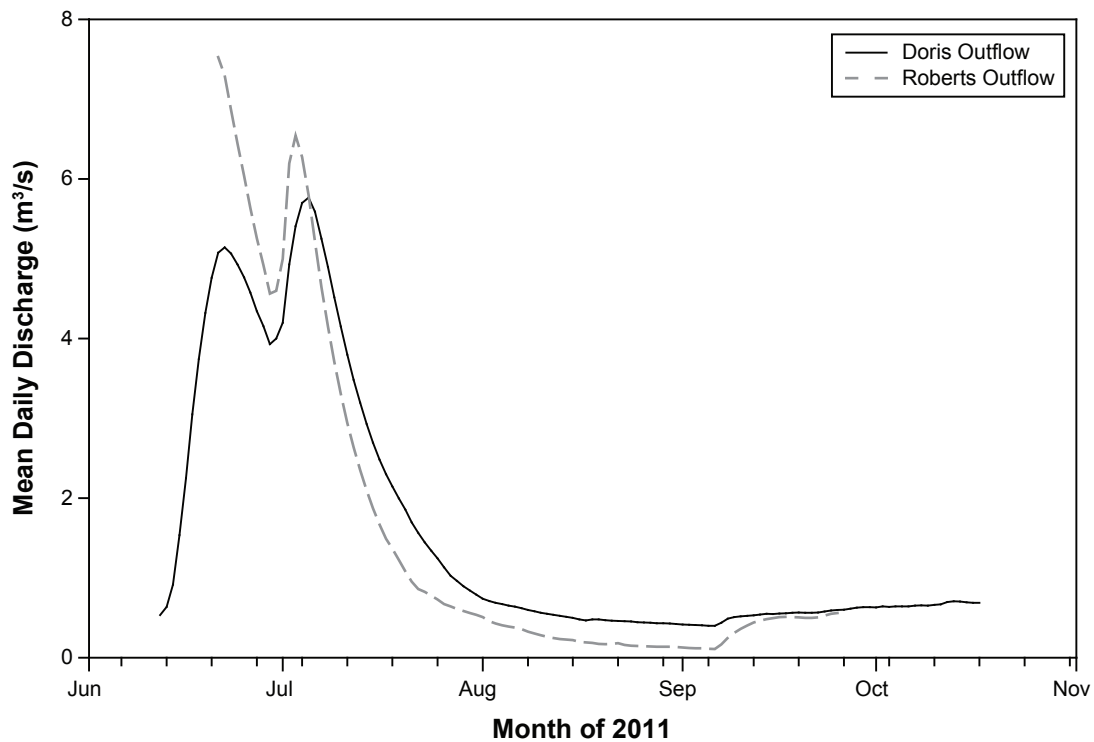
3.3 TEMPERATURE/SALINITY/OXYGEN AND CURRENTS - TIME SERIES

3.3.1 Temperature, Salinity and Oxygen

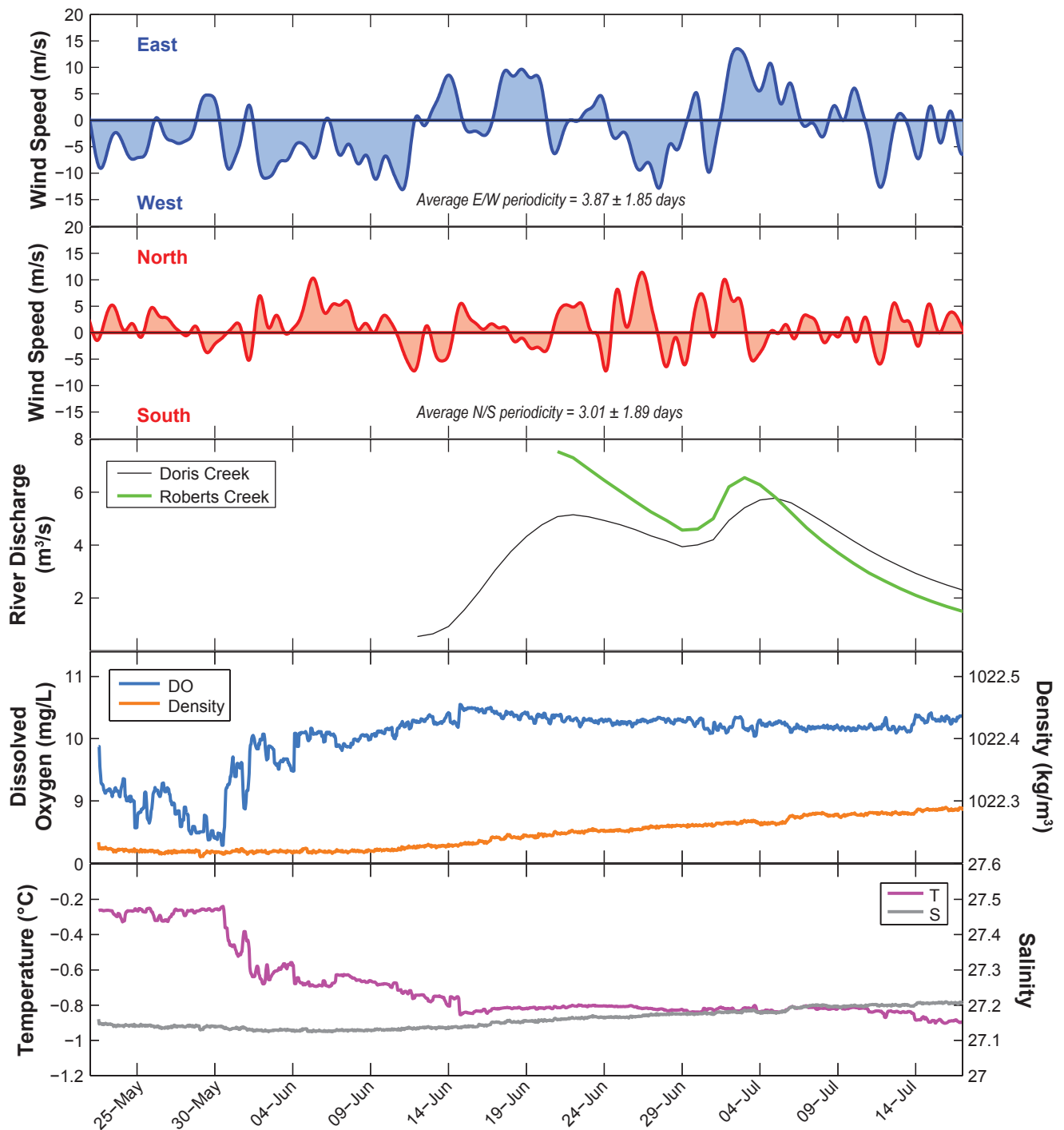
A CTD was attached to the deep-water moorings (81.5 m depth) at the entrance of Roberts Bay to gain an understanding of the dynamics of water masses near the bottom depth, and to determine if dissolved oxygen was replenished in the deep waters via Melville Sound.

Between May 22 and July 17, temperature, salinity and dissolved oxygen were logged continuously on the moored CTD (Figure 3.3-1a; surface winds and river discharge are also plotted). Strong changes in water characteristics were recorded in the first two weeks of this deployment. First, a sharp decline in dissolved oxygen was recorded between May 22 and May 30, dropping from 9.9 to 8.4 mg/L, although temperature, salinity and density remained relatively constant. Afterwards, until June 4, temperatures decreased abruptly from averages of -0.3 to -0.8 °C, and this drop was coupled with an increase in dissolved oxygen concentrations slightly above 10 mg/L as colder, oxygen-rich waters from Melville Sound were mixed into the Roberts Bay waters (see Section 3.3.2.3 for more details). During late June and early July, oxygen concentrations stabilized at 10.2 ± 0.2 mg/L, while temperatures dropped gradually as salinity and density increased.

The data recorded during the secondary CTD mooring, from July 17 to October 4 (Figure 3.3-1b), showed a gradual increase in temperature, salinity and density over time. Dissolved oxygen concentrations increased sharply in late July, up to concentrations around 10.8 mg/L, before levelling off and then decreasing slightly through September. Through August and September, there were periodic, tightly-correlated fluctuations in temperature, salinity, density and dissolved oxygen, implying a slow and steady advection of warmer, more saline waters into Roberts Bay. These events may be linked to easterly wind-mixing events, the intensity of which increased throughout the summer, in particular around August 21, when changes in bottom water properties were linked to strong eastern winds (Figure 3.3-1b).

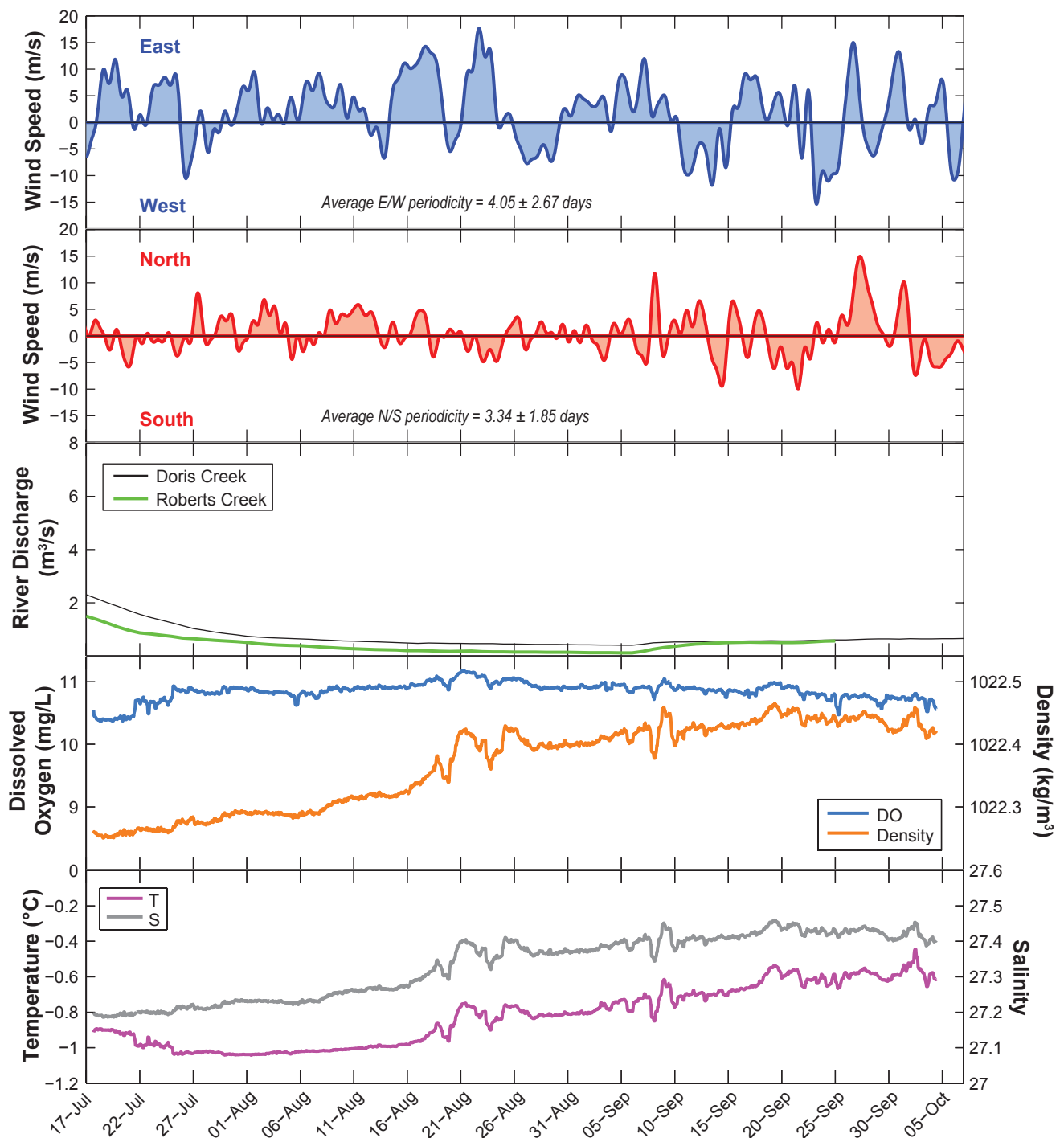


Note: Roberts Outflow and Doris Outflow converge into Little Roberts Outflow which flows into Roberts Bay.



Wind Speed, Riverine Discharge, Density and Dissolved Oxygen, and Temperature and Salinity in Roberts Bay, Doris North Project, May-July 2011

Figure 3.3-1a



Wind Speed, Riverine Discharge, Density and Dissolved Oxygen, and Temperature and Salinity in Roberts Bay, Doris North Project, July-October 2011

Figure 3.3-1b

It is notable that throughout the two deployment periods, dissolved oxygen concentrations remained relatively high (above 8.5 mg/L) and stable, due to the absence of significant sources or sinks of oxygen near the bottom depth.

3.3.2 Roberts Bay Currents

3.3.2.1 February 10 to April 16, 2011 (*Ice-covered, 38 m Depth Site*)

The initial top-ice, downward-looking ADCP deployment was over 38 m of water in the mid-southern area of Roberts Bay (see Section 2.4 for details). Figures 3.3-2 to 3.3-4 show the weekly-averaged north/south current profiles and the corresponding weekly-averaged compass velocity plots. Plots were shown in the north-south component as this would be the direction Roberts Bay water would exchange with Melville Sound waters. The immediate apparent features in the current structure was the strong current layering present between 20 and 25 m depth in the water column, where the upper surface layer displayed a very weak (mean velocities below 1 cm/s), southern (i.e., landward) flow throughout the measurement period. This was contrary to the bottom 10 to 15 m of the water column, which harboured stronger (mean velocities above 4 cm/s), consistently northbound (i.e., seaward) flows. These were the largest currents recorded at any depth during the winter months in Roberts Bay.

This type of circulation is most often designated as negative estuarine, and commonly occurs when salinity-induced density currents are formed at depth and flow seaward (Macdonald 2000). In this particular case, it is surmised that the continual freezing and restructuring of the sea ice found in the southern shallow areas of the bay led to brine pocket migration and expulsion, with the resulting high salinity, high density waters sinking down the shelf slope into the deeper waters where it would slowly pool in the center of Roberts Bay over the winter. This high density flow appears to induce a slow but steady clockwise baroclinic circulation (i.e., circulation arising from misaligned pressure and density gradients) within the bay, where the southern waters are replenished by weak currents of lower density waters coming from the northeast.

The 90% confidence interval around the mean currents remained generally constant at around ± 1 cm/s for the upper layer, landward currents, and at ± 2 cm/s for the bottom layer, seaward currents. Large uncertainty for the deeper currents correlates well with the assumption of brine rejection flows, given their more episodic nature (e.g., Thomas and Dieckmann 2003).

Additional evidence for the layered current structure is found by examining the vertical current structure in Figure 3.3-5. The most apparent feature was the mixed tidal signature that results in weak ebb and flow currents (approximately ± 1 mm/s) in the water column. Superimposed on this was the strong discontinuity between the upper part of the water column, which was dominated by upwelling currents up to magnitudes above 0.5 cm/s, and the significant continuous downwelling located in the bottom 10 m that could reach currents of over 1 cm/s. This pattern in the vertical velocities correlates well with the continual generation of sinking brine currents that would push lighter waters towards the surface.

3.3.2.2 April 21 to May 11, 2011 (*Ice-covered, 85 m Depth Site*)

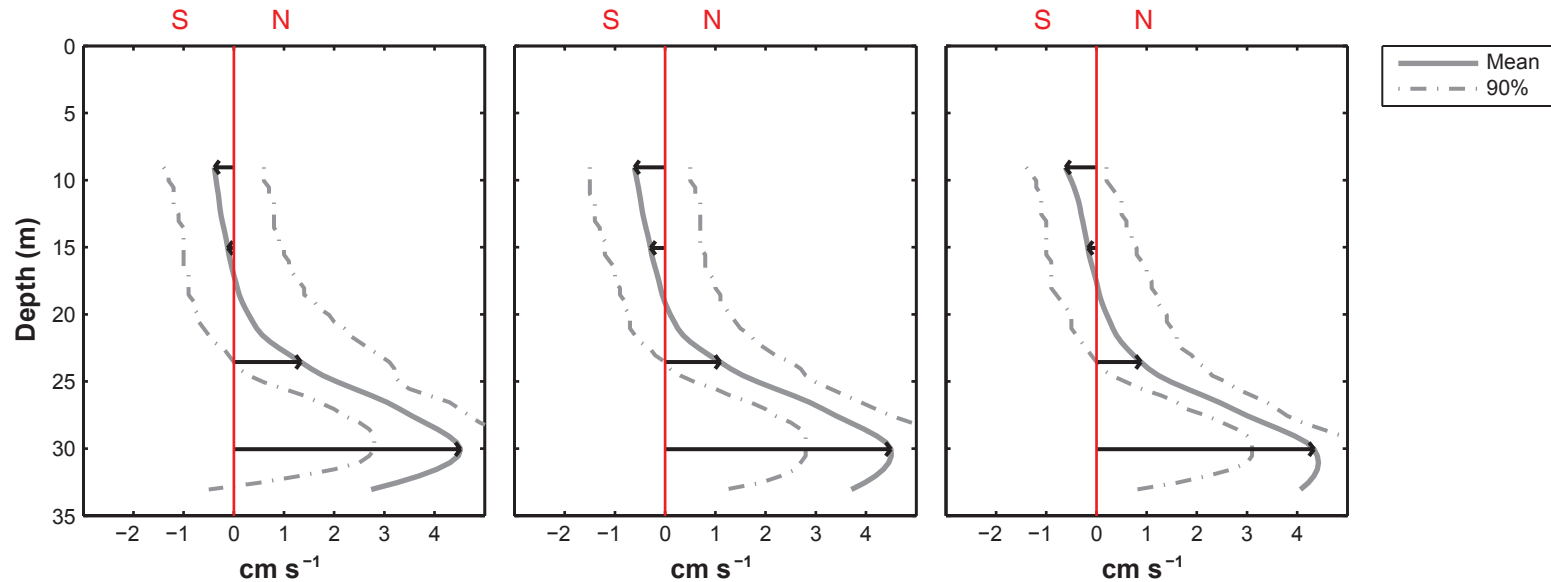
The second surface ice ADCP deployment was situated at the northern end of Roberts Bay in a water depth of roughly 85 m. The subsequently recorded velocity profiles and current compasses are displayed in Figure 3.3-6. Mean average currents were very low throughout the water column (below 1 cm/s), with generally low variability. A two-layered thermohaline positive estuarine circulation was observed, with the transition depth present at approximately 40 m depth. This separated a generally northward (i.e., seaward) flowing upper layer from a southern (i.e., landward) flowing bottom layer. After May 6, the upper layer became much shallower at 15 m depth.

10-Feb to 17-Feb

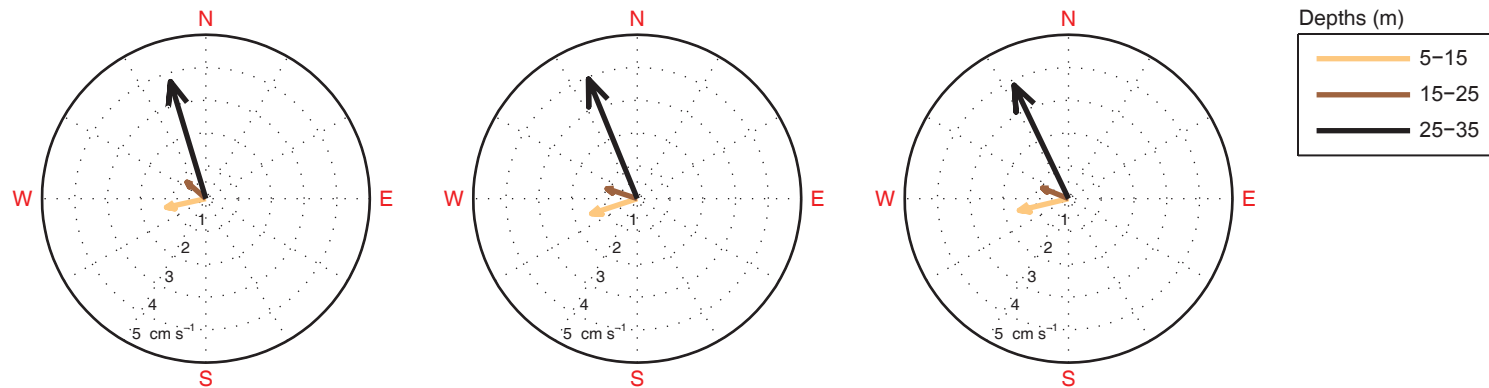
17-Feb to 24-Feb

24-Feb to 03-Mar

Depth Profiles



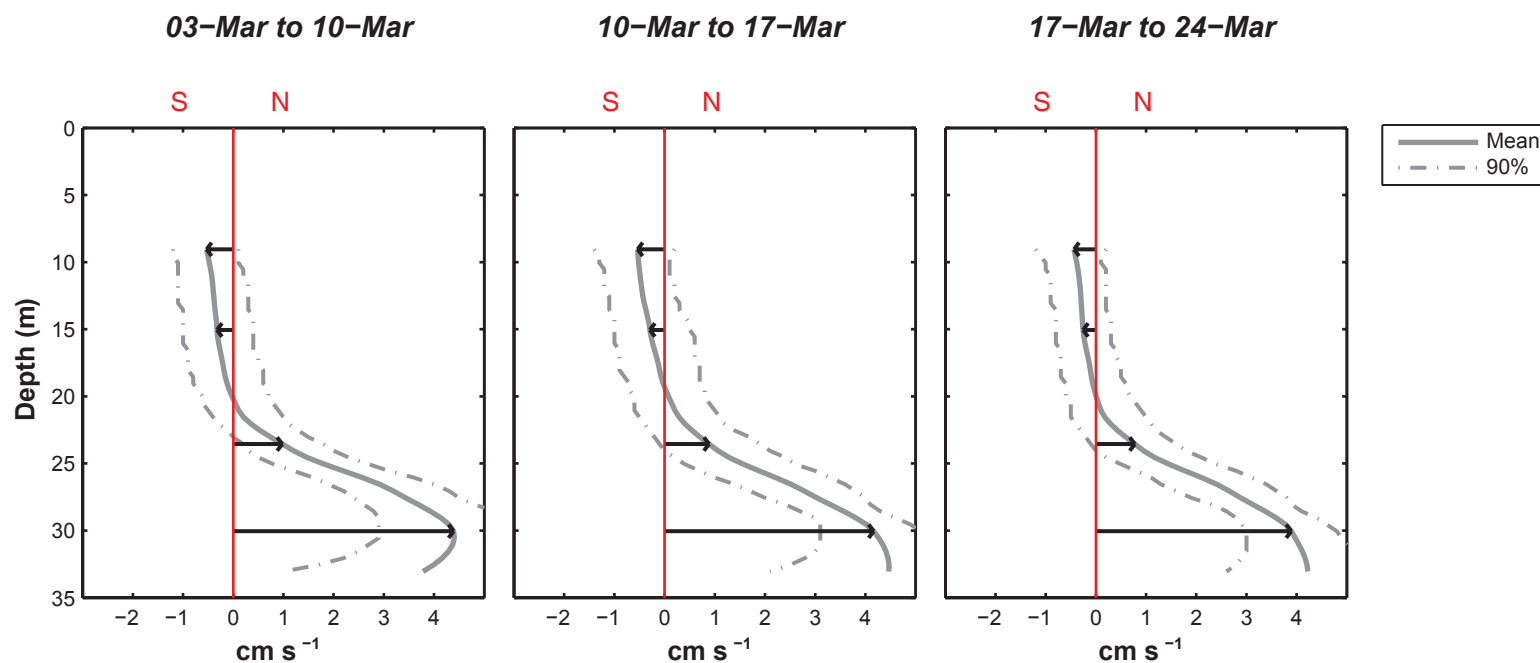
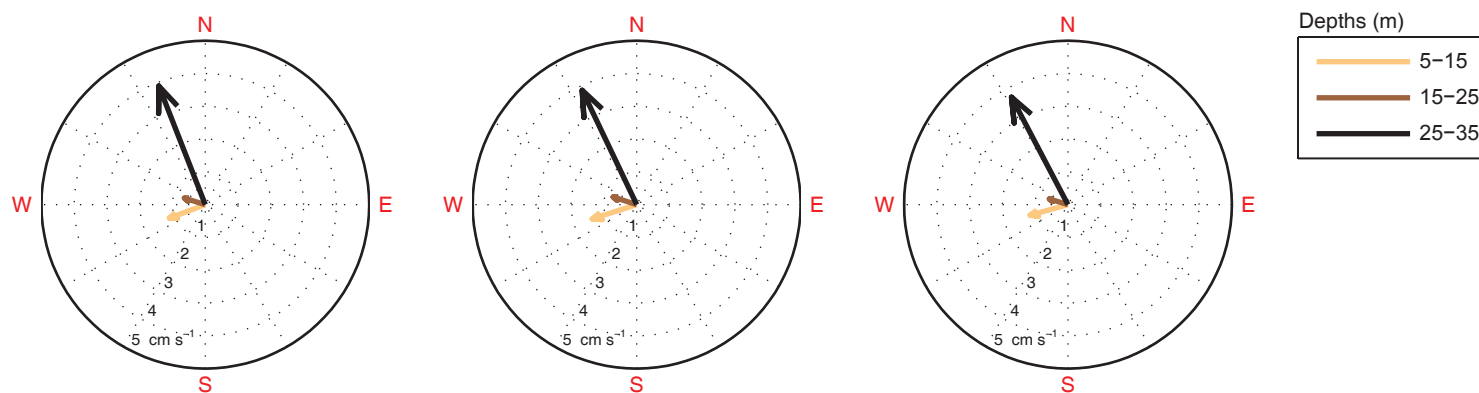
Compass Plots



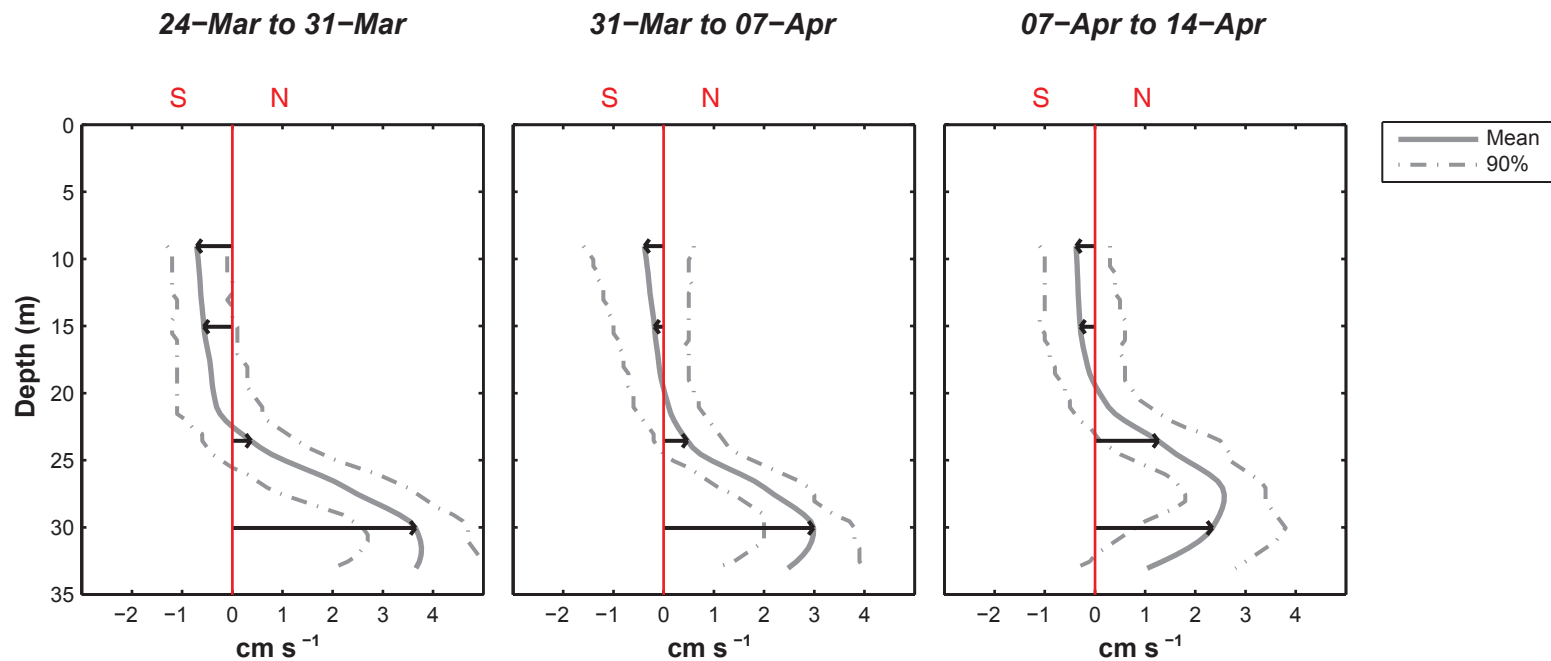
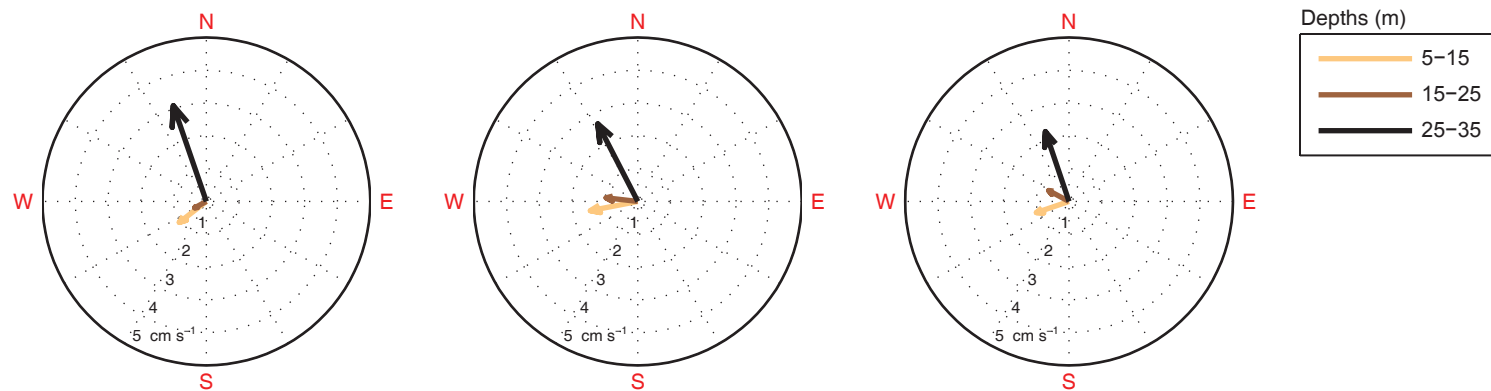
Note: Current flow is TOWARDS the direction shown.

Under-Ice Depth Profiles of Weekly Mean Northward Current Velocities and Under-Ice Compass Plots of Weekly Mean Current Velocities and Direction, 38 m site, Roberts Bay, Doris North Project, February 10 - March 3, 2011

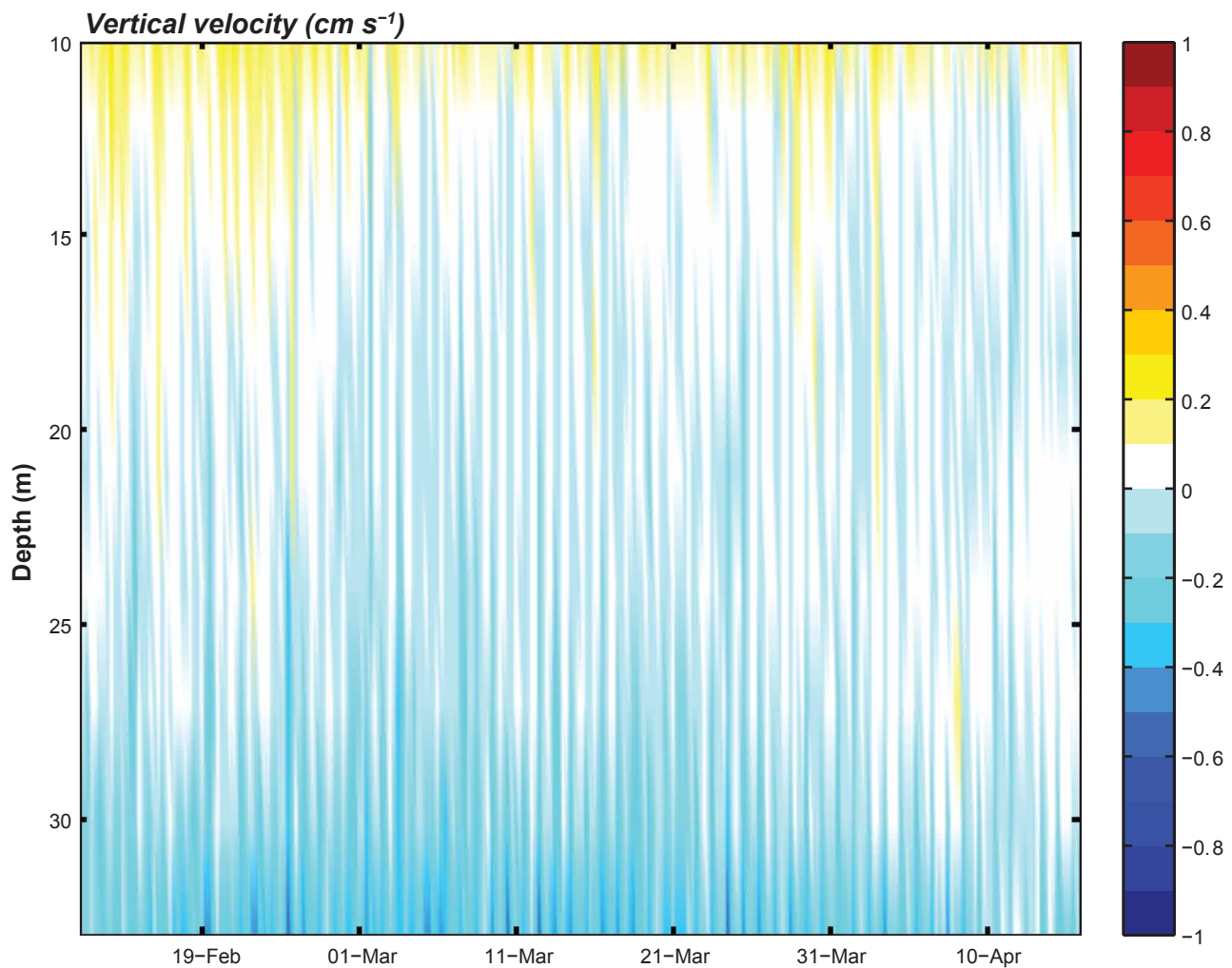
Figure 3.3-2

Depth Profiles**Compass Plots**

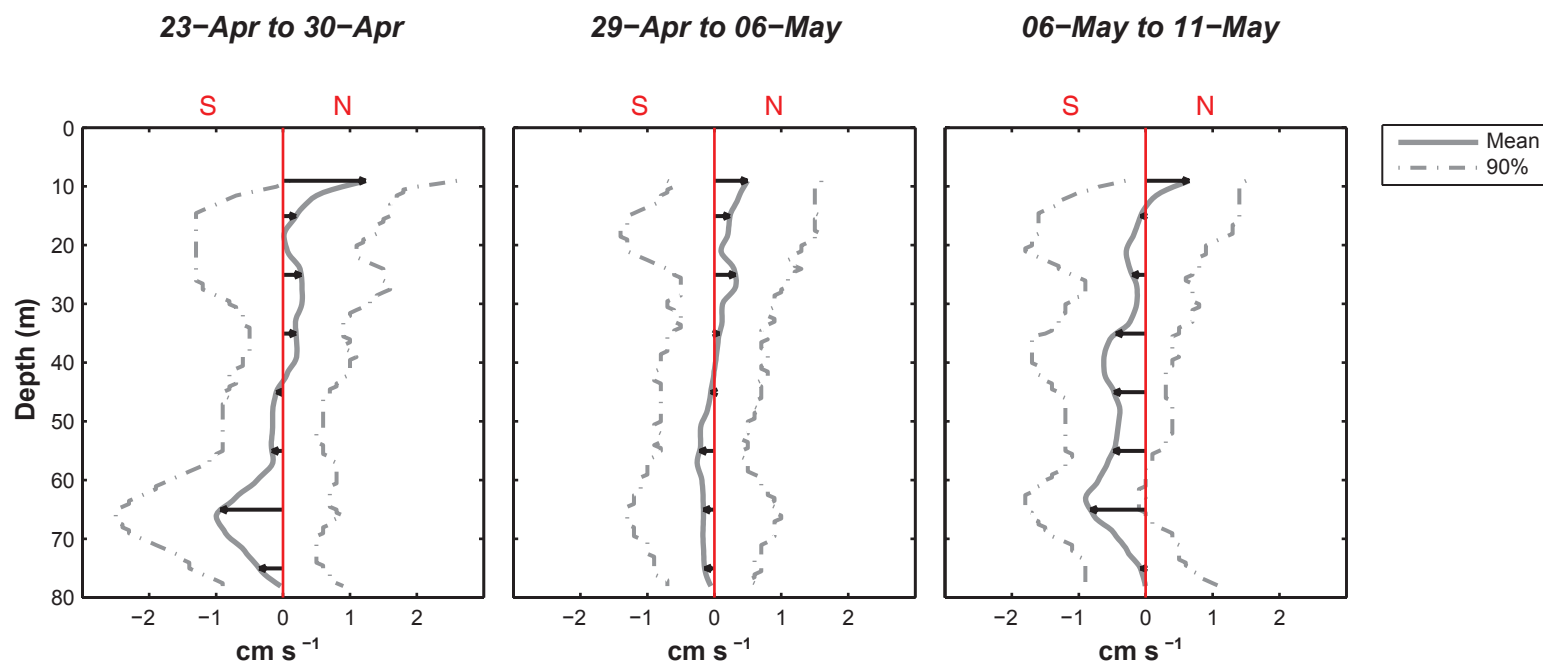
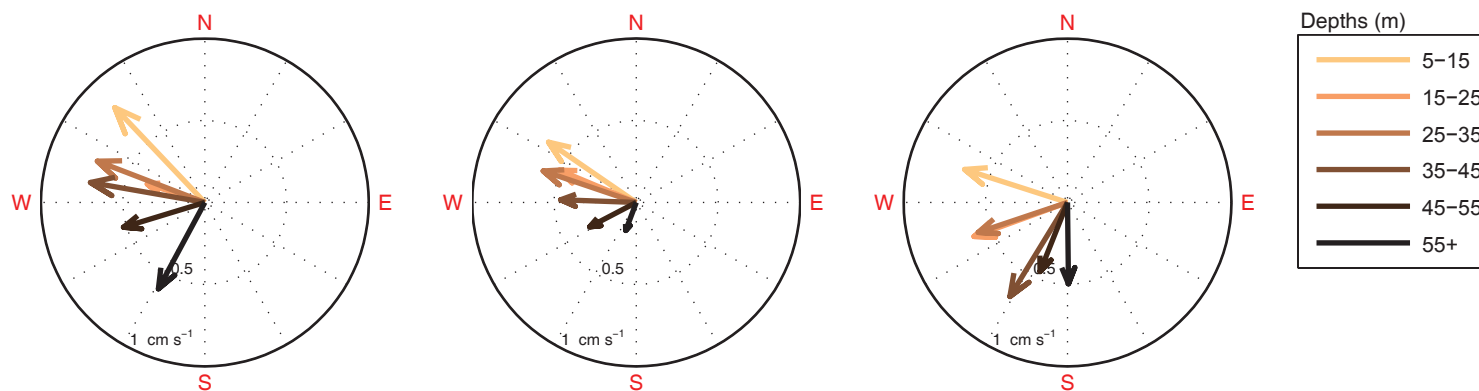
Note: Current flow is TOWARDS the direction shown.

Depth Profiles**Compass Plots**

Note: Current flow is TOWARDS the direction shown.



Note: Vertical current directions are positive upwards.

Depth Profiles**Compass Plots**

Note: Current flow is TOWARDS the direction shown.

This type of transport effectively mirrors the current structure previously observed at the 38 m station; thus, apparently all deep winter currents tended to flow towards the center of Roberts Bay. The 90% confidence intervals remain small through most of this deployment at roughly ± 1 cm/s for all depths.

Given the proximity of the measurement site to a relatively steep underwater slope on the eastern side of the bay mouth, one potential explanation for the deep landward currents would again be downward propagating brine currents being formed on the shallower eastern shelf. Since the current compasses in Figure 3.3-6 predominantly showed westward flows, the deep currents would propagate in a southwesterly direction, pooling in the deep middle basin of Roberts Bay. To balance this transport, weak northern surface currents would flow seaward out of the bay into Melville Sound. This would also suggest that a geographically broad, but weak upwelling was happening in the center of Roberts Bay, leading to the well-mixed stably stratified CTD profiles seen in Figure 3.1-1.

As stated beforehand, this is very similar to the flow observed in Figures 3.3-2 to 3.3-4 for the 38 m station and supported by the vertical flow in Figure 3.3-5. The vertical current structure between April 21 and May 11 plotted in Figure 3.3-7 did not indicate a strong layering for this time period, only weak tidal ebb and flow currents. This probably resulted from brine currents having lower velocities at the 85 m site, and being distributed over a greater depth range within the water column.

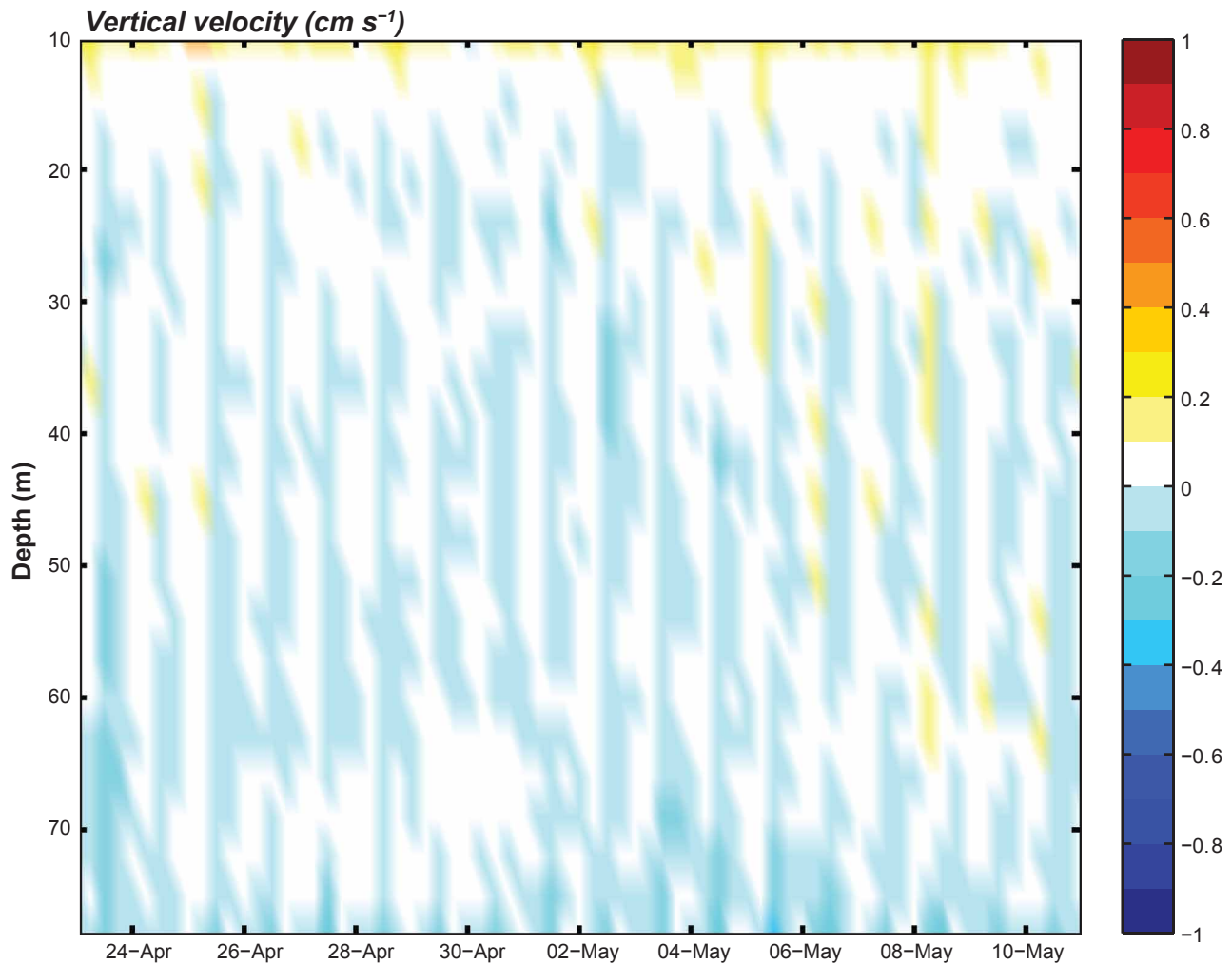
The most important caveat regarding the data interpretation in this section remains the high likelihood that several other factors influenced the circulation in Roberts Bay, notably the advection of deep waters from the deeper Melville Sound from other processes (e.g., off-location brine formations, propagation of deep internal waves, etc.), for which no other data was available.

3.3.2.3 May 22 to July 17, 2011 (*Ice to Open-water Transition, 85 m Depth Site*)

The ADCP was switched to a bottom-mounted configuration on this mooring to accommodate the eventual ice melting and breakup. The weekly velocity profiles and current compasses are plotted in Figures 3.3-8 and 3.3-9, while the vertical velocity currents are displayed in Figure 3.3-10. Furthermore, a CTD device was installed at 81.5 m depth to record the deep water thermohaline characteristics (see Section 3.3.1).

Several interesting features within the water column were revealed during the first few weeks of measurement (Figure 3.3-1a; bottom two panels). Before May 22, the general water column structure at the mouth of Roberts Bay consisted of a very weakly stratified layered system, with a slightly cooler, fresher top layer over a warmer, more saline bottom layer. During the week of May 22 to May 29, predominantly southbound currents flowed from Melville Sound into Roberts Bay at nearly all depths of the water column. These currents were correlated with stronger upwelling currents, visible in the top 60 m in Figure 3.3-10. The deeper waters showed little to no changes in density (Figure 3.3-1a). Together, this suggests that a strong density front was likely present at the bay's mouth, which inhibited deep water mixing and funnelled the incoming Melville Sound waters upwards towards the surface.

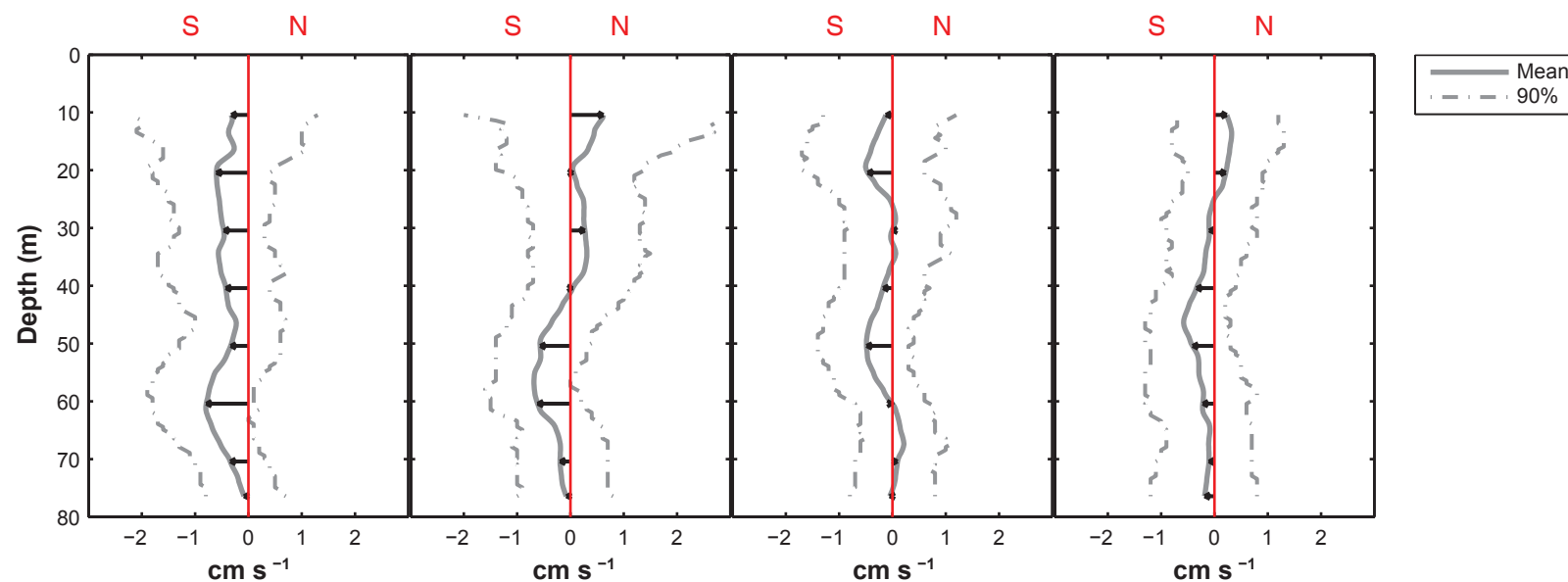
From May 30 to June 4, the advection of waters from Melville Sound seceded and the top layer horizontal currents shifted back to more seaward flows. This resulted in mixing throughout the water column and a transition into a positive estuarine type system. This transition was followed by predominantly downwelling vertical currents, with peak downward currents of over 1 cm/s recorded on June 14. This transition was also recorded in the bottom layer CTD; during the measurement period, the water cooled down by more than 0.5°C , while salinity decreased slightly and dissolved oxygen concentrations increased to values above 10 mg/L (see Figure 3.3-1a). Mixing between the top and bottom layers resulted in density compensation (i.e., when competing temperature and salinity changes result in constant seawater density). This phenomenon is clearly noticeable in the temperature-salinity diagram (Figure 3.3-11), where CTD waters follow the $1,022.15 \text{ kg/m}^3$ contour until June 14.



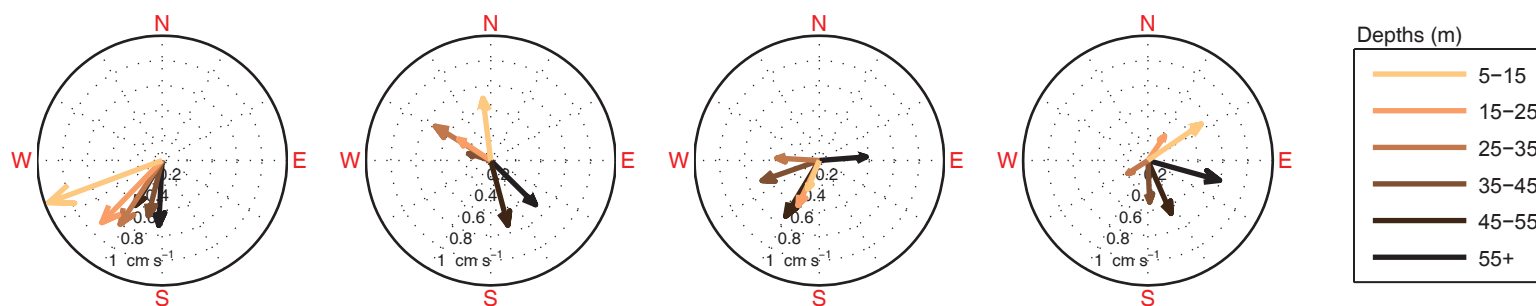
Note: Vertical current directions are positive upwards.

22-May to 29-May 29-May to 05-Jun 05-Jun to 12-Jun 12-Jun to 19-Jun

Depth Profiles



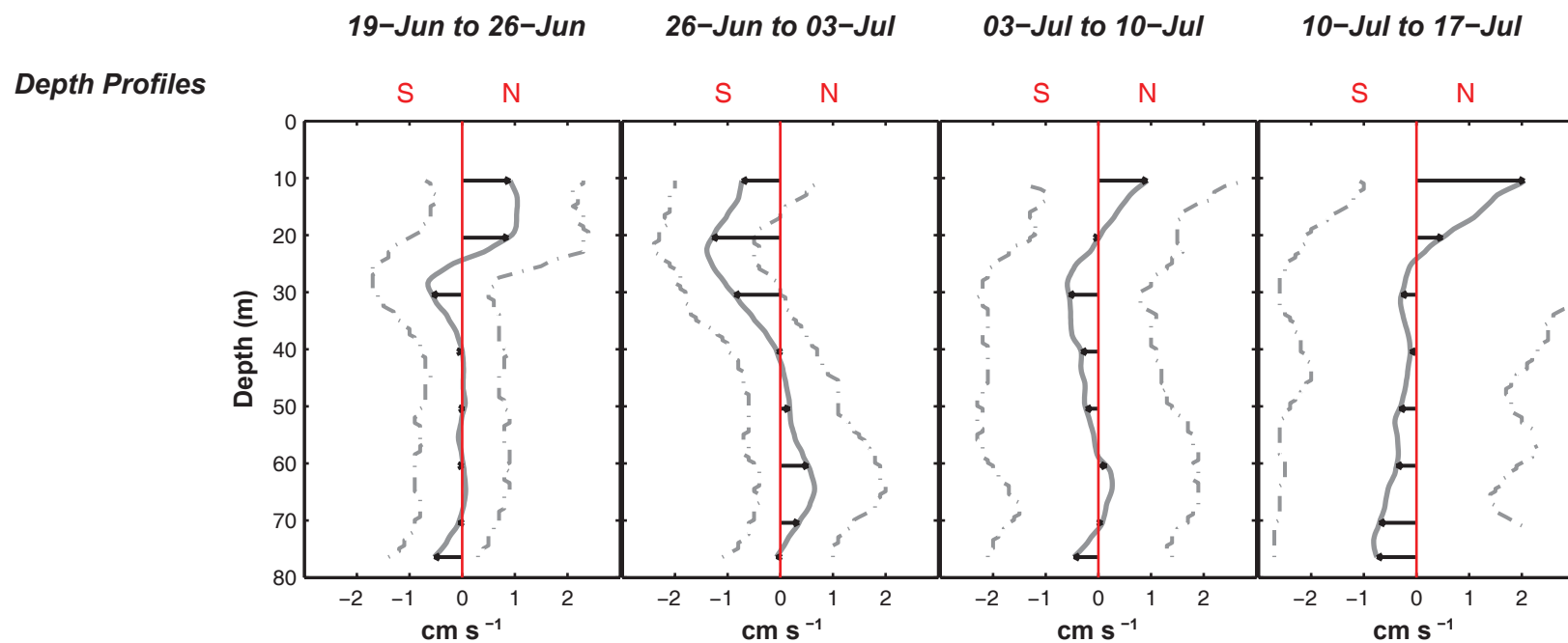
Compass Plots



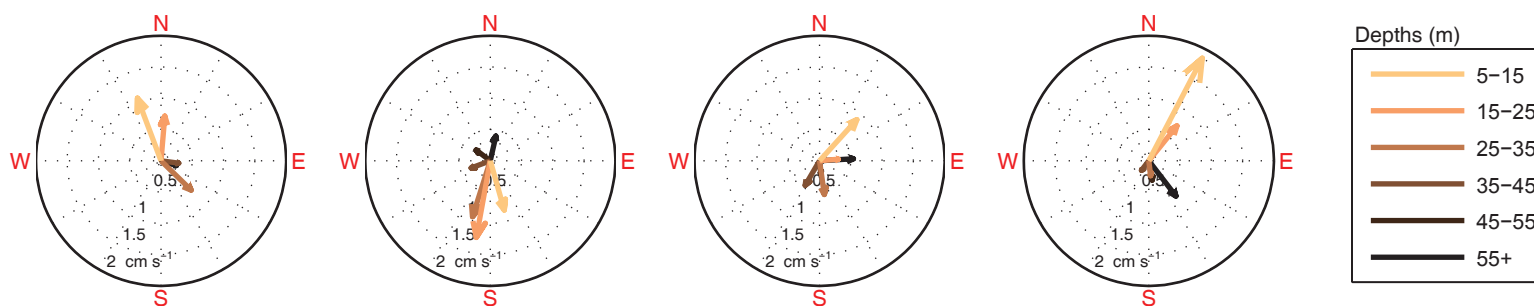
Note: Current flow is TOWARDS the direction shown.

Under-Ice Depth Profiles of Weekly Mean Northward Current Velocities and Under-Ice Compass Plots of Weekly Mean Current Velocities and Direction, 85 m site, Roberts Bay, Doris North Project, May 22 - June 19, 2011

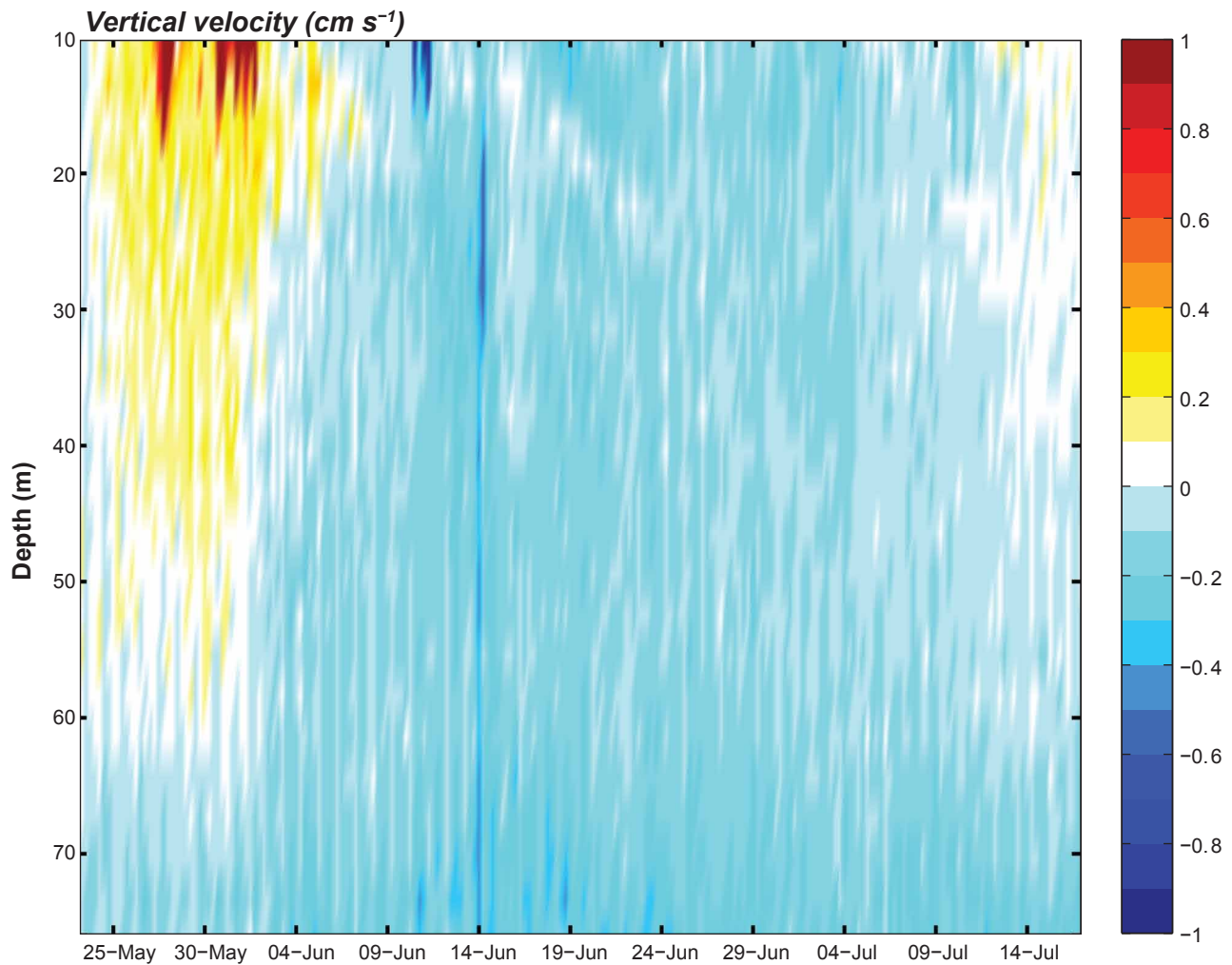
Figure 3.3-8



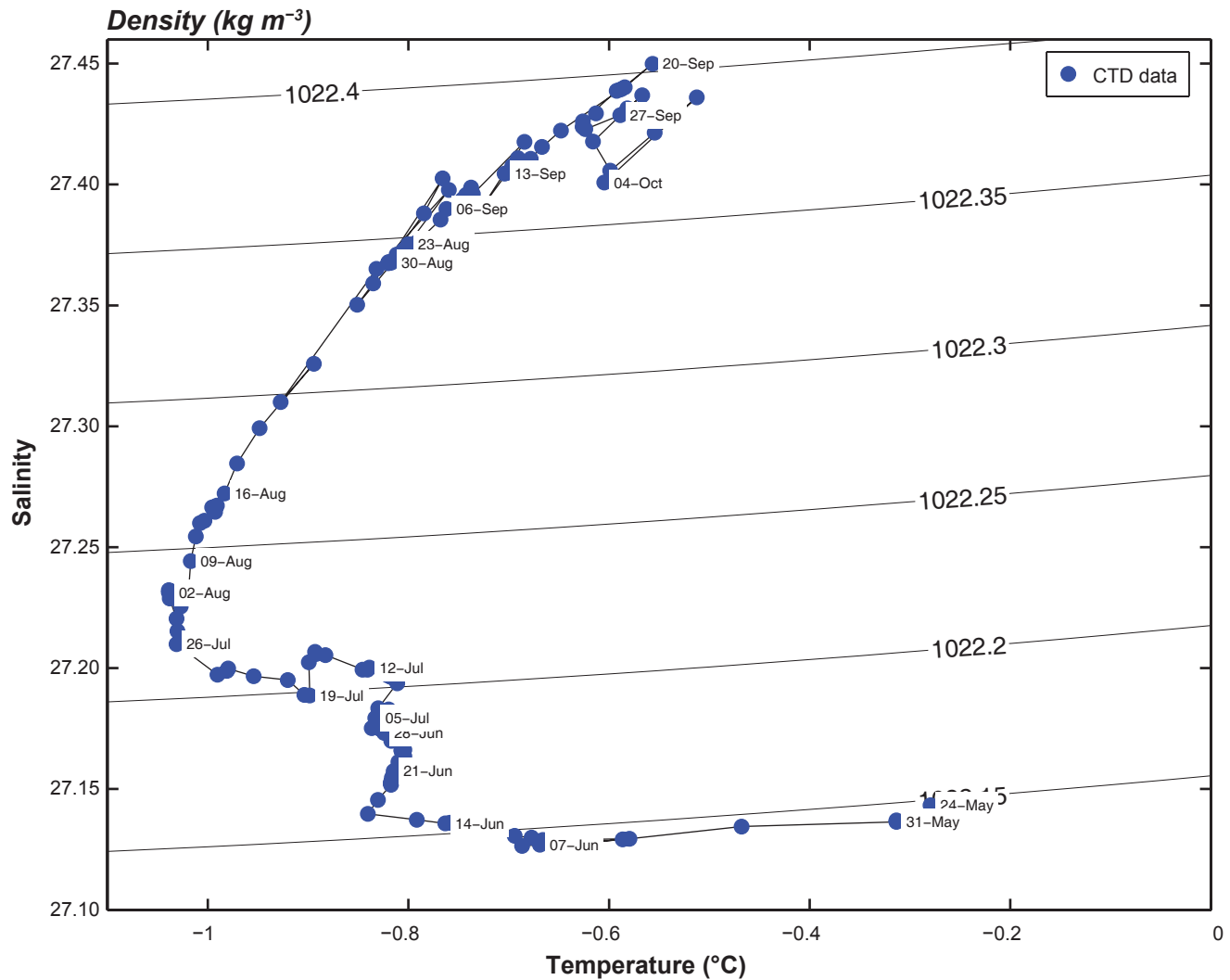
Compass Plots



Note: Current flow is TOWARDS the direction shown.



Note: Vertical current directions are positive upwards.



Similar density compensation through fronts with sloped isopycnals (i.e., vertically sloped density gradients) is often observed in the oceanic mixed layer (Rudnick and Ferrari 1999). The subsequent gain in dissolved oxygen within the CTD waters resulted from the mixing with downwelling colder waters, since the latter generally contain more oxygen at equal saturation levels (Garcia and Gordon 1992, 1993; also see Section 3.1.2).

For the remainder of June, horizontal currents maintained very weak mean velocities (<1 cm/s). Vertical currents had an average value of -0.15 cm/s with a noticeable ± 0.1 cm/s tidal fluctuation current. The weak pycnocline coupled with general downward vertical currents resulted in a progressive density increase of 0.05 kg/m³ throughout June, which occurred entirely through salinity changes (Figure 3.3-11).

After June 26, the horizontal current structure changed completely from a positive to a negative type estuarine flow for one week. It is not clear why this change occurred, since there was no visible change in vertical current directions.

During the week of July 3 to July 10, the ice cover completely vanished. Correspondingly, the variability of horizontal currents increased, with the 90% confidence bounds doubling to ± 2 cm/s, which likely resulted from wind action. Even greater variation was observed at the surface after July 10. This change in circulation regime was also noticeable in Figure 3.3-10 as the water column progressively shifted back to a two-layer system with the top 30 m dominated by wind-driven upwelling, and the bottom by incoming flows from Melville Sound (which were again density compensated through mixing with incoming waters at the 1022.2 kg/m³ contour; see Figure 3.3-11).

3.3.2.4 July 17 to October 4, 2011 (Open-water, 85 m Depth Site)

The last mooring for the 2011 season again featured the bottom-mounted CTD at 77.5 m depth. The ADCP configuration changed to two measurement units mounted end to end at about 27 m depth, with one instrument pointing downwards at the seafloor and the other pointing at the surface. Figures 3.3-12 to 3.3-14 show the weekly-averaged wind roses, velocity profiles and current compasses for the mooring duration. Wind roses were displayed because this period was ice-free and the winds could act on the surface waters of Roberts Bay.

The immediate difference between this measurement period and the others was the much larger range of current magnitudes, from ± 3 cm/s below 50 m depth to ± 10 cm/s and greater near the surface. Based on these velocity ranges, the north/south exchange transport of waters at Roberts Bay's entrance showed a minimum ten-fold increase, which was likely due to wind action on currents.

Although horizontal current north/south directions varied widely in both magnitude and direction, the weekly averages remained relatively low (average below 2 cm/s) and thus similar to previous measurement months. The dominant structure present in Figures 3.3-12 and 3.3-13 was again a two-layered positive estuarine circulation, with the first 20 to 25 m having a strong seaward flow out of Roberts Bay and the bottom waters having a variable landward flow. Current compass graphs showed predominantly south/southeastern bottom layer flow and north/northeastern top layer flow.

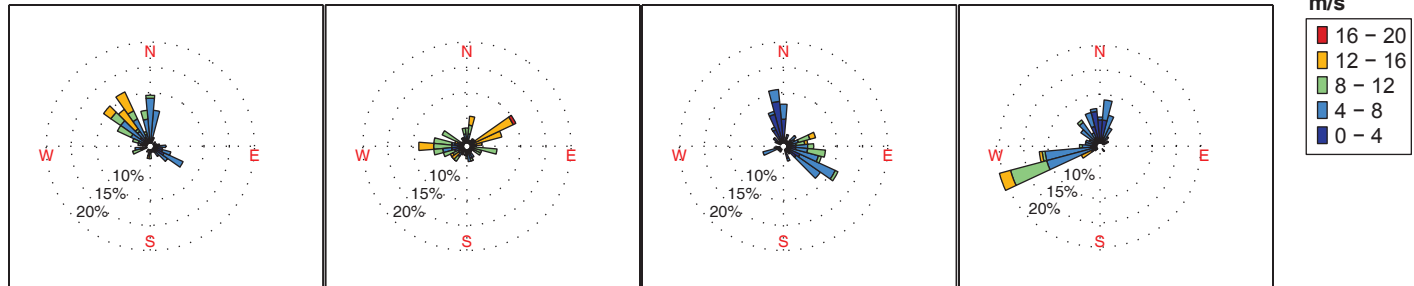
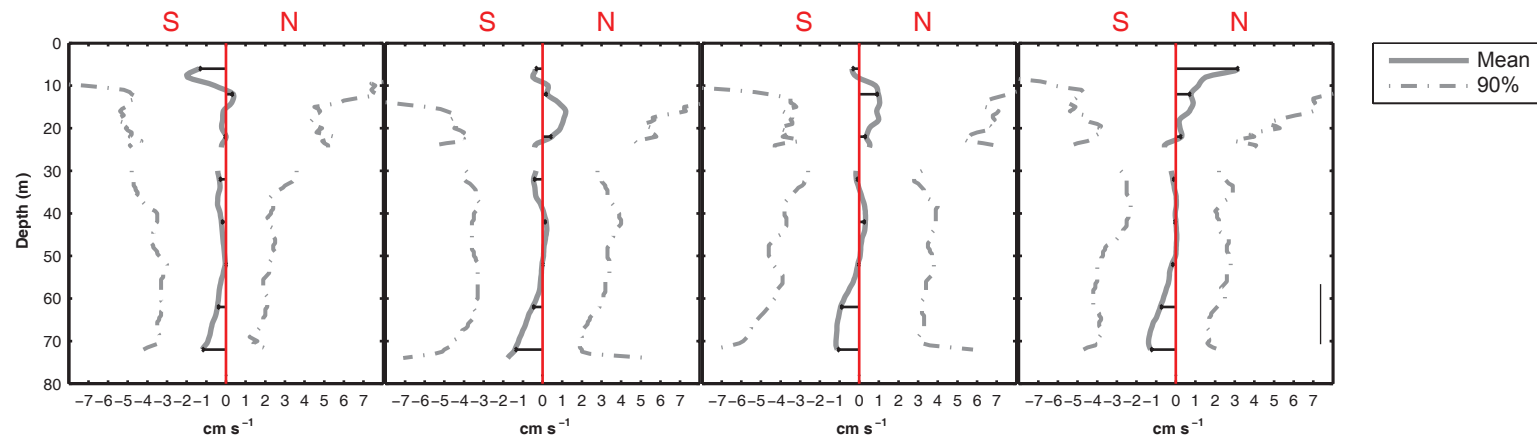
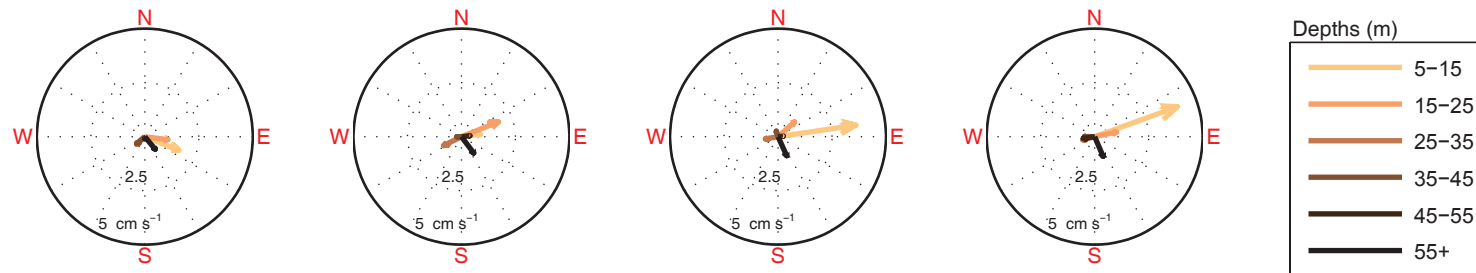
This water column current structure related well with the CTD profiles recorded from July to September within Roberts Bay (see Figures 3.1-6 and 3.1-7), which showed a warmer, fresher layer atop much colder and more saline waters. The large amount of fresher water generated from the ice melting (roughly 21.3×10^6 m³) was the critical factor involved in the formation of this thermohaline layering. The top layer initially occupied only the first 5 m of the water column in July, but progressively deepened past 20 m in September as the waters warmed up and the winds forced vertical mixing with bottom waters.

17-Jul to 24-Jul

24-Jul to 31-Jul

31-Jul to 07-Aug

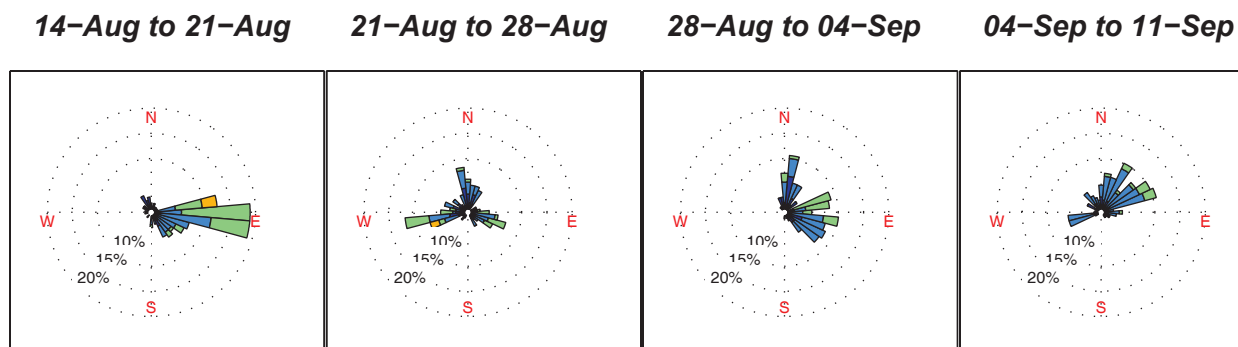
07-Aug to 14-Aug

Wind Roses**Depth Profiles****Compass Plots**

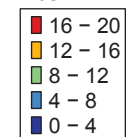
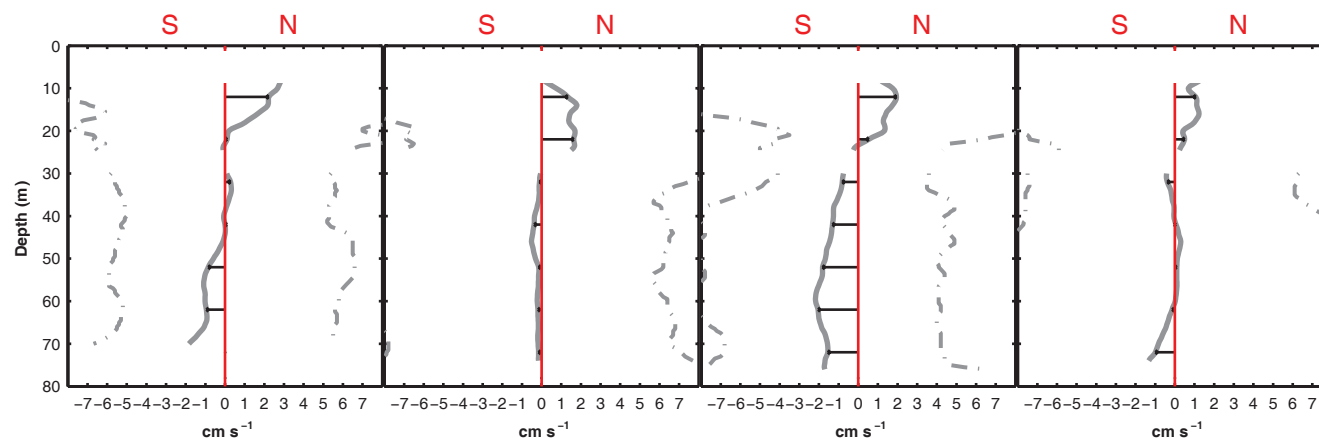
Notes: Wind flow is FROM the direction shown.

Current flow is TOWARDS the direction shown.

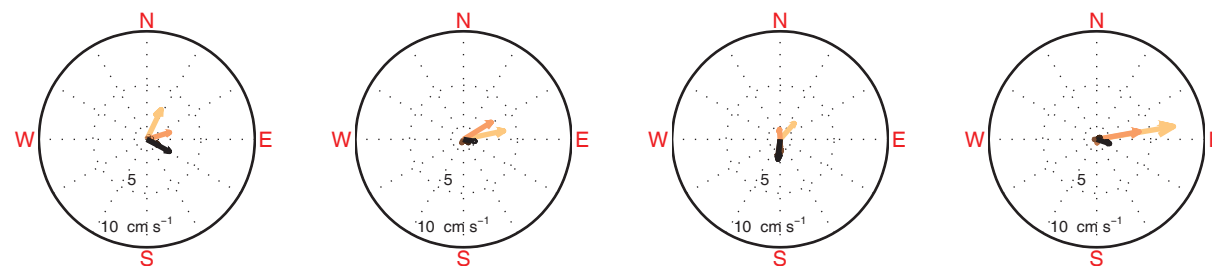
No data is available in the water column between 24 and 30 m depths due to instrument location.

Wind Roses

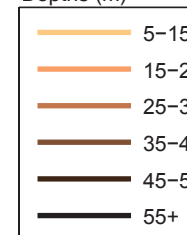
m/s

**Depth Profiles**

— Mean
- - - 90%

Compass Plots

Depths (m)



Notes: Wind flow is FROM the direction shown.

Current flow is TOWARDS the direction shown.

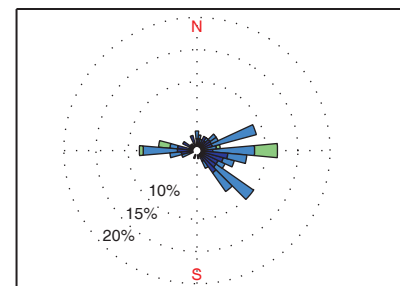
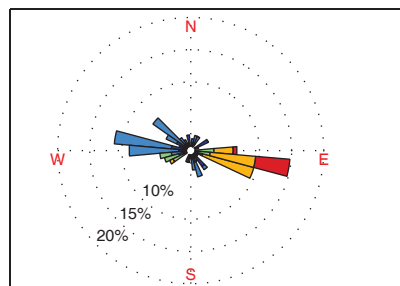
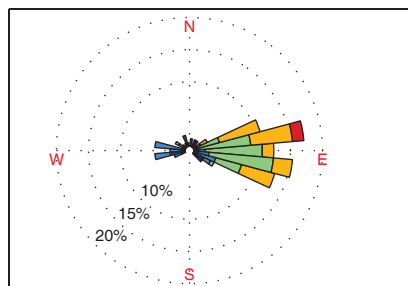
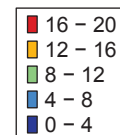
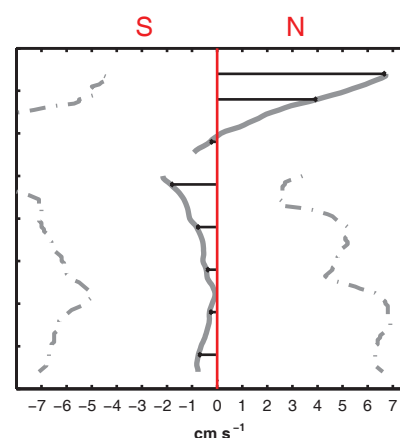
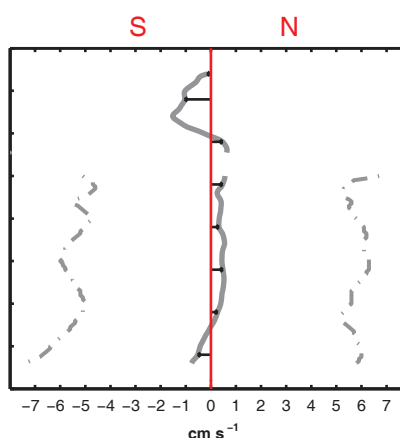
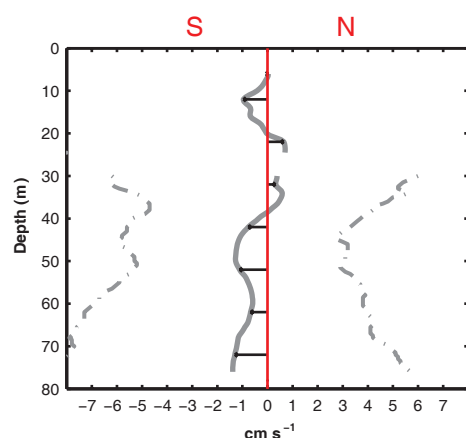
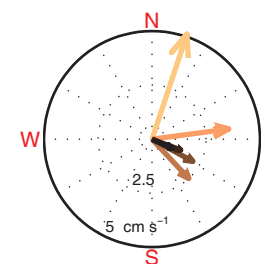
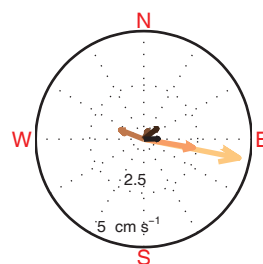
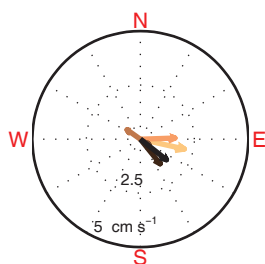
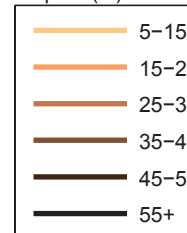
No data is available in the water column between 24 and 30 m depths due to instrument location.

Starting in early September, the winds blew predominantly from the east. This appears to have shifted the general layered circulation pattern into a negative-type estuarine profile, with a landward flowing top layer and a seaward flowing bottom layer. This reversal occurred during the week of September 18 to 25, and reversed again the next week, with surface currents reaching above 10 cm/s in the northern direction (see Figure 3.3-14). Overall, horizon velocities were confined to the eastern direction.

The impact of winds was most noticeable upon the vertical currents as shown in Figure 3.3-15, where the top 30 m of the water column was dominated by strong ($>\pm 2$ cm/s) upwelling and downwelling currents as a result of wind forcing. Vertical current speeds below 35 m depth were much lower ($<\pm 0.2$ cm/s), except near the bottom, where large errors were present due to spurious interactions with the seafloor. However, the relatively clean tidal signature that was present in previous moorings was gone due to the higher current noise, and there were no discernable periodic features present. The bottom waters showed a progressive increase in salinity, temperature and density from July to October, as shown in the temperature-salinity plot (Figure 3.3-11). The slow and steady salinity growth was likely entirely due to the mixing of incoming of Melville Sound waters within Roberts Bay. The preponderance of easterly winds measured during the July to October period (see Figure 3.2-2), coupled with the freshwater inputs from the Doris and Glenn outflows, drove the general seaward surface circulation of Roberts Bay.

Although the melting of ice and subsequent wind forcing and freshwater discharge in Roberts Bay waters were the most likely causes for the large increase in current speeds during the summer months, it is difficult to directly relate wind direction and speed to simultaneously measured currents in the water column. There are several reasons for this discrepancy, including the location mismatch between the wind recorder and the ADCP mooring location, the presence of multiple other current driving forces (e.g., pressure and density gradients, wave-wave interactions, etc.), the measurement errors associated with each instrument, the highly variable currents in the top 10 m of the water column, among others.

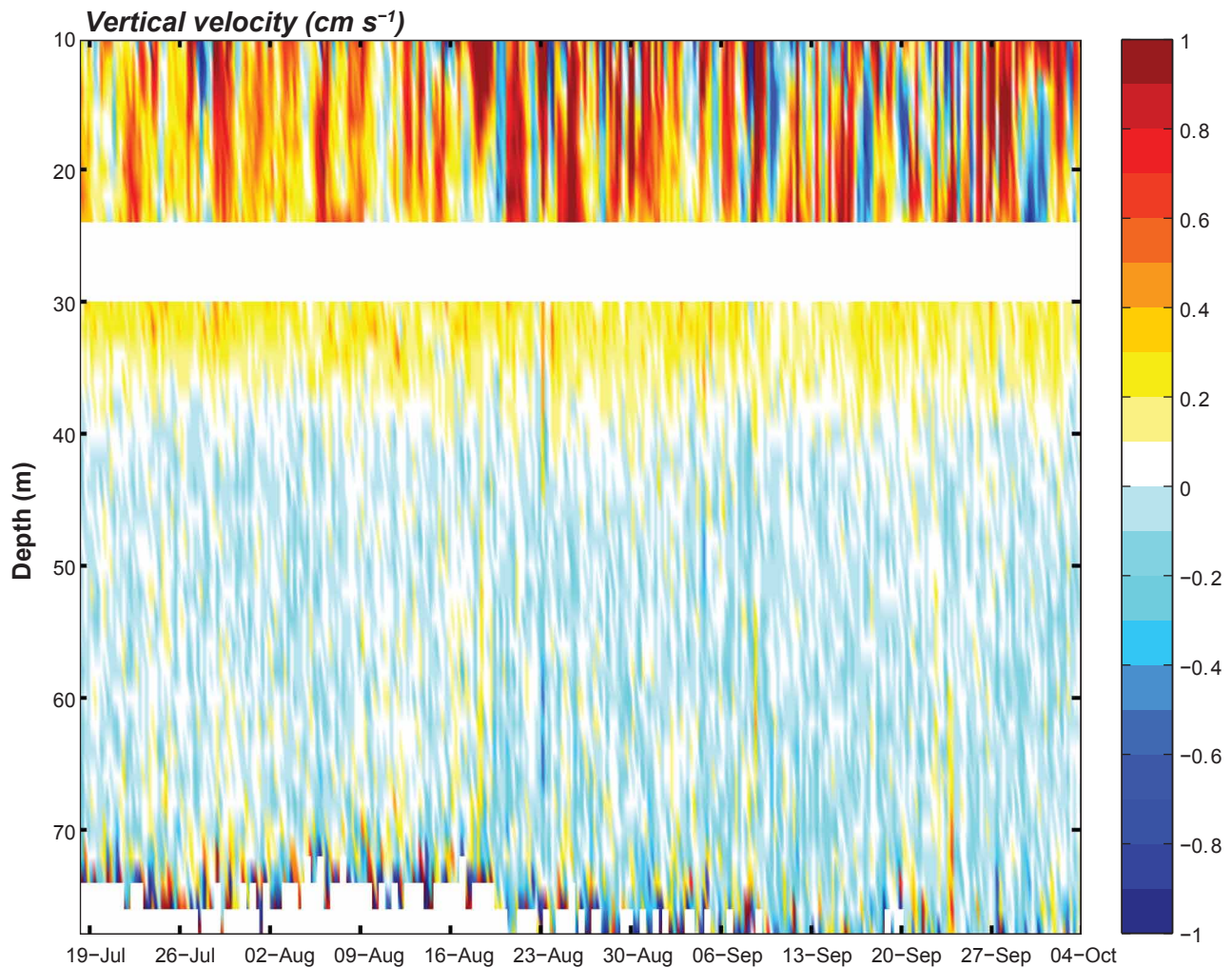
Selecting times when winds are dominant in one specific direction help in physically correlating wind and current measurements. In Figure 3.3-16, both wind and current data were plotted for four distinct periods when either easterly or westerly winds were prevalent. From August 14 to 20 and August 21 to 25, winds were predominantly from the eastern direction while surface currents were generally within the north/northeastern direction, which is consistent with the presence of Ekman transport within the upper layer (also see Gill 1982). Similarly, for the periods of August 26 to 30 and September 10 to 15, the predominantly western winds corresponded to south/south-eastern water transport of the surface layer.

Wind Roses**11-Sep to 18-Sep****18-Sep to 25-Sep****25-Sep to 02-Oct****m/s****Depth Profiles****Compass Plots****Depths (m)**

Notes: Wind flow is FROM the direction shown.

Current flow is TOWARDS the direction shown.

No data is available in the water column between 24 and 30 m depths due to instrument location.



Notes: Vertical current directions are positive upwards.

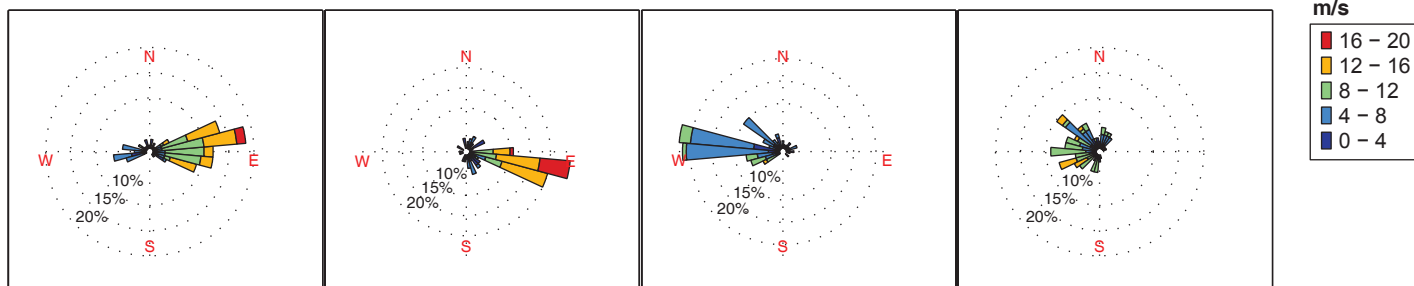
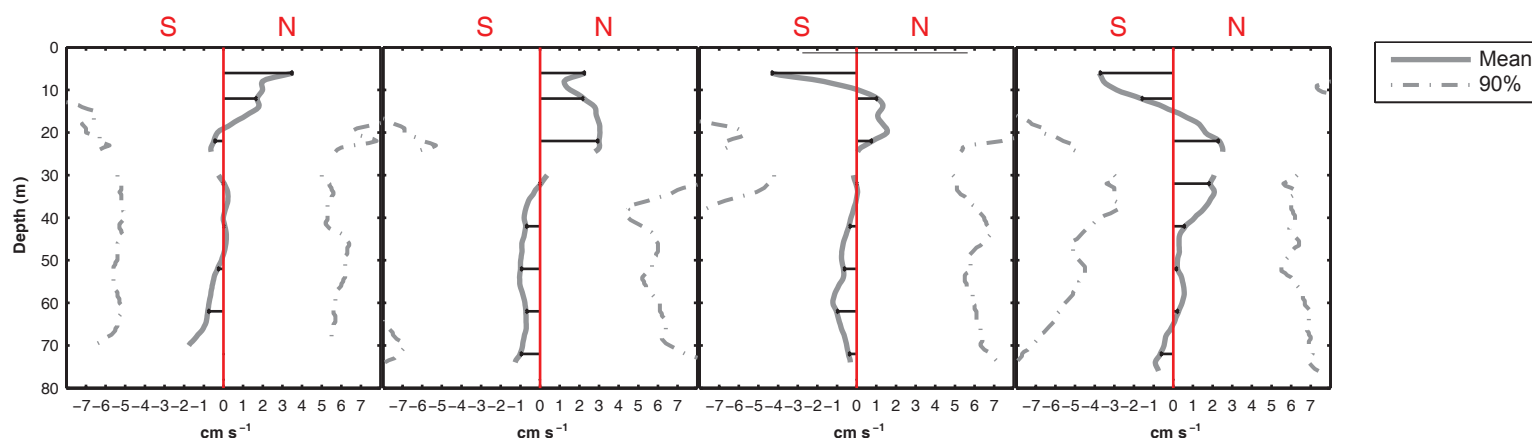
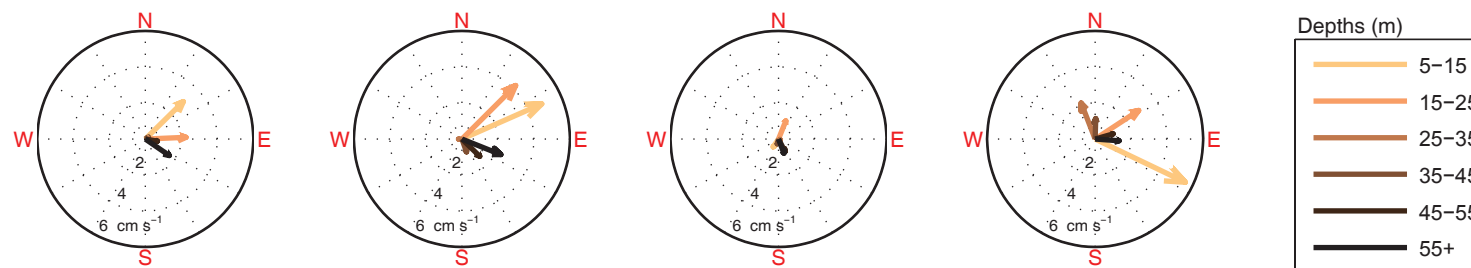
No data is available in the water column between 24 and 30 m depths due to instrument location.

14-Aug to 20-Aug

21-Aug to 25-Aug

26-Aug to 30-Aug

10-Sep to 15-Sep

Wind Roses**Depth Profiles****Compass Plots**

Notes: Wind flow is FROM the direction shown.

Current flow is TOWARDS the direction shown.

No data is available in the water column between 24 and 30 m depths due to instrument location.

4. Summary

4. Summary

4.1 ICE-COVERED CONDITIONS (FEBRUARY TO MAY, 2011)

During the ice-covered season, a 1 to 2 m thick ice layer forms that shelters Roberts Bay waters from atmospheric winds. Over time, the under-ice convection generated from the ice growth leads to the formation of a two-layer thermohaline structure with weak stratification in the water column, and a colder, fresher layer of 25 to 30 m thickness atop a more saline, warmer layer extending to the bottom.

Under-ice currents were generally very weak, with mean horizontal current velocities between 1 and 2 cm/s. Deep currents, which were driven either by density gradients formed through ice formation/brine release or advection of waters from Melville Sound, had generally stronger velocities. This was particularly apparent for the more southern, 38 m station, which had recorded mean currents between 4 and 5 cm/s with a maximum of 7.91 cm/s. A summary of the mean north velocity component and the mean and maximum current speed magnitudes observed for each winter deployment is shown in Table 4.1-1. A summary of the mean north velocity component and the mean and maximum current speed magnitudes observed for each winter deployment is shown in Table 4.1-1. The depths selected are the same that are analyzed in Appendix 3-3.

Table 4.1-1. Summary of the Mean North Velocity Component and the Mean and Maximum Current Speeds in Roberts Bay, Doris North Project, Winter 2011

Site and Depth		Mean North Velocity Component (cm/s)*	Mean Speed (cm/s)	Maximum Speed (cm/s)
Feb 10 - Feb 22, 38 m Site	9 m	0.20	1.80	5.02
	21 m	0.51	1.19	4.56
	30 m	4.79	4.88	7.91
Feb 22 - Apr 16 38 m Site	9 m	0.17	1.69	4.63
	21 m	0.37	0.98	4.61
	30 m	3.96	4.02	7.72
Apr 21 - May 11, 85 m Site	12 m	0.24	1.05	3.08
	36 m	-0.21	0.99	3.64
	66 m	-0.62	1.23	4.10
	78 m	0.02	0.78	2.41

**Note: Northern velocities are positive.*

The denser waters tended to slowly pool and accumulate in the deep basin of Roberts Bay, where they remained relatively isolated from other water sources. The dense downwelling waters appeared to be replaced by advecting surface currents from the middle region of Roberts Bay. The overall circulation pattern in the surface waters appeared to be a sluggish clockwise flow, with occasional larger currents recorded directly under the sea ice, particularly in shallow areas where brine rejection flows were likely to occur. Tidal ebb and flow currents were found across the bay, but they had very low velocities of around 0.1 cm/s.

Occasionally, fronts of different water masses came into contact and generated vertical mixing between both layers in the water column. This phenomenon was observed at the bay's mouth where Roberts Bay and Melville Sound waters interact.

A schematic interpretation of the general winter circulation in Roberts Bay can be found in Figure 4.1-1.

4.2 OPEN-WATER CONDITIONS (JUNE TO OCTOBER, 2011)

In early summer, the increased sunlight and warming atmospheric temperatures eventually caused the ice cover to melt in early July, flooding the surface of Roberts Bay with a large volume of fresh, warm water. After the ice cover breakup, wind forcing on Roberts Bay waters contributed to a significant increase in current velocity and variability, particularly near the surface.

The addition of freshwater produced from ice melting, combined with the mixing resulting from wind generated currents and warmer temperatures, progressively lead to the formation of an alternate two-layered thermohaline structure with a warmer, fresher wind-mixed layer atop a colder more saline bottom layer. The stratification was much steeper than that found in the winter months, with the top layer starting relatively thin at 5 to 10 m thickness, but spreading to over 25 m depth in the fall.

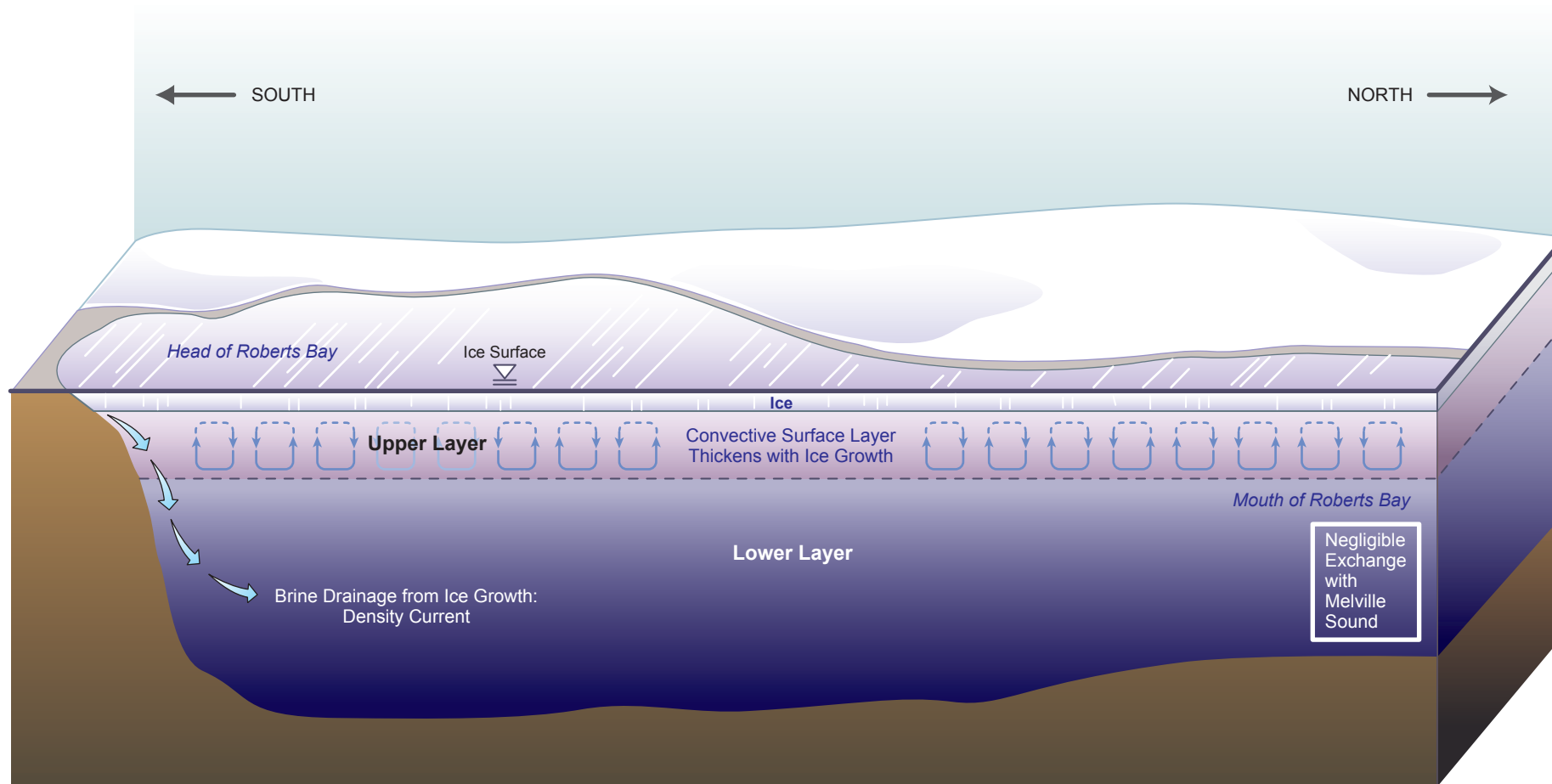
The current variability changed dramatically during the summer, with a ten-fold increase in water exchange rate estimated at Roberts Bay mouth where the mooring measurements were obtained. Mean horizontal current velocities in the deep layer ranged from 1 to 5 cm/s, but had recorded maximums near 30 cm/s during periods of large flow. Similarly, while horizontal currents in the upper water column had mean velocities between 1 and 6 cm/s, maximum values of over 30 cm/s were sometimes recorded above 10 m depth. A summary of the mean north velocity component and the mean and maximum current speed magnitudes observed for each summer deployment is shown in Table 4.2-1. The depths selected are the same that are analyzed in Appendix 3-3.

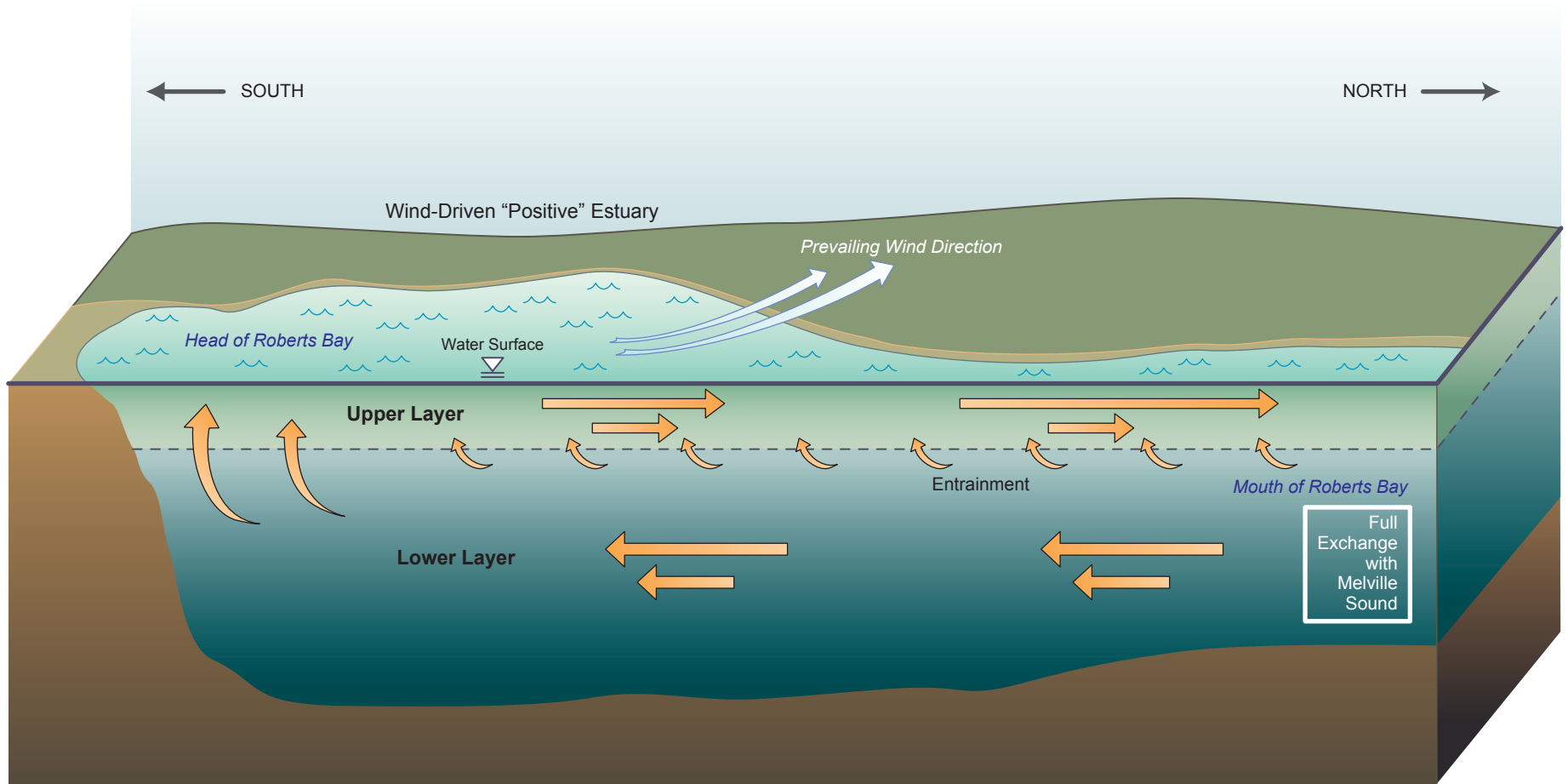
Table 4.2-1. Summary of the Mean North Velocity Component and the Mean and Maximum Current Speeds in Roberts Bay, Doris North Project, Summer 2011

Site and Depth		Mean North Velocity Component (cm/s)*	Mean Speed (cm/s)	Maximum Speed (cm/s)
May 22 - Jul 17, 85 m site	16 m	0.17	1.46	6.24
	34 m	-0.15	1.10	4.11
	58 m	-0.23	1.02	5.50
	76 m	-0.45	1.11	5.03
Jul 17 - Oct 04, 85 m site	17 m	-0.38	5.38	22.89
	34 m	-0.18	2.83	17.14
	58 m	-0.81	3.22	23.94
	66-72 m	-1.26	3.74	29.81

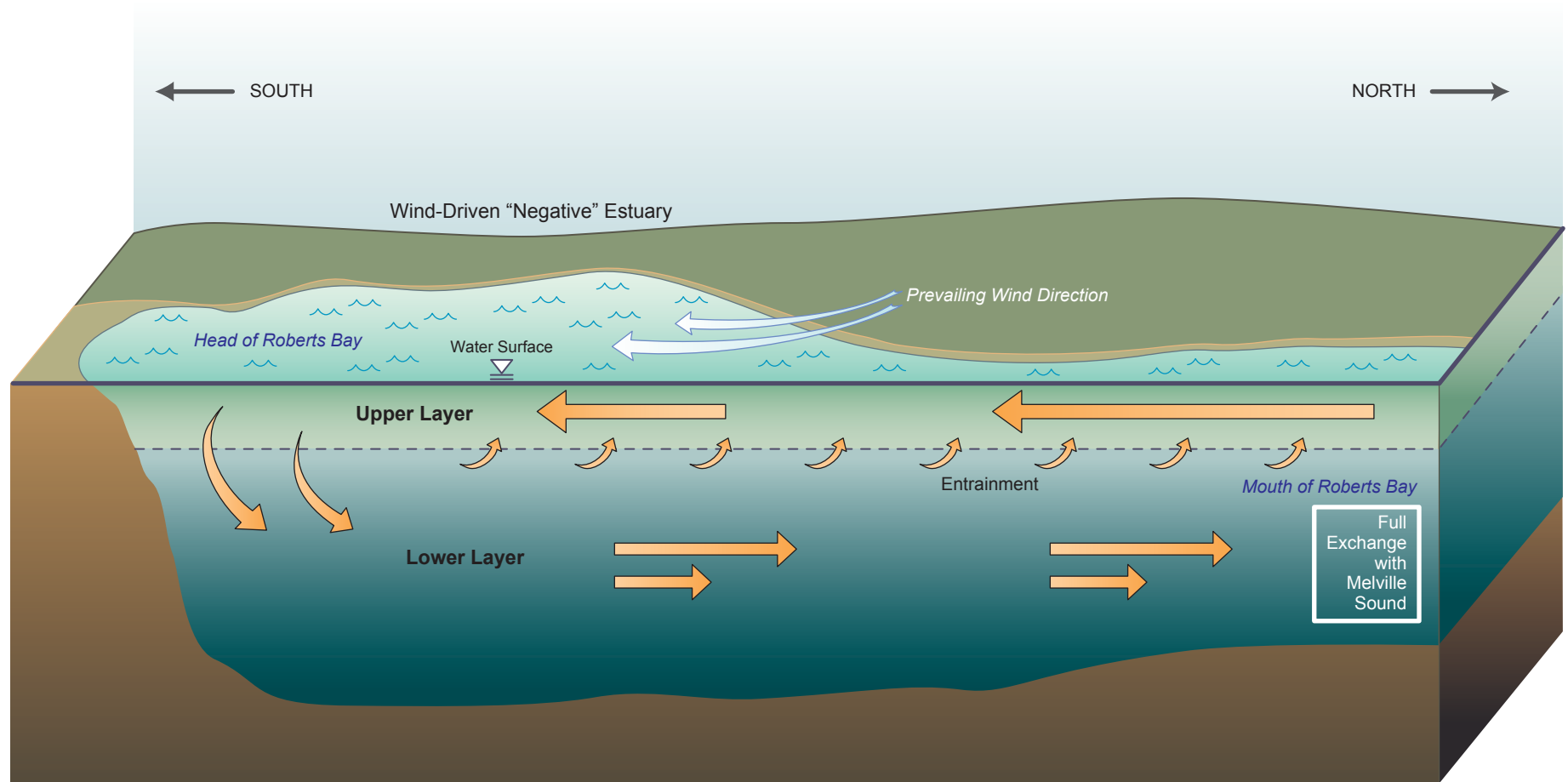
**Note: Northern velocities are positive.*

The general circulation within Roberts Bay was assumed to be anticyclonic (clockwise) for both top and bottom layers. The combination of southern/easterly winds and freshwater inputs resulted in a positive-type two-layered estuarine circulation for roughly 70% of flow measurements, where the top layer flowed seaward and the deeper waters flowed into Roberts Bay from Melville Sound. A schematic interpretation of this type of circulation in Roberts Bay can be found in Figure 4.2-1. For the other ~30% of the time, the general estuarine circulation was shown to reverse itself as illustrated in Figure 4.2-2, depending on the prevailing wind conditions and strength of flow incoming from Melville Sound.





Note: The Prevailing Wind Direction refers to the wind direction that will most easily drive the circulation shown in the figure.



Note: The Prevailing Wind Direction refers to the wind direction that will most easily drive the circulation shown in the figure.

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Appendix 3-1

**Temperature, Salinity, and Oxygen Profiles
in Roberts Bay, Doris North Project, 2011**

Appendix 3-1. Temperature, Salinity, and Oxygen Profiles in Roberts Bay, Doris North Project, 2011

List of Tables

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Table A3-1.2. Open-Water Data for Temperature, Salinity, and Density in Roberts Bay, Doris North Project, July-October 2011

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT4 - 18-Mar-11				WT4 - 18-Mar-11				WT4 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
2.19	26.78	-1.45	21.50	18.96	26.76	-1.42	21.48	39.02	27.03	-0.35	21.68
2.53	26.75	-1.44	21.48	19.25	26.76	-1.42	21.48	39.32	27.01	-0.31	21.67
2.88	26.74	-1.44	21.47	19.49	26.76	-1.42	21.48	39.61	27.01	-0.28	21.67
3.27	26.75	-1.43	21.47	19.76	26.76	-1.42	21.48	40.02	27.00	-0.26	21.66
3.82	26.76	-1.43	21.48	20.14	26.76	-1.42	21.48	40.35	27.00	-0.25	21.66
4.09	26.76	-1.43	21.48	20.55	26.76	-1.42	21.48	40.73	26.98	-0.24	21.64
4.25	26.76	-1.43	21.48	20.95	26.77	-1.42	21.49	40.87	26.97	-0.26	21.64
4.57	26.76	-1.43	21.49	21.38	26.76	-1.42	21.48	41.13	26.96	-0.26	21.63
4.82	26.76	-1.43	21.48	21.73	26.76	-1.42	21.48	41.38	26.98	-0.29	21.65
4.95	26.76	-1.43	21.49	22.10	26.76	-1.42	21.48	41.71	26.99	-0.30	21.65
5.19	26.76	-1.43	21.49	22.46	26.76	-1.42	21.48	42.05	26.99	-0.30	21.65
5.26	26.76	-1.43	21.48	22.70	26.76	-1.42	21.48	41.99	26.99	-0.30	21.66
5.08	26.76	-1.43	21.48	22.96	26.76	-1.42	21.48	42.09	26.99	-0.30	21.65
5.06	26.76	-1.43	21.48	23.29	26.76	-1.42	21.48	42.37	27.00	-0.30	21.66
5.27	26.76	-1.43	21.48	23.70	26.76	-1.42	21.48	42.75	27.01	-0.28	21.67
5.51	26.75	-1.43	21.48	24.05	26.77	-1.42	21.49	43.11	27.01	-0.26	21.67
5.64	26.76	-1.43	21.48	24.35	26.77	-1.42	21.49	42.35	26.99	-0.27	21.65
5.83	26.75	-1.43	21.48	24.42	26.77	-1.42	21.49	42.78	27.00	-0.26	21.66
6.22	26.77	-1.42	21.49	24.76	26.77	-1.42	21.49	43.04	26.99	-0.25	21.65
6.70	26.76	-1.42	21.48	25.22	26.78	-1.42	21.50	43.04	26.99	-0.25	21.65
6.97	26.76	-1.42	21.48	25.73	26.77	-1.42	21.49	43.29	27.01	-0.25	21.67
7.03	26.77	-1.42	21.49	26.16	26.77	-1.42	21.49	43.64	27.00	-0.24	21.66
7.01	26.75	-1.42	21.48	26.62	26.77	-1.42	21.50	43.64	27.01	-0.24	21.67
7.02	26.75	-1.42	21.47	26.88	26.78	-1.42	21.50	43.63	27.00	-0.23	21.66
7.14	26.75	-1.42	21.48	26.90	26.78	-1.42	21.50	43.63	26.99	-0.23	21.65
7.54	26.77	-1.42	21.49	27.06	26.78	-1.42	21.50	43.94	27.02	-0.24	21.68
8.11	26.76	-1.42	21.48	27.54	26.79	-1.42	21.50	44.38	27.01	-0.22	21.67
8.67	26.75	-1.42	21.48	27.87	26.80	-1.42	21.52	44.52	27.02	-0.21	21.67
9.20	26.76	-1.42	21.48	28.17	26.79	-1.41	21.51	44.99	27.01	-0.21	21.67
9.72	26.75	-1.42	21.48	28.45	26.79	-1.41	21.51	45.30	27.01	-0.21	21.67
10.30	26.76	-1.42	21.48	28.98	26.79	-1.40	21.50	45.68	27.02	-0.21	21.67
10.84	26.76	-1.42	21.48	29.51	26.78	-1.40	21.50	45.28	27.01	-0.20	21.67
11.18	26.76	-1.42	21.48	29.97	26.79	-1.40	21.51	45.71	27.02	-0.20	21.67
11.59	26.76	-1.42	21.48	30.36	26.79	-1.40	21.51	45.94	27.02	-0.20	21.67
11.91	26.76	-1.42	21.48	30.88	26.79	-1.40	21.51	46.28	27.01	-0.20	21.67
12.16	26.76	-1.42	21.48	31.26	26.79	-1.40	21.51	46.65	27.02	-0.20	21.67
12.08	26.76	-1.42	21.48	31.80	26.80	-1.40	21.52	46.90	27.02	-0.20	21.67
12.56	26.76	-1.42	21.48	32.01	26.80	-1.40	21.51	47.34	27.02	-0.20	21.67
12.84	26.76	-1.42	21.48	32.41	26.80	-1.40	21.51	47.78	27.02	-0.20	21.67
13.12	26.76	-1.42	21.48	32.79	26.80	-1.40	21.52	48.11	27.02	-0.20	21.67
13.12	26.75	-1.42	21.48	33.01	26.79	-1.40	21.51	48.33	27.02	-0.20	21.67
13.38	26.76	-1.42	21.48	33.32	26.80	-1.40	21.52	48.78	27.02	-0.20	21.67
13.72	26.76	-1.42	21.48	33.65	26.80	-1.40	21.52	49.24	27.03	-0.20	21.68
14.18	26.76	-1.42	21.48	34.03	26.81	-1.39	21.52	49.50	27.03	-0.19	21.68
14.33	26.76	-1.42	21.48	34.37	26.80	-1.39	21.52	49.71	27.03	-0.19	21.68
14.89	26.76	-1.42	21.48	34.78	26.80	-1.39	21.52	49.88	27.03	-0.19	21.68
15.47	26.76	-1.42	21.48	35.17	26.80	-1.38	21.52				
15.84	26.76	-1.42	21.48	35.69	26.81	-1.38	21.52				
16.36	26.76	-1.42	21.48	36.13	26.85	-1.37	21.55				
16.84	26.76	-1.42	21.49	36.51	26.87	-1.31	21.57				
17.26	26.75	-1.42	21.48	36.98	26.95	-1.20	21.63				
17.64	26.76	-1.42	21.48	37.61	27.01	-1.05	21.69				
17.92	26.76	-1.42	21.48	37.81	27.24	-0.93	21.87				
18.29	26.75	-1.42	21.48	38.33	27.16	-0.57	21.79				
18.68	26.76	-1.42	21.48	38.64	27.08	-0.42	21.73				

WT7 - 18-Mar-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.71	26.75	-1.39	21.47
2.61	26.75	-1.39	21.48
2.79	26.75	-1.39	21.47
2.79	26.75	-1.39	21.47

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 18-Mar-11				WT7 - 18-Mar-11				WT7 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
2.79	26.75	-1.39	21.47	4.76	26.75	-1.39	21.48	6.66	26.75	-1.39	21.48
2.79	26.75	-1.39	21.47	4.78	26.75	-1.39	21.48	6.66	26.76	-1.38	21.48
2.79	26.75	-1.39	21.47	4.79	26.76	-1.39	21.48	6.66	26.75	-1.38	21.47
2.80	26.75	-1.39	21.47	4.80	26.75	-1.39	21.48	6.67	26.75	-1.38	21.47
2.80	26.75	-1.39	21.48	4.82	26.75	-1.39	21.47	6.67	26.75	-1.39	21.48
2.80	26.75	-1.39	21.47	4.82	26.75	-1.39	21.48	6.67	26.75	-1.39	21.48
2.81	26.75	-1.39	21.47	4.82	26.75	-1.39	21.48	6.67	26.75	-1.39	21.47
2.82	26.75	-1.39	21.47	4.82	26.75	-1.39	21.48	6.67	26.75	-1.39	21.47
2.82	26.76	-1.39	21.48	4.82	26.75	-1.39	21.48	6.68	26.75	-1.39	21.48
2.82	26.75	-1.39	21.48	4.82	26.75	-1.39	21.47	6.68	26.75	-1.39	21.48
2.82	26.75	-1.39	21.47	4.82	26.75	-1.39	21.48	6.96	26.74	-1.38	21.47
2.82	26.75	-1.39	21.48	4.83	26.75	-1.39	21.48	7.64	26.74	-1.38	21.47
2.82	26.75	-1.39	21.47	4.83	26.75	-1.39	21.47	7.65	26.75	-1.38	21.47
2.82	26.75	-1.39	21.48	5.40	26.74	-1.38	21.47	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.48	5.47	26.75	-1.39	21.48	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.48	5.47	26.74	-1.38	21.47	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.48	5.47	26.75	-1.39	21.48	7.65	26.76	-1.38	21.48
2.83	26.75	-1.39	21.47	5.47	26.75	-1.38	21.48	7.65	26.75	-1.38	21.48
2.83	26.75	-1.39	21.48	5.47	26.74	-1.38	21.47	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.47	5.47	26.75	-1.39	21.48	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.48	5.47	26.75	-1.39	21.48	7.65	26.75	-1.38	21.47
2.83	26.75	-1.39	21.47	5.47	26.75	-1.39	21.48	7.65	26.75	-1.38	21.47
2.85	26.75	-1.39	21.48	5.48	26.75	-1.38	21.47	7.65	26.75	-1.38	21.47
3.09	26.75	-1.39	21.47	5.48	26.75	-1.39	21.47	7.65	26.75	-1.38	21.47
3.82	26.75	-1.39	21.47	5.48	26.74	-1.38	21.47	7.66	26.75	-1.38	21.48
3.82	26.75	-1.39	21.47	5.48	26.75	-1.39	21.48	7.66	26.75	-1.38	21.47
3.82	26.75	-1.39	21.48	5.48	26.75	-1.39	21.47	7.66	26.74	-1.37	21.47
3.82	26.75	-1.39	21.47	5.48	26.75	-1.38	21.47	7.66	26.75	-1.38	21.47
3.82	26.75	-1.39	21.48	5.48	26.74	-1.38	21.47	7.67	26.74	-1.38	21.47
3.82	26.75	-1.39	21.48	5.48	26.75	-1.38	21.47	7.67	26.74	-1.38	21.47
3.82	26.75	-1.39	21.48	5.48	26.75	-1.38	21.47	7.67	26.75	-1.38	21.47
3.82	26.75	-1.39	21.48	5.48	26.75	-1.38	21.47	7.67	26.75	-1.38	21.47
3.83	26.75	-1.39	21.48	5.48	26.74	-1.38	21.47	7.67	26.75	-1.38	21.47
3.83	26.76	-1.39	21.48	5.48	26.75	-1.38	21.47	7.68	26.75	-1.38	21.47
3.83	26.75	-1.39	21.47	5.48	26.75	-1.38	21.48	7.68	26.75	-1.38	21.47
3.83	26.75	-1.39	21.48	5.48	26.75	-1.39	21.47	8.65	26.75	-1.38	21.48
3.83	26.75	-1.39	21.48	5.48	26.74	-1.38	21.47	8.66	26.75	-1.38	21.48
3.83	26.75	-1.39	21.48	5.48	26.75	-1.38	21.47	8.67	26.75	-1.39	21.48
3.83	26.76	-1.39	21.48	5.48	26.76	-1.39	21.48	8.68	26.75	-1.38	21.48
3.83	26.75	-1.39	21.48	5.49	26.75	-1.39	21.48	8.70	26.75	-1.39	21.48
3.83	26.75	-1.39	21.48	5.53	26.75	-1.39	21.48	8.71	26.75	-1.38	21.48
3.83	26.75	-1.39	21.47	5.55	26.75	-1.39	21.48	8.72	26.75	-1.38	21.48
3.84	26.75	-1.39	21.48	5.56	26.75	-1.39	21.47	8.72	26.75	-1.38	21.48
3.84	26.75	-1.39	21.48	5.58	26.76	-1.39	21.48	8.72	26.75	-1.38	21.48
3.94	26.75	-1.39	21.48	5.59	26.75	-1.39	21.48	8.72	26.75	-1.38	21.48
3.96	26.75	-1.39	21.48	6.34	26.74	-1.38	21.47	8.72	26.75	-1.38	21.47
4.29	26.75	-1.39	21.47	6.49	26.75	-1.39	21.48	8.72	26.75	-1.38	21.47
4.70	26.75	-1.39	21.47	6.64	26.75	-1.39	21.47	8.72	26.75	-1.38	21.48
4.72	26.76	-1.39	21.48	6.64	26.75	-1.39	21.48	8.72	26.75	-1.38	21.47
4.73	26.75	-1.39	21.48	6.65	26.75	-1.39	21.47	8.72	26.75	-1.38	21.47
4.73	26.75	-1.39	21.47	6.65	26.75	-1.39	21.47	8.72	26.75	-1.38	21.48
4.73	26.75	-1.39	21.48	6.65	26.75	-1.38	21.47	8.72	26.75	-1.38	21.47
4.73	26.75	-1.39	21.47	6.65	26.75	-1.39	21.48	8.73	26.74	-1.38	21.47
4.75	26.75	-1.39	21.48	6.65	26.75	-1.39	21.48	8.73	26.75	-1.38	21.47
4.75	26.75	-1.39	21.48	6.65	26.75	-1.39	21.48	8.73	26.75	-1.38	21.48
4.75	26.75	-1.39	21.48	6.66	26.75	-1.39	21.48	8.73	26.75	-1.38	21.47
4.75	26.75	-1.39	21.48	6.66	26.75	-1.39	21.47	8.73	26.74	-1.38	21.47
4.75	26.75	-1.39	21.47	6.66	26.75	-1.39	21.48	9.63	26.75	-1.38	21.47

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 18-Mar-11				WT7 - 18-Mar-11				WT7 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
9.67	26.75	-1.38	21.47	11.71	26.75	-1.38	21.47	14.57	26.74	-1.37	21.47
9.68	26.75	-1.39	21.48	11.71	26.74	-1.38	21.47	14.57	26.74	-1.38	21.47
9.69	26.75	-1.38	21.48	11.71	26.75	-1.38	21.47	14.57	26.75	-1.38	21.47
9.72	26.75	-1.39	21.48	11.71	26.75	-1.38	21.47	14.57	26.75	-1.38	21.47
9.73	26.75	-1.38	21.47	11.71	26.74	-1.38	21.47	14.57	26.74	-1.38	21.47
9.73	26.75	-1.39	21.48	11.71	26.75	-1.39	21.48	14.57	26.74	-1.37	21.46
9.73	26.75	-1.38	21.48	11.71	26.75	-1.38	21.47	14.57	26.74	-1.38	21.47
9.74	26.75	-1.38	21.47	11.71	26.75	-1.38	21.47	14.57	26.74	-1.38	21.47
9.74	26.75	-1.38	21.47	11.72	26.75	-1.38	21.47	14.57	26.74	-1.37	21.47
9.74	26.75	-1.38	21.47	11.72	26.75	-1.38	21.47	14.58	26.75	-1.38	21.47
9.77	26.75	-1.38	21.47	11.78	26.75	-1.38	21.47	14.58	26.74	-1.37	21.47
9.77	26.75	-1.38	21.48	12.27	26.74	-1.38	21.47	14.58	26.73	-1.36	21.46
9.77	26.75	-1.38	21.48	12.57	26.75	-1.38	21.48	14.58	26.74	-1.37	21.47
9.77	26.74	-1.38	21.47	12.58	26.75	-1.38	21.47	14.58	26.73	-1.37	21.46
9.77	26.75	-1.38	21.47	12.58	26.75	-1.38	21.48	14.58	26.74	-1.37	21.46
9.77	26.76	-1.38	21.48	12.58	26.75	-1.38	21.47	14.59	26.75	-1.38	21.47
9.77	26.75	-1.38	21.47	12.58	26.75	-1.38	21.47	14.61	26.74	-1.38	21.47
9.77	26.75	-1.38	21.47	12.58	26.75	-1.38	21.47	15.60	26.74	-1.37	21.47
9.77	26.75	-1.38	21.47	12.58	26.74	-1.38	21.47	15.60	26.74	-1.37	21.47
9.77	26.75	-1.38	21.47	12.58	26.75	-1.38	21.47	15.65	26.74	-1.37	21.46
9.98	26.75	-1.38	21.47	12.59	26.75	-1.38	21.47	15.65	26.74	-1.38	21.47
10.79	26.74	-1.38	21.47	12.59	26.75	-1.38	21.47	15.65	26.74	-1.37	21.47
10.86	26.75	-1.38	21.48	12.59	26.74	-1.38	21.47	15.65	26.73	-1.37	21.46
10.87	26.74	-1.38	21.47	12.59	26.75	-1.38	21.47	15.66	26.74	-1.37	21.47
10.88	26.75	-1.39	21.48	12.60	26.75	-1.38	21.47	15.66	26.74	-1.37	21.46
10.88	26.75	-1.38	21.48	12.60	26.75	-1.38	21.47	15.66	26.74	-1.38	21.47
10.89	26.75	-1.38	21.47	12.61	26.74	-1.38	21.47	15.66	26.74	-1.37	21.47
10.89	26.75	-1.38	21.47	12.62	26.74	-1.38	21.47	15.66	26.74	-1.37	21.47
10.89	26.76	-1.38	21.48	12.62	26.74	-1.38	21.47	15.66	26.74	-1.37	21.47
10.89	26.75	-1.38	21.47	12.62	26.74	-1.38	21.47	15.66	26.74	-1.37	21.47
10.89	26.75	-1.39	21.47	12.62	26.75	-1.38	21.47	15.66	26.75	-1.38	21.48
10.89	26.75	-1.38	21.47	12.64	26.75	-1.38	21.48	15.66	26.74	-1.38	21.47
10.89	26.74	-1.38	21.47	13.34	26.75	-1.38	21.48	15.66	26.74	-1.37	21.47
10.89	26.75	-1.38	21.48	13.62	26.75	-1.38	21.47	15.66	26.74	-1.37	21.47
10.90	26.75	-1.38	21.48	13.68	26.75	-1.38	21.47	15.66	26.74	-1.37	21.47
10.90	26.75	-1.38	21.47	13.69	26.74	-1.37	21.47	15.66	26.73	-1.37	21.46
10.90	26.75	-1.39	21.47	13.69	26.75	-1.38	21.47	15.67	26.74	-1.37	21.47
10.90	26.75	-1.38	21.47	13.70	26.75	-1.38	21.47	15.67	26.74	-1.37	21.47
10.90	26.75	-1.38	21.47	13.70	26.74	-1.38	21.47	16.58	26.73	-1.36	21.46
10.90	26.75	-1.38	21.48	13.70	26.74	-1.38	21.47	16.65	26.74	-1.37	21.46
10.90	26.75	-1.38	21.48	13.71	26.75	-1.38	21.47	16.72	26.74	-1.37	21.47
10.90	26.75	-1.38	21.47	13.71	26.75	-1.38	21.47	16.76	26.75	-1.37	21.48
10.90	26.75	-1.38	21.47	13.71	26.75	-1.38	21.47	16.77	26.74	-1.37	21.46
11.31	26.75	-1.38	21.47	13.72	26.74	-1.37	21.47	16.77	26.73	-1.37	21.46
11.56	26.75	-1.38	21.47	13.72	26.75	-1.38	21.47	16.78	26.75	-1.37	21.47
11.64	26.75	-1.38	21.48	13.72	26.74	-1.38	21.47	16.78	26.73	-1.36	21.46
11.70	26.75	-1.38	21.47	13.72	26.75	-1.38	21.47	16.78	26.74	-1.37	21.47
11.70	26.75	-1.39	21.48	13.73	26.74	-1.38	21.47	16.78	26.73	-1.36	21.46
11.70	26.74	-1.38	21.47	13.73	26.75	-1.38	21.47	16.78	26.74	-1.37	21.47
11.70	26.74	-1.38	21.47	13.90	26.74	-1.37	21.47	16.78	26.74	-1.37	21.46
11.70	26.74	-1.38	21.47	13.93	26.75	-1.38	21.47	16.78	26.73	-1.36	21.46
11.70	26.75	-1.38	21.48	14.56	26.74	-1.38	21.47	16.78	26.74	-1.37	21.47
11.71	26.74	-1.38	21.47	14.57	26.75	-1.38	21.47	16.78	26.75	-1.37	21.47
11.71	26.74	-1.38	21.47	14.57	26.74	-1.36	21.46	16.78	26.73	-1.36	21.46
11.71	26.75	-1.38	21.47	14.57	26.74	-1.38	21.47	16.78	26.74	-1.37	21.47

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 18-Mar-11				WT7 - 18-Mar-11				WT7 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
16.78	26.74	-1.37	21.47	19.66	26.73	-1.35	21.46	25.51	26.71	-1.31	21.45
16.79	26.75	-1.37	21.47	19.66	26.73	-1.36	21.46	25.63	26.71	-1.28	21.44
16.79	26.73	-1.36	21.46	19.66	26.73	-1.35	21.46	25.65	26.74	-1.32	21.47
16.79	26.74	-1.37	21.47	19.66	26.73	-1.35	21.46	25.65	26.76	-1.33	21.48
17.51	26.73	-1.36	21.46	19.67	26.72	-1.35	21.45	25.65	26.76	-1.32	21.48
17.74	26.74	-1.37	21.47	19.91	26.74	-1.36	21.47	25.65	26.73	-1.32	21.46
17.75	26.74	-1.37	21.46	20.99	26.73	-1.36	21.46	25.65	26.74	-1.32	21.47
17.75	26.74	-1.37	21.47	21.56	26.72	-1.34	21.45	25.65	26.75	-1.32	21.47
17.76	26.74	-1.37	21.46	21.65	26.73	-1.35	21.46	25.65	26.74	-1.32	21.47
17.76	26.74	-1.36	21.47	21.67	26.73	-1.36	21.46	25.65	26.72	-1.30	21.45
17.76	26.74	-1.37	21.47	21.69	26.74	-1.36	21.47	25.66	26.74	-1.31	21.46
17.76	26.74	-1.36	21.46	21.70	26.74	-1.36	21.47	25.66	26.73	-1.32	21.46
17.76	26.73	-1.36	21.46	21.76	26.73	-1.35	21.46	25.66	26.74	-1.32	21.47
17.76	26.74	-1.37	21.46	21.76	26.73	-1.35	21.46	25.66	26.73	-1.32	21.46
17.76	26.74	-1.37	21.47	21.76	26.73	-1.35	21.46	25.66	26.76	-1.32	21.48
17.76	26.74	-1.36	21.46	21.76	26.73	-1.35	21.46	25.66	26.73	-1.32	21.46
17.76	26.73	-1.36	21.46	21.76	26.73	-1.35	21.46	25.66	26.75	-1.33	21.48
17.77	26.74	-1.36	21.46	21.77	26.73	-1.35	21.46	25.66	26.73	-1.32	21.46
17.77	26.74	-1.37	21.46	21.77	26.73	-1.35	21.46	25.67	26.73	-1.32	21.46
17.77	26.73	-1.36	21.46	21.77	26.73	-1.35	21.46	25.67	26.73	-1.31	21.46
17.77	26.73	-1.36	21.46	21.77	26.74	-1.36	21.46	25.67	26.73	-1.31	21.46
17.77	26.74	-1.36	21.46	21.77	26.73	-1.35	21.46	25.67	26.73	-1.31	21.46
17.77	26.74	-1.36	21.46	21.78	26.73	-1.36	21.46	25.86	26.71	-1.25	21.44
17.77	26.73	-1.36	21.46	21.78	26.73	-1.36	21.46	26.80	26.73	-1.23	21.45
17.77	26.73	-1.35	21.46	21.78	26.73	-1.36	21.46	27.56	26.71	-1.19	21.44
17.77	26.73	-1.35	21.46	21.78	26.74	-1.36	21.46	27.59	26.72	-1.20	21.45
17.77	26.74	-1.37	21.47	21.78	26.74	-1.36	21.47	27.61	26.73	-1.21	21.46
17.78	26.73	-1.37	21.46	21.78	26.75	-1.36	21.47	27.61	26.75	-1.21	21.48
17.78	26.73	-1.36	21.46	21.79	26.74	-1.36	21.47	27.62	26.76	-1.21	21.48
17.78	26.74	-1.36	21.47	22.33	26.72	-1.35	21.45	27.62	26.73	-1.21	21.46
17.78	26.73	-1.37	21.46	23.19	26.71	-1.33	21.44	27.62	26.74	-1.21	21.47
17.90	26.74	-1.37	21.46	23.51	26.73	-1.35	21.46	27.63	26.77	-1.21	21.49
18.82	26.73	-1.36	21.46	23.53	26.74	-1.35	21.47	27.63	26.73	-1.21	21.46
19.59	26.74	-1.37	21.46	23.53	26.74	-1.35	21.47	27.63	26.77	-1.22	21.49
19.63	26.73	-1.35	21.46	23.53	26.73	-1.35	21.46	27.63	26.73	-1.22	21.46
19.63	26.73	-1.36	21.46	23.54	26.74	-1.35	21.47	27.63	26.75	-1.21	21.47
19.64	26.74	-1.37	21.47	23.54	26.74	-1.35	21.47	27.63	26.78	-1.21	21.50
19.64	26.74	-1.37	21.46	23.54	26.74	-1.35	21.47	27.63	26.78	-1.21	21.50
19.64	26.73	-1.36	21.46	23.54	26.73	-1.34	21.46	27.63	26.75	-1.21	21.48
19.64	26.74	-1.36	21.47	23.54	26.73	-1.34	21.46	27.63	26.78	-1.22	21.50
19.64	26.74	-1.37	21.46	23.54	26.74	-1.35	21.46	27.63	26.77	-1.22	21.49
19.64	26.74	-1.37	21.47	23.54	26.72	-1.33	21.45	27.64	26.77	-1.21	21.49
19.64	26.73	-1.35	21.46	23.54	26.72	-1.34	21.45	27.64	26.77	-1.22	21.49
19.65	26.75	-1.37	21.47	23.54	26.72	-1.33	21.45	27.64	26.74	-1.21	21.47
19.65	26.73	-1.36	21.46	23.54	26.74	-1.35	21.46	27.64	26.76	-1.22	21.48
19.65	26.74	-1.36	21.47	23.55	26.71	-1.33	21.44	27.91	26.69	-1.16	21.43
19.65	26.74	-1.36	21.47	23.55	26.73	-1.33	21.46	28.67	26.69	-1.11	21.42
19.65	26.74	-1.37	21.47	23.55	26.73	-1.34	21.46	29.53	26.64	-1.00	21.38
19.65	26.73	-1.36	21.46	23.55	26.73	-1.34	21.46	29.55	26.73	-1.07	21.46
19.65	26.73	-1.35	21.46	23.55	26.71	-1.33	21.44	29.55	26.80	-1.10	21.51
19.65	26.72	-1.35	21.45	23.56	26.71	-1.32	21.45	29.56	26.71	-1.03	21.44
19.65	26.73	-1.36	21.46	23.65	26.73	-1.35	21.46	29.56	26.76	-1.13	21.48
19.65	26.72	-1.35	21.45	23.84	26.72	-1.34	21.45	29.56	26.74	-1.10	21.47
19.66	26.72	-1.35	21.45	24.67	26.72	-1.33	21.45	29.56	26.78	-1.11	21.49

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 18-Mar-11				WT7 - 18-Mar-11				WT7 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
29.56	26.77	-1.03	21.48	33.50	26.86	-0.30	21.55	37.57	26.89	-0.19	21.57
29.56	26.71	-1.08	21.44	33.50	26.85	-0.29	21.54	37.57	26.89	-0.19	21.57
29.56	26.80	-1.10	21.51	33.50	26.85	-0.29	21.54	37.57	26.88	-0.18	21.56
29.56	26.76	-1.07	21.48	33.50	26.86	-0.30	21.55	37.57	26.88	-0.18	21.56
29.57	26.75	-1.07	21.47	33.50	26.86	-0.29	21.55	37.57	26.90	-0.19	21.58
29.57	26.78	-1.06	21.50	33.51	26.86	-0.30	21.55	37.57	26.89	-0.19	21.57
29.58	26.76	-1.07	21.48	33.51	26.84	-0.28	21.53	37.57	26.89	-0.19	21.57
29.58	26.75	-1.07	21.47	33.51	26.85	-0.29	21.54	37.57	26.89	-0.20	21.57
29.58	26.81	-1.04	21.52	33.51	26.85	-0.29	21.54	37.58	26.88	-0.17	21.56
29.58	26.82	-1.05	21.52	33.51	26.83	-0.27	21.52	37.65	26.89	-0.18	21.57
29.58	26.81	-1.04	21.52	33.51	26.84	-0.28	21.53	38.45	26.89	-0.16	21.57
29.58	26.75	-1.08	21.48	33.51	26.84	-0.29	21.53	39.23	26.88	-0.13	21.56
29.59	26.77	-1.08	21.49	33.51	26.83	-0.28	21.52	39.55	26.92	-0.17	21.60
30.03	26.63	-0.73	21.37	33.52	26.83	-0.27	21.52	39.56	26.92	-0.17	21.60
30.87	26.75	-0.62	21.47	33.52	26.86	-0.27	21.55	39.60	26.92	-0.16	21.59
31.39	26.77	-0.57	21.48	33.61	26.82	-0.27	21.52	39.60	26.92	-0.16	21.59
31.43	26.79	-0.61	21.50	34.05	26.84	-0.25	21.53	39.61	26.92	-0.16	21.59
31.44	26.77	-0.58	21.48	34.96	26.85	-0.22	21.54	39.61	26.92	-0.17	21.59
31.44	26.81	-0.62	21.51	35.57	26.86	-0.23	21.55	39.62	26.92	-0.16	21.59
31.44	26.79	-0.61	21.50	35.58	26.88	-0.25	21.56	39.62	26.89	-0.12	21.57
31.45	26.86	-0.60	21.55	35.59	26.86	-0.21	21.55	39.62	26.92	-0.15	21.59
31.45	26.78	-0.60	21.49	35.59	26.86	-0.21	21.54	39.62	26.91	-0.15	21.58
31.45	26.79	-0.60	21.49	35.59	26.88	-0.25	21.56	39.62	26.90	-0.13	21.58
31.45	26.84	-0.59	21.54	35.59	26.89	-0.25	21.57	39.62	26.90	-0.13	21.58
31.45	26.79	-0.60	21.49	35.59	26.85	-0.22	21.54	39.63	26.89	-0.12	21.57
31.45	26.80	-0.61	21.50	35.59	26.87	-0.24	21.56	39.63	26.91	-0.15	21.59
31.46	26.80	-0.57	21.51	35.59	26.86	-0.22	21.54	39.63	26.91	-0.14	21.58
31.46	26.79	-0.57	21.50	35.59	26.85	-0.21	21.54	39.63	26.90	-0.13	21.57
31.46	26.79	-0.60	21.49	35.60	26.87	-0.23	21.56	39.63	26.90	-0.13	21.57
31.46	26.82	-0.62	21.53	35.60	26.88	-0.25	21.56	39.63	26.90	-0.13	21.58
31.46	26.83	-0.58	21.53	35.60	26.85	-0.21	21.54	39.63	26.90	-0.14	21.58
31.46	26.77	-0.55	21.48	35.60	26.86	-0.22	21.55	39.64	26.91	-0.14	21.58
31.46	26.86	-0.60	21.55	35.60	26.86	-0.23	21.55	39.64	26.89	-0.12	21.57
31.46	26.78	-0.56	21.49	35.60	26.86	-0.25	21.55	39.64	26.92	-0.16	21.59
31.46	26.83	-0.57	21.53	35.60	26.86	-0.22	21.54	39.64	26.90	-0.13	21.57
31.46	26.78	-0.60	21.49	35.60	26.87	-0.24	21.56	40.19	26.92	-0.17	21.59
31.46	26.79	-0.60	21.50	35.60	26.86	-0.23	21.55	40.79	26.93	-0.16	21.60
31.46	26.78	-0.56	21.49	35.61	26.85	-0.22	21.54	41.44	26.93	-0.15	21.60
31.46	26.84	-0.59	21.54	35.61	26.88	-0.25	21.57	42.29	26.93	-0.14	21.60
31.46	26.84	-0.59	21.54	35.66	26.88	-0.24	21.57	42.79	26.94	-0.12	21.60
31.46	26.76	-0.55	21.48	36.17	26.88	-0.22	21.56	43.59	26.95	-0.11	21.61
31.46	26.82	-0.57	21.52	36.89	26.88	-0.20	21.56	44.46	26.93	-0.09	21.60
31.46	26.84	-0.59	21.54	37.52	26.89	-0.19	21.57	44.51	26.96	-0.11	21.62
31.47	26.84	-0.58	21.54	37.55	26.88	-0.18	21.56	44.51	26.96	-0.12	21.62
31.50	26.78	-0.55	21.49	37.56	26.89	-0.19	21.57	44.52	26.96	-0.12	21.62
31.67	26.75	-0.47	21.46	37.56	26.90	-0.20	21.58	44.52	26.96	-0.13	21.63
32.18	26.80	-0.38	21.50	37.56	26.88	-0.18	21.56	44.52	26.97	-0.12	21.63
32.89	26.82	-0.31	21.52	37.56	26.89	-0.19	21.57	44.52	26.95	-0.10	21.61
33.49	26.86	-0.29	21.55	37.56	26.90	-0.20	21.58	44.52	26.96	-0.11	21.62
33.49	26.86	-0.29	21.54	37.56	26.88	-0.17	21.56	44.52	26.95	-0.12	21.62
33.49	26.87	-0.30	21.55	37.56	26.91	-0.20	21.58	44.52	26.95	-0.11	21.61
33.49	26.85	-0.28	21.54	37.56	26.89	-0.19	21.57	44.53	26.94	-0.11	21.61
33.49	26.86	-0.29	21.55	37.56	26.89	-0.18	21.57	44.53	26.95	-0.11	21.62
33.49	26.86	-0.29	21.55	37.56	26.89	-0.19	21.57	44.53	26.94	-0.10	21.61
33.50	26.86	-0.29	21.55	37.57	26.89	-0.19	21.57	44.53	26.95	-0.10	21.61

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 18-Mar-11				WT7 - 18-Mar-11				WT8 - 18-Mar-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
44.53	26.95	-0.11	21.62	53.51	27.00	-0.09	21.65	1.78	26.80	-1.47	21.51
44.53	26.95	-0.11	21.62	53.51	26.99	-0.08	21.65	2.54	26.78	-1.47	21.50
44.53	26.94	-0.10	21.61	53.51	26.98	-0.07	21.64	2.98	26.80	-1.47	21.51
44.53	26.96	-0.11	21.62	53.51	26.99	-0.08	21.65	3.30	26.79	-1.46	21.51
44.53	26.95	-0.11	21.62	53.52	26.98	-0.06	21.64	3.37	26.78	-1.46	21.50
44.53	26.96	-0.13	21.63	53.52	26.99	-0.07	21.65	3.39	26.78	-1.46	21.50
44.53	26.95	-0.11	21.62	53.52	26.99	-0.08	21.65	3.43	26.79	-1.46	21.51
44.53	26.95	-0.10	21.61	53.52	26.97	-0.06	21.63	3.65	26.79	-1.46	21.50
44.53	26.94	-0.10	21.61	53.52	26.98	-0.06	21.64	3.91	26.78	-1.46	21.50
44.75	26.97	-0.13	21.64	53.52	26.99	-0.08	21.65	4.23	26.77	-1.45	21.49
45.48	26.97	-0.14	21.64	53.52	26.98	-0.06	21.64	4.70	26.78	-1.45	21.50
46.35	26.96	-0.13	21.63	53.52	26.99	-0.08	21.65	5.12	26.79	-1.45	21.51
46.58	26.97	-0.12	21.63	53.52	26.99	-0.08	21.65	5.53	26.78	-1.45	21.50
46.86	26.98	-0.11	21.64	53.92	27.00	-0.10	21.66	5.75	26.78	-1.45	21.50
47.56	26.98	-0.10	21.64	54.60	27.00	-0.09	21.66	6.18	26.78	-1.45	21.50
48.29	26.98	-0.10	21.64	55.46	27.00	-0.08	21.66	6.37	26.78	-1.45	21.50
49.06	26.98	-0.09	21.64	56.50	27.01	-0.07	21.66	6.71	26.79	-1.45	21.50
49.54	26.99	-0.12	21.65	57.51	27.01	-0.06	21.66	6.96	26.78	-1.45	21.50
49.55	27.00	-0.12	21.65	58.33	27.00	-0.05	21.66	7.68	26.78	-1.45	21.50
49.55	26.99	-0.11	21.65	58.43	27.02	-0.06	21.67	7.98	26.78	-1.45	21.50
49.55	26.99	-0.12	21.65	58.44	27.00	-0.05	21.65	8.34	26.78	-1.45	21.50
49.56	26.98	-0.11	21.64	58.44	26.99	-0.04	21.65	8.68	26.79	-1.44	21.51
49.56	26.99	-0.11	21.64	58.44	26.98	-0.03	21.64	9.00	26.78	-1.44	21.50
49.57	26.97	-0.09	21.63	58.45	26.98	-0.02	21.63	9.31	26.78	-1.44	21.50
49.58	26.97	-0.09	21.63	58.45	27.01	-0.05	21.66	9.62	26.79	-1.44	21.51
49.58	26.97	-0.10	21.64	58.45	26.97	-0.01	21.63	10.00	26.78	-1.44	21.50
49.58	26.97	-0.10	21.63	58.45	27.00	-0.04	21.65	10.28	26.78	-1.44	21.50
49.59	26.98	-0.10	21.64	58.45	27.00	-0.05	21.66	10.87	26.78	-1.44	21.50
49.59	26.95	-0.07	21.61	58.45	27.00	-0.05	21.65	11.11	26.78	-1.44	21.50
49.60	26.97	-0.09	21.63	58.45	26.99	-0.03	21.65	11.50	26.78	-1.44	21.50
49.60	26.97	-0.08	21.63	58.45	26.99	-0.04	21.65	12.04	26.78	-1.44	21.50
49.60	26.98	-0.10	21.64	58.46	27.01	-0.06	21.66	12.55	26.78	-1.44	21.50
49.60	26.96	-0.08	21.63	58.46	26.98	-0.03	21.64	12.89	26.77	-1.44	21.49
49.60	26.98	-0.11	21.64	58.46	26.99	-0.03	21.64	13.00	26.78	-1.44	21.50
49.60	26.97	-0.09	21.64	58.46	26.99	-0.04	21.65	13.38	26.79	-1.44	21.51
49.61	26.97	-0.09	21.63	58.46	27.00	-0.04	21.65	13.83	26.77	-1.44	21.49
49.61	26.98	-0.11	21.64	58.46	27.01	-0.06	21.67	13.97	26.77	-1.44	21.49
49.61	26.98	-0.10	21.64	58.46	27.01	-0.06	21.66	14.36	26.77	-1.44	21.49
49.71	26.99	-0.12	21.65	58.46	27.01	-0.06	21.66	14.81	26.78	-1.44	21.50
50.53	26.99	-0.11	21.65	58.46	26.99	-0.04	21.64	15.45	26.78	-1.44	21.50
51.52	27.00	-0.10	21.65	58.46	26.97	-0.01	21.63	15.71	26.78	-1.44	21.50
52.28	27.00	-0.10	21.65	58.47	27.01	-0.06	21.67	16.43	26.78	-1.44	21.50
52.98	26.99	-0.08	21.65	58.48	27.01	-0.07	21.67	16.83	26.78	-1.44	21.50
53.41	27.00	-0.10	21.66	58.69	27.02	-0.06	21.67	17.39	26.77	-1.44	21.49
53.47	27.01	-0.09	21.66	59.47	27.02	-0.06	21.67	17.70	26.77	-1.44	21.50
53.47	27.00	-0.10	21.66	60.40	27.03	-0.05	21.68	18.17	26.77	-1.43	21.50
53.47	27.00	-0.10	21.66	61.09	27.03	-0.04	21.68	18.61	26.78	-1.43	21.50
53.49	27.00	-0.10	21.66	61.78	27.04	-0.04	21.68	19.15	26.79	-1.43	21.51
53.50	26.98	-0.07	21.64	62.41	27.02	-0.02	21.67	19.56	26.77	-1.43	21.49
53.50	26.98	-0.06	21.64	62.62	27.01	0.00	21.67	19.94	26.78	-1.43	21.50
53.50	26.98	-0.07	21.64	62.88	27.01	-0.01	21.66	20.52	26.78	-1.43	21.50
53.50	26.98	-0.06	21.64					21.04	26.78	-1.44	21.50
53.50	26.98	-0.07	21.64					21.59	26.78	-1.44	21.50
53.50	26.97	-0.06	21.63					21.94	26.79	-1.44	21.51
53.51	26.99	-0.07	21.65					22.46	26.78	-1.44	21.50
53.51	26.97	-0.05	21.63					23.75	26.81	-1.43	21.52

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

Depth (m)	Salinity	Temp (°C)	Density σ_t
24.23	26.80	-1.43	21.52
25.51	26.80	-1.43	21.52
26.18	26.80	-1.43	21.52
27.16	26.80	-1.43	21.51
27.39	26.81	-1.43	21.52
28.05	26.83	-1.42	21.54
28.45	26.82	-1.41	21.53
28.98	26.89	-1.36	21.58
29.51	26.87	-1.34	21.57
30.28	26.88	-1.28	21.58
30.93	26.86	-1.27	21.56
31.41	26.88	-1.26	21.58
31.62	26.88	-1.25	21.58
32.41	26.89	-1.21	21.59
33.32	26.97	-1.08	21.65
33.90	26.96	-0.94	21.64
34.54	27.07	-0.82	21.72
35.28	27.04	-0.65	21.70
35.76	26.97	-0.56	21.64
36.58	27.00	-0.47	21.66
37.33	27.00	-0.43	21.67
37.84	27.02	-0.40	21.68
38.26	27.04	-0.35	21.69
38.50	27.01	-0.32	21.67
38.86	27.02	-0.30	21.68
39.14	27.02	-0.30	21.68
40.04	27.01	-0.29	21.67
40.96	27.03	-0.30	21.68
41.57	27.03	-0.30	21.68
42.05	27.03	-0.31	21.69
42.66	27.05	-0.30	21.70
43.49	27.06	-0.28	21.71
44.02	27.05	-0.27	21.70
44.04	27.05	-0.26	21.70

RBW - 24-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.80	23.18	-1.40	18.58
2.11	23.20	-1.40	18.60
2.88	23.24	-1.38	18.63
3.16	23.33	-1.38	18.70
3.97	23.48	-1.40	18.83
4.26	23.49	-1.39	18.84
4.67	23.49	-1.38	18.83
4.90	23.44	-1.36	18.79
5.16	23.42	-1.39	18.78

WT2 - 21-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.51	26.00	-0.67	20.86
1.60	26.05	-0.67	20.90

WT2 - 21-April-11			
Depth		Temp	Density
(m)	Salinity	(°C)	σ_t
1.71	26.02	-0.67	20.88
1.79	26.02	-0.67	20.87
1.86	26.03	-0.67	20.88
2.08	26.07	-0.67	20.92
2.12	26.06	-0.68	20.91
2.55	26.03	-0.69	20.89

[illegible]

WT4 - 23-April-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
3.89	26.85	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.84	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.85	-1.40	21.55
3.89	26.84	-1.40	21.55
3.90	26.85	-1.40	21.55
3.90	26.85	-1.40	21.55
3.93	26.85	-1.40	21.55
4.81	26.84	-1.40	21.55
4.87	26.85	-1.40	21.55
4.87	26.85	-1.40	21.55
4.87	26.85	-1.40	21.55
4.87	26.85	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.85	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.85	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.84	-1.40	21.55
4.88	26.85	-1.40	21.55
4.88	26.84	-1.40	21.55
5.65	26.84	-1.40	21.55
5.73	26.84	-1.40	21.55
5.83	26.85	-1.40	21.55
5.83	26.84	-1.40	21.55
5.84	26.84	-1.40	21.55
5.86	26.85	-1.40	21.55
5.90	26.84	-1.40	21.55
5.91	26.84	-1.40	21.55
5.91	26.84	-1.40	21.55
5.91	26.84	-1.40	21.55
5.91	26.84	-1.40	21.55
5.91	26.85	-1.40	21.55
5.92	26.84	-1.40	21.55
5.92	26.85	-1.40	21.55
5.92	26.84	-1.40	21.55
5.92	26.85	-1.40	21.55
5.92	26.84	-1.40	21.55
5.92	26.84	-1.40	21.55
5.92	26.84	-1.40	21.55
5.92	26.85	-1.40	21.55
6.76	26.84	-1.40	21.55
6.78	26.84	-1.39	21.55
6.78	26.85	-1.40	21.55
6.79	26.85	-1.40	21.55

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-April-11				WT4 - 23-April-11				WT4 - 23-April-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
6.80	26.85	-1.40	21.55	9.50	26.85	-1.40	21.55	13.69	26.85	-1.39	21.55
6.80	26.85	-1.40	21.55	9.73	26.84	-1.40	21.55	13.69	26.85	-1.39	21.56
6.80	26.85	-1.39	21.55	9.74	26.84	-1.40	21.55	13.69	26.84	-1.40	21.55
6.80	26.84	-1.40	21.55	9.78	26.85	-1.39	21.55	13.69	26.85	-1.40	21.55
6.80	26.85	-1.40	21.55	9.78	26.85	-1.39	21.55	13.69	26.85	-1.39	21.55
6.81	26.84	-1.40	21.55	9.78	26.85	-1.39	21.55	14.25	26.84	-1.40	21.55
6.81	26.85	-1.40	21.55	9.78	26.85	-1.39	21.55	15.48	26.84	-1.40	21.55
6.81	26.85	-1.40	21.55	9.78	26.85	-1.39	21.55	15.69	26.85	-1.39	21.55
6.81	26.84	-1.39	21.55	9.79	26.84	-1.40	21.55	15.73	26.85	-1.39	21.55
6.81	26.84	-1.40	21.55	9.79	26.85	-1.39	21.55	15.77	26.85	-1.39	21.56
6.81	26.84	-1.40	21.55	9.79	26.85	-1.39	21.55	15.77	26.85	-1.40	21.56
6.82	26.84	-1.40	21.55	9.79	26.84	-1.39	21.55	15.78	26.85	-1.39	21.56
6.84	26.84	-1.40	21.55	9.79	26.84	-1.39	21.55	15.78	26.85	-1.39	21.56
6.85	26.84	-1.40	21.55	9.80	26.84	-1.39	21.55	15.78	26.85	-1.39	21.56
6.85	26.85	-1.40	21.55	9.80	26.85	-1.39	21.55	15.78	26.85	-1.39	21.56
3.89	26.84	-1.40	21.55	9.80	26.85	-1.39	21.55	15.78	26.85	-1.39	21.56
3.89	26.85	-1.40	21.55	9.80	26.85	-1.39	21.55	15.78	26.85	-1.39	21.56
3.89	26.84	-1.40	21.55	10.14	26.84	-1.40	21.55	15.78	26.85	-1.40	21.56
3.90	26.85	-1.40	21.55	10.34	26.84	-1.40	21.55	15.78	26.85	-1.40	21.55
7.77	26.84	-1.40	21.55	11.70	26.84	-1.40	21.55	15.79	26.84	-1.40	21.55
7.77	26.85	-1.40	21.55	11.72	26.84	-1.40	21.55	16.40	26.84	-1.39	21.55
7.77	26.85	-1.40	21.55	11.72	26.85	-1.40	21.55	17.63	26.85	-1.39	21.56
7.77	26.85	-1.40	21.55	11.72	26.85	-1.40	21.55	17.65	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.85	-1.40	21.55	17.65	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.84	-1.40	21.55	17.65	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.85	-1.40	21.55	17.65	26.85	-1.39	21.56
7.78	26.85	-1.39	21.55	11.73	26.85	-1.39	21.56	17.65	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.85	-1.39	21.56	17.65	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.85	-1.40	21.55	17.65	26.85	-1.39	21.56
7.78	26.85	-1.39	21.55	11.73	26.85	-1.39	21.56	17.66	26.85	-1.39	21.56
7.78	26.85	-1.40	21.55	11.73	26.85	-1.39	21.56	17.67	26.85	-1.39	21.55
7.78	26.84	-1.40	21.55	11.74	26.85	-1.40	21.55	17.67	26.85	-1.39	21.55
7.79	26.85	-1.40	21.55	11.74	26.85	-1.39	21.55	17.67	26.85	-1.39	21.56
7.81	26.85	-1.40	21.55	11.74	26.85	-1.39	21.56	17.67	26.85	-1.39	21.56
7.81	26.85	-1.40	21.55	11.74	26.85	-1.39	21.55	17.69	26.85	-1.39	21.55
7.97	26.84	-1.40	21.55	11.74	26.85	-1.40	21.56	17.69	26.85	-1.39	21.56
8.80	26.85	-1.40	21.55	11.74	26.85	-1.39	21.56	17.69	26.85	-1.39	21.55
8.80	26.84	-1.40	21.55	11.74	26.85	-1.40	21.55	17.69	26.83	-1.38	21.54
8.82	26.84	-1.40	21.55	11.74	26.85	-1.39	21.56	17.69	26.85	-1.39	21.55
8.83	26.84	-1.40	21.55	11.74	26.85	-1.39	21.55	17.69	26.85	-1.39	21.55
8.84	26.84	-1.40	21.55	11.74	26.85	-1.39	21.56	17.70	26.85	-1.39	21.55
8.84	26.84	-1.40	21.55	11.92	26.84	-1.40	21.55	18.51	26.83	-1.35	21.54
8.84	26.85	-1.40	21.55	13.12	26.84	-1.39	21.55	19.41	26.87	-1.36	21.57
8.84	26.85	-1.40	21.55	13.66	26.84	-1.40	21.55	19.51	26.85	-1.34	21.56
8.84	26.85	-1.40	21.55	13.68	26.85	-1.40	21.55	19.61	26.85	-1.34	21.56
8.84	26.85	-1.40	21.55	13.69	26.85	-1.40	21.55	19.61	26.86	-1.34	21.56
8.84	26.85	-1.40	21.55	13.69	26.85	-1.40	21.55	19.61	26.85	-1.34	21.56
8.84	26.85	-1.40	21.55	13.69	26.85	-1.39	21.56	19.61	26.85	-1.34	21.56
8.84	26.85	-1.40	21.55	13.69	26.85	-1.39	21.55	19.61	26.86	-1.34	21.57
8.84	26.85	-1.40	21.55	13.69	26.85	-1.40	21.56	19.61	26.86	-1.34	21.56
8.84	26.85	-1.40	21.56	13.69	26.85	-1.40	21.55	19.61	26.86	-1.34	21.57
8.85	26.85	-1.40	21.56	13.69	26.85	-1.40	21.55	19.61	26.85	-1.34	21.56
8.85	26.85	-1.40	21.55	13.69	26.85	-1.39	21.56	19.61	26.86	-1.34	21.57
8.85	26.85	-1.40	21.55	13.69	26.84	-1.40	21.55	19.61	26.86	-1.34	21.57
8.85	26.85	-1.40	21.55	13.69	26.85	-1.40	21.55	19.61	26.86	-1.34	21.57

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-April-11				WT4 - 23-April-11				WT4 - 23-April-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
19.62	26.85	-1.34	21.56	29.52	26.88	-1.38	21.58	39.36	27.02	-0.33	21.68
19.62	26.86	-1.34	21.56	29.52	26.88	-1.38	21.58	39.36	27.01	-0.31	21.67
19.62	26.86	-1.34	21.57	29.53	26.88	-1.40	21.58	39.36	27.02	-0.32	21.67
19.62	26.86	-1.34	21.56	29.53	26.90	-1.40	21.59	39.36	27.02	-0.34	21.68
19.64	26.86	-1.34	21.56	29.53	26.90	-1.39	21.59	39.36	27.00	-0.30	21.66
20.09	26.88	-1.39	21.58	29.53	26.90	-1.40	21.60	39.36	27.02	-0.33	21.68
21.14	26.86	-1.41	21.56	29.54	26.90	-1.39	21.60	39.36	27.01	-0.31	21.67
22.29	26.85	-1.40	21.56	29.54	26.92	-1.40	21.62	39.36	27.02	-0.33	21.67
23.43	26.85	-1.39	21.56	29.54	26.90	-1.39	21.60	39.36	27.01	-0.31	21.67
24.51	26.88	-1.39	21.58	29.55	26.89	-1.39	21.59	39.36	27.00	-0.30	21.66
24.51	26.87	-1.39	21.58	29.55	26.91	-1.40	21.61	39.37	27.00	-0.30	21.66
24.51	26.86	-1.39	21.57	30.29	26.71	-1.20	21.44	40.73	27.00	-0.31	21.66
24.54	26.87	-1.40	21.57	31.56	26.65	-0.91	21.39	41.86	27.01	-0.33	21.67
24.57	26.86	-1.40	21.57	32.78	26.56	-0.42	21.31	42.83	27.01	-0.31	21.67
24.57	26.87	-1.40	21.57	33.91	27.02	-0.35	21.68	44.25	27.02	-0.30	21.67
24.57	26.89	-1.38	21.59	34.48	26.97	-0.31	21.64	44.27	27.05	-0.34	21.70
24.57	26.91	-1.38	21.60	34.48	27.01	-0.36	21.67	44.27	27.01	-0.29	21.67
24.57	26.91	-1.38	21.60	34.48	26.99	-0.33	21.65	44.30	27.05	-0.33	21.70
24.57	26.87	-1.39	21.58	34.48	26.99	-0.33	21.66	44.30	27.02	-0.31	21.68
24.58	26.89	-1.38	21.59	34.48	27.01	-0.35	21.67	44.30	27.02	-0.30	21.67
24.58	26.89	-1.39	21.59	34.49	26.99	-0.33	21.65	44.30	27.05	-0.32	21.70
24.58	26.90	-1.38	21.60	34.49	26.99	-0.33	21.66	44.30	27.02	-0.31	21.68
24.58	26.90	-1.38	21.59	34.49	27.01	-0.35	21.67	44.30	27.04	-0.32	21.69
24.58	26.91	-1.39	21.60	34.49	27.02	-0.36	21.67	44.31	27.02	-0.30	21.68
24.58	26.88	-1.39	21.58	34.49	26.98	-0.31	21.64	44.31	27.01	-0.29	21.67
24.58	26.89	-1.39	21.59	34.49	27.00	-0.34	21.66	44.61	26.99	-0.26	21.66
24.58	26.91	-1.38	21.60	34.49	27.01	-0.36	21.67	45.31	27.03	-0.25	21.69
24.58	26.90	-1.39	21.59	34.49	27.00	-0.35	21.66	46.13	27.03	-0.25	21.69
24.58	26.90	-1.38	21.60	34.49	27.01	-0.36	21.67	46.87	27.04	-0.26	21.69
24.58	26.90	-1.39	21.59	34.49	27.00	-0.34	21.66	47.94	27.05	-0.26	21.70
24.58	26.91	-1.38	21.60	34.49	26.99	-0.33	21.65	48.05	27.06	-0.27	21.71
24.58	26.88	-1.39	21.58	34.49	26.98	-0.31	21.64	48.97	27.08	-0.29	21.72
24.58	26.89	-1.39	21.59	34.49	26.98	-0.31	21.64	49.25	27.05	-0.27	21.70
24.59	26.89	-1.38	21.59	34.50	26.98	-0.31	21.64	49.27	27.05	-0.27	21.70
24.59	26.88	-1.39	21.58	34.50	26.99	-0.32	21.65	49.27	27.05	-0.25	21.70
24.59	26.91	-1.38	21.61	34.50	26.99	-0.33	21.65	49.27	27.04	-0.26	21.69
24.59	26.91	-1.38	21.61	34.50	26.98	-0.32	21.65	49.27	27.05	-0.27	21.70
24.59	26.90	-1.38	21.60	34.50	27.01	-0.36	21.67	49.27	27.04	-0.26	21.69
24.59	26.91	-1.38	21.60	34.61	26.97	-0.30	21.64	49.28	27.06	-0.27	21.71
24.59	26.91	-1.38	21.61	35.19	26.98	-0.30	21.64	49.28	27.05	-0.27	21.70
24.60	26.90	-1.39	21.60	35.33	26.99	-0.30	21.65	49.28	27.05	-0.28	21.70
25.72	26.86	-1.41	21.57	36.05	26.99	-0.31	21.65	49.28	27.05	-0.30	21.70
27.22	26.86	-1.41	21.57	36.66	26.99	-0.31	21.65	49.28	27.07	-0.31	21.72
28.31	26.86	-1.40	21.56	37.17	26.99	-0.31	21.65	49.28	27.04	-0.27	21.69
29.26	26.80	-1.33	21.51	38.03	27.01	-0.31	21.67	49.28	27.04	-0.27	21.69
29.40	26.89	-1.40	21.59	39.15	27.03	-0.34	21.69	49.28	27.04	-0.28	21.69
29.40	26.87	-1.40	21.57	39.30	27.00	-0.30	21.66	49.28	27.04	-0.27	21.70
29.40	26.87	-1.40	21.57	39.33	27.01	-0.31	21.67	49.28	27.05	-0.26	21.70
29.40	26.89	-1.40	21.59	39.34	27.01	-0.31	21.67	49.28	27.05	-0.30	21.71
29.49	26.85	-1.37	21.56	39.35	27.01	-0.31	21.67	49.28	27.05	-0.28	21.70
29.51	26.91	-1.40	21.61	39.35	27.01	-0.31	21.67	49.28	27.06	-0.30	21.71
29.51	26.91	-1.40	21.60	39.35	27.01	-0.31	21.67	49.28	27.06	-0.28	21.71
29.52	26.86	-1.38	21.57	39.35	27.02	-0.34	21.68	49.28	27.04	-0.28	21.69
29.52	26.92	-1.40	21.61	39.35	27.00	-0.30	21.66	49.28	27.04	-0.28	21.69
29.52	26.90	-1.40	21.60	39.35	27.01	-0.32	21.67	49.28	27.07	-0.29	21.72

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
49.29	27.04	-0.29	21.69
49.29	27.05	-0.25	21.70
49.29	27.07	-0.29	21.72
49.29	27.05	-0.29	21.70
49.29	27.05	-0.27	21.70
49.46	27.05	-0.26	21.70
49.88	27.05	-0.26	21.70
50.12	27.04	-0.26	21.69

WT6 - 23-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.56	26.84	-1.41	21.55
1.82	26.84	-1.41	21.55
1.82	26.84	-1.41	21.55
1.83	26.84	-1.41	21.55
1.83	26.84	-1.41	21.55
1.83	26.84	-1.41	21.55
1.83	26.84	-1.42	21.55
1.83	26.84	-1.42	21.55
1.83	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.85	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.84	26.84	-1.41	21.55
1.85	26.84	-1.41	21.55
1.86	26.84	-1.41	21.55
2.03	26.84	-1.41	21.55
2.81	26.84	-1.41	21.55
2.85	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.86	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.87	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.88	26.84	-1.41	21.55
2.89	26.84	-1.41	21.55
3.29	26.84	-1.41	21.55

WT6 - 23-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
3.77	26.84	-1.41	21.55
3.86	26.84	-1.41	21.55
3.86	26.85	-1.41	21.55
3.92	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.85	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.93	26.84	-1.41	21.55
3.94	26.84	-1.41	21.55
3.94	26.84	-1.41	21.55
3.95	26.84	-1.41	21.55
3.96	26.84	-1.41	21.55
3.97	26.84	-1.41	21.55
4.01	26.84	-1.41	21.55
4.73	26.84	-1.41	21.55
4.76	26.84	-1.41	21.55
4.77	26.84	-1.41	21.55
4.77	26.84	-1.41	21.55
4.78	26.84	-1.41	21.55
4.78	26.84	-1.41	21.55
4.79	26.84	-1.41	21.55
4.79	26.84	-1.41	21.55
4.79	26.85	-1.41	21.55
4.79	26.84	-1.41	21.55
4.79	26.84	-1.41	21.55
4.79	26.84	-1.41	21.55
4.80	26.84	-1.41	21.55
4.80	26.84	-1.41	21.55
4.80	26.84	-1.41	21.55
4.81	26.84	-1.41	21.55
5.34	26.84	-1.41	21.55
5.74	26.84	-1.41	21.55
5.75	26.84	-1.41	21.55
5.75	26.84	-1.41	21.55
5.75	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.76	26.84	-1.41	21.55
5.77	26.84	-1.41	21.55
5.77	26.84	-1.41	21.55
5.78	26.84	-1.41	21.55
5.78	26.84	-1.41	21.55
5.78	26.84	-1.41	21.55
5.78	26.84	-1.41	21.55
5.79	26.84	-1.41	21.55
5.81	26.84	-1.41	21.55
5.82	26.84	-1.41	21.55
5.84	26.84	-1.41	21.55

WT6 - 23-April-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
6.73	26.85	-1.41	21.55
6.77	26.84	-1.41	21.55
6.78	26.84	-1.41	21.55
6.78	26.84	-1.41	21.55
6.79	26.84	-1.41	21.55
6.79	26.84	-1.41	21.55
6.81	26.84	-1.41	21.55
6.87	26.85	-1.41	21.55
6.87	26.85	-1.41	21.55
6.88	26.84	-1.41	21.55
6.89	26.84	-1.41	21.55
6.89	26.84	-1.41	21.55
6.89	26.84	-1.41	21.55
6.90	26.84	-1.41	21.55
7.06	26.84	-1.41	21.55
7.59	26.84	-1.41	21.55
7.78	26.84	-1.41	21.55
7.79	26.85	-1.41	21.55
7.79	26.84	-1.41	21.55
3.96	26.84	-1.41	21.55
3.97	26.84	-1.41	21.55
4.01	26.84	-1.41	21.55
4.73	26.84	-1.41	21.55
7.81	26.84	-1.41	21.55
7.81	26.84	-1.41	21.55
8.65	26.84	-1.41	21.55
8.67	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.68	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
8.69	26.84	-1.41	21.55
9.10	26.84	-1.41	21.55
9.64	26.84	-1.41	21.55
9.66	26.84	-1.41	21.55
9.66	26.84	-1.41	21.55
9.67	26.84	-1.41	21.55
9.67	26.84	-1.41	21.55
9.68	26.84	-1.40	21.55
9.69	26.84	-1.41	21.55
9.69	26.84	-1.40	21.55
9.70	26.84	-1.41	21.55

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT6 - 23-April-11				WT6 - 23-April-11				WT6 - 23-April-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
9.70	26.84	-1.41	21.55	15.62	26.84	-1.40	21.55	24.40	26.84	-1.38	21.55
9.70	26.84	-1.40	21.55	15.62	26.84	-1.40	21.55	24.41	26.84	-1.38	21.55
9.70	26.84	-1.40	21.55	15.62	26.84	-1.40	21.55	24.42	26.84	-1.38	21.55
9.70	26.84	-1.40	21.55	15.62	26.84	-1.39	21.55	24.42	26.85	-1.38	21.55
9.71	26.84	-1.40	21.55	15.63	26.84	-1.40	21.55	24.42	26.84	-1.37	21.55
9.71	26.84	-1.41	21.55	15.63	26.84	-1.40	21.55	24.42	26.84	-1.38	21.55
9.71	26.84	-1.41	21.55	16.59	26.84	-1.40	21.54	24.42	26.85	-1.38	21.55
9.71	26.84	-1.41	21.55	17.48	26.84	-1.39	21.54	24.43	26.85	-1.38	21.56
9.72	26.84	-1.40	21.55	17.50	26.84	-1.40	21.55	24.43	26.85	-1.37	21.55
9.74	26.84	-1.41	21.55	17.54	26.84	-1.39	21.55	24.43	26.85	-1.37	21.56
10.98	26.84	-1.41	21.55	17.54	26.84	-1.40	21.55	24.44	26.81	-1.36	21.53
11.70	26.84	-1.40	21.55	17.54	26.84	-1.40	21.55	24.44	26.85	-1.37	21.55
11.70	26.84	-1.41	21.55	17.55	26.84	-1.39	21.55	24.46	26.84	-1.37	21.55
11.71	26.84	-1.40	21.55	17.55	26.84	-1.40	21.55	24.48	26.84	-1.37	21.55
11.71	26.84	-1.41	21.55	17.55	26.84	-1.39	21.55	24.49	26.85	-1.37	21.55
11.71	26.84	-1.40	21.55	17.55	26.84	-1.40	21.55	24.50	26.83	-1.38	21.54
11.71	26.84	-1.40	21.55	17.55	26.84	-1.39	21.55	24.50	26.84	-1.37	21.55
11.71	26.84	-1.41	21.55	17.55	26.84	-1.39	21.55	24.50	26.84	-1.37	21.55
11.71	26.84	-1.40	21.55	17.56	26.84	-1.39	21.55	24.50	26.84	-1.38	21.55
11.72	26.84	-1.40	21.55	17.56	26.84	-1.40	21.55	24.50	26.84	-1.37	21.55
11.72	26.84	-1.40	21.55	17.56	26.84	-1.39	21.55	24.51	26.85	-1.36	21.56
11.72	26.84	-1.40	21.55	17.56	26.84	-1.40	21.55	24.53	26.84	-1.37	21.55
11.72	26.84	-1.41	21.55	17.56	26.84	-1.40	21.55	25.53	26.82	-1.38	21.54
11.72	26.84	-1.41	21.55	17.56	26.84	-1.40	21.55	26.61	26.82	-1.36	21.53
11.74	26.84	-1.41	21.55	17.56	26.84	-1.39	21.55	27.96	26.81	-1.33	21.53
11.80	26.84	-1.41	21.55	17.57	26.84	-1.39	21.55	29.24	26.84	-1.27	21.54
13.26	26.84	-1.40	21.55	18.06	26.83	-1.39	21.54	29.26	26.83	-1.30	21.54
13.45	26.84	-1.41	21.55	19.46	26.83	-1.38	21.54	29.31	26.92	-1.16	21.61
13.53	26.84	-1.41	21.55	19.47	26.84	-1.40	21.55	29.33	26.89	-1.24	21.59
13.55	26.84	-1.40	21.55	19.48	26.84	-1.40	21.55	29.33	26.74	-0.96	21.47
13.56	26.84	-1.41	21.55	19.48	26.85	-1.38	21.55	29.34	26.92	-1.14	21.61
13.58	26.84	-1.41	21.55	19.49	26.84	-1.39	21.55	29.36	26.85	-1.25	21.56
13.58	26.84	-1.41	21.55	19.49	26.84	-1.39	21.55	29.36	26.92	-1.25	21.61
13.59	26.84	-1.41	21.55	19.49	26.84	-1.39	21.55	29.37	26.94	-1.24	21.63
13.59	26.84	-1.40	21.55	19.49	26.85	-1.39	21.55	29.37	26.88	-1.20	21.58
13.59	26.84	-1.40	21.55	19.49	26.84	-1.39	21.55	29.37	26.91	-1.24	21.60
13.59	26.84	-1.40	21.55	19.50	26.84	-1.39	21.55	29.37	26.93	-1.24	21.62
13.59	26.84	-1.40	21.55	19.53	26.83	-1.38	21.54	29.37	26.90	-1.23	21.60
13.60	26.84	-1.40	21.55	19.53	26.84	-1.40	21.55	29.37	26.93	-1.25	21.62
13.60	26.84	-1.40	21.55	19.56	26.84	-1.40	21.55	29.38	26.88	-1.01	21.57
13.60	26.84	-1.40	21.55	19.56	26.84	-1.39	21.55	29.38	26.84	-1.02	21.54
13.60	26.84	-1.40	21.55	19.56	26.85	-1.38	21.55	29.38	26.93	-1.26	21.62
13.60	26.84	-1.40	21.55	19.56	26.85	-1.38	21.55	29.38	26.87	-1.10	21.57
13.60	26.84	-1.40	21.55	19.56	26.85	-1.38	21.55	29.39	26.84	-1.06	21.54
13.60	26.84	-1.40	21.55	19.57	26.84	-1.39	21.55	29.43	26.83	-1.14	21.54
14.23	26.84	-1.40	21.55	19.57	26.84	-1.39	21.55	29.86	26.89	-0.62	21.58
15.48	26.84	-1.40	21.55	19.57	26.85	-1.38	21.55	31.51	26.89	-0.61	21.58
15.58	26.83	-1.39	21.54	19.57	26.84	-1.39	21.55	32.97	26.90	-0.49	21.58
15.61	26.84	-1.40	21.55	19.58	26.85	-1.38	21.55	34.15	26.92	-0.47	21.60
15.61	26.84	-1.40	21.55	19.58	26.85	-1.38	21.56	34.15	26.92	-0.47	21.60
15.61	26.84	-1.40	21.55	19.58	26.85	-1.38	21.56	34.15	26.92	-0.47	21.60
15.61	26.84	-1.40	21.55	19.59	26.85	-1.38	21.56	34.16	26.91	-0.48	21.60
15.62	26.84	-1.40	21.55	20.25	26.83	-1.39	21.54	34.16	26.92	-0.47	21.60
15.62	26.84	-1.40	21.55	21.72	26.83	-1.39	21.54	34.17	26.92	-0.47	21.60
15.62	26.84	-1.40	21.55	23.06	26.82	-1.38	21.53	34.17	26.92	-0.47	21.60

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT6 - 23-April-11				WT6 - 23-April-11				WT6 - 23-April-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
34.17	26.92	-0.48	21.60	44.13		-0.23	-0.17	53.10		-0.31	-0.18
34.18	26.93	-0.47	21.60	44.13		-0.22	-0.17	53.10		-0.31	-0.18
34.18	26.92	-0.48	21.60	44.13		-0.23	-0.17	53.46		-0.27	-0.18
34.18	26.92	-0.48	21.60	44.13		-0.22	-0.17	54.17		-0.26	-0.18
34.18	26.92	-0.48	21.60	44.13		-0.23	-0.17	54.29		-0.25	-0.17
34.19	26.92	-0.48	21.60	44.13		-0.24	-0.17	55.03		-0.23	-0.17
34.22	26.92	-0.47	21.60	44.13		-0.23	-0.17	56.46		-0.26	-0.18
34.23	26.92	-0.48	21.60	44.13		-0.23	-0.17	57.41		-0.24	-0.17
34.23	26.91	-0.47	21.59	44.13		-0.22	-0.17	57.51		-0.25	-0.18
34.23	26.91	-0.47	21.59	44.13		-0.22	-0.17	57.84		-0.27	-0.18
34.23	26.91	-0.47	21.59	44.13		-0.22	-0.17	57.85		-0.27	-0.18
34.23	26.92	-0.47	21.60	44.13		-0.22	-0.17	57.86		-0.27	-0.18
34.23	26.91	-0.47	21.60	44.13		-0.24	-0.17	57.86		-0.28	-0.18
34.23	26.91	-0.47	21.59	44.13		-0.23	-0.17	57.86		-0.27	-0.18
34.23	26.91	-0.47	21.59	44.14		-0.24	-0.17	57.86		-0.28	-0.18
34.23	26.92	-0.47	21.60	44.14		-0.24	-0.17	57.87		-0.27	-0.18
34.24	26.92	-0.47	21.60	44.15		-0.23	-0.17	58.04		-0.30	-0.18
34.25	26.88	-0.43	21.57	45.21		-0.24	-0.17	58.06		-0.25	-0.18
34.26	26.93	-0.48	21.61	46.45		-0.25	-0.17	58.07		-0.28	-0.18
34.26	26.93	-0.48	21.61	47.78		-0.26	-0.18	58.08		-0.26	-0.18
34.27	26.93	-0.48	21.61	48.98		-0.24	-0.17	58.08		-0.25	-0.18
34.27	26.92	-0.48	21.60	49.10		-0.23	-0.17	58.08		-0.26	-0.18
34.34	26.90	-0.47	21.59	49.11		-0.25	-0.18	58.08		-0.25	-0.18
34.36	26.90	-0.46	21.59	49.11		-0.24	-0.17	58.40		-0.25	-0.17
35.12	26.83	-0.29	21.53	49.11		-0.25	-0.17	59.30		-0.26	-0.18
36.59	26.95	-0.26	21.62	49.11		-0.25	-0.17	60.01			-0.16
37.95	26.96	-0.25	21.63	49.11		-0.23	-0.17	60.80			-0.16
39.16	26.94	-0.25	21.61	49.11		-0.24	-0.17	61.52			-0.16
39.17	26.93	-0.25	21.61	49.11		-0.25	-0.18	62.70			-0.16
39.17	26.96	-0.25	21.63	49.11		-0.25	-0.17	62.84			-0.16
39.17	26.94	-0.25	21.61	49.11		-0.26	-0.18	62.91			-0.16
39.17	26.96	-0.25	21.63	49.12		-0.23	-0.17	62.91			-0.16
39.17	26.95	-0.25	21.62	49.12		-0.25	-0.17	62.91			-0.16
39.18	26.95	-0.25	21.62	49.12		-0.25	-0.17	62.98			-0.16
39.18	26.93	-0.25	21.60	49.12		-0.26	-0.18	62.98			-0.16
39.18	26.95	-0.25	21.62	49.12		-0.25	-0.17	62.98			-0.16
39.19	26.97	-0.25	21.64	49.12		-0.24	-0.17	62.98			-0.16
39.19	26.90	-0.25	21.58	49.12		-0.25	-0.17	63.01			-0.16
39.20	26.89	-0.24	21.57	49.12		-0.25	-0.18	63.01			-0.16
39.21	26.90	-0.24	21.58	49.12		-0.25	-0.17	63.03			-0.16
39.22		-0.24	-0.17	49.13		-0.25	-0.17	63.04			-0.16
39.22		-0.24	-0.17	49.38		-0.26	-0.18	63.12			-0.16
39.22	26.91	-0.24	21.58	50.26		-0.31	-0.18	63.12			-0.16
39.42		-0.22	-0.17	51.53		-0.33	-0.18	63.12			-0.16
40.81		-0.22	-0.17	52.91		-0.34	-0.18	63.15			-0.16
42.31		-0.22	-0.17	53.02		-0.33	-0.18	63.24			-0.16
43.81		-0.23	-0.17	53.05		-0.33	-0.18	63.25			-0.16
44.07		-0.22	-0.17	53.06		-0.33	-0.18	63.25			-0.16
44.11		-0.22	-0.17	53.06		-0.33	-0.18	63.25			-0.16
44.11		-0.22	-0.17	53.06		-0.34	-0.18	63.25			-0.16
44.12		-0.23	-0.17	53.07		-0.31	-0.18	63.25			-0.16
44.12		-0.23	-0.17	53.08		-0.33	-0.18	64.61			-0.16
44.12		-0.23	-0.17	53.09		-0.31	-0.18	65.83			-0.16
44.12		-0.23	-0.17	53.09		-0.32	-0.18	65.92			-0.16
44.12		-0.23	-0.17	53.09		-0.30	-0.18	65.99			-0.16
44.12		-0.23	-0.17	53.09		-0.32	-0.18	66.00			-0.16

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT8 - 21-April-11				WT8 - 21-April-2011				WT2 - 20-May-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
1.21	26.83	-1.44	21.54	28.42	26.96	-0.87	21.64	1.96	26.96	-1.45	21.65
1.67	26.87	-1.44	21.58	28.42	26.97	-0.88	21.64	1.97	26.93	-1.42	21.62
1.69	26.88	-1.44	21.58	28.43	26.96	-0.88	21.64	1.97	26.93	-1.42	21.62
1.71	26.87	-1.44	21.58	28.44	26.96	-0.90	21.64	1.97	26.93	-1.41	21.62
1.89	26.88	-1.44	21.58	28.67	26.97	-0.87	21.65	1.98	26.93	-1.41	21.62
2.29	26.88	-1.44	21.58	28.69	26.98	-0.88	21.66	1.97	26.93	-1.41	21.62
2.30	26.89	-1.45	21.59	29.70	26.96	-0.89	21.64	1.97	26.92	-1.41	21.62
2.30	26.88	-1.44	21.58	29.82	26.94	-0.84	21.62	1.97	26.93	-1.41	21.62
2.31	26.88	-1.45	21.58	31.24	26.96	-0.77	21.63	1.97	26.93	-1.41	21.62
2.38	26.87	-1.44	21.58	32.59	27.00	-0.76	21.67	1.97	26.92	-1.41	21.61
2.41	26.88	-1.44	21.58	32.59	26.98	-0.77	21.65	1.98	26.92	-1.41	21.61
3.30	26.87	-1.44	21.58	32.60	26.99	-0.76	21.67	1.97	26.92	-1.40	21.61
3.35	26.87	-1.44	21.58	32.76	27.02	-0.79	21.69	1.97	26.92	-1.40	21.61
3.36	26.88	-1.44	21.58	32.80	27.03	-0.81	21.69	1.98	26.92	-1.40	21.61
4.37	26.87	-1.44	21.58	32.87	27.00	-0.79	21.67	2.09	26.90	-1.40	21.60
5.87	26.88	-1.44	21.58	32.96	27.00	-0.77	21.67	2.17	26.91	-1.40	21.60
5.87	26.87	-1.44	21.58	33.63	26.99	-0.83	21.67	2.25	26.90	-1.40	21.60
6.52	26.88	-1.44	21.58	33.64	27.02	-0.83	21.69	2.26	26.90	-1.40	21.60
8.46	26.88	-1.44	21.58	33.64	26.98	-0.84	21.66	2.39	26.90	-1.40	21.60
8.51	26.88	-1.44	21.58	33.70	27.02	-0.87	21.69	2.45	26.90	-1.40	21.60
9.47	26.88	-1.44	21.58	33.82	27.02	-0.85	21.69				
10.78	26.89	-1.45	21.59	33.98	27.03	-0.85	21.70				
10.80	26.88	-1.44	21.58	33.99	26.99	-0.78	21.66				
10.83	26.88	-1.44	21.58	33.99	27.03	-0.82	21.70				
12.25	26.88	-1.44	21.58	34.00	27.02	-0.87	21.69				
13.01	26.87	-1.43	21.58	34.04	26.99	-0.85	21.67				
13.02	26.89	-1.44	21.59	34.56	27.02	-0.73	21.69				
13.04	26.86	-1.41	21.56	35.22	27.02	-0.72	21.69				
14.15	26.90	-1.39	21.59	35.83	27.03	-0.72	21.70				
14.88	26.90	-1.40	21.60	36.98	26.96	-0.74	21.64				
14.89	26.90	-1.39	21.59	37.33		-0.70					
14.89	26.90	-1.40	21.60	37.36		-0.69					
14.99	26.90	-1.40	21.60	37.56		-0.68					
16.98	26.89	-1.41	21.59	37.67		-0.83					
17.00	26.89	-1.40	21.59	37.76		-0.61					
17.02	26.90	-1.41	21.60	37.80		-0.60					
17.06	26.88	-1.39	21.58	37.81		-0.72					
17.06	26.90	-1.41	21.60	37.82		-0.76					
17.07	26.90	-1.42	21.60	37.83		-0.82					
17.79	26.85	-1.36	21.56	37.84		-0.68					
19.21	26.80	-1.27	21.52	37.87		-0.79					
21.52	26.78	-0.97	21.50	37.87		-0.74					
22.71	26.93	-0.92	21.62	38.39		-0.62					
22.72	26.94	-0.95	21.62	38.72		-0.62					
22.73	26.94	-0.96	21.62	39.37		-0.64					
22.73	26.94	-0.94	21.62	40.75		-0.76					
22.75	26.92	-0.90	21.61	40.79		-0.67					
22.95	26.89	-0.85	21.58								
23.84	26.96	-0.81	21.64								
25.93	26.98	-0.84	21.66								
27.95	26.97	-0.87	21.65								
28.12	27.00	-0.89	21.67								
28.39	26.97	-0.87	21.65								
28.41	26.96	-0.87	21.64								
28.41	26.96	-0.87	21.64								

WT2 - 20-May-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.46	27.00	-1.48	21.68
1.66	26.94	-1.47	21.63
1.90	26.96	-1.47	21.65

WT3 - 20-May-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.79	26.49	-0.83	21.26
1.80	26.62	-1.09	21.37
1.79	26.75	-1.19	21.47
1.84	26.85	-1.24	21.56
1.94	26.85	-1.25	21.56
2.03	26.84	-1.27	21.55
2.03	26.86	-1.28	21.57
2.18	26.88	-1.28	21.58
2.18	26.88	-1.28	21.58
2.20	26.92	-1.28	21.61
2.18	26.92	-1.28	21.61
2.16	26.92	-1.28	21.61
2.16	26.97	-1.28	21.65
2.16	26.99	-1.27	21.67
2.17	27.02	-1.26	21.69
2.17	27.04	-1.26	21.71
2.17	27.06	-1.25	21.72
2.17	27.08	-1.24	21.74
2.17	27.11	-1.26	21.76
2.18	27.00	-1.27	21.68
2.18	27.08	-1.29	21.74
2.18	27.12	-1.29	21.77
2.17	27.15	-1.28	21.80
2.17	27.17	-1.27	21.82
2.18	27.19	-1.26	21.83
2.17	26.88	-1.28	21.58
2.17	26.89	-1.29	21.59
2.16	26.90	-1.30	21.60
2.18	26.88	-1.30	21.58
2.18	26.89	-1.30	21.59

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT3 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
2.18	26.89	-1.30	21.59
2.19	26.88	-1.30	21.58
2.19	26.90	-1.30	21.60
2.12	26.86	-1.30	21.56
2.42	26.85	-1.30	21.55
2.51	26.85	-1.31	21.55
2.91	26.85	-1.31	21.56
3.34	26.86	-1.31	21.56
3.78	26.85	-1.31	21.56
4.12	26.86	-1.31	21.56
4.44	26.85	-1.31	21.56
4.82	26.86	-1.31	21.56
5.13	26.86	-1.31	21.57
5.41	26.88	-1.30	21.58
5.68	26.87	-1.29	21.57
6.11	26.85	-1.29	21.56
6.57	26.86	-1.29	21.56
7.04	26.86	-1.28	21.56
7.33	26.86	-1.28	21.56
7.65	26.87	-1.28	21.57
7.98	26.87	-1.28	21.57
8.31	26.86	-1.27	21.56
8.59	26.86	-1.27	21.57
8.93	26.86	-1.27	21.56
9.28	26.86	-1.27	21.56
9.92	26.87	-1.26	21.57
10.25	26.86	-1.25	21.57
10.67	26.86	-1.25	21.57
11.11	26.87	-1.24	21.58
11.52	26.87	-1.23	21.57

WT4 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.73	26.54	-0.97	21.30
1.92	26.68	-1.11	21.42
1.98	26.74	-1.20	21.46
1.93	26.79	-1.23	21.50
1.93	26.83	-1.23	21.54
1.93	26.85	-1.23	21.56
1.92	26.84	-1.23	21.55
1.97	26.82	-1.24	21.53
1.99	26.87	-1.25	21.57
2.12	26.82	-1.24	21.53
2.13	26.80	-1.25	21.51
2.13	26.80	-1.27	21.51
2.32	26.82	-1.29	21.53
2.44	26.82	-1.30	21.53
2.50	26.82	-1.30	21.54
2.61	26.83	-1.30	21.54
2.72	26.83	-1.31	21.54
2.86	26.83	-1.31	21.54
2.98	26.83	-1.31	21.54
3.07	26.83	-1.31	21.54

WT4 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
3.20	26.83	-1.31	21.54
3.34	26.84	-1.32	21.54
3.48	26.84	-1.32	21.55
3.56	26.85	-1.32	21.56
3.61	26.87	-1.31	21.57
3.55	26.86	-1.31	21.56
3.56	26.89	-1.31	21.59
3.57	26.90	-1.30	21.60
3.07	26.83	-1.30	21.54
2.43	26.84	-1.31	21.54
2.35	26.85	-1.32	21.55
2.35	26.85	-1.31	21.56
2.36	26.86	-1.30	21.56
2.36	26.87	-1.30	21.58
2.35	26.88	-1.30	21.58
2.36	26.90	-1.30	21.60
2.35	26.91	-1.31	21.61
2.35	26.92	-1.31	21.62
2.36	26.93	-1.30	21.62
2.35	26.94	-1.29	21.63
2.35	26.95	-1.28	21.64
2.36	26.96	-1.28	21.64
2.36	26.97	-1.28	21.65
2.36	26.98	-1.27	21.66
2.24	26.85	-1.28	21.56
2.31	26.85	-1.30	21.56
2.57	26.85	-1.31	21.55
2.81	26.86	-1.32	21.56
2.99	26.86	-1.32	21.57
3.12	26.86	-1.32	21.56
3.40	26.85	-1.32	21.55
3.62	26.84	-1.32	21.55
3.91	26.85	-1.33	21.56
4.21	26.85	-1.33	21.56
4.62	26.85	-1.33	21.55
4.95	26.85	-1.34	21.56
5.11	26.86	-1.34	21.56
5.38	26.85	-1.35	21.56
5.79	26.85	-1.35	21.56
6.07	26.86	-1.35	21.56
6.42	26.85	-1.35	21.56
6.53	26.86	-1.35	21.57
6.75	26.86	-1.35	21.56
7.13	26.86	-1.35	21.56
7.50	26.86	-1.35	21.56
7.69	26.85	-1.35	21.56
8.15	26.86	-1.35	21.56
8.62	26.85	-1.35	21.56
9.07	26.86	-1.35	21.56
9.46	26.86	-1.35	21.56
9.73	26.86	-1.35	21.57
10.06	26.85	-1.35	21.56
10.42	26.86	-1.35	21.56
10.68	26.86	-1.35	21.56
11.05	26.86	-1.35	21.56

WT4 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
11.41	26.86	-1.36	21.57
11.83	26.86	-1.36	21.56
12.19	26.86	-1.36	21.57
12.62	26.86	-1.35	21.57
13.03	26.86	-1.36	21.57
13.47	26.86	-1.36	21.57
13.91	26.86	-1.36	21.56
14.34	26.86	-1.36	21.56
14.76	26.86	-1.36	21.57
15.24	26.88	-1.36	21.58
15.69	26.93	-1.33	21.62
16.14	26.94	-1.26	21.63
16.45	26.91	-1.20	21.61
16.47	26.89	-1.17	21.59
16.46	26.88	-1.16	21.58
16.47	26.88	-1.18	21.58
16.34	26.88	-1.18	21.58
16.51	26.89	-1.18	21.59
16.80	26.90	-1.16	21.59
17.30	26.94	-1.13	21.63
17.78	26.94	-1.05	21.63
18.33	26.98	-1.01	21.65
18.85	26.95	-0.95	21.63
19.23	26.98	-0.89	21.65
19.58	27.00	-0.83	21.67
20.12	26.97	-0.75	21.65
20.48	26.94	-0.71	21.62
20.75	26.93	-0.69	21.62
21.09	26.90	-0.68	21.59
21.79	26.76	-0.75	21.47
22.37	26.87	-0.88	21.57
22.93	26.91	-0.91	21.60
23.66	26.91	-0.92	21.60
24.18	26.91	-0.94	21.60
24.69	26.93	-0.91	21.62
25.23	26.95	-0.89	21.64
25.69	26.94	-0.83	21.62
26.12	27.05	-0.71	21.71
26.66	27.12	-0.61	21.76
4.95	26.85	-1.34	21.56
5.11	26.86	-1.34	21.56
5.38	26.85	-1.35	21.56
5.79	26.85	-1.35	21.56
6.07	26.86	-1.35	21.56
6.42	26.85	-1.35	21.56
6.53	26.86	-1.35	21.57
6.75	26.86	-1.35	21.56
7.13	26.86	-1.35	21.56
7.50	26.86	-1.35	21.56
7.69	26.85	-1.35	21.56
8.15	26.86	-1.35	21.56
8.62	26.85	-1.35	21.56
9.07	26.86	-1.35	21.56
9.46	26.86	-1.35	21.56
9.73	26.86	-1.35	21.57
10.06	26.85	-1.35	21.56
10.42	26.86	-1.35	21.56
10.68	26.86	-1.35	21.56
11.05	26.86	-1.35	21.56

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT4 - 20-May-2011				WT5 - 20-May-2011				WT5 - 20-May-2011			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
33.92	26.98	-0.39	21.65	3.06	26.86	-1.34	21.56	21.99	26.91	-1.29	21.60
34.48	27.01	-0.37	21.67	3.35	26.86	-1.34	21.56	22.75	26.94	-1.26	21.62
34.95	27.01	-0.35	21.67	3.54	26.86	-1.34	21.56	23.31	26.90	-1.24	21.60
34.96	26.99	-0.34	21.65	3.83	26.86	-1.35	21.57	23.88	26.90	-1.24	21.60
35.52	26.99	-0.34	21.66	4.10	26.86	-1.35	21.57	24.41	26.91	-1.23	21.60
35.93	26.98	-0.35	21.64	4.36	26.86	-1.35	21.57	25.05	26.97	-1.22	21.65
36.35	26.98	-0.37	21.65	4.64	26.87	-1.35	21.57	25.66	26.97	-1.16	21.65
36.74	26.98	-0.38	21.64	4.87	26.87	-1.35	21.57	25.94	27.05	-1.12	21.71
37.32	26.97	-0.41	21.64	4.87	26.87	-1.35	21.57	26.47	27.10	-1.00	21.75
37.85	27.00	-0.41	21.66	4.89	26.87	-1.34	21.58	27.04	27.06	-0.81	21.72
38.13	26.99	-0.41	21.65	4.89	26.87	-1.34	21.57	27.75	27.01	-0.74	21.68
38.85	27.03	-0.40	21.69	4.89	26.88	-1.33	21.58	28.33	26.99	-0.69	21.66
39.41	27.02	-0.37	21.68	5.13	26.86	-1.34	21.56	28.85	27.03	-0.64	21.69
39.76	27.01	-0.36	21.67	5.36	26.86	-1.34	21.57	29.66	27.05	-0.53	21.70
40.23	27.01	-0.36	21.67	5.64	26.86	-1.34	21.57	30.53	27.02	-0.46	21.68
40.62	27.03	-0.35	21.69	5.86	26.86	-1.34	21.57	31.24	27.01	-0.42	21.67
40.60	27.01	-0.34	21.67	5.97	26.86	-1.35	21.57	32.03	27.01	-0.39	21.67
41.29	27.03	-0.32	21.68	6.29	26.86	-1.35	21.56	32.83	27.00	-0.36	21.66
41.63	27.02	-0.31	21.67	6.53	26.86	-1.35	21.57	33.47	26.98	-0.35	21.65
42.14	27.01	-0.31	21.67	6.81	26.86	-1.35	21.57	34.29	26.97	-0.37	21.64
42.44	27.01	-0.31	21.67	7.11	26.87	-1.35	21.57	35.07	27.00	-0.37	21.66
42.66	27.02	-0.30	21.67	7.43	26.87	-1.35	21.57	36.04	27.00	-0.37	21.66
43.28	27.00	-0.31	21.66	7.72	26.87	-1.35	21.57	36.75	27.02	-0.36	21.68
43.76	27.02	-0.32	21.68	7.99	26.86	-1.35	21.57	37.61	27.02	-0.34	21.68
44.36	27.02	-0.31	21.68	8.30	26.87	-1.35	21.57	38.46	27.01	-0.32	21.67
45.08	27.02	-0.32	21.68	8.54	26.87	-1.35	21.57	39.26	27.03	-0.31	21.69
45.76	27.03	-0.31	21.69	8.76	26.87	-1.35	21.57	40.11	27.00	-0.30	21.66
46.40	27.03	-0.30	21.69	8.75	26.86	-1.35	21.57	41.05	27.00	-0.32	21.66
46.92	27.03	-0.30	21.68	8.79	26.86	-1.35	21.57	41.81	27.01	-0.32	21.67
47.39	27.02	-0.30	21.68	8.81	26.87	-1.35	21.57	42.34	27.01	-0.32	21.67
48.06	27.03	-0.30	21.68	8.87	26.87	-1.35	21.57	43.14	27.02	-0.31	21.68
48.65	27.02	-0.30	21.68	8.97	26.87	-1.35	21.57	43.98	27.02	-0.30	21.68
49.13	27.03	-0.30	21.69	9.03	26.87	-1.34	21.57	44.39	27.02	-0.29	21.68
				9.09	26.87	-1.34	21.57	44.96	27.00	-0.30	21.66
				9.17	26.88	-1.34	21.58	45.42	27.03	-0.32	21.69
				9.24	26.89	-1.34	21.59	45.93	27.02	-0.31	21.68
				9.34	26.88	-1.33	21.58	46.39	27.02	-0.31	21.67
				9.49	26.87	-1.32	21.57	46.66	27.02	-0.31	21.68
				9.91	26.87	-1.30	21.57	46.99	27.02	-0.31	21.68
				10.15	26.87	-1.30	21.57	47.35	27.02	-0.31	21.68
				10.59	26.88	-1.28	21.58	47.68	27.03	-0.31	21.68
				11.26	26.90	-1.28	21.60	48.16	27.03	-0.30	21.68
				11.62	26.90	-1.25	21.59	9.91	26.87	-1.30	21.57
				11.97	26.89	-1.24	21.58	10.15	26.87	-1.30	21.57
				12.78	26.78	-1.25	21.50	10.59	26.88	-1.28	21.58
				13.60	26.83	-1.33	21.54	11.26	26.90	-1.28	21.60
				14.34	26.87	-1.36	21.57	50.37	27.04	-0.27	21.70
				15.29	26.86	-1.34	21.56	50.76	27.04	-0.26	21.69
				16.04	26.89	-1.35	21.58	50.97	27.04	-0.26	21.69
				17.10	26.88	-1.27	21.58	51.33	27.03	-0.25	21.69
				17.85	26.88	-1.28	21.58	51.73	27.01	-0.26	21.67
				18.53	26.88	-1.30	21.58	52.12	27.01	-0.28	21.67
				19.31	26.89	-1.30	21.59	52.58	27.03	-0.29	21.69
				20.38	26.90	-1.30	21.59	53.06	27.03	-0.29	21.68
				21.02	26.89	-1.30	21.59	53.44	27.04	-0.30	21.69

WT5 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.64	26.81	-1.31	21.53
1.97	26.84	-1.32	21.54
2.34	26.84	-1.32	21.55
2.32	26.85	-1.31	21.55
2.30	26.85	-1.31	21.55
2.55	26.84	-1.32	21.55
2.58	26.85	-1.32	21.55
2.62	26.86	-1.32	21.56
2.63	26.86	-1.32	21.56
2.64	26.86	-1.31	21.57
2.65	26.87	-1.31	21.57
2.65	26.87	-1.30	21.57
2.67	26.84	-1.30	21.54
2.68	26.84	-1.32	21.55
2.68	26.85	-1.33	21.56
2.61	26.85	-1.33	21.56
2.70	26.86	-1.34	21.56

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT5 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
54.00	27.05	-0.29	21.70
54.47	27.04	-0.29	21.70
54.84	27.04	-0.28	21.69
55.18	27.04	-0.28	21.69
55.69	27.05	-0.29	21.70
56.09	27.05	-0.28	21.70
56.60	27.05	-0.27	21.70
57.12	27.05	-0.26	21.70
57.63	27.05	-0.26	21.70
58.11	27.05	-0.26	21.70

WT6 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.57	26.48	-0.90	21.25
1.86	26.51	-0.91	21.27
2.13	26.53	-0.93	21.29
2.29	26.54	-0.94	21.30
2.31	26.56	-0.93	21.32
2.35	26.54	-0.93	21.30
2.01	26.51	-0.93	21.28
2.08	26.56	-0.97	21.32
2.05	26.57	-0.97	21.33
2.07	26.58	-0.93	21.33
2.07	26.58	-0.89	21.33
2.08	26.54	-0.86	21.30
2.09	26.57	-0.85	21.32
2.09	26.56	-0.81	21.31
2.10	26.56	-0.78	21.32
2.09	26.56	-0.75	21.32
2.10	26.58	-0.75	21.33
2.10	26.55	-0.70	21.31
2.10	26.56	-0.69	21.31
2.11	26.56	-0.66	21.31
1.99	26.42	-0.82	21.20
2.08	26.56	-0.97	21.32
2.08	26.60	-1.01	21.35
2.14	26.59	-1.02	21.35
2.49	26.61	-1.04	21.36
2.79	26.61	-1.04	21.35
3.05	26.61	-1.05	21.36
3.14	26.63	-1.05	21.38
3.11	26.61	-1.03	21.36
3.26	26.63	-1.04	21.37
3.24	26.60	-1.03	21.35
3.32	26.63	-1.06	21.38
3.66	26.63	-1.08	21.38
3.93	26.65	-1.09	21.39
4.12	26.65	-1.10	21.39
4.19	26.67	-1.10	21.41
4.22	26.67	-1.09	21.41
4.43	26.66	-1.10	21.40
4.66	26.67	-1.11	21.40

WT6 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
4.97	26.67	-1.12	21.41
5.22	26.67	-1.12	21.41
5.50	26.67	-1.12	21.41
5.61	26.67	-1.11	21.40
5.71	26.68	-1.12	21.42
5.72	26.67	-1.10	21.41
5.82	26.65	-1.09	21.39
6.08	26.66	-1.11	21.40
6.10	26.68	-1.12	21.42
6.26	26.67	-1.12	21.40
6.27	26.69	-1.13	21.42
6.28	26.68	-1.10	21.42
6.29	26.67	-1.10	21.41
6.30	26.67	-1.08	21.41
6.42	26.65	-1.11	21.40
6.99	26.68	-1.14	21.41
7.34	26.68	-1.13	21.42
7.49	26.68	-1.12	21.42
7.76	26.69	-1.14	21.42
8.07	26.69	-1.15	21.43
8.28	26.71	-1.16	21.44
8.50	26.70	-1.16	21.43
8.67	26.71	-1.17	21.44
8.86	26.71	-1.17	21.44
9.08	26.71	-1.17	21.44
9.15	26.70	-1.14	21.43
9.40	26.70	-1.16	21.43
9.70	26.71	-1.17	21.44
9.74	26.73	-1.18	21.46
9.97	26.72	-1.19	21.45
10.25	26.73	-1.20	21.46
10.55	26.74	-1.20	21.46
10.82	26.74	-1.20	21.46
11.09	26.74	-1.21	21.47
11.47	26.75	-1.21	21.47
11.88	26.75	-1.22	21.47
12.19	26.75	-1.22	21.48
12.44	26.76	-1.22	21.48
12.85	26.76	-1.22	21.48
13.19	26.76	-1.22	21.48
13.51	26.76	-1.22	21.48
13.72	26.77	-1.22	21.49
13.98	26.76	-1.22	21.48
14.16	26.76	-1.22	21.48
14.52	26.76	-1.22	21.49
14.86	26.79	-1.22	21.50
15.17	26.79	-1.21	21.50
15.56	26.78	-1.20	21.50
16.00	26.79	-1.19	21.50
16.25	26.79	-1.18	21.50
16.69	26.87	-1.16	21.57
17.01	26.84	-1.10	21.54
17.35	26.80	-1.07	21.51
17.62	26.75	-1.09	21.47

WT6 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
18.02	26.77	-1.14	21.49
18.27	26.81	-1.16	21.52
18.60	26.80	-1.15	21.51
18.97	26.78	-1.15	21.50
19.03	26.79	-1.16	21.50
19.25	26.78	-1.17	21.50
19.47	26.79	-1.19	21.50
19.80	26.83	-1.19	21.53
20.10	26.81	-1.18	21.52
20.28	26.79	-1.18	21.50
20.63	26.80	-1.21	21.51
20.84	26.84	-1.20	21.55
21.21	26.92	-1.12	21.61
21.42	26.89	-1.04	21.58
21.65	26.90	-0.98	21.60
21.96	26.85	-0.93	21.55
22.38	26.83	-0.93	21.54
22.65	26.85	-0.93	21.55
22.91	26.86	-0.92	21.56
23.22	26.87	-0.91	21.57
23.47	26.86	-0.88	21.56
25.32	26.92	-0.61	21.60
25.64	26.90	-0.58	21.59
25.97	26.89	-0.56	21.58
26.18	26.89	-0.55	21.58
26.49	26.91	-0.55	21.59
26.77	26.83	-0.53	21.53
27.08	26.87	-0.59	21.57
27.36	26.93	-0.58	21.61
27.41	26.89	-0.54	21.58
27.80	26.85	-0.55	21.54
28.14	26.91	-0.57	21.60
28.60	26.95	-0.54	21.63
28.85	26.97	-0.49	21.64
29.25	26.96	-0.42	21.63
29.60	26.97	-0.39	21.64
30.05	26.95	-0.35	21.62
30.38	26.94	-0.33	21.62
30.74	26.91	-0.31	21.59
31.01	26.91	-0.33	21.59
31.25	26.93	-0.34	21.61
31.54	26.95	-0.34	21.62
31.84	26.94	-0.33	21.61
32.15	26.94	-0.32	21.61
32.49	26.93	-0.32	21.61
32.66	26.94	-0.32	21.61
32.85	26.94	-0.32	21.61
33.25	26.94	-0.32	21.61
33.55	26.94	-0.32	21.61
33.92	26.93	-0.32	21.60
34.27	26.92	-0.33	21.60
34.59	26.94	-0.36	21.61
34.99	26.94	-0.36	21.61
35.30	26.94	-0.37	21.61

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT6 - 20-May-2011				WT6 - 20-May-2011				WT7 - 20-May-2011			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
35.61	26.94	-0.37	21.61	57.51	27.03	-0.29	21.69	2.59	26.86	-1.27	21.57
35.99	26.95	-0.38	21.62	57.93	27.02	-0.30	21.68	2.61	26.88	-1.26	21.58
36.11	26.95	-0.38	21.62	58.20	27.02	-0.31	21.67	2.61	26.89	-1.26	21.59
36.28	26.95	-0.37	21.63	58.47	27.00	-0.31	21.66	2.61	26.90	-1.25	21.60
36.56	26.96	-0.36	21.63	58.76	27.02	-0.33	21.68	2.61	26.91	-1.25	21.60
36.74	26.95	-0.35	21.62	59.23	27.03	-0.34	21.69	2.63	26.89	-1.25	21.59
36.82	26.94	-0.35	21.62	59.60	27.05	-0.33	21.70	2.65	26.91	-1.23	21.60
37.13	26.93	-0.35	21.60	59.96	27.06	-0.31	21.71	2.65	26.93	-1.22	21.62
37.32	26.92	-0.37	21.60	60.35	27.06	-0.29	21.71	2.65	26.93	-1.20	21.62
37.61	26.94	-0.39	21.61	60.72	27.06	-0.27	21.71	2.65	26.95	-1.20	21.64
37.96	26.94	-0.41	21.62	61.17	27.04	-0.25	21.69	2.65	26.97	-1.19	21.65
38.35	26.98	-0.39	21.64	61.58	27.03	-0.25	21.68	2.67	26.97	-1.19	21.65
38.89	26.98	-0.37	21.65	61.93	27.03	-0.26	21.68	2.67	26.84	-1.21	21.55
39.23	26.94	-0.35	21.62	62.15	27.03	-0.26	21.68	2.85	26.84	-1.23	21.54
39.60	26.93	-0.37	21.61	62.44	27.03	-0.27	21.68	2.89	26.86	-1.25	21.56
39.97	26.96	-0.40	21.63	62.74	27.03	-0.28	21.68	3.33	26.81	-1.27	21.52
40.46	26.93	-0.41	21.61	63.13	27.06	-0.29	21.71	3.52	26.83	-1.28	21.54
40.90	26.92	-0.44	21.60	63.52	27.06	-0.26	21.71	3.68	26.82	-1.28	21.53
41.17	26.93	-0.48	21.61	63.91	27.03	-0.26	21.68	3.89	26.83	-1.29	21.54
41.61	26.94	-0.52	21.62	64.22	27.04	-0.27	21.69	4.19	26.83	-1.29	21.54
41.78	26.94	-0.53	21.62	64.42	27.05	-0.27	21.70	4.49	26.83	-1.30	21.54
42.26	26.95	-0.55	21.63	64.51	27.05	-0.27	21.70	4.73	26.83	-1.30	21.54
43.32	27.02	-0.51	21.68	64.81	27.05	-0.26	21.70	4.99	26.83	-1.30	21.54
43.66	27.03	-0.47	21.69					5.27	26.83	-1.30	21.54
44.20	27.00	-0.41	21.66					5.54	26.83	-1.30	21.54
44.61	26.97	-0.40	21.64					5.94	26.83	-1.31	21.54
45.08	26.94	-0.41	21.61					6.27	26.83	-1.31	21.54
45.53	26.95	-0.46	21.63					6.57	26.84	-1.31	21.55
45.92	27.01	-0.46	21.67					7.28	26.84	-1.31	21.55
46.42	27.00	-0.42	21.66					7.51	26.84	-1.32	21.55
46.79	27.01	-0.41	21.68					7.69	26.84	-1.32	21.55
47.39	27.04	-0.38	21.69					7.96	26.84	-1.31	21.55
47.98	27.04	-0.34	21.69					8.23	26.84	-1.31	21.55
48.41	27.01	-0.31	21.67					8.53	26.84	-1.31	21.55
48.84	27.01	-0.29	21.67					8.81	26.84	-1.32	21.55
49.40	27.01	-0.29	21.67					9.13	26.84	-1.32	21.55
49.87	27.01	-0.29	21.67					9.48	26.84	-1.32	21.55
50.41	27.00	-0.28	21.66					9.73	26.84	-1.32	21.55
50.88	27.00	-0.29	21.66					10.10	26.84	-1.32	21.55
51.24	27.00	-0.29	21.66					10.30	26.84	-1.32	21.55
51.77	27.00	-0.30	21.66					10.55	26.84	-1.32	21.55
52.16	27.00	-0.31	21.66					10.87	26.85	-1.32	21.55
52.57	27.00	-0.31	21.66					11.20	26.84	-1.33	21.55
52.87	27.01	-0.31	21.67					11.38	26.84	-1.33	21.55
53.21	27.01	-0.31	21.67					11.53	26.84	-1.33	21.55
53.63	27.02	-0.31	21.68					11.71	26.84	-1.33	21.55
53.95	27.03	-0.29	21.68					12.10	26.84	-1.33	21.55
54.37	27.03	-0.27	21.69					12.39	26.84	-1.33	21.55
54.71	27.02	-0.26	21.68					12.71	26.84	-1.33	21.55
55.12	27.00	-0.27	21.66					13.02	26.84	-1.33	21.55
55.46	26.99	-0.29	21.66					13.29	26.86	-1.32	21.56
55.95	27.00	-0.32	21.66					13.53	26.84	-1.32	21.55
56.22	27.02	-0.33	21.67					13.71	26.85	-1.32	21.55
56.64	27.04	-0.32	21.69					14.06	26.84	-1.32	21.55
57.18	27.04	-0.30	21.69					14.35	26.88	-1.32	21.58

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT7 - 20-May-2011				WT7 - 20-May-2011				WT7 - 20-May-2011			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
14.51	26.86	-1.29	21.56	28.43	26.95	-0.44	21.63	53.21	27.04	-0.28	21.69
14.58	26.86	-1.29	21.56	28.42	26.95	-0.43	21.62	53.54	27.03	-0.27	21.69
14.56	26.86	-1.29	21.56	28.77	26.96	-0.43	21.63	54.02	27.02	-0.27	21.68
14.57	26.86	-1.28	21.56	29.11	26.95	-0.42	21.62	54.29	27.02	-0.27	21.67
14.58	26.86	-1.28	21.57	29.42	26.95	-0.41	21.62	54.68	26.99	-0.29	21.65
14.52	26.86	-1.28	21.56	29.87	26.94	-0.41	21.62	54.83	27.01	-0.32	21.67
14.66	26.85	-1.28	21.56	30.29	26.95	-0.41	21.62	54.99	27.01	-0.32	21.67
14.92	26.85	-1.27	21.55	30.71	26.98	-0.41	21.65	55.16	27.01	-0.33	21.67
15.21	26.85	-1.28	21.56	31.07	26.98	-0.38	21.65	55.42	27.01	-0.34	21.67
15.30	26.86	-1.28	21.57	31.49	27.02	-0.33	21.68	55.98	26.98	-0.37	21.65
15.55	26.86	-1.27	21.56	31.93	26.98	-0.29	21.64	56.56	27.01	-0.41	21.67
15.83	26.85	-1.27	21.55	32.32	27.01	-0.28	21.67	56.97	27.08	-0.41	21.73
16.05	26.85	-1.27	21.55	32.77	27.02	-0.23	21.67	57.18	27.06	-0.37	21.71
16.26	26.86	-1.27	21.56	33.28	26.98	-0.20	21.64	57.62	27.05	-0.35	21.70
16.52	26.85	-1.27	21.56	33.82	26.99	-0.19	21.65	57.89	27.05	-0.34	21.70
16.74	26.85	-1.27	21.56	34.27	26.98	-0.18	21.64	58.35	27.04	-0.33	21.70
17.01	26.85	-1.27	21.56	34.76	26.99	-0.19	21.65	59.00	27.05	-0.32	21.70
17.24	26.86	-1.27	21.56	35.24	26.99	-0.18	21.65	59.46	27.06	-0.30	21.71
17.42	26.85	-1.26	21.56	35.73	26.99	-0.18	21.65	59.93	27.05	-0.29	21.70
17.63	26.83	-1.27	21.54	36.34	26.99	-0.18	21.65	60.35	27.05	-0.29	21.70
17.87	26.84	-1.29	21.55	36.64	26.99	-0.19	21.65	60.79	27.05	-0.29	21.70
18.19	26.84	-1.31	21.55	37.27	26.98	-0.20	21.64	61.15	27.05	-0.29	21.70
18.47	26.85	-1.31	21.56	37.93	26.96	-0.23	21.63	61.45	27.05	-0.30	21.70
18.67	26.85	-1.31	21.56	38.52	26.93	-0.28	21.60	61.88	27.04	-0.30	21.70
18.92	26.87	-1.31	21.57	39.18	27.00	-0.34	21.66	62.00	27.04	-0.31	21.70
19.11	26.88	-1.30	21.58	39.71	26.98	-0.34	21.65				
19.41	26.91	-1.26	21.61	40.28	26.97	-0.35	21.64				
19.65	26.88	-1.22	21.58	40.69	26.99	-0.37	21.65				
19.94	26.87	-1.21	21.57	41.22	27.00	-0.38	21.66				
20.19	26.84	-1.21	21.54	41.66	27.01	-0.37	21.67				
20.46	26.86	-1.23	21.57	42.16	27.00	-0.36	21.66				
20.66	26.87	-1.23	21.57	42.68	26.95	-0.38	21.63				
7.28	26.84	-1.31	21.55	43.13	26.98	-0.42	21.64				
7.51	26.84	-1.32	21.55	43.57	26.99	-0.44	21.66				
7.69	26.84	-1.32	21.55	43.99	27.02	-0.44	21.68				
7.96	26.84	-1.31	21.55	44.82	27.02	-0.35	21.68				
22.38	27.04	-0.94	21.71	45.29	27.04	-0.32	21.70				
22.70	27.01	-0.80	21.68	45.62	27.03	-0.30	21.68				
23.02	26.94	-0.72	21.62	46.08	27.00	-0.29	21.66				
23.35	26.91	-0.69	21.60	46.48	26.98	-0.31	21.65				
23.58	26.91	-0.69	21.60	46.92	26.99	-0.33	21.65				
23.86	26.92	-0.68	21.61	47.47	26.96	-0.35	21.63				
24.16	26.93	-0.67	21.61	47.85	26.97	-0.42	21.64				
24.42	26.94	-0.65	21.62	48.30	26.98	-0.46	21.65				
24.73	26.94	-0.62	21.62	48.68	27.00	-0.47	21.67				
24.98	26.93	-0.60	21.61	49.23	27.02	-0.46	21.68				
25.32	26.94	-0.59	21.62	49.65	27.02	-0.44	21.68				
25.61	26.92	-0.57	21.60	50.07	27.02	-0.43	21.68				
26.00	26.88	-0.58	21.57	50.47	27.03	-0.43	21.69				
26.36	26.90	-0.62	21.59	50.80	27.03	-0.42	21.69				
26.59	26.96	-0.63	21.63	51.22	27.06	-0.40	21.71				
27.02	27.01	-0.59	21.68	51.67	27.07	-0.36	21.72				
27.34	26.99	-0.52	21.66	51.89	27.04	-0.32	21.69				
27.58	26.97	-0.49	21.64	52.35	27.04	-0.31	21.69				
27.85	26.95	-0.46	21.63	52.52	27.04	-0.29	21.69				
28.12	26.96	-0.45	21.63	52.82	27.04	-0.29	21.70				

WT8 - 20-May-2011			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.53	26.55	-0.96	21.31
1.63	26.55	-0.93	21.31
1.64	26.61	-0.92	21.36
2.20	26.51	-0.98	21.28
2.51	26.54	-1.01	21.30
2.55	26.61	-1.01	21.36
3.06	26.54	-1.02	21.30
3.58	26.58	-1.03	21.33
3.90	26.55	-1.03	21.31
4.34	26.58	-1.04	21.34
4.52	26.62	-1.05	21.36
4.97	26.60	-1.05	21.35
5.50	26.61	-1.07	21.36
5.53	26.62	-1.06	21.37
5.92	26.62	-1.07	21.37
6.47	26.62	-1.07	21.36
6.53	26.65	-1.07	21.39
6.79	26.62	-1.07	21.36
7.39	26.63	-1.07	21.38
7.52	26.65	-1.07	21.39
7.52	26.69	-1.05	21.42
7.51	26.71	-1.03	21.44
7.51	26.71	-1.00	21.44
7.60	26.65	-1.00	21.39
8.06	26.61	-1.01	21.36
8.48	26.66	-1.03	21.40

Table A3-1.1. Under-Ice Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, March-May 2011

WT8 - 20-May-2011				WT8 - 20-May-2011			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t
8.55	26.68	-1.03	21.42	27.96	26.91	-0.66	21.60
8.77	26.68	-1.02	21.41	28.21	26.88	-0.60	21.57
9.51	26.69	-1.00	21.42	28.50	26.87	-0.57	21.56
9.57	26.69	-0.98	21.42	28.83	26.86	-0.56	21.56
10.20	26.69	-0.97	21.42	29.15	26.89	-0.54	21.58
10.47	26.71	-0.97	21.44	29.40	26.88	-0.51	21.57
10.84	26.69	-0.95	21.43	29.68	26.87	-0.49	21.56
11.24	26.71	-0.94	21.43	29.95	26.85	-0.49	21.55
11.43	26.71	-0.94	21.44	30.29	26.86	-0.50	21.55
11.48	26.71	-0.92	21.44	30.62	26.87	-0.50	21.56
11.82	26.73	-0.92	21.46	30.65	26.87	-0.50	21.56
12.28	26.72	-0.89	21.45	30.69	26.87	-0.50	21.56
12.44	26.74	-0.86	21.46	31.11	26.87	-0.50	21.56
12.70	26.76	-0.83	21.48	31.43	26.88	-0.50	21.57
13.20	26.62	-0.81	21.37	31.36	26.87	-0.50	21.56
13.45	26.63	-0.93	21.37	31.60	26.88	-0.50	21.56
13.77	26.67	-0.99	21.40	31.95	26.88	-0.50	21.57
14.15	26.70	-1.04	21.43	32.31	26.88	-0.50	21.56
14.41	26.72	-1.07	21.44	32.77	26.87	-0.51	21.56
14.76	26.68	-1.08	21.41	33.15	26.88	-0.52	21.57
15.05	26.70	-1.13	21.43	33.62	26.87	-0.52	21.56
15.32	26.71	-1.14	21.44	33.94	26.88	-0.53	21.57
15.42	26.74	-1.15	21.46	34.27	26.88	-0.54	21.57
15.74	26.72	-1.15	21.45	34.67	26.89	-0.55	21.57
16.18	26.73	-1.15	21.46	35.18	26.88	-0.57	21.57
16.44	26.74	-1.16	21.46	35.42	26.89	-0.58	21.57
16.95	26.73	-1.15	21.46	35.40	26.89	-0.59	21.58
17.38	26.74	-1.16	21.46	35.70	26.89	-0.59	21.57
18.42	26.74	-1.16	21.46	36.13	26.89	-0.60	21.58
18.98	26.74	-1.17	21.47	36.38	26.89	-0.60	21.58
19.35	26.75	-1.17	21.47	36.66	26.90	-0.60	21.58
19.72	26.75	-1.17	21.48	36.86	26.90	-0.60	21.59
20.13	26.76	-1.17	21.48	38.96	26.94	-0.55	21.62
20.44	26.78	-1.15	21.50	39.26	26.94	-0.52	21.61
20.86	26.79	-1.12	21.51	39.65	26.94	-0.50	21.62
21.22	26.78	-1.10	21.49	40.11	26.94	-0.47	21.62
21.34	26.78	-1.09	21.50	40.41	26.93	-0.45	21.61
21.60	26.76	-1.08	21.48	40.89	26.93	-0.45	21.60
21.89	26.75	-1.09	21.47	41.33	26.93	-0.45	21.60
22.37	26.78	-1.09	21.50	41.66	26.93	-0.44	21.61
22.63	26.79	-1.07	21.50	42.19	26.93	-0.44	21.61
22.98	26.78	-1.05	21.49	42.39	26.93	-0.44	21.61
23.33	26.81	-1.04	21.52	42.79	26.93	-0.44	21.61
23.60	26.82	-1.02	21.53	43.02	26.93	-0.44	21.61
24.02	26.81	-0.97	21.52				
24.37	26.81	-0.96	21.52				
24.61	26.81	-0.94	21.52				
25.08	26.82	-0.91	21.53				
25.49	26.83	-0.88	21.53				
25.83	26.88	-0.83	21.57				
26.03	26.90	-0.76	21.59				
26.34	26.86	-0.67	21.55				
26.83	26.80	-0.67	21.51				
27.30	26.82	-0.70	21.52				
27.56	26.84	-0.70	21.54				

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

RBW - 21-Jul-11				RBW - 21-Jul-11				ST3 - 21-Jul-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
0.64	24.65	10.05	18.88	4.83	26.57	1.99	21.23	1.04	23.75	8.50	18.39
0.64	24.80	9.81	19.03	4.84	26.57	1.85	21.23	1.23	24.63	5.96	19.37
1.07	24.84	9.75	19.07	4.86	26.62	1.82	21.27	1.34	25.70	4.50	20.36
1.19	24.85	9.72	19.08	4.86	26.62	1.83	21.28	1.55	25.99	4.03	20.62
1.19	24.80	9.73	19.04	4.99	26.30	1.90	21.02	1.75	26.13	3.77	20.76
1.20	24.52	9.73	18.83	5.47	26.56	1.55	21.24	1.95	26.21	3.63	20.83
1.22	23.07	9.58	17.72					2.16	26.15	3.45	20.80
1.81	25.19	5.27	19.89					2.35	26.31	3.36	20.93
1.81	25.88	4.55	20.50					2.48	26.29	3.33	20.91
1.80	26.11	4.28	20.70					2.58	26.29	3.27	20.92
1.83	26.07	4.28	20.67					2.67	26.33	3.23	20.95
1.83	26.15	4.23	20.73					2.74	26.34	3.20	20.96
1.84	26.34	4.23	20.88					2.85	26.33	3.18	20.96
1.84	26.43	4.22	20.96					2.96	26.30	3.15	20.94
1.85	26.45	4.20	20.98					3.06	26.34	3.11	20.97
1.85	26.47	4.20	21.00					3.16	26.36	3.09	20.99
1.86	26.54	4.20	21.05					3.29	26.36	3.07	20.99
1.97	25.93	4.16	20.56					3.39	26.39	3.04	21.02
2.41	26.13	3.64	20.76					3.45	26.41	3.02	21.03
2.40	26.37	3.54	20.97					3.57	26.41	2.99	21.03
2.39	26.45	3.45	21.04					3.69	26.42	2.95	21.04
2.39	26.53	3.45	21.10					3.80	26.42	2.90	21.05
2.40	26.57	3.52	21.12					3.90	26.46	2.84	21.08
2.41	26.65	3.55	21.19					4.02	26.46	2.80	21.09
2.74	26.25	3.36	20.88					4.16	26.48	2.78	21.10
2.75	26.42	3.31	21.02					4.26	26.46	2.74	21.09
2.75	26.48	3.33	21.07					4.37	26.47	2.68	21.11
2.75	26.47	3.34	21.06					4.48	26.51	2.59	21.14
2.76	26.44	3.38	21.04					4.60	26.52	2.51	21.16
3.08	26.09	3.34	20.76					4.71	26.49	2.41	21.13
3.27	26.43	3.04	21.04					4.80	26.50	2.37	21.15
3.26	26.35	3.10	20.98					4.88	26.52	2.32	21.17
3.26	26.54	2.97	21.14					4.96	26.51	2.30	21.16
3.26	26.59	2.90	21.18					5.08	26.45	2.29	21.11
3.27	26.71	2.71	21.29					5.17	26.51	2.22	21.17
3.80	26.47	2.49	21.12					5.26	26.47	2.19	21.14
3.79	26.61	2.48	21.22					5.33	26.38	2.16	21.06
3.78	26.51	2.48	21.15					5.42	26.27	2.11	20.98
3.79	26.60	2.45	21.22					5.51	26.39	1.90	21.09
3.79	26.59	2.46	21.22					5.63	26.54	1.72	21.21
3.81	26.62	2.46	21.24					5.82	26.54	1.62	21.22
3.81	26.58	2.48	21.20					5.92	26.59	1.54	21.27
4.18	26.42	2.42	21.08					6.04	26.66	1.48	21.32
4.26	26.56	2.33	21.20					6.16	26.69	1.47	21.35
4.26	26.66	2.34	21.28					6.31	26.67	1.47	21.33
4.26	26.68	2.35	21.29					6.40	26.68	1.47	21.34
4.27	26.70	2.36	21.31					6.49	26.72	1.46	21.37
4.27	26.70	2.38	21.31					6.62	26.70	1.47	21.36
4.28	26.66	2.41	21.27					6.71	26.70	1.45	21.36
4.29	26.65	2.42	21.27					6.81	26.74	1.45	21.39
4.75	26.33	2.38	21.02					6.97	26.68	1.43	21.34
4.83	26.53	2.28	21.18					7.10	26.64	1.40	21.31
4.78	26.47	2.24	21.13					7.29	26.63	1.36	21.31
4.73	26.20	2.16	20.92					7.36	26.68	1.31	21.35
2.75	26.58	2.25	21.21					7.43	26.70	1.30	21.36
2.14	26.53	2.91	21.14					7.60	26.62	1.27	21.30
3.59	26.44	2.42	21.10					7.79	26.67	1.20	21.35
4.76	26.38	2.20	21.06					8.00	26.67	1.19	21.35
4.78	26.56	2.06	21.21					8.17	26.67	1.17	21.35
4.80	26.52	2.04	21.19					8.33	26.66	1.15	21.34

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST3 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
8.56	26.70	1.13	21.37
8.81	26.67	1.09	21.35
8.91	26.70	1.06	21.37
8.98	26.68	1.05	21.36
9.18	26.69	1.02	21.37
9.27	26.71	1.00	21.38
9.39	26.72	1.00	21.39
9.56	26.71	0.98	21.39
9.72	26.72	0.93	21.40
9.96	26.70	0.91	21.38
10.13	26.72	0.89	21.39
10.41	26.70	0.86	21.38
10.61	26.75	0.81	21.43
10.84	26.75	0.80	21.43

ST4 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.05	24.79	7.48	19.33
1.31	23.99	6.54	18.81
1.44	24.99	4.85	19.76
1.53	25.41	4.30	20.15
1.64	25.59	3.98	20.31
1.67	25.79	3.71	20.49
1.76	25.86	3.59	20.55
1.83	25.89	3.54	20.59
1.97	25.93	3.49	20.62
2.05	25.99	3.48	20.67
2.12	25.89	3.81	20.56
2.23	25.80	3.66	20.51
2.34	25.92	3.52	20.61
2.42	25.99	3.43	20.67
2.49	25.99	3.42	20.67
2.59	26.02	3.41	20.69
2.65	26.03	3.39	20.71
2.72	26.05	3.36	20.72
2.77	26.05	3.35	20.73
2.84	26.07	3.36	20.74
2.91	26.09	3.34	20.75
3.02	26.15	3.33	20.80
3.13	26.13	3.37	20.79
3.26	26.12	3.39	20.78
3.36	26.16	3.36	20.81
3.43	26.10	3.25	20.77
3.49	26.26	3.01	20.91
3.53	26.32	2.92	20.97
3.60	26.29	2.87	20.95
3.68	26.27	2.82	20.94
3.75	26.31	2.72	20.97
3.86	26.31	2.65	20.98
3.98	26.36	2.56	21.02
4.11	26.38	2.47	21.05
4.24	26.42	2.40	21.08
4.25	26.43	2.38	21.09
4.42	26.30	2.34	20.99
4.50	26.33	2.26	21.02
4.59	26.37	2.10	21.06
4.71	26.45	1.98	21.13
4.83	26.52	1.91	21.19

ST4 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
5.01	26.47	1.86	21.15
5.21	26.38	1.69	21.09
5.40	26.36	1.42	21.09
5.53	26.54	1.16	21.24
5.63	26.59	1.05	21.28
5.77	26.59	0.97	21.29
6.04	26.66	0.89	21.35
6.26	26.74	0.86	21.41
6.36	26.75	0.86	21.42
6.45	26.80	0.88	21.46
6.68	26.78	0.94	21.44
6.95	26.69	1.00	21.37
7.10	26.68	0.98	21.37
7.22	26.75	0.90	21.42
7.35	26.71	0.85	21.39
7.52	26.73	0.79	21.41
7.65	26.73	0.77	21.41
7.75	26.73	0.75	21.41
8.15	26.76	0.76	21.43
8.58	26.74	0.79	21.42
8.85	26.75	0.71	21.43
9.32	26.78	0.71	21.45
9.78	26.77	0.71	21.45
10.20	26.78	0.74	21.45
10.59	26.78	0.75	21.45
10.85	26.74	0.72	21.42
10.94	26.66	0.64	21.36
11.17	26.69	0.42	21.39
11.22	26.76	0.32	21.45
11.45	26.76	0.27	21.45
11.70	26.78	0.20	21.47
12.07	26.75	0.16	21.44
12.47	26.80	0.02	21.49
12.62	26.88	-0.01	21.56
12.78	26.84	0.03	21.53
12.95	26.85	0.02	21.53
13.23	26.87	0.06	21.55
13.50	26.88	0.03	21.56
13.76	26.83	0.04	21.51
14.06	26.84	0.01	21.52
14.44	26.85	-0.04	21.54
14.84	26.85	-0.06	21.53
15.07	26.87	-0.09	21.55
15.19	26.88	-0.10	21.56
15.27	26.88	-0.11	21.56
15.47	26.87	-0.11	21.55
15.73	26.87	-0.14	21.55
16.24	26.87	-0.15	21.56
16.49	26.88	-0.15	21.56
17.09	26.87	-0.18	21.55
17.37	26.88	-0.19	21.56
17.56	26.88	-0.20	21.56
17.89	26.89	-0.22	21.57
18.17	26.87	-0.25	21.55
18.68	26.87	-0.37	21.56
18.96	26.89	-0.40	21.57
19.59	26.91	-0.42	21.59
20.12	26.92	-0.43	21.60
20.34	26.92	-0.43	21.60
20.72	26.92	-0.43	21.60

ST4 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
20.91	26.92	-0.44	21.60
20.94	26.92	-0.44	21.60
20.91	26.92	-0.44	21.60
20.79	26.92	-0.44	21.60
20.81	26.92	-0.44	21.60
21.45	26.93	-0.45	21.61
21.74	26.93	-0.46	21.61
22.43	26.94	-0.46	21.62
23.29	26.97	-0.44	21.64
23.70	26.97	-0.42	21.64
24.22	26.95	-0.41	21.62
24.77	26.97	-0.42	21.64
25.36	26.98	-0.42	21.65
25.93	27.00	-0.42	21.66
26.59	27.01	-0.41	21.67
27.47	27.01	-0.40	21.67
28.11	27.01	-0.40	21.67
28.74	27.02	-0.40	21.68
29.45	27.01	-0.40	21.67
29.97	27.02	-0.41	21.68
30.49	27.03	-0.41	21.69
30.99	27.03	-0.41	21.69
31.39	27.04	-0.41	21.69
32.08	27.04	-0.41	21.70
32.33	27.04	-0.42	21.69
32.82	27.04	-0.42	21.70
32.97	27.05	-0.43	21.70
33.27	27.05	-0.43	21.70
34.36	27.05	-0.44	21.70
35.22	27.06	-0.45	21.71
35.57	27.06	-0.46	21.71
35.80	27.05	-0.48	21.71
36.30	27.06	-0.52	21.72
36.66	27.06	-0.55	21.72
37.76	27.07	-0.60	21.73
38.76	27.09	-0.63	21.74
38.98	27.11	-0.64	21.75
40.07	27.11	-0.67	21.76
41.02	27.13	-0.70	21.77
41.54	27.13	-0.70	21.78
42.42	27.14	-0.71	21.78
43.53	27.14	-0.72	21.78
44.59	27.15	-0.73	21.79
45.28	27.16	-0.73	21.80
45.36	27.16	-0.73	21.80

ST5 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.93	19.99	10.80	15.15
1.23	22.75	7.70	17.71
1.57	23.87	6.61	18.71
2.14	24.95	4.84	19.74
2.48	25.39	4.29	20.13
2.80	25.56	3.86	20.30
3.02	25.86	3.34	20.57
3.23	26.01	3.09	20.71
3.44	26.11	2.96	20.80
3.88	26.17	2.62	20.87

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST5 - 21-Jul-11				ST5 - 21-Jul-11				ST5 - 21-Jul-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
4.00	26.32	2.50	20.99	16.54	26.90	-0.65	21.59	48.17	27.14	-0.75	21.78
4.09	26.34	2.46	21.01	16.56	26.90	-0.65	21.59	49.96	27.14	-0.77	21.78
4.29	26.35	2.44	21.03	16.56	26.90	-0.65	21.58	50.50	27.15	-0.78	21.79
4.72	26.35	2.42	21.03	16.60	26.90	-0.65	21.59	51.65	27.16	-0.77	21.80
5.01	26.32	2.35	21.00	16.84	26.91	-0.66	21.59	52.33	27.16	-0.78	21.80
5.29	26.31	2.08	21.01	17.10	26.90	-0.67	21.59	53.03	27.16	-0.78	21.80
5.61	26.35	1.84	21.06	17.31	26.90	-0.68	21.59	54.09	27.16	-0.78	21.80
5.86	26.11	1.43	20.89	17.57	26.92	-0.69	21.60	55.34	27.16	-0.78	21.80
6.01	26.30	1.05	21.05	18.14	26.90	-0.69	21.59	56.55	27.16	-0.79	21.80
6.11	26.39	0.72	21.14	19.04	26.95	-0.67	21.63	57.18	27.16	-0.80	21.80
6.21	26.51	0.51	21.24	19.77	27.02	-0.67	21.68	58.48	27.17	-0.80	21.80
6.34	26.69	0.40	21.39	20.29	27.02	-0.59	21.68	59.57	27.17	-0.80	21.81
6.44	26.67	0.41	21.38	20.71	27.05	-0.50	21.70	60.40	27.17	-0.80	21.81
6.63	26.68	0.40	21.38	21.13	27.02	-0.38	21.68	61.95	27.17	-0.81	21.81
6.95	26.72	0.40	21.41	21.85	26.98	-0.36	21.65	63.15	27.18	-0.83	21.82
7.38	26.68	0.39	21.38	22.20	27.00	-0.37	21.66	64.26	27.18	-0.83	21.82
7.57	26.72	0.34	21.42	22.95	27.00	-0.38	21.66	65.79	27.18	-0.84	21.82
7.79	26.73	0.33	21.43	23.53	27.02	-0.38	21.68	66.56	27.19	-0.83	21.83
8.07	26.74	0.33	21.44	24.21	27.02	-0.35	21.68	67.49	27.19	-0.83	21.82
8.31	26.74	0.32	21.44	24.36	27.02	-0.34	21.68	67.60	27.19	-0.83	21.83
8.76	26.71	0.30	21.41	24.44	27.02	-0.33	21.68	68.00	27.19	-0.83	21.83
9.22	26.73	0.13	21.44	24.56	27.02	-0.33	21.68	68.94	27.19	-0.84	21.83
9.72	26.84	0.16	21.52	24.79	27.01	-0.33	21.67	69.60	27.20	-0.85	21.83
10.18	26.81	0.19	21.49	24.94	27.02	-0.34	21.68	70.42	27.20	-0.85	21.83
10.66	26.77	0.16	21.46	25.02	27.01	-0.34	21.67	70.88	27.20	-0.86	21.83
11.12	26.79	0.08	21.49	25.44	27.01	-0.36	21.67	71.22	27.20	-0.86	21.83
11.27	26.81	0.04	21.50	25.38	27.02	-0.37	21.68				
11.65	26.82	0.02	21.51	25.18	27.02	-0.37	21.67				
11.96	26.82	0.00	21.51	24.89	27.02	-0.35	21.68				
12.23	26.82	-0.02	21.51	24.43	27.01	-0.34	21.67				
12.46	26.83	-0.04	21.52	24.17	27.01	-0.34	21.67				
12.54	26.84	-0.05	21.52	24.01	27.00	-0.35	21.67				
12.52	26.83	-0.06	21.52	23.84	27.00	-0.37	21.66				
12.34	26.84	-0.05	21.52	23.71	27.00	-0.38	21.66				
12.28	26.84	-0.04	21.52	23.87	27.00	-0.38	21.67				
12.49	26.83	-0.05	21.52	23.93	27.01	-0.38	21.67				
12.69	26.84	-0.06	21.52	24.16	27.03	-0.37	21.68				
12.93	26.83	-0.07	21.52	24.29	27.02	-0.36	21.68				
13.23	26.85	-0.07	21.54	24.68	27.02	-0.35	21.68				
13.45	26.85	-0.08	21.54	24.77	27.02	-0.35	21.68				
13.69	26.85	-0.08	21.54	25.05	27.02	-0.34	21.68				
13.76	26.85	-0.08	21.53	25.66	27.02	-0.34	21.68				
13.72	26.85	-0.08	21.54	26.84	27.03	-0.37	21.68				
13.43	26.85	-0.08	21.54	27.86	27.04	-0.36	21.69				
12.96	26.85	-0.08	21.53	28.79	27.02	-0.37	21.68				
12.51	26.85	-0.07	21.53	30.11	27.03	-0.40	21.69				
12.16	26.85	-0.05	21.53	31.65	27.04	-0.43	21.70				
12.27	26.84	-0.05	21.53	33.43	27.06	-0.45	21.71				
12.73	26.84	-0.07	21.53	35.44	27.06	-0.47	21.71				
13.35	26.85	-0.08	21.54	37.14	27.07	-0.51	21.72				
13.86	26.82	-0.12	21.51	37.65	27.07	-0.53	21.72				
14.49	26.79	-0.21	21.49	38.49	27.07	-0.57	21.72				
15.00	26.82	-0.36	21.52	40.39	27.07	-0.63	21.72				
15.26	26.86	-0.45	21.55	41.25	27.09	-0.67	21.75				
15.39	26.88	-0.48	21.57	43.35	27.11	-0.71	21.76				
15.79	26.87	-0.51	21.56	43.17	27.12	-0.72	21.76				
16.36	26.86	-0.59	21.56	43.81	27.12	-0.72	21.77				
16.69	26.89	-0.64	21.58	45.03	27.12	-0.74	21.77				
16.49	26.89	-0.65	21.58	46.82	27.12	-0.74	21.77				
16.59	26.89	-0.65	21.58	47.57	27.14	-0.75	21.78				

ST6 - 21-Jul-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.94	21.72	9.10	16.73
2.53	24.55	5.00	19.40
3.03	24.98	4.04	19.82
4.41	25.76	2.85	20.53
4.94	26.15	2.39	20.86
5.24	26.08	2.24	20.82
5.67	26.08	1.90	20.84
6.42	26.10	1.36	20.88
7.05	26.20	0.69	20.99
7.50	26.43	0.28	21.19
7.88	26.62	0.17	21.34
8.22	26.91	0.14	21.58
9.17	26.82	0.44	21.49
9.77	26.77	0.55	21.45
9.84	26.84	0.55	21.51
9.91	26.85	0.55	21.51
10.77	26.63	0.38	21.34
10.94	26.87	0.27	21.54
11.51	26.81	0.30	21.49
12.38	26.81	0.31	21.49
12.99	26.66	0.28	21.37
14.10	26.63	-0.07	21.36
15.60	26.67	-0.25	21.40
17.51	26.76	-0.39	21.47
18.87	26.82	-0.48	21.52
19.83	26.84	-0.53	21.54
20.67	26.86	-0.56	21.55
21.81	26.87	-0.59	21.56
22.99	26.90	-0.63	21.58

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST6 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
23.48	26.92	-0.66	21.60
24.90	26.94	-0.66	21.62
26.22	27.02	-0.68	21.68
27.51	27.02	-0.61	21.68
28.56	27.06	-0.43	21.71
29.39	27.02	-0.37	21.68
30.35	27.00	-0.36	21.66
31.42	27.00	-0.36	21.66
32.43	26.98	-0.40	21.65
33.41	27.04	-0.51	21.70
34.15	27.03	-0.53	21.69
35.32	27.04	-0.58	21.70
36.39	27.06	-0.61	21.71
37.73	27.05	-0.62	21.71
38.59	27.08	-0.65	21.73
39.62	27.07	-0.66	21.73
40.43	27.10	-0.68	21.75
41.91	27.09	-0.68	21.74
42.98	27.10	-0.68	21.75
43.97	27.10	-0.68	21.75
45.03	27.10	-0.69	21.75
46.00	27.11	-0.69	21.76
46.67	27.13	-0.69	21.77
47.64	27.11	-0.70	21.76
48.38	27.11	-0.70	21.76
50.00	27.12	-0.70	21.77
51.37	27.12	-0.70	21.77
52.65	27.13	-0.71	21.77
53.97	27.12	-0.74	21.77
55.00	27.14	-0.75	21.78
56.00	27.14	-0.76	21.78
57.05	27.16	-0.77	21.80
57.71	27.16	-0.78	21.80
58.31	27.15	-0.78	21.79
59.38	27.15	-0.78	21.79
61.06	27.15	-0.78	21.79
62.02	27.15	-0.79	21.79
62.84	27.17	-0.79	21.81
63.33	27.17	-0.79	21.81
64.46	27.15	-0.79	21.79
65.32	27.16	-0.79	21.80
65.99	27.16	-0.79	21.80
66.62	27.16	-0.79	21.80
67.24	27.16	-0.79	21.80
68.16	27.17	-0.79	21.80
68.80	27.16	-0.80	21.80
69.68	27.16	-0.80	21.80
70.72	27.16	-0.80	21.80
71.63	27.17	-0.81	21.81
72.45	27.17	-0.81	21.81
73.31	27.17	-0.82	21.81
74.09	27.17	-0.83	21.81
74.70	27.19	-0.84	21.82
75.30	27.18	-0.84	21.82
75.81	27.18	-0.84	21.81
76.56	27.18	-0.85	21.82
77.24	27.19	-0.85	21.83
78.05	27.19	-0.85	21.82
78.62	27.18	-0.85	21.82
79.21	27.18	-0.85	21.82

ST6 - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
80.08	27.18	-0.87	21.82
80.59	27.19	-0.88	21.83
80.93	27.21	-0.88	21.84

ST6B - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.04	18.19	11.17	13.70
1.90	22.25	8.15	17.26
3.72	23.92	5.20	18.89
4.35	25.33	3.27	20.16
6.03	25.37	1.68	20.28
8.62	26.15	0.57	20.95
10.01	26.44	0.20	21.20
13.40	26.58	-0.09	21.32
15.49	26.67	-0.23	21.40
17.73	26.73	-0.39	21.45
20.19	26.81	-0.49	21.51
22.63	26.86	-0.59	21.56
25.24	26.92	-0.58	21.60
27.48	27.03	-0.45	21.69
29.14	27.02	-0.40	21.68
31.22	27.01	-0.34	21.67
32.81	27.03	-0.36	21.69
35.79	27.03	-0.37	21.68
37.34	27.05	-0.37	21.70
37.70	27.05	-0.36	21.70
39.40	26.98	-0.41	21.65
40.71	27.05	-0.57	21.71
41.29	27.03	-0.60	21.69
42.21	27.05	-0.63	21.71
44.03	27.03	-0.66	21.70
44.04	27.08	-0.68	21.74
43.89	27.11	-0.68	21.76
43.87	27.10	-0.66	21.75
43.91	27.07	-0.66	21.72
45.55	27.05	-0.68	21.71
48.59	27.06	-0.71	21.72
48.71	27.10	-0.71	21.75
48.88	27.12	-0.71	21.76
51.19	27.08	-0.72	21.73
52.93	27.11	-0.73	21.76
54.18	27.11	-0.73	21.76
56.00	27.13	-0.73	21.77
56.16	23.77	-0.73	19.06

RBW - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.56	20.25	16.89	14.25
0.71	22.43	13.13	16.65
0.97	23.06	11.96	17.35
1.27	23.36	11.54	17.65
1.52	23.47	11.20	17.78
1.86	23.59	10.93	17.92
2.14	23.52	10.77	17.89
2.41	23.58	10.36	18.00
2.71	23.96	9.45	18.42

ST6B - 21-Jul-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
3.05	24.39	8.04	18.95
3.29	24.97	6.54	19.58
3.42	25.21	6.01	19.83
3.77	25.37	5.64	19.99
3.86	25.69	5.23	20.28

ST2 - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.72	22.66	12.04	17.02
0.93	22.87	11.70	17.24
0.97	22.95	11.57	17.32
1.03	23.03	11.50	17.39
1.12	23.10	11.46	17.46
1.46	23.51	11.29	17.80
1.75	23.59	10.76	17.95
2.07	23.82	10.40	18.18
2.24	23.90	10.21	18.27
2.41	24.09	9.93	18.46
2.61	24.25	9.72	18.61
2.80	24.27	9.62	18.65
3.03	24.32	9.38	18.72
3.29	24.66	8.72	19.08
3.54	24.77	8.08	19.24
3.92	24.89	7.22	19.44
4.29	25.33	6.27	19.89
4.54	25.30	5.78	19.92
4.80	25.46	4.99	20.13
5.11	25.77	4.32	20.43
5.48	25.89	3.96	20.55
5.81	25.97	3.67	20.64
6.23	26.04	3.27	20.72
6.54	26.23	3.00	20.89
6.81	26.24	2.85	20.91
7.15	26.32	2.70	20.98
7.48	26.42	2.65	21.07
7.77	26.39	2.63	21.05
7.96	26.46	2.50	21.10

ST3 - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.05	22.95	11.34	17.36
1.30	23.21	11.29	17.57
1.35	23.34	11.11	17.69
1.35	23.32	11.11	17.68
1.23	23.30	11.14	17.66
0.99	23.06	11.28	17.45
0.97	23.00	11.34	17.40
0.97	22.98	11.36	17.38
1.04	23.00	11.36	17.39
1.18	23.02	11.37	17.41
1.33	23.14	11.33	17.51
1.49	23.24	11.20	17.61
1.65	23.74	10.73	18.07
1.81	23.85	10.57	18.17
1.92	23.85	10.47	18.19
2.12	23.70	10.31	18.10

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST3 - 14-Aug-11				ST4 - 14-Aug-11				ST4 - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t	Depth (m)	Salinity	Temp (°C)	Density σ_t	Depth (m)	Salinity	Temp (°C)	Density σ_t
2.29	23.86	9.98	18.27	4.45	25.09	7.28	19.60	23.84	26.87	-0.17	21.55
2.50	23.96	9.85	18.37	4.62	25.11	7.38	19.59	24.31	26.87	-0.21	21.56
2.74	23.83	9.55	18.31	4.86	24.97	7.02	19.53	24.69	26.92	-0.23	21.59
2.97	24.07	9.03	18.57	5.14	25.15	6.20	19.76	25.24	26.92	-0.22	21.59
3.21	24.04	8.73	18.59	5.49	25.35	5.10	20.03	25.76	26.91	-0.22	21.59
3.44	23.97	8.10	18.62	5.73	25.67	4.41	20.34	26.22	26.93	-0.24	21.60
3.68	24.83	7.42	19.37	5.93	25.82	4.01	20.49	26.66	26.94	-0.24	21.61
3.98	25.08	7.15	19.60	6.15	26.00	3.74	20.66	27.09	26.95	-0.25	21.62
4.25	25.21	6.87	19.74	6.37	26.08	3.58	20.73	27.55	26.95	-0.25	21.62
4.49	25.42	6.49	19.94	6.57	26.13	3.48	20.78	28.03	26.95	-0.26	21.62
4.75	25.41	6.13	19.97	6.77	26.15	3.41	20.80	28.45	26.96	-0.27	21.63
4.99	25.58	5.55	20.16	6.91	26.12	3.34	20.78	28.88	26.97	-0.29	21.63
5.22	25.66	5.15	20.27	7.12	26.12	3.22	20.79	29.28	26.97	-0.29	21.64
5.45	25.76	4.76	20.38	7.43	26.20	3.08	20.86	29.77	26.97	-0.30	21.64
5.75	25.91	4.38	20.53	7.64	26.22	3.00	20.88	30.23	26.98	-0.31	21.64
6.00	26.00	4.13	20.63	7.95	26.24	2.94	20.90	30.68	26.99	-0.31	21.65
6.27	25.98	3.97	20.62	8.24	26.27	2.89	20.93	31.14	26.99	-0.32	21.66
6.59	25.91	3.68	20.59	8.51	26.16	2.82	20.85	31.64	26.99	-0.33	21.66
6.87	26.06	3.34	20.73	8.78	26.19	2.57	20.89	31.94	27.00	-0.34	21.66
7.14	26.10	3.13	20.78	9.06	26.38	2.35	21.06	32.37	26.99	-0.35	21.65
7.44	26.25	2.91	20.92	9.31	26.33	2.26	21.02	32.90	27.00	-0.38	21.66
7.74	26.31	2.87	20.96	9.64	26.26	1.94	20.98	33.34	27.01	-0.40	21.67
7.97	26.31	2.83	20.96	9.93	26.41	1.69	21.11	33.87	27.01	-0.41	21.67
8.21	26.34	2.75	21.00	10.24	26.52	1.56	21.21	34.42	27.01	-0.43	21.67
8.47	26.35	2.66	21.01	10.60	26.54	1.52	21.22	34.97	27.02	-0.44	21.68
8.72	26.43	2.59	21.08	11.02	26.53	1.48	21.22	35.45	27.03	-0.46	21.69
9.02	26.40	2.55	21.06	11.35	26.57	1.43	21.25	35.95	27.02	-0.48	21.68
9.34	26.38	2.46	21.04	11.63	26.57	1.39	21.25	36.46	27.03	-0.52	21.69
9.63	26.45	2.36	21.11	12.07	26.62	1.35	21.30	36.99	27.04	-0.56	21.70
9.93	26.45	2.32	21.11	12.49	26.57	1.30	21.26	37.53	27.07	-0.59	21.72
10.25	26.49	2.26	21.15	12.82	26.50	1.16	21.21	37.98	27.08	-0.61	21.73
10.63	26.51	2.24	21.16	13.20	26.62	1.00	21.31	38.37	27.08	-0.63	21.73
10.91	26.52	2.20	21.17	13.60	26.69	0.94	21.37	38.89	27.08	-0.64	21.74
11.17	26.54	2.16	21.19	14.03	26.60	0.85	21.30	39.46	27.09	-0.65	21.74
11.52	26.52	2.09	21.18	14.47	26.66	0.71	21.36	40.06	27.09	-0.66	21.74
11.82	26.52	2.01	21.18	14.90	26.72	0.68	21.41	40.57	27.10	-0.69	21.75
11.89	26.58	1.96	21.23	15.28	26.73	0.66	21.42	41.26	27.10	-0.71	21.75
				15.60	26.74	0.63	21.42	41.91	27.12	-0.72	21.77
				15.95	26.73	0.59	21.42	42.70	27.12	-0.73	21.77
				16.26	26.75	0.56	21.44	43.36	27.13	-0.75	21.77
				16.56	26.76	0.54	21.44	44.05	27.12	-0.76	21.77
				16.88	26.74	0.52	21.43	44.76	27.14	-0.78	21.78
				17.21	26.69	0.45	21.39	45.53	27.14	-0.80	21.79
				17.52	26.76	0.35	21.45	46.07	27.15	-0.82	21.79
				17.83	26.80	0.31	21.48	46.56	27.16	-0.84	21.80
				18.20	26.82	0.30	21.50	47.02	27.17	-0.85	21.81
				18.57	26.79	0.28	21.47	47.64	27.17	-0.85	21.81
				18.88	26.81	0.24	21.49	47.82	27.17	-0.85	21.81
				19.27	26.81	0.22	21.49				
				19.65	26.80	0.18	21.49				
				20.00	26.84	0.14	21.52				
				20.36	26.88	0.14	21.55				
				20.76	26.83	0.15	21.51				
				21.08	26.83	0.12	21.51				
				21.50	26.85	0.10	21.53				
				21.90	26.85	0.07	21.53				
				22.30	26.83	0.04	21.52				
				22.61	26.82	0.00	21.51				
				23.07	26.84	-0.06	21.53				
				23.46	26.81	-0.10	21.51				

ST4 - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.00	22.83	10.37	17.42
1.06	22.83	10.52	17.39
1.11	22.86	10.57	17.41
1.22	22.99	10.57	17.51
1.56	23.58	10.41	17.99
1.82	23.58	10.22	18.02
1.95	23.62	9.80	18.11
2.05	23.80	9.35	18.32
2.24	23.96	9.12	18.47
2.51	24.06	8.98	18.57
2.74	24.17	8.89	18.67
2.96	24.30	8.81	18.78
3.18	24.40	8.67	18.88
3.40	24.44	8.59	18.92
3.61	24.50	8.51	18.98
3.81	24.59	8.33	19.07
4.05	24.45	8.12	18.99
4.27	24.47	7.71	19.06

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST5 - 14-Aug-11				ST5 - 14-Aug-11				ST5 - 14-Aug-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
1.02	23.05	9.12	17.76	20.38	26.85	0.13	21.53	51.46	27.20	-0.91	21.83
0.97	22.64	9.79	17.35	20.83	26.85	0.09	21.53	51.98	27.20	-0.92	21.83
0.95	22.54	10.00	17.24	21.31	26.87	0.03	21.55	52.53	27.21	-0.92	21.84
0.98	22.47	10.09	17.18	21.86	26.89	-0.02	21.56	52.98	27.21	-0.92	21.84
1.00	22.44	10.15	17.14	22.43	26.89	-0.05	21.57	53.51	27.21	-0.92	21.84
1.14	22.44	10.19	17.14	23.00	26.88	-0.07	21.56	53.99	27.21	-0.93	21.84
1.31	22.48	10.18	17.17	23.59	26.89	-0.13	21.57	54.45	27.21	-0.93	21.84
1.39	22.50	10.18	17.18	24.13	26.90	-0.17	21.57	54.92	27.21	-0.93	21.84
1.62	23.00	10.08	17.59	24.63	26.90	-0.22	21.58	55.39	27.21	-0.93	21.84
1.79	23.41	9.43	18.00	25.19	26.92	-0.28	21.60	55.91	27.21	-0.94	21.84
2.00	23.66	9.19	18.23	25.74	26.96	-0.33	21.63	56.35	27.22	-0.94	21.85
2.24	23.75	9.13	18.31	26.23	27.04	-0.29	21.70	56.79	27.22	-0.94	21.85
2.44	23.80	9.09	18.35	26.74	27.02	-0.25	21.68	57.21	27.22	-0.94	21.85
2.69	23.86	9.05	18.40	27.23	27.01	-0.25	21.67	57.62	27.22	-0.95	21.85
2.92	24.05	8.92	18.57	27.76	27.00	-0.25	21.66	58.02	27.22	-0.95	21.85
3.13	24.24	8.84	18.73	28.21	27.01	-0.26	21.67	58.47	27.22	-0.95	21.86
3.40	24.24	8.79	18.74	28.64	27.01	-0.28	21.67	58.82	27.23	-0.95	21.86
3.63	24.20	8.70	18.71	29.17	27.02	-0.29	21.67	58.97	27.23	-0.95	21.86
3.84	24.36	8.26	18.90	29.58	27.02	-0.32	21.68	59.34	27.22	-0.95	21.85
4.09	24.45	7.87	19.02	30.07	27.04	-0.35	21.69	59.53	27.23	-0.95	21.86
4.38	24.73	7.28	19.31	30.54	27.03	-0.36	21.69	59.53	27.23	-0.95	21.86
4.65	25.01	6.93	19.57	31.11	27.04	-0.38	21.70	59.48	27.23	-0.95	21.86
4.93	24.93	6.79	19.52	31.78	27.04	-0.40	21.70	59.62	27.23	-0.95	21.86
5.23	24.92	6.09	19.59	32.35	27.05	-0.42	21.70	59.82	27.23	-0.95	21.86
5.53	25.32	4.95	20.02	32.82	27.05	-0.46	21.70	60.07	27.23	-0.95	21.86
5.84	25.68	4.23	20.36	33.41	27.04	-0.50	21.70	60.34	27.23	-0.95	21.86
6.23	25.76	3.74	20.47	34.05	27.04	-0.56	21.70	60.77	27.23	-0.95	21.86
6.56	25.97	3.41	20.66	34.63	27.05	-0.61	21.71	61.26	27.23	-0.95	21.86
6.86	26.05	3.23	20.73	35.32	27.07	-0.65	21.73	61.70	27.23	-0.95	21.86
7.20	26.20	3.05	20.87	35.86	27.09	-0.69	21.74	62.04	27.23	-0.95	21.86
7.45	26.13	3.02	20.81	36.36	27.10	-0.71	21.75	62.94	27.24	-0.95	21.87
7.85	26.18	2.52	20.89	36.89	27.11	-0.72	21.76	63.44	27.24	-0.95	21.87
8.29	26.34	2.29	21.03	37.38	27.11	-0.73	21.76	64.00	27.24	-0.95	21.87
8.69	26.40	2.20	21.08	37.95	27.12	-0.74	21.77	64.53	27.25	-0.95	21.87
9.09	26.43	2.16	21.10	38.51	27.14	-0.75	21.78	65.01	27.25	-0.95	21.87
9.52	26.53	2.12	21.19	39.01	27.14	-0.76	21.78	65.63	27.26	-0.95	21.89
9.90	26.40	2.10	21.08	39.51	27.14	-0.76	21.78	66.40	27.27	-0.94	21.89
10.33	26.45	1.96	21.13	39.74	27.15	-0.77	21.79	67.08	27.27	-0.94	21.89
10.85	26.48	1.90	21.16	40.19	27.14	-0.77	21.79	67.57	27.27	-0.94	21.89
11.35	26.44	1.84	21.13	40.72	27.15	-0.77	21.79	67.74	27.27	-0.94	21.89
11.67	26.45	1.69	21.14	41.16	27.15	-0.78	21.79	68.17	27.27	-0.94	21.89
12.09	26.49	1.50	21.18	41.61	27.15	-0.79	21.79	69.00	27.27	-0.94	21.89
12.46	26.49	1.30	21.19	42.11	27.15	-0.80	21.79	69.62	27.27	-0.94	21.89
12.87	26.58	1.05	21.28	42.64	27.15	-0.80	21.79	70.13	27.27	-0.94	21.89
13.31	26.66	0.92	21.35	43.15	27.16	-0.81	21.80	70.35	27.27	-0.94	21.89
13.69	26.60	0.83	21.31	43.63	27.16	-0.82	21.80	71.10	27.27	-0.94	21.89
14.12	26.74	0.68	21.42	44.17	27.16	-0.83	21.80	71.40	27.27	-0.94	21.89
14.50	26.72	0.65	21.41	44.57	27.16	-0.83	21.80				
14.96	26.77	0.58	21.45	45.09	27.16	-0.84	21.80				
15.35	26.75	0.52	21.43	45.74	27.16	-0.85	21.80				
15.77	26.78	0.43	21.47	46.33	27.17	-0.85	21.81				
16.19	26.80	0.39	21.48	46.90	27.17	-0.85	21.81				
16.56	26.81	0.36	21.49	47.40	27.17	-0.86	21.81				
16.95	26.80	0.31	21.48	47.99	27.17	-0.86	21.81				
17.40	26.82	0.26	21.50	48.48	27.18	-0.87	21.82				
17.88	26.85	0.24	21.53	48.93	27.18	-0.88	21.82				
18.23	26.86	0.23	21.53	49.49	27.18	-0.88	21.82				
18.68	26.87	0.23	21.54	50.03	27.18	-0.89	21.82				
19.25	26.85	0.21	21.53	50.50	27.19	-0.90	21.82				
19.83	26.85	0.17	21.53	50.95	27.20	-0.91	21.83				

ST6 - 14-Aug-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.08	24.34	7.88	18.93
1.13	23.29	9.49	17.90
1.09	23.00	9.97	17.61
1.12	22.88	10.17	17.48
1.11	22.83	10.28	17.43
1.14	22.80	10.35	17.39
1.25	22.77	10.39	17.37
1.31	22.75	10.42	17.35

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST6 - 14-Aug-11				ST6 - 14-Aug-11				ST6 - 14-Aug-11			
Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density	Depth	Salinity	Temp	Density
(m)		(°C)	σ_t	(m)		(°C)	σ_t	(m)		(°C)	σ_t
1.20	22.74	10.44	17.34	24.51	26.83	-0.18	21.52	62.69	27.27	-0.96	21.89
1.62	22.73	10.46	17.33	24.83	26.94	-0.24	21.61	63.28	27.27	-0.96	21.89
1.97	22.75	10.45	17.34	25.36	26.96	-0.26	21.63	64.00	27.27	-0.95	21.89
2.23	22.77	10.41	17.36	25.91	26.97	-0.28	21.64	64.48	27.27	-0.95	21.89
2.34	22.80	10.36	17.40	26.39	26.97	-0.29	21.64	65.26	27.27	-0.95	21.89
2.56	23.02	10.03	17.61	26.64	26.98	-0.29	21.65	66.10	27.27	-0.95	21.89
2.76	23.21	9.76	17.80	27.34	27.02	-0.29	21.68	66.79	27.27	-0.95	21.89
2.90	23.67	9.15	18.24	28.03	27.03	-0.28	21.68	67.45	27.27	-0.95	21.89
3.13	23.93	8.78	18.50	28.75	27.02	-0.27	21.68	68.27	27.27	-0.95	21.89
3.35	24.07	8.68	18.62	29.40	26.99	-0.29	21.66	69.03	27.28	-0.95	21.90
3.65	24.04	8.64	18.60	30.08	26.97	-0.35	21.64	69.71	27.28	-0.95	21.90
3.86	23.92	8.46	18.53	30.65	27.04	-0.43	21.69	70.43	27.28	-0.95	21.90
4.19	24.51	7.76	19.08	31.28	27.03	-0.46	21.68	71.07	27.28	-0.95	21.90
4.48	24.70	6.58	19.37	31.94	27.05	-0.51	21.71	71.70	27.28	-0.95	21.90
4.73	25.00	5.64	19.70	32.60	27.07	-0.54	21.72	72.37	27.28	-0.95	21.90
4.92	25.30	4.70	20.03	33.18	27.07	-0.57	21.73	72.94	27.28	-0.95	21.90
5.03	25.78	4.00	20.46	33.87	27.08	-0.61	21.73	73.41	27.29	-0.95	21.91
5.33	25.74	3.64	20.46	34.61	27.09	-0.66	21.74	73.71	27.29	-0.95	21.91
5.52	25.97	3.28	20.67	35.33	27.10	-0.70	21.75	74.23	27.29	-0.94	21.90
5.89	26.12	2.99	20.80	35.86	27.12	-0.72	21.77	74.84	27.29	-0.94	21.91
6.10	26.21	2.76	20.89	36.39	27.13	-0.73	21.78	75.48	27.29	-0.94	21.90
6.37	26.31	2.56	20.98	37.05	27.14	-0.75	21.78	75.91	27.29	-0.94	21.91
6.85	26.28	2.43	20.97	37.73	27.15	-0.76	21.79	76.40	27.29	-0.94	21.91
7.34	26.38	2.22	21.06	38.40	27.15	-0.77	21.80	76.95	27.29	-0.94	21.91
7.74	26.44	2.10	21.11	38.82	27.16	-0.79	21.80	77.40	27.29	-0.94	21.91
8.22	26.46	2.01	21.14	39.46	27.17	-0.79	21.81	78.11	27.30	-0.94	21.91
8.58	26.40	1.91	21.09	40.23	27.17	-0.81	21.81	78.17	27.30	-0.94	21.91
8.71	26.51	1.80	21.18	40.82	27.18	-0.82	21.81	78.34	27.29	-0.94	21.91
9.02	26.48	1.74	21.17	41.55	27.18	-0.83	21.82	78.70	27.29	-0.94	21.91
9.52	26.55	1.66	21.23	42.22	27.18	-0.84	21.82	78.85	27.30	-0.94	21.91
9.94	26.56	1.62	21.24	42.94	27.19	-0.85	21.82	79.37	27.30	-0.94	21.91
10.25	26.57	1.59	21.24	43.69	27.19	-0.86	21.83	79.84	27.30	-0.94	21.91
10.81	26.56	1.50	21.24	44.29	27.19	-0.88	21.83	80.35	27.29	-0.94	21.91
11.32	26.55	1.37	21.24	44.84	27.20	-0.89	21.84	80.36	27.30	-0.94	21.92
11.59	26.60	1.26	21.29	45.46	27.20	-0.90	21.84	80.22	27.30	-0.94	21.92
12.15	26.58	1.11	21.28	46.13	27.20	-0.90	21.84	80.31	27.30	-0.94	21.92
12.59	26.66	1.01	21.34	46.77	27.21	-0.92	21.84	80.28	27.30	-0.94	21.91
13.05	26.68	0.97	21.36	47.50	27.22	-0.92	21.85	80.71	27.30	-0.94	21.91
13.51	26.70	0.95	21.38	48.21	27.22	-0.93	21.85	81.07	27.30	-0.94	21.92
13.81	26.70	0.93	21.38	48.86	27.22	-0.93	21.85	81.60	27.30	-0.94	21.91
14.24	26.66	0.83	21.35	49.40	27.23	-0.94	21.86	81.84	27.30	-0.94	21.91
14.72	26.72	0.73	21.41	50.05	27.23	-0.94	21.86	81.99	27.30	-0.94	21.92
15.19	26.72	0.67	21.40	50.71	27.23	-0.95	21.86	82.19	27.30	-0.94	21.92
15.75	26.75	0.59	21.44	51.40	27.24	-0.95	21.87	82.35	27.30	-0.94	21.91
16.33	26.77	0.55	21.45	51.99	27.24	-0.95	21.87				
16.81	26.78	0.52	21.46	52.13	27.24	-0.96	21.87				
17.26	26.79	0.51	21.47	52.70	27.24	-0.96	21.87				
17.75	26.79	0.50	21.47	53.42	27.24	-0.96	21.87				
18.14	26.80	0.49	21.48	53.85	27.24	-0.96	21.87				
18.65	26.80	0.49	21.47	54.65	27.24	-0.96	21.87				
19.12	26.77	0.41	21.46	55.34	27.25	-0.96	21.87				
19.64	26.79	0.33	21.48	56.19	27.25	-0.96	21.87				
20.01	26.83	0.28	21.50	57.12	27.25	-0.96	21.87				
20.62	26.83	0.26	21.51	57.91	27.25	-0.96	21.87				
21.14	26.85	0.24	21.52	58.49	27.25	-0.96	21.87				
21.52	26.85	0.23	21.52	59.23	27.25	-0.96	21.88				
22.08	26.84	0.22	21.52	59.99	27.26	-0.96	21.88				
22.78	26.84	0.21	21.52	60.38	27.26	-0.96	21.88				
23.46	26.80	0.15	21.48	61.23	27.26	-0.96	21.88				
24.03	26.75	0.02	21.45	62.00	27.26	-0.96	21.88				

ST6B - 14-Aug-11			
Depth	Salinity	Temp	Density
(m)		(°C)	σ_t
1.08	23.69	8.95	18.28
1.06	23.46	9.30	18.06
1.08	23.37	9.45	17.97
1.12	23.32	9.53	17.92
1.12	23.30	9.58	17.89
1.11	23.28	9.61	17.88
1.11	23.27	9.63	17.86
1.01	23.26	9.64	17.85
1.03	23.24	9.65	17.84
1.08	23.24	9.65	17.84
1.06	23.24	9.66	17.84

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST6B - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
1.05	23.24	9.67	17.84
1.05	23.24	9.68	17.83
1.00	23.23	9.68	17.83
1.00	23.23	9.68	17.82
1.01	23.23	9.68	17.82
0.96	23.23	9.69	17.82
1.27	23.23	9.69	17.83
1.55	23.23	9.70	17.82
1.63	23.22	9.70	17.81
1.63	23.23	9.68	17.83
1.97	23.24	9.68	17.83
2.38	23.25	9.65	17.85
2.80	23.03	9.20	17.73
3.27	24.11	7.75	18.77
3.56	24.16	7.13	18.88
3.75	24.30	6.55	19.05
4.10	24.87	5.30	19.63
4.56	25.21	4.64	19.95
5.15	25.44	4.14	20.18
5.74	25.32	3.68	20.12
6.27	25.85	2.82	20.60
6.72	26.11	2.39	20.84
7.06	26.27	2.21	20.97
7.60	26.32	2.10	21.02
8.23	26.41	1.91	21.10
8.62	26.47	1.76	21.16
9.10	26.44	1.52	21.14
9.76	26.50	1.37	21.20
10.32	26.60	1.28	21.29
10.83	26.60	1.23	21.29
11.28	26.61	1.18	21.30
11.73	26.59	1.13	21.28
12.08	26.58	1.00	21.28
12.71	26.49	0.84	21.21
13.39	26.64	0.62	21.34
13.90	26.64	0.52	21.34
14.40	26.69	0.33	21.39
15.04	26.79	0.23	21.47
15.48	26.82	0.19	21.50
15.94	26.84	0.16	21.52
16.49	26.82	0.10	21.51
17.09	26.83	0.04	21.52
17.70	26.83	-0.04	21.51
18.22	26.88	-0.09	21.56
18.71	26.89	-0.10	21.57
19.16	26.90	-0.10	21.58
19.60	26.91	-0.11	21.59
19.97	26.91	-0.11	21.58
20.24	26.91	-0.11	21.58
20.67	26.90	-0.12	21.57
20.98	26.87	-0.16	21.56
21.46	26.89	-0.24	21.57
22.07	26.92	-0.28	21.60
22.71	26.91	-0.30	21.59
23.12	26.95	-0.34	21.62
23.48	26.92	-0.37	21.60
23.82	26.95	-0.42	21.62
24.42	26.97	-0.45	21.64
25.23	27.01	-0.44	21.67
25.97	27.00	-0.44	21.67

ST6B - 14-Aug-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
26.57	27.00	-0.46	21.66
27.17	27.00	-0.50	21.67
27.57	27.01	-0.52	21.67
28.19	27.00	-0.54	21.67
28.91	27.03	-0.58	21.69
29.48	27.05	-0.60	21.71
30.17	27.05	-0.60	21.71
30.94	27.06	-0.60	21.71
31.57	27.08	-0.60	21.73
32.07	27.09	-0.61	21.74
32.48	27.08	-0.62	21.73
33.05	27.08	-0.64	21.73
33.74	27.08	-0.66	21.74
34.24	27.06	-0.68	21.72
34.59	27.10	-0.73	21.75
35.23	27.11	-0.75	21.76
35.89	27.11	-0.77	21.76
36.51	27.12	-0.79	21.77
37.27	27.15	-0.81	21.79
38.03	27.15	-0.81	21.79
38.68	27.15	-0.81	21.79
39.42	27.16	-0.82	21.80
40.10	27.16	-0.83	21.80
40.74	27.16	-0.84	21.80
41.28	27.17	-0.85	21.81
41.82	27.18	-0.85	21.81
42.47	27.18	-0.86	21.82
43.00	27.19	-0.87	21.82
43.52	27.19	-0.88	21.82
44.10	27.19	-0.89	21.83
44.72	27.21	-0.89	21.84
45.39	27.20	-0.90	21.83
45.98	27.20	-0.91	21.83
46.55	27.22	-0.92	21.85
47.18	27.22	-0.92	21.85
48.02	27.22	-0.93	21.85
48.83	27.23	-0.94	21.86
49.70	27.23	-0.94	21.86
50.41	27.23	-0.94	21.86
51.19	27.24	-0.94	21.87
51.89	27.24	-0.94	21.87
52.27	27.24	-0.95	21.87
53.02	27.24	-0.95	21.87
53.70	27.24	-0.95	21.87
54.41	27.25	-0.95	21.88
55.10	27.25	-0.95	21.88
55.55	27.26	-0.95	21.88
56.10	27.25	-0.95	21.88
56.78	27.26	-0.95	21.88
56.87	27.26	-0.95	21.88

RBW - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.32	20.58	11.45	15.51
0.86	23.85	6.28	18.73
1.16	24.83	4.89	19.64
2.06	25.22	4.37	19.99
2.68	25.41	4.11	20.16

RBW - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
3.22	25.53	3.96	20.26
3.61	25.63	3.81	20.35
4.75	25.65	3.57	20.39
4.97	25.87	3.27	20.58

ST2 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.61	22.08	8.88	17.04
1.40	24.77	4.69	19.60
2.50	25.46	3.72	20.23
3.35	25.78	3.32	20.51
4.12	25.96	3.10	20.67
4.86	26.00	2.97	20.71
4.94	26.11	2.88	20.80
5.27	26.14	2.80	20.83
5.27	26.17	2.76	20.86
6.04	26.20	2.69	20.89

ST3 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.88	23.99	5.76	18.89
1.57	25.27	3.96	20.06
2.46	25.70	3.40	20.44
3.29	25.91	3.15	20.62
4.18	26.02	3.02	20.72
4.92	26.07	2.95	20.77
5.88	26.11	2.90	20.81
6.19	26.13	2.86	20.82
7.03	26.15	2.84	20.84
8.26	26.16	2.83	20.85
9.31	26.18	2.81	20.86
10.39	26.16	2.77	20.85
10.98	26.19	2.65	20.88

ST4 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.54	15.25	8.06	11.80
0.88	25.05	4.34	19.85
1.63	25.60	3.62	20.35
2.33	25.82	3.33	20.54
2.89	25.93	3.18	20.64
3.54	25.99	3.09	20.70
4.69	26.03	3.05	20.73
5.77	26.06	3.01	20.75
6.82	26.07	2.97	20.77
7.72	26.09	2.94	20.79
8.80	26.10	2.89	20.80
9.79	26.13	2.85	20.82
10.43	26.15	2.83	20.84
11.33	26.16	2.81	20.85
12.55	26.16	2.80	20.85
14.05	26.17	2.77	20.86
15.01	26.20	2.69	20.89
16.13	26.25	2.52	20.94

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST4 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
17.34	26.33	2.42	21.01
18.60	26.34	2.36	21.02
19.38	26.41	2.27	21.08
20.24	26.33	2.20	21.02
21.52	26.38	1.97	21.08
22.66	26.45	1.65	21.15
24.04	26.52	1.31	21.22
25.35	26.58	1.04	21.28
26.25	26.72	0.77	21.40
27.27	26.76	0.52	21.44
28.22	26.83	0.34	21.51
29.09	26.90	0.22	21.56
30.01	26.92	0.14	21.58
31.21	26.95	0.04	21.61
32.43	26.99	-0.04	21.65
33.51	26.99	-0.09	21.65
34.67	27.00	-0.14	21.65
35.54	27.02	-0.24	21.68
36.65	27.04	-0.34	21.69
37.79	27.09	-0.42	21.74
38.86	27.10	-0.48	21.74
39.87	27.14	-0.53	21.78
40.96	27.18	-0.58	21.81
42.11	27.20	-0.60	21.83
43.19	27.21	-0.62	21.84
44.36	27.22	-0.62	21.84
45.44	27.23	-0.64	21.85
46.31	27.25	-0.65	21.87
47.11	27.28	-0.65	21.89

ST5 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.73	25.10	4.26	19.90
1.54	25.62	3.63	20.36
2.65	25.79	3.39	20.52
3.41	25.88	3.28	20.60
4.19	25.93	3.21	20.64
5.08	25.96	3.17	20.66
6.19	25.97	3.13	20.68
7.45	26.00	3.09	20.70
8.54	26.04	3.04	20.74
9.70	26.07	3.01	20.77
10.85	26.09	2.98	20.78
11.86	26.09	2.96	20.78
12.80	26.10	2.94	20.79
13.68	26.10	2.94	20.79
14.36	26.10	2.93	20.79
14.99	26.10	2.91	20.80
15.74	26.14	2.84	20.83
16.41	26.19	2.79	20.87
17.36	26.21	2.69	20.89
18.37	26.23	2.52	20.93
19.37	26.30	2.31	20.99
20.04	26.38	2.12	21.07
20.62	26.45	2.02	21.13
21.45	26.46	1.95	21.14
22.33	26.48	1.73	21.17
23.26	26.57	1.44	21.25

ST5 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
24.15	26.60	1.04	21.29
24.82	26.69	0.82	21.38
25.80	26.76	0.61	21.44
26.56	26.85	0.40	21.52
27.46	26.88	0.29	21.55
28.09	26.95	0.20	21.61
28.93	26.96	0.12	21.62
29.71	26.92	0.00	21.59
30.73	26.99	-0.14	21.65
31.57	27.02	-0.24	21.68
32.28	27.07	-0.32	21.72
32.77	27.09	-0.37	21.74
33.63	27.12	-0.41	21.76
34.54	27.13	-0.46	21.77
35.53	27.15	-0.51	21.79
36.37	27.15	-0.54	21.79
37.23	27.16	-0.57	21.80
37.68	27.19	-0.60	21.82
38.62	27.22	-0.61	21.84
39.51	27.22	-0.62	21.85
40.36	27.24	-0.64	21.86
40.36	27.24	-0.65	21.86
41.35	27.25	-0.66	21.87
42.88	27.24	-0.67	21.86
43.88	27.27	-0.69	21.89
44.51	27.28	-0.70	21.90
44.77	27.29	-0.70	21.91
45.57	27.29	-0.71	21.90
46.88	27.29	-0.71	21.90
48.21	27.30	-0.71	21.92
49.35	27.31	-0.70	21.92
50.80	27.32	-0.70	21.93
51.09	27.33	-0.70	21.93
52.02	27.33	-0.70	21.94
53.02	27.34	-0.69	21.95
53.39	27.34	-0.69	21.95
53.92	27.34	-0.68	21.95
55.03	27.36	-0.67	21.96
55.65	27.36	-0.66	21.96
56.48	27.36	-0.66	21.96
57.22	27.37	-0.66	21.96
58.52	27.36	-0.66	21.96
58.91	27.36	-0.66	21.96
60.06	27.37	-0.66	21.97
61.07	27.38	-0.66	21.98
62.19	27.37	-0.65	21.97
62.74	27.38	-0.65	21.98
63.24	27.38	-0.65	21.98
64.45	27.38	-0.65	21.98
64.49	27.38	-0.65	21.98
65.44	27.39	-0.65	21.98
66.28	27.40	-0.64	21.99
67.69	27.41	-0.62	22.00
68.84	27.42	-0.61	22.01
69.72	27.42	-0.60	22.00
70.79	27.41	-0.59	22.00
70.96	27.42	-0.59	22.00
71.36	27.41	-0.59	22.00
72.01	27.42	-0.59	22.00
72.39	27.42	-0.59	22.00

ST5 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
72.79	27.42	-0.59	22.00

ST6 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.96	25.38	4.08	20.14
2.70	25.65	3.72	20.38
3.15	25.74	3.60	20.46
4.37	25.79	3.54	20.50
5.10	25.81	3.51	20.53
5.78	25.83	3.50	20.54
6.76	25.83	3.50	20.54
8.01	25.83	3.49	20.54
8.81	25.84	3.46	20.55
10.27	25.88	3.29	20.59
11.31	25.97	3.14	20.67
12.26	26.05	3.05	20.75
13.40	26.07	3.01	20.76
14.56	26.09	2.93	20.78
15.34	26.15	2.84	20.84
16.39	26.21	2.77	20.89
17.22	26.28	2.75	20.95
18.17	26.21	2.53	20.91
18.99	26.40	2.25	21.08
19.42	26.49	2.16	21.15
20.60	26.43	2.09	21.11
21.50	26.50	1.88	21.17
22.34	26.57	1.66	21.24
23.46	26.55	1.46	21.24
24.84	26.59	0.94	21.29
26.18	26.77	0.56	21.45
27.55	26.82	0.35	21.49
28.18	26.92	0.10	21.59
28.91	26.97	-0.02	21.63
29.55	27.02	-0.11	21.67
30.36	27.06	-0.19	21.70
30.89	27.10	-0.25	21.74
31.86	27.11	-0.29	21.75
33.02	27.09	-0.33	21.74
33.89	27.12	-0.41	21.76
34.55	27.13	-0.45	21.77
35.60	27.15	-0.51	21.79
36.62	27.18	-0.56	21.81
37.64	27.18	-0.59	21.81
38.91	27.23	-0.64	21.86
39.51	27.25	-0.65	21.87
39.33	27.26	-0.66	21.88
39.30	27.27	-0.66	21.89
40.39	27.25	-0.67	21.87
41.16	27.27	-0.69	21.89
41.81	27.28	-0.70	21.89
43.05	27.29	-0.70	21.90
44.05	27.30	-0.69	21.91
44.84	27.31	-0.70	21.92
45.49	27.32	-0.70	21.93
46.55	27.33	-0.69	21.93
47.78	27.33	-0.70	21.94
48.27	27.33	-0.69	21.93
49.25	27.36	-0.70	21.96

Table A3-1.2. Open-Water Data for Temperature, Salinity and Density in Roberts Bay, Doris North Project, July-October 2011

ST6 - 11-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
50.11	27.37	-0.70	21.97
50.78	27.37	-0.69	21.97
51.68	27.37	-0.69	21.97
52.71	27.37	-0.69	21.97
53.77	27.38	-0.68	21.97
54.82	27.38	-0.68	21.98
55.48	27.39	-0.67	21.98
56.18	27.39	-0.67	21.99
56.95	27.40	-0.66	21.99
57.80	27.41	-0.65	22.00
58.42	27.41	-0.64	22.00
59.08	27.40	-0.64	21.99
59.94	27.40	-0.63	21.99
61.03	27.41	-0.63	22.00
61.82	27.41	-0.63	22.00
62.75	27.41	-0.63	22.00
63.99	27.40	-0.63	21.99
64.87	27.41	-0.63	22.00
66.05	27.42	-0.63	22.00
67.11	27.42	-0.62	22.01
67.96	27.42	-0.62	22.01
69.16	27.42	-0.61	22.01
70.17	27.43	-0.61	22.01
70.99	27.42	-0.60	22.01
71.52	27.43	-0.60	22.01
72.42	27.44	-0.60	22.02
73.19	27.44	-0.59	22.03
73.97	27.44	-0.58	22.02
74.82	27.44	-0.57	22.02
75.81	27.44	-0.57	22.02
76.78	27.46	-0.57	22.04
77.69	27.46	-0.56	22.04
78.51	27.46	-0.55	22.04
79.25	27.46	-0.54	22.04
79.91	27.46	-0.53	22.04
80.64	27.47	-0.53	22.05
80.88	27.47	-0.52	22.04

ST6B - 25-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
0.87	26.56	2.61	21.18
1.01	26.14	3.12	20.82
1.10	26.03	3.26	20.72
1.38	25.99	3.32	20.68
1.46	25.96	3.35	20.65
2.30	25.95	3.37	20.64
2.97	25.93	3.38	20.63
3.40	25.94	3.38	20.63
4.16	25.93	3.38	20.63
5.25	25.93	3.39	20.63
5.96	25.93	3.39	20.63
6.86	25.93	3.39	20.63
7.62	25.93	3.39	20.62
8.08	25.93	3.39	20.63
9.33	25.93	3.39	20.62
10.41	25.93	3.38	20.62
11.59	25.93	3.38	20.62
12.66	25.93	3.39	20.63

ST6B - 25-Sep-11			
Depth (m)	Salinity	Temp (°C)	Density σ_t
13.92	25.94	3.38	20.63
15.21	25.93	3.38	20.63
16.43	25.90	3.38	20.60
16.97	25.93	3.38	20.62
18.15	25.95	3.38	20.64
19.26	25.90	3.39	20.60
19.95	25.94	3.38	20.63
20.69	25.92	3.38	20.62
21.22	25.90	3.39	20.61
22.00	25.93	3.38	20.63
22.64	25.92	3.38	20.62
23.62	25.93	3.37	20.63
24.61	25.95	3.36	20.64
25.81	25.86	3.34	20.58
26.61	25.96	3.33	20.66
27.31	25.95	3.33	20.64
28.15	25.97	3.32	20.67
29.04	25.90	3.31	20.61
30.47	25.95	3.27	20.65
31.92	25.80	3.08	20.55
33.07	25.96	2.19	20.73
33.84	26.41	1.53	21.12
34.54	26.44	1.21	21.16
35.78	26.66	0.76	21.35
36.65	26.82	0.52	21.49
37.19	26.78	0.37	21.46
38.44	26.86	0.17	21.54
39.19	26.98	-0.02	21.64
39.78	26.98	-0.08	21.64
40.71	27.10	-0.14	21.73
41.18	27.07	-0.22	21.72
41.70	27.10	-0.28	21.74
42.47	27.09	-0.38	21.74
43.42	27.11	-0.47	21.75
44.17	27.19	-0.49	21.82
45.10	27.21	-0.51	21.83
45.63	27.20	-0.55	21.83
46.58	27.22	-0.59	21.84
47.21	27.25	-0.61	21.87
47.88	27.29	-0.62	21.90
48.29	27.25	-0.65	21.87
48.93	27.28	-0.65	21.90
49.56	27.31	-0.65	21.92
50.73	27.32	-0.65	21.93
51.65	27.31	-0.65	21.91
52.15	27.33	-0.65	21.93
52.94	27.35	-0.64	21.95
54.62	27.34	-0.64	21.94
55.54	27.35	-0.65	21.96
55.61	27.36	-0.64	21.96

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT8 - 18-Mar-11			WT8 - 18-Mar-11			WT4 - 23-Apr-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
1.78	14.09	111.57	27.16	12.27	97.29	1.50	11.90	94.61
2.54	13.96	110.59	27.39	12.27	97.28	1.86	11.90	94.59
2.98	13.92	110.24	28.05	12.27	97.34	1.87	11.91	94.64
3.30	13.79	109.24	28.45	12.26	97.31	1.87	11.90	94.57
3.37	13.66	108.22	28.98	12.28	97.60	1.88	11.91	94.63
3.39	13.58	107.60	29.51	12.26	97.52	1.88	11.90	94.61
3.43	13.51	107.01	30.28	12.26	97.72	1.88	11.90	94.61
3.65	13.40	106.19	30.93	12.22	97.36	1.88	11.90	94.59
3.91	13.32	105.51	31.41	12.20	97.29	1.88	11.91	94.62
4.23	13.25	104.96	31.62	12.18	97.13	1.88	11.90	94.54
4.70	13.19	104.53	32.41	12.17	97.15	1.88	11.90	94.55
5.12	13.11	103.91	33.32	12.16	97.44	1.88	11.90	94.57
5.53	13.05	103.41	33.90	12.11	97.46	1.89	11.90	94.60
5.75	13.00	103.03	34.54	12.05	97.32	1.89	11.90	94.58
6.18	12.94	102.56	35.28	11.94	96.92	1.89	11.90	94.55
6.37	12.90	102.24	35.76	0.00	0.00	1.89	11.90	94.60
6.71	12.87	101.98	36.58	11.71	95.46	2.33	11.89	94.49
6.96	12.83	101.66	37.33	11.63	94.89	2.86	11.89	94.54
7.68	12.79	101.39	37.84	11.53	94.18	2.90	11.89	94.54
7.98	12.76	101.10	38.26	11.44	93.57	2.90	11.90	94.57
8.34	12.72	100.84	38.50	11.35	92.93	2.90	11.89	94.52
8.68	12.69	100.59	38.86	11.26	92.25	2.90	11.90	94.57
9.00	12.66	100.37	39.14	11.18	91.61	2.90	11.90	94.60
9.31	12.63	100.10	40.04	11.09	90.88	2.91	11.90	94.56
9.62	12.61	99.95	40.96	11.01	90.19	2.92	11.91	94.62
10.00	12.59	99.78	41.57	10.96	89.78	2.92	11.90	94.58
10.28	12.57	99.61	42.05	10.90	89.28	2.92	11.89	94.53
10.87	12.54	99.39	42.66	10.85	88.88	2.92	11.90	94.59
11.11	12.52	99.24	43.49	10.80	88.55	2.92	11.90	94.57
11.50	12.50	99.05	44.02	10.75	88.16	2.93	11.89	94.50
12.04	12.48	98.92	44.04	10.70	87.76	2.93	11.89	94.52
12.55	12.46	98.77				2.93	11.90	94.58
12.89	12.44	98.60				2.93	11.90	94.59
13.00	12.43	98.52				2.93	11.90	94.54
13.38	12.42	98.44				2.96	11.89	94.53
13.83	12.41	98.35				3.79	11.89	94.52
13.97	12.39	98.25				3.88	11.90	94.61
14.36	12.39	98.18				3.88	11.90	94.55
14.81	12.38	98.14				3.88	11.89	94.49
15.45	12.37	98.03				3.88	11.89	94.52
15.71	12.36	97.99				3.88	11.88	94.44
16.43	12.35	97.90				3.88	11.90	94.56
16.83	12.34	97.83				3.88	11.89	94.53
17.39	12.33	97.77				3.88	11.90	94.57
17.70	12.33	97.74				3.89	11.90	94.57
18.17	12.32	97.69				3.89	11.89	94.52
18.61	12.32	97.64				3.89	11.89	94.52
19.15	12.31	97.64				3.89	11.90	94.55
19.56	12.30	97.54				3.89	11.90	94.55
19.94	12.30	97.51				3.89	11.89	94.47
20.52	12.30	97.48				3.89	11.89	94.50
21.04	12.29	97.40				3.89	11.89	94.52
21.59	12.29	97.40				3.89	11.90	94.57
21.94	12.29	97.41				3.89	11.89	94.48
22.46	12.28	97.36				3.89	11.90	94.56
23.16	12.28	97.36				3.89	11.89	94.50
23.75	12.28	97.38				3.89	11.90	94.54
24.23	12.27	97.32				3.89	11.90	94.54
25.51	12.27	97.30				3.89	11.89	94.52
26.18	12.27	97.30				3.90	11.89	94.51

RBW - 24-Apr-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.80	12.29	95.20
2.11	12.28	95.12
2.88	12.29	95.22
3.16	12.29	95.28
3.97	12.30	95.41
4.26	12.30	95.49
4.67	12.30	95.49
4.90	12.30	95.52
5.16	12.35	95.80

WT2 - 21-Apr-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.51	13.29	107.08
1.60	13.18	106.23
1.71	13.08	105.40
1.79	13.02	104.89
1.86	13.18	106.24
1.98	13.21	106.48
2.12	13.05	105.17
2.55	13.00	104.69

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-Apr-11			WT4 - 23-Apr-11			WT4 - 23-Apr-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
3.90	11.89	94.48	7.77	11.89	94.47	11.73	11.87	94.31
3.93	11.89	94.51	7.77	11.89	94.47	11.73	11.86	94.27
4.81	11.88	94.40	7.77	11.89	94.50	11.73	11.86	94.27
4.87	11.89	94.46	7.77	11.89	94.49	11.73	11.87	94.37
4.87	11.90	94.55	7.78	11.89	94.52	11.73	11.88	94.40
4.87	11.88	94.44	7.78	11.88	94.44	11.73	11.87	94.35
4.88	11.89	94.47	7.78	11.89	94.47	11.73	11.87	94.38
4.88	11.88	94.43	7.78	11.89	94.47	11.73	11.87	94.31
4.88	11.88	94.45	7.78	11.89	94.47	11.74	11.87	94.38
4.88	11.88	94.45	7.78	11.89	94.47	11.74	11.87	94.37
4.88	11.89	94.47	7.78	11.89	94.47	11.74	11.87	94.37
4.88	11.89	94.47	7.78	11.88	94.46	11.74	11.87	94.35
4.88	11.89	94.47	7.78	11.88	94.43	11.74	11.87	94.31
4.88	11.89	94.47	7.79	11.89	94.46	11.74	11.88	94.41
4.88	11.89	94.47	7.81	11.88	94.45	11.74	11.87	94.35
4.88	11.88	94.45	7.81	11.88	94.42	11.74	11.87	94.34
5.65	11.88	94.39	7.97	11.88	94.41	11.74	11.88	94.40
5.73	11.87	94.37	8.80	11.88	94.42	11.74	11.87	94.37
5.83	11.88	94.45	8.80	11.88	94.42	11.92	11.86	94.26
5.83	11.88	94.43	8.82	11.87	94.37	13.12	11.85	94.18
5.84	11.89	94.50	8.83	11.88	94.42	13.66	11.85	94.15
5.86	11.88	94.39	8.84	11.88	94.39	13.68	11.85	94.20
5.90	11.88	94.44	8.84	11.89	94.48	13.69	11.85	94.20
5.91	11.88	94.42	8.84	11.88	94.42	13.69	11.86	94.25
5.91	11.88	94.42	8.84	11.89	94.48	13.69	11.86	94.27
5.91	11.89	94.49	8.84	11.88	94.45	13.69	11.86	94.30
5.91	11.88	94.42	8.84	11.88	94.42	13.69	11.86	94.24
5.91	11.88	94.42	8.84	11.88	94.42	13.69	11.86	94.25
5.92	11.88	94.41	8.84	11.88	94.40	13.69	11.86	94.23
5.92	11.88	94.45	8.84	11.88	94.39	13.69	11.86	94.28
5.92	11.88	94.43	8.84	11.88	94.41	13.69	11.86	94.25
5.92	11.88	94.40	8.84	11.88	94.41	13.69	11.86	94.27
5.92	11.88	94.44	8.85	11.88	94.46	13.69	11.86	94.24
5.92	11.88	94.39	8.85	11.88	94.42	13.69	11.87	94.32
5.92	11.88	94.44	8.85	11.88	94.43	13.69	11.85	94.22
5.92	11.88	94.46	8.85	11.88	94.45	13.69	11.85	94.19
6.76	11.88	94.44	9.50	11.87	94.38	13.69	11.86	94.24
6.78	11.88	94.45	9.73	11.87	94.36	14.25	11.85	94.14
6.78	11.89	94.47	9.74	11.87	94.37	15.48	11.84	94.11
6.79	11.89	94.51	9.78	11.88	94.39	15.69	11.85	94.17
6.80	11.88	94.44	9.78	11.88	94.40	15.73	11.84	94.14
6.80	11.89	94.48	9.78	11.88	94.39	15.77	11.85	94.20
6.80	11.88	94.43	9.78	11.88	94.39	15.77	11.84	94.12
6.80	11.88	94.43	9.78	11.87	94.35	15.78	11.84	94.11
6.80	11.88	94.38	9.79	11.87	94.36	15.78	11.84	94.13
6.81	11.89	94.48	9.79	11.88	94.39	15.78	11.85	94.21
6.81	11.88	94.45	9.79	11.87	94.38	15.78	11.85	94.18
6.81	11.89	94.47	9.79	11.87	94.38	15.78	11.85	94.19
6.81	11.88	94.43	9.79	11.88	94.42	15.78	11.84	94.14
6.81	11.88	94.44	9.80	11.87	94.37	15.78	11.84	94.13
6.81	11.88	94.42	9.80	11.88	94.40	15.78	11.84	94.13
6.82	11.88	94.44	9.80	11.88	94.43	15.79	11.84	94.12
6.84	11.89	94.46	9.80	11.87	94.35	16.40	11.82	93.99
6.85	11.89	94.50	10.14	11.87	94.35	17.63	11.83	94.01
6.85	11.88	94.46	10.34	11.87	94.38	17.64	11.80	93.79
6.85	11.89	94.48	10.81	11.86	94.29	17.65	11.83	94.03
6.86	11.89	94.47	11.70	11.86	94.29	17.65	11.83	94.04
6.86	11.88	94.44	11.72	11.86	94.29	17.65	11.83	94.04
6.86	11.88	94.40	11.72	11.86	94.29	17.65	11.82	93.94
7.77	11.89	94.48	11.72	11.87	94.36	17.65	11.83	94.05

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-Apr-11			WT4 - 23-Apr-11			WT4 - 23-Apr-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
17.65	11.83	94.02	24.58	11.70	93.00	34.50	10.13	82.95
17.65	11.83	94.01	24.58	11.70	93.04	34.50	10.16	83.17
17.66	11.83	94.01	24.59	11.73	93.27	34.61	10.09	82.69
17.67	11.82	93.93	24.59	11.68	92.90	35.19	10.09	82.66
17.67	11.82	93.95	24.59	11.79	93.79	35.33	10.08	82.63
17.67	11.82	93.95	24.59	11.79	93.75	36.05	10.08	82.58
17.67	11.82	93.96	24.59	11.77	93.60	36.66	10.07	82.49
17.69	11.81	93.85	24.59	11.77	93.65	37.17	10.06	82.40
17.69	11.82	94.00	24.59	11.79	93.79	38.03	10.05	82.36
17.69	11.81	93.85	24.60	11.76	93.53	39.15	10.04	82.21
17.69	11.78	93.66	25.72	11.58	92.02	39.30	10.02	82.10
17.69	11.82	93.92	27.22	11.53	91.65	39.33	10.03	82.19
17.69	11.81	93.89	28.31	11.47	91.19	39.34	10.04	82.23
17.70	11.81	93.87	29.26	10.67	84.95	39.35	10.04	82.23
18.51	11.78	93.69	29.40	11.44	90.91	39.35	10.04	82.24
19.41	11.82	94.08	29.40	11.44	90.93	39.35	10.04	82.26
19.51	11.82	94.05	29.40	11.37	90.38	39.35	10.04	82.24
19.61	11.80	93.93	29.40	11.42	90.78	39.35	10.02	82.15
19.61	11.80	93.91	29.49	10.85	86.29	39.35	10.04	82.27
19.61	11.79	93.89	29.51	11.27	89.60	39.36	10.05	82.28
19.61	11.78	93.82	29.51	11.22	89.22	39.36	10.04	82.25
19.61	11.79	93.89	29.52	10.91	86.72	39.36	10.04	82.24
19.61	11.79	93.88	29.52	11.24	89.35	39.36	10.05	82.25
19.61	11.79	93.88	29.52	11.18	88.86	39.36	10.03	82.17
19.61	11.80	93.95	29.52	10.93	86.93	39.36	10.04	82.26
19.61	11.79	93.88	29.52	10.98	87.30	39.36	10.03	82.18
19.61	11.79	93.86	29.53	11.28	89.68	39.36	10.04	82.24
19.61	11.79	93.90	29.53	11.33	90.10	39.36	10.03	82.21
19.62	11.80	93.94	29.53	11.04	87.76	39.36	10.02	82.15
19.62	11.80	93.96	29.53	11.36	90.28	39.37	10.03	82.16
19.62	11.79	93.89	29.54	11.04	87.78	40.73	10.01	81.99
19.62	11.79	93.90	29.54	11.15	88.69	41.86	9.99	81.82
19.64	11.79	93.82	29.54	11.11	88.31	42.83	9.97	81.70
20.09	11.84	94.12	29.55	11.06	87.93	44.25	9.93	81.36
21.14	11.81	93.86	29.55	11.14	88.58	44.27	9.97	81.65
22.29	11.80	93.77	30.29	10.48	83.65	44.27	9.90	81.15
23.43	11.78	93.67	31.56	10.26	82.50	44.30	9.97	81.65
24.51	11.79	93.77	32.78	10.09	82.14	44.30	9.95	81.51
24.51	11.79	93.76	33.91	10.16	83.19	44.30	9.94	81.50
24.51	11.78	93.65	34.48	10.10	82.75	44.30	9.97	81.64
24.54	11.62	92.38	34.48	10.16	83.13	44.30	9.96	81.57
24.57	11.65	92.57	34.48	10.14	83.05	44.30	9.96	81.58
24.57	11.68	92.81	34.48	10.13	82.98	44.31	9.95	81.52
24.57	11.73	93.26	34.48	10.16	83.13	44.31	9.92	81.32
24.57	11.75	93.46	34.49	10.14	83.05	44.61	9.88	81.04
24.57	11.76	93.55	34.49	10.15	83.07	45.31	9.88	81.05
24.57	11.68	92.83	34.49	10.16	83.16	46.13	9.87	81.03
24.58	11.75	93.49	34.49	10.16	83.16	46.87	9.88	81.07
24.58	11.71	93.15	34.49	10.12	82.91	47.94	9.87	81.02
24.58	11.74	93.40	34.49	10.15	83.10	48.05	9.87	80.98
24.58	11.76	93.56	34.49	10.16	83.17	48.97	9.88	80.99
24.58	11.73	93.33	34.49	10.15	83.09	49.25	9.88	81.05
24.58	11.69	92.91	34.49	10.16	83.15	49.27	9.87	81.00
24.58	11.72	93.20	34.49	10.15	83.10	49.27	9.88	81.08
24.58	11.74	93.33	34.49	10.13	82.99	49.27	9.87	81.02
24.58	11.77	93.59	34.49	10.11	82.83	49.27	9.87	80.98
24.58	11.73	93.27	34.49	10.12	82.90	49.27	9.87	81.04
24.58	11.76	93.55	34.50	10.12	82.93	49.28	9.88	81.03
24.58	11.72	93.21	34.50	10.13	82.96	49.28	9.87	81.00
24.58	11.75	93.48	34.50	10.14	82.99	49.28	9.87	80.95

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT4 - 23-Apr-11			WT6 - 23-Apr-11			WT6 - 23-Apr-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
49.28	9.86	80.85	2.88	11.90	94.51	5.81	11.88	94.37
49.28	9.87	80.93	2.88	11.89	94.49	5.82	11.88	94.38
49.28	9.87	80.92	2.88	11.90	94.54	5.84	11.88	94.40
49.28	9.87	80.95	2.88	11.89	94.47	6.73	11.88	94.34
49.28	9.86	80.91	2.88	11.90	94.50	6.77	11.88	94.35
49.28	9.87	80.93	2.88	11.89	94.48	6.78	11.88	94.35
49.28	9.87	80.97	2.89	11.89	94.48	6.78	11.88	94.38
49.28	9.87	80.90	3.29	11.88	94.35	6.79	11.88	94.40
49.28	9.87	80.97	3.77	11.88	94.41	6.79	11.88	94.40
49.28	9.87	80.88	3.86	11.88	94.39	6.81	11.88	94.42
49.28	9.87	80.94	3.86	11.89	94.45	6.87	11.88	94.40
49.28	9.87	80.96	3.92	11.89	94.44	6.87	11.88	94.37
49.28	9.86	80.90	3.93	11.89	94.44	6.88	11.88	94.40
49.28	9.87	80.93	3.93	11.89	94.44	6.89	11.89	94.46
49.29	9.86	80.88	3.93	11.90	94.50	6.89	11.88	94.40
49.29	9.89	81.17	3.93	11.89	94.43	6.89	11.87	94.33
49.29	9.87	80.92	3.93	11.88	94.41	6.90	11.88	94.39
49.29	9.87	80.95	3.93	11.89	94.42	7.06	11.88	94.39
49.29	9.87	80.97	3.93	11.89	94.42	7.59	11.88	94.40
49.46	9.90	81.21	3.94	11.88	94.41	7.78	11.88	94.39
49.88	9.91	81.31	3.94	11.89	94.44	7.79	11.88	94.41
50.12	9.92	81.39	3.95	11.89	94.48	7.79	11.88	94.37
			3.96	11.89	94.47	7.80	11.88	94.35
			3.96	11.89	94.44	7.80	11.88	94.36
			3.97	11.89	94.43	7.81	11.88	94.37
			4.01	11.88	94.38	7.81	11.88	94.40
			4.73	11.88	94.36	7.81	11.88	94.35
			4.76	11.87	94.33	7.81	11.88	94.40
			4.77	11.88	94.36	7.81	11.88	94.41
			4.77	11.89	94.47	8.65	11.87	94.32
			4.78	11.89	94.44	8.67	11.88	94.37
			4.78	11.88	94.36	8.68	11.88	94.36
			4.79	11.89	94.43	8.68	11.88	94.36
			4.79	11.89	94.43	8.68	11.88	94.41
			4.79	11.88	94.35	8.68	11.87	94.29
			4.79	11.88	94.38	8.68	11.88	94.40
			4.79	11.89	94.43	8.68	11.87	94.34
			4.79	11.88	94.40	8.68	11.87	94.33
			4.80	11.89	94.44	8.68	11.88	94.41
			4.80	11.88	94.41	8.68	11.87	94.32
			4.80	11.89	94.42	8.69	11.88	94.36
			4.81	11.89	94.42	8.69	11.87	94.34
			5.34	11.88	94.36	8.69	11.88	94.41
			5.74	11.88	94.40	8.69	11.88	94.38
			5.75	11.88	94.39	8.69	11.88	94.39
			5.75	11.88	94.40	8.69	11.88	94.37
			5.75	11.88	94.38	8.69	11.88	94.36
			5.76	11.89	94.42	8.69	11.88	94.36
			5.76	11.88	94.39	9.10	11.87	94.28
			5.76	11.88	94.39	9.64	11.87	94.31
			5.76	11.88	94.38	9.66	11.88	94.36
			5.76	11.88	94.39	9.66	11.88	94.35
			5.76	11.89	94.46	9.67	11.87	94.30
			5.77	11.89	94.43	9.67	11.87	94.30
			5.77	11.88	94.42	9.68	11.87	94.35
			5.78	11.88	94.39	9.69	11.87	94.30
			5.78	11.88	94.40	9.69	11.87	94.34
			5.78	11.87	94.34	9.70	11.87	94.31
			5.78	11.88	94.41	9.70	11.87	94.28
			5.79	11.88	94.40	9.70	11.87	94.33

WT6 - 23-Apr-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.56	11.90	94.50
1.82	11.90	94.53
1.82	11.90	94.55
1.83	11.89	94.49
1.83	11.90	94.51
1.83	11.90	94.53
1.83	11.90	94.49
1.83	11.89	94.48
1.83	11.90	94.49
1.84	11.90	94.51
1.84	11.90	94.51
1.84	11.90	94.53
1.84	11.90	94.51
1.84	11.90	94.56
1.84	11.89	94.45
1.84	11.90	94.55
1.85	11.90	94.51
1.86	11.89	94.49
2.03	11.89	94.44
2.81	11.89	94.42
2.85	11.89	94.48
2.86	11.89	94.46
2.86	11.89	94.48
2.86	11.89	94.48
2.86	11.89	94.45
2.86	11.89	94.49
2.87	11.89	94.45
2.87	11.89	94.48
2.87	11.89	94.43
2.87	11.89	94.46
2.87	11.90	94.50
2.87	11.89	94.46
2.88	11.89	94.47

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT6 - 23-Apr-11			WT6 - 23-Apr-11			WT6 - 23-Apr-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
9.70	11.87	94.35	16.59	11.84	94.12	24.44	11.69	93.01
9.70	11.88	94.41	17.48	11.84	94.10	24.44	11.64	92.54
9.71	11.87	94.32	17.50	11.82	93.97	24.46	11.65	92.63
9.71	11.87	94.31	17.54	11.85	94.14	24.48	11.68	92.87
9.71	11.87	94.32	17.54	11.85	94.16	24.49	11.69	92.95
9.71	11.87	94.30	17.54	11.84	94.08	24.50	11.50	91.44
9.72	11.86	94.27	17.55	11.85	94.19	24.50	11.68	92.90
9.74	11.87	94.29	17.55	11.85	94.20	24.50	11.70	93.08
10.98	11.86	94.22	17.55	11.84	94.13	24.50	11.66	92.75
11.70	11.87	94.30	17.55	11.86	94.25	24.50	11.70	93.02
11.70	11.87	94.31	17.55	11.85	94.17	24.51	11.70	93.05
11.71	11.87	94.35	17.55	11.85	94.22	24.53	11.65	92.65
11.71	11.87	94.30	17.56	11.85	94.17	25.53	11.45	91.01
11.71	11.87	94.28	17.56	11.84	94.13	26.61	11.38	90.54
11.71	11.88	94.36	17.56	11.85	94.21	27.96	11.29	89.88
11.71	11.86	94.26	17.56	11.85	94.13	29.24	11.21	89.38
11.71	11.87	94.31	17.56	11.85	94.16	29.26	11.28	89.85
11.72	11.87	94.30	17.56	11.84	94.10	29.31	10.74	85.91
11.72	11.87	94.33	17.56	11.85	94.15	29.33	11.13	88.82
11.72	11.87	94.33	17.57	11.85	94.17	29.33	10.41	83.69
11.72	11.87	94.33	18.06	11.82	93.97	29.34	10.86	86.96
11.72	11.86	94.25	19.22	11.76	93.44	29.36	10.92	87.32
11.74	11.87	94.34	19.46	11.83	94.04	29.36	11.17	89.09
11.74	11.86	94.24	19.47	11.78	93.63	29.36	11.07	88.41
11.80	11.87	94.30	19.48	11.77	93.55	29.37	10.99	87.78
13.26	11.86	94.25	19.48	11.83	94.07	29.37	10.96	87.59
13.45	11.86	94.21	19.49	11.83	93.99	29.37	11.04	88.20
13.53	11.86	94.23	19.49	11.82	93.97	29.37	10.96	87.55
13.55	11.87	94.29	19.49	11.83	94.01	29.37	11.02	87.99
13.56	11.86	94.24	19.49	11.82	93.97	29.37	11.11	88.73
13.58	11.87	94.27	19.49	11.83	94.04	29.38	10.58	85.04
13.58	11.87	94.28	19.50	11.81	93.90	29.38	10.67	85.70
13.59	11.87	94.30	19.53	11.80	93.80	29.38	11.09	88.53
13.59	11.86	94.24	19.53	11.78	93.65	29.38	10.71	85.84
13.59	11.87	94.29	19.56	11.80	93.77	29.39	10.70	85.81
13.59	11.86	94.27	19.56	11.80	93.79	29.43	10.76	86.06
13.59	11.87	94.30	19.56	11.81	93.89	29.86	10.42	84.57
13.60	11.87	94.32	19.56	11.81	93.88	31.51	10.37	84.24
13.60	11.88	94.37	19.56	11.81	93.87	32.97	10.32	84.10
13.60	11.87	94.30	19.57	11.80	93.82	34.15	10.33	84.19
13.60	11.87	94.29	19.57	11.80	93.82	34.15	10.34	84.34
13.60	11.87	94.30	19.57	11.82	93.94	34.15	10.34	84.28
13.60	11.87	94.31	19.57	11.80	93.79	34.16	10.30	83.99
13.60	11.87	94.30	19.58	11.81	93.89	34.16	10.32	84.16
14.23	11.86	94.23	19.58	11.82	93.96	34.17	10.33	84.21
15.48	11.85	94.18	19.58	11.81	93.88	34.17	10.33	84.19
15.58	11.85	94.20	19.59	11.82	93.95	34.17	10.31	84.06
15.61	11.85	94.17	20.25	11.74	93.32	34.18	10.33	84.26
15.61	11.86	94.22	21.72	11.72	93.17	34.18	10.30	83.99
15.61	11.85	94.19	23.06	11.70	93.01	34.18	10.32	84.12
15.61	11.85	94.22	24.40	11.56	91.90	34.18	10.32	84.12
15.62	11.86	94.26	24.41	11.57	91.95	34.19	10.31	84.07
15.62	11.86	94.26	24.42	11.54	91.73	34.22	10.26	83.67
15.62	11.86	94.23	24.42	11.58	92.03	34.23	10.29	83.84
15.62	11.86	94.26	24.42	11.63	92.50	34.23	10.28	83.77
15.62	11.86	94.24	24.42	11.60	92.21	34.23	10.29	83.89
15.62	11.86	94.29	24.42	11.60	92.22	34.23	10.30	83.95
15.62	11.86	94.27	24.43	11.60	92.28	34.23	10.30	83.93
15.63	11.86	94.26	24.43	11.62	92.46	34.23	10.27	83.75
15.63	11.85	94.20	24.43	11.62	92.40	34.23	10.26	83.61

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT6 - 23-Apr-11			WT6 - 23-Apr-11			WT6 - 23-Apr-11																																																																										
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen																																																																									
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)																																																																								
34.23	10.28	83.80	47.78	9.91		59.30	9.34																																																																									
34.23	10.25	83.58	48.98	9.87		60.01	9.29																																																																									
34.24	10.24	83.45	49.10	9.87		60.80	9.25																																																																									
34.25	10.13	82.65	49.11	9.91		61.52	9.21																																																																									
34.26	10.23	83.40	49.11	9.89		62.70	9.21																																																																									
34.26	10.24	83.50	49.11	9.90		62.84	9.36																																																																									
34.27	10.23	83.38	49.11	9.89		62.91	9.23																																																																									
34.27	10.20	83.18	49.11	9.88		62.91	9.23																																																																									
34.34	10.20	83.19	49.11	9.89		62.91	9.22																																																																									
34.36	10.18	83.01	49.11	9.89		62.98	9.25																																																																									
35.12	10.10	82.68	49.11	9.90		62.98	9.37																																																																									
36.59	10.09	82.77	49.11	9.89		62.98	9.23																																																																									
37.95	10.08	82.70	49.12	9.88		62.98	9.24																																																																									
39.16	10.06	82.49	49.12	9.90		63.01	9.23																																																																									
39.17	10.08	82.69	49.12	9.91		63.01	9.32																																																																									
39.17	10.07	82.61	49.12	9.91		63.03	9.33																																																																									
39.17	10.07	82.64	49.12	9.91		63.04	9.26																																																																									
39.17	10.08	82.73	49.12	9.89		63.12	9.30																																																																									
39.17	10.07	82.62	49.12	9.89		63.12	9.31																																																																									
39.18	10.09	82.76	49.12	9.90		63.12	9.24																																																																									
39.18	10.06	82.48	49.12	9.89		63.15	9.30																																																																									
39.18	10.07	82.57	49.13	9.90		63.24	9.26																																																																									
39.19	10.07	82.65	49.38	9.87		63.25	9.28																																																																									
39.19	10.06	82.48	50.26	9.87		63.25	9.27																																																																									
39.20	10.04	82.36	51.53	9.84		63.25	9.28																																																																									
39.21	10.05	82.43	52.91	9.83		63.25	9.29																																																																									
39.22	10.03		53.02	9.79		63.25	9.27																																																																									
39.22	10.03		53.05	9.81		64.61	9.36																																																																									
39.22	10.05	82.40	53.06	9.82		65.83	9.36																																																																									
39.42	10.01		53.06	9.82		65.92	9.37																																																																									
40.81	10.01		53.06	9.82		65.99	9.37																																																																									
42.31	10.00		53.07	9.75		66.00	9.37																																																																									
43.81	9.99		53.08	9.79		Note: at the bottom of this site there is no temperature/salinity data so saturations cannot be calculated.																																																																										
44.07	9.94		53.09	9.77																																																																												
44.11	9.95		53.09	9.78		<table><tr><th colspan="3">WT8 - 21-Apr-11</th></tr><tr><th>Depth</th><th colspan="2">Dissolved Oxygen</th></tr><tr><th>(m)</th><th>(mg/L)</th><th>(% Saturation)</th></tr><tr><td>1.21</td><td>11.52</td><td>125.18</td></tr><tr><td>1.67</td><td>11.52</td><td>125.31</td></tr><tr><td>1.69</td><td>11.52</td><td>125.24</td></tr><tr><td>1.71</td><td>11.52</td><td>125.22</td></tr><tr><td>1.89</td><td>11.51</td><td>125.08</td></tr><tr><td>2.29</td><td>11.51</td><td>125.12</td></tr><tr><td>2.30</td><td>11.52</td><td>125.23</td></tr><tr><td>2.30</td><td>11.52</td><td>125.23</td></tr><tr><td>2.31</td><td>11.52</td><td>125.22</td></tr><tr><td>2.38</td><td>11.50</td><td>125.05</td></tr><tr><td>2.41</td><td>11.50</td><td>125.06</td></tr><tr><td>3.30</td><td>11.50</td><td>125.02</td></tr><tr><td>3.35</td><td>11.50</td><td>124.96</td></tr><tr><td>3.36</td><td>11.51</td><td>125.11</td></tr><tr><td>4.37</td><td>11.49</td><td>124.89</td></tr><tr><td>5.87</td><td>11.50</td><td>124.93</td></tr><tr><td>5.87</td><td>11.49</td><td>124.86</td></tr><tr><td>6.52</td><td>11.48</td><td>124.67</td></tr><tr><td>8.46</td><td>11.48</td><td>124.75</td></tr><tr><td>8.51</td><td>11.49</td><td>124.81</td></tr><tr><td>9.47</td><td>11.46</td><td>124.45</td></tr></table>			WT8 - 21-Apr-11			Depth	Dissolved Oxygen		(m)	(mg/L)	(% Saturation)	1.21	11.52	125.18	1.67	11.52	125.31	1.69	11.52	125.24	1.71	11.52	125.22	1.89	11.51	125.08	2.29	11.51	125.12	2.30	11.52	125.23	2.30	11.52	125.23	2.31	11.52	125.22	2.38	11.50	125.05	2.41	11.50	125.06	3.30	11.50	125.02	3.35	11.50	124.96	3.36	11.51	125.11	4.37	11.49	124.89	5.87	11.50	124.93	5.87	11.49	124.86	6.52	11.48	124.67	8.46	11.48	124.75	8.51	11.49	124.81	9.47	11.46	124.45
WT8 - 21-Apr-11																																																																																
Depth	Dissolved Oxygen																																																																															
(m)	(mg/L)	(% Saturation)																																																																														
1.21	11.52	125.18																																																																														
1.67	11.52	125.31																																																																														
1.69	11.52	125.24																																																																														
1.71	11.52	125.22																																																																														
1.89	11.51	125.08																																																																														
2.29	11.51	125.12																																																																														
2.30	11.52	125.23																																																																														
2.30	11.52	125.23																																																																														
2.31	11.52	125.22																																																																														
2.38	11.50	125.05																																																																														
2.41	11.50	125.06																																																																														
3.30	11.50	125.02																																																																														
3.35	11.50	124.96																																																																														
3.36	11.51	125.11																																																																														
4.37	11.49	124.89																																																																														
5.87	11.50	124.93																																																																														
5.87	11.49	124.86																																																																														
6.52	11.48	124.67																																																																														
8.46	11.48	124.75																																																																														
8.51	11.49	124.81																																																																														
9.47	11.46	124.45																																																																														
44.11	9.95		53.09	9.73																																																																												
44.12	9.97		53.09	9.79																																																																												
44.12	9.98		53.10	9.75																																																																												
44.12	9.99		53.10	9.77																																																																												
44.12	9.99		53.46	9.71																																																																												
44.12	9.97		54.17	9.69																																																																												
44.12	9.97		54.29	9.67																																																																												
44.13	9.98		55.03	9.66																																																																												
44.13	9.96		56.46	9.63																																																																												
44.13	9.97		57.41	9.41																																																																												
44.13	9.97		57.51	9.44																																																																												
44.13	9.98		57.84	9.61																																																																												
44.13	9.99		57.85	9.57																																																																												
44.13	9.98		57.86	9.60																																																																												
44.13	9.99		57.86	9.62																																																																												
44.13	9.95		57.86	9.58																																																																												
44.13	9.97		57.86	9.62																																																																												
44.13	9.96		57.87	9.62																																																																												
44.13	9.96		58.04	9.56																																																																												
44.13	10.00		58.06	9.48																																																																												
44.13	9.98		58.07	9.55																																																																												
44.14	9.99		58.08	9.51																																																																												
44.14	10.00		58.08	9.54																																																																												
44.15	10.00		58.08	9.52																																																																												
45.21	9.93		58.08	9.54																																																																												
46.45	9.92		58.40	9.39																																																																												

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT8 - 21-Apr-11			WT8 - 21-Apr-11			WT3 - 20-May-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
10.78	11.47	124.66	34.04	10.31	109.27	1.79	13.66	109.89
10.80	11.47	124.57	34.56	10.28	108.90	1.80	13.59	108.69
10.83	11.45	124.30	35.22	10.26	108.61	1.79	13.53	107.93
12.25	11.41	123.80	35.83	10.20	107.92	1.84	13.44	107.19
13.01	11.43	124.07	36.98	10.23	108.16	1.94	13.34	106.35
13.02	11.44	124.21	37.33	10.24		2.03	13.25	105.54
13.04	11.40	123.69	37.36	10.24		2.03	13.15	104.74
14.15	11.35	123.01	37.56	10.25		2.18	13.11	104.42
14.88	11.35	123.03	37.67	10.25		2.18	13.02	103.70
14.89	11.34	122.78	37.76	10.29		2.20	13.00	103.58
14.89	11.37	123.28	37.80	10.27		2.18	12.97	103.34
14.99	11.27	121.89	37.81	10.27		2.16	12.91	102.91
16.98	11.14	120.15	37.82	10.26		2.16	12.88	102.71
17.00	11.08	119.38	37.83	10.25		2.16	12.85	102.51
17.02	11.18	120.76	37.84	10.27		2.17	12.85	102.54
17.06	11.02	118.49	37.87	10.25		2.17	12.82	102.35
17.06	11.22	121.20	37.87	10.26		2.17	12.80	102.23
17.07	11.24	121.47	38.39	10.31		2.17	12.79	102.13
17.79	10.92	117.14	38.72	10.33		2.17	12.77	102.00
19.21	10.71	114.44	39.37	10.36		2.18	12.69	101.25
21.52	10.65	113.54	40.75	10.39		2.18	12.70	101.31
22.71	10.64	113.51	40.79	10.41		2.18	12.68	101.19
22.72	10.66	113.80	41.20	10.44		2.17	12.66	101.09
22.73	10.66	113.87	42.27	10.49		2.17	12.66	101.13
22.73	10.66	113.75	43.45	10.56		2.18	12.66	101.12
22.75	10.62	113.31	43.87	10.55		2.17	12.54	99.94
22.95	10.61	113.12	43.87	10.56		2.17	12.52	99.73
23.84	10.63	113.44	Note: at the bottom of this site there is no salinity data so saturations cannot be calculated			2.16	12.51	99.64
25.93	10.62	113.32				2.18	12.49	99.43
27.95	10.60	113.03				2.18	12.46	99.20
28.12	10.59	112.94				2.18	12.44	99.05
28.39	10.54	112.32				2.19	12.42	98.90
28.41	10.57	112.68				2.19	12.40	98.73
28.41	10.56	112.55				2.12	12.35	98.33
28.42	10.58	112.82				2.42	12.33	98.15
28.42	10.57	112.65				2.51	12.32	98.02
28.42	10.57	112.71				2.91	12.27	97.69
28.43	10.59	112.89				3.34	12.26	97.56
28.44	10.59	112.94				3.78	12.24	97.40
28.67	10.53	112.08				4.12	12.21	97.17
28.69	10.48	111.52				4.44	12.19	97.01
29.70	10.47	111.28				4.82	12.17	96.88
29.82	10.42	110.73				5.13	12.16	96.81
31.24	10.43	110.87				5.41	12.15	96.75
32.59	10.43	110.78				5.68	12.14	96.65
32.59	10.43	110.85				6.11	12.13	96.57
32.60	10.42	110.67				6.57	12.12	96.51
32.76	10.39	110.32				7.04	12.11	96.43
32.80	10.37	110.10				7.33	12.09	96.34
32.87	10.41	110.58				7.65	12.10	96.39
32.96	10.40	110.41				7.98	12.09	96.30
33.63	10.33	109.50				8.31	12.08	96.22
33.64	10.31	109.29				8.59	12.08	96.26
33.64	10.34	109.60				8.93	12.07	96.23
33.70	10.34	109.65				9.28	12.07	96.19
33.82	10.36	109.90				9.56	12.07	96.16
33.98	10.30	109.18				9.92	12.06	96.15
33.99	10.29	109.06				10.25	12.06	96.12
33.99	10.30	109.12				10.67	12.05	96.09
34.00	10.31	109.23						

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT3 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
11.11	12.04	96.03
11.52	12.03	95.96

WT4 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.73	13.34	106.93
1.92	13.33	106.52
1.98	13.23	105.55
1.93	13.29	106.01
1.93	13.14	104.82
1.93	13.13	104.70
1.92	13.05	104.12
1.97	12.96	103.33
1.99	12.94	103.17
2.12	12.87	102.59
2.13	12.67	100.99
2.13	12.58	100.22
2.32	12.54	99.88
2.44	12.48	99.32
2.50	12.42	98.89
2.61	12.39	98.62
2.72	12.33	98.13
2.86	12.30	97.91
2.98	12.28	97.71
3.07	12.22	97.26
3.20	12.20	97.09
3.34	12.17	96.81
3.48	12.17	96.86
3.56	12.17	96.86
3.61	12.18	96.98
3.55	12.13	96.52
3.56	12.15	96.76
3.57	12.17	96.93
3.07	12.01	95.62
2.43	12.03	95.71
2.35	12.07	96.07
2.35	12.07	96.03
2.36	12.08	96.19
2.36	12.08	96.20
2.35	12.07	96.14
2.36	12.07	96.11
2.35	12.06	96.08
2.35	12.06	96.06
2.36	12.06	96.09
2.35	12.06	96.09
2.35	12.06	96.14
2.36	12.05	96.07
2.36	12.06	96.14
2.36	12.06	96.14
2.24	11.96	95.29
2.31	11.97	95.34
2.57	11.97	95.30
2.81	11.99	95.41
2.99	11.99	95.37
3.12	11.99	95.44
3.40	11.97	95.20
3.62	11.97	95.25

WT4 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
3.91	11.97	95.19
4.21	11.97	95.22
4.62	11.95	95.08
4.82	11.95	95.01
4.95	11.94	94.99
5.11	11.93	94.88
5.38	11.91	94.73
5.79	11.90	94.64
6.07	11.88	94.50
6.42	11.89	94.50
6.53	11.88	94.48
6.75	11.87	94.40
7.13	11.85	94.23
7.50	11.84	94.10
7.69	11.83	94.06
8.15	11.82	94.01
8.62	11.81	93.90
9.07	11.82	93.94
9.46	11.81	93.86
9.73	11.81	93.89
10.06	11.80	93.79
10.42	11.80	93.78
10.68	11.80	93.78
11.05	11.79	93.71
11.41	11.79	93.72
11.83	11.78	93.68
12.19	11.80	93.79
12.62	11.78	93.68
13.03	11.79	93.71
13.47	11.78	93.69
13.91	11.79	93.69
14.34	11.78	93.62
14.76	11.78	93.63
15.24	11.76	93.53
15.69	11.77	93.66
16.14	11.79	93.99
16.45	11.79	94.16
16.47	11.78	94.16
16.46	11.78	94.14
16.47	11.77	94.03
16.34	11.76	93.92
16.51	11.74	93.79
16.80	11.73	93.77
17.30	11.73	93.88
17.78	11.73	94.07
18.33	11.71	94.00
18.85	11.69	94.06
19.23	11.66	93.96
19.58	11.63	93.92
20.12	11.60	93.83
20.48	11.55	93.48
20.75	11.49	93.05
21.09	11.44	92.65
21.79	11.35	91.64
22.37	11.29	90.89
22.93	11.26	90.65
23.66	11.26	90.62
24.18	11.24	90.45
24.69	11.23	90.45

WT4 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
25.23	11.22	90.42
25.69	11.23	90.62
26.12	11.23	90.97
26.66	11.21	91.12
27.25	11.21	91.41
27.60	11.13	90.82
28.08	11.06	90.31
28.50	11.00	89.85
28.92	10.94	89.40
29.19	10.89	88.93
29.68	10.83	88.46
30.04	10.79	88.08
30.08	10.75	87.76
30.21	10.72	87.57
30.78	10.70	87.37
31.12	10.66	87.04
31.67	10.62	86.70
32.18	10.57	86.31
32.86	10.55	86.15
33.35	10.53	86.04
33.67	10.48	85.63
33.92	10.46	85.46
34.48	10.43	85.28
34.95	10.41	85.17
34.96	10.39	85.04
35.52	10.38	84.94
35.93	10.36	84.70
36.35	10.34	84.49
36.74	10.32	84.29
37.32	10.30	84.05
37.85	10.29	84.03
38.13	10.29	83.97
38.85	10.28	83.97
39.41	10.28	84.00
39.76	10.25	83.84
40.23	10.24	83.74
40.62	10.23	83.67
40.60	10.22	83.59
41.29	10.21	83.56
41.63	10.19	83.41
42.14	10.17	83.24
42.44	10.15	83.13
42.66	10.14	83.05
43.28	10.13	82.92
43.76	10.11	82.75
44.36	10.10	82.67
45.08	10.08	82.48
45.76	10.06	82.36
46.40	10.05	82.29
46.92	10.04	82.21
47.39	10.02	82.06
48.06	10.01	82.01
48.65	10.00	81.90
49.13	9.99	81.80

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT5 - 20-May-11			WT5 - 20-May-11			WT5 - 20-May-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
1.64	13.24	105.33	11.97	11.86	94.63	50.97	10.03	82.28
1.97	13.08	104.08	12.78	11.83	94.28	51.33	10.02	82.17
2.34	13.01	103.54	13.60	11.78	93.68	51.73	10.01	82.10
2.32	12.92	102.85	14.34	11.75	93.39	52.12	9.99	81.89
2.30	12.86	102.32	15.29	11.74	93.37	52.58	9.99	81.84
2.55	12.74	101.38	16.04	11.72	93.17	53.06	9.98	81.74
2.58	12.69	100.95	17.10	11.72	93.42	53.44	9.97	81.70
2.62	12.66	100.74	17.85	11.71	93.33	54.00	9.97	81.69
2.63	12.61	100.38	18.53	11.70	93.20	54.47	9.95	81.58
2.64	12.58	100.14	19.31	11.70	93.17	54.84	9.94	81.48
2.65	12.56	99.96	20.38	11.70	93.17	55.18	9.93	81.41
2.65	12.53	99.77	21.02	11.70	93.21	55.69	9.92	81.30
2.67	12.46	99.15	21.99	11.70	93.17	56.09	9.91	81.19
2.68	12.34	98.22	22.75	11.70	93.32	56.60	9.89	81.10
2.68	12.30	97.87	23.31	11.70	93.37	57.12	9.88	81.04
2.61	12.21	97.14	23.88	11.68	93.21	57.63	9.86	80.90
2.70	12.15	96.65	24.41	11.68	93.21	58.11	9.85	80.74
3.06	12.09	96.15	25.05	11.68	93.29			
3.35	12.06	95.90	25.66	11.68	93.45			
3.54	12.03	95.68	25.94	11.67	93.51			
3.83	12.02	95.55	26.47	11.71	94.20			
4.10	12.00	95.41	27.04	11.69	94.48			
4.36	11.98	95.23	27.75	11.62	94.00			
4.64	11.96	95.08	28.33	11.53	93.43			
4.87	11.94	94.96	28.85	11.46	93.03			
4.87	11.92	94.80	29.66	11.38	92.65			
4.89	11.93	94.88	30.53	11.30	92.12			
4.89	11.93	94.90	31.24	11.17	91.21			
4.89	11.92	94.84	32.03	11.10	90.68			
5.13	11.88	94.47	32.83	11.02	90.14			
5.36	11.88	94.50	33.47	10.93	89.38			
5.64	11.87	94.40	34.29	10.87	88.84			
5.86	11.86	94.32	35.07	10.79	88.22			
5.97	11.86	94.31	36.04	10.74	87.81			
6.29	11.88	94.45	36.75	10.67	87.24			
6.53	11.87	94.40	37.61	10.62	86.87			
6.81	11.86	94.34	38.46	10.57	86.52			
7.11	11.87	94.41	39.26	10.51	86.02			
7.43	11.88	94.43	40.11	10.46	85.64			
7.72	11.86	94.34	41.05	10.41	85.24			
7.99	11.86	94.33	41.81	10.37	84.89			
8.30	11.87	94.39	42.34	10.34	84.64			
8.54	11.86	94.35	43.14	10.32	84.51			
8.76	11.87	94.41	43.98	10.29	84.32			
8.75	11.87	94.38	44.39	10.27	84.12			
8.79	11.86	94.35	44.96	10.24	83.88			
8.81	11.87	94.36	45.42	10.21	83.61			
8.87	11.87	94.36	45.93	10.20	83.53			
8.97	11.87	94.40	46.39	10.19	83.41			
9.03	11.87	94.38	46.66	10.17	83.29			
9.09	11.88	94.45	46.99	10.16	83.19			
9.17	11.88	94.48	47.35	10.15	83.10			
9.24	11.87	94.46	47.68	10.13	82.98			
9.34	11.87	94.46	48.16	10.13	82.93			
9.49	11.87	94.47	48.54	10.11	82.83			
9.76	11.86	94.43	48.87	10.10	82.75			
9.91	11.87	94.49	49.22	10.09	82.66			
10.15	11.87	94.54	49.61	10.08	82.57			
10.59	11.88	94.64	50.05	10.07	82.50			
11.26	11.88	94.71	50.37	10.06	82.49			
11.62	11.87	94.69	50.76	10.05	82.37			

WT6 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.57	12.39	99.44
1.86	12.41	99.61
2.13	12.36	99.20
2.29	12.33	98.91
2.31	12.36	99.19
2.35	12.33	98.97
2.01	12.18	97.73
2.08	12.20	97.84
2.05	12.27	98.39
2.07	12.31	98.80
2.07	12.25	98.45
2.08	12.25	98.47
2.09	12.26	98.62
2.09	12.29	98.98
2.10	12.29	99.06
2.09	12.28	99.01
2.10	12.22	98.54
2.10	12.20	98.51
2.10	12.18	98.40
2.11	12.17	98.42
1.99	11.99	96.43
2.08	12.04	96.52
2.08	12.10	96.95
2.14	12.08	96.78
2.49	12.06	96.59
2.79	12.02	96.22
3.05	12.05	96.41
3.14	12.05	96.42
3.11	12.02	96.27
3.26	12.01	96.14
3.24	11.98	95.90
3.32	11.99	95.92
3.66	11.98	95.83
3.93	11.95	95.54
4.12	11.95	95.54
4.19	11.97	95.69
4.22	11.98	95.79
4.43	11.93	95.39
4.66	11.92	95.26

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT6 - 20-May-11			WT6 - 20-May-11			WT6 - 20-May-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
4.97	11.90	95.11	19.47	11.60	92.61	37.32	10.22	83.48
5.22	11.89	94.97	19.80	11.60	92.58	37.61	10.22	83.42
5.50	11.90	95.14	20.10	11.61	92.69	37.96	10.21	83.36
5.61	11.89	95.07	20.28	11.60	92.60	38.35	10.22	83.44
5.71	11.91	95.15	20.63	11.58	92.38	38.89	10.22	83.56
5.72	11.92	95.34	20.84	11.59	92.51	39.23	10.21	83.48
5.82	11.88	94.99	21.21	11.62	93.00	39.60	10.19	83.25
6.08	11.90	95.06	21.42	11.62	93.19	39.97	10.19	83.19
6.10	11.91	95.17	21.65	11.61	93.24	40.46	10.19	83.14
6.26	11.87	94.88	21.96	11.57	93.06	40.90	10.17	82.96
6.27	11.91	95.13	22.38	11.51	92.55	41.17	10.18	82.90
6.28	11.92	95.28	22.65	11.49	92.42	41.61	10.18	82.85
6.29	11.89	95.07	22.91	11.48	92.34	41.78	10.20	82.96
6.30	11.90	95.22	23.22	11.46	92.22	42.26	10.21	82.98
6.42	11.85	94.73	23.47	11.44	92.13	42.83	10.21	83.06
6.99	11.87	94.77	23.75	11.42	92.03	43.32	10.24	83.38
7.16	11.89	94.95	24.03	11.41	92.09	43.66	10.25	83.56
7.34	11.88	94.92	24.35	11.38	91.96	44.20	10.25	83.66
7.49	11.88	94.95	24.68	11.36	91.89	44.61	10.24	83.61
7.76	11.86	94.76	24.96	11.30	91.59	45.08	10.22	83.37
8.07	11.88	94.83	25.32	11.26	91.34	45.53	10.20	83.14
8.28	11.87	94.80	25.64	11.19	90.87	45.92	10.22	83.31
8.50	11.87	94.76	25.97	11.14	90.53	46.42	10.22	83.40
8.67	11.87	94.75	26.18	11.09	90.09	46.79	10.20	83.29
8.86	11.87	94.76	26.49	11.06	89.95	47.39	10.19	83.27
9.08	11.88	94.81	26.77	11.01	89.53	47.98	10.18	83.27
9.15	11.89	94.96	27.08	10.95	88.86	48.41	10.15	83.11
9.40	11.87	94.76	27.36	10.93	88.82	48.84	10.12	82.89
9.70	11.87	94.72	27.41	10.90	88.64	49.40	10.10	82.73
9.74	11.88	94.78	27.80	10.86	88.26	49.87	10.08	82.57
9.97	11.86	94.64	28.14	10.83	88.00	50.41	10.06	82.40
10.25	11.85	94.55	28.60	10.82	87.98	50.88	10.04	82.24
10.55	11.87	94.66	28.85	10.78	87.80	51.24	10.03	82.15
10.82	11.86	94.60	29.25	10.77	87.86	51.77	10.02	82.03
11.09	11.86	94.62	29.60	10.72	87.53	52.16	10.00	81.89
11.47	11.87	94.62	30.05	10.67	87.26	52.57	9.99	81.76
11.88	11.87	94.65	30.38	10.62	86.83	52.87	9.98	81.72
12.19	11.87	94.62	30.74	10.58	86.57	53.21	9.98	81.68
12.44	11.87	94.62	31.01	10.54	86.15	53.63	9.97	81.68
12.85	11.86	94.57	31.25	10.51	85.89	53.95	9.97	81.66
13.19	11.88	94.72	31.54	10.48	85.73	54.37	9.95	81.55
13.51	11.86	94.56	31.84	10.46	85.54	54.71	9.93	81.39
13.72	11.88	94.72	32.15	10.44	85.40	55.12	9.90	81.11
13.98	11.88	94.70	32.49	10.41	85.16	55.46	9.88	80.92
14.16	11.88	94.72	32.66	10.39	84.97	55.95	9.86	80.70
14.52	11.88	94.73	32.85	10.37	84.83	56.22	9.87	80.74
14.86	11.88	94.73	33.25	10.35	84.67	56.64	9.88	80.85
15.17	11.88	94.77	33.55	10.33	84.52	57.18	9.87	80.86
15.56	11.86	94.64	33.92	10.32	84.38	57.51	9.86	80.79
16.00	11.85	94.61	34.27	10.30	84.19	57.93	9.84	80.64
16.25	11.84	94.51	34.59	10.28	84.03	58.20	9.83	80.52
16.69	11.82	94.45	34.99	10.28	83.97	58.47	9.83	80.49
17.01	11.79	94.34	35.30	10.27	83.90	58.76	9.83	80.45
17.35	11.74	94.03	35.61	10.25	83.76	59.23	9.83	80.41
17.62	11.69	93.54	35.99	10.24	83.66	59.60	9.84	80.50
18.02	11.65	93.12	36.11	10.25	83.71	59.96	9.84	80.57
18.27	11.64	92.98	36.28	10.24	83.66	60.35	9.84	80.63
18.60	11.63	92.92	36.56	10.24	83.68	60.72	9.83	80.59
18.97	11.61	92.79	36.74	10.23	83.66	61.17	9.81	80.45
19.03	11.61	92.73	36.82	10.23	83.62	61.58	9.77	80.17
19.25	11.59	92.58	37.13	10.22	83.54	61.93	9.76	80.00

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT6 - 20-May-11			WT7 - 20-May-11			WT7 - 20-May-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
62.15	9.74	79.83	4.19	12.25	97.50	18.92	12.03	95.80
62.44	9.73	79.72	4.49	12.27	97.67	19.11	12.03	95.79
62.74	9.71	79.56	4.73	12.27	97.69	19.41	12.04	95.97
63.13	9.70	79.52	4.99	12.29	97.79	19.65	12.02	95.91
63.52	9.70	79.57	5.27	12.28	97.74	19.94	12.00	95.74
63.91	9.68	79.39	5.54	12.30	97.90	20.19	11.99	95.69
64.22	9.67	79.31	5.94	12.28	97.75	20.46	11.96	95.41
64.42	9.67	79.31	6.27	12.28	97.74	20.66	11.95	95.32
64.51	9.67	79.31	6.57	12.30	97.92	20.92	11.92	95.16
64.81	9.66	79.22	6.97	12.28	97.73	21.26	11.93	95.35
			7.28	12.28	97.69	21.56	11.91	95.38
			7.51	12.28	97.69	21.85	11.91	95.51
			7.69	12.26	97.60	22.10	11.90	95.54
			7.96	12.28	97.70	22.38	11.87	95.60
			8.23	12.28	97.76	22.70	11.84	95.66
			8.53	12.27	97.66	23.02	11.77	95.27
			8.81	12.27	97.64	23.35	11.67	94.51
			9.13	12.29	97.76	23.58	11.58	93.74
			9.48	12.26	97.57	23.86	11.51	93.22
			9.73	12.26	97.53	24.16	11.44	92.68
			10.10	12.25	97.43	24.42	11.39	92.39
			10.30	12.25	97.45	24.73	11.34	92.01
			10.55	12.24	97.35	24.98	11.26	91.43
			10.87	12.23	97.31	25.32	11.21	91.08
			11.20	12.24	97.33	25.61	11.15	90.60
			11.38	12.23	97.27	26.00	11.09	90.09
			11.53	12.22	97.23	26.36	11.05	89.62
			11.71	12.22	97.18	26.59	11.03	89.48
			12.10	12.20	97.09	27.02	11.02	89.57
			12.39	12.19	96.95	27.34	10.97	89.31
			12.71	12.20	97.02	27.58	10.95	89.20
			13.02	12.18	96.87	27.85	10.92	89.02
			13.29	12.17	96.86	28.12	10.88	88.72
			13.53	12.17	96.84	28.43	10.84	88.42
			13.71	12.16	96.75	28.42	10.81	88.15
			14.06	12.16	96.75	28.77	10.77	87.87
			14.35	12.16	96.76	29.11	10.74	87.66
			14.51	12.17	96.89	29.42	10.72	87.47
			14.58	12.17	96.89	29.87	10.69	87.27
			14.56	12.16	96.87	30.29	10.65	86.96
			14.57	12.16	96.85	30.71	10.63	86.82
			14.58	12.16	96.85	31.07	10.61	86.69
			14.52	12.15	96.78	31.49	10.61	86.81
			14.66	12.14	96.68	31.93	10.58	86.63
			14.92	12.13	96.61	32.32	10.55	86.44
			15.21	12.12	96.53	32.77	10.53	86.39
			15.30	12.12	96.54	33.28	10.50	86.22
			15.55	12.10	96.42	33.82	10.47	86.00
			15.83	12.09	96.36	34.27	10.45	85.83
			16.05	12.09	96.35	34.76	10.43	85.63
			16.26	12.09	96.36	35.24	10.40	85.41
			16.52	12.07	96.19	35.73	10.37	85.19
			16.74	12.07	96.21	36.34	10.34	84.96
			17.01	12.07	96.15	36.64	10.31	84.70
			17.24	12.06	96.12	37.27	10.30	84.52
			17.42	12.05	96.03	37.93	10.26	84.15
			17.63	12.05	96.00	38.52	10.23	83.74
			17.87	12.03	95.78	39.18	10.20	83.47
			18.19	12.03	95.75	39.71	10.20	83.47
			18.47	12.03	95.71	40.28	10.18	83.27
			18.67	12.03	95.70	40.69	10.18	83.19

WT7 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.50	11.91	94.85
1.52	12.38	98.69
1.54	12.58	100.32
1.54	12.60	100.65
1.57	12.59	100.59
1.58	12.47	99.63
1.60	12.26	97.86
1.61	12.47	99.57
1.61	12.56	100.35
1.61	12.50	99.91
1.64	12.40	99.12
1.65	12.43	99.34
1.66	12.44	99.45
1.65	12.43	99.43
1.66	12.42	99.37
1.64	12.17	97.21
1.69	12.25	97.76
1.74	12.08	96.32
1.74	12.10	96.42
1.66	12.31	98.08
1.73	12.17	96.92
2.07	12.27	97.71
2.18	12.28	97.79
2.37	12.24	97.44
2.50	12.28	97.79
2.53	12.29	97.92
2.56	12.24	97.53
2.59	12.30	98.02
2.61	12.32	98.20
2.61	12.31	98.17
2.61	12.33	98.34
2.61	12.32	98.27
2.63	12.31	98.21
2.65	12.31	98.23
2.65	12.30	98.21
2.65	12.32	98.36
2.65	12.34	98.59
2.65	12.34	98.65
2.67	12.32	98.47
2.67	12.19	97.25
2.85	12.27	97.88
2.89	12.29	97.97
3.33	12.19	97.08
3.52	12.26	97.62
3.68	12.25	97.52
3.89	12.27	97.67

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT7 - 20-May-11			WT8 - 20-May-11			WT8 - 20-May-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
41.22	10.17	83.14	1.64	11.49	92.29	21.22	11.30	90.43
41.66	10.17	83.14	2.20	11.16	89.43	21.34	11.33	90.64
42.16	10.17	83.11	2.51	11.22	89.86	21.60	11.33	90.72
42.68	10.16	82.97	2.55	11.42	91.49	21.89	11.33	90.68
43.13	10.14	82.76	3.06	11.21	89.70	22.37	11.33	90.65
43.57	10.14	82.72	3.58	11.25	90.02	22.63	11.36	90.95
43.99	10.15	82.80	3.90	11.14	89.13	22.98	11.35	90.94
44.41	10.16	83.00	4.34	11.22	89.77	23.33	11.35	90.94
44.82	10.15	83.00	4.52	11.26	90.09	23.60	11.35	91.04
45.29	10.14	82.97	4.97	11.24	89.95	24.02	11.33	91.02
45.62	10.12	82.93	5.50	11.14	89.08	24.37	11.31	90.88
46.08	10.10	82.70	5.53	11.28	90.26	24.61	11.30	90.86
46.48	10.07	82.47	5.92	11.20	89.59	25.08	11.29	90.80
46.92	10.06	82.27	6.47	11.10	88.81	25.49	11.26	90.66
47.47	10.03	82.01	6.53	11.15	89.21	25.83	11.25	90.75
47.85	10.03	81.87	6.79	11.09	88.68	26.03	11.24	90.84
48.30	10.02	81.70	7.39	11.08	88.66	26.34	11.22	90.85
48.68	10.04	81.86	7.52	11.09	88.76	26.83	11.13	90.15
49.23	10.05	81.96	7.52	11.17	89.46	27.30	11.07	89.54
49.65	10.06	82.09	7.51	11.14	89.24	27.56	11.03	89.25
50.07	10.06	82.08	7.51	11.11	89.12	27.96	11.02	89.31
50.47	10.06	82.07	7.60	11.06	88.63	28.21	10.98	89.12
50.80	10.05	82.08	8.06	10.97	87.90	28.50	10.95	88.91
51.22	10.06	82.17	8.48	11.04	88.46	28.83	10.90	88.55
51.67	10.06	82.28	8.55	11.07	88.68	29.15	10.88	88.44
51.89	10.04	82.22	8.77	11.05	88.50	29.40	10.83	88.16
52.35	10.03	82.15	9.51	11.01	88.29	29.68	10.80	87.93
52.52	10.01	81.99	9.57	11.04	88.55	29.95	10.77	87.63
52.82	9.99	81.85	10.20	10.99	88.22	30.29	10.73	87.29
53.21	9.98	81.79	10.47	11.02	88.42	30.62	10.69	86.99
53.54	9.95	81.58	10.84	10.95	87.93	30.65	10.67	86.84
54.02	9.92	81.35	11.24	10.99	88.31	30.69	10.65	86.70
54.29	9.90	81.17	11.43	10.97	88.14	31.11	10.62	86.46
54.68	9.89	80.97	11.48	10.99	88.31	31.43	10.60	86.26
54.83	9.88	80.89	11.82	10.97	88.21	31.36	10.57	86.05
54.99	9.89	80.91	12.28	10.96	88.15	31.60	10.56	85.93
55.16	9.88	80.87	12.44	10.97	88.30	31.95	10.53	85.73
55.42	9.88	80.83	12.70	10.95	88.23	32.31	10.52	85.63
55.98	9.87	80.64	13.20	10.90	87.83	32.77	10.49	85.38
56.56	9.87	80.62	13.45	10.88	87.40	33.15	10.48	85.25
56.97	9.90	80.91	13.77	10.89	87.32	33.62	10.46	85.08
57.18	9.91	81.04	14.15	10.92	87.48	33.94	10.46	85.06
57.62	9.90	81.03	14.41	10.97	87.81	34.27	10.44	84.86
57.89	9.90	80.98	14.76	10.96	87.68	34.67	10.44	84.84
58.35	9.89	80.95	15.05	11.00	87.87	35.18	10.43	84.72
59.00	9.88	80.88	15.32	10.99	87.82	35.42	10.43	84.71
59.46	9.87	80.83	15.42	11.07	88.45	35.40	10.44	84.79
59.93	9.84	80.65	15.74	11.05	88.26	35.70	10.43	84.68
60.35	9.81	80.37	16.18	11.07	88.38	36.13	10.44	84.72
60.79	9.78	80.16	16.44	11.09	88.58	36.38	10.43	84.70
61.15	9.75	79.86	16.95	11.11	88.72	36.66	10.44	84.77
61.45	9.73	79.72	17.38	11.14	88.99	36.86	10.45	84.81
61.88	9.71	79.52	17.70	11.15	89.00	37.20	10.45	84.84
62.00	9.69	79.37	18.14	11.16	89.15	37.44	10.45	84.89
			18.42	11.19	89.39	37.89	10.45	84.89
			18.98	11.21	89.48	38.29	10.44	84.83
			19.35	11.24	89.75	38.71	10.44	84.84
			19.72	11.24	89.77	38.96	10.45	84.92
			20.13	11.23	89.65	39.26	10.43	84.91
			20.44	11.28	90.10	39.65	10.43	84.95
			20.86	11.29	90.32	40.11	10.42	84.93

WT8 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.53	11.31	90.72
1.63	11.20	89.85

Table A3-1.3. Under-Ice Data for Dissolved Oxygen in Roberts Bay, Doris North Project, March-May 2011

WT8 - 20-May-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
40.41	10.40	84.75
40.89	10.38	84.59
41.33	10.35	84.40
41.66	10.34	84.28
42.19	10.32	84.17
42.39	10.31	84.07
42.79	10.30	83.98
43.02	10.28	83.87

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

RBW - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	10.03	89.30
0.50	10.07	89.40
1.00	11.02	86.80
1.50	11.28	86.50
2.00	11.47	87.00
2.50	11.58	87.00
3.00	11.64	85.80
3.50	11.73	85.70
4.00	11.64	84.50

ST2 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.55	6.82	64.68
0.79	7.26	67.29
1.11	7.92	71.21
1.20	8.42	75.11
1.32	8.43	74.83
1.57	8.81	78.13
1.77	9.23	81.65
1.90	9.56	84.18
1.97	9.90	86.97
2.16	10.08	88.26
2.22	10.38	90.77
2.32	10.47	91.64
2.39	10.71	93.50
2.64	10.93	95.44
2.75	11.02	96.31
2.83	11.19	97.84
2.86	11.28	98.68
3.05	11.55	101.04
3.26	11.54	101.03
3.48	11.65	101.98
3.64	11.72	102.38
3.83	11.89	103.59
4.06	11.88	103.27
4.34	12.01	104.16
4.55	12.00	103.82
4.66	12.13	104.94
4.77	12.15	105.04
4.84	12.22	105.63
5.02	12.17	105.20
5.28	12.21	105.52
5.67	12.25	105.67
5.86	12.22	104.71
6.00	12.38	106.01
6.14	12.34	105.38
6.44	12.22	104.21
6.60	12.35	105.11
6.85	12.35	104.82
6.89	12.41	105.12
7.12	12.38	104.74
7.44	12.39	104.66
7.79	12.40	104.77
7.84	12.57	105.87
7.84	12.68	106.91
7.85	12.62	106.68

ST3 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.04	9.74	97.16
1.23	9.74	92.02
1.34	10.28	94.38
1.55	10.61	96.51
1.75	11.01	99.62
1.95	11.29	101.78
2.16	11.40	102.38
2.35	11.75	105.37
2.48	11.99	107.40
2.58	12.23	109.41
2.67	12.34	110.25
2.74	12.41	110.79
2.85	12.36	110.33
2.96	12.48	111.31
3.06	12.58	112.10
3.16	12.73	113.42
3.29	12.77	113.73
3.39	12.83	114.17
3.45	12.89	114.66
3.57	12.93	114.91
3.69	12.97	115.20
3.80	13.04	115.64
3.90	13.10	116.04
4.02	13.12	116.13
4.16	13.21	116.80
4.26	13.25	117.07
4.37	13.27	117.09
4.48	13.37	117.65
4.60	13.43	117.97
4.71	13.44	117.74
4.80	13.53	118.46
4.88	13.58	118.73
4.96	13.62	118.97
5.08	13.64	119.10
5.17	13.65	119.04
5.26	13.66	119.04
5.33	13.67	118.88
5.42	13.73	119.20
5.51	13.76	118.91
5.63	13.72	118.09
5.82	13.73	117.88
5.92	13.70	117.46
6.04	13.76	117.83
6.16	13.80	118.15
6.31	13.83	118.40
6.40	13.89	118.99
6.49	13.92	119.24
6.62	13.95	119.49
6.71	14.06	120.38
6.81	14.03	120.14
6.97	14.03	120.00
7.10	14.04	119.95
7.29	14.05	119.94
7.36	14.05	119.84
7.43	14.05	119.79
7.60	14.00	119.19
7.79	14.00	119.03
8.00	14.06	119.53
8.17	14.03	119.16
8.33	14.03	119.10

ST3 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
8.56	14.07	119.39
8.81	14.06	119.16
8.91	14.08	119.30
8.98	14.04	118.88
9.18	14.03	118.74
9.27	14.02	118.66
9.39	14.04	118.79
9.56	14.03	118.60
9.72	14.05	118.62
9.96	14.01	118.24
10.13	14.02	118.31
10.41	13.97	117.74
10.61	14.00	117.90
10.84	13.97	117.58

ST4 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.05	9.87	96.75
1.31	10.12	96.58
1.44	10.43	96.18
1.53	10.61	96.79
1.64	10.65	96.54
1.67	10.55	95.08
1.76	10.71	96.32
1.83	10.99	98.66
1.97	11.14	99.96
2.05	11.32	101.57
2.12	11.48	103.77
2.23	11.57	104.16
2.34	11.67	104.74
2.42	11.72	105.02
2.49	11.82	105.94
2.59	11.86	106.22
2.65	11.93	106.86
2.72	11.98	107.25
2.77	12.02	107.58
2.84	12.10	108.31
2.91	12.09	108.22
3.02	12.13	108.50
3.13	12.13	108.69
3.26	12.18	109.17
3.36	12.25	109.67
3.43	12.28	109.65
3.49	12.26	108.91
3.53	12.24	108.56
3.60	12.23	108.24
3.68	12.20	107.87
3.75	12.24	107.95
3.86	12.25	107.89
3.98	12.26	107.71
4.11	12.25	107.40
4.24	12.24	107.20
4.25	12.31	107.70
4.42	12.29	107.40
4.50	12.32	107.39
4.59	12.34	107.22
4.71	12.31	106.62
4.83	12.31	106.55

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

ST4 - 21-Jul-11			ST4 - 21-Jul-11			ST5 - 21-Jul-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
5.01	12.34	106.61	20.91	11.66	95.06	5.01	11.57	101.10
5.21	12.29	105.62	20.79	11.61	94.69	5.29	11.64	101.04
5.40	12.27	104.68	20.81	11.59	94.51	5.61	11.69	100.86
5.53	12.27	104.15	21.45	11.56	94.23	5.86	11.68	99.49
5.63	12.28	103.97	21.74	11.52	93.89	6.01	11.68	98.64
5.77	12.25	103.46	22.43	11.48	93.59	6.11	11.72	98.22
6.04	12.27	103.46	23.29	11.45	93.35	6.21	11.76	98.08
6.26	12.36	104.19	23.70	11.38	92.86	6.34	11.79	98.20
6.36	12.37	104.32	24.22	11.29	92.17	6.44	11.87	98.87
6.45	12.38	104.48	24.77	11.19	91.34	6.63	11.96	99.53
6.68	12.42	104.99	25.36	11.07	90.39	6.95	12.06	100.42
6.95	12.44	105.25	25.93	10.93	89.26	7.38	12.14	101.05
7.10	12.50	105.66	26.59	10.79	88.13	7.57	12.19	101.35
7.22	12.47	105.24	27.47	10.63	86.87	7.79	12.25	101.85
7.35	12.48	105.20	28.11	10.49	85.68	8.07	12.27	102.00
7.52	12.48	105.03	28.74	10.36	84.62	8.31	12.32	102.35
7.65	12.48	104.95	29.45	10.25	83.69	8.76	12.35	102.53
7.75	12.47	104.84	29.97	10.15	82.89	9.22	12.28	101.54
8.15	12.45	104.69	30.49	10.06	82.15	9.72	12.35	102.31
8.58	12.49	105.09	30.99	9.98	81.48	10.18	12.36	102.43
8.85	12.48	104.77	31.39	9.90	80.86	10.66	12.35	102.23
9.32	12.47	104.77	32.08	9.83	80.26	11.12	12.29	101.50
9.78	12.50	104.96	32.33	9.76	79.74	11.27	12.27	101.29
10.20	12.51	105.19	32.82	9.71	79.25	11.65	12.29	101.39
10.59	12.52	105.29	32.97	9.65	78.80	11.96	12.28	101.27
10.85	12.50	105.01	33.27	9.61	78.41	12.23	12.25	100.95
10.94	12.51	104.79	34.36	9.55	77.95	12.46	12.25	100.86
11.17	12.39	103.21	35.22	9.51	77.56	12.54	12.25	100.85
11.22	12.41	103.15	35.57	9.47	77.21	12.52	12.24	100.79
11.45	12.36	102.62	35.80	9.43	76.90	12.34	12.24	100.77
11.70	12.35	102.31	36.30	9.39	76.44	12.28	12.23	100.77
12.07	12.32	101.99	36.66	9.35	76.10	12.49	12.23	100.68
12.47	12.31	101.55	37.76	9.33	75.85	12.69	12.23	100.67
12.62	12.32	101.64	38.76	9.31	75.65	12.93	12.21	100.54
12.78	12.32	101.71	38.98	9.32	75.68	13.23	12.21	100.52
12.95	12.30	101.53	40.07	9.32	75.65	13.45	12.20	100.39
13.23	12.29	101.57	41.02	9.32	75.61	13.69	12.20	100.38
13.50	12.26	101.19	41.54	9.34	75.72	13.76	12.20	100.38
13.76	12.26	101.19	42.42	9.34	75.72	13.72	12.18	100.25
14.06	12.24	100.92	43.53	9.35	75.76	13.43	12.19	100.30
14.44	12.23	100.78	44.59	9.35	75.80	12.96	12.18	100.21
14.84	12.18	100.32	45.28	9.38	75.97	12.51	12.20	100.39
15.07	12.19	100.31	45.36	9.38	76.02	12.16	12.21	100.51
15.19	12.18	100.17				12.27	12.22	100.64
15.27	12.14	99.89				12.73	12.23	100.69
15.47	12.13	99.73				13.35	12.23	100.66
15.73	12.10	99.48				13.86	12.20	100.29
16.24	12.08	99.27				14.49	12.20	99.99
16.49	12.07	99.19				15.00	12.14	99.12
17.09	12.04	98.83				15.26	12.13	98.87
17.37	12.02	98.67				15.39	12.16	99.02
17.56	12.00	98.45				15.79	12.12	98.59
17.89	11.98	98.24				16.36	12.07	97.96
18.17	11.94	97.84				16.69	12.05	97.70
18.68	11.90	97.22				16.49	12.01	97.36
18.96	11.89	97.04				16.59	11.97	97.00
19.59	11.86	96.77				16.54	11.95	96.85
20.12	11.84	96.57				16.56	11.92	96.65
20.34	11.80	96.21				16.56	11.90	96.45
20.72	11.75	95.81				16.60	11.88	96.27
20.91	11.71	95.46				16.84	11.87	96.18
20.94	11.68	95.22				17.10	11.84	95.96

ST5 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.93	9.07	93.07
1.23	8.96	87.20
1.57	9.22	88.03
2.14	9.20	84.81
2.48	9.70	88.40
2.80	9.98	90.12
3.02	10.24	91.47
3.23	10.47	93.03
3.44	10.74	95.16
3.88	10.88	95.61
4.00	11.09	97.25
4.09	11.22	98.29
4.29	11.36	99.51
4.72	11.50	100.66

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

ST5 - 21-Jul-11			ST5 - 21-Jul-11			ST6 - 21-Jul-11		
Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen		Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)		(mg/L)	(% Saturation)		(mg/L)	(% Saturation)
17.31	11.82	95.74	56.55	9.68	78.30	34.15	10.05	81.83
17.57	11.81	95.63	57.18	9.70	78.49	35.32	9.93	80.71
18.14	11.79	95.51	58.48	9.72	78.64	36.39	9.85	80.00
19.04	11.80	95.63	59.57	9.74	78.76	37.73	9.77	79.35
19.77	11.79	95.58	60.40	9.75	78.82	38.59	9.75	79.10
20.29	11.72	95.24	61.95	9.75	78.86	39.62	9.73	78.98
20.71	11.62	94.69	63.15	9.77	78.96	40.43	9.71	78.74
21.13	11.50	93.97	64.26	9.77	78.97	41.91	9.66	78.36
21.85	11.31	92.50	65.79	9.79	79.11	42.98	9.65	78.24
22.20	11.12	90.90	66.56	9.80	79.21	43.97	9.64	78.20
22.95	10.94	89.38	67.49	9.79	79.16	45.03	9.63	78.13
23.53	10.78	88.07	67.60	9.80	79.18	46.00	9.63	78.13
24.21	10.63	86.93	68.00	9.80	79.18	46.67	9.65	78.27
24.36	10.53	86.12	68.94	9.80	79.17	47.64	9.61	77.90
24.44	10.45	85.52	69.60	9.80	79.19	48.38	9.60	77.87
24.56	10.39	85.00	70.42	9.81	79.22	50.00	9.60	77.86
24.79	10.32	84.42	70.88	9.81	79.21	51.37	9.59	77.78
24.94	10.25	83.83	71.22	9.82	79.35	52.65	9.60	77.83
25.02	10.18	83.25				53.97	9.58	77.58
25.44	10.11	82.63				55.00	9.62	77.91
25.38	10.06	82.21				56.00	9.63	77.95
25.18	10.00	81.79				57.05	9.68	78.33
24.89	9.95	81.40				57.71	9.69	78.45
24.43	9.91	81.05				58.31	9.70	78.49
24.17	9.86	80.65				59.38	9.71	78.57
24.01	9.83	80.35				61.06	9.72	78.66
23.84	9.79	80.01				62.02	9.74	78.83
23.71	9.75	79.70				62.84	9.77	79.10
23.87	9.72	79.45				63.33	9.79	79.26
23.93	9.69	79.23				64.46	9.79	79.23
24.16	9.68	79.09				65.32	9.81	79.34
24.29	9.67	79.05				65.99	9.82	79.45
24.68	9.66	78.97				66.62	9.83	79.50
24.77	9.65	78.93				67.24	9.84	79.59
25.05	9.64	78.85				68.16	9.85	79.66
25.66	9.63	78.77				68.80	9.85	79.65
26.84	9.60	78.50				69.68	9.84	79.61
27.86	9.58	78.33				70.72	9.85	79.64
28.79	9.52	77.87				71.63	9.86	79.74
30.11	9.48	77.42				72.45	9.87	79.83
31.65	9.43	77.00				73.31	9.87	79.81
33.43	9.41	76.76				74.09	9.87	79.77
35.44	9.36	76.31				74.70	9.89	79.93
37.14	9.31	75.89				75.30	9.91	80.05
37.65	9.28	75.60				75.81	9.90	79.98
38.49	9.24	75.18				76.56	9.91	80.07
40.39	9.23	74.94				77.24	9.95	80.35
41.25	9.25	75.04				78.05	9.96	80.47
43.35	9.28	75.24				78.62	9.95	80.40
43.17	9.32	75.54				79.21	9.97	80.49
43.81	9.35	75.75				80.08	9.96	80.39
45.03	9.37	75.91				80.59	9.98	80.54
46.82	9.41	76.21				80.93	10.01	80.80
47.57	9.46	76.62						
48.17	9.48	76.75						
49.96	9.50	76.89						
50.50	9.54	77.19						
51.65	9.58	77.51						
52.33	9.60	77.71						
53.03	9.63	77.90						
54.09	9.64	78.04						
55.34	9.66	78.18						

ST6 - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.94	8.30	82.88
2.53	8.90	82.15
3.03	9.22	83.29
4.41	9.53	84.07
4.94	10.03	87.63
5.24	10.17	88.50
5.67	10.51	90.69
6.42	10.62	90.33
7.05	10.88	90.97
7.50	10.98	91.01
7.88	11.31	93.57
8.22	11.54	95.57
9.17	11.46	95.59
9.77	11.78	98.49
9.84	12.03	100.67
9.91	11.96	100.07
10.77	11.88	98.79
10.94	11.99	99.61
11.51	11.95	99.30
12.38	12.08	100.46
12.99	12.10	100.38
14.10	11.88	97.62
15.60	11.84	96.88
17.51	11.82	96.41
18.87	11.86	96.53
19.83	11.85	96.33
20.67	11.84	96.20
21.81	11.72	95.16
22.99	11.63	94.31
23.48	11.63	94.31
24.90	11.40	92.38
26.22	11.28	91.47
27.51	11.14	90.50
28.56	11.02	89.99
29.39	10.84	88.61
30.35	10.67	87.24
31.42	10.49	85.77
32.43	10.30	84.15
33.41	10.16	82.76

ST6B - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
1.04	9.53	97.42
1.90	9.22	90.38
3.72	8.91	82.31
4.35	9.36	83.17

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

ST6B - 21-Jul-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
6.03	9.46	80.72
8.62	9.66	80.49
10.01	10.10	83.51
13.40	10.33	84.81
15.49	10.63	87.02
17.73	10.87	88.61
20.19	10.84	88.17
22.63	10.78	87.48
25.24	10.65	86.48
27.48	10.53	85.93
29.14	10.34	84.47
31.22	10.16	83.11
32.81	9.98	81.65
35.79	9.77	79.85
37.34	9.61	78.60
37.70	9.57	78.24
39.40	9.41	76.79
40.71	9.39	76.34
41.29	9.32	75.68
42.21	9.33	75.72
44.03	9.33	75.71
44.04	9.42	76.41
43.89	9.48	76.91
43.87	9.52	77.24
43.91	9.50	77.09
45.55	9.47	76.78
48.59	9.49	76.89
48.71	9.54	77.31
48.88	9.64	78.13
51.19	9.56	77.46
52.93	9.62	77.93
54.18	9.63	78.02
56.00	9.66	78.25
56.16	9.69	76.69

RBW - 14-Aug-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	8.39	89.40
0.50	8.39	89.20
1.00	8.45	89.70
1.50	8.48	89.60
2.00	8.94	90.30
2.50	9.88	94.00
3.00	10.03	94.10

ST4 - 14-Aug-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	9.01	85.50
1.00	9.03	85.30
2.00	9.06	85.20
3.00	9.08	85.00
4.00	9.21	84.50
5.00	9.29	83.20
6.00	9.41	83.20
7.00	9.44	83.20
8.00	9.43	82.70
9.00	9.46	82.80
10.00	9.50	82.80

ST4 - 14-Aug-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
11.00	9.49	82.80
12.00	9.49	82.80
13.00	9.50	82.70
14.00	9.50	82.50
15.00	9.51	82.40
16.00	9.51	82.40
17.00	9.53	82.30
18.00	9.52	82.00
19.00	9.48	81.20
20.00	9.44	80.40
22.00	9.31	78.50
24.00	9.16	76.90
26.00	9.08	76.20
28.00	9.07	75.90
30.00	8.99	74.80
32.00	8.87	73.20
34.00	8.77	72.70
36.00	8.64	71.00

ST5 - 14-Aug-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	8.93	85.40
1.00	8.95	85.20
2.00	9.05	83.80
3.00	9.16	84.20
4.00	9.20	83.40
5.00	9.27	83.50
6.00	9.39	82.00
7.00	9.44	81.90
8.00	9.46	82.00
9.00	9.49	82.00
10.00	9.49	82.00
11.00	9.50	81.90
12.00	9.48	81.40
13.00	9.48	81.00
14.00	9.45	80.40
15.00	9.44	80.00
16.00	9.40	79.20
17.00	9.39	78.80
18.00	9.40	78.60
19.00	9.34	78.00
20.00	9.33	77.80
22.00	9.24	76.70
24.00	9.18	76.20
26.00	9.11	75.60
28.00	9.06	75.20
30.00	9.04	75.00
32.00	9.03	74.80
34.00	8.99	74.30
36.00	8.92	73.70
38.00	8.83	72.90
40.00	8.70	71.40
44.00	8.64	70.70
48.00	8.42	67.90
52.00	8.27	66.70
56.00	8.24	66.50
60.00	8.24	66.50
62.00	8.25	66.50

RBW - 11-Sep-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	11.65	86.90
0.50	11.64	86.60
1.00	11.62	86.20
1.50	11.63	85.90
2.00	11.64	86.00
2.50	11.64	86.00
3.00	11.64	86.00
3.50	11.64	85.90
4.00	11.63	85.90
4.50	11.63	85.90
5.00	11.64	85.80

ST4 - 22-Sep-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	11.23	85.30
0.50	11.46	86.70
1.00	11.48	86.80
1.50	11.49	86.90
2.00	11.54	86.80
2.50	11.61	86.90
3.00	11.62	87.00
3.50	11.63	87.10
4.00	11.67	87.10
4.50	11.67	87.20
5.00	11.67	86.90
5.50	11.71	86.90
6.00	11.71	87.00
6.50	11.71	86.90
7.00	11.70	86.90
7.50	11.69	86.80
8.00	11.69	86.80
8.50	11.68	86.80
9.00	11.71	86.70
9.50	11.70	86.70
10.00	11.73	86.60
11.00	11.73	86.70
12.00	11.71	86.60
13.00	11.72	86.60
14.00	11.71	86.50
15.00	11.64	85.80
20.00	11.41	80.40
25.00	11.11	76.40
30.00	10.80	73.60
35.00	10.65	72.20
40.00	10.52	71.20
45.00	10.42	70.30

ST5 - 22-Sep-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
0.00	11.44	86.50
0.50	11.49	86.90
1.00	11.51	87.10
1.50	11.56	87.20
2.00	11.57	87.30
2.50	11.57	87.30
3.00	11.57	87.30
3.50	11.57	87.40
4.00	11.61	87.40

Table A3-1.4. Open-Water Data for Dissolved Oxygen in Roberts Bay, Doris North Project, July-September 2011

ST5 - 22-Sep-11		
Depth (m)	Dissolved Oxygen	
	(mg/L)	(% Saturation)
4.50	11.61	87.20
5.00	11.62	87.30
5.50	11.65	87.30
6.00	11.69	87.30
6.50	11.69	87.30
7.00	11.72	87.30
7.50	11.72	87.30
8.00	11.72	87.30
8.50	11.72	87.30
9.00	11.74	87.20
9.50	11.73	87.20
10.00	11.72	87.10
11.00	11.72	87.10
12.00	11.73	87.10
13.00	11.74	87.20
14.00	11.72	87.10
15.00	11.72	86.40
20.00	11.54	82.80
25.00	11.27	78.60
30.00	10.91	74.50
35.00	10.66	72.00
40.00	10.39	70.00
45.00	10.34	69.30
50.00	10.36	69.50
55.00	10.34	69.30
60.00	10.36	69.50
65.00	10.35	69.60
70.00	10.36	69.50
75.00	10.15	68.20

Appendix 3-2

Surface Winds over Roberts Bay and Riverine Discharge
into Roberts Bay (Time Series), Doris North Project, 2011

Appendix 3-2. Surface Winds over Roberts Bay and Riverine Discharge into Roberts Bay (Time Series), Doris North Project, 2011

List of Tables

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011

Table A3-2.2. Freshwater Flow Time Series of Roberts and Doris Creeks Flowing into Roberts Bay, Doris North Project, 2011

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)	Date/Time	Wind Speed (m/s)	Wind Direction (degrees)	Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/2/2011 18:00	9.79	278	5/5/2011 16:00	3.92	113.7	5/8/2011 14:00	11.12	75.09
5/2/2011 19:00	8.70	281.5	5/5/2011 17:00	4.23	114.9	5/8/2011 15:00	10.41	80.4
5/2/2011 20:00	8.87	285.2	5/5/2011 18:00	4.49	122.4	5/8/2011 16:00	9.17	89.7
5/2/2011 21:00	7.47	279.7	5/5/2011 19:00	4.61	116.9	5/8/2011 17:00	9.33	89.9
5/2/2011 22:00	7.38	282.3	5/5/2011 20:00	4.31	118.7	5/8/2011 18:00	9.97	86.9
5/2/2011 23:00	5.47	264.4	5/5/2011 21:00	4.94	124.1	5/8/2011 19:00	9.61	88.7
5/3/2011 0:00	5.72	258.5	5/5/2011 22:00	4.94	127	5/8/2011 20:00	9.65	90.9
5/3/2011 1:00	6.55	252.1	5/5/2011 23:00	3.88	130.8	5/8/2011 21:00	9.94	95.3
5/3/2011 2:00	5.01	256.4	5/6/2011 0:00	3.98	136.4	5/8/2011 22:00	9.60	100.6
5/3/2011 3:00	4.43	257.9	5/6/2011 1:00	3.12	143.9	5/8/2011 23:00	11.23	112.3
5/3/2011 4:00	3.60	252.4	5/6/2011 2:00	3.11	134.8	5/9/2011 0:00	12.14	107.9
5/3/2011 5:00	2.93	249.3	5/6/2011 3:00	3.32	144	5/9/2011 1:00	13.18	113.3
5/3/2011 6:00	2.04	246.8	5/6/2011 4:00	2.10	140.4	5/9/2011 2:00	13.76	111.1
5/3/2011 7:00	2.02	254.3	5/6/2011 5:00	1.27	138.2	5/9/2011 3:00	12.53	116.1
5/3/2011 8:00	2.93	234.6	5/6/2011 6:00	0.97	154	5/9/2011 4:00	12.61	117
5/3/2011 9:00	2.66	249.3	5/6/2011 7:00	0.66	183.4	5/9/2011 5:00	12.41	117.1
5/3/2011 10:00	4.74	253.5	5/6/2011 8:00	1.37	262.7	5/9/2011 6:00	12.64	115
5/3/2011 11:00	4.73	257.2	5/6/2011 9:00	2.96	266	5/9/2011 7:00	12.98	115.6
5/3/2011 12:00	4.14	260.2	5/6/2011 10:00	3.35	262.5	5/9/2011 8:00	13.20	113
5/3/2011 13:00	4.49	258.3	5/6/2011 11:00	4.47	261.5	5/9/2011 9:00	12.90	119.6
5/3/2011 14:00	5.17	255.6	5/6/2011 12:00	3.30	261.9	5/9/2011 10:00	13.59	113
5/3/2011 15:00	3.84	259.2	5/6/2011 13:00	3.32	263.9	5/9/2011 11:00	13.38	112.1
5/3/2011 16:00	2.91	263.6	5/6/2011 14:00	3.62	267.7	5/9/2011 12:00	12.08	107
5/3/2011 17:00	2.41	260.3	5/6/2011 15:00	3.90	255.7	5/9/2011 13:00	13.55	123.5
5/3/2011 18:00	1.59	270.3	5/6/2011 16:00	3.94	254.6	5/9/2011 14:00	12.31	117.8
5/3/2011 19:00	0.98	269.1	5/6/2011 17:00	3.31	256.4	5/9/2011 15:00	7.06	130.6
5/3/2011 20:00	0.87	246.8	5/6/2011 18:00	3.03	257.8	5/9/2011 16:00	6.25	136.6
5/3/2011 21:00	0.58	22.42	5/6/2011 19:00	1.74	246.2	5/9/2011 17:00	5.00	136.4
5/3/2011 22:00	0.73	339.4	5/6/2011 20:00	0.90	208.9	5/9/2011 18:00	4.88	169.2
5/3/2011 23:00	0.59	255.1	5/6/2011 21:00	0.61	87.3	5/9/2011 19:00	2.82	185.6
5/4/2011 0:00	1.40	141.9	5/6/2011 22:00	0.48	52.85	5/9/2011 20:00	1.55	173.3
5/4/2011 1:00	1.81	144.5	5/6/2011 23:00	1.12	109.2	5/9/2011 21:00	1.40	139.3
5/4/2011 2:00	2.61	141.5	5/7/2011 0:00	2.53	121.2	5/9/2011 22:00	2.20	149.5
5/4/2011 3:00	1.71	137.8	5/7/2011 1:00	3.27	116.3	5/9/2011 23:00	1.57	158.2
5/4/2011 4:00	2.23	141	5/7/2011 2:00	4.23	115.2	5/10/2011 0:00	3.12	139.6
5/4/2011 5:00	1.17	132.5	5/7/2011 3:00	3.31	111.5	5/10/2011 1:00	3.41	144.9
5/4/2011 6:00	0.91	142.2	5/7/2011 4:00	3.94	102.9	5/10/2011 2:00	2.42	142.2
5/4/2011 7:00	2.11	147.2	5/7/2011 5:00	5.14	102.6	5/10/2011 3:00	3.73	140.6
5/4/2011 8:00	3.10	136.9	5/7/2011 6:00	6.17	98.7	5/10/2011 4:00	5.36	154.6
5/4/2011 9:00	4.43	135.9	5/7/2011 7:00	4.89	90.5	5/10/2011 5:00	4.67	143.7
5/4/2011 10:00	5.02	137.4	5/7/2011 8:00	5.57	97.9	5/10/2011 6:00	2.94	121.7
5/4/2011 11:00	5.07	135.7	5/7/2011 9:00	5.61	108.6	5/10/2011 7:00	6.51	154.3
5/4/2011 12:00	5.13	121.7	5/7/2011 10:00	5.50	92.9	5/10/2011 8:00	6.72	144.8
5/4/2011 13:00	5.43	111.8	5/7/2011 11:00	5.30	85.8	5/10/2011 9:00	5.92	128
5/4/2011 14:00	5.45	112.1	5/7/2011 12:00	4.28	103.1	5/10/2011 10:00	7.92	132.2
5/4/2011 15:00	4.93	113.4	5/7/2011 13:00	3.79	105.9	5/10/2011 11:00	8.97	131.3
5/4/2011 16:00	5.05	111.7	5/7/2011 14:00	2.86	96.1	5/10/2011 12:00	8.65	130.7
5/4/2011 17:00	4.91	110.2	5/7/2011 15:00	3.23	81.1	5/10/2011 13:00	9.16	141.3
5/4/2011 18:00	5.14	110.3	5/7/2011 16:00	4.20	71.85	5/10/2011 14:00	10.66	144.1
5/4/2011 19:00	5.50	112.1	5/7/2011 17:00	4.30	68.34	5/10/2011 15:00	11.52	144.6
5/4/2011 20:00	5.11	114.2	5/7/2011 18:00	4.01	50.99	5/10/2011 16:00	12.45	143.5
5/4/2011 21:00	5.66	121.3	5/7/2011 19:00	3.27	53.4	5/10/2011 17:00	12.72	139.1
5/4/2011 22:00	6.19	124.9	5/7/2011 20:00	5.36	65.52	5/10/2011 18:00	12.45	138.4
5/4/2011 23:00	6.07	134.2	5/7/2011 21:00	5.05	61.23	5/10/2011 19:00	12.55	141.8
5/5/2011 0:00	6.23	140.2	5/7/2011 22:00	1.98	59.4	5/10/2011 20:00	12.76	139.5
5/5/2011 1:00	5.72	141.8	5/7/2011 23:00	4.19	65.79	5/10/2011 21:00	12.06	137.7
5/5/2011 2:00	4.98	140	5/8/2011 0:00	3.57	60.3	5/10/2011 22:00	12.31	137.2
5/5/2011 3:00	4.18	134.7	5/8/2011 1:00	4.80	85	5/10/2011 23:00	9.94	130.7
5/5/2011 4:00	4.38	137.1	5/8/2011 2:00	6.88	76.52	5/11/2011 0:00	10.54	134.2
5/5/2011 5:00	3.79	136.3	5/8/2011 3:00	5.43	85.8	5/11/2011 1:00	12.82	133.7
5/5/2011 6:00	3.57	135.5	5/8/2011 4:00	4.47	86.7	5/11/2011 2:00	9.82	136.9
5/5/2011 7:00	1.91	131.8	5/8/2011 5:00	5.47	78.89	5/11/2011 3:00	9.61	138.6
5/5/2011 8:00	3.48	127.5	5/8/2011 6:00	5.66	74.62	5/11/2011 4:00	7.59	133.9
5/5/2011 9:00	4.07	124.5	5/8/2011 7:00	6.57	70.14	5/11/2011 5:00	9.16	149.9
5/5/2011 10:00	4.22	122.2	5/8/2011 8:00	7.33	76.03	5/11/2011 6:00	8.03	141.5
5/5/2011 11:00	4.05	118.8	5/8/2011 9:00	9.08	80.1	5/11/2011 7:00	6.23	141.3
5/5/2011 12:00	4.08	115.8	5/8/2011 10:00	9.13	76.42	5/11/2011 8:00	6.98	159
5/5/2011 13:00	4.57	119.3	5/8/2011 11:00	10.15	79.02	5/11/2011 9:00	4.91	159.1
5/5/2011 14:00	4.48	109.7	5/8/2011 12:00	9.02	88.8	5/11/2011 10:00	5.60	189.5
5/5/2011 15:00	4.59	119.2	5/8/2011 13:00	10.73	83.9	5/11/2011 11:00	3.44	134.8

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/11/2011 12:00	5.01	157.5
5/11/2011 13:00	3.16	154.9
5/11/2011 14:00	4.15	164
5/11/2011 15:00	2.13	147.3
5/11/2011 16:00	1.40	132.2
5/11/2011 17:00	1.19	166.1
5/11/2011 18:00	0.44	127.3
5/11/2011 19:00	0.51	181.2
5/11/2011 20:00	0.62	287.2
5/11/2011 21:00	1.90	324.9
5/11/2011 22:00	2.10	347.9
5/11/2011 23:00	3.39	4.62
5/12/2011 0:00	6.00	23.66
5/12/2011 1:00	7.43	29.39
5/12/2011 2:00	8.88	26.57
5/12/2011 3:00	7.79	27.54
5/12/2011 4:00	7.51	31.57
5/12/2011 5:00	7.56	27.54
5/12/2011 6:00	9.30	26.29
5/12/2011 7:00	7.39	30.74
5/12/2011 8:00	8.10	25.53
5/12/2011 9:00	8.61	27.13
5/12/2011 10:00	7.61	32.04
5/12/2011 11:00	7.84	30.05
5/12/2011 12:00	7.33	16.68
5/12/2011 13:00	9.58	20.99
5/12/2011 14:00	7.79	29.59
5/12/2011 15:00	9.19	27.32
5/12/2011 16:00	9.00	28.59
5/12/2011 17:00	8.15	26.09
5/12/2011 18:00	8.45	31.83
5/12/2011 19:00	7.59	33.92
5/12/2011 20:00	7.47	34.92
5/12/2011 21:00	7.58	33.12
5/12/2011 22:00	8.43	35.88
5/12/2011 23:00	7.74	37.65
5/13/2011 0:00	8.66	27.65
5/13/2011 1:00	7.88	36.34
5/13/2011 2:00	7.97	37.94
5/13/2011 3:00	6.31	44.21
5/13/2011 4:00	6.59	36.94
5/13/2011 5:00	6.59	36.71
5/13/2011 6:00	6.40	33.93
5/13/2011 7:00	5.04	29.19
5/13/2011 8:00	5.78	41.43
5/13/2011 9:00	5.41	70.37
5/13/2011 10:00	6.11	64.75
5/13/2011 11:00	6.22	69.26
5/13/2011 12:00	4.72	70.35
5/13/2011 13:00	4.93	83.9
5/13/2011 14:00	5.17	88.8
5/13/2011 15:00	5.24	75.13
5/13/2011 16:00	5.47	75.13
5/13/2011 17:00	5.10	80.8
5/13/2011 18:00	5.12	91.6
5/13/2011 19:00	5.67	83.1
5/13/2011 20:00	6.55	85.7
5/13/2011 21:00	6.79	103.2
5/13/2011 22:00	7.12	105.7
5/13/2011 23:00	6.89	111.3
5/14/2011 0:00	6.25	127.4
5/14/2011 1:00	4.61	133.8
5/14/2011 2:00	5.30	123.2
5/14/2011 3:00	7.35	127.6
5/14/2011 4:00	8.72	127.4
5/14/2011 5:00	6.60	134.1
5/14/2011 6:00	7.08	127.2
5/14/2011 7:00	6.77	105.9
5/14/2011 8:00	6.55	108.5
5/14/2011 9:00	7.24	101.7

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/14/2011 10:00	5.74	98.1
5/14/2011 11:00	6.38	99.4
5/14/2011 12:00	7.46	112.5
5/14/2011 13:00	6.89	131.6
5/14/2011 14:00	4.39	126.4
5/14/2011 15:00	4.48	103.2
5/14/2011 16:00	3.82	113.4
5/14/2011 17:00	2.13	109.4
5/14/2011 18:00	1.67	65.88
5/14/2011 19:00	1.36	23.02
5/14/2011 20:00	0.64	334.6
5/14/2011 21:00	2.47	0.913
5/14/2011 22:00	1.95	17.02
5/14/2011 23:00	1.40	80.7
5/15/2011 0:00	2.13	115.8
5/15/2011 1:00	2.40	132.1
5/15/2011 2:00	2.32	129.6
5/15/2011 3:00	2.37	125.3
5/15/2011 4:00	3.78	90.9
5/15/2011 5:00	3.51	117.5
5/15/2011 6:00	4.18	123.7
5/15/2011 7:00	3.97	118.6
5/15/2011 8:00	4.68	119.5
5/15/2011 9:00	5.55	88.6
5/15/2011 10:00	6.55	80.8
5/15/2011 11:00	5.95	109.6
5/15/2011 12:00	6.45	108.1
5/15/2011 13:00	8.44	77.41
5/15/2011 14:00	8.71	82
5/15/2011 15:00	9.19	93.2
5/15/2011 16:00	9.58	88.1
5/15/2011 17:00	10.19	85.7
5/15/2011 18:00	9.68	86.2
5/15/2011 19:00	10.45	78.73
5/15/2011 20:00	10.51	89.5
5/15/2011 21:00	11.29	83.2
5/15/2011 22:00	10.86	87.5
5/15/2011 23:00	11.10	85.4
5/16/2011 0:00	11.23	89.8
5/16/2011 1:00	12.66	88.1
5/16/2011 2:00	11.40	77.26
5/16/2011 3:00	12.08	75.88
5/16/2011 4:00	12.76	76.82
5/16/2011 5:00	12.44	79.78
5/16/2011 6:00	13.04	81.3
5/16/2011 7:00	14.86	78.14
5/16/2011 8:00	14.88	82.7
5/16/2011 9:00	14.63	80.8
5/16/2011 10:00	13.76	82.6
5/16/2011 11:00	14.75	81.1
5/16/2011 12:00	16.59	76.74
5/16/2011 13:00	16.34	76.48
5/16/2011 14:00	15.29	77.61
5/16/2011 15:00	15.98	77.79
5/16/2011 16:00	16.68	77.88
5/16/2011 17:00	16.16	79.48
5/16/2011 18:00	14.64	78.39
5/16/2011 19:00	15.28	72.23
5/16/2011 20:00	15.74	77.13
5/16/2011 21:00	16.38	72.76
5/16/2011 22:00	15.11	74.1
5/16/2011 23:00	12.70	77.51
5/17/2011 0:00	11.91	84.4
5/17/2011 1:00	10.98	86.2
5/17/2011 2:00	10.03	85.7
5/17/2011 3:00	10.54	88
5/17/2011 4:00	9.30	88.5
5/17/2011 5:00	7.35	101.8
5/17/2011 6:00	7.66	96.8
5/17/2011 7:00	6.69	91.2

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/17/2011 8:00	8.00	89.2
5/17/2011 9:00	7.11	88.2
5/17/2011 10:00	7.94	81.7
5/17/2011 11:00	8.80	86.9
5/17/2011 12:00	9.74	84.4
5/17/2011 13:00	11.13	83.3
5/17/2011 14:00	10.95	88.4
5/17/2011 15:00	10.47	85.5
5/17/2011 16:00	10.32	87.6
5/17/2011 17:00	10.15	94.1
5/17/2011 18:00	9.64	100.8
5/17/2011 19:00	9.27	102.2
5/17/2011 20:00	9.38	100.1
5/17/2011 21:00	10.33	101
5/17/2011 22:00	9.24	84.4
5/17/2011 23:00	8.71	89.9
5/18/2011 0:00	8.79	98
5/18/2011 1:00	7.04	123.4
5/18/2011 2:00	6.19	123.2
5/18/2011 3:00	5.97	125.7
5/18/2011 4:00	4.14	113.5
5/18/2011 5:00	5.96	111.8
5/18/2011 6:00	8.35	123.3
5/18/2011 7:00	8.23	124.6
5/18/2011 8:00	7.99	115.4
5/18/2011 9:00	8.61	103.5
5/18/2011 10:00	8.88	109.4
5/18/2011 11:00	9.32	106.6
5/18/2011 12:00	9.69	110.5
5/18/2011 13:00	9.06	110.9
5/18/2011 14:00	8.40	106.4
5/18/2011 15:00	8.28	102.6
5/18/2011 16:00	8.11	95.8
5/18/2011 17:00	8.83	91.3
5/18/2011 18:00	8.69	95.5
5/18/2011 19:00	8.92	95.7
5/18/2011 20:00	9.56	90
5/18/2011 21:00	8.44	94.9
5/18/2011 22:00	8.10	106.2
5/18/2011 23:00	6.43	116.8
5/19/2011 0:00	5.11	107.1
5/19/2011 1:00	5.24	114.1
5/19/2011 2:00	5.03	118.3
5/19/2011 3:00	4.07	122
5/19/2011 4:00	3.98	125.3
5/19/2011 5:00	3.70	130.3
5/19/2011 6:00	4.00	136
5/19/2011 7:00	4.54	123.6
5/19/2011 8:00	5.29	105.9
5/19/2011 9:00	5.77	110.3
5/19/2011 10:00	5.77	109.6
5/19/2011 11:00	6.09	105
5/19/2011 12:00	7.05	108.5
5/19/2011 13:00	7.49	109.7
5/19/2011 14:00	7.94	109.8
5/19/2011 15:00	7.43	110.2
5/19/2011 16:00	6.97	108.8
5/19/2011 17:00	7.51	104.8
5/19/2011 18:00	7.44	111.6
5/19/2011 19:00	7.82	110.7
5/19/2011 20:00	8.22	116.4
5/19/2011 21:00	8.21	118.4
5/19/2011 22:00	7.05	126.2
5/19/2011 23:00	7.05	128.2
5/20/2011 0:00	5.46	130.5
5/20/2011 1:00	6.81	152.1
5/20/2011 2:00	3.59	124.4
5/20/2011 3:00	3.70	140.7
5/20/2011 4:00	5.17	153.5
5/20/2011 5:00	6.17	160.8

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/20/2011 6:00	3.93	137.9
5/20/2011 7:00	3.54	111.4
5/20/2011 8:00	4.46	124.8
5/20/2011 9:00	5.11	127
5/20/2011 10:00	5.22	116.6
5/20/2011 11:00	5.17	125
5/20/2011 12:00	5.26	115.6
5/20/2011 13:00	4.96	117.3
5/20/2011 14:00	5.05	121.4
5/20/2011 15:00	5.63	119.2
5/20/2011 16:00	6.35	121
5/20/2011 17:00	5.08	115
5/20/2011 18:00	4.98	110
5/20/2011 19:00	4.61	97.6
5/20/2011 20:00	5.61	105
5/20/2011 21:00	5.93	107.4
5/20/2011 22:00	4.86	97.4
5/20/2011 23:00	4.41	83.7
5/21/2011 0:00	3.78	96.3
5/21/2011 1:00	3.93	92.3
5/21/2011 2:00	3.37	91.6
5/21/2011 3:00	6.27	85.5
5/21/2011 4:00	6.68	94.5
5/21/2011 5:00	5.98	101.4
5/21/2011 6:00	5.97	88.7
5/21/2011 7:00	4.70	81.9
5/21/2011 8:00	3.05	73.1
5/21/2011 9:00	3.63	64.06
5/21/2011 10:00	5.35	27.93
5/21/2011 11:00	6.15	24.47
5/21/2011 12:00	6.84	63.69
5/21/2011 13:00	6.60	64.77
5/21/2011 14:00	5.92	66.06
5/21/2011 15:00	4.24	61.77
5/21/2011 16:00	5.35	64.79
5/21/2011 17:00	4.55	64.79
5/21/2011 18:00	3.43	28.56
5/21/2011 19:00	5.10	10.65
5/21/2011 20:00	4.62	12.87
5/21/2011 21:00	3.71	359.7
5/21/2011 22:00	3.05	342.7
5/21/2011 23:00	2.61	330.6
5/22/2011 0:00	1.72	312.4
5/22/2011 1:00	1.95	323.1
5/22/2011 2:00	1.13	290.8
5/22/2011 3:00	1.15	269.3
5/22/2011 4:00	1.89	260
5/22/2011 5:00	3.26	263.4
5/22/2011 6:00	4.86	269.2
5/22/2011 7:00	4.68	265.6
5/22/2011 8:00	6.67	264.2
5/22/2011 9:00	8.50	258.4
5/22/2011 10:00	8.89	253.3
5/22/2011 11:00	8.38	250.2
5/22/2011 12:00	9.32	256.3
5/22/2011 13:00	9.71	255
5/22/2011 14:00	8.73	264.3
5/22/2011 15:00	8.80	268.7
5/22/2011 16:00	9.27	268.6
5/22/2011 17:00	8.25	269.3
5/22/2011 18:00	8.53	278.8
5/22/2011 19:00	8.33	279.4
5/22/2011 20:00	8.89	279.5
5/22/2011 21:00	8.68	290
5/22/2011 22:00	8.23	284.4
5/22/2011 23:00	8.51	288.8
5/23/2011 0:00	8.86	299.3
5/23/2011 1:00	7.22	297
5/23/2011 2:00	7.20	303.6
5/23/2011 3:00	6.06	294.6

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/23/2011 4:00	5.33	288.8
5/23/2011 5:00	5.12	309.1
5/23/2011 6:00	7.44	329.3
5/23/2011 7:00	7.12	327.4
5/23/2011 8:00	7.10	315.3
5/23/2011 9:00	7.41	317.8
5/23/2011 10:00	6.38	330.3
5/23/2011 11:00	4.82	328.4
5/23/2011 12:00	4.84	346.2
5/23/2011 13:00	5.67	339.1
5/23/2011 14:00	4.60	342.3
5/23/2011 15:00	4.68	344
5/23/2011 16:00	3.55	322
5/23/2011 17:00	3.92	319.8
5/23/2011 18:00	4.42	315.6
5/23/2011 19:00	5.33	311.6
5/23/2011 20:00	5.78	322.3
5/23/2011 21:00	4.92	320.6
5/23/2011 22:00	5.12	325
5/23/2011 23:00	4.00	307.7
5/24/2011 0:00	3.54	295.6
5/24/2011 1:00	4.13	270.6
5/24/2011 2:00	4.30	259.9
5/24/2011 3:00	4.91	267.4
5/24/2011 4:00	5.64	260
5/24/2011 5:00	5.68	274
5/24/2011 6:00	6.29	262.1
5/24/2011 7:00	5.11	270.7
5/24/2011 8:00	5.25	276.3
5/24/2011 9:00	5.98	281.4
5/24/2011 10:00	5.36	280.9
5/24/2011 11:00	6.76	274.3
5/24/2011 12:00	6.85	275.3
5/24/2011 13:00	6.66	280
5/24/2011 14:00	7.45	300.9
5/24/2011 15:00	8.48	282.6
5/24/2011 16:00	8.98	288.4
5/24/2011 17:00	7.89	274.9
5/24/2011 18:00	6.60	272.1
5/24/2011 19:00	7.12	289.2
5/24/2011 20:00	7.39	282.6
5/24/2011 21:00	9.29	283
5/24/2011 22:00	9.66	281.4
5/24/2011 23:00	7.69	273.6
5/25/2011 0:00	6.96	272.8
5/25/2011 1:00	6.33	264.6
5/25/2011 2:00	7.54	255.1
5/25/2011 3:00	6.82	260.6
5/25/2011 4:00	6.84	272.3
5/25/2011 5:00	6.96	263
5/25/2011 6:00	6.07	261.9
5/25/2011 7:00	6.09	261.4
5/25/2011 8:00	6.27	262.8
5/25/2011 9:00	7.66	257.5
5/25/2011 10:00	6.28	264
5/25/2011 11:00	5.14	266.1
5/25/2011 12:00	5.74	273.3
5/25/2011 13:00	6.40	275.8
5/25/2011 14:00	6.70	282.9
5/25/2011 15:00	7.37	284.6
5/25/2011 16:00	7.85	302.1
5/25/2011 17:00	7.84	304.8
5/25/2011 18:00	7.74	309
5/25/2011 19:00	6.94	313.3
5/25/2011 20:00	7.20	323.6
5/25/2011 21:00	5.25	326.3
5/25/2011 22:00	3.83	332.8
5/25/2011 23:00	4.90	349.8
5/26/2011 0:00	4.62	350.3
5/26/2011 1:00	4.84	5.633

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/26/2011 2:00	4.08	8.88
5/26/2011 3:00	4.07	6.047
5/26/2011 4:00	3.80	8.37
5/26/2011 5:00	3.50	3.355
5/26/2011 6:00	3.53	8.37
5/26/2011 7:00	3.53	12.92
5/26/2011 8:00	3.23	0.122
5/26/2011 9:00	3.59	0.181
5/26/2011 10:00	3.09	355.8
5/26/2011 11:00	3.20	354
5/26/2011 12:00	3.13	358.6
5/26/2011 13:00	2.60	344.6
5/26/2011 14:00	3.57	337.2
5/26/2011 15:00	3.72	316.3
5/26/2011 16:00	4.21	325.5
5/26/2011 17:00	4.33	322.1
5/26/2011 18:00	4.35	312.5
5/26/2011 19:00	4.48	315.1
5/26/2011 20:00	4.23	308.3
5/26/2011 21:00	4.36	312.8
5/26/2011 22:00	4.01	310.1
5/26/2011 23:00	4.62	299.6
5/27/2011 0:00	4.69	290.8
5/27/2011 1:00	6.04	294
5/27/2011 2:00	5.57	311.7
5/27/2011 3:00	4.17	309.3
5/27/2011 4:00	2.86	307.1
5/27/2011 5:00	3.11	311.3
5/27/2011 6:00	3.13	315.6
5/27/2011 7:00	3.17	295
5/27/2011 8:00	3.36	280.2
5/27/2011 9:00	3.58	277.6
5/27/2011 10:00	4.67	277.4
5/27/2011 11:00	5.00	280.8
5/27/2011 12:00	5.00	278.3
5/27/2011 13:00	5.05	273
5/27/2011 14:00	5.42	277.2
5/27/2011 15:00	5.49	275.1
5/27/2011 16:00	4.97	271.4
5/27/2011 17:00	4.47	268.3
5/27/2011 18:00	4.58	278.1
5/27/2011 19:00	5.02	278.2
5/27/2011 20:00	3.80	272.3
5/27/2011 21:00	4.06	267.7
5/27/2011 22:00	4.27	273.3
5/27/2011 23:00	4.27	270.7
5/28/2011 0:00	3.35	268.2
5/28/2011 1:00	4.69	262.8
5/28/2011 2:00	3.78	268.9
5/28/2011 3:00	3.65	264
5/28/2011 4:00	3.08	264
5/28/2011 5:00	3.54	264.6
5/28/2011 6:00	3.43	261.8
5/28/2011 7:00	2.93	265.7
5/28/2011 8:00	2.32	264
5/28/2011 9:00	2.71	259
5/28/2011 10:00	3.27	261.8
5/28/2011 11:00	3.12	261.6
5/28/2011 12:00	3.35	262.9
5/28/2011 13:00	3.89	264.4
5/28/2011 14:00	4.09	261.5
5/28/2011 15:00	3.76	270.7
5/28/2011 16:00	3.35	278.2
5/28/2011 17:00	2.72	297.5
5/28/2011 18:00	2.79	326.9
5/28/2011 19:00	3.16	350.6
5/28/2011 20:00	4.35	33.08
5/28/2011 21:00	3.74	38.84
5/28/2011 22:00	2.33	51.21
5/28/2011 23:00	2.75	88.1

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/29/2011 0:00	3.79	98
5/29/2011 1:00	3.65	92.7
5/29/2011 2:00	3.17	125.5
5/29/2011 3:00	3.91	110
5/29/2011 4:00	3.71	106.7
5/29/2011 5:00	4.70	120.7
5/29/2011 6:00	5.13	137.8
5/29/2011 7:00	5.88	144.6
5/29/2011 8:00	6.05	139.8
5/29/2011 9:00	6.14	126.4
5/29/2011 10:00	6.33	133.5
5/29/2011 11:00	6.53	130.3
5/29/2011 12:00	6.14	131.1
5/29/2011 13:00	5.98	121.8
5/29/2011 14:00	5.89	121.4
5/29/2011 15:00	5.85	118.4
5/29/2011 16:00	5.28	122
5/29/2011 17:00	4.70	112.7
5/29/2011 18:00	4.93	108.9
5/29/2011 19:00	5.34	111.8
5/29/2011 20:00	6.03	115.7
5/29/2011 21:00	5.92	122.1
5/29/2011 22:00	5.12	123.7
5/29/2011 23:00	5.31	122.1
5/30/2011 0:00	4.65	135.2
5/30/2011 1:00	4.02	139
5/30/2011 2:00	3.69	142.4
5/30/2011 3:00	3.08	145.7
5/30/2011 4:00	2.84	149.2
5/30/2011 5:00	2.08	141.2
5/30/2011 6:00	1.37	149.1
5/30/2011 7:00	0.71	164.3
5/30/2011 8:00	0.76	151.1
5/30/2011 9:00	0.37	234.2
5/30/2011 10:00	2.14	260.4
5/30/2011 11:00	2.83	256.9
5/30/2011 12:00	3.36	266.2
5/30/2011 13:00	6.33	256.7
5/30/2011 14:00	6.56	257
5/30/2011 15:00	6.28	255.3
5/30/2011 16:00	4.11	260.7
5/30/2011 17:00	7.18	273.1
5/30/2011 18:00	9.82	266.3
5/30/2011 19:00	11.15	266.2
5/30/2011 20:00	11.88	266.2
5/30/2011 21:00	11.70	269.4
5/30/2011 22:00	11.61	267.6
5/30/2011 23:00	10.11	267
5/31/2011 0:00	10.16	269.5
5/31/2011 1:00	7.07	299.3
5/31/2011 2:00	8.76	293.6
5/31/2011 3:00	7.14	286.8
5/31/2011 4:00	7.26	286.5
5/31/2011 5:00	6.28	291.5
5/31/2011 6:00	8.46	281.1
5/31/2011 7:00	7.46	280.4
5/31/2011 8:00	6.42	280.1
5/31/2011 9:00	5.74	281
5/31/2011 10:00	5.02	288.2
5/31/2011 11:00	5.14	276.2
5/31/2011 12:00	5.02	271.2
5/31/2011 13:00	5.96	267.5
5/31/2011 14:00	5.95	260.1
5/31/2011 15:00	6.73	270
5/31/2011 16:00	5.77	276.5
5/31/2011 17:00	3.14	299.8
5/31/2011 18:00	1.83	20.01
5/31/2011 19:00	2.00	272.5
5/31/2011 20:00	1.62	246.3
5/31/2011 21:00	1.84	201.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
5/31/2011 22:00	0.98	149.5
5/31/2011 23:00	2.67	160
6/1/2011 0:00	4.88	176.4
6/1/2011 1:00	6.35	182.9
6/1/2011 2:00	5.33	198
6/1/2011 3:00	3.05	154.3
6/1/2011 4:00	1.69	140.4
6/1/2011 5:00	3.00	137.4
6/1/2011 6:00	3.71	121.1
6/1/2011 7:00	4.55	110.9
6/1/2011 8:00	7.63	113.5
6/1/2011 9:00	10.98	121.9
6/1/2011 10:00	11.14	127.7
6/1/2011 11:00	9.02	158.3
6/1/2011 12:00	10.98	196.5
6/1/2011 13:00	14.99	223.1
6/1/2011 14:00	9.47	251.2
6/1/2011 15:00	8.94	268.8
6/1/2011 16:00	17.54	350.2
6/1/2011 17:00	17.14	341.4
6/1/2011 18:00	16.25	328.1
6/1/2011 19:00	15.80	326.3
6/1/2011 20:00	15.17	317.4
6/1/2011 21:00	12.77	314.3
6/1/2011 22:00	10.61	303.8
6/1/2011 23:00	10.89	284.4
6/2/2011 0:00	10.02	279.5
6/2/2011 1:00	11.47	284.5
6/2/2011 2:00	11.09	295.3
6/2/2011 3:00	10.32	294.5
6/2/2011 4:00	9.77	283.4
6/2/2011 5:00	9.30	277.8
6/2/2011 6:00	9.99	277.9
6/2/2011 7:00	10.04	281.2
6/2/2011 8:00	10.42	283.7
6/2/2011 9:00	9.65	279.2
6/2/2011 10:00	10.65	273.1
6/2/2011 11:00	11.42	271.9
6/2/2011 12:00	11.39	270.1
6/2/2011 13:00	11.21	272.3
6/2/2011 14:00	11.44	279.5
6/2/2011 15:00	12.69	282
6/2/2011 16:00	12.43	284.3
6/2/2011 17:00	12.10	287.5
6/2/2011 18:00	11.70	288.7
6/2/2011 19:00	11.32	288.3
6/2/2011 20:00	11.15	287.4
6/2/2011 21:00	10.49	292.6
6/2/2011 22:00	9.67	285.2
6/2/2011 23:00	9.12	296.3
6/3/2011 0:00	7.86	287.4
6/3/2011 1:00	7.55	284.2
6/3/2011 2:00	8.25	290.7
6/3/2011 3:00	7.01	300.7
6/3/2011 4:00	5.55	288.2
6/3/2011 5:00	6.09	270.5
6/3/2011 6:00	7.23	268.4
6/3/2011 7:00	7.36	272.8
6/3/2011 8:00	8.24	283.7
6/3/2011 9:00	7.03	275.2
6/3/2011 10:00	7.54	267.2
6/3/2011 11:00	7.73	265.3
6/3/2011 12:00	9.06	264.9
6/3/2011 13:00	10.35	271
6/3/2011 14:00	10.45	272.8
6/3/2011 15:00	9.30	271
6/3/2011 16:00	8.31	269.7
6/3/2011 17:00	7.96	270.1
6/3/2011 18:00	6.79	268.5
6/3/2011 19:00	7.34	277.7

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/3/2011 20:00	7.17	287.4
6/3/2011 21:00	6.05	288.4
6/3/2011 22:00	5.21	294.1
6/3/2011 23:00	3.08	294.3
6/4/2011 0:00	4.05	267.1
6/4/2011 1:00	4.27	270.3
6/4/2011 2:00	5.51	269
6/4/2011 3:00	5.18	268.3
6/4/2011 4:00	5.28	268.3
6/4/2011 5:00	5.14	268.3
6/4/2011 6:00	4.55	272.9
6/4/2011 7:00	3.75	277.3
6/4/2011 8:00	4.75	284.4
6/4/2011 9:00	5.33	284.4
6/4/2011 10:00	4.12	307.9
6/4/2011 11:00	4.72	316
6/4/2011 12:00	6.37	314
6/4/2011 13:00	7.63	311.2
6/4/2011 14:00	8.38	308.6
6/4/2011 15:00	7.43	314.8
6/4/2011 16:00	6.81	315.5
6/4/2011 17:00	6.69	320.3
6/4/2011 18:00	6.94	312.5
6/4/2011 19:00	7.02	318.6
6/4/2011 20:00	7.59	317.8
6/4/2011 21:00	7.76	314.3
6/4/2011 22:00	9.32	327.5
6/4/2011 23:00	10.12	325.2
6/5/2011 0:00	9.30	330.4
6/5/2011 1:00	10.02	330.9
6/5/2011 2:00	10.91	331.7
6/5/2011 3:00	10.28	333.3
6/5/2011 4:00	10.92	326.9
6/5/2011 5:00	11.16	326.9
6/5/2011 6:00	10.77	327.3
6/5/2011 7:00	12.08	329.1
6/5/2011 8:00	11.96	321.7
6/5/2011 9:00	13.13	319.5
6/5/2011 10:00	12.26	315.6
6/5/2011 11:00	13.04	318.3
6/5/2011 12:00	12.22	317.9
6/5/2011 13:00	13.23	318.6
6/5/2011 14:00	13.21	321.4
6/5/2011 15:00	13.13	327.8
6/5/2011 16:00	13.02	327.3
6/5/2011 17:00	12.09	339
6/5/2011 18:00	7.18	351.1
6/5/2011 19:00	2.63	348
6/5/2011 20:00	2.13	349.1
6/5/2011 21:00	1.90	351
6/5/2011 22:00	1.90	352.7
6/5/2011 23:00	1.82	350.3
6/6/2011 0:00	1.78	346.3
6/6/2011 1:00	1.79	346.1
6/6/2011 2:00	4.31	350.3
6/6/2011 3:00	7.49	353
6/6/2011 4:00	6.05	350.4
6/6/2011 5:00	5.58	350.6
6/6/2011 6:00	5.10	353.8
6/6/2011 7:00	5.16	351.1
6/6/2011 8:00	4.99	348.8
6/6/2011 9:00	4.91	350.1
6/6/2011 10:00	4.76	350.8
6/6/2011 11:00	4.38	346.5
6/6/2011 12:00	4.52	332.7
6/6/2011 13:00	4.55	334
6/6/2011 14:00	4.08	330.9
6/6/2011 15:00	4.34	329.9
6/6/2011 16:00	6.47	333.6
6/6/2011 17:00	6.91	330.2

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/6/2011 18:00	6.95	324.6
6/6/2011 19:00	7.37	325.8
6/6/2011 20:00	7.75	328
6/6/2011 21:00	8.09	322.9
6/6/2011 22:00	9.51	321.4
6/6/2011 23:00	9.07	318.5
6/7/2011 0:00	7.85	306.9
6/7/2011 1:00	8.16	300.2
6/7/2011 2:00	8.62	299
6/7/2011 3:00	9.78	293.5
6/7/2011 4:00	10.22	292.5
6/7/2011 5:00	9.95	298.9
6/7/2011 6:00	9.01	305.8
6/7/2011 7:00	8.09	314.1
6/7/2011 8:00	7.92	314.9
6/7/2011 9:00	7.30	331.3
6/7/2011 10:00	6.45	334
6/7/2011 11:00	5.93	334.3
6/7/2011 12:00	6.67	354
6/7/2011 13:00	7.76	319.5
6/7/2011 14:00	8.27	327.3
6/7/2011 15:00	9.06	327.5
6/7/2011 16:00	8.10	319.6
6/7/2011 17:00	7.89	311.2
6/7/2011 18:00	7.83	308.2
6/7/2011 19:00	7.52	298.1
6/7/2011 20:00	7.07	295.6
6/7/2011 21:00	6.38	287.9
6/7/2011 22:00	6.79	280
6/7/2011 23:00	7.36	277.9
6/8/2011 0:00	7.67	280
6/8/2011 1:00	7.49	268.5
6/8/2011 2:00	7.62	272
6/8/2011 3:00	6.65	271.9
6/8/2011 4:00	6.10	276.8
6/8/2011 5:00	7.66	282.4
6/8/2011 6:00	8.54	282.8
6/8/2011 7:00	8.52	271.9
6/8/2011 8:00	8.83	269.1
6/8/2011 9:00	7.87	272.3
6/8/2011 10:00	8.36	278.5
6/8/2011 11:00	8.37	280.2
6/8/2011 12:00	8.09	282
6/8/2011 13:00	7.46	282
6/8/2011 14:00	7.09	276.8
6/8/2011 15:00	7.00	281.9
6/8/2011 16:00	7.72	288.2
6/8/2011 17:00	7.21	285
6/8/2011 18:00	7.67	286.6
6/8/2011 19:00	6.92	294.8
6/8/2011 20:00	6.84	291.9
6/8/2011 21:00	7.77	284.1
6/8/2011 22:00	6.48	273.1
6/8/2011 23:00	6.35	269.6
6/9/2011 0:00	7.50	266.4
6/9/2011 1:00	8.25	263.4
6/9/2011 2:00	9.75	269
6/9/2011 3:00	11.15	269.3
6/9/2011 4:00	10.78	269.1
6/9/2011 5:00	11.20	268.6
6/9/2011 6:00	10.92	271.4
6/9/2011 7:00	11.10	271.8
6/9/2011 8:00	10.78	271.4
6/9/2011 9:00	11.47	275.1
6/9/2011 10:00	11.36	273.5
6/9/2011 11:00	12.17	277
6/9/2011 12:00	12.55	277.9
6/9/2011 13:00	12.23	276.4
6/9/2011 14:00	11.67	282.6
6/9/2011 15:00	10.12	283.2

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/9/2011 16:00	7.92	286
6/9/2011 17:00	6.21	300.8
6/9/2011 18:00	7.01	307.3
6/9/2011 19:00	6.92	299.6
6/9/2011 20:00	7.42	294.7
6/9/2011 21:00	6.48	290.7
6/9/2011 22:00	6.80	294.3
6/9/2011 23:00	6.69	294.1
6/10/2011 0:00	7.93	291.5
6/10/2011 1:00	8.01	297.8
6/10/2011 2:00	8.05	293.6
6/10/2011 3:00	8.15	289.7
6/10/2011 4:00	8.09	289.9
6/10/2011 5:00	8.56	286.3
6/10/2011 6:00	9.16	285
6/10/2011 7:00	8.84	285.7
6/10/2011 8:00	9.48	285.1
6/10/2011 9:00	9.61	272.9
6/10/2011 10:00	10.96	270.8
6/10/2011 11:00	11.46	270.7
6/10/2011 12:00	10.99	273.2
6/10/2011 13:00	9.96	271.5
6/10/2011 14:00	10.45	269.7
6/10/2011 15:00	11.28	271.6
6/10/2011 16:00	12.42	270
6/10/2011 17:00	12.14	268.9
6/10/2011 18:00	11.18	270.7
6/10/2011 19:00	11.93	271
6/10/2011 20:00	11.76	271.7
6/10/2011 21:00	10.81	273
6/10/2011 22:00	9.83	266.4
6/10/2011 23:00	11.77	256.7
6/11/2011 0:00	11.50	256.1
6/11/2011 1:00	12.88	251.4
6/11/2011 2:00	16.07	248.3
6/11/2011 3:00	14.95	251.4
6/11/2011 4:00	14.72	250.1
6/11/2011 5:00	15.91	245.8
6/11/2011 6:00	12.65	248.9
6/11/2011 7:00	12.65	248.6
6/11/2011 8:00	13.22	246.3
6/11/2011 9:00	12.41	239.5
6/11/2011 10:00	9.78	231.2
6/11/2011 11:00	10.78	231.8
6/11/2011 12:00	11.03	234.4
6/11/2011 13:00	8.74	234.7
6/11/2011 14:00	7.91	228.1
6/11/2011 15:00	7.32	205
6/11/2011 16:00	6.88	186.9
6/11/2011 17:00	7.49	172.6
6/11/2011 18:00	7.20	171.4
6/11/2011 19:00	6.03	174.9
6/11/2011 20:00	5.52	163.2
6/11/2011 21:00	5.23	168.4
6/11/2011 22:00	5.40	165.6
6/11/2011 23:00	7.13	169.1
6/12/2011 0:00	7.15	173.7
6/12/2011 1:00	7.36	189.5
6/12/2011 2:00	6.25	196.4
6/12/2011 3:00	6.33	180.2
6/12/2011 4:00	6.46	189.9
6/12/2011 5:00	4.96	169
6/12/2011 6:00	5.35	192.2
6/12/2011 7:00	3.86	202.4
6/12/2011 8:00	2.61	246.3
6/12/2011 9:00	1.22	282.9
6/12/2011 10:00	1.57	277.8
6/12/2011 11:00	2.16	337.8
6/12/2011 12:00	2.58	352.4
6/12/2011 13:00	2.16	347.8

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/12/2011 14:00	2.53	357.5
6/12/2011 15:00	2.83	353.1
6/12/2011 16:00	3.70	359.1
6/12/2011 17:00	1.90	357
6/12/2011 18:00	3.24	10.11
6/12/2011 19:00	2.68	24.92
6/12/2011 20:00	2.81	83
6/12/2011 21:00	4.59	106.3
6/12/2011 22:00	3.75	125.2
6/12/2011 23:00	7.05	173.8
6/13/2011 0:00	8.48	175.5
6/13/2011 1:00	7.97	173.2
6/13/2011 2:00	4.95	147.9
6/13/2011 3:00	5.07	153.2
6/13/2011 4:00	4.21	144
6/13/2011 5:00	2.81	123.3
6/13/2011 6:00	4.48	134
6/13/2011 7:00	4.56	133.1
6/13/2011 8:00	5.55	127.9
6/13/2011 9:00	2.61	129.9
6/13/2011 10:00	4.64	118.9
6/13/2011 11:00	8.02	126.8
6/13/2011 12:00	8.14	134.5
6/13/2011 13:00	9.19	131.1
6/13/2011 14:00	9.27	130.9
6/13/2011 15:00	9.61	129
6/13/2011 16:00	9.87	133
6/13/2011 17:00	10.16	130.2
6/13/2011 18:00	10.49	129.9
6/13/2011 19:00	9.42	122.6
6/13/2011 20:00	10.69	125.6
6/13/2011 21:00	11.05	126.1
6/13/2011 22:00	10.07	115.7
6/13/2011 23:00	9.88	108.6
6/14/2011 0:00	8.11	114.9
6/14/2011 1:00	8.10	112.2
6/14/2011 2:00	7.57	114.8
6/14/2011 3:00	8.18	110.6
6/14/2011 4:00	4.83	122.1
6/14/2011 5:00	7.00	104.8
6/14/2011 6:00	8.30	100.5
6/14/2011 7:00	6.54	87.4
6/14/2011 8:00	8.13	84.5
6/14/2011 9:00	7.77	74.12
6/14/2011 10:00	8.89	79.92
6/14/2011 11:00	7.26	77.97
6/14/2011 12:00	7.43	67.39
6/14/2011 13:00	7.00	65.36
6/14/2011 14:00	5.96	59.71
6/14/2011 15:00	5.06	18.74
6/14/2011 16:00	6.22	10.63
6/14/2011 17:00	5.53	15.54
6/14/2011 18:00	5.19	12.16
6/14/2011 19:00	4.72	2.422
6/14/2011 20:00	5.73	0.64
6/14/2011 21:00	5.61	359.7
6/14/2011 22:00	5.59	3.075
6/14/2011 23:00	5.08	1.823
6/15/2011 0:00	5.11	0.928
6/15/2011 1:00	4.89	347.7
6/15/2011 2:00	4.83	333.9
6/15/2011 3:00	5.17	332.7
6/15/2011 4:00	4.95	332
6/15/2011 5:00	4.64	329.5
6/15/2011 6:00	4.14	329.2
6/15/2011 7:00	3.74	323.7
6/15/2011 8:00	3.06	326.9
6/15/2011 9:00	3.08	319.6
6/15/2011 10:00	2.56	321.2
6/15/2011 11:00	2.42	317.9

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/15/2011 12:00	2.90	307.1
6/15/2011 13:00	3.13	312
6/15/2011 14:00	2.60	306.3
6/15/2011 15:00	3.01	308
6/15/2011 16:00	3.27	315.4
6/15/2011 17:00	3.03	317.6
6/15/2011 18:00	3.02	323.7
6/15/2011 19:00	2.75	307.5
6/15/2011 20:00	2.98	314.1
6/15/2011 21:00	3.32	287
6/15/2011 22:00	3.75	276.3
6/15/2011 23:00	3.38	308.5
6/16/2011 0:00	2.94	310.5
6/16/2011 1:00	2.40	307.9
6/16/2011 2:00	2.09	302.1
6/16/2011 3:00	1.84	275.9
6/16/2011 4:00	2.79	298.1
6/16/2011 5:00	2.32	282.7
6/16/2011 6:00	2.94	302.6
6/16/2011 7:00	2.97	296.1
6/16/2011 8:00	3.33	278.4
6/16/2011 9:00	3.38	257.1
6/16/2011 10:00	3.49	257.8
6/16/2011 11:00	3.55	258.1
6/16/2011 12:00	3.03	275.6
6/16/2011 13:00	2.61	290.1
6/16/2011 14:00	3.01	258.6
6/16/2011 15:00	1.90	313.7
6/16/2011 16:00	2.29	311.4
6/16/2011 17:00	2.98	350.4
6/16/2011 18:00	3.59	352
6/16/2011 19:00	3.36	346.5
6/16/2011 20:00	3.64	344.8
6/16/2011 21:00	4.81	13.59
6/16/2011 22:00	4.27	29.57
6/16/2011 23:00	3.01	74.63
6/17/2011 0:00	3.13	88.7
6/17/2011 1:00	4.49	101.5
6/17/2011 2:00	3.19	91.1
6/17/2011 3:00	3.42	82.7
6/17/2011 4:00	4.47	93.3
6/17/2011 5:00	4.12	84.8
6/17/2011 6:00	5.27	85
6/17/2011 7:00	4.98	82.1
6/17/2011 8:00	5.61	85.7
6/17/2011 9:00	7.21	86.4
6/17/2011 10:00	8.54	88.6
6/17/2011 11:00	8.92	83.8
6/17/2011 12:00	9.23	81.2
6/17/2011 13:00	10.14	83.4
6/17/2011 14:00	9.32	81.4
6/17/2011 15:00	8.77	77.7
6/17/2011 16:00	9.43	80.8
6/17/2011 17:00	9.85	80.6
6/17/2011 18:00	10.58	82.7
6/17/2011 19:00	11.18	84.1
6/17/2011 20:00	10.08	77.8
6/17/2011 21:00	8.86	81.3
6/17/2011 22:00	7.95	85.9
6/17/2011 23:00	9.37	98.1
6/18/2011 0:00	9.79	104.8
6/18/2011 1:00	8.74	102.7
6/18/2011 2:00	7.40	106.8
6/18/2011 3:00	8.08	107.8
6/18/2011 4:00	8.40	105.1
6/18/2011 5:00	8.13	100.7
6/18/2011 6:00	7.62	104
6/18/2011 7:00	7.64	102.6
6/18/2011 8:00	8.07	107.3
6/18/2011 9:00	8.34	103.3

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/18/2011 10:00	8.80	102.2
6/18/2011 11:00	9.45	96.6
6/18/2011 12:00	10.63	87.3
6/18/2011 13:00	10.80	104.4
6/18/2011 14:00	10.46	103.4
6/18/2011 15:00	10.32	88.3
6/18/2011 16:00	10.27	87.6
6/18/2011 17:00	10.01	98.6
6/18/2011 18:00	9.98	92.7
6/18/2011 19:00	10.26	90.7
6/18/2011 20:00	11.02	87.1
6/18/2011 21:00	9.39	93.4
6/18/2011 22:00	9.15	96
6/18/2011 23:00	10.00	97.7
6/19/2011 0:00	7.32	119.8
6/19/2011 1:00	6.13	138
6/19/2011 2:00	7.72	129
6/19/2011 3:00	8.06	114.9
6/19/2011 4:00	10.14	109.3
6/19/2011 5:00	11.09	106.8
6/19/2011 6:00	9.40	110.4
6/19/2011 7:00	7.58	112.1
6/19/2011 8:00	8.49	105.3
6/19/2011 9:00	7.36	97.4
6/19/2011 10:00	7.11	96.3
6/19/2011 11:00	7.62	104.2
6/19/2011 12:00	10.23	105.4
6/19/2011 13:00	12.13	103.3
6/19/2011 14:00	11.83	103.5
6/19/2011 15:00	10.96	111.9
6/19/2011 16:00	10.20	123.4
6/19/2011 17:00	8.60	113.9
6/19/2011 18:00	7.70	104.9
6/19/2011 19:00	7.31	107.6
6/19/2011 20:00	6.89	111.6
6/19/2011 21:00	6.34	119.3
6/19/2011 22:00	6.12	124.6
6/19/2011 23:00	6.18	120.5
6/20/2011 0:00	4.17	130.3
6/20/2011 1:00	7.18	120.3
6/20/2011 2:00	4.98	117.7
6/20/2011 3:00	5.40	134
6/20/2011 4:00	5.08	132.4
6/20/2011 5:00	5.50	131
6/20/2011 6:00	5.11	137.2
6/20/2011 7:00	5.69	141.9
6/20/2011 8:00	4.25	152.9
6/20/2011 9:00	2.94	121.8
6/20/2011 10:00	1.49	177.7
6/20/2011 11:00	5.09	256.3
6/20/2011 12:00	7.48	253.6
6/20/2011 13:00	7.93	254.6
6/20/2011 14:00	8.65	254.9
6/20/2011 15:00	8.77	251.4
6/20/2011 16:00	8.64	251.1
6/20/2011 17:00	6.46	257.9
6/20/2011 18:00	4.17	289.2
6/20/2011 19:00	6.22	305.2
6/20/2011 20:00	7.55	311.8
6/20/2011 21:00	6.36	318.5
6/20/2011 22:00	8.14	316.4
6/20/2011 23:00	6.32	310.2
6/21/2011 0:00	5.67	304.7
6/21/2011 1:00	5.68	299.3
6/21/2011 2:00	6.45	292.7
6/21/2011 3:00	6.74	295.8
6/21/2011 4:00	5.55	315.4
6/21/2011 5:00	5.54	331.3
6/21/2011 6:00	5.34	342.5
6/21/2011 7:00	6.35	340

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/21/2011 8:00	4.69	325.1
6/21/2011 9:00	4.94	320.1
6/21/2011 10:00	5.07	318.1
6/21/2011 11:00	6.16	325.6
6/21/2011 12:00	5.73	333.2
6/21/2011 13:00	5.66	345.2
6/21/2011 14:00	4.67	348.2
6/21/2011 15:00	5.76	356.7
6/21/2011 16:00	5.57	352.9
6/21/2011 17:00	5.73	357.7
6/21/2011 18:00	5.63	2.541
6/21/2011 19:00	5.58	7.734
6/21/2011 20:00	5.65	18.35
6/21/2011 21:00	5.85	12.24
6/21/2011 22:00	6.02	2.408
6/21/2011 23:00	4.99	359.4
6/22/2011 0:00	4.84	359.3
6/22/2011 1:00	5.09	9.36
6/22/2011 2:00	5.08	1.43
6/22/2011 3:00	5.37	353.9
6/22/2011 4:00	5.19	348.4
6/22/2011 5:00	4.92	347.1
6/22/2011 6:00	4.55	350.4
6/22/2011 7:00	4.72	356.8
6/22/2011 8:00	4.14	12.12
6/22/2011 9:00	3.59	1.048
6/22/2011 10:00	4.51	355.6
6/22/2011 11:00	5.19	0.994
6/22/2011 12:00	4.66	358.1
6/22/2011 13:00	4.74	355.8
6/22/2011 14:00	5.92	2.584
6/22/2011 15:00	4.95	9.92
6/22/2011 16:00	6.12	13.02
6/22/2011 17:00	6.44	22.86
6/22/2011 18:00	5.04	10.02
6/22/2011 19:00	5.81	6.094
6/22/2011 20:00	6.11	14.68
6/22/2011 21:00	5.25	12.65
6/22/2011 22:00	4.61	53.68
6/22/2011 23:00	4.41	94
6/23/2011 0:00	4.13	80.7
6/23/2011 1:00	2.90	96.8
6/23/2011 2:00	2.55	85.2
6/23/2011 3:00	1.16	111.4
6/23/2011 4:00	1.43	112.9
6/23/2011 5:00	1.89	126.5
6/23/2011 6:00	1.42	102.8
6/23/2011 7:00	3.04	119.2
6/23/2011 8:00	3.60	115.4
6/23/2011 9:00	3.23	117.8
6/23/2011 10:00	3.23	95.7
6/23/2011 11:00	2.14	72.36
6/23/2011 12:00	2.44	79.02
6/23/2011 13:00	4.45	89.1
6/23/2011 14:00	4.54	90.5
6/23/2011 15:00	3.83	111
6/23/2011 16:00	4.42	105.2
6/23/2011 17:00	4.93	115.4
6/23/2011 18:00	5.38	114.1
6/23/2011 19:00	5.88	116.7
6/23/2011 20:00	6.63	119.2
6/23/2011 21:00	6.77	121.3
6/23/2011 22:00	7.10	114.4
6/23/2011 23:00	6.06	120.6
6/24/2011 0:00	4.91	127.8
6/24/2011 1:00	5.81	140.9
6/24/2011 2:00	8.88	166.2
6/24/2011 3:00	11.07	178.1
6/24/2011 4:00	12.35	185.8
6/24/2011 5:00	10.59	183.1

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/24/2011 6:00	9.77	186.6
6/24/2011 7:00	9.65	194.6
6/24/2011 8:00	8.90	209.4
6/24/2011 9:00	1.58	11.14
6/24/2011 10:00	2.07	264.5
6/24/2011 11:00	3.62	290.4
6/24/2011 12:00	2.66	310
6/24/2011 13:00	5.47	313.7
6/24/2011 14:00	6.05	345.1
6/24/2011 15:00	8.92	351.2
6/24/2011 16:00	10.02	356
6/24/2011 17:00	8.78	344.5
6/24/2011 18:00	9.25	347
6/24/2011 19:00	9.48	329.6
6/24/2011 20:00	8.41	330.8
6/24/2011 21:00	7.82	342.1
6/24/2011 22:00	9.00	347
6/24/2011 23:00	7.33	325.1
6/25/2011 0:00	6.29	333.4
6/25/2011 1:00	4.65	325.1
6/25/2011 2:00	4.87	312.1
6/25/2011 3:00	5.00	314.5
6/25/2011 4:00	4.54	298
6/25/2011 5:00	5.19	302.9
6/25/2011 6:00	4.64	310.8
6/25/2011 7:00	4.93	320.1
6/25/2011 8:00	2.98	328.3
6/25/2011 9:00	2.01	334.9
6/25/2011 10:00	1.87	308.2
6/25/2011 11:00	2.34	275.3
6/25/2011 12:00	2.95	258.6
6/25/2011 13:00	3.17	278.8
6/25/2011 14:00	3.83	308.5
6/25/2011 15:00	4.39	314
6/25/2011 16:00	6.34	359.1
6/25/2011 17:00	8.17	330.8
6/25/2011 18:00	9.96	313.9
6/25/2011 19:00	7.85	303.9
6/25/2011 20:00	10.26	295.9
6/25/2011 21:00	10.20	287.2
6/25/2011 22:00	10.32	284
6/25/2011 23:00	10.92	287.1
6/26/2011 0:00	11.59	303.2
6/26/2011 1:00	12.09	309.7
6/26/2011 2:00	12.32	327.5
6/26/2011 3:00	14.21	328.6
6/26/2011 4:00	14.49	319.4
6/26/2011 5:00	14.27	312.1
6/26/2011 6:00	14.08	320.6
6/26/2011 7:00	14.28	326.1
6/26/2011 8:00	13.89	325.9
6/26/2011 9:00	13.46	326.5
6/26/2011 10:00	11.83	310.3
6/26/2011 11:00	12.59	315.2
6/26/2011 12:00	13.40	325.8
6/26/2011 13:00	14.64	323.9
6/26/2011 14:00	14.53	325.9
6/26/2011 15:00	15.68	321
6/26/2011 16:00	14.88	322.1
6/26/2011 17:00	14.24	322.3
6/26/2011 18:00	15.09	321.5
6/26/2011 19:00	12.40	312.6
6/26/2011 20:00	10.82	311.3
6/26/2011 21:00	10.84	305.2
6/26/2011 22:00	10.37	302.6
6/26/2011 23:00	9.96	297.5
6/27/2011 0:00	9.96	301.6
6/27/2011 1:00	10.50	305
6/27/2011 2:00	9.52	297.5
6/27/2011 3:00	10.14	285.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/27/2011 4:00	10.77	284.2
6/27/2011 5:00	10.40	278.3
6/27/2011 6:00	11.00	271
6/27/2011 7:00	10.65	268.8
6/27/2011 8:00	10.80	268.1
6/27/2011 9:00	11.33	269.1
6/27/2011 10:00	11.40	269.7
6/27/2011 11:00	13.24	270.4
6/27/2011 12:00	14.42	268.2
6/27/2011 13:00	13.14	271.8
6/27/2011 14:00	13.49	270.5
6/27/2011 15:00	13.30	269
6/27/2011 16:00	11.17	268.1
6/27/2011 17:00	10.22	257.2
6/27/2011 18:00	10.45	253.9
6/27/2011 19:00	13.63	239.6
6/27/2011 20:00	14.94	234
6/27/2011 21:00	13.00	230.5
6/27/2011 22:00	12.82	231
6/27/2011 23:00	9.90	222.5
6/28/2011 0:00	8.38	211.7
6/28/2011 1:00	10.59	217.6
6/28/2011 2:00	10.30	228.8
6/28/2011 3:00	7.99	227.4
6/28/2011 4:00	6.62	218
6/28/2011 5:00	4.38	184.8
6/28/2011 6:00	4.96	205.5
6/28/2011 7:00	7.13	236.9
6/28/2011 8:00	5.19	235.9
6/28/2011 9:00	3.90	252.1
6/28/2011 10:00	3.55	260.7
6/28/2011 11:00	3.38	258.5
6/28/2011 12:00	3.39	257
6/28/2011 13:00	3.40	276.1
6/28/2011 14:00	4.31	279.1
6/28/2011 15:00	6.00	257.3
6/28/2011 16:00	8.32	253.6
6/28/2011 17:00	9.59	258.8
6/28/2011 18:00	9.77	255.7
6/28/2011 19:00	8.73	254.5
6/28/2011 20:00	8.79	251.2
6/28/2011 21:00	10.12	241.7
6/28/2011 22:00	9.28	238
6/28/2011 23:00	6.09	220.4
6/29/2011 0:00	4.18	185.1
6/29/2011 1:00	4.15	152.6
6/29/2011 2:00	6.06	159.3
6/29/2011 3:00	7.08	160.5
6/29/2011 4:00	7.62	164.4
6/29/2011 5:00	6.79	172.7
6/29/2011 6:00	6.46	178.5
6/29/2011 7:00	5.23	173.1
6/29/2011 8:00	5.37	152.6
6/29/2011 9:00	6.19	149.6
6/29/2011 10:00	5.39	174.7
6/29/2011 11:00	5.64	189.7
6/29/2011 12:00	4.56	217.4
6/29/2011 13:00	2.91	272.3
6/29/2011 14:00	2.66	348.5
6/29/2011 15:00	4.45	355.8
6/29/2011 16:00	5.07	349.6
6/29/2011 17:00	4.94	341.4
6/29/2011 18:00	7.33	6.297
6/29/2011 19:00	9.17	45.64
6/29/2011 20:00	12.81	85.1
6/29/2011 21:00	12.20	80.4
6/29/2011 22:00	11.36	83.7
6/29/2011 23:00	8.09	75.24
6/30/2011 0:00	9.37	59.17
6/30/2011 1:00	7.32	38

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
6/30/2011 2:00	7.32	10.87
6/30/2011 3:00	8.13	357.5
6/30/2011 4:00	8.51	5.17
6/30/2011 5:00	8.75	2.631
6/30/2011 6:00	9.85	350.5
6/30/2011 7:00	8.78	351.4
6/30/2011 8:00	7.60	337.1
6/30/2011 9:00	7.27	329.9
6/30/2011 10:00	7.07	302.3
6/30/2011 11:00	8.10	300
6/30/2011 12:00	10.05	297.2
6/30/2011 13:00	11.39	297.5
6/30/2011 14:00	11.25	299.7
6/30/2011 15:00	12.18	294.2
6/30/2011 16:00	11.38	295
6/30/2011 17:00	10.15	278
6/30/2011 18:00	10.16	283.9
6/30/2011 19:00	9.02	282.8
6/30/2011 20:00	8.52	284.1
6/30/2011 21:00	7.06	266.7
6/30/2011 22:00	6.71	265
6/30/2011 23:00	5.67	265.2
7/1/2011 0:00	6.80	253.5
7/1/2011 1:00	7.90	253
7/1/2011 2:00	6.36	260.1
7/1/2011 3:00	3.82	267.4
7/1/2011 4:00	3.32	264.8
7/1/2011 5:00	2.83	276.2
7/1/2011 6:00	2.60	283.5
7/1/2011 7:00	2.08	328.9
7/1/2011 8:00	4.93	308.9
7/1/2011 9:00	6.18	345.5
7/1/2011 10:00	6.16	357.4
7/1/2011 11:00	7.58	12.92
7/1/2011 12:00	10.14	15.83
7/1/2011 13:00	9.23	8.87
7/1/2011 14:00	10.15	7.316
7/1/2011 15:00	8.07	357
7/1/2011 16:00	12.65	13.26
7/1/2011 17:00	12.73	9.56
7/1/2011 18:00	13.37	12.98
7/1/2011 19:00	13.20	25.7
7/1/2011 20:00	10.58	35.39
7/1/2011 21:00	10.56	47.88
7/1/2011 22:00	13.09	60.55
7/1/2011 23:00	13.29	63.75
7/2/2011 0:00	13.90	64.99
7/2/2011 1:00	14.08	65.47
7/2/2011 2:00	13.81	62.41
7/2/2011 3:00	13.80	58.77
7/2/2011 4:00	14.47	58.28
7/2/2011 5:00	14.58	61.49
7/2/2011 6:00	15.14	63.78
7/2/2011 7:00	13.45	62.79
7/2/2011 8:00	13.01	60.5
7/2/2011 9:00	12.63	62.7
7/2/2011 10:00	12.55	61.41
7/2/2011 11:00	11.94	57.67
7/2/2011 12:00	14.39	57.52
7/2/2011 13:00	16.10	60.7
7/2/2011 14:00	15.31	63.94
7/2/2011 15:00	15.21	67.48
7/2/2011 16:00	15.46	67.66
7/2/2011 17:00	15.65	70.58
7/2/2011 18:00	15.31	68.46
7/2/2011 19:00	14.99	71.92
7/2/2011 20:00	13.95	72.68
7/2/2011 21:00	13.66	73.48
7/2/2011 22:00	12.51	68.96
7/2/2011 23:00	14.74	71.82

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/3/2011 0:00	12.86	73.96
7/3/2011 1:00	12.87	82.8
7/3/2011 2:00	12.67	85.2
7/3/2011 3:00	11.36	99.5
7/3/2011 4:00	10.38	102.2
7/3/2011 5:00	10.83	102.2
7/3/2011 6:00	10.83	104.2
7/3/2011 7:00	10.39	109.6
7/3/2011 8:00	9.74	116.8
7/3/2011 9:00	10.61	116.8
7/3/2011 10:00	11.20	126.3
7/3/2011 11:00	10.17	113.3
7/3/2011 12:00	9.08	101
7/3/2011 13:00	9.95	109.8
7/3/2011 14:00	11.09	158.8
7/3/2011 15:00	10.03	176.4
7/3/2011 16:00	7.50	166.1
7/3/2011 17:00	6.10	139
7/3/2011 18:00	9.99	116.4
7/3/2011 19:00	9.81	101.8
7/3/2011 20:00	11.68	104.7
7/3/2011 21:00	7.09	104.2
7/3/2011 22:00	9.36	104.5
7/3/2011 23:00	8.96	113.8
7/4/2011 0:00	8.07	120.8
7/4/2011 1:00	6.04	126.5
7/4/2011 2:00	4.82	117.4
7/4/2011 3:00	5.75	125.1
7/4/2011 4:00	6.14	134.7
7/4/2011 5:00	7.49	128.2
7/4/2011 6:00	7.41	113.5
7/4/2011 7:00	7.56	108
7/4/2011 8:00	6.40	106.1
7/4/2011 9:00	5.70	103.8
7/4/2011 10:00	8.47	105.3
7/4/2011 11:00	9.77	103.9
7/4/2011 12:00	11.63	102.7
7/4/2011 13:00	11.55	99.2
7/4/2011 14:00	11.58	99.4
7/4/2011 15:00	11.53	98.7
7/4/2011 16:00	11.03	99.9
7/4/2011 17:00	10.07	93.3
7/4/2011 18:00	11.57	67.46
7/4/2011 19:00	12.64	67.01
7/4/2011 20:00	12.38	72.82
7/4/2011 21:00	12.32	75.29
7/4/2011 22:00	11.75	77.84
7/4/2011 23:00	8.37	69.57
7/5/2011 0:00	4.93	97
7/5/2011 1:00	5.03	90.3
7/5/2011 2:00	4.55	110.7
7/5/2011 3:00	3.05	130.3
7/5/2011 4:00	3.38	129.3
7/5/2011 5:00	4.28	126.7
7/5/2011 6:00	4.52	124.3
7/5/2011 7:00	4.03	130
7/5/2011 8:00	3.46	133.9
7/5/2011 9:00	2.80	98
7/5/2011 10:00	2.75	69.21
7/5/2011 11:00	2.81	53.51
7/5/2011 12:00	4.43	58.95
7/5/2011 13:00	5.70	82.2
7/5/2011 14:00	5.10	81.8
7/5/2011 15:00	7.10	57.42
7/5/2011 16:00	7.62	54.04
7/5/2011 17:00	6.48	52.31
7/5/2011 18:00	9.38	69.05
7/5/2011 19:00	9.07	67.99
7/5/2011 20:00	7.52	70.01
7/5/2011 21:00	6.89	80.8

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/5/2011 22:00	7.70	88.8
7/5/2011 23:00	8.61	88.6
7/6/2011 0:00	5.42	115.5
7/6/2011 1:00	5.32	119.8
7/6/2011 2:00	5.90	117.8
7/6/2011 3:00	4.14	124.4
7/6/2011 4:00	4.89	128
7/6/2011 5:00	4.52	126.7
7/6/2011 6:00	6.06	128.2
7/6/2011 7:00	5.40	113.5
7/6/2011 8:00	4.58	97.1
7/6/2011 9:00	2.97	86.2
7/6/2011 10:00	3.23	93.7
7/6/2011 11:00	2.76	100
7/6/2011 12:00	2.40	23.12
7/6/2011 13:00	4.76	359.3
7/6/2011 14:00	4.38	353.2
7/6/2011 15:00	4.00	348.8
7/6/2011 16:00	4.42	350.2
7/6/2011 17:00	4.37	357.9
7/6/2011 18:00	2.12	345.6
7/6/2011 19:00	3.20	346.6
7/6/2011 20:00	3.18	354.1
7/6/2011 21:00	2.84	351.2
7/6/2011 22:00	2.16	311
7/6/2011 23:00	3.19	343.1
7/7/2011 0:00	3.57	358
7/7/2011 1:00	2.66	329.5
7/7/2011 2:00	1.57	306.8
7/7/2011 3:00	2.22	328.4
7/7/2011 4:00	2.40	316
7/7/2011 5:00	1.79	326.3
7/7/2011 6:00	2.48	330.2
7/7/2011 7:00	5.70	334.8
7/7/2011 8:00	4.06	339.2
7/7/2011 9:00	4.50	359.7
7/7/2011 10:00	2.52	344.1
7/7/2011 11:00	2.24	336.8
7/7/2011 12:00	2.56	349.4
7/7/2011 13:00	2.88	354
7/7/2011 14:00	2.55	353.3
7/7/2011 15:00	2.05	344.9
7/7/2011 16:00	2.06	351.5
7/7/2011 17:00	2.23	7.473
7/7/2011 18:00	2.31	307.9
7/7/2011 19:00	2.46	296.6
7/7/2011 20:00	1.26	3.519
7/7/2011 21:00	4.56	250.5
7/7/2011 22:00	5.97	249.8
7/7/2011 23:00	5.64	248.8
7/8/2011 0:00	5.83	242.1
7/8/2011 1:00	5.83	255
7/8/2011 2:00	5.47	248.4
7/8/2011 3:00	4.54	247.3
7/8/2011 4:00	1.13	160.1
7/8/2011 5:00	5.14	257.5
7/8/2011 6:00	2.17	205.8
7/8/2011 7:00	2.10	131.4
7/8/2011 8:00	1.54	157.1
7/8/2011 9:00	3.14	165
7/8/2011 10:00	4.03	160.6
7/8/2011 11:00	2.59	124.1
7/8/2011 12:00	4.14	120.9
7/8/2011 13:00	4.42	103.1
7/8/2011 14:00	3.68	73.15
7/8/2011 15:00	1.84	46.31
7/8/2011 16:00	1.56	358.6
7/8/2011 17:00	2.43	304.4
7/8/2011 18:00	2.38	341.5
7/8/2011 19:00	1.71	2.101

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/8/2011 20:00	1.18	344.4
7/8/2011 21:00	1.17	356.5
7/8/2011 22:00	5.59	105.3
7/8/2011 23:00	5.24	118.1
7/9/2011 0:00	4.80	123.3
7/9/2011 1:00	3.65	119.2
7/9/2011 2:00	2.95	124.2
7/9/2011 3:00	2.86	137.8
7/9/2011 4:00	2.28	149.9
7/9/2011 5:00	1.49	142.7
7/9/2011 6:00	1.95	123.1
7/9/2011 7:00	1.40	120.9
7/9/2011 8:00	1.47	357.4
7/9/2011 9:00	2.73	354.9
7/9/2011 10:00	3.45	2.421
7/9/2011 11:00	2.98	345.7
7/9/2011 12:00	3.19	338
7/9/2011 13:00	3.78	349.5
7/9/2011 14:00	3.84	352.7
7/9/2011 15:00	3.21	339
7/9/2011 16:00	3.42	343
7/9/2011 17:00	4.34	43.49
7/9/2011 18:00	6.75	57.76
7/9/2011 19:00	7.96	69.85
7/9/2011 20:00	8.51	78.73
7/9/2011 21:00	8.44	81
7/9/2011 22:00	7.57	88.2
7/9/2011 23:00	6.49	93.9
7/10/2011 0:00	5.03	110.6
7/10/2011 1:00	5.28	125.2
7/10/2011 2:00	6.19	119.4
7/10/2011 3:00	5.47	117.5
7/10/2011 4:00	5.73	112.6
7/10/2011 5:00	4.90	122.2
7/10/2011 6:00	5.83	119.3
7/10/2011 7:00	6.38	112
7/10/2011 8:00	5.67	108.1
7/10/2011 9:00	5.05	107.2
7/10/2011 10:00	3.82	100.4
7/10/2011 11:00	2.81	88.1
7/10/2011 12:00	2.97	20.1
7/10/2011 13:00	4.12	16.79
7/10/2011 14:00	5.07	356
7/10/2011 15:00	5.13	0.051
7/10/2011 16:00	4.89	354.8
7/10/2011 17:00	4.30	354.1
7/10/2011 18:00	3.73	351.7
7/10/2011 19:00	2.57	344.8
7/10/2011 20:00	2.65	3.084
7/10/2011 21:00	2.61	29.1
7/10/2011 22:00	0.65	328.6
7/10/2011 23:00	1.23	255.8
7/11/2011 0:00	1.84	234.6
7/11/2011 1:00	2.41	249.7
7/11/2011 2:00	4.84	246.4
7/11/2011 3:00	7.51	249.3
7/11/2011 4:00	4.95	254.9
7/11/2011 5:00	8.56	255.6
7/11/2011 6:00	9.79	253.1
7/11/2011 7:00	8.95	254.5
7/11/2011 8:00	8.77	253.7
7/11/2011 9:00	10.02	249.7
7/11/2011 10:00	9.91	250.8
7/11/2011 11:00	10.93	248.8
7/11/2011 12:00	11.97	247.4
7/11/2011 13:00	10.93	253.4
7/11/2011 14:00	13.37	249.5
7/11/2011 15:00	14.81	246.1
7/11/2011 16:00	15.76	248.9
7/11/2011 17:00	15.37	248.5

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/11/2011 18:00	14.36	245
7/11/2011 19:00	14.10	237.6
7/11/2011 20:00	12.89	240.7
7/11/2011 21:00	10.52	244.6
7/11/2011 22:00	11.09	245.9
7/11/2011 23:00	8.85	250.3
7/12/2011 0:00	10.22	244.2
7/12/2011 1:00	11.97	247.4
7/12/2011 2:00	13.15	244.5
7/12/2011 3:00	11.40	254.4
7/12/2011 4:00	12.27	258.1
7/12/2011 5:00	11.96	267.3
7/12/2011 6:00	6.36	311.3
7/12/2011 7:00	7.00	320.5
7/12/2011 8:00	7.16	315
7/12/2011 9:00	6.62	316.2
7/12/2011 10:00	5.94	330.7
7/12/2011 11:00	5.15	336.3
7/12/2011 12:00	4.64	314.4
7/12/2011 13:00	4.73	321.8
7/12/2011 14:00	5.07	320.5
7/12/2011 15:00	5.47	330.9
7/12/2011 16:00	5.75	343.2
7/12/2011 17:00	6.13	2.511
7/12/2011 18:00	6.55	13.98
7/12/2011 19:00	5.94	22.6
7/12/2011 20:00	5.99	24.94
7/12/2011 21:00	6.50	23.78
7/12/2011 22:00	5.58	28.21
7/12/2011 23:00	3.85	25.81
7/13/2011 0:00	3.24	15.15
7/13/2011 1:00	3.46	36.89
7/13/2011 2:00	2.32	143.5
7/13/2011 3:00	1.40	255.8
7/13/2011 4:00	1.89	320.4
7/13/2011 5:00	2.88	347.6
7/13/2011 6:00	2.76	346.5
7/13/2011 7:00	2.31	350.9
7/13/2011 8:00	2.09	8.16
7/13/2011 9:00	2.25	356.5
7/13/2011 10:00	2.60	5.073
7/13/2011 11:00	3.11	359.9
7/13/2011 12:00	3.31	1.911
7/13/2011 13:00	3.33	5.659
7/13/2011 14:00	4.07	5.23
7/13/2011 15:00	4.09	317.3
7/13/2011 16:00	4.35	282.4
7/13/2011 17:00	3.67	281.7
7/13/2011 18:00	3.36	269.7
7/13/2011 19:00	4.31	256.4
7/13/2011 20:00	5.14	250
7/13/2011 21:00	6.09	251.3
7/13/2011 22:00	6.78	251.2
7/13/2011 23:00	7.22	253.6
7/14/2011 0:00	6.72	271.3
7/14/2011 1:00	6.69	260.1
7/14/2011 2:00	7.16	253.2
7/14/2011 3:00	6.89	258.9
7/14/2011 4:00	7.23	253.9
7/14/2011 5:00	8.48	250.8
7/14/2011 6:00	7.92	252.3
7/14/2011 7:00	5.78	255.4
7/14/2011 8:00	5.32	252.7
7/14/2011 9:00	5.86	257.6
7/14/2011 10:00	5.76	254.2
7/14/2011 11:00	6.71	250.7
7/14/2011 12:00	5.72	255.3
7/14/2011 13:00	4.08	283.4
7/14/2011 14:00	6.63	6.191
7/14/2011 15:00	7.44	6.621

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/14/2011 16:00	6.31	8.23
7/14/2011 17:00	6.01	14.88
7/14/2011 18:00	5.18	20.14
7/14/2011 19:00	4.94	22.96
7/14/2011 20:00	4.91	14.55
7/14/2011 21:00	3.67	4.569
7/14/2011 22:00	3.84	18.8
7/14/2011 23:00	6.46	31.79
7/15/2011 0:00	4.92	35.36
7/15/2011 1:00	5.16	29.47
7/15/2011 2:00	4.52	18.22
7/15/2011 3:00	3.08	9.09
7/15/2011 4:00	2.17	329.2
7/15/2011 5:00	2.31	344.1
7/15/2011 6:00	2.90	5.029
7/15/2011 7:00	1.29	342.7
7/15/2011 8:00	2.08	350.5
7/15/2011 9:00	2.27	355.2
7/15/2011 10:00	2.34	341.3
7/15/2011 11:00	1.79	351.6
7/15/2011 12:00	3.92	256
7/15/2011 13:00	5.18	248.2
7/15/2011 14:00	6.30	255.1
7/15/2011 15:00	5.98	258.6
7/15/2011 16:00	6.36	257.4
7/15/2011 17:00	7.26	254.5
7/15/2011 18:00	7.09	253.7
7/15/2011 19:00	4.33	286
7/15/2011 20:00	6.59	354.9
7/15/2011 21:00	5.59	338.6
7/15/2011 22:00	5.98	338.5
7/15/2011 23:00	3.54	14.34
7/16/2011 0:00	5.18	58.33
7/16/2011 1:00	3.30	58.95
7/16/2011 2:00	4.10	35.23
7/16/2011 3:00	4.45	30.2
7/16/2011 4:00	4.04	27.45
7/16/2011 5:00	4.83	23.56
7/16/2011 6:00	4.20	15.34
7/16/2011 7:00	3.91	5.251
7/16/2011 8:00	3.62	357.5
7/16/2011 9:00	3.61	8.44
7/16/2011 10:00	1.54	339.7
7/16/2011 11:00	2.83	315.9
7/16/2011 12:00	3.15	340.5
7/16/2011 13:00	3.03	4.12
7/16/2011 14:00	4.49	338.6
7/16/2011 15:00	5.24	309.3
7/16/2011 16:00	4.92	301.9
7/16/2011 17:00	5.68	270.4
7/16/2011 18:00	6.49	259
7/16/2011 19:00	7.71	317.1
7/16/2011 20:00	8.19	318.9
7/16/2011 21:00	7.00	311.2
7/16/2011 22:00	5.38	296
7/16/2011 23:00	6.11	292.8
7/17/2011 0:00	6.04	286
7/17/2011 1:00	5.62	279.2
7/17/2011 2:00	4.22	271.3
7/17/2011 3:00	5.29	260
7/17/2011 4:00	7.05	252.4
7/17/2011 5:00	7.01	255.3
7/17/2011 6:00	6.86	258.9
7/17/2011 7:00	7.53	259.5
7/17/2011 8:00	5.34	261.3
7/17/2011 9:00	4.50	255.2
7/17/2011 10:00	3.20	269.9
7/17/2011 11:00	3.56	295
7/17/2011 12:00	4.16	302.1
7/17/2011 13:00	4.72	308

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/17/2011 14:00	4.66	322.1
7/17/2011 15:00	3.62	329.7
7/17/2011 16:00	4.01	307.7
7/17/2011 17:00	3.37	337.6
7/17/2011 18:00	2.15	349
7/17/2011 19:00	2.35	350.2
7/17/2011 20:00	2.72	359.8
7/17/2011 21:00	2.65	353.9
7/17/2011 22:00	2.55	353.3
7/17/2011 23:00	2.47	348.7
7/18/2011 0:00	2.71	354.1
7/18/2011 1:00	4.49	15.22
7/18/2011 2:00	6.48	42.83
7/18/2011 3:00	2.99	77.99
7/18/2011 4:00	3.28	47.3
7/18/2011 5:00	3.92	55.97
7/18/2011 6:00	4.33	78.01
7/18/2011 7:00	5.55	79.51
7/18/2011 8:00	8.40	89.3
7/18/2011 9:00	8.27	87.3
7/18/2011 10:00	8.16	83.8
7/18/2011 11:00	8.32	81.7
7/18/2011 12:00	8.19	86.1
7/18/2011 13:00	8.69	82.5
7/18/2011 14:00	8.64	91.9
7/18/2011 15:00	9.71	88.5
7/18/2011 16:00	9.93	96.9
7/18/2011 17:00	9.68	96.4
7/18/2011 18:00	9.60	89.9
7/18/2011 19:00	10.70	84.2
7/18/2011 20:00	11.49	87.5
7/18/2011 21:00	11.02	85.4
7/18/2011 22:00	10.80	84.6
7/18/2011 23:00	10.15	90.6
7/19/2011 0:00	9.23	100.7
7/19/2011 1:00	6.44	113.7
7/19/2011 2:00	7.04	113.5
7/19/2011 3:00	6.70	126.2
7/19/2011 4:00	6.53	136.3
7/19/2011 5:00	7.53	124.4
7/19/2011 6:00	6.01	129.8
7/19/2011 7:00	7.96	112.6
7/19/2011 8:00	9.46	101.9
7/19/2011 9:00	9.67	102.1
7/19/2011 10:00	9.71	96.8
7/19/2011 11:00	9.58	99.4
7/19/2011 12:00	10.97	91.8
7/19/2011 13:00	11.61	99.3
7/19/2011 14:00	11.42	94.4
7/19/2011 15:00	11.40	94.3
7/19/2011 16:00	11.55	87.4
7/19/2011 17:00	13.39	76.01
7/19/2011 18:00	14.52	76.9
7/19/2011 19:00	14.34	77.39
7/19/2011 20:00	13.77	80.7
7/19/2011 21:00	12.52	80.3
7/19/2011 22:00	10.64	82.1
7/19/2011 23:00	9.13	83.9
7/20/2011 0:00	8.06	87.6
7/20/2011 1:00	6.63	93.6
7/20/2011 2:00	3.06	117.4
7/20/2011 3:00	3.60	133.3
7/20/2011 4:00	4.89	126.5
7/20/2011 5:00	5.14	120.8
7/20/2011 6:00	6.17	114.2
7/20/2011 7:00	7.64	110
7/20/2011 8:00	6.39	104.3
7/20/2011 9:00	5.81	102.4
7/20/2011 10:00	5.35	108.5
7/20/2011 11:00	4.70	114.3

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/20/2011 12:00	7.06	124.4
7/20/2011 13:00	8.27	124.1
7/20/2011 14:00	8.69	123.1
7/20/2011 15:00	8.90	124.1
7/20/2011 16:00	9.33	133.8
7/20/2011 17:00	8.58	141.5
7/20/2011 18:00	8.74	144.1
7/20/2011 19:00	7.66	139.8
7/20/2011 20:00	7.58	138.3
7/20/2011 21:00	7.83	124.6
7/20/2011 22:00	5.77	130.6
7/20/2011 23:00	5.23	126.9
7/21/2011 0:00	6.51	133.8
7/21/2011 1:00	5.62	136.6
7/21/2011 2:00	5.00	146.2
7/21/2011 3:00	5.36	148
7/21/2011 4:00	4.72	139.8
7/21/2011 5:00	5.15	152
7/21/2011 6:00	7.21	168.5
7/21/2011 7:00	8.85	179.4
7/21/2011 8:00	7.95	182.5
7/21/2011 9:00	6.89	182.8
7/21/2011 10:00	6.18	178.5
7/21/2011 11:00	4.37	215.2
7/21/2011 12:00	1.59	329.4
7/21/2011 13:00	1.19	329.6
7/21/2011 14:00	2.00	310.8
7/21/2011 15:00	1.91	303.6
7/21/2011 16:00	2.30	331.9
7/21/2011 17:00	1.67	343.7
7/21/2011 18:00	1.92	311.3
7/21/2011 19:00	1.53	343
7/21/2011 20:00	1.22	352.6
7/21/2011 21:00	1.90	16.42
7/21/2011 22:00	1.46	85.6
7/21/2011 23:00	1.83	137.1
7/22/2011 0:00	2.43	148.9
7/22/2011 1:00	3.37	149.3
7/22/2011 2:00	4.01	147.5
7/22/2011 3:00	3.59	143.6
7/22/2011 4:00	5.17	159.1
7/22/2011 5:00	4.50	162.4
7/22/2011 6:00	2.51	146
7/22/2011 7:00	1.94	155.8
7/22/2011 8:00	1.23	151.6
7/22/2011 9:00	0.56	95.9
7/22/2011 10:00	1.23	353.3
7/22/2011 11:00	1.94	335.7
7/22/2011 12:00	3.84	257.9
7/22/2011 13:00	1.74	301
7/22/2011 14:00	1.19	331.3
7/22/2011 15:00	1.59	284.8
7/22/2011 16:00	1.88	332.5
7/22/2011 17:00	1.65	354.2
7/22/2011 18:00	1.88	356.5
7/22/2011 19:00	1.43	10.57
7/22/2011 20:00	1.72	357.6
7/22/2011 21:00	5.86	89.6
7/22/2011 22:00	5.46	120.5
7/22/2011 23:00	5.33	114.8
7/23/2011 0:00	5.89	116.6
7/23/2011 1:00	5.86	118.4
7/23/2011 2:00	5.57	105
7/23/2011 3:00	6.18	95.3
7/23/2011 4:00	6.01	103.9
7/23/2011 5:00	6.25	97.7
7/23/2011 6:00	5.50	75.57
7/23/2011 7:00	5.87	79.46
7/23/2011 8:00	6.32	104
7/23/2011 9:00	5.25	97

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/23/2011 10:00	5.87	103.6
7/23/2011 11:00	6.97	93.9
7/23/2011 12:00	7.24	108.6
7/23/2011 13:00	6.84	104.4
7/23/2011 14:00	7.14	95.4
7/23/2011 15:00	6.33	92.3
7/23/2011 16:00	7.38	96.7
7/23/2011 17:00	7.72	99.8
7/23/2011 18:00	8.26	91.5
7/23/2011 19:00	8.79	87.4
7/23/2011 20:00	8.40	90.2
7/23/2011 21:00	7.98	94.4
7/23/2011 22:00	7.68	99.5
7/23/2011 23:00	8.43	97
7/24/2011 0:00	6.15	103.2
7/24/2011 1:00	7.18	93.3
7/24/2011 2:00	8.62	100.7
7/24/2011 3:00	7.67	106.9
7/24/2011 4:00	7.48	105.9
7/24/2011 5:00	6.52	95.6
7/24/2011 6:00	7.99	97.8
7/24/2011 7:00	9.00	97.2
7/24/2011 8:00	9.35	100.2
7/24/2011 9:00	7.86	109.2
7/24/2011 10:00	8.15	102.4
7/24/2011 11:00	7.37	79.76
7/24/2011 12:00	6.70	73.87
7/24/2011 13:00	8.08	75.51
7/24/2011 14:00	7.90	78.34
7/24/2011 15:00	8.63	76.93
7/24/2011 16:00	8.62	88.9
7/24/2011 17:00	8.80	86.9
7/24/2011 18:00	8.34	87.4
7/24/2011 19:00	9.21	87.8
7/24/2011 20:00	9.55	87.6
7/24/2011 21:00	8.99	86.4
7/24/2011 22:00	7.76	93.1
7/24/2011 23:00	7.18	92.3
7/25/2011 0:00	3.72	100.6
7/25/2011 1:00	5.30	111.1
7/25/2011 2:00	7.63	104.7
7/25/2011 3:00	7.51	117.5
7/25/2011 4:00	7.99	112
7/25/2011 5:00	7.46	121.2
7/25/2011 6:00	8.48	108.9
7/25/2011 7:00	8.42	105.4
7/25/2011 8:00	8.27	108.9
7/25/2011 9:00	9.04	105.7
7/25/2011 10:00	10.12	107.5
7/25/2011 11:00	10.27	115.4
7/25/2011 12:00	10.22	120.3
7/25/2011 13:00	9.87	115.9
7/25/2011 14:00	8.65	111.3
7/25/2011 15:00	7.81	108.8
7/25/2011 16:00	7.68	100.3
7/25/2011 17:00	8.48	94.3
7/25/2011 18:00	9.23	101.2
7/25/2011 19:00	7.26	220.3
7/25/2011 20:00	7.81	249.9
7/25/2011 21:00	6.88	278.8
7/25/2011 22:00	2.88	295.4
7/25/2011 23:00	7.78	252.8
7/26/2011 0:00	12.04	251.4
7/26/2011 1:00	13.35	242.5
7/26/2011 2:00	12.84	247.8
7/26/2011 3:00	13.29	245.5
7/26/2011 4:00	7.93	262.9
7/26/2011 5:00	6.85	289.7
7/26/2011 6:00	7.66	293.9
7/26/2011 7:00	7.28	285

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/26/2011 8:00	8.27	274.5
7/26/2011 9:00	9.55	274.6
7/26/2011 10:00	8.19	269.3
7/26/2011 11:00	9.00	275.6
7/26/2011 12:00	7.90	274.5
7/26/2011 13:00	9.55	275.5
7/26/2011 14:00	8.86	271.3
7/26/2011 15:00	10.52	256.6
7/26/2011 16:00	9.77	258.5
7/26/2011 17:00	9.82	256.2
7/26/2011 18:00	9.65	256.8
7/26/2011 19:00	10.05	256.7
7/26/2011 20:00	9.23	258.2
7/26/2011 21:00	10.30	251.2
7/26/2011 22:00	10.06	252.2
7/26/2011 23:00	6.97	255.9
7/27/2011 0:00	3.16	288.8
7/27/2011 1:00	5.22	340.4
7/27/2011 2:00	7.88	4.116
7/27/2011 3:00	8.31	357.5
7/27/2011 4:00	7.63	342.3
7/27/2011 5:00	6.40	332.8
7/27/2011 6:00	7.35	341.8
7/27/2011 7:00	7.97	341.3
7/27/2011 8:00	8.64	346.1
7/27/2011 9:00	7.93	352.7
7/27/2011 10:00	7.18	359.5
7/27/2011 11:00	6.21	348.1
7/27/2011 12:00	6.42	352.6
7/27/2011 13:00	7.32	6.706
7/27/2011 14:00	7.56	11.96
7/27/2011 15:00	7.49	12.59
7/27/2011 16:00	6.52	20.85
7/27/2011 17:00	6.48	22.22
7/27/2011 18:00	6.12	27.29
7/27/2011 19:00	4.24	32.57
7/27/2011 20:00	3.05	29.36
7/27/2011 21:00	1.63	346.2
7/27/2011 22:00	1.44	308.2
7/27/2011 23:00	0.72	281
7/28/2011 0:00	1.02	267
7/28/2011 1:00	1.25	224.3
7/28/2011 2:00	0.97	212.2
7/28/2011 3:00	1.88	258.5
7/28/2011 4:00	1.88	251.1
7/28/2011 5:00	3.77	257.9
7/28/2011 6:00	4.51	254.5
7/28/2011 7:00	4.31	259.5
7/28/2011 8:00	3.65	249.9
7/28/2011 9:00	5.93	257.3
7/28/2011 10:00	7.66	257.2
7/28/2011 11:00	8.10	256.5
7/28/2011 12:00	8.70	256.4
7/28/2011 13:00	7.70	257
7/28/2011 14:00	6.80	257.4
7/28/2011 15:00	6.33	255
7/28/2011 16:00	4.75	249.3
7/28/2011 17:00	3.13	256.9
7/28/2011 18:00	1.75	264.2
7/28/2011 19:00	1.41	308.4
7/28/2011 20:00	0.12	5.432
7/28/2011 21:00	0.80	17.24
7/28/2011 22:00	1.68	354.5
7/28/2011 23:00	1.46	0.476
7/29/2011 0:00	1.83	74.13
7/29/2011 1:00	2.27	112.9
7/29/2011 2:00	1.57	262
7/29/2011 3:00	1.67	286.4
7/29/2011 4:00	1.89	288.8
7/29/2011 5:00	2.40	268.7

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
7/29/2011 6:00	2.23	290.7
7/29/2011 7:00	2.61	273.1
7/29/2011 8:00	4.08	302.1
7/29/2011 9:00	6.85	310.4
7/29/2011 10:00	6.16	317.7
7/29/2011 11:00	5.49	305.9
7/29/2011 12:00	4.69	294.8
7/29/2011 13:00	3.27	311
7/29/2011 14:00	2.09	350.5
7/29/2011 15:00	4.42	5.195
7/29/2011 16:00	6.37	26.33
7/29/2011 17:00	5.94	25.17
7/29/2011 18:00	6.30	7.54
7/29/2011 19:00	5.95	63.24
7/29/2011 20:00	5.53	67.46
7/29/2011 21:00	4.76	64.08
7/29/2011 22:00	4.29	28.87
7/29/2011 23:00	4.35	9.73
7/30/2011 0:00	3.28	0.411
7/30/2011 1:00	3.10	17.07
7/30/2011 2:00	1.98	0.449
7/30/2011 3:00	2.66	10.84
7/30/2011 4:00	3.95	22.38
7/30/2011 5:00	3.33	20.14
7/30/2011 6:00	2.88	32.82
7/30/2011 7:00	2.79	22.57
7/30/2011 8:00	1.52	320.7
7/30/2011 9:00	2.56	0.226
7/30/2011 10:00	3.06	353.6
7/30/2011 11:00	3.64	345.6
7/30/2011 12:00	4.11	346.9
7/30/2011 13:00	4.55	347.7
7/30/2011 14:00	5.19	348.6
7/30/2011 15:00	5.89	358.3
7/30/2011 16:00	4.84	355.8
7/30/2011 17:00	3.42	350.7
7/30/2011 18:00	3.32	341.7
7/30/2011 19:00	3.52	347.7
7/30/2011 20:00	3.56	2.55
7/30/2011 21:00	4.02	23.56
7/30/2011 22:00	4.64	79.47
7/30/2011 23:00	4.65	102.9
7/31/2011 0:00	4.10	132.3
7/31/2011 1:00	3.85	131.6
7/31/2011 2:00	4.26	143.3
7/31/2011 3:00	4.58	153.2
7/31/2011 4:00	4.42	150.2
7/31/2011 5:00	4.28	150.9
7/31/2011 6:00	3.57	147.7
7/31/2011 7:00	3.73	143.1
7/31/2011 8:00	4.42	118.6
7/31/2011 9:00	5.14	126.8
7/31/2011 10:00	5.14	124.8
7/31/2011 11:00	5.83	117.7
7/31/2011 12:00	5.81	112.4
7/31/2011 13:00	6.05	102.4
7/31/2011 14:00	5.76	100.1
7/31/2011 15:00	6.15	103.3
7/31/2011 16:00	6.32	92.2
7/31/2011 17:00	7.39	84.9
7/31/2011 18:00	7.05	94.4
7/31/2011 19:00	9.02	82.8
7/31/2011 20:00	9.87	86.4
7/31/2011 21:00	10.86	85.2
7/31/2011 22:00	9.60	86.3
7/31/2011 23:00	7.68	97.9
8/1/2011 0:00	6.74	108
8/1/2011 1:00	5.58	123.2
8/1/2011 2:00	3.65	134.3
8/1/2011 3:00	4.36	118.8

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/1/2011 4:00	3.98	110.1
8/1/2011 5:00	4.43	109.1
8/1/2011 6:00	4.56	86.8
8/1/2011 7:00	5.38	82.3
8/1/2011 8:00	5.84	75.95
8/1/2011 9:00	7.02	77.35
8/1/2011 10:00	7.81	78.59
8/1/2011 11:00	10.05	80.7
8/1/2011 12:00	9.61	69.05
8/1/2011 13:00	10.76	66.58
8/1/2011 14:00	10.55	70.83
8/1/2011 15:00	10.52	70.59
8/1/2011 16:00	11.23	68.49
8/1/2011 17:00	11.95	67.76
8/1/2011 18:00	11.25	67.61
8/1/2011 19:00	11.71	66.43
8/1/2011 20:00	10.83	67.54
8/1/2011 21:00	9.45	72.24
8/1/2011 22:00	6.36	65.87
8/1/2011 23:00	5.14	90.9
8/2/2011 0:00	6.09	101.7
8/2/2011 1:00	3.46	108.8
8/2/2011 2:00	2.24	78.61
8/2/2011 3:00	2.21	31.34
8/2/2011 4:00	1.94	7.261
8/2/2011 5:00	3.18	32.16
8/2/2011 6:00	3.11	20.65
8/2/2011 7:00	3.90	8.16
8/2/2011 8:00	3.08	340.6
8/2/2011 9:00	4.95	4.266
8/2/2011 10:00	5.95	358
8/2/2011 11:00	6.92	2.591
8/2/2011 12:00	8.24	4.915
8/2/2011 13:00	8.74	0.87
8/2/2011 14:00	8.94	3.525
8/2/2011 15:00	9.18	5.268
8/2/2011 16:00	7.62	12.95
8/2/2011 17:00	6.65	11.81
8/2/2011 18:00	6.70	17.66
8/2/2011 19:00	5.38	19.8
8/2/2011 20:00	5.75	34.35
8/2/2011 21:00	6.34	34.66
8/2/2011 22:00	7.18	21.28
8/2/2011 23:00	5.93	37.89
8/3/2011 0:00	3.17	51.39
8/3/2011 1:00	1.79	46.85
8/3/2011 2:00	3.94	11.94
8/3/2011 3:00	3.95	25.69
8/3/2011 4:00	2.66	11.09
8/3/2011 5:00	4.74	15.14
8/3/2011 6:00	4.30	16.64
8/3/2011 7:00	3.60	16.22
8/3/2011 8:00	3.67	11.21
8/3/2011 9:00	4.82	33.2
8/3/2011 10:00	5.92	17.66
8/3/2011 11:00	6.84	6.577
8/3/2011 12:00	7.18	5.175
8/3/2011 13:00	6.56	359.8
8/3/2011 14:00	6.22	0.937
8/3/2011 15:00	6.22	5.175
8/3/2011 16:00	5.13	4.1
8/3/2011 17:00	5.25	3.172
8/3/2011 18:00	4.93	12.95
8/3/2011 19:00	4.90	18.64
8/3/2011 20:00	4.97	25.99
8/3/2011 21:00	4.16	27.54
8/3/2011 22:00	3.71	35.91
8/3/2011 23:00	2.56	26.03
8/4/2011 0:00	0.69	321.3
8/4/2011 1:00	0.89	11.17

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/4/2011 2:00	1.39	110.7
8/4/2011 3:00	2.41	120
8/4/2011 4:00	0.86	133.3
8/4/2011 5:00	0.19	106
8/4/2011 6:00	0.62	112.4
8/4/2011 7:00	1.29	119.3
8/4/2011 8:00	1.25	73.4
8/4/2011 9:00	1.01	49.62
8/4/2011 10:00	2.55	357.2
8/4/2011 11:00	2.28	6.678
8/4/2011 12:00	2.13	11.33
8/4/2011 13:00	2.74	359.1
8/4/2011 14:00	3.18	352.7
8/4/2011 15:00	3.79	348.4
8/4/2011 16:00	3.54	344.8
8/4/2011 17:00	3.20	349
8/4/2011 18:00	3.16	6.581
8/4/2011 19:00	3.71	13.91
8/4/2011 20:00	1.70	47.54
8/4/2011 21:00	5.08	99.5
8/4/2011 22:00	6.92	114.1
8/4/2011 23:00	6.55	124.9
8/5/2011 0:00	5.78	136.2
8/5/2011 1:00	6.05	133.7
8/5/2011 2:00	5.51	132
8/5/2011 3:00	6.39	123.5
8/5/2011 4:00	6.66	132.6
8/5/2011 5:00	7.31	140
8/5/2011 6:00	6.21	133.6
8/5/2011 7:00	5.71	120.4
8/5/2011 8:00	5.77	131.8
8/5/2011 9:00	5.34	140
8/5/2011 10:00	5.24	150.6
8/5/2011 11:00	5.35	163.6
8/5/2011 12:00	3.34	151.3
8/5/2011 13:00	2.97	178.2
8/5/2011 14:00	0.94	81.4
8/5/2011 15:00	1.92	12.37
8/5/2011 16:00	2.39	353.7
8/5/2011 17:00	1.98	342.9
8/5/2011 18:00	2.26	329.9
8/5/2011 19:00	2.18	343.3
8/5/2011 20:00	2.14	91
8/5/2011 21:00	3.02	103.6
8/5/2011 22:00	4.14	112.8
8/5/2011 23:00	3.01	136.1
8/6/2011 0:00	2.74	140.1
8/6/2011 1:00	2.96	139.2
8/6/2011 2:00	3.68	132.9
8/6/2011 3:00	4.99	134.1
8/6/2011 4:00	5.06	130.4
8/6/2011 5:00	5.14	130.7
8/6/2011 6:00	5.27	127.9
8/6/2011 7:00	4.76	125.3
8/6/2011 8:00	6.48	119.6
8/6/2011 9:00	6.67	116.8
8/6/2011 10:00	6.19	112.9
8/6/2011 11:00	6.37	109.3
8/6/2011 12:00	7.14	104.7
8/6/2011 13:00	7.06	100.7
8/6/2011 14:00	6.99	99
8/6/2011 15:00	6.78	95.7
8/6/2011 16:00	6.24	98
8/6/2011 17:00	5.85	96.9
8/6/2011 18:00	6.41	96
8/6/2011 19:00	11.58	75.58
8/6/2011 20:00	11.42	77.72
8/6/2011 21:00	10.61	82
8/6/2011 22:00	9.25	83.5
8/6/2011 23:00	7.94	90.9

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/7/2011 0:00	8.30	99
8/7/2011 1:00	6.00	120.4
8/7/2011 2:00	4.58	120.1
8/7/2011 3:00	5.40	120.2
8/7/2011 4:00	4.82	123.9
8/7/2011 5:00	4.16	138.8
8/7/2011 6:00	4.73	117.4
8/7/2011 7:00	4.64	110.5
8/7/2011 8:00	5.26	102.8
8/7/2011 9:00	4.84	105.2
8/7/2011 10:00	9.27	87.3
8/7/2011 11:00	9.76	94.6
8/7/2011 12:00	10.69	98.1
8/7/2011 13:00	9.99	104.4
8/7/2011 14:00	9.20	100.8
8/7/2011 15:00	8.93	95.6
8/7/2011 16:00	10.05	79.58
8/7/2011 17:00	10.75	73.82
8/7/2011 18:00	10.63	71.94
8/7/2011 19:00	10.73	74.14
8/7/2011 20:00	9.55	76.38
8/7/2011 21:00	8.66	79.75
8/7/2011 22:00	9.11	85.2
8/7/2011 23:00	5.80	98.8
8/8/2011 0:00	7.13	87.8
8/8/2011 1:00	8.04	90.5
8/8/2011 2:00	5.80	109.4
8/8/2011 3:00	4.13	120.1
8/8/2011 4:00	4.70	97.6
8/8/2011 5:00	5.12	97.1
8/8/2011 6:00	5.12	101.4
8/8/2011 7:00	5.59	91.4
8/8/2011 8:00	5.83	89.3
8/8/2011 9:00	6.95	86.2
8/8/2011 10:00	5.38	83.3
8/8/2011 11:00	5.42	74.22
8/8/2011 12:00	5.71	70.06
8/8/2011 13:00	5.08	65.89
8/8/2011 14:00	4.90	56.61
8/8/2011 15:00	5.20	12.6
8/8/2011 16:00	8.18	6.292
8/8/2011 17:00	7.91	9.19
8/8/2011 18:00	7.38	10.14
8/8/2011 19:00	6.40	18.27
8/8/2011 20:00	5.86	20.36
8/8/2011 21:00	5.89	29.32
8/8/2011 22:00	5.89	29.04
8/8/2011 23:00	5.13	45.53
8/9/2011 0:00	6.52	66.62
8/9/2011 1:00	5.47	67
8/9/2011 2:00	4.05	72.74
8/9/2011 3:00	3.96	71.41
8/9/2011 4:00	4.17	67.76
8/9/2011 5:00	2.93	62.76
8/9/2011 6:00	3.51	49.86
8/9/2011 7:00	5.12	46.83
8/9/2011 8:00	4.93	53.87
8/9/2011 9:00	3.67	63.27
8/9/2011 10:00	4.31	54.18
8/9/2011 11:00	5.41	65.91
8/9/2011 12:00	5.43	48.8
8/9/2011 13:00	4.47	56.93
8/9/2011 14:00	6.34	30.49
8/9/2011 15:00	8.45	56.64
8/9/2011 16:00	9.67	65.16
8/9/2011 17:00	9.85	64.57
8/9/2011 18:00	10.28	64.91
8/9/2011 19:00	10.23	64.12
8/9/2011 20:00	9.76	66.11
8/9/2011 21:00	7.52	66.9

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/9/2011 22:00	5.90	55.41
8/9/2011 23:00	5.23	52.22
8/10/2011 0:00	7.20	61.12
8/10/2011 1:00	6.03	47.54
8/10/2011 2:00	5.22	39.08
8/10/2011 3:00	5.19	62.92
8/10/2011 4:00	4.73	48.84
8/10/2011 5:00	4.23	30.46
8/10/2011 6:00	3.69	1.883
8/10/2011 7:00	3.77	351.5
8/10/2011 8:00	3.31	327.4
8/10/2011 9:00	2.52	304.1
8/10/2011 10:00	4.96	351.6
8/10/2011 11:00	7.40	14.33
8/10/2011 12:00	4.07	1.666
8/10/2011 13:00	4.30	4.165
8/10/2011 14:00	6.13	25.35
8/10/2011 15:00	5.18	30.41
8/10/2011 16:00	5.26	52.76
8/10/2011 17:00	6.55	56.99
8/10/2011 18:00	7.04	50.63
8/10/2011 19:00	8.82	45.14
8/10/2011 20:00	7.78	56.16
8/10/2011 21:00	5.35	39.49
8/10/2011 22:00	7.14	60.17
8/10/2011 23:00	6.70	45.21
8/11/2011 0:00	5.76	34.03
8/11/2011 1:00	5.67	35.74
8/11/2011 2:00	4.48	38.47
8/11/2011 3:00	4.35	16.84
8/11/2011 4:00	4.91	11.71
8/11/2011 5:00	9.05	35.4
8/11/2011 6:00	8.95	34.71
8/11/2011 7:00	7.53	24.99
8/11/2011 8:00	5.32	18.2
8/11/2011 9:00	8.48	31.61
8/11/2011 10:00	7.40	26.15
8/11/2011 11:00	7.11	22.89
8/11/2011 12:00	5.05	16.74
8/11/2011 13:00	3.42	12.74
8/11/2011 14:00	7.48	35.95
8/11/2011 15:00	7.10	35.35
8/11/2011 16:00	5.12	31.43
8/11/2011 17:00	5.35	22.83
8/11/2011 18:00	5.81	7.796
8/11/2011 19:00	6.33	14.96
8/11/2011 20:00	6.28	14.91
8/11/2011 21:00	5.44	21.85
8/11/2011 22:00	3.86	19.49
8/11/2011 23:00	5.25	42.02
8/12/2011 0:00	4.20	72.17
8/12/2011 1:00	2.82	28.23
8/12/2011 2:00	4.81	26.43
8/12/2011 3:00	4.36	22.44
8/12/2011 4:00	5.51	33.28
8/12/2011 5:00	5.01	25.29
8/12/2011 6:00	3.94	25.77
8/12/2011 7:00	3.48	358.8
8/12/2011 8:00	4.54	341.7
8/12/2011 9:00	4.74	320.3
8/12/2011 10:00	6.21	324.4
8/12/2011 11:00	6.02	327.2
8/12/2011 12:00	5.28	327.3
8/12/2011 13:00	5.64	320.1
8/12/2011 14:00	5.79	335.3
8/12/2011 15:00	5.00	323.1
8/12/2011 16:00	4.62	337.1
8/12/2011 17:00	4.83	349.1
8/12/2011 18:00	3.42	340.6
8/12/2011 19:00	2.88	357.1

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/12/2011 20:00	4.35	4.183
8/12/2011 21:00	5.13	3.723
8/12/2011 22:00	4.17	322.3
8/12/2011 23:00	4.51	325.8
8/13/2011 0:00	3.54	328.6
8/13/2011 1:00	2.66	315.9
8/13/2011 2:00	1.83	300.4
8/13/2011 3:00	2.08	308.3
8/13/2011 4:00	2.07	282.3
8/13/2011 5:00	1.90	299.6
8/13/2011 6:00	2.59	318.8
8/13/2011 7:00	2.04	301.4
8/13/2011 8:00	0.45	11.81
8/13/2011 9:00	0.84	265
8/13/2011 10:00	2.79	269.2
8/13/2011 11:00	4.26	256.3
8/13/2011 12:00	4.72	254.1
8/13/2011 13:00	5.10	253.3
8/13/2011 14:00	5.93	251.7
8/13/2011 15:00	7.83	244.6
8/13/2011 16:00	7.04	245.6
8/13/2011 17:00	6.21	255.3
8/13/2011 18:00	6.50	260
8/13/2011 19:00	6.06	260.3
8/13/2011 20:00	5.41	264.3
8/13/2011 21:00	5.76	261.1
8/13/2011 22:00	7.33	252.2
8/13/2011 23:00	6.71	251.5
8/14/2011 0:00	6.13	254.7
8/14/2011 1:00	4.97	256.8
8/14/2011 2:00	4.79	256
8/14/2011 3:00	4.30	250
8/14/2011 4:00	4.07	252.4
8/14/2011 5:00	4.31	246
8/14/2011 6:00	1.08	257.5
8/14/2011 7:00	2.65	142.5
8/14/2011 8:00	2.26	116.2
8/14/2011 9:00	2.05	114
8/14/2011 10:00	1.55	31.46
8/14/2011 11:00	3.11	10.83
8/14/2011 12:00	3.60	1.805
8/14/2011 13:00	7.29	55.72
8/14/2011 14:00	9.84	70.16
8/14/2011 15:00	8.16	71.13
8/14/2011 16:00	7.50	65.91
8/14/2011 17:00	7.43	63.62
8/14/2011 18:00	7.40	65.84
8/14/2011 19:00	7.35	64.4
8/14/2011 20:00	7.96	71.62
8/14/2011 21:00	7.51	81.9
8/14/2011 22:00	7.11	84.4
8/14/2011 23:00	7.14	88.4
8/15/2011 0:00	7.30	100.1
8/15/2011 1:00	8.07	98.7
8/15/2011 2:00	7.83	102.9
8/15/2011 3:00	7.50	100.5
8/15/2011 4:00	7.76	92.2
8/15/2011 5:00	8.60	90.4
8/15/2011 6:00	9.71	94.8
8/15/2011 7:00	9.45	93.2
8/15/2011 8:00	8.14	100.8
8/15/2011 9:00	9.78	94.3
8/15/2011 10:00	10.44	95.3
8/15/2011 11:00	10.40	97.3
8/15/2011 12:00	10.45	101
8/15/2011 13:00	10.59	102.3
8/15/2011 14:00	9.90	97.5
8/15/2011 15:00	10.02	97.9
8/15/2011 16:00	10.00	95.9
8/15/2011 17:00	10.50	91.9

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/15/2011 18:00	11.97	82.5
8/15/2011 19:00	13.26	81
8/15/2011 20:00	12.23	88.3
8/15/2011 21:00	12.10	91
8/15/2011 22:00	11.26	94.6
8/15/2011 23:00	10.85	96.1
8/16/2011 0:00	10.82	94.9
8/16/2011 1:00	11.76	97.7
8/16/2011 2:00	8.27	94.8
8/16/2011 3:00	7.94	94.3
8/16/2011 4:00	9.46	86.9
8/16/2011 5:00	11.19	90.5
8/16/2011 6:00	10.80	94.9
8/16/2011 7:00	9.23	90.7
8/16/2011 8:00	9.66	84.8
8/16/2011 9:00	10.22	80.1
8/16/2011 10:00	11.23	81.6
8/16/2011 11:00	11.36	79.78
8/16/2011 12:00	9.52	73.78
8/16/2011 13:00	11.70	79.02
8/16/2011 14:00	11.10	73.91
8/16/2011 15:00	10.63	72.86
8/16/2011 16:00	10.11	72.53
8/16/2011 17:00	11.12	73.1
8/16/2011 18:00	11.68	77.91
8/16/2011 19:00	11.37	76.19
8/16/2011 20:00	11.42	79.45
8/16/2011 21:00	12.34	75.78
8/16/2011 22:00	11.72	72.81
8/16/2011 23:00	12.82	68.77
8/17/2011 0:00	12.45	66.2
8/17/2011 1:00	10.57	67.07
8/17/2011 2:00	9.67	64.91
8/17/2011 3:00	12.46	68.54
8/17/2011 4:00	13.75	65.38
8/17/2011 5:00	14.29	63.86
8/17/2011 6:00	14.52	69.19
8/17/2011 7:00	15.74	67.76
8/17/2011 8:00	14.52	67.53
8/17/2011 9:00	13.93	64.42
8/17/2011 10:00	13.55	66.07
8/17/2011 11:00	13.85	66.51
8/17/2011 12:00	13.17	67.76
8/17/2011 13:00	12.61	72.29
8/17/2011 14:00	13.84	84.3
8/17/2011 15:00	14.85	83.4
8/17/2011 16:00	16.54	82.8
8/17/2011 17:00	16.36	81.5
8/17/2011 18:00	16.19	81
8/17/2011 19:00	15.99	81.3
8/17/2011 20:00	14.10	77.78
8/17/2011 21:00	14.13	75.94
8/17/2011 22:00	14.53	78.12
8/17/2011 23:00	13.37	77.9
8/18/2011 0:00	13.12	84.3
8/18/2011 1:00	12.52	83.5
8/18/2011 2:00	12.84	90.1
8/18/2011 3:00	12.58	95.1
8/18/2011 4:00	11.89	92.7
8/18/2011 5:00	13.13	98.6
8/18/2011 6:00	12.51	104.6
8/18/2011 7:00	13.73	109.4
8/18/2011 8:00	13.45	111.6
8/18/2011 9:00	13.64	112.2
8/18/2011 10:00	14.36	112.4
8/18/2011 11:00	13.77	111.5
8/18/2011 12:00	14.03	110.8
8/18/2011 13:00	13.81	103.6
8/18/2011 14:00	14.54	106.1
8/18/2011 15:00	13.98	106

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/18/2011 16:00	12.21	105.2
8/18/2011 17:00	11.31	107.4
8/18/2011 18:00	11.03	109.1
8/18/2011 19:00	10.38	96.8
8/18/2011 20:00	10.96	83.8
8/18/2011 21:00	10.52	76.58
8/18/2011 22:00	9.53	79.89
8/18/2011 23:00	8.60	76.61
8/19/2011 0:00	8.36	78.68
8/19/2011 1:00	7.94	84.5
8/19/2011 2:00	5.40	103.2
8/19/2011 3:00	5.17	112.6
8/19/2011 4:00	4.56	115.1
8/19/2011 5:00	3.33	121.2
8/19/2011 6:00	3.21	108.6
8/19/2011 7:00	5.03	109.1
8/19/2011 8:00	4.00	117.3
8/19/2011 9:00	2.57	124
8/19/2011 10:00	1.67	93.7
8/19/2011 11:00	1.00	46.84
8/19/2011 12:00	1.47	337.2
8/19/2011 13:00	2.18	353.9
8/19/2011 14:00	1.25	11.48
8/19/2011 15:00	1.68	328.1
8/19/2011 16:00	3.59	259.6
8/19/2011 17:00	4.49	258.3
8/19/2011 18:00	4.68	257.6
8/19/2011 19:00	4.53	258.3
8/19/2011 20:00	5.41	262.8
8/19/2011 21:00	8.74	297.8
8/19/2011 22:00	7.07	299.2
8/19/2011 23:00	5.96	301.8
8/20/2011 0:00	5.85	285
8/20/2011 1:00	5.25	268.6
8/20/2011 2:00	4.82	272.7
8/20/2011 3:00	4.58	276.2
8/20/2011 4:00	4.20	277.7
8/20/2011 5:00	3.97	279.5
8/20/2011 6:00	4.49	278
8/20/2011 7:00	4.51	277
8/20/2011 8:00	4.65	268.7
8/20/2011 9:00	4.84	273.6
8/20/2011 10:00	4.87	278.9
8/20/2011 11:00	4.30	283.7
8/20/2011 12:00	3.70	263.9
8/20/2011 13:00	3.04	263.4
8/20/2011 14:00	3.16	311.9
8/20/2011 15:00	3.08	337
8/20/2011 16:00	1.29	335.2
8/20/2011 17:00	3.64	253.4
8/20/2011 18:00	5.21	249.1
8/20/2011 19:00	4.03	253.1
8/20/2011 20:00	3.05	258.6
8/20/2011 21:00	2.91	293.9
8/20/2011 22:00	2.50	13.14
8/20/2011 23:00	3.06	32.65
8/21/2011 0:00	0.78	133.5
8/21/2011 1:00	2.90	37.73
8/21/2011 2:00	2.28	32.21
8/21/2011 3:00	1.14	38.34
8/21/2011 4:00	0.66	60.7
8/21/2011 5:00	1.99	134.8
8/21/2011 6:00	2.96	132
8/21/2011 7:00	4.44	119.1
8/21/2011 8:00	4.49	114
8/21/2011 9:00	5.46	108.5
8/21/2011 10:00	6.08	105.3
8/21/2011 11:00	8.21	98.4
8/21/2011 12:00	8.91	95.8
8/21/2011 13:00	9.16	96.4

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/21/2011 14:00	9.48	106.6
8/21/2011 15:00	10.11	108.3
8/21/2011 16:00	11.69	110.7
8/21/2011 17:00	12.38	105
8/21/2011 18:00	11.06	118
8/21/2011 19:00	10.66	111.9
8/21/2011 20:00	10.06	107.7
8/21/2011 21:00	9.85	93.3
8/21/2011 22:00	10.97	88.3
8/21/2011 23:00	9.43	96.7
8/22/2011 0:00	9.42	97.8
8/22/2011 1:00	9.33	91.7
8/22/2011 2:00	9.94	96.2
8/22/2011 3:00	9.58	95.8
8/22/2011 4:00	9.55	93.9
8/22/2011 5:00	9.68	91.4
8/22/2011 6:00	9.68	91.9
8/22/2011 7:00	11.19	92.7
8/22/2011 8:00	12.03	88.6
8/22/2011 9:00	13.43	88.1
8/22/2011 10:00	14.05	86
8/22/2011 11:00	15.11	88
8/22/2011 12:00	15.50	97.5
8/22/2011 13:00	16.96	93.7
8/22/2011 14:00	18.81	95.4
8/22/2011 15:00	20.26	96.7
8/22/2011 16:00	19.48	100.7
8/22/2011 17:00	18.23	99.1
8/22/2011 18:00	18.70	101.7
8/22/2011 19:00	18.10	103.4
8/22/2011 20:00	16.55	102.1
8/22/2011 21:00	15.58	101.8
8/22/2011 22:00	17.27	102.2
8/22/2011 23:00	17.15	104.1
8/23/2011 0:00	15.65	105.9
8/23/2011 1:00	14.64	109.2
8/23/2011 2:00	13.25	111.1
8/23/2011 3:00	13.44	114.9
8/23/2011 4:00	12.87	104.4
8/23/2011 5:00	12.97	106.6
8/23/2011 6:00	12.79	108
8/23/2011 7:00	12.72	109.2
8/23/2011 8:00	12.76	108.6
8/23/2011 9:00	12.96	110.3
8/23/2011 10:00	12.63	108.2
8/23/2011 11:00	14.22	112.7
8/23/2011 12:00	13.72	113.1
8/23/2011 13:00	12.96	107.6
8/23/2011 14:00	13.71	102.4
8/23/2011 15:00	14.13	98.6
8/23/2011 16:00	14.71	92.9
8/23/2011 17:00	14.87	99.4
8/23/2011 18:00	15.02	101.1
8/23/2011 19:00	15.11	102.1
8/23/2011 20:00	14.56	104.7
8/23/2011 21:00	12.35	98.6
8/23/2011 22:00	12.20	105.1
8/23/2011 23:00	12.00	102.9
8/24/2011 0:00	12.07	101.3
8/24/2011 1:00	10.54	100.2
8/24/2011 2:00	7.75	116.2
8/24/2011 3:00	5.27	135.5
8/24/2011 4:00	4.12	155
8/24/2011 5:00	4.98	156.5
8/24/2011 6:00	6.61	172.9
8/24/2011 7:00	6.70	171.6
8/24/2011 8:00	5.46	161.1
8/24/2011 9:00	5.39	159.4
8/24/2011 10:00	5.00	147.5
8/24/2011 11:00	5.26	161.5

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/24/2011 12:00	5.53	197.5
8/24/2011 13:00	5.51	183.6
8/24/2011 14:00	4.64	170.8
8/24/2011 15:00	5.63	190.2
8/24/2011 16:00	5.93	186.4
8/24/2011 17:00	3.54	204.5
8/24/2011 18:00	2.76	346
8/24/2011 19:00	1.68	304.1
8/24/2011 20:00	1.01	348.8
8/24/2011 21:00	0.32	248.3
8/24/2011 22:00	0.34	155.1
8/24/2011 23:00	0.50	112.4
8/25/2011 0:00	1.31	139.8
8/25/2011 1:00	1.44	157.6
8/25/2011 2:00	1.64	140.7
8/25/2011 3:00	1.55	134.7
8/25/2011 4:00	1.46	137.5
8/25/2011 5:00	0.76	110
8/25/2011 6:00	1.15	299.3
8/25/2011 7:00	1.48	170.8
8/25/2011 8:00	2.41	56.53
8/25/2011 9:00	2.63	139.2
8/25/2011 10:00	2.51	63.56
8/25/2011 11:00	2.03	64.51
8/25/2011 12:00	1.26	66.81
8/25/2011 13:00	1.19	60.74
8/25/2011 14:00	2.19	14.84
8/25/2011 15:00	2.86	25.18
8/25/2011 16:00	5.95	5.674
8/25/2011 17:00	5.97	25.86
8/25/2011 18:00	4.77	20.15
8/25/2011 19:00	4.92	24.6
8/25/2011 20:00	4.03	31.4
8/25/2011 21:00	3.48	21.08
8/25/2011 22:00	1.68	353.1
8/25/2011 23:00	1.92	266.2
8/26/2011 0:00	2.55	267.7
8/26/2011 1:00	3.19	277.7
8/26/2011 2:00	3.33	298.3
8/26/2011 3:00	3.77	286.6
8/26/2011 4:00	5.58	300.5
8/26/2011 5:00	5.52	319
8/26/2011 6:00	5.44	315.5
8/26/2011 7:00	5.43	307.3
8/26/2011 8:00	6.21	306
8/26/2011 9:00	5.56	308.8
8/26/2011 10:00	5.33	305.5
8/26/2011 11:00	5.42	308.8
8/26/2011 12:00	5.50	310.4
8/26/2011 13:00	5.91	306.5
8/26/2011 14:00	5.49	302.7
8/26/2011 15:00	4.83	314.6
8/26/2011 16:00	4.33	314.3
8/26/2011 17:00	3.89	319.6
8/26/2011 18:00	2.66	283.1
8/26/2011 19:00	3.68	264.4
8/26/2011 20:00	6.19	264.1
8/26/2011 21:00	8.40	256.9
8/26/2011 22:00	11.18	244.7
8/26/2011 23:00	11.63	242.4
8/27/2011 0:00	12.13	241.8
8/27/2011 1:00	10.96	244.8
8/27/2011 2:00	11.52	241.8
8/27/2011 3:00	9.04	246.3
8/27/2011 4:00	8.27	249.5
8/27/2011 5:00	6.39	254.5
8/27/2011 6:00	5.57	260
8/27/2011 7:00	3.76	280
8/27/2011 8:00	6.10	279.8
8/27/2011 9:00	7.43	285.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/27/2011 10:00	6.89	272.6
8/27/2011 11:00	7.06	274.7
8/27/2011 12:00	7.25	266.8
8/27/2011 13:00	8.29	255.2
8/27/2011 14:00	8.72	250.5
8/27/2011 15:00	8.19	250.8
8/27/2011 16:00	8.70	258.5
8/27/2011 17:00	6.20	278.3
8/27/2011 18:00	6.63	276.9
8/27/2011 19:00	6.84	267
8/27/2011 20:00	6.74	261.8
8/27/2011 21:00	7.15	269.3
8/27/2011 22:00	6.34	279.6
8/27/2011 23:00	6.09	274.9
8/28/2011 0:00	7.13	269.2
8/28/2011 1:00	6.48	266.7
8/28/2011 2:00	6.91	272.7
8/28/2011 3:00	6.86	277.5
8/28/2011 4:00	6.21	272.2
8/28/2011 5:00	7.09	272.7
8/28/2011 6:00	7.21	276.4
8/28/2011 7:00	6.72	281
8/28/2011 8:00	5.89	283.8
8/28/2011 9:00	5.57	283.6
8/28/2011 10:00	5.53	306.6
8/28/2011 11:00	6.29	330.3
8/28/2011 12:00	7.81	334.8
8/28/2011 13:00	7.23	339.3
8/28/2011 14:00	4.59	304.5
8/28/2011 15:00	4.73	277.9
8/28/2011 16:00	5.05	266.1
8/28/2011 17:00	4.04	275
8/28/2011 18:00	6.39	275.7
8/28/2011 19:00	6.28	276.1
8/28/2011 20:00	6.40	279.2
8/28/2011 21:00	6.47	277.1
8/28/2011 22:00	5.21	280.8
8/28/2011 23:00	3.88	313.2
8/29/2011 0:00	2.39	279.3
8/29/2011 1:00	3.47	279.9
8/29/2011 2:00	5.29	272.3
8/29/2011 3:00	7.66	269.4
8/29/2011 4:00	6.77	268.2
8/29/2011 5:00	6.84	271.1
8/29/2011 6:00	6.90	271.5
8/29/2011 7:00	6.92	258
8/29/2011 8:00	7.39	281.6
8/29/2011 9:00	4.55	288.8
8/29/2011 10:00	5.76	283.9
8/29/2011 11:00	8.26	281.8
8/29/2011 12:00	9.39	273.2
8/29/2011 13:00	8.88	281.2
8/29/2011 14:00	8.35	275.8
8/29/2011 15:00	7.99	274.2
8/29/2011 16:00	7.17	270.8
8/29/2011 17:00	6.13	268.7
8/29/2011 18:00	5.16	271.8
8/29/2011 19:00	4.96	253.5
8/29/2011 20:00	4.61	249.6
8/29/2011 21:00	4.68	247
8/29/2011 22:00	3.61	256.2
8/29/2011 23:00	3.20	279.8
8/30/2011 0:00	2.91	278.5
8/30/2011 1:00	3.60	273.6
8/30/2011 2:00	3.48	267.4
8/30/2011 3:00	1.82	300.1
8/30/2011 4:00	1.33	311.8
8/30/2011 5:00	0.57	335.6
8/30/2011 6:00	0.93	344.7
8/30/2011 7:00	0.74	343.2

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
8/30/2011 8:00	1.03	65.04
8/30/2011 9:00	1.81	85.9
8/30/2011 10:00	4.11	72.25
8/30/2011 11:00	3.02	61.63
8/30/2011 12:00	2.48	43.84
8/30/2011 13:00	1.61	51.89
8/30/2011 14:00	3.40	8.77
8/30/2011 15:00	4.18	0.335
8/30/2011 16:00	3.63	359.9
8/30/2011 17:00	3.10	28.1
8/30/2011 18:00	3.19	37.26
8/30/2011 19:00	4.49	71.72
8/30/2011 20:00	4.14	80.9
8/30/2011 21:00	3.73	92
8/30/2011 22:00	3.41	100.4
8/30/2011 23:00	2.90	127.7
8/31/2011 0:00	3.33	141.7
8/31/2011 1:00	3.20	136.6
8/31/2011 2:00	2.89	130.9
8/31/2011 3:00	3.89	140
8/31/2011 4:00	2.29	136.2
8/31/2011 5:00	1.63	146.6
8/31/2011 6:00	1.03	166.2
8/31/2011 7:00	1.55	136.4
8/31/2011 8:00	0.87	145.5
8/31/2011 9:00	0.43	31.07
8/31/2011 10:00	1.13	19.41
8/31/2011 11:00	1.71	359.5
8/31/2011 12:00	3.56	5.629
8/31/2011 13:00	3.57	27.32
8/31/2011 14:00	4.37	66.91
8/31/2011 15:00	4.36	69.24
8/31/2011 16:00	4.34	72.48
8/31/2011 17:00	4.74	82.9
8/31/2011 18:00	3.89	111.3
8/31/2011 19:00	3.65	119
8/31/2011 20:00	6.26	98.4
8/31/2011 21:00	7.61	87.4
8/31/2011 22:00	7.77	88.3
8/31/2011 23:00	6.93	89
9/1/2011 0:00	4.01	103.1
9/1/2011 1:00	4.47	98
9/1/2011 2:00	3.82	111.9
9/1/2011 3:00	3.88	133.2
9/1/2011 4:00	3.84	131.4
9/1/2011 5:00	4.69	123.2
9/1/2011 6:00	4.69	99.4
9/1/2011 7:00	5.68	94
9/1/2011 8:00	5.05	92.6
9/1/2011 9:00	4.74	90.2
9/1/2011 10:00	5.37	74.33
9/1/2011 11:00	4.27	73.81
9/1/2011 12:00	4.88	71.05
9/1/2011 13:00	4.29	75.84
9/1/2011 14:00	4.12	62.19
9/1/2011 15:00	3.85	53.84
9/1/2011 16:00	3.57	74.15
9/1/2011 17:00	5.17	58.52
9/1/2011 18:00	6.23	65.15
9/1/2011 19:00	5.50	68.47
9/1/2011 20:00	6.06	74.1
9/1/2011 21:00	4.94	85.3
9/1/2011 22:00	4.25	73.41
9/1/2011 23:00	3.56	52.13
9/2/2011 0:00	3.18	71.04
9/2/2011 1:00	3.71	64.39
9/2/2011 2:00	2.82	110.4
9/2/2011 3:00	2.95	101.2
9/2/2011 4:00	2.20	121.6
9/2/2011 5:00	3.08	100.2

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)	Date/Time	Wind Speed (m/s)	Wind Direction (degrees)	Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/2/2011 6:00	2.53	106.7	9/5/2011 4:00	9.51	80.8	9/8/2011 2:00	15.35	23.88
9/2/2011 7:00	2.48	121.8	9/5/2011 5:00	8.41	85.6	9/8/2011 3:00	14.19	22.72
9/2/2011 8:00	2.60	115.4	9/5/2011 6:00	7.84	85.5	9/8/2011 4:00	12.64	22.4
9/2/2011 9:00	3.36	125.9	9/5/2011 7:00	9.19	81.9	9/8/2011 5:00	10.01	16.41
9/2/2011 10:00	3.33	117.7	9/5/2011 8:00	9.38	84.7	9/8/2011 6:00	9.66	14.64
9/2/2011 11:00	3.58	105.2	9/5/2011 9:00	7.91	84.5	9/8/2011 7:00	8.65	18.99
9/2/2011 12:00	4.08	90.2	9/5/2011 10:00	7.87	64.94	9/8/2011 8:00	8.66	24.75
9/2/2011 13:00	2.98	101.6	9/5/2011 11:00	8.27	65.5	9/8/2011 9:00	5.53	14.34
9/2/2011 14:00	2.60	100.1	9/5/2011 12:00	8.47	64.01	9/8/2011 10:00	5.13	22.17
9/2/2011 15:00	2.46	98.3	9/5/2011 13:00	7.95	63.52	9/8/2011 11:00	5.70	30.09
9/2/2011 16:00	3.32	100.1	9/5/2011 14:00	7.75	59.7	9/8/2011 12:00	3.87	14.14
9/2/2011 17:00	3.57	106.2	9/5/2011 15:00	7.19	28.46	9/8/2011 13:00	3.90	5.797
9/2/2011 18:00	4.38	108.6	9/5/2011 16:00	7.20	52.81	9/8/2011 14:00	3.36	30.8
9/2/2011 19:00	5.24	108.7	9/5/2011 17:00	7.95	75.8	9/8/2011 15:00	2.67	79.79
9/2/2011 20:00	5.90	113.6	9/5/2011 18:00	6.54	75.6	9/8/2011 16:00	3.12	105.2
9/2/2011 21:00	5.18	125.9	9/5/2011 19:00	4.88	78.76	9/8/2011 17:00	4.49	105.9
9/2/2011 22:00	5.89	127.7	9/5/2011 20:00	3.38	70.33	9/8/2011 18:00	5.39	114.4
9/2/2011 23:00	5.37	133.1	9/5/2011 21:00	2.79	85.2	9/8/2011 19:00	6.12	117.3
9/3/2011 0:00	5.15	134.1	9/5/2011 22:00	3.45	59.47	9/8/2011 20:00	5.89	112.1
9/3/2011 1:00	5.82	136.5	9/5/2011 23:00	2.47	77.78	9/8/2011 21:00	5.51	124.1
9/3/2011 2:00	5.62	146	9/6/2011 0:00	1.21	50.14	9/8/2011 22:00	6.41	122.9
9/3/2011 3:00	5.27	138.8	9/6/2011 1:00	1.89	29.34	9/8/2011 23:00	6.70	118.5
9/3/2011 4:00	5.30	137.4	9/6/2011 2:00	2.15	24.84	9/9/2011 0:00	7.59	115.3
9/3/2011 5:00	5.14	138.9	9/6/2011 3:00	1.42	19.14	9/9/2011 1:00	8.13	116.8
9/3/2011 6:00	6.46	132.5	9/6/2011 4:00	0.74	340.1	9/9/2011 2:00	6.89	121.3
9/3/2011 7:00	5.57	129.3	9/6/2011 5:00	1.15	92.2	9/9/2011 3:00	6.49	122.7
9/3/2011 8:00	5.68	131	9/6/2011 6:00	2.15	77.05	9/9/2011 4:00	6.22	119.6
9/3/2011 9:00	5.83	126.7	9/6/2011 7:00	2.17	110.1	9/9/2011 5:00	4.96	111.9
9/3/2011 10:00	5.95	124.8	9/6/2011 8:00	3.35	109.1	9/9/2011 6:00	4.34	112.4
9/3/2011 11:00	4.51	133.1	9/6/2011 9:00	4.27	109.5	9/9/2011 7:00	3.88	118.1
9/3/2011 12:00	5.41	130.4	9/6/2011 10:00	4.93	119.6	9/9/2011 8:00	3.14	121.3
9/3/2011 13:00	5.44	151.7	9/6/2011 11:00	5.03	114.1	9/9/2011 9:00	2.71	116.7
9/3/2011 14:00	5.97	137.7	9/6/2011 12:00	6.13	117.9	9/9/2011 10:00	1.94	94.9
9/3/2011 15:00	7.19	138.9	9/6/2011 13:00	7.29	121.6	9/9/2011 11:00	1.05	79.58
9/3/2011 16:00	6.38	131.4	9/6/2011 14:00	7.93	120.5	9/9/2011 12:00	1.96	355.8
9/3/2011 17:00	4.39	128.2	9/6/2011 15:00	8.51	119.6	9/9/2011 13:00	2.76	344.2
9/3/2011 18:00	3.90	139.9	9/6/2011 16:00	9.14	116.5	9/9/2011 14:00	2.09	343.1
9/3/2011 19:00	2.69	196.6	9/6/2011 17:00	9.66	117.4	9/9/2011 15:00	1.32	322.3
9/3/2011 20:00	1.08	305	9/6/2011 18:00	10.24	119.6	9/9/2011 16:00	2.40	339.1
9/3/2011 21:00	2.65	257.8	9/6/2011 19:00	11.45	122.4	9/9/2011 17:00	3.57	358.5
9/3/2011 22:00	2.23	258.6	9/6/2011 20:00	10.80	111.8	9/9/2011 18:00	3.36	0.898
9/3/2011 23:00	2.54	271.9	9/6/2011 21:00	9.34	112.6	9/9/2011 19:00	1.47	352.2
9/4/2011 0:00	4.41	259	9/6/2011 22:00	9.18	109.2	9/9/2011 20:00	2.35	58.46
9/4/2011 1:00	4.84	261	9/6/2011 23:00	9.17	115.6	9/9/2011 21:00	3.42	60.24
9/4/2011 2:00	3.85	267.6	9/7/2011 0:00	9.43	110	9/9/2011 22:00	2.54	47.27
9/4/2011 3:00	2.75	295.8	9/7/2011 1:00	8.47	116.9	9/9/2011 23:00	2.48	45.05
9/4/2011 4:00	2.17	320.1	9/7/2011 2:00	7.22	108.4	9/10/2011 0:00	0.83	23.93
9/4/2011 5:00	4.08	358	9/7/2011 3:00	6.43	109.9	9/10/2011 1:00	2.05	65.46
9/4/2011 6:00	5.84	14.93	9/7/2011 4:00	9.25	133.5	9/10/2011 2:00	2.45	37.5
9/4/2011 7:00	5.84	23.3	9/7/2011 5:00	11.43	121.5	9/10/2011 3:00	2.73	4.763
9/4/2011 8:00	4.82	37.96	9/7/2011 6:00	13.07	116.2	9/10/2011 4:00	4.76	6.644
9/4/2011 9:00	3.91	55.39	9/7/2011 7:00	15.55	104.5	9/10/2011 5:00	3.54	2.589
9/4/2011 10:00	4.64	78.86	9/7/2011 8:00	16.07	108.4	9/10/2011 6:00	3.66	349.4
9/4/2011 11:00	4.79	94.4	9/7/2011 9:00	18.86	105.4	9/10/2011 7:00	2.89	352.4
9/4/2011 12:00	6.23	89.6	9/7/2011 10:00	20.74	92.1	9/10/2011 8:00	3.52	350.9
9/4/2011 13:00	5.17	100.9	9/7/2011 11:00	19.82	98.1	9/10/2011 9:00	2.68	334.4
9/4/2011 14:00	3.21	88	9/7/2011 12:00	15.66	106	9/10/2011 10:00	2.63	319.1
9/4/2011 15:00	4.35	87.9	9/7/2011 13:00	9.96	109.1	9/10/2011 11:00	2.08	305.7
9/4/2011 16:00	4.98	51.96	9/7/2011 14:00	3.53	124.8	9/10/2011 12:00	3.51	287.8
9/4/2011 17:00	6.58	49.56	9/7/2011 15:00	3.67	247.4	9/10/2011 13:00	2.39	300.3
9/4/2011 18:00	9.86	76.73	9/7/2011 16:00	7.05	256.3	9/10/2011 14:00	3.93	259
9/4/2011 19:00	10.17	87	9/7/2011 17:00	8.58	250.9	9/10/2011 15:00	5.90	258.8
9/4/2011 20:00	9.21	87.9	9/7/2011 18:00	8.19	251.8	9/10/2011 16:00	7.94	253.9
9/4/2011 21:00	9.20	85.4	9/7/2011 19:00	5.35	278.9	9/10/2011 17:00	9.73	243.3
9/4/2011 22:00	8.79	89.8	9/7/2011 20:00	4.59	304.7	9/10/2011 18:00	8.25	267.3
9/4/2011 23:00	8.49	87.9	9/7/2011 21:00	7.55	346.2	9/10/2011 19:00	8.60	265.4
9/5/2011 0:00	8.69	91	9/7/2011 22:00	11.33	13.45	9/10/2011 20:00	9.08	271.8
9/5/2011 1:00	7.39	91.4	9/7/2011 23:00	17.70	25.4	9/10/2011 21:00	11.36	285.7
9/5/2011 2:00	7.57	87.9	9/8/2011 0:00	19.16	27.36	9/10/2011 22:00	10.95	294.8
9/5/2011 3:00	8.42	85.9	9/8/2011 1:00	16.68	26.75	9/10/2011 23:00	10.77	300.8

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/11/2011 0:00	10.22	306.9
9/11/2011 1:00	12.07	310.2
9/11/2011 2:00	12.01	316.2
9/11/2011 3:00	12.00	301.2
9/11/2011 4:00	12.97	310
9/11/2011 5:00	10.71	300
9/11/2011 6:00	10.88	297.9
9/11/2011 7:00	10.01	292.2
9/11/2011 8:00	8.47	284.9
9/11/2011 9:00	8.54	284.8
9/11/2011 10:00	9.76	286.9
9/11/2011 11:00	9.77	279
9/11/2011 12:00	9.10	274.5
9/11/2011 13:00	8.95	271.9
9/11/2011 14:00	10.27	272.5
9/11/2011 15:00	11.46	275.7
9/11/2011 16:00	9.57	274.7
9/11/2011 17:00	9.23	273.1
9/11/2011 18:00	9.16	274.4
9/11/2011 19:00	9.40	280.8
9/11/2011 20:00	7.72	288.3
9/11/2011 21:00	7.37	284.6
9/11/2011 22:00	8.30	300.9
9/11/2011 23:00	9.45	327.8
9/12/2011 0:00	8.62	332.1
9/12/2011 1:00	7.70	332.9
9/12/2011 2:00	7.22	340.5
9/12/2011 3:00	6.89	337.9
9/12/2011 4:00	7.34	333.6
9/12/2011 5:00	8.56	335.8
9/12/2011 6:00	7.82	329.3
9/12/2011 7:00	8.83	319.8
9/12/2011 8:00	7.88	323.7
9/12/2011 9:00	6.98	320
9/12/2011 10:00	6.45	311.8
9/12/2011 11:00	6.18	309
9/12/2011 12:00	6.35	308.3
9/12/2011 13:00	6.14	307.9
9/12/2011 14:00	5.34	311.2
9/12/2011 15:00	5.61	317.9
9/12/2011 16:00	5.38	312.9
9/12/2011 17:00	5.72	323.1
9/12/2011 18:00	7.40	318.2
9/12/2011 19:00	6.20	309.3
9/12/2011 20:00	5.86	306.6
9/12/2011 21:00	6.65	305.2
9/12/2011 22:00	6.57	298.7
9/12/2011 23:00	6.95	289.9
9/13/2011 0:00	6.96	285.3
9/13/2011 1:00	7.58	275.1
9/13/2011 2:00	7.01	274
9/13/2011 3:00	6.46	269.9
9/13/2011 4:00	8.58	259.6
9/13/2011 5:00	9.76	256.4
9/13/2011 6:00	10.08	250.7
9/13/2011 7:00	10.25	250.1
9/13/2011 8:00	12.07	244.4
9/13/2011 9:00	12.37	247.7
9/13/2011 10:00	12.34	250.4
9/13/2011 11:00	12.60	252.2
9/13/2011 12:00	11.80	252.8
9/13/2011 13:00	12.70	248.9
9/13/2011 14:00	12.64	246.1
9/13/2011 15:00	11.77	246.3
9/13/2011 16:00	13.49	235.8
9/13/2011 17:00	13.83	237.7
9/13/2011 18:00	12.29	238.4
9/13/2011 19:00	10.20	242.7
9/13/2011 20:00	9.01	248.7
9/13/2011 21:00	8.29	244.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/13/2011 22:00	5.09	207.9
9/13/2011 23:00	6.22	174.7
9/14/2011 0:00	7.31	183.2
9/14/2011 1:00	7.62	189.9
9/14/2011 2:00	8.66	196
9/14/2011 3:00	8.49	190
9/14/2011 4:00	7.03	177.5
9/14/2011 5:00	9.97	198.4
9/14/2011 6:00	11.57	203.3
9/14/2011 7:00	10.46	190.9
9/14/2011 8:00	10.74	191
9/14/2011 9:00	10.49	192.3
9/14/2011 10:00	11.37	199.1
9/14/2011 11:00	9.94	203
9/14/2011 12:00	10.03	209.4
9/14/2011 13:00	9.33	219.1
9/14/2011 14:00	8.52	226.1
9/14/2011 15:00	9.90	232.6
9/14/2011 16:00	10.59	232.4
9/14/2011 17:00	10.52	231.7
9/14/2011 18:00	7.88	226.5
9/14/2011 19:00	10.44	231.5
9/14/2011 20:00	10.30	255.2
9/14/2011 21:00	9.75	259.8
9/14/2011 22:00	8.91	265.5
9/14/2011 23:00	6.98	267.3
9/15/2011 0:00	6.48	275.7
9/15/2011 1:00	5.85	282.3
9/15/2011 2:00	4.56	288.1
9/15/2011 3:00	3.94	311.6
9/15/2011 4:00	3.68	334
9/15/2011 5:00	3.98	332.5
9/15/2011 6:00	8.79	5.573
9/15/2011 7:00	9.60	10.68
9/15/2011 8:00	8.90	21.95
9/15/2011 9:00	9.05	29.93
9/15/2011 10:00	7.83	35.19
9/15/2011 11:00	7.00	35.34
9/15/2011 12:00	6.80	25.33
9/15/2011 13:00	6.17	14.99
9/15/2011 14:00	5.96	16.06
9/15/2011 15:00	5.17	27.61
9/15/2011 16:00	5.02	9.28
9/15/2011 17:00	4.56	6.806
9/15/2011 18:00	4.89	19.1
9/15/2011 19:00	5.24	24.73
9/15/2011 20:00	4.21	28.02
9/15/2011 21:00	5.11	31.91
9/15/2011 22:00	4.99	43.32
9/15/2011 23:00	5.29	57.82
9/16/2011 0:00	5.54	60.26
9/16/2011 1:00	5.04	59.21
9/16/2011 2:00	4.80	62.96
9/16/2011 3:00	5.51	66.57
9/16/2011 4:00	5.35	73.62
9/16/2011 5:00	5.50	75.36
9/16/2011 6:00	5.40	78.48
9/16/2011 7:00	6.89	76.64
9/16/2011 8:00	7.88	86.8
9/16/2011 9:00	8.13	81.9
9/16/2011 10:00	8.52	93.4
9/16/2011 11:00	8.93	109.4
9/16/2011 12:00	9.47	110.4
9/16/2011 13:00	9.82	108.5
9/16/2011 14:00	9.46	113.8
9/16/2011 15:00	9.94	115.5
9/16/2011 16:00	10.76	116.9
9/16/2011 17:00	10.71	116.9
9/16/2011 18:00	10.42	115.6
9/16/2011 19:00	9.97	118.1

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/16/2011 20:00	8.84	113.7
9/16/2011 21:00	8.93	110.8
9/16/2011 22:00	8.79	111.2
9/16/2011 23:00	8.00	115.9
9/17/2011 0:00	7.91	116
9/17/2011 1:00	7.51	108.6
9/17/2011 2:00	8.91	102.4
9/17/2011 3:00	8.18	95.7
9/17/2011 4:00	7.67	91.4
9/17/2011 5:00	8.29	92.4
9/17/2011 6:00	8.28	89
9/17/2011 7:00	9.20	76.93
9/17/2011 8:00	9.84	78.9
9/17/2011 9:00	9.28	76.97
9/17/2011 10:00	9.10	75.54
9/17/2011 11:00	9.97	71.07
9/17/2011 12:00	10.28	73.77
9/17/2011 13:00	8.83	72.13
9/17/2011 14:00	8.11	72.13
9/17/2011 15:00	8.20	71.17
9/17/2011 16:00	8.54	68.56
9/17/2011 17:00	8.23	69.48
9/17/2011 18:00	8.76	68.41
9/17/2011 19:00	9.10	56.76
9/17/2011 20:00	7.32	50.48
9/17/2011 21:00	7.95	49.43
9/17/2011 22:00	8.43	50.21
9/17/2011 23:00	7.95	49.49
9/18/2011 0:00	8.03	43.77
9/18/2011 1:00	8.07	42.11
9/18/2011 2:00	6.06	46.55
9/18/2011 3:00	6.33	39.49
9/18/2011 4:00	5.21	32.54
9/18/2011 5:00	4.65	38.75
9/18/2011 6:00	3.65	46.94
9/18/2011 7:00	3.07	39.38
9/18/2011 8:00	3.48	51.46
9/18/2011 9:00	2.50	54.42
9/18/2011 10:00	1.83	108.7
9/18/2011 11:00	0.69	122.2
9/18/2011 12:00	1.25	309.7
9/18/2011 13:00	1.11	12.21
9/18/2011 14:00	1.83	207.2
9/18/2011 15:00	1.53	243.6
9/18/2011 16:00	1.44	154.3
9/18/2011 17:00	1.71	216.3
9/18/2011 18:00	3.05	145.8
9/18/2011 19:00	3.16	163.5
9/18/2011 20:00	2.62	123.7
9/18/2011 21:00	3.61	134.1
9/18/2011 22:00	4.14	149.1
9/18/2011 23:00	3.93	154.1
9/19/2011 0:00	5.57	158.4
9/19/2011 1:00	5.13	157.9
9/19/2011 2:00	6.05	151.8
9/19/2011 3:00	6.52	149.8
9/19/2011 4:00	6.39	149.5
9/19/2011 5:00	6.80	152.4
9/19/2011 6:00	6.53	149.7
9/19/2011 7:00	6.74	145.3
9/19/2011 8:00	6.68	145
9/19/2011 9:00	7.64	148.1
9/19/2011 10:00	7.68	144.8
9/19/2011 11:00	7.91	146.6
9/19/2011 12:00	7.45	143.4
9/19/2011 13:00	7.63	128
9/19/2011 14:00	7.76	125.7
9/19/2011 15:00	7.64	123.5
9/19/2011 16:00	7.05	122.2
9/19/2011 17:00	6.81	118.5

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/19/2011 18:00	5.54	114.7
9/19/2011 19:00	5.95	111.2
9/19/2011 20:00	5.95	107.1
9/19/2011 21:00	5.62	112.6
9/19/2011 22:00	5.59	111.3
9/19/2011 23:00	5.20	107.2
9/20/2011 0:00	4.81	116.9
9/20/2011 1:00	4.62	130.6
9/20/2011 2:00	3.96	123
9/20/2011 3:00	3.93	158.3
9/20/2011 4:00	3.24	163.3
9/20/2011 5:00	3.20	168.6
9/20/2011 6:00	3.02	145.6
9/20/2011 7:00	3.30	178.8
9/20/2011 8:00	5.67	189.3
9/20/2011 9:00	6.80	185.7
9/20/2011 10:00	6.54	166.2
9/20/2011 11:00	8.38	181.1
9/20/2011 12:00	6.57	165.4
9/20/2011 13:00	8.61	174.5
9/20/2011 14:00	5.73	199.4
9/20/2011 15:00	7.03	183.4
9/20/2011 16:00	8.96	185.4
9/20/2011 17:00	5.91	189.8
9/20/2011 18:00	3.94	156.8
9/20/2011 19:00	4.25	137.7
9/20/2011 20:00	5.82	129.4
9/20/2011 21:00	6.50	131.7
9/20/2011 22:00	7.04	125.6
9/20/2011 23:00	7.47	132.9
9/21/2011 0:00	6.95	137.9
9/21/2011 1:00	6.89	138.3
9/21/2011 2:00	6.49	142.7
9/21/2011 3:00	6.78	144.4
9/21/2011 4:00	8.79	155.7
9/21/2011 5:00	8.70	147.3
9/21/2011 6:00	10.07	148
9/21/2011 7:00	8.11	138.3
9/21/2011 8:00	11.89	150.7
9/21/2011 9:00	10.69	154.3
9/21/2011 10:00	11.23	152.3
9/21/2011 11:00	12.56	144.8
9/21/2011 12:00	10.24	148.1
9/21/2011 13:00	9.01	156.3
9/21/2011 14:00	11.83	175.3
9/21/2011 15:00	11.60	176.2
9/21/2011 16:00	9.87	180.2
9/21/2011 17:00	13.65	219.2
9/21/2011 18:00	12.20	241.1
9/21/2011 19:00	8.53	245.2
9/21/2011 20:00	9.90	239.1
9/21/2011 21:00	8.84	234.1
9/21/2011 22:00	9.03	222.4
9/21/2011 23:00	11.84	236.9
9/22/2011 0:00	10.41	244.2
9/22/2011 1:00	6.96	259.3
9/22/2011 2:00	2.16	228.7
9/22/2011 3:00	1.99	188.2
9/22/2011 4:00	2.49	142.2
9/22/2011 5:00	3.49	138.3
9/22/2011 6:00	2.11	135.1
9/22/2011 7:00	3.46	132
9/22/2011 8:00	5.95	131.8
9/22/2011 9:00	7.53	113.2
9/22/2011 10:00	6.91	112.2
9/22/2011 11:00	8.29	111
9/22/2011 12:00	9.21	108.7
9/22/2011 13:00	6.19	105.4
9/22/2011 14:00	6.32	115.5
9/22/2011 15:00	5.62	118.4

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/22/2011 16:00	4.38	140
9/22/2011 17:00	4.49	161.4
9/22/2011 18:00	7.53	179.9
9/22/2011 19:00	11.09	206.8
9/22/2011 20:00	11.34	220.6
9/22/2011 21:00	14.11	232.3
9/22/2011 22:00	14.23	241.2
9/22/2011 23:00	9.21	293.7
9/23/2011 0:00	11.41	315.3
9/23/2011 1:00	12.74	302.5
9/23/2011 2:00	15.85	293.3
9/23/2011 3:00	14.32	286.5
9/23/2011 4:00	13.99	283.4
9/23/2011 5:00	14.34	280
9/23/2011 6:00	14.32	278.3
9/23/2011 7:00	14.30	272.5
9/23/2011 8:00	14.43	271.2
9/23/2011 9:00	14.68	269.6
9/23/2011 10:00	14.38	270.9
9/23/2011 11:00	13.79	270.2
9/23/2011 12:00	12.31	271
9/23/2011 13:00	12.05	271.3
9/23/2011 14:00	11.85	272.7
9/23/2011 15:00	10.02	262.5
9/23/2011 16:00	11.07	264.8
9/23/2011 17:00	10.50	268
9/23/2011 18:00	10.66	270.8
9/23/2011 19:00	10.58	272.8
9/23/2011 20:00	9.09	268.3
9/23/2011 21:00	8.76	258.3
9/23/2011 22:00	7.77	260.3
9/23/2011 23:00	7.78	266
9/24/2011 0:00	8.94	272.5
9/24/2011 1:00	8.23	269.2
9/24/2011 2:00	9.33	270.3
9/24/2011 3:00	10.15	270.8
9/24/2011 4:00	11.41	271.8
9/24/2011 5:00	11.81	272.9
9/24/2011 6:00	12.87	272.9
9/24/2011 7:00	12.38	273.8
9/24/2011 8:00	11.80	272.6
9/24/2011 9:00	11.54	271.6
9/24/2011 10:00	10.97	272.4
9/24/2011 11:00	10.95	272.9
9/24/2011 12:00	10.93	271.7
9/24/2011 13:00	10.44	273.8
9/24/2011 14:00	10.54	273
9/24/2011 15:00	8.93	273.3
9/24/2011 16:00	9.58	272.1
9/24/2011 17:00	10.46	269.5
9/24/2011 18:00	8.78	268.7
9/24/2011 19:00	9.57	272.5
9/24/2011 20:00	8.72	268.9
9/24/2011 21:00	8.42	258
9/24/2011 22:00	9.10	266.4
9/24/2011 23:00	8.88	261.3
9/25/2011 0:00	8.89	264.8
9/25/2011 1:00	9.76	264.5
9/25/2011 2:00	9.58	258.9
9/25/2011 3:00	9.37	261.3
9/25/2011 4:00	10.29	271.2
9/25/2011 5:00	11.83	273.2
9/25/2011 6:00	12.36	270.9
9/25/2011 7:00	10.05	271.6
9/25/2011 8:00	8.95	273.5
9/25/2011 9:00	8.41	275.1
9/25/2011 10:00	6.88	283.4
9/25/2011 11:00	6.87	331.3
9/25/2011 12:00	6.48	331.8
9/25/2011 13:00	6.21	323.2

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/25/2011 14:00	5.67	328.8
9/25/2011 15:00	4.76	344
9/25/2011 16:00	3.13	335.6
9/25/2011 17:00	4.97	353.3
9/25/2011 18:00	4.44	344.8
9/25/2011 19:00	3.40	25.6
9/25/2011 20:00	2.66	34.83
9/25/2011 21:00	4.14	32.73
9/25/2011 22:00	5.14	49
9/25/2011 23:00	5.20	77.89
9/26/2011 0:00	4.05	94.7
9/26/2011 1:00	5.17	80.3
9/26/2011 2:00	5.90	68.29
9/26/2011 3:00	5.78	75.17
9/26/2011 4:00	7.65	76.11
9/26/2011 5:00	8.73	76.45
9/26/2011 6:00	9.13	74.8
9/26/2011 7:00	9.75	68.31
9/26/2011 8:00	10.83	69.48
9/26/2011 9:00	12.57	71.49
9/26/2011 10:00	14.77	71.71
9/26/2011 11:00	16.94	71.68
9/26/2011 12:00	16.75	70.02
9/26/2011 13:00	17.76	69.72
9/26/2011 14:00	16.35	64.59
9/26/2011 15:00	16.11	68.26
9/26/2011 16:00	16.99	62.58
9/26/2011 17:00	17.41	64.82
9/26/2011 18:00	16.93	62.17
9/26/2011 19:00	17.23	54.32
9/26/2011 20:00	18.96	51.48
9/26/2011 21:00	17.14	48.07
9/26/2011 22:00	16.17	40.5
9/26/2011 23:00	17.05	37.13
9/27/2011 0:00	16.67	34.46
9/27/2011 1:00	15.58	33.56
9/27/2011 2:00	16.67	37.34
9/27/2011 3:00	15.12	34.84
9/27/2011 4:00	14.20	31.83
9/27/2011 5:00	14.90	31
9/27/2011 6:00	17.43	24.75
9/27/2011 7:00	17.35	20.93
9/27/2011 8:00	16.83	13.26
9/27/2011 9:00	16.47	13.95
9/27/2011 10:00	16.45	9.02
9/27/2011 11:00	14.65	1.949
9/27/2011 12:00	14.93	1.405
9/27/2011 13:00	13.31	355.1
9/27/2011 14:00	13.40	347.9
9/27/2011 15:00	13.12	346.5
9/27/2011 16:00	13.36	348.6
9/27/2011 17:00	12.77	341.2
9/27/2011 18:00	12.01	343.6
9/27/2011 19:00	12.03	348.8
9/27/2011 20:00	11.84	351.7
9/27/2011 21:00	10.58	347.7
9/27/2011 22:00	10.46	343.7
9/27/2011 23:00	9.70	341
9/28/2011 0:00	8.88	340.8
9/28/2011 1:00	9.34	318.3
9/28/2011 2:00	11.08	319.5
9/28/2011 3:00	10.49	342.1
9/28/2011 4:00	9.68	327.1
9/28/2011 5:00	9.60	311.6
9/28/2011 6:00	10.33	320
9/28/2011 7:00	9.62	317.8
9/28/2011 8:00	10.57	319.3
9/28/2011 9:00	9.82	321.4
9/28/2011 10:00	9.36	321.4
9/28/2011 11:00	8.90	322.6

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
9/28/2011 12:00	8.12	324.9
9/28/2011 13:00	7.49	318.8
9/28/2011 14:00	6.90	307.5
9/28/2011 15:00	7.64	295.2
9/28/2011 16:00	7.29	290.9
9/28/2011 17:00	7.14	298.7
9/28/2011 18:00	7.36	290.8
9/28/2011 19:00	6.67	295.9
9/28/2011 20:00	6.05	295.7
9/28/2011 21:00	5.38	301
9/28/2011 22:00	5.51	312.1
9/28/2011 23:00	5.06	295.9
9/29/2011 0:00	4.98	295.9
9/29/2011 1:00	5.48	291.2
9/29/2011 2:00	4.75	296
9/29/2011 3:00	3.63	311.2
9/29/2011 4:00	3.18	312.1
9/29/2011 5:00	2.77	290.9
9/29/2011 6:00	1.64	283
9/29/2011 7:00	1.80	281.4
9/29/2011 8:00	1.55	295.8
9/29/2011 9:00	1.55	279.6
9/29/2011 10:00	1.90	203.6
9/29/2011 11:00	1.55	168.3
9/29/2011 12:00	0.50	92.7
9/29/2011 13:00	0.83	60.64
9/29/2011 14:00	0.48	267.3
9/29/2011 15:00	1.62	9.32
9/29/2011 16:00	1.84	26.6
9/29/2011 17:00	1.08	49.48
9/29/2011 18:00	0.82	111.8
9/29/2011 19:00	2.66	117.5
9/29/2011 20:00	2.52	125.8
9/29/2011 21:00	2.92	140.7
9/29/2011 22:00	3.76	127.2
9/29/2011 23:00	3.69	129.6
9/30/2011 0:00	4.41	132.4
9/30/2011 1:00	4.48	123.9
9/30/2011 2:00	5.67	110.8
9/30/2011 3:00	6.68	104.8
9/30/2011 4:00	7.24	104.8
9/30/2011 5:00	7.46	105.8
9/30/2011 6:00	8.96	98.6
9/30/2011 7:00	8.66	102.1
9/30/2011 8:00	10.37	101.8
9/30/2011 9:00	8.45	98.3
9/30/2011 10:00	8.21	88
9/30/2011 11:00	9.28	84.4
9/30/2011 12:00	8.20	88.4
9/30/2011 13:00	9.08	84
9/30/2011 14:00	10.82	80.2
9/30/2011 15:00	12.26	75.91
9/30/2011 16:00	13.09	75.92
9/30/2011 17:00	13.05	75.48
9/30/2011 18:00	13.25	78.45
9/30/2011 19:00	14.42	78.35
9/30/2011 20:00	14.15	75.94
9/30/2011 21:00	14.59	77.59
9/30/2011 22:00	14.23	77.11
9/30/2011 23:00	15.16	71.56
10/1/2011 0:00	15.45	69.63
10/1/2011 1:00	15.44	60.45
10/1/2011 2:00	15.34	58.01
10/1/2011 3:00	13.46	50.86
10/1/2011 4:00	12.14	45.4
10/1/2011 5:00	13.00	41.16
10/1/2011 6:00	14.04	37.34
10/1/2011 7:00	13.23	36.79
10/1/2011 8:00	12.52	36.51
10/1/2011 9:00	12.65	38.72

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/1/2011 10:00	13.09	38.04
10/1/2011 11:00	13.15	44.18
10/1/2011 12:00	11.13	38.27
10/1/2011 13:00	10.74	39.44
10/1/2011 14:00	9.69	28.26
10/1/2011 15:00	9.20	22.93
10/1/2011 16:00	8.82	15.74
10/1/2011 17:00	6.92	0.134
10/1/2011 18:00	6.36	348.8
10/1/2011 19:00	6.33	340.2
10/1/2011 20:00	5.25	340.7
10/1/2011 21:00	4.74	316.1
10/1/2011 22:00	4.48	292.2
10/1/2011 23:00	3.38	277.7
10/2/2011 0:00	2.06	285.3
10/2/2011 1:00	1.67	205.6
10/2/2011 2:00	2.63	163.7
10/2/2011 3:00	4.62	210.3
10/2/2011 4:00	3.49	160.7
10/2/2011 5:00	4.18	162.4
10/2/2011 6:00	7.31	173.6
10/2/2011 7:00	8.11	161.8
10/2/2011 8:00	8.62	167.2
10/2/2011 9:00	8.07	171.8
10/2/2011 10:00	7.82	171.8
10/2/2011 11:00	7.78	182.3
10/2/2011 12:00	7.33	181.3
10/2/2011 13:00	6.72	196.5
10/2/2011 14:00	6.02	206.5
10/2/2011 15:00	5.54	213
10/2/2011 16:00	5.71	199.2
10/2/2011 17:00	4.61	186.9
10/2/2011 18:00	4.93	193.3
10/2/2011 19:00	4.60	200.3
10/2/2011 20:00	4.96	189.5
10/2/2011 21:00	5.41	189.8
10/2/2011 22:00	6.15	192.9
10/2/2011 23:00	6.65	193.6
10/3/2011 0:00	6.71	204.4
10/3/2011 1:00	6.76	210.5
10/3/2011 2:00	7.63	230.1
10/3/2011 3:00	6.25	257.9
10/3/2011 4:00	5.39	278.6
10/3/2011 5:00	5.75	286.8
10/3/2011 6:00	4.37	273.9
10/3/2011 7:00	3.48	267.7
10/3/2011 8:00	2.69	280
10/3/2011 9:00	2.26	285.3
10/3/2011 10:00	1.23	323.8
10/3/2011 11:00	0.94	223.1
10/3/2011 12:00	1.61	170.2
10/3/2011 13:00	3.88	135.6
10/3/2011 14:00	4.19	135.5
10/3/2011 15:00	3.48	118.7
10/3/2011 16:00	3.43	139.8
10/3/2011 17:00	3.49	128.9
10/3/2011 18:00	3.26	136.6
10/3/2011 19:00	3.68	151.1
10/3/2011 20:00	4.74	153.1
10/3/2011 21:00	6.42	156.4
10/3/2011 22:00	6.28	148.1
10/3/2011 23:00	7.13	155.7
10/4/2011 0:00	7.12	163.5
10/4/2011 1:00	7.03	163.6
10/4/2011 2:00	6.40	159.2
10/4/2011 3:00	6.09	144.1
10/4/2011 4:00	6.60	151.8
10/4/2011 5:00	6.01	146.2
10/4/2011 6:00	4.85	142.7
10/4/2011 7:00	5.20	136.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/4/2011 8:00	7.01	144.5
10/4/2011 9:00	5.13	140.2
10/4/2011 10:00	9.49	141.7
10/4/2011 11:00	9.25	150.8
10/4/2011 12:00	7.92	136.2
10/4/2011 13:00	6.96	145.4
10/4/2011 14:00	7.16	130.9
10/4/2011 15:00	8.63	139.9
10/4/2011 16:00	9.79	129.5
10/4/2011 17:00	8.37	116.4
10/4/2011 18:00	9.32	122.8
10/4/2011 19:00	11.28	132.3
10/4/2011 20:00	7.10	128.4
10/4/2011 21:00	9.97	137.6
10/4/2011 22:00	10.45	144
10/4/2011 23:00	9.77	127.3
10/5/2011 0:00	8.41	122.3
10/5/2011 1:00	9.12	127.6
10/5/2011 2:00	8.81	129.4
10/5/2011 3:00	8.18	132.2
10/5/2011 4:00	7.84	131.4
10/5/2011 5:00	10.09	122.3
10/5/2011 6:00	6.85	130.5
10/5/2011 7:00	5.02	132.4
10/5/2011 8:00	6.29	150.3
10/5/2011 9:00	3.53	143.8
10/5/2011 10:00	3.81	137.3
10/5/2011 11:00	2.11	155.3
10/5/2011 12:00	1.67	141.3
10/5/2011 13:00	4.39	205.4
10/5/2011 14:00	8.59	247.5
10/5/2011 15:00	10.66	248.2
10/5/2011 16:00	8.10	244.8
10/5/2011 17:00	8.41	233.5
10/5/2011 18:00	8.78	229.8
10/5/2011 19:00	10.78	229.4
10/5/2011 20:00	12.48	243.1
10/5/2011 21:00	13.49	249
10/5/2011 22:00	12.63	251.4
10/5/2011 23:00	10.84	257.5
10/6/2011 0:00	10.61	263.1
10/6/2011 1:00	9.74	268.4
10/6/2011 2:00	9.44	271.4
10/6/2011 3:00	8.93	269.2
10/6/2011 4:00	8.30	265.7
10/6/2011 5:00	9.95	266.8
10/6/2011 6:00	10.77	266.8
10/6/2011 7:00	10.41	263.8
10/6/2011 8:00	10.64	259.7
10/6/2011 9:00	9.58	262.4
10/6/2011 10:00	9.54	260.5
10/6/2011 11:00	9.89	258.2
10/6/2011 12:00	10.72	255.9
10/6/2011 13:00	8.28	263
10/6/2011 14:00	7.23	260.1
10/6/2011 15:00	7.43	260.3
10/6/2011 16:00	6.83	260.9
10/6/2011 17:00	5.61	262
10/6/2011 18:00	6.21	246.1
10/6/2011 19:00	5.27	247.5
10/6/2011 20:00	4.58	243.3
10/6/2011 21:00	4.63	234.2
10/6/2011 22:00	2.94	201.2
10/6/2011 23:00	1.41	213.5
10/7/2011 0:00	3.32	154.7
10/7/2011 1:00	3.60	122.4
10/7/2011 2:00	5.37	133.7
10/7/2011 3:00	4.94	122.6
10/7/2011 4:00	6.83	124
10/7/2011 5:00	8.07	118.3

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/7/2011 6:00	9.12	118
10/7/2011 7:00	9.39	124.2
10/7/2011 8:00	8.82	117.1
10/7/2011 9:00	8.21	115.9
10/7/2011 10:00	6.62	124.1
10/7/2011 11:00	6.15	133.6
10/7/2011 12:00	5.85	136.8
10/7/2011 13:00	5.41	118.6
10/7/2011 14:00	4.82	126.9
10/7/2011 15:00	6.58	146.3
10/7/2011 16:00	6.60	149.5
10/7/2011 17:00	6.19	146.4
10/7/2011 18:00	7.27	150.1
10/7/2011 19:00	7.33	144.6
10/7/2011 20:00	6.07	143.6
10/7/2011 21:00	5.20	157.5
10/7/2011 22:00	4.65	164.3
10/7/2011 23:00	2.95	145.7
10/8/2011 0:00	3.55	154.2
10/8/2011 1:00	3.37	157.8
10/8/2011 2:00	1.96	154
10/8/2011 3:00	1.41	159.8
10/8/2011 4:00	1.28	164
10/8/2011 5:00	3.95	256.8
10/8/2011 6:00	5.28	250.1
10/8/2011 7:00	9.29	241.6
10/8/2011 8:00	8.84	249.6
10/8/2011 9:00	5.81	256.7
10/8/2011 10:00	4.53	272.5
10/8/2011 11:00	4.95	295.3
10/8/2011 12:00	3.39	279.2
10/8/2011 13:00	4.22	274.9
10/8/2011 14:00	5.58	278.5
10/8/2011 15:00	6.96	283.7
10/8/2011 16:00	6.28	292.2
10/8/2011 17:00	7.15	298.4
10/8/2011 18:00	7.40	300.3
10/8/2011 19:00	8.74	331.9
10/8/2011 20:00	10.29	341
10/8/2011 21:00	10.42	340.1
10/8/2011 22:00	10.75	337.6
10/8/2011 23:00	11.88	339.5
10/9/2011 0:00	11.93	346
10/9/2011 1:00	11.93	344.3
10/9/2011 2:00	13.14	341.7
10/9/2011 3:00	13.25	343.1
10/9/2011 4:00	13.83	348.8
10/9/2011 5:00	13.61	350.7
10/9/2011 6:00	13.26	350.5
10/9/2011 7:00	12.26	353.4
10/9/2011 8:00	13.25	1.046
10/9/2011 9:00	13.01	6.154
10/9/2011 10:00	11.09	4.823
10/9/2011 11:00	10.21	7.356
10/9/2011 12:00	9.84	14.23
10/9/2011 13:00	8.92	12.25
10/9/2011 14:00	8.04	10.72
10/9/2011 15:00	7.56	4.478
10/9/2011 16:00	7.15	7.221
10/9/2011 17:00	6.44	6.329
10/9/2011 18:00	6.26	9.69
10/9/2011 19:00	6.70	23.54
10/9/2011 20:00	5.89	36.63
10/9/2011 21:00	6.45	35.63
10/9/2011 22:00	5.34	45.42
10/9/2011 23:00	6.16	39.82
10/10/2011 0:00	6.26	26.04
10/10/2011 1:00	5.68	55.6
10/10/2011 2:00	6.61	64.33
10/10/2011 3:00	5.05	59.35

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/10/2011 4:00	6.61	61.73
10/10/2011 5:00	5.86	69.09
10/10/2011 6:00	5.43	87.4
10/10/2011 7:00	4.41	84.1
10/10/2011 8:00	4.68	64.9
10/10/2011 9:00	6.90	69.46
10/10/2011 10:00	7.94	78.61
10/10/2011 11:00	8.89	65.81
10/10/2011 12:00	8.77	68.09
10/10/2011 13:00	8.93	77.06
10/10/2011 14:00	8.80	90.2
10/10/2011 15:00	9.59	90.3
10/10/2011 16:00	10.25	99.6
10/10/2011 17:00	10.99	99.3
10/10/2011 18:00	11.22	95.5
10/10/2011 19:00	11.36	102.1
10/10/2011 20:00	13.07	97.3
10/10/2011 21:00	12.45	108.7
10/10/2011 22:00	11.69	109.1
10/10/2011 23:00	11.39	111.7
10/11/2011 0:00	12.06	120.6
10/11/2011 1:00	11.39	115.7
10/11/2011 2:00	12.13	121.3
10/11/2011 3:00	10.53	110.6
10/11/2011 4:00	13.62	113.9
10/11/2011 5:00	14.29	120.7
10/11/2011 6:00	13.01	112
10/11/2011 7:00	12.83	117.8
10/11/2011 8:00	12.33	123.5
10/11/2011 9:00	11.99	119
10/11/2011 10:00	12.58	119.7
10/11/2011 11:00	11.89	122.1
10/11/2011 12:00	10.11	112.8
10/11/2011 13:00	11.04	114.7
10/11/2011 14:00	11.11	117.3
10/11/2011 15:00	11.24	116.6
10/11/2011 16:00	11.02	119.2
10/11/2011 17:00	12.21	118
10/11/2011 18:00	11.75	119.5
10/11/2011 19:00	10.33	116
10/11/2011 20:00	9.61	114.8
10/11/2011 21:00	10.44	111.9
10/11/2011 22:00	11.59	114.4
10/11/2011 23:00	12.52	120.8
10/12/2011 0:00	12.17	115.3
10/12/2011 1:00	10.72	116.9
10/12/2011 2:00	11.79	121.6
10/12/2011 3:00	9.09	117.1
10/12/2011 4:00	10.50	118.5
10/12/2011 5:00	10.95	123.4
10/12/2011 6:00	9.86	124
10/12/2011 7:00	9.45	131
10/12/2011 8:00	9.05	133.7
10/12/2011 9:00	7.63	142.3
10/12/2011 10:00	6.78	153.8
10/12/2011 11:00	6.43	171.9
10/12/2011 12:00	6.98	180
10/12/2011 13:00	7.08	193.7
10/12/2011 14:00	6.29	189.9
10/12/2011 15:00	4.67	177.6
10/12/2011 16:00	3.62	164.6
10/12/2011 17:00	4.23	168.1
10/12/2011 18:00	4.09	163.1
10/12/2011 19:00	4.01	171.1
10/12/2011 20:00	4.05	167.9
10/12/2011 21:00	4.69	171.3
10/12/2011 22:00	4.64	169.7
10/12/2011 23:00	5.91	177.7
10/13/2011 0:00	6.44	176.5
10/13/2011 1:00	7.36	183.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/13/2011 2:00	7.27	186
10/13/2011 3:00	7.38	186.9
10/13/2011 4:00	7.24	188.7
10/13/2011 5:00	5.67	174.3
10/13/2011 6:00	5.18	170.1
10/13/2011 7:00	5.22	175.7
10/13/2011 8:00	5.37	179.6
10/13/2011 9:00	6.30	189.3
10/13/2011 10:00	6.00	189
10/13/2011 11:00	5.63	185.8
10/13/2011 12:00	5.66	187.2
10/13/2011 13:00	4.47	186.4
10/13/2011 14:00	4.98	184.7
10/13/2011 15:00	5.28	182.9
10/13/2011 16:00	4.91	179.3
10/13/2011 17:00	5.01	176
10/13/2011 18:00	4.47	168.3
10/13/2011 19:00	3.72	152.1
10/13/2011 20:00	6.10	179.1
10/13/2011 21:00	6.91	193
10/13/2011 22:00	4.44	173.6
10/13/2011 23:00	5.74	172.6
10/14/2011 0:00	5.71	171.1
10/14/2011 1:00	9.62	201.7
10/14/2011 2:00	9.56	200.3
10/14/2011 3:00	8.92	192.5
10/14/2011 4:00	7.49	190.7
10/14/2011 5:00	6.30	191.5
10/14/2011 6:00	6.73	213.4
10/14/2011 7:00	7.96	224.3
10/14/2011 8:00	8.16	235.3
10/14/2011 9:00	7.58	256.9
10/14/2011 10:00	9.46	270.1
10/14/2011 11:00	9.20	271
10/14/2011 12:00	7.34	272.9
10/14/2011 13:00	7.24	272.9
10/14/2011 14:00	8.69	274.5
10/14/2011 15:00	8.08	273.6
10/14/2011 16:00	7.09	267.6
10/14/2011 17:00	6.87	266.6
10/14/2011 18:00	5.72	273.8
10/14/2011 19:00	5.08	269.6
10/14/2011 20:00	5.01	269.3
10/14/2011 21:00	5.55	272.7
10/14/2011 22:00	5.27	274.5
10/14/2011 23:00	5.55	283.2
10/15/2011 0:00	5.05	291.2
10/15/2011 1:00	4.03	297
10/15/2011 2:00	3.88	308.4
10/15/2011 3:00	3.72	322.9
10/15/2011 4:00	2.37	341
10/15/2011 5:00	2.37	5.196
10/15/2011 6:00	2.47	10.33
10/15/2011 7:00	2.38	35.71
10/15/2011 8:00	3.69	31.41
10/15/2011 9:00	4.54	28.73
10/15/2011 10:00	4.69	34.87
10/15/2011 11:00	5.43	28.99
10/15/2011 12:00	5.37	26.72
10/15/2011 13:00	5.12	40.9
10/15/2011 14:00	4.84	42.31
10/15/2011 15:00	5.15	41.64
10/15/2011 16:00	5.22	30.3
10/15/2011 17:00	4.93	38.17
10/15/2011 18:00	5.02	40.98
10/15/2011 19:00	5.09	40.67
10/15/2011 20:00	4.24	41.16
10/15/2011 21:00	4.37	44.39
10/15/2011 22:00	4.96	31.28
10/15/2011 23:00	4.92	28.74

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/16/2011 0:00	4.70	1.815
10/16/2011 1:00	4.20	350.9
10/16/2011 2:00	4.78	341.4
10/16/2011 3:00	4.81	328.6
10/16/2011 4:00	5.35	352.6
10/16/2011 5:00	5.37	353.4
10/16/2011 6:00	4.78	342.6
10/16/2011 7:00	4.43	347.6
10/16/2011 8:00	4.64	345
10/16/2011 9:00	4.53	336.3
10/16/2011 10:00	1.84	343.6
10/16/2011 11:00	5.13	349.5
10/16/2011 12:00	4.09	0.905
10/16/2011 13:00	5.73	2.078
10/16/2011 14:00	6.05	2.617
10/16/2011 15:00	5.72	357
10/16/2011 16:00	5.71	7.811
10/16/2011 17:00	6.53	25.62
10/16/2011 18:00	7.61	36.81
10/16/2011 19:00	5.69	55.74
10/16/2011 20:00	6.02	66.4
10/16/2011 21:00	6.31	67.48
10/16/2011 22:00	5.69	58.63
10/16/2011 23:00	5.51	61.85
10/17/2011 0:00	4.75	68.08
10/17/2011 1:00	4.41	56.12
10/17/2011 2:00	5.54	50.4
10/17/2011 3:00	4.14	65.2
10/17/2011 4:00	3.48	100.6
10/17/2011 5:00	3.55	107.6
10/17/2011 6:00	4.84	82.5
10/17/2011 7:00	5.17	82.9
10/17/2011 8:00	5.15	88.3
10/17/2011 9:00	4.96	87.4
10/17/2011 10:00	4.88	101.8
10/17/2011 11:00	5.09	104.1
10/17/2011 12:00	5.20	103.3
10/17/2011 13:00	4.84	113.2
10/17/2011 14:00	5.92	97.1
10/17/2011 15:00	6.24	88.3
10/17/2011 16:00	6.62	92.2
10/17/2011 17:00	6.98	94.4
10/17/2011 18:00	6.45	121.5
10/17/2011 19:00	7.73	114.8
10/17/2011 20:00	8.03	115.6
10/17/2011 21:00	7.77	116.4
10/17/2011 22:00	8.07	110.3
10/17/2011 23:00	8.11	109.5
10/18/2011 0:00	7.83	93.6
10/18/2011 1:00	7.51	94.7
10/18/2011 2:00	7.59	92.3
10/18/2011 3:00	7.43	96.9
10/18/2011 4:00	8.15	96.6
10/18/2011 5:00	9.12	92.9
10/18/2011 6:00	9.15	94.5
10/18/2011 7:00	9.29	89.8
10/18/2011 8:00	8.90	96.9
10/18/2011 9:00	9.23	99
10/18/2011 10:00	9.11	97.3
10/18/2011 11:00	8.66	90.9
10/18/2011 12:00	9.83	88.3
10/18/2011 13:00	9.93	88.1
10/18/2011 14:00	10.27	89.4
10/18/2011 15:00	9.99	93.4
10/18/2011 16:00	9.45	86.2
10/18/2011 17:00	10.35	85.6
10/18/2011 18:00	9.97	87.1
10/18/2011 19:00	10.40	87.3
10/18/2011 20:00	9.82	89.6
10/18/2011 21:00	10.15	88.9

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/18/2011 22:00	10.45	98.9
10/18/2011 23:00	11.48	103.4
10/19/2011 0:00	11.12	97.4
10/19/2011 1:00	11.25	105.8
10/19/2011 2:00	12.09	104.9
10/19/2011 3:00	11.35	96.8
10/19/2011 4:00	10.50	97.8
10/19/2011 5:00	12.11	92.3
10/19/2011 6:00	10.93	86.4
10/19/2011 7:00	10.17	82.5
10/19/2011 8:00	9.56	86.8
10/19/2011 9:00	10.77	89.3
10/19/2011 10:00	10.06	87.9
10/19/2011 11:00	10.34	86.1
10/19/2011 12:00	12.03	77.18
10/19/2011 13:00	13.57	74.54
10/19/2011 14:00	14.16	70.66
10/19/2011 15:00	14.85	73.16
10/19/2011 16:00	14.91	76.26
10/19/2011 17:00	14.34	73.12
10/19/2011 18:00	13.73	74.44
10/19/2011 19:00	14.47	75.43
10/19/2011 20:00	12.90	81.9
10/19/2011 21:00	10.42	85.1
10/19/2011 22:00	9.79	88.6
10/19/2011 23:00	8.25	91.6
10/20/2011 0:00	8.56	82.5
10/20/2011 1:00	8.13	81.3
10/20/2011 2:00	7.72	75.52
10/20/2011 3:00	11.44	67.06
10/20/2011 4:00	11.91	67.63
10/20/2011 5:00	10.91	72.07
10/20/2011 6:00	7.85	77.87
10/20/2011 7:00	8.75	75.42
10/20/2011 8:00	9.12	63.83
10/20/2011 9:00	10.31	61.85
10/20/2011 10:00	6.02	81
10/20/2011 11:00	5.77	69.97
10/20/2011 12:00	8.71	51.59
10/20/2011 13:00	8.80	49.03
10/20/2011 14:00	9.80	39.2
10/20/2011 15:00	9.05	41.21
10/20/2011 16:00	9.48	43.34
10/20/2011 17:00	10.37	43.8
10/20/2011 18:00	7.89	51.49
10/20/2011 19:00	6.73	58.43
10/20/2011 20:00	7.45	49.72
10/20/2011 21:00	7.87	57.67
10/20/2011 22:00	7.44	50.36
10/20/2011 23:00	6.47	53.12
10/21/2011 0:00	9.76	55.23
10/21/2011 1:00	9.06	49.36
10/21/2011 2:00	8.79	40.74
10/21/2011 3:00	7.96	39.93
10/21/2011 4:00	8.94	41.9
10/21/2011 5:00	9.80	41.67
10/21/2011 6:00	9.91	51.95
10/21/2011 7:00	9.61	48.57
10/21/2011 8:00	9.77	53.01
10/21/2011 9:00	10.35	50
10/21/2011 10:00	9.79	52.27
10/21/2011 11:00	9.90	54.44
10/21/2011 12:00	10.43	62.71
10/21/2011 13:00	9.46	55.45
10/21/2011 14:00	8.93	52.54
10/21/2011 15:00	8.98	50.92
10/21/2011 16:00	8.12	54.53
10/21/2011 17:00	9.62	49.99
10/21/2011 18:00	9.15	50.13
10/21/2011 19:00	9.29	49.12

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/21/2011 20:00	9.53	47.85
10/21/2011 21:00	9.14	50
10/21/2011 22:00	8.85	55.76
10/21/2011 23:00	7.81	52.47
10/22/2011 0:00	8.31	64.2
10/22/2011 1:00	7.26	66.05
10/22/2011 2:00	6.98	77.24
10/22/2011 3:00	6.18	107
10/22/2011 4:00	5.70	136.2
10/22/2011 5:00	4.85	138.6
10/22/2011 6:00	5.76	135.1
10/22/2011 7:00	7.00	131.7
10/22/2011 8:00	7.58	118.6
10/22/2011 9:00	7.43	113
10/22/2011 10:00	7.69	118.5
10/22/2011 11:00	8.74	135.5
10/22/2011 12:00	9.02	141.1
10/22/2011 13:00	8.78	150.1
10/22/2011 14:00	9.32	156.2
10/22/2011 15:00	9.63	154.4
10/22/2011 16:00	9.34	146.5
10/22/2011 17:00	8.49	145
10/22/2011 18:00	10.16	145.4
10/22/2011 19:00	10.01	148.7
10/22/2011 20:00	10.24	149
10/22/2011 21:00	7.77	150.8
10/22/2011 22:00	9.44	153.9
10/22/2011 23:00	8.93	152.6
10/23/2011 0:00	9.39	153.7
10/23/2011 1:00	9.68	159.8
10/23/2011 2:00	8.61	160.2
10/23/2011 3:00	7.71	158.8
10/23/2011 4:00	7.15	155.2
10/23/2011 5:00	7.18	156.3
10/23/2011 6:00	6.25	149.3
10/23/2011 7:00	4.22	149.3
10/23/2011 8:00	3.60	151.7
10/23/2011 9:00	3.78	176.5
10/23/2011 10:00	4.38	180.5
10/23/2011 11:00	4.76	177.1
10/23/2011 12:00	3.51	173.3
10/23/2011 13:00	3.64	179.3
10/23/2011 14:00	4.58	180.1
10/23/2011 15:00	4.27	183.5
10/23/2011 16:00	4.37	171.4
10/23/2011 17:00	3.77	169.7
10/23/2011 18:00	3.44	173.4
10/23/2011 19:00	3.12	146.1
10/23/2011 20:00	3.33	146.6
10/23/2011 21:00	2.89	138.4
10/23/2011 22:00	3.15	145.9
10/23/2011 23:00	3.22	155.1
10/24/2011 0:00	1.52	188.7
10/24/2011 1:00	0.52	256.5
10/24/2011 2:00	2.54	274.7
10/24/2011 3:00	7.57	293.2
10/24/2011 4:00	7.96	280.8
10/24/2011 5:00	8.90	280.5
10/24/2011 6:00	9.03	276.3
10/24/2011 7:00	7.67	279.8
10/24/2011 8:00	6.41	282.1
10/24/2011 9:00	4.88	279.5
10/24/2011 10:00	4.50	261.3
10/24/2011 11:00	5.37	256.5
10/24/2011 12:00	6.16	271.8
10/24/2011 13:00	6.59	278.2
10/24/2011 14:00	7.06	287.2
10/24/2011 15:00	6.36	281.9
10/24/2011 16:00	8.80	288.2
10/24/2011 17:00	8.50	286.4

Table A3-2.1. Wind Velocity Time Series Data at Roberts Bay, Doris North Project, 2011.

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/24/2011 18:00	7.65	274.2
10/24/2011 19:00	11.80	277.3
10/24/2011 20:00	11.14	277.1
10/24/2011 21:00	11.79	281.7
10/24/2011 22:00	11.46	280.2
10/24/2011 23:00	12.28	272.8
10/25/2011 0:00	11.22	266.5
10/25/2011 1:00	11.83	288.9
10/25/2011 2:00	11.86	296.2
10/25/2011 3:00	11.89	289.2
10/25/2011 4:00	11.42	289.4
10/25/2011 5:00	10.50	289.3
10/25/2011 6:00	10.79	290.9
10/25/2011 7:00	7.92	282.8
10/25/2011 8:00	11.18	289.9
10/25/2011 9:00	8.76	297.2
10/25/2011 10:00	7.49	283.5
10/25/2011 11:00	9.15	279.2
10/25/2011 12:00	8.56	279.2
10/25/2011 13:00	7.80	283.4
10/25/2011 14:00	6.59	280
10/25/2011 15:00	4.99	292.1
10/25/2011 16:00	2.88	302.9
10/25/2011 17:00	2.17	358.6
10/25/2011 18:00	4.51	100.7
10/25/2011 19:00	4.67	111.5
10/25/2011 20:00	6.45	107.5
10/25/2011 21:00	7.73	100.4
10/25/2011 22:00	8.23	106.5
10/25/2011 23:00	7.74	106.4
10/26/2011 0:00	7.47	105.4
10/26/2011 1:00	7.77	109.6
10/26/2011 2:00	8.30	102.8
10/26/2011 3:00	9.39	100.2
10/26/2011 4:00	10.28	103.2
10/26/2011 5:00	8.89	100.1
10/26/2011 6:00	9.81	102
10/26/2011 7:00	9.04	105
10/26/2011 8:00	9.12	101
10/26/2011 9:00	8.27	96.1
10/26/2011 10:00	7.91	101.9
10/26/2011 11:00	6.03	119.3
10/26/2011 12:00	4.08	90.9
10/26/2011 13:00	5.81	75.74
10/26/2011 14:00	4.58	108.4
10/26/2011 15:00	4.02	128.4
10/26/2011 16:00	2.65	120.4
10/26/2011 17:00	4.19	60.85
10/26/2011 18:00	5.84	53.44
10/26/2011 19:00	6.70	51.41
10/26/2011 20:00	9.71	38.75
10/26/2011 21:00	11.14	39.86
10/26/2011 22:00	13.37	43.54
10/26/2011 23:00	15.72	39.71
10/27/2011 0:00	16.16	37.87
10/27/2011 1:00	16.30	38.51
10/27/2011 2:00	17.94	37.8
10/27/2011 3:00	18.04	34.97
10/27/2011 4:00	16.23	24.9
10/27/2011 5:00	18.63	23.52
10/27/2011 6:00	18.15	22.33
10/27/2011 7:00	17.44	16.74
10/27/2011 8:00	18.38	10.98
10/27/2011 9:00	17.90	13.68
10/27/2011 10:00	16.98	4.699
10/27/2011 11:00	16.75	351.9
10/27/2011 12:00	17.13	356
10/27/2011 13:00	15.82	356.5
10/27/2011 14:00	13.53	357.5
10/27/2011 15:00	13.65	357.5

Date/Time	Wind Speed (m/s)	Wind Direction (degrees)
10/27/2011 16:00	14.13	1.148
10/27/2011 17:00	13.59	0.856
10/27/2011 18:00	13.05	358.5
10/27/2011 19:00	13.25	357.7
10/27/2011 20:00	12.58	356.3
10/27/2011 21:00	12.44	357.8
10/27/2011 22:00	10.75	359.1
10/27/2011 23:00	9.76	356.6
10/28/2011 0:00	8.88	359.3
10/28/2011 1:00	7.84	350.9
10/28/2011 2:00	7.30	343
10/28/2011 3:00	6.72	349.5
10/28/2011 4:00	5.96	349
10/28/2011 5:00	5.11	354.3
10/28/2011 6:00	4.47	344.3
10/28/2011 7:00	3.85	343.3
10/28/2011 8:00	3.32	357.9
10/28/2011 9:00	3.69	37.45
10/28/2011 10:00	2.60	71.68
10/28/2011 11:00	2.31	76.16
10/28/2011 12:00	2.58	126.2
10/28/2011 13:00	3.00	144.7
10/28/2011 14:00	4.19	171.1
10/28/2011 15:00	4.52	156
10/28/2011 16:00	4.51	164.4
10/28/2011 17:00	5.33	160.8
10/28/2011 18:00	5.41	153.5
10/28/2011 19:00	6.82	144.7
10/28/2011 20:00	7.98	147.4
10/28/2011 21:00	7.57	140.9
10/28/2011 22:00	6.28	129.3
10/28/2011 23:00	7.12	136.5
10/29/2011 0:00	9.12	137.9
10/29/2011 1:00	8.82	143.5
10/29/2011 2:00	10.14	144.3
10/29/2011 3:00	9.44	144.8
10/29/2011 4:00	8.73	143.2
10/29/2011 5:00	9.27	143.3
10/29/2011 6:00	9.45	143.7
10/29/2011 7:00	9.39	143
10/29/2011 8:00	8.49	133.8
10/29/2011 9:00	9.56	129.3
10/29/2011 10:00	11.62	127.7
10/29/2011 11:00	12.73	126.6

Note: Wind direction is direction where wind is coming
from

Table A3-2.2. Freshwater Flow Time Series of Roberts and Doris Creeks Flowing into Roberts Bay, Doris North Project, 2011

Date	Doris Creek Mean Daily Discharge (m ³ /s)	Roberts Creek Mean Daily Discharge (m ³ /s)	Date	Doris Creek Mean Daily Discharge (m ³ /s)	Roberts Creek Mean Daily Discharge (m ³ /s)
June/12/2011	0.54		August/15/2011	0.50	0.22
June/13/2011	0.64		August/16/2011	0.48	0.20
June/14/2011	0.92		August/17/2011	0.47	0.20
June/15/2011	1.54		August/18/2011	0.48	0.19
June/16/2011	2.25		August/19/2011	0.48	0.17
June/17/2011	3.05		August/20/2011	0.47	0.17
June/18/2011	3.74		August/21/2011	0.47	0.17
June/19/2011	4.32		August/22/2011	0.46	0.19
June/20/2011	4.76		August/23/2011	0.46	0.16
June/21/2011	5.08	7.53	August/24/2011	0.46	0.15
June/22/2011	5.15	7.30	August/25/2011	0.45	0.15
June/23/2011	5.07	6.87	August/26/2011	0.44	0.14
June/24/2011	4.93	6.44	August/27/2011	0.44	0.14
June/25/2011	4.77	6.04	August/28/2011	0.43	0.14
June/26/2011	4.58	5.64	August/29/2011	0.43	0.14
June/27/2011	4.34	5.26	August/30/2011	0.43	0.14
June/28/2011	4.16	4.92	August/31/2011	0.42	0.14
June/29/2011	3.93	4.56	September/1/2011	0.42	0.13
June/30/2011	4.00	4.60	September/2/2011	0.41	0.12
July/1/2011	4.20	5.00	September/3/2011	0.41	0.12
July/2/2011	4.93	6.20	September/4/2011	0.41	0.12
July/3/2011	5.41	6.55	September/5/2011	0.40	0.11
July/4/2011	5.70	6.28	September/6/2011	0.40	0.11
July/5/2011	5.77	5.80	September/7/2011	0.44	0.17
July/6/2011	5.59	5.22	September/8/2011	0.49	0.25
July/7/2011	5.25	4.65	September/9/2011	0.51	0.31
July/8/2011	4.90	4.15	September/10/2011	0.52	0.36
July/9/2011	4.52	3.71	September/11/2011	0.53	0.40
July/10/2011	4.15	3.31	September/12/2011	0.53	0.44
July/11/2011	3.80	2.94	September/13/2011	0.54	0.46
July/12/2011	3.48	2.64	September/14/2011	0.55	0.49
July/13/2011	3.20	2.35	September/15/2011	0.55	0.50
July/14/2011	2.93	2.10	September/16/2011	0.56	0.51
July/15/2011	2.70	1.87	September/17/2011	0.56	0.51
July/16/2011	2.48	1.67	September/18/2011	0.57	0.51
July/17/2011	2.30	1.49	September/19/2011	0.57	0.51
July/18/2011	2.15	1.37	September/20/2011	0.57	0.50
July/19/2011	2.00	1.23	September/21/2011	0.57	0.50
July/20/2011	1.86	1.08	September/22/2011	0.57	0.51
July/21/2011	1.70	0.96	September/23/2011	0.58	0.53
July/22/2011	1.57	0.86	September/24/2011	0.59	0.55
July/23/2011	1.45	0.83	September/25/2011	0.60	0.56
July/24/2011	1.34	0.78	September/26/2011	0.60	
July/25/2011	1.25	0.73	September/27/2011	0.62	
July/26/2011	1.14	0.67	September/28/2011	0.63	
July/27/2011	1.03	0.64	September/29/2011	0.64	
July/28/2011	0.96	0.61	September/30/2011	0.64	
July/29/2011	0.90	0.59	October/1/2011	0.63	
July/30/2011	0.84	0.56	October/2/2011	0.65	
July/31/2011	0.79	0.54	October/3/2011	0.64	
August/1/2011	0.74	0.51	October/4/2011	0.64	
August/2/2011	0.71	0.46	October/5/2011	0.65	
August/3/2011	0.69	0.43	October/6/2011	0.65	
August/4/2011	0.67	0.41	October/7/2011	0.65	
August/5/2011	0.65	0.39	October/8/2011	0.66	
August/6/2011	0.64	0.38	October/9/2011	0.66	
August/7/2011	0.62	0.36	October/10/2011	0.66	
August/8/2011	0.60	0.33	October/11/2011	0.67	
August/9/2011	0.58	0.31	October/12/2011	0.70	
August/10/2011	0.57	0.28	October/13/2011	0.71	
August/11/2011	0.55	0.27	October/14/2011	0.71	
August/12/2011	0.54	0.25	October/15/2011	0.70	
August/13/2011	0.53	0.24	October/16/2011	0.69	
August/14/2011	0.51	0.23	October/17/2011	0.69	

Appendix 3-3

Ocean Currents and Deep-Water
Temperature/Salinity/Oxygen Measurements
in Roberts Bay (Time Series), Doris North Project, 2011

Appendix 3-3. Ocean Currents and Deep-Water Temperature/Salinity/Oxygen Measurements in Roberts Bay (Time Series), Doris North Project, 2011

A3-3.1 Temperature, Salinity and Oxygen Data

A3-3.1.1 May 22 - July 17 Deployment

A3-3.1.2 July 17 - October 4 Deployment

A3-3.2 Roberts Bay Currents Data

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A3-3.2.2 February 10 - April 16 Deployment

A3-3.2.3 April 21 - May 22 Deployment

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Figure A3-3.4. Time-series Plot of the North Velocity Component at 9 m Depth for February 10-22 at the 38 m Site

Figure A3-3.5. Time-series Plot of the East Velocity Component at 21 m depth for February 10-22 at the 38 m Site

Figure A3-3.6. Time-series Plot of the North Velocity Component at 21 m Depth for February 10-22 at the 38 m Site

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Figure A3-3.11. Time-series Plot of the East Velocity Component at 21 m Depth for February 22-April 16 at the 38 m Site

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Appendix 3-3. Ocean Currents and Deep-Water Temperature/Salinity/Oxygen Measurements in Roberts Bay (Time Series), Doris North Project, 2011

3-3.1 TEMPERATURE, SALINITY AND OXYGEN DATA

The CTD sensors sampled measurement data at one hour intervals. The following data types were obtained from the sensors and were subject to quality control:

- o Temperature (°C)
- o Depth (m)
- o Salinity
- o Density (kg/m³)
- o Dissolved Oxygen (mg/L)

The data were reviewed for spikes, drop-outs, and other unusual features. The quality of the temperature, pressure and depth channels was good and did not require any additional editing. There were, however, some spikes and unusual features found in the salinity and density data (derived from salinity, temperature and pressure). These features were interpolated if they were single spikes and flagged to -9999 if more than one consecutive point was suspect. There were drop-outs (null values) seen in the dissolved oxygen data. These were all found to be single spikes and were interpolated.

3-3.1.1 May 22 - July 17 Deployment

The CTD during this deployment was attached to the ADCP cage at 81.5 m depth. A summary of points flagged or interpolated during processing is given in Table A3-3.1. A time-series plot of temperature, salinity, density and dissolved oxygen is presented in Figure A3-3.1. Statistics computed for temperature, salinity, density and dissolved oxygen are shown in Table A3-3.2. Flagged values are plotted as NaN values and appear as gaps in the data record. Complete reported data is found in Table A3-3.3.

Table A3-3.1. Summary of Points Edited for May 22 - July 17 at the 85 m Site

	Interpolated	Flagged	% Edit	Total Points
Temperature	0	0	0.00%	1,345
Pressure	0	0	0.00%	1,345
Depth	0	0	0.00%	1,345
Salinity	8	28	0.59%	1,345
Density	8	28	2.68%	1,345
Dissolved Oxygen	30	0	2.23%	1,345

Figure A3-3.1. Time-series Plot of CTD Data at 81.5 m Depth for May 22 - July 17

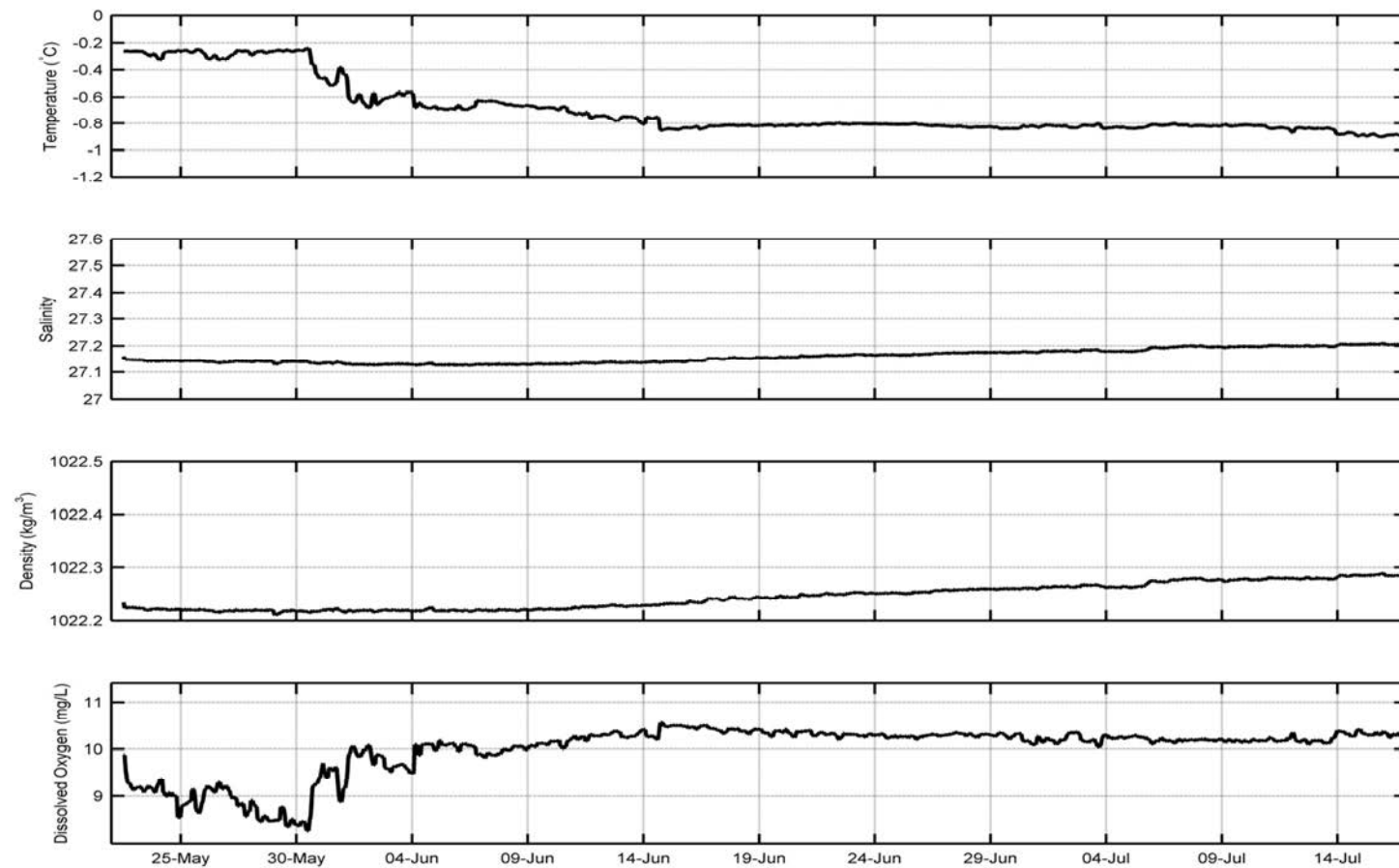


Table A3-3.2. Temperature, Salinity, Density and Dissolved Oxygen Summary Statistics for May 22 - July 17 at 85 m Site

Channel	22-May-2011 18:50:30 to 17-Jul-2011 18:51:09										
	Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max
Temperature (°C)	-0.904	-0.901	-0.884	-0.825	-0.809	-0.702	-0.657	-0.262	-0.251	0.199	-0.227
Salinity	27.105	27.12	27.127	27.136	27.156	27.16	27.181	27.205	27.208	0.027	27.211
Density (kg/m ³)	1,022.14	1,022.15	1,022.16	1,022.17	1,022.19	1,022.192	1,022.21	1,022.23	1,022.24	0.024	1,022.24
Dissolved Oxygen (mg/L)	6.837	6.984	7.228	8.284	8.459	8.289	8.547	8.645	8.723	0.434	8.759

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
22/05/2011 12:50:30.000'	-0.26	27.16	81.2	1022.23	9.88	81.1
22/05/2011 13:50:30.000'	-0.26	27.15	81.2	1022.22	9.88	81.1
22/05/2011 14:50:30.000'	-0.26	27.15	81.2	1022.22	9.55	78.4
22/05/2011 15:50:30.000'	-0.26	27.15	81.2	1022.22	9.42	77.3
22/05/2011 16:50:30.000'	-0.26	27.15	81.3	1022.22	9.29	76.2
22/05/2011 17:50:30.000'	-0.26	27.15	81.4	1022.22	9.27	76.1
22/05/2011 18:50:30.000'	-0.26	27.15	81.4	1022.22	9.27	76.1
22/05/2011 19:50:30.000'	-0.26	27.15	81.5	1022.23	9.25	75.9
22/05/2011 20:50:30.000'	-0.27	27.14	81.5	1022.22	9.17	75.3
22/05/2011 21:50:30.000'	-0.26	27.15	81.5	1022.22	9.16	75.2
22/05/2011 22:50:30.000'	-0.26	27.15	81.5	1022.22	9.12	74.9
22/05/2011 23:50:30.000'	-0.26	27.15	81.5	1022.23	9.12	74.9
23/05/2011 00:50:30.000'	-0.26	27.15	81.4	1022.22	9.16	75.2
23/05/2011 01:50:30.000'	-0.26	27.15	81.4	1022.22	9.18	75.3
23/05/2011 02:50:30.000'	-0.26	27.15	81.3	1022.22	9.18	75.3
23/05/2011 03:50:30.000'	-0.26	27.15	81.3	1022.22	9.16	75.2
23/05/2011 04:50:30.000'	-0.26	27.15	81.3	1022.22	9.19	75.5
23/05/2011 05:50:30.000'	-0.26	27.15	81.3	1022.22	9.19	75.5
23/05/2011 06:50:30.000'	-0.27	27.15	81.3	1022.22	9.19	75.4
23/05/2011 07:50:30.000'	-0.27	27.15	81.3	1022.22	9.14	75.0
23/05/2011 08:50:30.000'	-0.27	27.15	81.3	1022.22	9.14	75.0
23/05/2011 09:50:30.000'	-0.27	27.14	81.3	1022.22	9.07	74.4
23/05/2011 10:50:30.000'	-0.28	27.14	81.3	1022.22	9.14	75.0
23/05/2011 11:50:30.000'	-0.28	27.14	81.3	1022.22	9.14	75.0
23/05/2011 12:50:30.000'	-0.28	27.14	81.3	1022.22	9.14	75.0
23/05/2011 13:50:30.000'	-0.29	27.14	81.3	1022.22	9.20	75.5
23/05/2011 14:50:30.000'	-0.29	27.14	81.3	1022.22	9.21	75.3
23/05/2011 15:50:30.000'	-0.30	27.14	81.3	1022.22	9.19	75.3
23/05/2011 16:50:30.000'	-0.30	27.14	81.3	1022.22	9.16	75.1
23/05/2011 17:50:30.000'	-0.30	27.14	81.4	1022.22	9.16	75.1
23/05/2011 18:50:30.000'	-0.28	27.14	81.5	1022.22	9.16	74.8
23/05/2011 19:50:30.000'	-0.28	27.14	81.5	1022.22	9.12	74.8
23/05/2011 20:50:30.000'	-0.28	27.14	81.6	1022.22	9.08	74.5
23/05/2011 21:50:30.000'	-0.29	27.14	81.6	1022.22	9.07	74.3
23/05/2011 22:50:30.000'	-0.30	27.14	81.6	1022.22	9.16	75.1
23/05/2011 23:50:30.000'	-0.31	27.14	81.6	1022.22	9.21	75.5
24/05/2011 00:50:30.000'	-0.32	27.14	81.5	1022.22	9.25	75.8
24/05/2011 01:50:30.000'	-0.33	27.14	81.5	1022.22	9.29	76.1
24/05/2011 02:50:30.000'	-0.32	27.14	81.4	1022.22	9.36	76.7
24/05/2011 03:50:30.000'	-0.32	27.14	81.4	1022.22	9.35	76.9
24/05/2011 04:50:30.000'	-0.32	27.14	81.3	1022.22	9.35	76.6
24/05/2011 05:50:30.000'	-0.29	27.14	81.3	1022.22	9.08	74.4
24/05/2011 06:50:30.000'	-0.28	27.14	81.3	1022.22	9.08	74.5
24/05/2011 07:50:30.000'	-0.27	27.14	81.3	1022.22	9.00	73.9
24/05/2011 08:50:30.000'	-0.27	27.14	81.3	1022.22	9.00	73.9

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
24/05/2011 09:50:30.000'	-0.26	27.14	81.4	1022.22	9.00	73.9
24/05/2011 10:50:30.000'	-0.27	27.14	81.4	1022.22	9.00	73.9
24/05/2011 11:50:30.000'	-0.27	27.14	81.4	1022.22	9.07	74.4
24/05/2011 12:50:30.000'	-0.27	27.14	81.3	1022.22	9.08	74.5
24/05/2011 13:50:30.000'	-0.27	27.14	81.3	1022.22	8.99	73.7
24/05/2011 14:50:30.000'	-0.27	27.14	81.3	1022.22	9.08	74.5
24/05/2011 15:50:30.000'	-0.27	27.14	81.3	1022.22	9.01	74.0
24/05/2011 16:50:30.000'	-0.27	27.14	81.3	1022.22	9.00	73.8
24/05/2011 17:50:30.000'	-0.27	27.14	81.3	1022.22	9.01	74.0
24/05/2011 18:50:30.000'	-0.27	27.14	81.4	1022.22	9.00	73.8
24/05/2011 19:50:30.000'	-0.26	27.15	81.5	1022.22	9.00	73.8
24/05/2011 20:50:30.000'	-0.25	27.14	81.5	1022.22	8.57	70.3
24/05/2011 21:50:30.000'	-0.25	27.14	81.6	1022.22	8.57	70.3
24/05/2011 22:50:30.000'	-0.26	27.14	81.6	1022.22	8.57	70.3
24/05/2011 23:50:30.000'	-0.26	27.14	81.6	1022.22	8.57	70.3
25/05/2011 00:50:30.000'	-0.26	27.14	81.5	1022.22	8.76	71.9
25/05/2011 01:50:30.000'	-0.27	27.14	81.5	1022.22	8.81	72.3
25/05/2011 02:50:30.000'	-0.25	27.14	81.4	1022.22	8.81	72.3
25/05/2011 03:50:30.000'	-0.26	27.14	81.3	1022.22	8.82	72.4
25/05/2011 04:50:30.000'	-0.25	27.14	81.3	1022.22	8.82	72.4
25/05/2011 05:50:30.000'	-0.26	27.15	81.3	1022.22	8.82	72.4
25/05/2011 06:50:30.000'	-0.26	27.14	81.2	1022.22	8.87	72.8
25/05/2011 07:50:30.000'	-0.26	27.14	81.2	1022.22	8.87	72.8
25/05/2011 08:50:30.000'	-0.27	27.14	81.2	1022.22	8.87	72.8
25/05/2011 09:50:30.000'	-0.27	27.14	81.3	1022.22	8.89	73.0
25/05/2011 10:50:30.000'	-0.27	27.14	81.3	1022.22	8.89	73.0
25/05/2011 11:50:30.000'	-0.27	27.14	81.3	1022.22	9.13	74.9
25/05/2011 12:50:30.000'	-0.27	27.14	81.3	1022.22	9.14	75.0
25/05/2011 13:50:30.000'	-0.27	27.14	81.3	1022.22	9.13	74.9
25/05/2011 14:50:30.000'	-0.26	27.14	81.3	1022.22	8.97	73.6
25/05/2011 15:50:30.000'	-0.25	27.14	81.3	1022.22	8.72	71.6
25/05/2011 16:50:30.000'	-0.25	27.14	81.3	1022.22	8.70	71.4
25/05/2011 17:50:30.000'	-0.25	27.14	81.3	1022.22	8.70	71.4
25/05/2011 18:50:30.000'	-0.25	27.14	81.3	1022.22	8.64	71.2
25/05/2011 19:50:30.000'	-0.25	27.14	81.4	1022.22	8.67	71.2
25/05/2011 20:50:30.000'	-0.26	27.14	81.4	1022.22	8.73	71.7
25/05/2011 21:50:30.000'	-0.27	27.14	81.5	1022.22	8.84	72.5
25/05/2011 22:50:30.000'	-0.27	27.14	81.5	1022.22	8.88	72.9
25/05/2011 23:50:30.000'	-0.27	27.14	81.5	1022.22	8.99	73.8
26/05/2011 00:50:30.000'	-0.28	27.14	81.5	1022.22	9.11	74.7
26/05/2011 01:50:30.000'	-0.29	27.14	81.5	1022.22	9.15	75.0
26/05/2011 02:50:30.000'	-0.31	27.14	81.4	1022.22	9.15	75.0
26/05/2011 03:50:30.000'	-0.32	27.14	81.4	1022.22	9.22	75.5
26/05/2011 04:50:30.000'	-0.32	27.14	81.3	1022.22	9.17	75.1
26/05/2011 05:50:30.000'	-0.32	27.14	81.3	1022.22	9.17	75.1

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
26/05/2011 06:50:30.000'	-0.32	27.14	81.3	1022.22	9.17	75.1
26/05/2011 07:50:30.000'	-0.32	27.14	81.3	1022.22	9.17	75.1
26/05/2011 08:50:30.000'	-0.30	27.14	81.3	1022.22	9.11	74.7
26/05/2011 09:50:30.000'	-0.30	27.14	81.3	1022.22	9.11	74.7
26/05/2011 10:50:30.000'	-0.29	27.14	81.3	1022.21	9.07	74.4
26/05/2011 11:50:30.000'	-0.29	27.14	81.3	1022.22	9.07	74.4
26/05/2011 12:50:30.000'	-0.30	27.14	81.3	1022.22	9.13	74.8
26/05/2011 13:50:30.000'	-0.32	27.13	81.3	1022.21	9.19	75.3
26/05/2011 14:50:30.000'	-0.32	27.14	81.3	1022.22	9.28	76.0
26/05/2011 15:50:30.000'	-0.32	27.14	81.3	1022.22	9.28	76.0
26/05/2011 16:50:30.000'	-0.32	27.14	81.3	1022.22	9.29	76.1
26/05/2011 17:50:30.000'	-0.32	27.14	81.3	1022.22	9.20	75.4
26/05/2011 18:50:30.000'	-0.32	27.13	81.4	1022.22	9.15	75.0
26/05/2011 19:50:30.000'	-0.32	27.14	81.4	1022.22	9.15	75.0
26/05/2011 20:50:30.000'	-0.32	27.14	81.4	1022.22	9.15	75.0
26/05/2011 21:50:30.000'	-0.32	27.14	81.5	1022.22	9.20	75.4
26/05/2011 22:50:30.000'	-0.32	27.14	81.5	1022.22	9.21	75.5
26/05/2011 23:50:30.000'	-0.33	27.13	81.5	1022.22	9.20	75.4
27/05/2011 00:50:30.000'	-0.31	27.14	81.5	1022.22	9.19	75.4
27/05/2011 01:50:30.000'	-0.30	27.14	81.5	1022.22	9.11	74.7
27/05/2011 02:50:30.000'	-0.30	27.14	81.5	1022.22	9.11	74.7
27/05/2011 03:50:30.000'	-0.30	27.14	81.4	1022.22	9.00	73.8
27/05/2011 04:50:30.000'	-0.30	27.14	81.4	1022.22	9.00	73.8
27/05/2011 05:50:30.000'	-0.28	27.14	81.3	1022.22	8.94	73.6
27/05/2011 06:50:30.000'	-0.28	27.14	81.3	1022.22	8.97	73.6
27/05/2011 07:50:30.000'	-0.28	27.14	81.3	1022.22	8.97	73.6
27/05/2011 08:50:30.000'	-0.27	27.14	81.3	1022.22	8.97	73.6
27/05/2011 09:50:30.000'	-0.26	27.14	81.3	1022.22	8.95	73.4
27/05/2011 10:50:30.000'	-0.26	27.14	81.3	1022.22	8.79	72.1
27/05/2011 11:50:30.000'	-0.26	27.14	81.3	1022.22	8.79	72.1
27/05/2011 12:50:30.000'	-0.26	27.14	81.4	1022.22	8.79	72.1
27/05/2011 13:50:30.000'	-0.26	27.14	81.4	1022.22	8.83	72.4
27/05/2011 14:50:30.000'	-0.26	27.14	81.4	1022.22	8.84	72.5
27/05/2011 15:50:30.000'	-0.26	27.14	81.4	1022.22	8.84	72.5
27/05/2011 16:50:30.000'	-0.26	27.14	81.4	1022.22	8.84	72.5
27/05/2011 17:50:30.000'	-0.26	27.14	81.4	1022.22	8.75	71.8
27/05/2011 18:50:30.000'	-0.26	27.14	81.4	1022.22	8.59	70.5
27/05/2011 19:50:30.000'	-0.26	27.14	81.4	1022.22	8.59	70.5
27/05/2011 20:50:30.000'	-0.26	27.14	81.4	1022.22	8.59	70.5
27/05/2011 21:50:30.000'	-0.26	27.14	81.4	1022.22	8.70	71.4
27/05/2011 22:50:30.000'	-0.27	27.14	81.5	1022.22	8.69	71.3
27/05/2011 23:50:30.000'	-0.28	27.14	81.5	1022.22	8.69	71.3
28/05/2011 00:50:30.000'	-0.29	27.14	81.5	1022.22	8.90	73.0
28/05/2011 01:50:30.000'	-0.29	27.14	81.5	1022.22	8.90	73.0
28/05/2011 02:50:30.000'	-0.29	27.14	81.5	1022.22	8.90	73.0

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
28/05/2011 03:50:30.000'	-0.28	27.14	81.4	1022.22	8.81	72.3
28/05/2011 04:50:30.000'	-0.28	27.14	81.4	1022.22	8.81	72.3
28/05/2011 05:50:30.000'	-0.26	27.14	81.3	1022.22	8.78	72.0
28/05/2011 06:50:30.000'	-0.27	27.14	81.3	1022.22	8.78	72.0
28/05/2011 07:50:30.000'	-0.27	27.14	81.3	1022.22	8.54	70.1
28/05/2011 08:50:30.000'	-0.27	27.14	81.3	1022.22	8.51	69.8
28/05/2011 09:50:30.000'	-0.26	27.14	81.3	1022.22	8.51	69.8
28/05/2011 10:50:30.000'	-0.27	27.14	81.3	1022.22	8.47	69.5
28/05/2011 11:50:30.000'	-0.26	27.14	81.3	1022.22	8.47	69.5
28/05/2011 12:50:30.000'	-0.26	27.14	81.4	1022.22	8.51	69.8
28/05/2011 13:50:30.000'	-0.26	27.14	81.4	1022.22	8.59	70.5
28/05/2011 14:50:30.000'	-0.27	27.14	81.4	1022.22	8.59	70.5
28/05/2011 15:50:30.000'	-0.28	27.14	81.4	1022.22	8.59	70.5
28/05/2011 16:50:30.000'	-0.28	27.14	81.4	1022.22	8.59	70.5
28/05/2011 17:50:30.000'	-0.28	27.14	81.4	1022.22	8.54	70.0
28/05/2011 18:50:30.000'	-0.27	27.14	81.4	1022.22	8.49	69.7
28/05/2011 19:50:30.000'	-0.27	27.14	81.4	1022.22	8.49	69.6
28/05/2011 20:50:30.000'	-0.27	27.14	81.4	1022.22	8.49	69.7
28/05/2011 21:50:30.000'	-0.27	27.14	81.4	1022.22	8.49	69.6
28/05/2011 22:50:30.000'	-0.27	27.14	81.5	1022.22	8.50	69.7
28/05/2011 23:50:30.000'	-0.26	27.14	81.5	1022.22	8.49	69.6
29/05/2011 00:50:30.000'	-0.26	27.13	81.5	1022.21	8.50	69.7
29/05/2011 01:50:30.000'	-0.26	27.13	81.5	1022.21	8.51	69.8
29/05/2011 02:50:30.000'	-0.26	27.13	81.5	1022.21	8.51	69.8
29/05/2011 03:50:30.000'	-0.26	27.13	81.5	1022.21	8.51	69.8
29/05/2011 04:50:30.000'	-0.26	27.13	81.4	1022.21	8.51	69.8
29/05/2011 05:50:30.000'	-0.26	27.13	81.4	1022.21	8.51	69.8
29/05/2011 06:50:30.000'	-0.26	27.14	81.3	1022.22	8.51	69.8
29/05/2011 07:50:30.000'	-0.26	27.14	81.3	1022.21	8.77	72.0
29/05/2011 08:50:30.000'	-0.26	27.14	81.3	1022.22	8.76	71.9
29/05/2011 09:50:30.000'	-0.26	27.14	81.3	1022.22	8.76	71.9
29/05/2011 10:50:30.000'	-0.26	27.14	81.3	1022.22	8.75	71.8
29/05/2011 11:50:30.000'	-0.26	27.14	81.3	1022.22	8.64	70.9
29/05/2011 12:50:30.000'	-0.26	27.14	81.3	1022.22	8.44	69.3
29/05/2011 13:50:30.000'	-0.25	27.14	81.4	1022.22	8.38	68.8
29/05/2011 14:50:30.000'	-0.25	27.14	81.4	1022.22	8.38	68.8
29/05/2011 15:50:30.000'	-0.25	27.14	81.4	1022.22	8.38	68.8
29/05/2011 16:50:30.000'	-0.26	27.14	81.4	1022.22	8.39	68.9
29/05/2011 17:50:30.000'	-0.26	27.14	81.4	1022.22	8.48	69.6
29/05/2011 18:50:30.000'	-0.27	27.14	81.4	1022.22	8.52	69.9
29/05/2011 19:50:30.000'	-0.27	27.14	81.4	1022.22	8.52	69.9
29/05/2011 20:50:30.000'	-0.27	27.14	81.4	1022.22	8.52	69.9
29/05/2011 21:50:30.000'	-0.26	27.14	81.4	1022.22	8.45	69.4
29/05/2011 22:50:30.000'	-0.26	27.14	81.4	1022.22	8.41	69.0
29/05/2011 23:50:30.000'	-0.26	27.14	81.4	1022.22	8.43	69.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
30/05/2011 00:50:30.000'	-0.25	27.14	81.4	1022.22	8.40	69.0
30/05/2011 01:50:30.000'	-0.26	27.14	81.4	1022.22	8.40	68.9
30/05/2011 02:50:30.000'	-0.25	27.14	81.4	1022.22	8.40	69.0
30/05/2011 03:50:30.000'	-0.25	27.14	81.4	1022.22	8.38	68.7
30/05/2011 04:50:30.000'	-0.26	27.14	81.4	1022.22	8.49	69.6
30/05/2011 05:50:30.000'	-0.26	27.14	81.3	1022.22	8.47	69.5
30/05/2011 06:50:30.000'	-0.26	27.14	81.3	1022.22	8.46	69.4
30/05/2011 07:50:30.000'	-0.26	27.14	81.2	1022.22	8.48	69.5
30/05/2011 08:50:30.000'	-0.25	27.14	81.2	1022.22	8.46	69.4
30/05/2011 09:50:30.000'	-0.25	27.14	81.2	1022.22	8.36	68.7
30/05/2011 10:50:30.000'	-0.24	27.14	81.2	1022.22	8.29	68.1
30/05/2011 11:50:30.000'	-0.24	27.14	81.3	1022.21	8.29	68.1
30/05/2011 12:50:30.000'	-0.24	27.14	81.3	1022.22	8.29	68.1
30/05/2011 13:50:30.000'	-0.26	27.14	81.4	1022.21	8.49	69.7
30/05/2011 14:50:30.000'	-0.31	27.13	81.4	1022.21	8.59	70.3
30/05/2011 15:50:30.000'	-0.36	27.13	81.5	1022.22	8.86	72.6
30/05/2011 16:50:30.000'	-0.36	27.14	81.5	1022.22	9.18	75.1
30/05/2011 17:50:30.000'	-0.36	27.13	81.5	1022.22	9.21	75.4
30/05/2011 18:50:30.000'	-0.36	27.13	81.5	1022.22	9.21	75.4
30/05/2011 19:50:30.000'	-0.41	27.13	81.5	1022.22	9.26	75.7
30/05/2011 20:50:30.000'	-0.44	27.13	81.5	1022.22	9.26	75.7
30/05/2011 21:50:30.000'	-0.44	27.13	81.5	1022.22	9.26	75.7
30/05/2011 22:50:30.000'	-0.46	27.13	81.5	1022.22	9.31	76.0
30/05/2011 23:50:30.000'	-0.46	27.13	81.5	1022.22	9.39	76.7
31/05/2011 00:50:30.000'	-0.46	27.13	81.5	1022.22	9.39	76.7
31/05/2011 01:50:30.000'	-0.46	27.13	81.5	1022.22	9.52	77.7
31/05/2011 02:50:30.000'	-0.47	27.13	81.5	1022.22	9.63	78.5
31/05/2011 03:50:30.000'	-0.47	27.13	81.5	1022.22	9.71	79.2
31/05/2011 04:50:30.000'	-0.46	27.13	81.5	1022.22	9.52	77.7
31/05/2011 05:50:30.000'	-0.46	27.13	81.5	1022.22	9.52	77.7
31/05/2011 06:50:30.000'	-0.47	27.13	81.4	1022.22	9.39	76.6
31/05/2011 07:50:30.000'	-0.49	27.13	81.4	1022.22	9.39	76.6
31/05/2011 08:50:30.000'	-0.49	27.14	81.3	1022.22	9.39	76.6
31/05/2011 09:50:30.000'	-0.51	27.13	81.3	1022.22	9.59	78.2
31/05/2011 10:50:30.000'	-0.51	27.14	81.3	1022.22	9.61	78.3
31/05/2011 11:50:30.000'	-0.52	27.13	81.3	1022.22	9.59	78.2
31/05/2011 12:50:30.000'	-0.51	27.13	81.4	1022.22	9.55	77.8
31/05/2011 13:50:30.000'	-0.51	27.13	81.4	1022.22	9.55	77.8
31/05/2011 14:50:30.000'	-0.51	27.13	81.5	1022.22	9.53	77.7
31/05/2011 15:50:30.000'	-0.51	27.14	81.5	1022.22	9.60	78.2
31/05/2011 16:50:30.000'	-0.50	27.13	81.6	1022.22	9.62	78.4
31/05/2011 17:50:30.000'	-0.50	27.14	81.6	1022.22	9.61	78.3
31/05/2011 18:50:30.000'	-0.45	27.14	81.6	1022.22	9.33	76.2
31/05/2011 19:50:30.000'	-0.41	27.13	81.5	1022.22	9.08	74.2
31/05/2011 20:50:30.000'	-0.38	27.14	81.5	1022.22	8.89	72.7

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
31/05/2011 21:50:30.000'	-0.38	27.13	81.5	1022.22	8.89	72.7
31/05/2011 22:50:30.000'	-0.38	27.13	81.4	1022.22	8.87	72.6
31/05/2011 23:50:30.000'	-0.41	27.13	81.4	1022.22	8.97	73.3
01/06/2011 00:50:30.000'	-0.44	27.13	81.4	1022.22	9.16	74.9
01/06/2011 01:50:30.000'	-0.44	27.13	81.4	1022.21	9.17	74.9
01/06/2011 02:50:30.000'	-0.43	27.13	81.4	1022.21	9.17	74.9
01/06/2011 03:50:30.000'	-0.45	27.13	81.4	1022.22	9.28	75.7
01/06/2011 04:50:30.000'	-0.48	27.13	81.4	1022.22	9.44	77.0
01/06/2011 05:50:30.000'	-0.58	27.13	81.4	1022.22	9.80	79.7
01/06/2011 06:50:30.000'	-0.61	27.13	81.3	1022.22	9.90	80.4
01/06/2011 07:50:30.000'	-0.62	27.13	81.3	1022.22	9.91	80.6
01/06/2011 08:50:30.000'	-0.62	27.13	81.2	1022.22	10.00	81.3
01/06/2011 09:50:30.000'	-0.64	27.13	81.2	1022.22	10.04	81.5
01/06/2011 10:50:30.000'	-0.64	27.13	81.2	1022.22	10.06	81.7
01/06/2011 11:50:30.000'	-0.64	27.13	81.2	1022.22	10.03	81.5
01/06/2011 12:50:30.000'	-0.64	27.13	81.2	1022.22	10.00	81.2
01/06/2011 13:50:30.000'	-0.63	27.13	81.3	1022.22	9.93	80.7
01/06/2011 14:50:30.000'	-0.61	27.13	81.4	1022.22	9.89	80.4
01/06/2011 15:50:30.000'	-0.59	27.13	81.5	1022.22	9.85	80.1
01/06/2011 16:50:30.000'	-0.58	27.13	81.6	1022.22	9.84	80.0
01/06/2011 17:50:30.000'	-0.58	27.13	81.6	1022.22	9.85	80.1
01/06/2011 18:50:30.000'	-0.59	27.13	81.6	1022.22	9.84	80.0
01/06/2011 19:50:30.000'	-0.62	27.13	81.6	1022.22	9.93	80.7
01/06/2011 20:50:30.000'	-0.63	27.13	81.6	1022.22	9.91	80.5
01/06/2011 21:50:30.000'	-0.65	27.13	81.5	1022.22	9.99	81.1
01/06/2011 22:50:30.000'	-0.65	27.13	81.5	1022.22	9.98	81.1
01/06/2011 23:50:30.000'	-0.65	27.13	81.4	1022.22	9.98	81.0
02/06/2011 00:50:30.000'	-0.67	27.13	81.4	1022.22	9.98	81.1
02/06/2011 01:50:30.000'	-0.68	27.13	81.4	1022.22	10.07	81.7
02/06/2011 02:50:30.000'	-0.68	27.13	81.5	1022.22	10.07	81.7
02/06/2011 03:50:30.000'	-0.68	27.13	81.5	1022.22	10.07	81.7
02/06/2011 04:50:30.000'	-0.67	27.13	81.5	1022.22	9.99	81.1
02/06/2011 05:50:30.000'	-0.65	27.13	81.5	1022.22	9.85	80.0
02/06/2011 06:50:30.000'	-0.60	27.13	81.5	1022.22	9.74	79.4
02/06/2011 07:50:30.000'	-0.57	27.13	81.5	1022.22	9.66	78.8
02/06/2011 08:50:30.000'	-0.57	27.13	81.4	1022.22	9.68	78.8
02/06/2011 09:50:30.000'	-0.60	27.13	81.4	1022.22	9.68	78.8
02/06/2011 10:50:30.000'	-0.66	27.12	81.4	1022.22	9.88	80.2
02/06/2011 11:50:30.000'	-0.66	27.13	81.4	1022.22	9.88	80.2
02/06/2011 12:50:30.000'	-0.66	27.13	81.4	1022.22	9.88	80.2
02/06/2011 13:50:30.000'	-0.64	27.13	81.4	1022.22	9.87	80.2
02/06/2011 14:50:30.000'	-0.64	27.13	81.5	1022.22	9.86	80.2
02/06/2011 15:50:30.000'	-0.63	27.13	81.6	1022.22	9.86	80.2
02/06/2011 16:50:30.000'	-0.62	27.13	81.7	1022.22	9.85	80.0
02/06/2011 17:50:30.000'	-0.62	27.13	81.7	1022.22	9.83	79.9

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
02/06/2011 18:50:30.000'	-0.61	27.13	81.7	1022.22	9.83	79.9
02/06/2011 19:50:30.000'	-0.61	27.13	81.7	1022.22	9.61	78.3
02/06/2011 20:50:30.000'	-0.61	27.13	81.7	1022.22	9.60	78.2
02/06/2011 21:50:30.000'	-0.61	27.13	81.6	1022.22	9.60	78.0
02/06/2011 22:50:30.000'	-0.61	27.13	81.6	1022.22	9.57	77.8
02/06/2011 23:50:30.000'	-0.61	27.13	81.5	1022.22	9.60	78.0
03/06/2011 00:50:30.000'	-0.60	27.13	81.5	1022.22	9.57	77.8
03/06/2011 01:50:30.000'	-0.60	27.13	81.5	1022.22	9.51	77.4
03/06/2011 02:50:30.000'	-0.59	27.13	81.5	1022.22	9.51	77.4
03/06/2011 03:50:30.000'	-0.60	27.13	81.5	1022.22	9.62	78.3
03/06/2011 04:50:30.000'	-0.60	27.13	81.6	1022.22	9.62	78.3
03/06/2011 05:50:30.000'	-0.60	27.13	81.6	1022.22	9.65	78.5
03/06/2011 06:50:30.000'	-0.58	27.13	81.6	1022.22	9.63	78.4
03/06/2011 07:50:30.000'	-0.58	27.13	81.5	1022.22	9.63	78.4
03/06/2011 08:50:30.000'	-0.57	27.13	81.5	1022.22	9.63	78.6
03/06/2011 09:50:30.000'	-0.57	27.13	81.4	1022.22	9.68	78.8
03/06/2011 10:50:30.000'	-0.57	27.13	81.4	1022.22	9.66	78.6
03/06/2011 11:50:30.000'	-0.57	27.13	81.4	1022.22	9.68	78.8
03/06/2011 12:50:30.000'	-0.59	27.13	81.4	1022.22	9.68	78.7
03/06/2011 13:50:30.000'	-0.59	27.13	81.4	1022.22	9.68	78.7
03/06/2011 14:50:30.000'	-0.59	27.13	81.5	1022.22	9.68	78.7
03/06/2011 15:50:30.000'	-0.59	27.13	81.6	1022.22	9.68	78.7
03/06/2011 16:50:30.000'	-0.57	27.13	81.6	1022.22	9.62	78.3
03/06/2011 17:50:30.000'	-0.57	27.13	81.7	1022.22	9.62	78.3
03/06/2011 18:50:30.000'	-0.57	27.13	81.7	1022.22	9.57	77.9
03/06/2011 19:50:30.000'	-0.57	27.13	81.7	1022.22	9.57	77.9
03/06/2011 20:50:30.000'	-0.56	27.13	81.7	1022.22	9.54	77.6
03/06/2011 21:50:30.000'	-0.57	27.13	81.7	1022.22	9.49	77.1
03/06/2011 22:50:30.000'	-0.56	27.13	81.6	1022.22	9.51	77.4
03/06/2011 23:50:30.000'	-0.57	27.13	81.6	1022.22	9.48	77.0
04/06/2011 00:50:30.000'	-0.57	27.13	81.5	1022.22	9.51	77.0
04/06/2011 01:50:30.000'	-0.63	27.13	81.5	1022.22	9.48	77.4
04/06/2011 02:50:30.000'	-0.68	27.13	81.5	1022.22	10.09	81.8
04/06/2011 03:50:30.000'	-0.68	27.13	81.5	1022.22	10.09	81.8
04/06/2011 04:50:30.000'	-0.68	27.13	81.5	1022.22	10.09	81.8
04/06/2011 05:50:30.000'	-0.66	27.13	81.5	1022.22	9.94	80.7
04/06/2011 06:50:30.000'	-0.64	27.13	81.5	1022.22	9.88	80.2
04/06/2011 07:50:30.000'	-0.64	27.13	81.5	1022.22	9.88	80.2
04/06/2011 08:50:30.000'	-0.64	27.13	81.4	1022.22	9.88	80.2
04/06/2011 09:50:30.000'	-0.66	27.13	81.4	1022.22	10.09	81.9
04/06/2011 10:50:30.000'	-0.67	27.13	81.3	1022.22	10.09	81.9
04/06/2011 11:50:30.000'	-0.67	27.13	81.3	1022.22	10.07	81.8
04/06/2011 12:50:30.000'	-0.67	27.13	81.3	1022.22	10.10	82.0
04/06/2011 13:50:30.000'	-0.67	27.13	81.3	1022.22	10.10	82.0
04/06/2011 14:50:30.000'	-0.67	27.13	81.4	1022.22	10.10	82.0

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
04/06/2011 15:50:30.000'	-0.69	27.13	81.4	1022.22	10.10	81.9
04/06/2011 16:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	81.9
04/06/2011 17:50:30.000'	-0.68	27.13	81.6	1022.22	10.10	81.9
04/06/2011 18:50:30.000'	-0.69	27.13	81.6	1022.22	10.10	81.9
04/06/2011 19:50:30.000'	-0.68	27.13	81.6	1022.22	10.12	82.1
04/06/2011 20:50:30.000'	-0.68	27.13	81.6	1022.22	10.09	81.8
04/06/2011 21:50:30.000'	-0.68	27.13	81.6	1022.22	10.06	81.6
04/06/2011 22:50:30.000'	-0.68	27.13	81.5	1022.22	10.00	81.1
04/06/2011 23:50:30.000'	-0.67	27.13	81.5	1022.22	9.97	80.8
05/06/2011 00:50:30.000'	-0.67	27.13	81.4	1022.22	9.97	81.1
05/06/2011 01:50:30.000'	-0.69	27.13	81.4	1022.22	10.00	80.9
05/06/2011 02:50:30.000'	-0.69	27.13	81.4	1022.22	10.00	81.1
05/06/2011 03:50:30.000'	-0.69	27.13	81.4	1022.22	10.17	82.5
05/06/2011 04:50:30.000'	-0.69	27.13	81.4	1022.22	10.17	82.5
05/06/2011 05:50:30.000'	-0.69	27.12	81.4	1022.22	10.16	82.5
05/06/2011 06:50:30.000'	-0.69	27.13	81.4	1022.22	10.09	81.9
05/06/2011 07:50:30.000'	-0.69	27.13	81.4	1022.22	10.07	81.7
05/06/2011 08:50:30.000'	-0.69	27.13	81.4	1022.22	10.09	81.9
05/06/2011 09:50:30.000'	-0.69	27.13	81.4	1022.22	10.08	81.7
05/06/2011 10:50:30.000'	-0.69	27.13	81.4	1022.22	10.08	81.7
05/06/2011 11:50:30.000'	-0.69	27.12	81.3	1022.22	10.08	81.7
05/06/2011 12:50:30.000'	-0.69	27.13	81.3	1022.22	10.08	81.7
05/06/2011 13:50:30.000'	-0.69	27.13	81.3	1022.22	10.10	82.0
05/06/2011 14:50:30.000'	-0.69	27.13	81.3	1022.22	10.10	82.0
05/06/2011 15:50:30.000'	-0.69	27.13	81.4	1022.22	10.12	82.1
05/06/2011 16:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	81.9
05/06/2011 17:50:30.000'	-0.69	27.13	81.6	1022.22	10.11	82.0
05/06/2011 18:50:30.000'	-0.69	27.13	81.6	1022.22	10.11	82.0
05/06/2011 19:50:30.000'	-0.69	27.13	81.7	1022.22	10.11	82.0
05/06/2011 20:50:30.000'	-0.69	27.13	81.7	1022.22	10.04	81.4
05/06/2011 21:50:30.000'	-0.69	27.13	81.7	1022.22	10.04	81.4
05/06/2011 22:50:30.000'	-0.66	27.13	81.6	1022.22	10.05	81.6
05/06/2011 23:50:30.000'	-0.66	27.13	81.6	1022.22	9.94	80.7
06/06/2011 00:50:30.000'	-0.66	27.13	81.5	1022.22	9.96	80.8
06/06/2011 01:50:30.000'	-0.67	27.13	81.5	1022.22	9.96	80.8
06/06/2011 02:50:30.000'	-0.69	27.13	81.5	1022.22	10.07	81.7
06/06/2011 03:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	81.9
06/06/2011 04:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	81.9
06/06/2011 05:50:30.000'	-0.69	27.12	81.5	1022.22	10.08	81.7
06/06/2011 06:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	82.0
06/06/2011 07:50:30.000'	-0.70	27.13	81.5	1022.22	10.10	82.0
06/06/2011 08:50:30.000'	-0.69	27.13	81.5	1022.22	10.10	82.0
06/06/2011 09:50:30.000'	-0.69	27.13	81.5	1022.22	10.07	81.7
06/06/2011 10:50:30.000'	-0.69	27.13	81.4	1022.22	10.06	81.6
06/06/2011 11:50:30.000'	-0.69	27.12	81.4	1022.22	10.07	81.7

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
06/06/2011 12:50:30.000'	-0.68	27.12	81.4	1022.22	10.07	81.7
06/06/2011 13:50:30.000'	-0.68	27.13	81.4	1022.22	10.07	81.7
06/06/2011 14:50:30.000'	-0.67	27.13	81.4	1022.22	10.08	81.8
06/06/2011 15:50:30.000'	-0.67	27.13	81.4	1022.22	10.03	81.4
06/06/2011 16:50:30.000'	-0.67	27.13	81.5	1022.22	10.05	81.6
06/06/2011 17:50:30.000'	-0.66	27.13	81.5	1022.22	10.01	81.2
06/06/2011 18:50:30.000'	-0.63	27.13	81.6	1022.22	9.88	80.3
06/06/2011 19:50:30.000'	-0.63	27.13	81.7	1022.22	9.88	80.3
06/06/2011 20:50:30.000'	-0.63	27.13	81.7	1022.22	9.88	80.3
06/06/2011 21:50:30.000'	-0.63	27.13	81.7	1022.22	9.90	80.5
06/06/2011 22:50:30.000'	-0.63	27.13	81.7	1022.22	9.90	80.5
06/06/2011 23:50:30.000'	-0.63	27.13	81.6	1022.22	9.90	80.5
07/06/2011 00:50:30.000'	-0.63	27.13	81.6	1022.22	9.86	80.1
07/06/2011 01:50:30.000'	-0.63	27.13	81.5	1022.22	9.85	80.0
07/06/2011 02:50:30.000'	-0.63	27.13	81.5	1022.22	9.85	80.0
07/06/2011 03:50:30.000'	-0.63	27.13	81.4	1022.22	9.81	79.7
07/06/2011 04:50:30.000'	-0.63	27.13	81.4	1022.22	9.85	80.0
07/06/2011 05:50:30.000'	-0.64	27.13	81.4	1022.22	9.90	80.4
07/06/2011 06:50:30.000'	-0.63	27.13	81.5	1022.22	9.92	80.6
07/06/2011 07:50:30.000'	-0.63	27.13	81.5	1022.22	9.92	80.6
07/06/2011 08:50:30.000'	-0.63	27.13	81.5	1022.22	9.90	80.4
07/06/2011 09:50:30.000'	-0.63	27.13	81.5	1022.22	9.88	80.2
07/06/2011 10:50:30.000'	-0.63	27.13	81.5	1022.22	9.88	80.2
07/06/2011 11:50:30.000'	-0.63	27.13	81.4	1022.22	9.87	80.2
07/06/2011 12:50:30.000'	-0.63	27.13	81.4	1022.22	9.88	80.2
07/06/2011 13:50:30.000'	-0.63	27.13	81.4	1022.22	9.87	80.2
07/06/2011 14:50:30.000'	-0.63	27.13	81.4	1022.22	9.87	80.2
07/06/2011 15:50:30.000'	-0.63	27.13	81.4	1022.22	9.87	80.2
07/06/2011 16:50:30.000'	-0.64	27.13	81.4	1022.22	9.86	80.1
07/06/2011 17:50:30.000'	-0.64	27.13	81.5	1022.22	9.93	80.6
07/06/2011 18:50:30.000'	-0.64	27.13	81.6	1022.22	9.92	80.5
07/06/2011 19:50:30.000'	-0.65	27.13	81.6	1022.22	9.90	80.4
07/06/2011 20:50:30.000'	-0.65	27.13	81.7	1022.22	9.92	80.5
07/06/2011 21:50:30.000'	-0.65	27.13	81.7	1022.22	9.99	81.1
07/06/2011 22:50:30.000'	-0.65	27.13	81.7	1022.22	9.99	81.4
07/06/2011 23:50:30.000'	-0.65	27.13	81.6	1022.22	10.00	81.2
08/06/2011 00:50:30.000'	-0.66	27.13	81.6	1022.22	9.99	81.1
08/06/2011 01:50:30.000'	-0.66	27.13	81.5	1022.22	9.99	81.1
08/06/2011 02:50:30.000'	-0.66	27.13	81.4	1022.22	9.97	80.9
08/06/2011 03:50:30.000'	-0.66	27.13	81.4	1022.22	9.98	81.1
08/06/2011 04:50:30.000'	-0.66	27.13	81.4	1022.22	9.96	80.8
08/06/2011 05:50:30.000'	-0.66	27.13	81.4	1022.22	9.99	81.1
08/06/2011 06:50:30.000'	-0.66	27.13	81.4	1022.22	9.99	81.1
08/06/2011 07:50:30.000'	-0.66	27.13	81.4	1022.22	10.01	81.3
08/06/2011 08:50:30.000'	-0.66	27.13	81.4	1022.22	10.04	81.5

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
08/06/2011 09:50:30.000'	-0.67	27.13	81.4	1022.22	10.05	81.6
08/06/2011 10:50:30.000'	-0.67	27.13	81.4	1022.22	10.06	81.7
08/06/2011 11:50:30.000'	-0.67	27.13	81.4	1022.22	10.05	81.6
08/06/2011 12:50:30.000'	-0.66	27.13	81.4	1022.22	10.06	81.7
08/06/2011 13:50:30.000'	-0.66	27.13	81.3	1022.22	10.05	81.5
08/06/2011 14:50:30.000'	-0.66	27.13	81.3	1022.22	10.04	81.5
08/06/2011 15:50:30.000'	-0.67	27.13	81.3	1022.22	10.05	81.5
08/06/2011 16:50:30.000'	-0.67	27.13	81.4	1022.22	10.06	81.6
08/06/2011 17:50:30.000'	-0.67	27.13	81.4	1022.22	10.06	81.7
08/06/2011 18:50:30.000'	-0.67	27.13	81.5	1022.22	10.04	81.5
08/06/2011 19:50:30.000'	-0.67	27.13	81.5	1022.22	10.05	81.5
08/06/2011 20:50:30.000'	-0.66	27.13	81.6	1022.22	9.98	81.0
08/06/2011 21:50:30.000'	-0.66	27.13	81.6	1022.22	9.99	81.1
08/06/2011 22:50:30.000'	-0.66	27.13	81.6	1022.22	9.99	81.1
08/06/2011 23:50:30.000'	-0.66	27.13	81.6	1022.22	9.99	81.1
09/06/2011 00:50:30.000'	-0.66	27.13	81.6	1022.22	10.03	81.4
09/06/2011 01:50:30.000'	-0.67	27.13	81.5	1022.22	10.07	81.7
09/06/2011 02:50:30.000'	-0.67	27.13	81.4	1022.22	10.07	81.7
09/06/2011 03:50:30.000'	-0.67	27.13	81.4	1022.22	10.07	81.7
09/06/2011 04:50:30.000'	-0.67	27.13	81.3	1022.22	10.07	81.7
09/06/2011 05:50:30.000'	-0.67	27.13	81.3	1022.22	10.09	81.8
09/06/2011 06:50:30.000'	-0.67	27.13	81.3	1022.22	10.04	81.5
09/06/2011 07:50:30.000'	-0.67	27.13	81.3	1022.22	10.04	81.5
09/06/2011 08:50:30.000'	-0.68	27.13	81.4	1022.22	10.04	81.5
09/06/2011 09:50:30.000'	-0.68	27.13	81.4	1022.22	10.10	82.0
09/06/2011 10:50:30.000'	-0.69	27.13	81.4	1022.22	10.12	82.1
09/06/2011 11:50:30.000'	-0.69	27.13	81.4	1022.22	10.10	82.0
09/06/2011 12:50:30.000'	-0.68	27.13	81.4	1022.22	10.13	82.2
09/06/2011 13:50:30.000'	-0.68	27.13	81.4	1022.22	10.11	82.0
09/06/2011 14:50:30.000'	-0.68	27.13	81.4	1022.22	10.11	82.0
09/06/2011 15:50:30.000'	-0.68	27.13	81.4	1022.22	10.12	82.1
09/06/2011 16:50:30.000'	-0.68	27.13	81.4	1022.22	10.13	82.2
09/06/2011 17:50:30.000'	-0.68	27.13	81.4	1022.22	10.09	81.9
09/06/2011 18:50:30.000'	-0.68	27.13	81.4	1022.22	10.09	81.9
09/06/2011 19:50:30.000'	-0.68	27.13	81.5	1022.22	10.09	81.9
09/06/2011 20:50:30.000'	-0.68	27.13	81.6	1022.22	10.08	81.8
09/06/2011 21:50:30.000'	-0.68	27.13	81.6	1022.22	10.09	81.9
09/06/2011 22:50:30.000'	-0.68	27.13	81.6	1022.22	10.15	82.4
09/06/2011 23:50:30.000'	-0.68	27.13	81.6	1022.22	10.16	82.4
10/06/2011 00:50:30.000'	-0.68	27.13	81.6	1022.22	10.15	82.4
10/06/2011 01:50:30.000'	-0.68	27.13	81.5	1022.22	10.17	82.5
10/06/2011 02:50:30.000'	-0.68	27.13	81.5	1022.22	10.16	82.4
10/06/2011 03:50:30.000'	-0.68	27.13	81.4	1022.22	10.16	82.4
10/06/2011 04:50:30.000'	-0.68	27.13	81.3	1022.22	10.14	82.3
10/06/2011 05:50:30.000'	-0.69	27.13	81.3	1022.22	10.17	82.5

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
10/06/2011 06:50:30.000'	-0.70	27.13	81.3	1022.22	10.17	82.4
10/06/2011 07:50:30.000'	-0.70	27.13	81.3	1022.22	10.16	82.4
10/06/2011 08:50:30.000'	-0.70	27.13	81.3	1022.22	10.18	82.6
10/06/2011 09:50:30.000'	-0.69	27.13	81.3	1022.22	10.05	81.6
10/06/2011 10:50:30.000'	-0.68	27.13	81.4	1022.22	10.05	81.6
10/06/2011 11:50:30.000'	-0.67	27.13	81.4	1022.22	10.01	81.2
10/06/2011 12:50:30.000'	-0.67	27.13	81.4	1022.22	10.01	81.3
10/06/2011 13:50:30.000'	-0.67	27.13	81.4	1022.22	10.00	81.2
10/06/2011 14:50:30.000'	-0.68	27.13	81.4	1022.22	10.08	81.8
10/06/2011 15:50:30.000'	-0.68	27.13	81.4	1022.22	10.04	81.5
10/06/2011 16:50:30.000'	-0.69	27.13	81.4	1022.22	10.15	82.3
10/06/2011 17:50:30.000'	-0.72	27.13	81.4	1022.22	10.17	82.5
10/06/2011 18:50:30.000'	-0.72	27.13	81.4	1022.22	10.17	82.4
10/06/2011 19:50:30.000'	-0.72	27.13	81.4	1022.22	10.17	82.4
10/06/2011 20:50:30.000'	-0.71	27.13	81.5	1022.22	10.21	82.8
10/06/2011 21:50:30.000'	-0.72	27.13	81.6	1022.22	10.22	82.9
10/06/2011 22:50:30.000'	-0.71	27.13	81.6	1022.22	10.21	82.8
10/06/2011 23:50:30.000'	-0.73	27.13	81.6	1022.23	10.25	83.1
11/06/2011 00:50:30.000'	-0.73	27.13	81.6	1022.23	10.28	83.3
11/06/2011 01:50:30.000'	-0.73	27.13	81.6	1022.22	10.25	83.1
11/06/2011 02:50:30.000'	-0.73	27.13	81.5	1022.23	10.20	82.7
11/06/2011 03:50:30.000'	-0.72	27.13	81.4	1022.22	10.19	82.6
11/06/2011 04:50:30.000'	-0.72	27.13	81.4	1022.22	10.20	82.6
11/06/2011 05:50:30.000'	-0.72	27.13	81.3	1022.22	10.20	82.6
11/06/2011 06:50:30.000'	-0.72	27.13	81.3	1022.22	10.24	83.0
11/06/2011 07:50:30.000'	-0.73	27.14	81.3	1022.23	10.26	83.1
11/06/2011 08:50:30.000'	-0.73	27.13	81.3	1022.22	10.23	82.9
11/06/2011 09:50:30.000'	-0.74	27.14	81.3	1022.23	10.27	83.2
11/06/2011 10:50:30.000'	-0.73	27.14	81.4	1022.23	10.23	82.9
11/06/2011 11:50:30.000'	-0.72	27.13	81.4	1022.23	10.15	82.3
11/06/2011 12:50:30.000'	-0.72	27.13	81.4	1022.22	10.17	82.4
11/06/2011 13:50:30.000'	-0.72	27.14	81.5	1022.23	10.17	82.4
11/06/2011 14:50:30.000'	-0.73	27.13	81.5	1022.23	10.20	82.7
11/06/2011 15:50:30.000'	-0.74	27.13	81.5	1022.23	10.27	83.2
11/06/2011 16:50:30.000'	-0.76	27.13	81.5	1022.22	10.30	83.4
11/06/2011 17:50:30.000'	-0.76	27.13	81.5	1022.23	10.30	83.4
11/06/2011 18:50:30.000'	-0.76	27.14	81.5	1022.23	10.30	83.4
11/06/2011 19:50:30.000'	-0.76	27.13	81.5	1022.23	10.28	83.2
11/06/2011 20:50:30.000'	-0.74	27.13	81.5	1022.22	10.27	83.2
11/06/2011 21:50:30.000'	-0.74	27.13	81.5	1022.22	10.26	83.1
11/06/2011 22:50:30.000'	-0.74	27.13	81.6	1022.22	10.29	83.3
11/06/2011 23:50:30.000'	-0.74	27.14	81.6	1022.23	10.26	83.1
12/06/2011 00:50:30.000'	-0.74	27.13	81.6	1022.23	10.28	83.3
12/06/2011 01:50:30.000'	-0.74	27.13	81.6	1022.23	10.26	83.1
12/06/2011 02:50:30.000'	-0.75	27.13	81.5	1022.23	10.28	83.3

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
12/06/2011 03:50:30.000'	-0.74	27.14	81.5	1022.23	10.26	83.1
12/06/2011 04:50:30.000'	-0.74	27.14	81.4	1022.23	10.28	83.3
12/06/2011 05:50:30.000'	-0.74	27.14	81.4	1022.23	10.32	83.6
12/06/2011 06:50:30.000'	-0.74	27.14	81.3	1022.23	10.30	83.5
12/06/2011 07:50:30.000'	-0.74	27.14	81.3	1022.23	10.31	83.6
12/06/2011 08:50:30.000'	-0.74	27.14	81.3	1022.23	10.30	83.4
12/06/2011 09:50:30.000'	-0.74	27.14	81.3	1022.23	10.28	83.3
12/06/2011 10:50:30.000'	-0.75	27.13	81.4	1022.23	10.30	83.4
12/06/2011 11:50:30.000'	-0.75	27.14	81.4	1022.23	10.28	83.3
12/06/2011 12:50:30.000'	-0.76	27.14	81.5	1022.23	10.32	83.5
12/06/2011 13:50:30.000'	-0.76	27.14	81.5	1022.23	10.32	83.6
12/06/2011 14:50:30.000'	-0.76	27.14	81.5	1022.23	10.32	83.6
12/06/2011 15:50:30.000'	-0.76	27.14	81.5	1022.23	10.33	83.7
12/06/2011 16:50:30.000'	-0.78	27.14	81.5	1022.23	10.37	83.9
12/06/2011 17:50:30.000'	-0.78	27.14	81.5	1022.23	10.37	83.9
12/06/2011 18:50:30.000'	-0.78	27.14	81.5	1022.23	10.39	84.0
12/06/2011 19:50:30.000'	-0.78	27.14	81.5	1022.23	10.37	83.9
12/06/2011 20:50:30.000'	-0.78	27.14	81.5	1022.23	10.36	83.8
12/06/2011 21:50:30.000'	-0.78	27.13	81.5	1022.23	10.36	83.8
12/06/2011 22:50:30.000'	-0.77	27.14	81.5	1022.23	10.34	83.7
12/06/2011 23:50:30.000'	-0.77	27.14	81.6	1022.23	10.36	83.8
13/06/2011 00:50:30.000'	-0.75	27.14	81.6	1022.23	10.27	83.1
13/06/2011 01:50:30.000'	-0.75	27.14	81.6	1022.23	10.23	82.9
13/06/2011 02:50:30.000'	-0.75	27.14	81.6	1022.23	10.27	83.1
13/06/2011 03:50:30.000'	-0.75	27.14	81.5	1022.23	10.26	83.1
13/06/2011 04:50:30.000'	-0.75	27.13	81.5	1022.22	10.26	83.1
13/06/2011 05:50:30.000'	-0.75	27.14	81.4	1022.23	10.23	82.8
13/06/2011 06:50:30.000'	-0.75	27.14	81.3	1022.23	10.23	82.9
13/06/2011 07:50:30.000'	-0.75	27.14	81.3	1022.23	10.24	82.9
13/06/2011 08:50:30.000'	-0.75	27.14	81.3	1022.23	10.25	83.0
13/06/2011 09:50:30.000'	-0.75	27.14	81.3	1022.23	10.25	83.0
13/06/2011 10:50:30.000'	-0.75	27.14	81.3	1022.23	10.27	83.2
13/06/2011 11:50:30.000'	-0.75	27.14	81.4	1022.23	10.27	83.2
13/06/2011 12:50:30.000'	-0.75	27.14	81.4	1022.23	10.28	83.2
13/06/2011 13:50:30.000'	-0.75	27.14	81.5	1022.23	10.24	83.0
13/06/2011 14:50:30.000'	-0.76	27.14	81.5	1022.23	10.28	83.2
13/06/2011 15:50:30.000'	-0.76	27.14	81.5	1022.23	10.28	83.2
13/06/2011 16:50:30.000'	-0.76	27.14	81.5	1022.23	10.28	83.2
13/06/2011 17:50:30.000'	-0.77	27.14	81.5	1022.23	10.31	83.5
13/06/2011 18:50:30.000'	-0.78	27.14	81.5	1022.23	10.33	83.6
13/06/2011 19:50:30.000'	-0.78	27.13	81.5	1022.23	10.34	83.6
13/06/2011 20:50:30.000'	-0.79	27.14	81.5	1022.23	10.37	83.9
13/06/2011 21:50:30.000'	-0.80	27.14	81.5	1022.23	10.40	84.1
13/06/2011 22:50:30.000'	-0.80	27.13	81.5	1022.23	10.39	84.1
13/06/2011 23:50:30.000'	-0.81	27.14	81.5	1022.23	10.42	84.3

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
14/06/2011 00:50:30.000'	-0.81	27.13	81.5	1022.23	10.41	84.1
14/06/2011 01:50:30.000'	-0.81	27.14	81.5	1022.23	10.41	84.1
14/06/2011 02:50:30.000'	-0.75	27.14	81.5	1022.23	10.27	83.2
14/06/2011 03:50:30.000'	-0.75	27.14	81.5	1022.23	10.26	83.1
14/06/2011 04:50:30.000'	-0.75	27.14	81.5	1022.23	10.26	83.1
14/06/2011 05:50:30.000'	-0.76	27.14	81.4	1022.23	10.26	83.1
14/06/2011 06:50:30.000'	-0.76	27.14	81.4	1022.23	10.24	82.9
14/06/2011 07:50:30.000'	-0.76	27.14	81.3	1022.23	10.27	83.2
14/06/2011 08:50:30.000'	-0.77	27.14	81.3	1022.23	10.28	83.2
14/06/2011 09:50:30.000'	-0.76	27.14	81.3	1022.23	10.27	83.1
14/06/2011 10:50:30.000'	-0.76	27.14	81.3	1022.23	10.26	83.1
14/06/2011 11:50:30.000'	-0.76	27.14	81.3	1022.23	10.24	82.9
14/06/2011 12:50:30.000'	-0.75	27.14	81.4	1022.23	10.21	82.7
14/06/2011 13:50:30.000'	-0.75	27.14	81.5	1022.23	10.21	82.7
14/06/2011 14:50:30.000'	-0.75	27.14	81.5	1022.23	10.18	82.5
14/06/2011 15:50:30.000'	-0.76	27.14	81.6	1022.23	10.28	83.2
14/06/2011 16:50:30.000'	-0.83	27.14	81.6	1022.23	10.45	84.5
14/06/2011 17:50:30.000'	-0.85	27.14	81.6	1022.23	10.55	85.2
14/06/2011 18:50:30.000'	-0.86	27.14	81.5	1022.23	10.55	85.2
14/06/2011 19:50:30.000'	-0.85	27.14	81.5	1022.23	10.54	85.1
14/06/2011 20:50:30.000'	-0.85	27.14	81.5	1022.23	10.52	85.0
14/06/2011 21:50:30.000'	-0.85	27.14	81.4	1022.23	10.47	84.6
14/06/2011 22:50:30.000'	-0.84	27.14	81.4	1022.23	10.49	84.7
14/06/2011 23:50:30.000'	-0.84	27.14	81.4	1022.23	10.45	84.4
15/06/2011 00:50:30.000'	-0.84	27.14	81.5	1022.23	10.47	84.6
15/06/2011 01:50:30.000'	-0.84	27.14	81.5	1022.23	10.48	84.7
15/06/2011 02:50:30.000'	-0.84	27.14	81.5	1022.23	10.47	84.6
15/06/2011 03:50:30.000'	-0.84	27.14	81.5	1022.23	10.48	84.7
15/06/2011 04:50:30.000'	-0.84	27.14	81.5	1022.23	10.49	84.7
15/06/2011 05:50:30.000'	-0.85	27.14	81.5	1022.23	10.50	84.8
15/06/2011 06:50:30.000'	-0.84	27.14	81.4	1022.23	10.49	84.7
15/06/2011 07:50:30.000'	-0.84	27.14	81.4	1022.23	10.49	84.8
15/06/2011 08:50:30.000'	-0.85	27.14	81.3	1022.23	10.50	84.8
15/06/2011 09:50:30.000'	-0.85	27.14	81.3	1022.23	10.49	84.7
15/06/2011 10:50:30.000'	-0.85	27.14	81.3	1022.23	10.49	84.7
15/06/2011 11:50:30.000'	-0.85	27.14	81.3	1022.23	10.50	84.8
15/06/2011 12:50:30.000'	-0.85	27.14	81.4	1022.23	10.49	84.7
15/06/2011 13:50:30.000'	-0.85	27.14	81.4	1022.23	10.49	84.7
15/06/2011 14:50:30.000'	-0.84	27.14	81.5	1022.23	10.49	84.7
15/06/2011 15:50:30.000'	-0.84	27.14	81.6	1022.23	10.49	84.7
15/06/2011 16:50:30.000'	-0.84	27.14	81.6	1022.23	10.50	84.7
15/06/2011 17:50:30.000'	-0.83	27.14	81.6	1022.23	10.48	84.6
15/06/2011 18:50:30.000'	-0.83	27.14	81.6	1022.23	10.46	84.5
15/06/2011 19:50:30.000'	-0.83	27.14	81.6	1022.23	10.47	84.5
15/06/2011 20:50:30.000'	-0.83	27.14	81.5	1022.23	10.49	84.7

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
15/06/2011 21:50:30.000'	-0.83	27.14	81.5	1022.23	10.48	84.6
15/06/2011 22:50:30.000'	-0.83	27.15	81.5	1022.24	10.43	84.3
15/06/2011 23:50:30.000'	-0.84	27.14	81.5	1022.24	10.45	84.4
16/06/2011 00:50:30.000'	-0.84	27.14	81.5	1022.24	10.45	84.5
16/06/2011 01:50:30.000'	-0.84	27.14	81.5	1022.23	10.47	84.6
16/06/2011 02:50:30.000'	-0.83	27.14	81.5	1022.23	10.45	84.5
16/06/2011 03:50:30.000'	-0.83	27.14	81.5	1022.24	10.48	84.7
16/06/2011 04:50:30.000'	-0.83	27.14	81.5	1022.23	10.44	84.4
16/06/2011 05:50:30.000'	-0.82	27.14	81.5	1022.23	10.42	84.2
16/06/2011 06:50:30.000'	-0.82	27.14	81.4	1022.23	10.42	84.2
16/06/2011 07:50:30.000'	-0.82	27.14	81.4	1022.23	10.42	84.2
16/06/2011 08:50:30.000'	-0.83	27.14	81.3	1022.23	10.42	84.2
16/06/2011 09:50:30.000'	-0.84	27.14	81.3	1022.23	10.48	84.7
16/06/2011 10:50:30.000'	-0.85	27.14	81.3	1022.23	10.47	84.6
16/06/2011 11:50:30.000'	-0.85	27.14	81.3	1022.23	10.48	84.7
16/06/2011 12:50:30.000'	-0.84	27.14	81.3	1022.23	10.49	84.7
16/06/2011 13:50:30.000'	-0.84	27.14	81.4	1022.23	10.49	84.7
16/06/2011 14:50:30.000'	-0.83	27.14	81.4	1022.24	10.49	84.7
16/06/2011 15:50:30.000'	-0.83	27.14	81.5	1022.24	10.48	84.6
16/06/2011 16:50:30.000'	-0.83	27.14	81.6	1022.24	10.51	84.9
16/06/2011 17:50:30.000'	-0.83	27.15	81.6	1022.24	10.49	84.8
16/06/2011 18:50:30.000'	-0.82	27.15	81.6	1022.24	10.44	84.4
16/06/2011 19:50:30.000'	-0.82	27.15	81.6	1022.24	10.44	84.4
16/06/2011 20:50:30.000'	-0.82	27.15	81.6	1022.24	10.44	84.4
16/06/2011 21:50:30.000'	-0.82	27.15	81.5	1022.24	10.44	84.4
16/06/2011 22:50:30.000'	-0.82	27.15	81.5	1022.24	10.41	84.1
16/06/2011 23:50:30.000'	-0.82	27.15	81.4	1022.24	10.43	84.3
17/06/2011 00:50:30.000'	-0.82	27.15	81.4	1022.24	10.43	84.3
17/06/2011 01:50:30.000'	-0.82	27.15	81.4	1022.24	10.44	84.4
17/06/2011 02:50:30.000'	-0.82	27.15	81.4	1022.24	10.41	84.1
17/06/2011 03:50:30.000'	-0.82	27.15	81.5	1022.24	10.40	84.1
17/06/2011 04:50:30.000'	-0.82	27.15	81.5	1022.24	10.40	84.1
17/06/2011 05:50:30.000'	-0.82	27.15	81.5	1022.24	10.39	84.0
17/06/2011 06:50:30.000'	-0.82	27.15	81.5	1022.24	10.39	84.0
17/06/2011 07:50:30.000'	-0.82	27.15	81.4	1022.24	10.40	84.1
17/06/2011 08:50:30.000'	-0.82	27.15	81.4	1022.24	10.36	83.8
17/06/2011 09:50:30.000'	-0.82	27.15	81.3	1022.24	10.33	83.5
17/06/2011 10:50:30.000'	-0.82	27.15	81.3	1022.24	10.33	83.5
17/06/2011 11:50:30.000'	-0.82	27.15	81.3	1022.24	10.32	83.4
17/06/2011 12:50:30.000'	-0.82	27.15	81.3	1022.24	10.33	83.5
17/06/2011 13:50:30.000'	-0.82	27.15	81.3	1022.24	10.37	83.8
17/06/2011 14:50:30.000'	-0.81	27.15	81.4	1022.24	10.38	83.9
17/06/2011 15:50:30.000'	-0.82	27.15	81.5	1022.24	10.39	84.0
17/06/2011 16:50:30.000'	-0.81	27.15	81.6	1022.24	10.44	84.4
17/06/2011 17:50:30.000'	-0.81	27.15	81.6	1022.24	10.39	84.3

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
17/06/2011 18:50:30.000'	-0.81	27.16	81.6	1022.25	10.42	84.2
17/06/2011 19:50:30.000'	-0.81	27.15	81.6	1022.24	10.42	84.3
17/06/2011 20:50:30.000'	-0.82	27.15	81.6	1022.24	10.42	84.2
17/06/2011 21:50:30.000'	-0.81	27.16	81.6	1022.25	10.41	84.2
17/06/2011 22:50:30.000'	-0.81	27.16	81.5	1022.25	10.41	84.1
17/06/2011 23:50:30.000'	-0.82	27.15	81.4	1022.24	10.39	84.0
18/06/2011 00:50:30.000'	-0.82	27.15	81.4	1022.24	10.43	84.3
18/06/2011 01:50:30.000'	-0.82	27.15	81.4	1022.24	10.43	84.3
18/06/2011 02:50:30.000'	-0.82	27.15	81.4	1022.24	10.41	84.1
18/06/2011 03:50:30.000'	-0.82	27.15	81.4	1022.24	10.39	84.0
18/06/2011 04:50:30.000'	-0.82	27.15	81.4	1022.24	10.35	83.7
18/06/2011 05:50:30.000'	-0.82	27.15	81.4	1022.24	10.37	83.9
18/06/2011 06:50:30.000'	-0.82	27.15	81.4	1022.24	10.38	83.9
18/06/2011 07:50:30.000'	-0.82	27.15	81.4	1022.24	10.37	83.8
18/06/2011 08:50:30.000'	-0.82	27.15	81.4	1022.24	10.38	83.9
18/06/2011 09:50:30.000'	-0.82	27.15	81.3	1022.24	10.37	83.9
18/06/2011 10:50:30.000'	-0.82	27.15	81.3	1022.24	10.36	83.7
18/06/2011 11:50:30.000'	-0.81	27.15	81.3	1022.24	10.31	83.4
18/06/2011 12:50:30.000'	-0.81	27.15	81.3	1022.24	10.32	83.4
18/06/2011 13:50:30.000'	-0.81	27.15	81.3	1022.24	10.30	83.3
18/06/2011 14:50:30.000'	-0.82	27.15	81.3	1022.24	10.32	83.4
18/06/2011 15:50:30.000'	-0.82	27.15	81.4	1022.24	10.39	84.0
18/06/2011 16:50:30.000'	-0.82	27.15	81.5	1022.24	10.37	83.8
18/06/2011 17:50:30.000'	-0.82	27.15	81.6	1022.24	10.40	84.1
18/06/2011 18:50:30.000'	-0.82	27.15	81.6	1022.24	10.41	84.1
18/06/2011 19:50:30.000'	-0.82	27.16	81.6	1022.25	10.41	84.1
18/06/2011 20:50:30.000'	-0.82	27.16	81.6	1022.25	10.41	84.2
18/06/2011 21:50:30.000'	-0.82	27.15	81.6	1022.24	10.43	84.3
18/06/2011 22:50:30.000'	-0.82	27.16	81.5	1022.24	10.41	84.1
18/06/2011 23:50:30.000'	-0.82	27.16	81.5	1022.25	10.39	84.0
19/06/2011 00:50:30.000'	-0.82	27.15	81.4	1022.24	10.41	84.1
19/06/2011 01:50:30.000'	-0.82	27.15	81.4	1022.24	10.42	84.3
19/06/2011 02:50:30.000'	-0.82	27.15	81.4	1022.24	10.37	83.8
19/06/2011 03:50:30.000'	-0.82	27.15	81.4	1022.24	10.35	83.7
19/06/2011 04:50:30.000'	-0.82	27.15	81.4	1022.24	10.33	83.5
19/06/2011 05:50:30.000'	-0.81	27.16	81.4	1022.24	10.33	83.5
19/06/2011 06:50:30.000'	-0.81	27.16	81.4	1022.24	10.33	83.6
19/06/2011 07:50:30.000'	-0.81	27.15	81.4	1022.24	10.35	83.7
19/06/2011 08:50:30.000'	-0.81	27.16	81.4	1022.24	10.33	83.5
19/06/2011 09:50:30.000'	-0.81	27.16	81.4	1022.24	10.32	83.4
19/06/2011 10:50:30.000'	-0.81	27.15	81.3	1022.24	10.30	83.3
19/06/2011 11:50:30.000'	-0.81	27.15	81.3	1022.24	10.25	82.9
19/06/2011 12:50:30.000'	-0.81	27.15	81.3	1022.24	10.26	82.9
19/06/2011 13:50:30.000'	-0.81	27.16	81.3	1022.24	10.25	82.9
19/06/2011 14:50:30.000'	-0.82	27.15	81.3	1022.24	10.29	83.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
19/06/2011 15:50:30.000'	-0.82	27.15	81.4	1022.24	10.37	83.8
19/06/2011 16:50:30.000'	-0.82	27.15	81.5	1022.24	10.37	83.8
19/06/2011 17:50:30.000'	-0.82	27.15	81.6	1022.24	10.40	84.0
19/06/2011 18:50:30.000'	-0.81	27.16	81.6	1022.25	10.36	83.7
19/06/2011 19:50:30.000'	-0.82	27.15	81.6	1022.24	10.39	84.0
19/06/2011 20:50:30.000'	-0.81	27.16	81.6	1022.25	10.37	83.9
19/06/2011 21:50:30.000'	-0.82	27.16	81.6	1022.25	10.38	83.9
19/06/2011 22:50:30.000'	-0.82	27.16	81.6	1022.25	10.38	83.9
19/06/2011 23:50:30.000'	-0.82	27.16	81.5	1022.25	10.34	83.6
20/06/2011 00:50:30.000'	-0.82	27.16	81.5	1022.24	10.34	83.6
20/06/2011 01:50:30.000'	-0.82	27.15	81.4	1022.24	10.34	83.6
20/06/2011 02:50:30.000'	-0.82	27.15	81.4	1022.24	10.41	84.2
20/06/2011 03:50:30.000'	-0.82	27.16	81.4	1022.25	10.41	84.2
20/06/2011 04:50:30.000'	-0.82	27.16	81.4	1022.25	10.40	84.1
20/06/2011 05:50:30.000'	-0.81	27.16	81.4	1022.25	10.35	83.7
20/06/2011 06:50:30.000'	-0.81	27.15	81.4	1022.24	10.33	83.5
20/06/2011 07:50:30.000'	-0.81	27.16	81.4	1022.24	10.33	83.5
20/06/2011 08:50:30.000'	-0.81	27.16	81.4	1022.25	10.32	83.4
20/06/2011 09:50:30.000'	-0.81	27.16	81.4	1022.24	10.31	83.3
20/06/2011 10:50:30.000'	-0.81	27.16	81.4	1022.24	10.25	82.9
20/06/2011 11:50:30.000'	-0.81	27.16	81.4	1022.25	10.27	83.0
20/06/2011 12:50:30.000'	-0.81	27.16	81.4	1022.24	10.24	82.8
20/06/2011 13:50:30.000'	-0.82	27.16	81.4	1022.24	10.27	83.0
20/06/2011 14:50:30.000'	-0.82	27.16	81.4	1022.24	10.35	83.7
20/06/2011 15:50:30.000'	-0.82	27.16	81.4	1022.24	10.38	83.9
20/06/2011 16:50:30.000'	-0.82	27.16	81.5	1022.24	10.34	83.6
20/06/2011 17:50:30.000'	-0.82	27.16	81.6	1022.25	10.38	83.9
20/06/2011 18:50:30.000'	-0.81	27.16	81.6	1022.25	10.33	83.6
20/06/2011 19:50:30.000'	-0.81	27.16	81.7	1022.25	10.36	83.8
20/06/2011 20:50:30.000'	-0.81	27.16	81.7	1022.25	10.37	83.8
20/06/2011 21:50:30.000'	-0.81	27.16	81.7	1022.25	10.38	84.0
20/06/2011 22:50:30.000'	-0.81	27.16	81.7	1022.25	10.37	83.9
20/06/2011 23:50:30.000'	-0.82	27.16	81.6	1022.25	10.37	83.9
21/06/2011 00:50:30.000'	-0.82	27.16	81.5	1022.25	10.38	83.9
21/06/2011 01:50:30.000'	-0.81	27.16	81.5	1022.25	10.38	83.9
21/06/2011 02:50:30.000'	-0.81	27.16	81.4	1022.25	10.36	83.8
21/06/2011 03:50:30.000'	-0.82	27.16	81.4	1022.25	10.39	84.0
21/06/2011 04:50:30.000'	-0.81	27.16	81.4	1022.25	10.39	84.0
21/06/2011 05:50:30.000'	-0.81	27.16	81.4	1022.25	10.37	83.9
21/06/2011 06:50:30.000'	-0.81	27.16	81.4	1022.25	10.29	83.2
21/06/2011 07:50:30.000'	-0.81	27.16	81.4	1022.25	10.28	83.1
21/06/2011 08:50:30.000'	-0.81	27.16	81.4	1022.25	10.28	83.1
21/06/2011 09:50:30.000'	-0.81	27.16	81.4	1022.25	10.27	83.0
21/06/2011 10:50:30.000'	-0.81	27.16	81.4	1022.25	10.28	83.1
21/06/2011 11:50:30.000'	-0.81	27.16	81.4	1022.25	10.28	83.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
21/06/2011 12:50:30.000'	-0.82	27.16	81.3	1022.25	10.31	83.3
21/06/2011 13:50:30.000'	-0.81	27.16	81.3	1022.25	10.32	83.4
21/06/2011 14:50:30.000'	-0.81	27.16	81.3	1022.25	10.34	83.6
21/06/2011 15:50:30.000'	-0.81	27.16	81.4	1022.25	10.34	83.6
21/06/2011 16:50:30.000'	-0.81	27.16	81.4	1022.25	10.35	83.7
21/06/2011 17:50:30.000'	-0.81	27.16	81.5	1022.25	10.34	83.6
21/06/2011 18:50:30.000'	-0.81	27.16	81.6	1022.25	10.35	83.7
21/06/2011 19:50:30.000'	-0.81	27.16	81.6	1022.25	10.30	83.3
21/06/2011 20:50:30.000'	-0.81	27.16	81.6	1022.25	10.30	83.3
21/06/2011 21:50:30.000'	-0.80	27.16	81.6	1022.25	10.30	83.3
21/06/2011 22:50:30.000'	-0.80	27.17	81.6	1022.25	10.30	83.3
21/06/2011 23:50:30.000'	-0.80	27.16	81.6	1022.25	10.29	83.2
22/06/2011 00:50:30.000'	-0.80	27.16	81.5	1022.25	10.31	83.4
22/06/2011 01:50:30.000'	-0.80	27.16	81.5	1022.25	10.32	83.4
22/06/2011 02:50:30.000'	-0.80	27.16	81.4	1022.25	10.32	83.5
22/06/2011 03:50:30.000'	-0.81	27.16	81.4	1022.25	10.32	83.5
22/06/2011 04:50:30.000'	-0.81	27.16	81.4	1022.25	10.33	83.6
22/06/2011 05:50:30.000'	-0.81	27.16	81.4	1022.25	10.32	83.5
22/06/2011 06:50:30.000'	-0.81	27.16	81.4	1022.25	10.28	83.2
22/06/2011 07:50:30.000'	-0.80	27.16	81.4	1022.25	10.28	83.2
22/06/2011 08:50:30.000'	-0.80	27.16	81.4	1022.25	10.28	83.2
22/06/2011 09:50:30.000'	-0.80	27.16	81.4	1022.25	10.20	82.5
22/06/2011 10:50:30.000'	-0.80	27.16	81.4	1022.25	10.19	82.4
22/06/2011 11:50:30.000'	-0.80	27.16	81.4	1022.25	10.22	82.7
22/06/2011 12:50:30.000'	-0.80	27.16	81.3	1022.25	10.22	82.7
22/06/2011 13:50:30.000'	-0.80	27.17	81.3	1022.25	10.26	83.0
22/06/2011 14:50:30.000'	-0.81	27.16	81.3	1022.25	10.26	83.0
22/06/2011 15:50:30.000'	-0.81	27.16	81.3	1022.25	10.32	83.5
22/06/2011 16:50:30.000'	-0.81	27.16	81.4	1022.25	10.33	83.6
22/06/2011 17:50:30.000'	-0.80	27.17	81.4	1022.25	10.29	83.3
22/06/2011 18:50:30.000'	-0.81	27.16	81.5	1022.25	10.30	83.3
22/06/2011 19:50:30.000'	-0.80	27.16	81.5	1022.25	10.30	83.3
22/06/2011 20:50:30.000'	-0.81	27.16	81.6	1022.25	10.30	83.3
22/06/2011 21:50:30.000'	-0.81	27.16	81.6	1022.25	10.30	83.3
22/06/2011 22:50:30.000'	-0.81	27.16	81.6	1022.25	10.31	83.4
22/06/2011 23:50:30.000'	-0.80	27.17	81.6	1022.25	10.30	83.3
23/06/2011 00:50:30.000'	-0.80	27.16	81.6	1022.25	10.32	83.5
23/06/2011 01:50:30.000'	-0.80	27.17	81.5	1022.25	10.30	83.3
23/06/2011 02:50:30.000'	-0.80	27.17	81.4	1022.25	10.29	83.2
23/06/2011 03:50:30.000'	-0.80	27.17	81.4	1022.25	10.32	83.5
23/06/2011 04:50:30.000'	-0.80	27.17	81.4	1022.25	10.29	83.2
23/06/2011 05:50:30.000'	-0.80	27.17	81.4	1022.26	10.29	83.2
23/06/2011 06:50:30.000'	-0.80	27.17	81.4	1022.25	10.28	83.1
23/06/2011 07:50:30.000'	-0.80	27.17	81.4	1022.25	10.27	83.0
23/06/2011 08:50:30.000'	-0.80	27.17	81.4	1022.25	10.28	83.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
23/06/2011 09:50:30.000'	-0.81	27.17	81.4	1022.25	10.26	83.0
23/06/2011 10:50:30.000'	-0.80	27.17	81.4	1022.25	10.29	83.2
23/06/2011 11:50:30.000'	-0.80	27.17	81.4	1022.25	10.28	83.1
23/06/2011 12:50:30.000'	-0.80	27.17	81.3	1022.25	10.26	83.0
23/06/2011 13:50:30.000'	-0.80	27.17	81.3	1022.25	10.26	83.0
23/06/2011 14:50:30.000'	-0.81	27.17	81.3	1022.25	10.24	82.8
23/06/2011 15:50:30.000'	-0.81	27.16	81.3	1022.25	10.30	83.3
23/06/2011 16:50:30.000'	-0.81	27.17	81.3	1022.25	10.30	83.3
23/06/2011 17:50:30.000'	-0.81	27.17	81.4	1022.25	10.29	83.3
23/06/2011 18:50:30.000'	-0.81	27.17	81.4	1022.25	10.31	83.4
23/06/2011 19:50:30.000'	-0.81	27.17	81.5	1022.25	10.32	83.4
23/06/2011 20:50:30.000'	-0.81	27.17	81.5	1022.25	10.31	83.4
23/06/2011 21:50:30.000'	-0.81	27.16	81.6	1022.25	10.29	83.2
23/06/2011 22:50:30.000'	-0.80	27.16	81.6	1022.25	10.27	83.1
23/06/2011 23:50:30.000'	-0.80	27.17	81.6	1022.25	10.28	83.2
24/06/2011 00:50:30.000'	-0.81	27.16	81.5	1022.25	10.29	83.2
24/06/2011 01:50:30.000'	-0.81	27.16	81.5	1022.25	10.31	83.4
24/06/2011 02:50:30.000'	-0.80	27.16	81.4	1022.25	10.30	83.3
24/06/2011 03:50:30.000'	-0.81	27.17	81.4	1022.25	10.28	83.2
24/06/2011 04:50:30.000'	-0.81	27.17	81.3	1022.25	10.28	83.2
24/06/2011 05:50:30.000'	-0.81	27.17	81.3	1022.25	10.31	83.4
24/06/2011 06:50:30.000'	-0.81	27.17	81.3	1022.25	10.32	83.4
24/06/2011 07:50:30.000'	-0.80	27.17	81.3	1022.25	10.31	83.4
24/06/2011 08:50:30.000'	-0.81	27.17	81.3	1022.25	10.31	83.4
24/06/2011 09:50:30.000'	-0.81	27.17	81.3	1022.25	10.29	83.2
24/06/2011 10:50:30.000'	-0.80	27.17	81.3	1022.25	10.26	83.0
24/06/2011 11:50:30.000'	-0.81	27.16	81.4	1022.25	10.24	82.8
24/06/2011 12:50:30.000'	-0.81	27.17	81.4	1022.25	10.21	82.8
24/06/2011 13:50:30.000'	-0.81	27.17	81.4	1022.25	10.22	82.6
24/06/2011 14:50:30.000'	-0.81	27.16	81.4	1022.25	10.26	82.9
24/06/2011 15:50:30.000'	-0.81	27.17	81.4	1022.25	10.25	82.9
24/06/2011 16:50:30.000'	-0.81	27.17	81.4	1022.25	10.24	82.8
24/06/2011 17:50:30.000'	-0.81	27.17	81.4	1022.25	10.23	82.8
24/06/2011 18:50:30.000'	-0.81	27.17	81.4	1022.25	10.25	82.9
24/06/2011 19:50:30.000'	-0.81	27.16	81.5	1022.25	10.28	83.2
24/06/2011 20:50:30.000'	-0.81	27.17	81.6	1022.25	10.28	83.1
24/06/2011 21:50:30.000'	-0.81	27.16	81.6	1022.25	10.26	83.0
24/06/2011 22:50:30.000'	-0.81	27.17	81.6	1022.25	10.23	82.7
24/06/2011 23:50:30.000'	-0.81	27.17	81.6	1022.25	10.24	82.8
25/06/2011 00:50:30.000'	-0.81	27.16	81.6	1022.25	10.23	82.7
25/06/2011 01:50:30.000'	-0.81	27.16	81.5	1022.25	10.27	83.1
25/06/2011 02:50:30.000'	-0.81	27.16	81.5	1022.25	10.27	83.0
25/06/2011 03:50:30.000'	-0.81	27.17	81.4	1022.25	10.27	83.1
25/06/2011 04:50:30.000'	-0.81	27.17	81.4	1022.25	10.25	82.9
25/06/2011 05:50:30.000'	-0.81	27.17	81.3	1022.25	10.24	82.8

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
25/06/2011 06:50:30.000'	-0.81	27.17	81.3	1022.25	10.27	83.1
25/06/2011 07:50:30.000'	-0.81	27.16	81.3	1022.25	10.26	83.0
25/06/2011 08:50:30.000'	-0.81	27.16	81.3	1022.25	10.27	83.0
25/06/2011 09:50:30.000'	-0.81	27.17	81.3	1022.25	10.25	82.9
25/06/2011 10:50:30.000'	-0.81	27.17	81.4	1022.25	10.22	82.7
25/06/2011 11:50:30.000'	-0.81	27.17	81.4	1022.25	10.25	82.9
25/06/2011 12:50:30.000'	-0.81	27.16	81.4	1022.25	10.27	83.1
25/06/2011 13:50:30.000'	-0.81	27.16	81.5	1022.25	10.27	83.1
25/06/2011 14:50:30.000'	-0.81	27.17	81.5	1022.25	10.28	83.1
25/06/2011 15:50:30.000'	-0.80	27.17	81.5	1022.25	10.25	82.9
25/06/2011 16:50:30.000'	-0.80	27.17	81.5	1022.26	10.27	83.1
25/06/2011 17:50:30.000'	-0.80	27.17	81.5	1022.25	10.23	82.7
25/06/2011 18:50:30.000'	-0.80	27.16	81.5	1022.25	10.19	82.4
25/06/2011 19:50:30.000'	-0.81	27.17	81.5	1022.25	10.20	82.5
25/06/2011 20:50:30.000'	-0.81	27.17	81.5	1022.25	10.23	82.7
25/06/2011 21:50:30.000'	-0.81	27.17	81.5	1022.25	10.25	82.9
25/06/2011 22:50:30.000'	-0.81	27.17	81.5	1022.25	10.25	82.9
25/06/2011 23:50:30.000'	-0.81	27.17	81.5	1022.25	10.25	82.9
26/06/2011 00:50:30.000'	-0.81	27.17	81.5	1022.25	10.24	82.8
26/06/2011 01:50:30.000'	-0.81	27.17	81.5	1022.25	10.25	82.9
26/06/2011 02:50:30.000'	-0.82	27.17	81.5	1022.25	10.29	83.2
26/06/2011 03:50:30.000'	-0.81	27.17	81.4	1022.25	10.27	83.0
26/06/2011 04:50:30.000'	-0.82	27.17	81.4	1022.25	10.28	83.1
26/06/2011 05:50:30.000'	-0.82	27.17	81.3	1022.25	10.28	83.1
26/06/2011 06:50:30.000'	-0.82	27.17	81.3	1022.25	10.27	83.0
26/06/2011 07:50:30.000'	-0.82	27.17	81.3	1022.25	10.30	83.3
26/06/2011 08:50:30.000'	-0.82	27.17	81.3	1022.25	10.27	83.0
26/06/2011 09:50:30.000'	-0.82	27.17	81.3	1022.25	10.31	83.3
26/06/2011 10:50:30.000'	-0.82	27.17	81.3	1022.25	10.31	83.3
26/06/2011 11:50:30.000'	-0.82	27.17	81.4	1022.26	10.31	83.4
26/06/2011 12:50:30.000'	-0.82	27.17	81.4	1022.26	10.31	83.3
26/06/2011 13:50:30.000'	-0.82	27.17	81.5	1022.26	10.28	83.1
26/06/2011 14:50:30.000'	-0.82	27.17	81.5	1022.26	10.30	83.3
26/06/2011 15:50:30.000'	-0.82	27.17	81.5	1022.26	10.30	83.3
26/06/2011 16:50:30.000'	-0.82	27.17	81.5	1022.26	10.29	83.2
26/06/2011 17:50:30.000'	-0.82	27.17	81.5	1022.26	10.28	83.1
26/06/2011 18:50:30.000'	-0.82	27.17	81.5	1022.26	10.26	82.9
26/06/2011 19:50:30.000'	-0.82	27.17	81.5	1022.26	10.27	83.1
26/06/2011 20:50:30.000'	-0.82	27.17	81.5	1022.26	10.28	83.1
26/06/2011 21:50:30.000'	-0.82	27.17	81.5	1022.26	10.27	83.1
26/06/2011 22:50:30.000'	-0.82	27.17	81.5	1022.26	10.29	83.2
26/06/2011 23:50:30.000'	-0.82	27.17	81.5	1022.26	10.28	83.1
27/06/2011 00:50:30.000'	-0.82	27.17	81.5	1022.26	10.30	83.3
27/06/2011 01:50:30.000'	-0.82	27.17	81.5	1022.26	10.28	83.1
27/06/2011 02:50:30.000'	-0.82	27.17	81.5	1022.26	10.29	83.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
27/06/2011 03:50:30.000'	-0.82	27.17	81.4	1022.26	10.32	83.4
27/06/2011 04:50:30.000'	-0.82	27.17	81.4	1022.26	10.30	83.3
27/06/2011 05:50:30.000'	-0.82	27.17	81.3	1022.26	10.30	83.3
27/06/2011 06:50:30.000'	-0.82	27.17	81.3	1022.26	10.30	83.2
27/06/2011 07:50:30.000'	-0.82	27.17	81.2	1022.26	10.32	83.4
27/06/2011 08:50:30.000'	-0.82	27.18	81.2	1022.26	10.31	83.4
27/06/2011 09:50:30.000'	-0.82	27.17	81.2	1022.26	10.32	83.5
27/06/2011 10:50:30.000'	-0.83	27.17	81.3	1022.26	10.34	83.6
27/06/2011 11:50:30.000'	-0.82	27.17	81.3	1022.26	10.34	83.6
27/06/2011 12:50:30.000'	-0.82	27.17	81.4	1022.26	10.34	83.6
27/06/2011 13:50:30.000'	-0.82	27.17	81.4	1022.26	10.34	83.6
27/06/2011 14:50:30.000'	-0.82	27.17	81.4	1022.26	10.33	83.5
27/06/2011 15:50:30.000'	-0.82	27.17	81.4	1022.26	10.32	83.5
27/06/2011 16:50:30.000'	-0.82	27.17	81.4	1022.26	10.32	83.4
27/06/2011 17:50:30.000'	-0.82	27.17	81.4	1022.26	10.32	83.4
27/06/2011 18:50:30.000'	-0.82	27.17	81.4	1022.26	10.32	83.4
27/06/2011 19:50:30.000'	-0.83	27.17	81.4	1022.26	10.33	83.5
27/06/2011 20:50:30.000'	-0.83	27.17	81.4	1022.26	10.31	83.4
27/06/2011 21:50:30.000'	-0.83	27.17	81.4	1022.26	10.29	83.2
27/06/2011 22:50:30.000'	-0.83	27.17	81.4	1022.26	10.26	82.9
27/06/2011 23:50:30.000'	-0.83	27.17	81.5	1022.26	10.29	83.2
28/06/2011 00:50:30.000'	-0.83	27.17	81.5	1022.26	10.29	83.2
28/06/2011 01:50:30.000'	-0.83	27.18	81.5	1022.26	10.32	83.4
28/06/2011 02:50:30.000'	-0.83	27.18	81.5	1022.26	10.32	83.5
28/06/2011 03:50:30.000'	-0.83	27.17	81.4	1022.26	10.31	83.4
28/06/2011 04:50:30.000'	-0.83	27.17	81.4	1022.26	10.29	83.2
28/06/2011 05:50:30.000'	-0.83	27.18	81.3	1022.26	10.29	83.2
28/06/2011 06:50:30.000'	-0.83	27.18	81.3	1022.26	10.26	82.9
28/06/2011 07:50:30.000'	-0.83	27.17	81.2	1022.26	10.26	82.9
28/06/2011 08:50:30.000'	-0.83	27.18	81.2	1022.26	10.26	82.9
28/06/2011 09:50:30.000'	-0.83	27.18	81.2	1022.26	10.25	82.9
28/06/2011 10:50:30.000'	-0.83	27.18	81.2	1022.26	10.24	82.8
28/06/2011 11:50:30.000'	-0.83	27.18	81.3	1022.26	10.25	82.8
28/06/2011 12:50:30.000'	-0.83	27.18	81.3	1022.26	10.31	83.3
28/06/2011 13:50:30.000'	-0.83	27.17	81.4	1022.26	10.30	83.3
28/06/2011 14:50:30.000'	-0.83	27.18	81.5	1022.26	10.30	83.3
28/06/2011 15:50:30.000'	-0.83	27.18	81.5	1022.26	10.29	83.2
28/06/2011 16:50:30.000'	-0.83	27.17	81.5	1022.26	10.30	83.3
28/06/2011 17:50:30.000'	-0.83	27.17	81.5	1022.26	10.32	83.4
28/06/2011 18:50:30.000'	-0.83	27.17	81.5	1022.26	10.31	83.3
28/06/2011 19:50:30.000'	-0.83	27.18	81.5	1022.26	10.30	83.3
28/06/2011 20:50:30.000'	-0.83	27.18	81.5	1022.26	10.32	83.4
28/06/2011 21:50:30.000'	-0.83	27.17	81.4	1022.26	10.30	83.3
28/06/2011 22:50:30.000'	-0.82	27.17	81.4	1022.26	10.30	83.3
28/06/2011 23:50:30.000'	-0.82	27.17	81.4	1022.26	10.28	83.1

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
29/06/2011 00:50:30.000'	-0.83	27.18	81.4	1022.26	10.30	83.3
29/06/2011 01:50:30.000'	-0.83	27.18	81.4	1022.26	10.27	83.0
29/06/2011 02:50:30.000'	-0.83	27.17	81.4	1022.26	10.27	83.0
29/06/2011 03:50:30.000'	-0.83	27.18	81.4	1022.26	10.27	83.0
29/06/2011 04:50:30.000'	-0.83	27.18	81.4	1022.26	10.27	83.0
29/06/2011 05:50:30.000'	-0.83	27.18	81.3	1022.26	10.27	83.0
29/06/2011 06:50:30.000'	-0.83	27.17	81.3	1022.26	10.28	83.1
29/06/2011 07:50:30.000'	-0.83	27.17	81.2	1022.26	10.31	83.3
29/06/2011 08:50:30.000'	-0.84	27.18	81.2	1022.26	10.34	83.6
29/06/2011 09:50:30.000'	-0.84	27.18	81.2	1022.26	10.33	83.5
29/06/2011 10:50:30.000'	-0.84	27.17	81.2	1022.26	10.32	83.4
29/06/2011 11:50:30.000'	-0.84	27.18	81.3	1022.26	10.34	83.6
29/06/2011 12:50:30.000'	-0.84	27.17	81.4	1022.26	10.32	83.4
29/06/2011 13:50:30.000'	-0.84	27.18	81.4	1022.26	10.31	83.3
29/06/2011 14:50:30.000'	-0.84	27.18	81.5	1022.26	10.29	83.2
29/06/2011 15:50:30.000'	-0.84	27.18	81.6	1022.26	10.28	83.1
29/06/2011 16:50:30.000'	-0.84	27.18	81.6	1022.26	10.26	82.9
29/06/2011 17:50:30.000'	-0.84	27.17	81.6	1022.26	10.23	82.6
29/06/2011 18:50:30.000'	-0.84	27.17	81.6	1022.26	10.22	82.6
29/06/2011 19:50:30.000'	-0.84	27.18	81.5	1022.26	10.20	82.4
29/06/2011 20:50:30.000'	-0.84	27.18	81.5	1022.26	10.22	82.6
29/06/2011 21:50:30.000'	-0.84	27.18	81.5	1022.26	10.24	82.7
29/06/2011 22:50:30.000'	-0.84	27.18	81.4	1022.26	10.28	83.1
29/06/2011 23:50:30.000'	-0.84	27.17	81.4	1022.26	10.25	82.8
30/06/2011 00:50:30.000'	-0.84	27.17	81.4	1022.26	10.28	83.1
30/06/2011 01:50:30.000'	-0.84	27.18	81.4	1022.26	10.30	83.3
30/06/2011 02:50:30.000'	-0.84	27.18	81.4	1022.26	10.32	83.4
30/06/2011 03:50:30.000'	-0.84	27.18	81.4	1022.26	10.30	83.3
30/06/2011 04:50:30.000'	-0.84	27.18	81.4	1022.26	10.33	83.5
30/06/2011 05:50:30.000'	-0.84	27.18	81.4	1022.26	10.32	83.4
30/06/2011 06:50:30.000'	-0.84	27.18	81.3	1022.26	10.32	83.4
30/06/2011 07:50:30.000'	-0.83	27.18	81.3	1022.26	10.31	83.4
30/06/2011 08:50:30.000'	-0.82	27.18	81.2	1022.26	10.20	82.5
30/06/2011 09:50:30.000'	-0.82	27.18	81.2	1022.26	10.17	82.2
30/06/2011 10:50:30.000'	-0.82	27.18	81.2	1022.26	10.15	82.1
30/06/2011 11:50:30.000'	-0.82	27.18	81.3	1022.26	10.15	82.1
30/06/2011 12:50:30.000'	-0.83	27.18	81.3	1022.26	10.15	82.1
30/06/2011 13:50:30.000'	-0.83	27.17	81.4	1022.26	10.17	82.2
30/06/2011 14:50:30.000'	-0.83	27.17	81.5	1022.26	10.17	82.2
30/06/2011 15:50:30.000'	-0.82	27.18	81.6	1022.26	10.17	82.2
30/06/2011 16:50:30.000'	-0.82	27.18	81.6	1022.26	10.13	81.9
30/06/2011 17:50:30.000'	-0.82	27.18	81.6	1022.26	10.13	81.9
30/06/2011 18:50:30.000'	-0.82	27.18	81.6	1022.26	10.08	81.5
30/06/2011 19:50:30.000'	-0.82	27.18	81.6	1022.26	10.09	81.6
30/06/2011 20:50:30.000'	-0.82	27.17	81.6	1022.26	10.09	81.6

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
30/06/2011 21:50:30.000'	-0.82	27.18	81.5	1022.26	10.09	81.6
30/06/2011 22:50:30.000'	-0.82	27.17	81.5	1022.26	10.09	81.6
30/06/2011 23:50:30.000'	-0.83	27.17	81.5	1022.26	10.15	82.0
01/07/2011 00:50:30.000'	-0.83	27.17	81.5	1022.26	10.26	82.9
01/07/2011 01:50:30.000'	-0.83	27.18	81.5	1022.26	10.26	83.0
01/07/2011 02:50:30.000'	-0.83	27.18	81.5	1022.26	10.23	82.7
01/07/2011 03:50:30.000'	-0.83	27.18	81.5	1022.26	10.19	82.4
01/07/2011 04:50:30.000'	-0.82	27.18	81.5	1022.26	10.15	82.1
01/07/2011 05:50:30.000'	-0.82	27.18	81.5	1022.26	10.14	82.0
01/07/2011 06:50:30.000'	-0.82	27.18	81.4	1022.26	10.14	82.0
01/07/2011 07:50:30.000'	-0.82	27.18	81.4	1022.26	10.14	82.0
01/07/2011 08:50:30.000'	-0.82	27.18	81.3	1022.26	10.21	82.6
01/07/2011 09:50:30.000'	-0.81	27.18	81.3	1022.26	10.21	82.6
01/07/2011 10:50:30.000'	-0.81	27.18	81.3	1022.26	10.24	82.8
01/07/2011 11:50:30.000'	-0.81	27.18	81.3	1022.26	10.21	82.6
01/07/2011 12:50:30.000'	-0.82	27.18	81.3	1022.26	10.19	82.4
01/07/2011 13:50:30.000'	-0.82	27.18	81.4	1022.26	10.17	82.3
01/07/2011 14:50:30.000'	-0.82	27.18	81.5	1022.26	10.19	82.4
01/07/2011 15:50:30.000'	-0.82	27.18	81.6	1022.26	10.17	82.3
01/07/2011 16:50:30.000'	-0.82	27.18	81.6	1022.26	10.19	82.4
01/07/2011 17:50:30.000'	-0.82	27.18	81.6	1022.27	10.16	82.2
01/07/2011 18:50:30.000'	-0.82	27.18	81.6	1022.27	10.13	81.9
01/07/2011 19:50:30.000'	-0.82	27.18	81.6	1022.27	10.09	81.6
01/07/2011 20:50:30.000'	-0.82	27.18	81.6	1022.26	10.11	81.8
01/07/2011 21:50:30.000'	-0.82	27.18	81.5	1022.27	10.11	81.7
01/07/2011 22:50:30.000'	-0.82	27.18	81.5	1022.26	10.11	81.8
01/07/2011 23:50:30.000'	-0.82	27.18	81.4	1022.27	10.17	82.2
02/07/2011 00:50:30.000'	-0.82	27.18	81.4	1022.26	10.18	82.3
02/07/2011 01:50:30.000'	-0.82	27.18	81.4	1022.26	10.20	82.4
02/07/2011 02:50:30.000'	-0.82	27.18	81.4	1022.26	10.18	82.3
02/07/2011 03:50:30.000'	-0.82	27.18	81.4	1022.27	10.18	82.3
02/07/2011 04:50:30.000'	-0.82	27.18	81.4	1022.26	10.18	82.3
02/07/2011 05:50:30.000'	-0.82	27.18	81.4	1022.26	10.21	82.5
02/07/2011 06:50:30.000'	-0.82	27.18	81.4	1022.26	10.25	82.9
02/07/2011 07:50:30.000'	-0.83	27.18	81.4	1022.27	10.30	83.3
02/07/2011 08:50:30.000'	-0.83	27.18	81.3	1022.27	10.31	83.4
02/07/2011 09:50:30.000'	-0.83	27.18	81.3	1022.26	10.35	83.6
02/07/2011 10:50:30.000'	-0.83	27.18	81.3	1022.26	10.34	83.5
02/07/2011 11:50:30.000'	-0.83	27.18	81.3	1022.26	10.34	83.6
02/07/2011 12:50:30.000'	-0.83	27.18	81.3	1022.26	10.34	83.6
02/07/2011 13:50:30.000'	-0.83	27.18	81.3	1022.26	10.33	83.5
02/07/2011 14:50:30.000'	-0.84	27.18	81.4	1022.26	10.33	83.5
02/07/2011 15:50:30.000'	-0.83	27.18	81.5	1022.26	10.33	83.5
02/07/2011 16:50:30.000'	-0.84	27.18	81.6	1022.26	10.35	83.6
02/07/2011 17:50:30.000'	-0.83	27.18	81.6	1022.26	10.35	83.7

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
02/07/2011 18:50:30.000'	-0.83	27.18	81.6	1022.27	10.34	83.6
02/07/2011 19:50:30.000'	-0.83	27.18	81.6	1022.26	10.32	83.4
02/07/2011 20:50:30.000'	-0.83	27.18	81.6	1022.26	10.30	83.3
02/07/2011 21:50:30.000'	-0.82	27.18	81.6	1022.27	10.18	82.3
02/07/2011 22:50:30.000'	-0.82	27.18	81.5	1022.27	10.18	82.4
02/07/2011 23:50:30.000'	-0.82	27.19	81.5	1022.27	10.17	82.2
03/07/2011 00:50:30.000'	-0.81	27.19	81.5	1022.27	10.15	82.1
03/07/2011 01:50:30.000'	-0.82	27.18	81.5	1022.27	10.15	82.1
03/07/2011 02:50:30.000'	-0.82	27.18	81.5	1022.27	10.14	82.0
03/07/2011 03:50:30.000'	-0.82	27.18	81.5	1022.27	10.16	82.2
03/07/2011 04:50:30.000'	-0.82	27.18	81.5	1022.27	10.15	82.0
03/07/2011 05:50:30.000'	-0.82	27.18	81.5	1022.27	10.13	81.9
03/07/2011 06:50:30.000'	-0.82	27.18	81.5	1022.27	10.15	82.1
03/07/2011 07:50:30.000'	-0.82	27.18	81.4	1022.27	10.17	82.2
03/07/2011 08:50:30.000'	-0.82	27.18	81.4	1022.27	10.17	82.2
03/07/2011 09:50:30.000'	-0.82	27.18	81.3	1022.27	10.19	82.4
03/07/2011 10:50:30.000'	-0.82	27.19	81.3	1022.27	10.19	82.4
03/07/2011 11:50:30.000'	-0.82	27.18	81.3	1022.27	10.20	82.5
03/07/2011 12:50:30.000'	-0.82	27.19	81.3	1022.27	10.13	81.9
03/07/2011 13:50:30.000'	-0.81	27.19	81.4	1022.27	10.13	81.9
03/07/2011 14:50:30.000'	-0.80	27.19	81.4	1022.27	10.04	81.2
03/07/2011 15:50:30.000'	-0.80	27.18	81.5	1022.27	10.04	81.2
03/07/2011 16:50:30.000'	-0.80	27.18	81.6	1022.27	10.04	81.2
03/07/2011 17:50:30.000'	-0.81	27.18	81.6	1022.27	10.05	81.3
03/07/2011 18:50:30.000'	-0.83	27.18	81.6	1022.27	10.11	81.7
03/07/2011 19:50:30.000'	-0.84	27.18	81.6	1022.27	10.23	82.7
03/07/2011 20:50:30.000'	-0.84	27.18	81.6	1022.26	10.25	82.8
03/07/2011 21:50:30.000'	-0.84	27.18	81.6	1022.26	10.29	83.1
03/07/2011 22:50:30.000'	-0.84	27.18	81.5	1022.26	10.30	83.2
03/07/2011 23:50:30.000'	-0.84	27.18	81.5	1022.26	10.29	83.1
04/07/2011 00:50:30.000'	-0.84	27.18	81.4	1022.26	10.30	83.2
04/07/2011 01:50:30.000'	-0.84	27.18	81.4	1022.27	10.24	82.8
04/07/2011 02:50:30.000'	-0.83	27.18	81.4	1022.26	10.22	82.6
04/07/2011 03:50:30.000'	-0.84	27.18	81.4	1022.26	10.24	82.8
04/07/2011 04:50:30.000'	-0.83	27.18	81.4	1022.26	10.25	82.8
04/07/2011 05:50:30.000'	-0.84	27.18	81.4	1022.26	10.23	82.7
04/07/2011 06:50:30.000'	-0.83	27.18	81.4	1022.27	10.21	82.5
04/07/2011 07:50:30.000'	-0.83	27.18	81.4	1022.26	10.20	82.4
04/07/2011 08:50:30.000'	-0.83	27.18	81.4	1022.26	10.22	82.6
04/07/2011 09:50:30.000'	-0.83	27.18	81.3	1022.26	10.24	82.8
04/07/2011 10:50:30.000'	-0.83	27.18	81.3	1022.26	10.20	82.5
04/07/2011 11:50:30.000'	-0.83	27.18	81.3	1022.26	10.23	82.7
04/07/2011 12:50:30.000'	-0.83	27.18	81.3	1022.27	10.25	82.9
04/07/2011 13:50:30.000'	-0.83	27.18	81.3	1022.26	10.25	82.9
04/07/2011 14:50:30.000'	-0.83	27.18	81.3	1022.26	10.27	83.0

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
04/07/2011 15:50:30.000'	-0.83	27.18	81.4	1022.26	10.25	82.9
04/07/2011 16:50:30.000'	-0.83	27.18	81.5	1022.27	10.23	82.7
04/07/2011 17:50:30.000'	-0.83	27.18	81.6	1022.27	10.23	82.7
04/07/2011 18:50:30.000'	-0.83	27.18	81.6	1022.26	10.22	82.6
04/07/2011 19:50:30.000'	-0.84	27.18	81.6	1022.27	10.22	82.6
04/07/2011 20:50:30.000'	-0.84	27.18	81.6	1022.26	10.24	82.7
04/07/2011 21:50:30.000'	-0.84	27.18	81.6	1022.26	10.25	82.9
04/07/2011 22:50:30.000'	-0.84	27.18	81.5	1022.26	10.24	82.7
04/07/2011 23:50:30.000'	-0.84	27.18	81.5	1022.26	10.24	82.8
05/07/2011 00:50:30.000'	-0.84	27.18	81.4	1022.26	10.27	83.0
05/07/2011 01:50:30.000'	-0.84	27.18	81.4	1022.26	10.24	82.8
05/07/2011 02:50:30.000'	-0.84	27.18	81.4	1022.26	10.26	82.9
05/07/2011 03:50:30.000'	-0.84	27.18	81.4	1022.26	10.26	82.9
05/07/2011 04:50:30.000'	-0.84	27.18	81.4	1022.26	10.29	83.1
05/07/2011 05:50:30.000'	-0.84	27.18	81.4	1022.26	10.28	83.1
05/07/2011 06:50:30.000'	-0.84	27.18	81.4	1022.26	10.28	83.1
05/07/2011 07:50:30.000'	-0.84	27.18	81.4	1022.27	10.28	83.1
05/07/2011 08:50:30.000'	-0.84	27.18	81.4	1022.26	10.25	82.9
05/07/2011 09:50:30.000'	-0.83	27.18	81.4	1022.26	10.24	82.8
05/07/2011 10:50:30.000'	-0.83	27.18	81.3	1022.27	10.24	82.8
05/07/2011 11:50:30.000'	-0.83	27.18	81.3	1022.26	10.24	82.8
05/07/2011 12:50:30.000'	-0.83	27.18	81.3	1022.27	10.24	82.8
05/07/2011 13:50:30.000'	-0.83	27.18	81.3	1022.27	10.27	83.0
05/07/2011 14:50:30.000'	-0.83	27.18	81.3	1022.26	10.22	82.6
05/07/2011 15:50:30.000'	-0.83	27.18	81.4	1022.27	10.22	82.6
05/07/2011 16:50:30.000'	-0.83	27.18	81.5	1022.27	10.24	82.8
05/07/2011 17:50:30.000'	-0.83	27.19	81.6	1022.27	10.23	82.7
05/07/2011 18:50:30.000'	-0.82	27.19	81.6	1022.27	10.20	82.5
05/07/2011 19:50:30.000'	-0.82	27.19	81.7	1022.27	10.19	82.4
05/07/2011 20:50:30.000'	-0.82	27.19	81.7	1022.27	10.19	82.4
05/07/2011 21:50:30.000'	-0.81	27.19	81.7	1022.28	10.18	82.3
05/07/2011 22:50:30.000'	-0.81	27.19	81.6	1022.28	10.10	81.7
05/07/2011 23:50:30.000'	-0.81	27.19	81.5	1022.28	10.10	81.7
06/07/2011 00:50:30.000'	-0.81	27.19	81.5	1022.28	10.10	81.7
06/07/2011 01:50:30.000'	-0.81	27.20	81.4	1022.28	10.12	81.9
06/07/2011 02:50:30.000'	-0.81	27.19	81.4	1022.28	10.16	82.2
06/07/2011 03:50:30.000'	-0.81	27.19	81.4	1022.27	10.16	82.2
06/07/2011 04:50:30.000'	-0.81	27.19	81.4	1022.28	10.18	82.4
06/07/2011 05:50:30.000'	-0.81	27.19	81.4	1022.27	10.16	82.2
06/07/2011 06:50:30.000'	-0.81	27.19	81.4	1022.27	10.16	82.2
06/07/2011 07:50:30.000'	-0.82	27.19	81.4	1022.27	10.17	82.2
06/07/2011 08:50:30.000'	-0.82	27.19	81.4	1022.27	10.24	82.8
06/07/2011 09:50:30.000'	-0.82	27.19	81.4	1022.27	10.22	82.7
06/07/2011 10:50:30.000'	-0.82	27.19	81.4	1022.27	10.21	82.6
06/07/2011 11:50:30.000'	-0.82	27.19	81.4	1022.27	10.18	82.4

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
06/07/2011 12:50:30.000'	-0.81	27.19	81.3	1022.27	10.16	82.2
06/07/2011 13:50:30.000'	-0.81	27.19	81.3	1022.27	10.16	82.2
06/07/2011 14:50:30.000'	-0.81	27.19	81.3	1022.28	10.16	82.2
06/07/2011 15:50:30.000'	-0.82	27.19	81.4	1022.27	10.19	82.4
06/07/2011 16:50:30.000'	-0.81	27.19	81.4	1022.27	10.17	82.2
06/07/2011 17:50:30.000'	-0.81	27.20	81.5	1022.28	10.14	82.1
06/07/2011 18:50:30.000'	-0.81	27.19	81.6	1022.28	10.17	82.2
06/07/2011 19:50:30.000'	-0.81	27.20	81.6	1022.28	10.17	82.3
06/07/2011 20:50:30.000'	-0.81	27.20	81.6	1022.28	10.14	82.1
06/07/2011 21:50:30.000'	-0.80	27.20	81.6	1022.28	10.13	82.0
06/07/2011 22:50:30.000'	-0.80	27.20	81.6	1022.28	10.12	81.8
06/07/2011 23:50:30.000'	-0.80	27.20	81.6	1022.28	10.12	81.8
07/07/2011 00:50:30.000'	-0.80	27.19	81.5	1022.28	10.15	82.1
07/07/2011 01:50:30.000'	-0.81	27.20	81.4	1022.28	10.17	82.3
07/07/2011 02:50:30.000'	-0.81	27.20	81.4	1022.28	10.20	82.5
07/07/2011 03:50:30.000'	-0.81	27.20	81.3	1022.28	10.20	82.5
07/07/2011 04:50:30.000'	-0.81	27.20	81.3	1022.28	10.19	82.4
07/07/2011 05:50:30.000'	-0.81	27.20	81.3	1022.28	10.15	82.1
07/07/2011 06:50:30.000'	-0.81	27.20	81.3	1022.28	10.16	82.2
07/07/2011 07:50:30.000'	-0.81	27.20	81.4	1022.28	10.17	82.2
07/07/2011 08:50:30.000'	-0.81	27.20	81.4	1022.28	10.20	82.5
07/07/2011 09:50:30.000'	-0.81	27.20	81.4	1022.28	10.19	82.4
07/07/2011 10:50:30.000'	-0.81	27.20	81.4	1022.28	10.16	82.2
07/07/2011 11:50:30.000'	-0.81	27.20	81.4	1022.28	10.18	82.3
07/07/2011 12:50:30.000'	-0.82	27.20	81.3	1022.28	10.16	82.2
07/07/2011 13:50:30.000'	-0.82	27.20	81.3	1022.28	10.19	82.4
07/07/2011 14:50:30.000'	-0.82	27.20	81.3	1022.28	10.19	82.4
07/07/2011 15:50:30.000'	-0.82	27.20	81.3	1022.28	10.18	82.3
07/07/2011 16:50:30.000'	-0.82	27.20	81.3	1022.28	10.19	82.4
07/07/2011 17:50:30.000'	-0.82	27.20	81.4	1022.28	10.20	82.5
07/07/2011 18:50:30.000'	-0.82	27.20	81.5	1022.28	10.17	82.3
07/07/2011 19:50:30.000'	-0.82	27.20	81.5	1022.28	10.17	82.3
07/07/2011 20:50:30.000'	-0.82	27.20	81.6	1022.28	10.17	82.3
07/07/2011 21:50:30.000'	-0.82	27.20	81.6	1022.28	10.19	82.4
07/07/2011 22:50:30.000'	-0.82	27.20	81.6	1022.28	10.19	82.4
07/07/2011 23:50:30.000'	-0.82	27.20	81.6	1022.28	10.19	82.4
08/07/2011 00:50:30.000'	-0.82	27.20	81.5	1022.28	10.18	82.3
08/07/2011 01:50:30.000'	-0.82	27.20	81.4	1022.28	10.21	82.6
08/07/2011 02:50:30.000'	-0.82	27.20	81.3	1022.28	10.20	82.5
08/07/2011 03:50:30.000'	-0.82	27.20	81.3	1022.28	10.17	82.3
08/07/2011 04:50:30.000'	-0.82	27.20	81.2	1022.28	10.20	82.5
08/07/2011 05:50:30.000'	-0.82	27.20	81.2	1022.28	10.18	82.4
08/07/2011 06:50:30.000'	-0.82	27.20	81.2	1022.28	10.21	82.5
08/07/2011 07:50:30.000'	-0.82	27.20	81.3	1022.28	10.22	82.6
08/07/2011 08:50:30.000'	-0.82	27.20	81.3	1022.28	10.16	82.2

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
08/07/2011 09:50:30.000'	-0.82	27.19	81.3	1022.28	10.19	82.4
08/07/2011 10:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.3
08/07/2011 11:50:30.000'	-0.82	27.19	81.4	1022.28	10.20	82.4
08/07/2011 12:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.2
08/07/2011 13:50:30.000'	-0.82	27.20	81.4	1022.28	10.20	82.5
08/07/2011 14:50:30.000'	-0.82	27.20	81.4	1022.28	10.18	82.3
08/07/2011 15:50:30.000'	-0.82	27.20	81.4	1022.28	10.18	82.3
08/07/2011 16:50:30.000'	-0.82	27.20	81.4	1022.28	10.15	82.0
08/07/2011 17:50:30.000'	-0.82	27.19	81.4	1022.28	10.17	82.2
08/07/2011 18:50:30.000'	-0.82	27.20	81.4	1022.28	10.20	82.5
08/07/2011 19:50:30.000'	-0.82	27.20	81.5	1022.28	10.17	82.2
08/07/2011 20:50:30.000'	-0.82	27.20	81.6	1022.28	10.20	82.5
08/07/2011 21:50:30.000'	-0.82	27.20	81.6	1022.28	10.20	82.5
08/07/2011 22:50:30.000'	-0.82	27.19	81.6	1022.28	10.22	82.7
08/07/2011 23:50:30.000'	-0.82	27.20	81.6	1022.28	10.20	82.5
09/07/2011 00:50:30.000'	-0.82	27.20	81.6	1022.28	10.17	82.3
09/07/2011 01:50:30.000'	-0.82	27.19	81.5	1022.28	10.17	82.3
09/07/2011 02:50:30.000'	-0.81	27.19	81.4	1022.27	10.15	82.1
09/07/2011 03:50:30.000'	-0.81	27.19	81.3	1022.27	10.14	82.0
09/07/2011 04:50:30.000'	-0.81	27.19	81.3	1022.27	10.15	82.1
09/07/2011 05:50:30.000'	-0.81	27.20	81.2	1022.28	10.19	82.4
09/07/2011 06:50:30.000'	-0.82	27.20	81.2	1022.28	10.20	82.4
09/07/2011 07:50:30.000'	-0.82	27.20	81.2	1022.28	10.19	82.4
09/07/2011 08:50:30.000'	-0.82	27.20	81.3	1022.28	10.18	82.3
09/07/2011 09:50:30.000'	-0.82	27.20	81.3	1022.28	10.17	82.3
09/07/2011 10:50:30.000'	-0.82	27.19	81.4	1022.28	10.15	82.1
09/07/2011 11:50:30.000'	-0.82	27.20	81.4	1022.28	10.13	81.9
09/07/2011 12:50:30.000'	-0.82	27.20	81.4	1022.28	10.15	82.1
09/07/2011 13:50:30.000'	-0.82	27.20	81.4	1022.28	10.18	82.3
09/07/2011 14:50:30.000'	-0.82	27.20	81.4	1022.28	10.19	82.4
09/07/2011 15:50:30.000'	-0.82	27.20	81.4	1022.28	10.19	82.4
09/07/2011 16:50:30.000'	-0.82	27.20	81.4	1022.28	10.16	82.2
09/07/2011 17:50:30.000'	-0.82	27.20	81.4	1022.28	10.18	82.3
09/07/2011 18:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.2
09/07/2011 19:50:30.000'	-0.82	27.20	81.5	1022.28	10.13	81.9
09/07/2011 20:50:30.000'	-0.81	27.20	81.5	1022.28	10.13	82.0
09/07/2011 21:50:30.000'	-0.81	27.20	81.5	1022.28	10.13	82.0
09/07/2011 22:50:30.000'	-0.81	27.20	81.6	1022.28	10.17	82.3
09/07/2011 23:50:30.000'	-0.81	27.20	81.6	1022.28	10.18	82.3
10/07/2011 00:50:30.000'	-0.81	27.20	81.6	1022.28	10.17	82.3
10/07/2011 01:50:30.000'	-0.81	27.20	81.5	1022.28	10.13	82.0
10/07/2011 02:50:30.000'	-0.81	27.20	81.5	1022.28	10.16	82.2
10/07/2011 03:50:30.000'	-0.81	27.20	81.4	1022.28	10.14	82.0
10/07/2011 04:50:30.000'	-0.82	27.20	81.3	1022.28	10.13	82.0
10/07/2011 05:50:30.000'	-0.81	27.20	81.2	1022.28	10.15	82.1

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
10/07/2011 06:50:30.000'	-0.81	27.20	81.2	1022.28	10.17	82.2
10/07/2011 07:50:30.000'	-0.82	27.20	81.2	1022.28	10.21	82.5
10/07/2011 08:50:30.000'	-0.82	27.20	81.2	1022.28	10.20	82.5
10/07/2011 09:50:30.000'	-0.82	27.20	81.3	1022.28	10.18	82.4
10/07/2011 10:50:30.000'	-0.82	27.20	81.3	1022.28	10.18	82.3
10/07/2011 11:50:30.000'	-0.82	27.20	81.4	1022.28	10.19	82.4
10/07/2011 12:50:30.000'	-0.82	27.20	81.4	1022.28	10.16	82.2
10/07/2011 13:50:30.000'	-0.82	27.20	81.4	1022.28	10.16	82.2
10/07/2011 14:50:30.000'	-0.82	27.20	81.4	1022.28	10.16	82.2
10/07/2011 15:50:30.000'	-0.82	27.19	81.4	1022.28	10.17	82.2
10/07/2011 16:50:30.000'	-0.82	27.20	81.4	1022.28	10.19	82.4
10/07/2011 17:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.2
10/07/2011 18:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.3
10/07/2011 19:50:30.000'	-0.82	27.20	81.4	1022.28	10.15	82.1
10/07/2011 20:50:30.000'	-0.82	27.20	81.4	1022.28	10.17	82.3
10/07/2011 21:50:30.000'	-0.83	27.20	81.4	1022.28	10.17	82.3
10/07/2011 22:50:30.000'	-0.83	27.20	81.5	1022.28	10.18	82.3
10/07/2011 23:50:30.000'	-0.84	27.20	81.5	1022.28	10.18	82.3
11/07/2011 00:50:30.000'	-0.84	27.20	81.5	1022.28	10.23	82.7
11/07/2011 01:50:30.000'	-0.84	27.20	81.5	1022.28	10.24	82.7
11/07/2011 02:50:30.000'	-0.84	27.20	81.4	1022.28	10.24	82.8
11/07/2011 03:50:30.000'	-0.84	27.20	81.3	1022.28	10.21	82.5
11/07/2011 04:50:30.000'	-0.84	27.20	81.3	1022.28	10.21	82.5
11/07/2011 05:50:30.000'	-0.84	27.20	81.2	1022.28	10.19	82.4
11/07/2011 06:50:30.000'	-0.84	27.20	81.2	1022.28	10.18	82.3
11/07/2011 07:50:30.000'	-0.84	27.20	81.2	1022.28	10.14	82.0
11/07/2011 08:50:30.000'	-0.84	27.20	81.2	1022.28	10.15	82.1
11/07/2011 09:50:30.000'	-0.83	27.20	81.2	1022.28	10.16	82.1
11/07/2011 10:50:30.000'	-0.83	27.20	81.3	1022.28	10.15	82.0
11/07/2011 11:50:30.000'	-0.83	27.20	81.3	1022.28	10.18	82.3
11/07/2011 12:50:30.000'	-0.83	27.20	81.4	1022.28	10.16	82.2
11/07/2011 13:50:30.000'	-0.83	27.20	81.5	1022.28	10.17	82.2
11/07/2011 14:50:30.000'	-0.83	27.20	81.5	1022.28	10.16	82.1
11/07/2011 15:50:30.000'	-0.83	27.20	81.5	1022.28	10.19	82.4
11/07/2011 16:50:30.000'	-0.84	27.20	81.5	1022.28	10.18	82.3
11/07/2011 17:50:30.000'	-0.84	27.20	81.5	1022.28	10.18	82.3
11/07/2011 18:50:30.000'	-0.83	27.20	81.5	1022.28	10.16	82.1
11/07/2011 19:50:30.000'	-0.84	27.20	81.5	1022.28	10.21	82.5
11/07/2011 20:50:30.000'	-0.85	27.20	81.5	1022.28	10.24	82.7
11/07/2011 21:50:30.000'	-0.85	27.20	81.5	1022.28	10.20	82.4
11/07/2011 22:50:30.000'	-0.85	27.20	81.5	1022.28	10.22	82.6
11/07/2011 23:50:30.000'	-0.87	27.20	81.5	1022.28	10.29	83.1
12/07/2011 00:50:30.000'	-0.87	27.20	81.5	1022.28	10.32	83.3
12/07/2011 01:50:30.000'	-0.87	27.20	81.5	1022.28	10.34	83.5
12/07/2011 02:50:30.000'	-0.86	27.20	81.4	1022.28	10.31	83.3

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
12/07/2011 03:50:30.000'	-0.85	27.20	81.4	1022.28	10.20	82.4
12/07/2011 04:50:30.000'	-0.84	27.20	81.4	1022.28	10.19	82.3
12/07/2011 05:50:30.000'	-0.83	27.20	81.3	1022.28	10.15	82.1
12/07/2011 06:50:30.000'	-0.83	27.20	81.3	1022.28	10.16	82.1
12/07/2011 07:50:30.000'	-0.83	27.20	81.2	1022.28	10.14	82.0
12/07/2011 08:50:30.000'	-0.83	27.20	81.2	1022.28	10.14	82.0
12/07/2011 09:50:30.000'	-0.83	27.20	81.2	1022.28	10.14	82.0
12/07/2011 10:50:30.000'	-0.84	27.20	81.2	1022.28	10.15	82.0
12/07/2011 11:50:30.000'	-0.84	27.20	81.3	1022.28	10.20	82.4
12/07/2011 12:50:30.000'	-0.84	27.20	81.4	1022.28	10.19	82.4
12/07/2011 13:50:30.000'	-0.84	27.20	81.4	1022.28	10.20	82.4
12/07/2011 14:50:30.000'	-0.84	27.20	81.5	1022.28	10.19	82.4
12/07/2011 15:50:30.000'	-0.84	27.20	81.5	1022.28	10.15	82.1
12/07/2011 16:50:30.000'	-0.84	27.20	81.5	1022.28	10.12	81.8
12/07/2011 17:50:30.000'	-0.84	27.20	81.5	1022.28	10.09	81.6
12/07/2011 18:50:30.000'	-0.84	27.20	81.5	1022.28	10.11	81.7
12/07/2011 19:50:30.000'	-0.84	27.20	81.5	1022.28	10.12	81.8
12/07/2011 20:50:30.000'	-0.84	27.20	81.4	1022.28	10.15	82.1
12/07/2011 21:50:30.000'	-0.84	27.20	81.4	1022.28	10.15	82.1
12/07/2011 22:50:30.000'	-0.84	27.20	81.4	1022.28	10.19	82.4
12/07/2011 23:50:30.000'	-0.84	27.20	81.4	1022.28	10.17	82.2
13/07/2011 00:50:30.000'	-0.84	27.20	81.4	1022.28	10.17	82.2
13/07/2011 01:50:30.000'	-0.84	27.20	81.4	1022.28	10.17	82.2
13/07/2011 02:50:30.000'	-0.84	27.20	81.4	1022.28	10.16	82.1
13/07/2011 03:50:30.000'	-0.84	27.20	81.4	1022.28	10.17	82.2
13/07/2011 04:50:30.000'	-0.84	27.20	81.3	1022.28	10.17	82.2
13/07/2011 05:50:30.000'	-0.84	27.20	81.3	1022.28	10.19	82.4
13/07/2011 06:50:30.000'	-0.84	27.20	81.2	1022.28	10.17	82.2
13/07/2011 07:50:30.000'	-0.84	27.20	81.2	1022.28	10.16	82.1
13/07/2011 08:50:30.000'	-0.84	27.20	81.2	1022.28	10.14	81.9
13/07/2011 09:50:30.000'	-0.84	27.20	81.2	1022.28	10.12	81.8
13/07/2011 10:50:30.000'	-0.84	27.20	81.2	1022.28	10.11	81.7
13/07/2011 11:50:30.000'	-0.84	27.20	81.2	1022.28	10.12	81.8
13/07/2011 12:50:30.000'	-0.84	27.20	81.3	1022.28	10.13	81.9
13/07/2011 13:50:30.000'	-0.84	27.20	81.4	1022.28	10.13	81.8
13/07/2011 14:50:30.000'	-0.84	27.20	81.5	1022.28	10.11	81.7
13/07/2011 15:50:30.000'	-0.84	27.20	81.5	1022.28	10.13	81.8
13/07/2011 16:50:30.000'	-0.84	27.20	81.5	1022.28	10.13	81.8
13/07/2011 17:50:30.000'	-0.85	27.20	81.5	1022.28	10.21	82.5
13/07/2011 18:50:30.000'	-0.85	27.20	81.5	1022.28	10.23	82.7
13/07/2011 19:50:30.000'	-0.85	27.20	81.5	1022.28	10.22	82.6
13/07/2011 20:50:30.000'	-0.85	27.20	81.5	1022.28	10.23	82.7
13/07/2011 21:50:30.000'	-0.86	27.20	81.4	1022.28	10.29	83.1
13/07/2011 22:50:30.000'	-0.88	27.20	81.4	1022.28	10.33	83.4
13/07/2011 23:50:30.000'	-0.89	27.20	81.4	1022.28	10.39	83.9

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (° C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
14/07/2011 00:50:30.000'	-0.89	27.20	81.3	1022.28	10.37	83.7
14/07/2011 01:50:30.000'	-0.89	27.21	81.3	1022.29	10.37	83.7
14/07/2011 02:50:30.000'	-0.88	27.21	81.3	1022.29	10.35	83.5
14/07/2011 03:50:30.000'	-0.88	27.21	81.3	1022.29	10.37	83.7
14/07/2011 04:50:30.000'	-0.88	27.21	81.3	1022.29	10.38	83.8
14/07/2011 05:50:30.000'	-0.88	27.21	81.3	1022.29	10.35	83.6
14/07/2011 06:50:30.000'	-0.88	27.21	81.3	1022.29	10.35	83.6
14/07/2011 07:50:30.000'	-0.88	27.21	81.2	1022.29	10.34	83.5
14/07/2011 08:50:30.000'	-0.87	27.20	81.2	1022.28	10.31	83.3
14/07/2011 09:50:30.000'	-0.87	27.21	81.2	1022.29	10.30	83.2
14/07/2011 10:50:30.000'	-0.87	27.20	81.2	1022.28	10.32	83.4
14/07/2011 11:50:30.000'	-0.87	27.21	81.2	1022.29	10.31	83.2
14/07/2011 12:50:30.000'	-0.87	27.21	81.3	1022.28	10.29	83.1
14/07/2011 13:50:30.000'	-0.88	27.21	81.4	1022.29	10.25	82.8
14/07/2011 14:50:30.000'	-0.87	27.21	81.5	1022.29	10.27	82.9
14/07/2011 15:50:30.000'	-0.87	27.21	81.5	1022.29	10.28	83.0
14/07/2011 16:50:30.000'	-0.88	27.21	81.6	1022.29	10.26	82.9
14/07/2011 17:50:30.000'	-0.88	27.21	81.6	1022.29	10.27	82.9
14/07/2011 18:50:30.000'	-0.89	27.21	81.6	1022.29	10.30	83.2
14/07/2011 19:50:30.000'	-0.90	27.20	81.6	1022.29	10.38	83.8
14/07/2011 20:50:30.000'	-0.90	27.20	81.5	1022.28	10.40	83.9
14/07/2011 21:50:30.000'	-0.90	27.21	81.5	1022.29	10.40	83.9
14/07/2011 22:50:30.000'	-0.89	27.21	81.4	1022.29	10.40	83.9
14/07/2011 23:50:30.000'	-0.90	27.21	81.4	1022.29	10.42	84.1
15/07/2011 00:50:30.000'	-0.89	27.20	81.4	1022.29	10.35	83.5
15/07/2011 01:50:30.000'	-0.89	27.21	81.3	1022.29	10.32	83.3
15/07/2011 02:50:30.000'	-0.89	27.21	81.3	1022.29	10.32	83.3
15/07/2011 03:50:30.000'	-0.89	27.21	81.3	1022.29	10.32	83.3
15/07/2011 04:50:30.000'	-0.89	27.21	81.3	1022.29	10.32	83.3
15/07/2011 05:50:30.000'	-0.90	27.20	81.3	1022.29	10.32	83.3
15/07/2011 06:50:30.000'	-0.90	27.21	81.3	1022.29	10.28	83.0
15/07/2011 07:50:30.000'	-0.89	27.21	81.3	1022.29	10.28	83.0
15/07/2011 08:50:30.000'	-0.89	27.21	81.2	1022.28	10.28	83.0
15/07/2011 09:50:30.000'	-0.89	27.21	81.2	1022.29	10.30	83.1
15/07/2011 10:50:30.000'	-0.89	27.21	81.2	1022.29	10.31	83.2
15/07/2011 11:50:30.000'	-0.88	27.21	81.2	1022.29	10.29	83.1
15/07/2011 12:50:30.000'	-0.88	27.21	81.2	1022.29	10.28	83.0
15/07/2011 13:50:30.000'	-0.88	27.21	81.3	1022.29	10.28	83.0
15/07/2011 14:50:30.000'	-0.89	27.21	81.4	1022.29	10.31	83.3
15/07/2011 15:50:30.000'	-0.89	27.21	81.5	1022.29	10.36	83.6
15/07/2011 16:50:30.000'	-0.89	27.21	81.6	1022.29	10.33	83.4
15/07/2011 17:50:30.000'	-0.90	27.20	81.6	1022.29	10.33	83.4
15/07/2011 18:50:30.000'	-0.90	27.21	81.6	1022.29	10.29	83.0
15/07/2011 19:50:30.000'	-0.90	27.21	81.6	1022.29	10.30	83.1
15/07/2011 20:50:30.000'	-0.90	27.21	81.6	1022.29	10.28	82.9

Table A3-3.3. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 82 m Depth in Roberts Bay, Doris North Project, May-July 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
15/07/2011 21:50:30.000'	-0.90	27.21	81.5	1022.29	10.36	83.6
15/07/2011 22:50:30.000'	-0.90	27.21	81.5	1022.29	10.36	83.6
15/07/2011 23:50:30.000'	-0.90	27.21	81.4	1022.29	10.37	83.7
16/07/2011 00:50:30.000'	-0.90	27.21	81.4	1022.29	10.35	83.5
16/07/2011 01:50:30.000'	-0.90	27.21	81.3	1022.29	10.32	83.3
16/07/2011 02:50:30.000'	-0.89	27.20	81.3	1022.28	10.34	83.5
16/07/2011 03:50:30.000'	-0.89	27.21	81.3	1022.29	10.31	83.2
16/07/2011 04:50:30.000'	-0.89	27.20	81.4	1022.28	10.26	82.8
16/07/2011 05:50:30.000'	-0.89	27.20	81.4	1022.29	10.24	82.6
16/07/2011 06:50:30.000'	-0.89	27.21	81.4	1022.29	10.24	82.6
16/07/2011 07:50:30.000'	-0.89	27.20	81.3	1022.29	10.25	82.7
16/07/2011 08:50:30.000'	-0.89	27.20	81.3	1022.28	10.31	83.3
16/07/2011 09:50:30.000'	-0.89	27.21	81.2	1022.29	10.31	83.2
16/07/2011 10:50:30.000'	-0.89	27.21	81.2	1022.29	10.31	83.2
16/07/2011 11:50:30.000'	-0.89	27.21	81.2	1022.29	10.29	83.1
16/07/2011 12:50:30.000'	-0.88	27.21	81.2	1022.29	10.29	83.0
16/07/2011 13:50:30.000'	-0.89	27.21	81.3	1022.29	10.28	83.0
16/07/2011 14:50:30.000'	-0.88	27.21	81.4	1022.29	10.29	83.1
16/07/2011 15:50:30.000'	-0.89	27.21	81.5	1022.29	10.35	83.5
16/07/2011 16:50:30.000'	-0.89	27.20	81.6	1022.28	10.33	83.4
16/07/2011 17:50:30.000'	-0.89	27.20	81.6	1022.29	10.34	83.4
16/07/2011 18:50:30.000'	-0.90	27.21	81.6	1022.29	10.35	83.5
16/07/2011 19:50:30.000'	-0.90	27.21	81.6	1022.29	10.37	83.7
16/07/2011 20:50:30.000'	-0.90	27.21	81.6	1022.29	10.37	83.7
16/07/2011 21:50:30.000'	-0.90	27.21	81.6	1022.29	10.37	83.7
16/07/2011 22:50:30.000'	-0.90	27.21	81.5	1022.29	10.36	83.6
16/07/2011 23:50:30.000'	-0.90	27.21	81.4	1022.29	10.36	83.6
17/07/2011 00:50:30.000'	-0.90	27.21	81.4	1022.29	10.36	83.6
17/07/2011 01:50:30.000'	-0.90	27.21	81.3	1022.29	10.35	83.5
17/07/2011 02:50:30.000'	-0.90	27.21	81.3	1022.29	10.35	83.5
17/07/2011 03:50:30.000'	-0.90	27.21	81.3	1022.29	10.33	83.4
17/07/2011 04:50:30.000'	-0.90	27.21	81.3	1022.29	10.33	83.4
17/07/2011 05:50:30.000'	-0.90	27.21	81.3	1022.29	10.31	83.2
17/07/2011 06:50:30.000'	-0.90	27.21	81.3	1022.29	10.33	83.4
17/07/2011 07:50:30.000'	-0.90	27.21	81.3	1022.29	10.34	83.5
17/07/2011 08:50:30.000'	-0.90	27.21	81.3	1022.29	10.35	83.5
17/07/2011 09:50:30.000'	-0.90	27.21	81.3	1022.29	10.38	83.7
17/07/2011 10:50:30.000'	-0.90	27.21	81.2	1022.29	10.37	83.7
17/07/2011 11:50:30.000'	-0.90	27.21	81.2	1022.29	10.38	83.8
17/07/2011 12:50:30.000'	-0.90	27.21	81.2	1022.29	10.35	83.5

3-3.1.2 July 17 - October 4 Deployment

The CTD during this deployment was attached to Amsteel rope 0.5 m above the acoustic release, at 77.5 m depth. A summary of points flagged or interpolated during processing is given in Table A3-3.4. Statistics computed for temperature, salinity, density and dissolved oxygen are shown in Table A3-3.5. A time-series plot of temperature, salinity, density and dissolved oxygen is presented in Figure A3-3.2. Flagged values are plotted as NaN values and appear as gaps in the data record. Complete reported data is found in Table A3-3.6.

Table A3-3.4. Summary of Points Edited for July 17 - October 4 at the 85 m Site

	Interpolated	Flagged	% Edit	Total Points
Temperature	0	0	0.00%	1,892
Pressure	0	0	0.00%	1,892
Depth	0	0	0.00%	1,892
Salinity	4	0	0.21%	1,892
Density	4	0	0.21%	1,892
Dissolved Oxygen	108	0	5.71%	1,892

Table A3-3.5. Temperature, Salinity, Density and Dissolved Oxygen Statistics for July 17 - October 4 at 85 m Site

Channel	17-Jul-2011 21:38:09 to 04-Oct-2011 16:37:50										
	Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max
Temperature (°C)	-1.044	-1.039	-1.036	-0.994	-0.812	-0.822	-0.674	-0.568	-0.525	0.166	-0.429
Salinity	27.145	27.188	27.196	27.232	27.37	27.332	27.408	27.439	27.453	0.088	27.465
Density (kg/m ³)	1,022.16	1,022.2	1,022.21	1,022.24	1,022.34	1,022.314	1,022.37	1,022.4	1,022.41	0.068	1,022.41
Dissolved Oxygen (mg/L)	8.59	8.61	8.69	8.94	9.01	8.988	9.05	9.15	9.24	0.121	9.26

Figure A3-3.2. Time-series Plot of CTD Data at 77.5 m Depth for July 17 - October 4

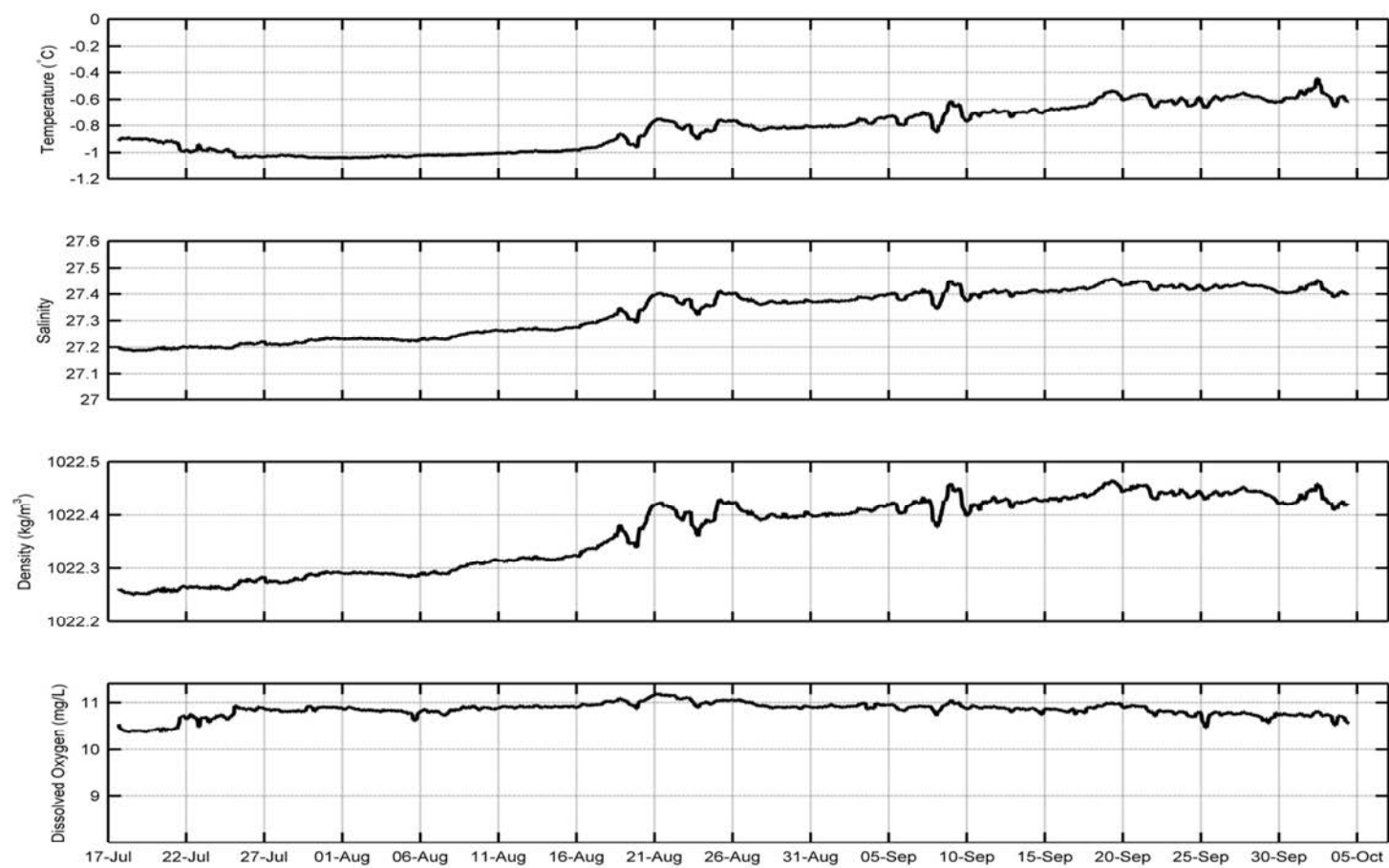


Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
17/07/2011 16:38:10.000'	-0.91	27.19	77.7	1022.26	10.54	87.0
17/07/2011 17:38:10.000'	-0.90	27.20	77.8	1022.26	10.45	86.2
17/07/2011 18:38:10.000'	-0.90	27.19	77.8	1022.26	10.45	86.2
17/07/2011 19:38:10.000'	-0.90	27.19	77.8	1022.26	10.44	86.1
17/07/2011 20:38:10.000'	-0.90	27.19	77.8	1022.26	10.44	86.1
17/07/2011 21:38:10.000'	-0.90	27.19	77.7	1022.26	10.42	86.0
17/07/2011 22:38:10.000'	-0.90	27.19	77.6	1022.26	10.41	85.9
17/07/2011 23:38:10.000'	-0.89	27.19	77.5	1022.26	10.40	85.8
18/07/2011 00:38:10.000'	-0.89	27.19	77.5	1022.25	10.41	85.9
18/07/2011 01:38:10.000'	-0.90	27.19	77.4	1022.26	10.40	85.8
18/07/2011 02:38:10.000'	-0.90	27.19	77.4	1022.25	10.39	85.7
18/07/2011 03:38:10.000'	-0.90	27.19	77.4	1022.25	10.39	85.7
18/07/2011 04:38:10.000'	-0.90	27.19	77.4	1022.25	10.38	85.6
18/07/2011 05:38:10.000'	-0.89	27.19	77.4	1022.25	10.38	85.7
18/07/2011 06:38:10.000'	-0.89	27.19	77.4	1022.25	10.38	85.7
18/07/2011 07:38:10.000'	-0.89	27.19	77.4	1022.25	10.37	85.6
18/07/2011 08:38:10.000'	-0.89	27.19	77.4	1022.25	10.38	85.6
18/07/2011 09:38:10.000'	-0.89	27.19	77.3	1022.25	10.37	85.6
18/07/2011 10:38:10.000'	-0.89	27.19	77.3	1022.25	10.37	85.6
18/07/2011 11:38:10.000'	-0.90	27.19	77.3	1022.25	10.40	85.8
18/07/2011 12:38:10.000'	-0.90	27.19	77.3	1022.25	10.40	85.8
18/07/2011 13:38:10.000'	-0.90	27.19	77.3	1022.25	10.41	85.9
18/07/2011 14:38:10.000'	-0.90	27.19	77.4	1022.25	10.40	85.8
18/07/2011 15:38:10.000'	-0.90	27.19	77.5	1022.25	10.40	85.8
18/07/2011 16:38:10.000'	-0.90	27.19	77.5	1022.25	10.40	85.8
18/07/2011 17:38:10.000'	-0.90	27.19	77.6	1022.25	10.39	85.7
18/07/2011 18:38:10.000'	-0.90	27.19	77.6	1022.25	10.39	85.7
18/07/2011 19:38:10.000'	-0.90	27.19	77.6	1022.26	10.39	85.8
18/07/2011 20:38:10.000'	-0.90	27.19	77.6	1022.25	10.39	85.7
18/07/2011 21:38:10.000'	-0.90	27.19	77.6	1022.25	10.40	85.8
18/07/2011 22:38:10.000'	-0.90	27.19	77.5	1022.25	10.40	85.8
18/07/2011 23:38:10.000'	-0.90	27.19	77.5	1022.25	10.39	85.7
19/07/2011 00:38:10.000'	-0.90	27.19	77.4	1022.25	10.40	85.8
19/07/2011 01:38:10.000'	-0.90	27.19	77.4	1022.25	10.40	85.8
19/07/2011 02:38:10.000'	-0.90	27.19	77.3	1022.25	10.39	85.7
19/07/2011 03:38:10.000'	-0.90	27.19	77.3	1022.25	10.39	85.7
19/07/2011 04:38:10.000'	-0.90	27.19	77.3	1022.25	10.39	85.7
19/07/2011 05:38:10.000'	-0.90	27.19	77.3	1022.25	10.40	85.8
19/07/2011 06:38:10.000'	-0.90	27.19	77.4	1022.25	10.39	85.7
19/07/2011 07:38:10.000'	-0.90	27.19	77.4	1022.25	10.38	85.7
19/07/2011 08:38:10.000'	-0.90	27.19	77.4	1022.25	10.38	85.6
19/07/2011 09:38:10.000'	-0.90	27.19	77.4	1022.25	10.37	85.6
19/07/2011 10:38:10.000'	-0.90	27.19	77.3	1022.25	10.38	85.6
19/07/2011 11:38:10.000'	-0.90	27.19	77.3	1022.25	10.38	85.6
19/07/2011 12:38:10.000'	-0.90	27.19	77.3	1022.25	10.37	85.6
19/07/2011 13:38:10.000'	-0.90	27.19	77.4	1022.25	10.39	85.7

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
19/07/2011 14:38:10.000'	-0.90	27.19	77.4	1022.25	10.40	85.8
19/07/2011 15:38:10.000'	-0.91	27.19	77.5	1022.25	10.41	85.8
19/07/2011 16:38:10.000'	-0.91	27.19	77.5	1022.26	10.42	85.9
19/07/2011 17:38:10.000'	-0.91	27.19	77.6	1022.25	10.41	85.8
19/07/2011 18:38:10.000'	-0.90	27.19	77.7	1022.25	10.40	85.8
19/07/2011 19:38:10.000'	-0.90	27.19	77.7	1022.25	10.41	85.9
19/07/2011 20:38:10.000'	-0.91	27.19	77.7	1022.26	10.40	85.8
19/07/2011 21:38:10.000'	-0.91	27.19	77.7	1022.26	10.40	85.8
19/07/2011 22:38:10.000'	-0.91	27.19	77.7	1022.26	10.42	85.9
19/07/2011 23:38:10.000'	-0.91	27.19	77.6	1022.26	10.42	85.9
20/07/2011 00:38:10.000'	-0.91	27.19	77.5	1022.26	10.41	85.9
20/07/2011 01:38:10.000'	-0.91	27.19	77.5	1022.26	10.41	85.9
20/07/2011 02:38:10.000'	-0.91	27.19	77.4	1022.26	10.41	85.9
20/07/2011 03:38:10.000'	-0.92	27.20	77.4	1022.26	10.44	86.1
20/07/2011 04:38:10.000'	-0.92	27.20	77.4	1022.26	10.45	86.2
20/07/2011 05:38:10.000'	-0.92	27.20	77.4	1022.26	10.44	86.1
20/07/2011 06:38:10.000'	-0.92	27.20	77.4	1022.26	10.44	86.1
20/07/2011 07:38:10.000'	-0.92	27.20	77.4	1022.26	10.41	85.9
20/07/2011 08:38:10.000'	-0.92	27.20	77.4	1022.26	10.38	85.6
20/07/2011 09:38:10.000'	-0.92	27.19	77.4	1022.25	10.37	85.5
20/07/2011 10:38:10.000'	-0.92	27.19	77.4	1022.26	10.38	85.6
20/07/2011 11:38:10.000'	-0.93	27.20	77.4	1022.26	10.44	86.1
20/07/2011 12:38:10.000'	-0.93	27.20	77.4	1022.26	10.46	86.2
20/07/2011 13:38:10.000'	-0.93	27.20	77.4	1022.26	10.46	86.2
20/07/2011 14:38:10.000'	-0.93	27.20	77.4	1022.26	10.44	86.1
20/07/2011 15:38:10.000'	-0.92	27.19	77.5	1022.26	10.40	85.8
20/07/2011 16:38:10.000'	-0.92	27.19	77.6	1022.25	10.40	85.7
20/07/2011 17:38:10.000'	-0.92	27.19	77.6	1022.26	10.39	85.7
20/07/2011 18:38:10.000'	-0.92	27.19	77.7	1022.26	10.40	85.8
20/07/2011 19:38:10.000'	-0.92	27.19	77.7	1022.26	10.43	86.0
20/07/2011 20:38:10.000'	-0.92	27.19	77.7	1022.26	10.44	86.1
20/07/2011 21:38:10.000'	-0.92	27.19	77.7	1022.26	10.44	86.1
20/07/2011 22:38:10.000'	-0.92	27.20	77.7	1022.26	10.42	85.9
20/07/2011 23:38:10.000'	-0.92	27.19	77.6	1022.26	10.43	86.0
21/07/2011 00:38:10.000'	-0.91	27.19	77.6	1022.26	10.40	85.8
21/07/2011 01:38:10.000'	-0.91	27.19	77.5	1022.25	10.40	85.8
21/07/2011 02:38:10.000'	-0.91	27.19	77.5	1022.26	10.40	85.8
21/07/2011 03:38:10.000'	-0.93	27.20	77.4	1022.26	10.43	86.0
21/07/2011 04:38:10.000'	-0.93	27.20	77.4	1022.26	10.44	86.1
21/07/2011 05:38:10.000'	-0.93	27.20	77.4	1022.26	10.44	86.1
21/07/2011 06:38:10.000'	-0.93	27.20	77.4	1022.26	10.44	86.1
21/07/2011 07:38:10.000'	-0.92	27.19	77.4	1022.26	10.44	86.1
21/07/2011 08:38:10.000'	-0.92	27.19	77.5	1022.26	10.44	86.1
21/07/2011 09:38:10.000'	-0.92	27.19	77.5	1022.26	10.47	86.3
21/07/2011 10:38:10.000'	-0.92	27.19	77.5	1022.26	10.44	86.1
21/07/2011 11:38:10.000'	-0.94	27.19	77.5	1022.26	10.51	86.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
21/07/2011 12:38:10.000'	-0.95	27.19	77.5	1022.26	10.53	86.8
21/07/2011 13:38:10.000'	-0.96	27.20	77.5	1022.26	10.58	87.1
21/07/2011 14:38:10.000'	-0.99	27.20	77.5	1022.26	10.70	88.1
21/07/2011 15:38:10.000'	-0.99	27.20	77.5	1022.26	10.70	88.0
21/07/2011 16:38:10.000'	-0.99	27.20	77.6	1022.26	10.70	88.0
21/07/2011 17:38:10.000'	-0.99	27.20	77.6	1022.26	10.70	88.0
21/07/2011 18:38:10.000'	-0.99	27.20	77.7	1022.26	10.71	88.2
21/07/2011 19:38:10.000'	-0.99	27.20	77.7	1022.27	10.71	88.2
21/07/2011 20:38:10.000'	-0.99	27.20	77.7	1022.27	10.71	88.2
21/07/2011 21:38:10.000'	-0.99	27.20	77.7	1022.27	10.71	88.2
21/07/2011 22:38:10.000'	-0.99	27.20	77.7	1022.26	10.71	88.2
21/07/2011 23:38:10.000'	-0.98	27.20	77.6	1022.27	10.67	87.8
22/07/2011 00:38:10.000'	-0.98	27.20	77.6	1022.26	10.65	87.7
22/07/2011 01:38:10.000'	-0.98	27.20	77.5	1022.26	10.65	87.7
22/07/2011 02:38:10.000'	-0.98	27.20	77.5	1022.26	10.68	88.0
22/07/2011 03:38:10.000'	-0.98	27.20	77.4	1022.26	10.68	88.0
22/07/2011 04:38:10.000'	-0.99	27.20	77.4	1022.27	10.70	88.0
22/07/2011 05:38:10.000'	-1.00	27.20	77.4	1022.27	10.72	88.2
22/07/2011 06:38:10.000'	-1.00	27.20	77.4	1022.27	10.74	88.4
22/07/2011 07:38:10.000'	-1.00	27.20	77.5	1022.26	10.75	88.5
22/07/2011 08:38:10.000'	-1.00	27.20	77.5	1022.26	10.75	88.5
22/07/2011 09:38:10.000'	-0.99	27.20	77.5	1022.26	10.68	88.0
22/07/2011 10:38:10.000'	-0.99	27.20	77.5	1022.26	10.68	88.0
22/07/2011 11:38:10.000'	-0.99	27.20	77.5	1022.26	10.68	88.0
22/07/2011 12:38:10.000'	-0.98	27.20	77.5	1022.26	10.70	88.0
22/07/2011 13:38:10.000'	-0.99	27.20	77.5	1022.26	10.69	88.0
22/07/2011 14:38:10.000'	-0.98	27.20	77.5	1022.26	10.69	88.0
22/07/2011 15:38:10.000'	-0.99	27.20	77.5	1022.27	10.66	87.7
22/07/2011 16:38:10.000'	-0.98	27.20	77.6	1022.27	10.64	87.6
22/07/2011 17:38:10.000'	-0.97	27.20	77.6	1022.27	10.61	87.4
22/07/2011 18:38:10.000'	-0.94	27.20	77.6	1022.26	10.49	86.5
22/07/2011 19:38:10.000'	-0.94	27.20	77.7	1022.26	10.49	86.4
22/07/2011 20:38:10.000'	-0.94	27.20	77.7	1022.26	10.49	86.5
22/07/2011 21:38:10.000'	-0.96	27.20	77.7	1022.26	10.60	87.3
22/07/2011 22:38:10.000'	-0.98	27.20	77.7	1022.26	10.67	87.9
22/07/2011 23:38:10.000'	-0.98	27.20	77.7	1022.27	10.67	87.9
23/07/2011 00:38:10.000'	-0.98	27.20	77.6	1022.26	10.69	88.0
23/07/2011 01:38:10.000'	-0.98	27.20	77.6	1022.26	10.67	87.9
23/07/2011 02:38:10.000'	-0.98	27.20	77.5	1022.26	10.68	88.0
23/07/2011 03:38:10.000'	-0.98	27.20	77.5	1022.26	10.67	87.9
23/07/2011 04:38:10.000'	-0.98	27.20	77.4	1022.26	10.68	87.9
23/07/2011 05:38:10.000'	-0.98	27.20	77.4	1022.26	10.68	87.9
23/07/2011 06:38:10.000'	-0.99	27.20	77.4	1022.26	10.68	87.9
23/07/2011 07:38:10.000'	-0.99	27.20	77.4	1022.26	10.68	87.9
23/07/2011 08:38:10.000'	-0.99	27.20	77.4	1022.26	10.68	87.9
23/07/2011 09:38:10.000'	-0.99	27.20	77.5	1022.26	10.63	87.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
23/07/2011 10:38:10.000'	-0.96	27.20	77.5	1022.26	10.58	87.1
23/07/2011 11:38:10.000'	-0.97	27.20	77.5	1022.26	10.58	87.1
23/07/2011 12:38:10.000'	-0.97	27.20	77.5	1022.26	10.58	87.1
23/07/2011 13:38:10.000'	-0.97	27.20	77.5	1022.26	10.63	87.6
23/07/2011 14:38:10.000'	-0.98	27.20	77.5	1022.26	10.64	87.6
23/07/2011 15:38:10.000'	-0.98	27.20	77.5	1022.27	10.64	87.6
23/07/2011 16:38:10.000'	-0.98	27.20	77.6	1022.27	10.67	87.8
23/07/2011 17:38:10.000'	-0.98	27.20	77.6	1022.26	10.67	87.8
23/07/2011 18:38:10.000'	-0.98	27.20	77.6	1022.26	10.67	87.8
23/07/2011 19:38:10.000'	-0.98	27.20	77.6	1022.26	10.66	87.8
23/07/2011 20:38:10.000'	-0.98	27.20	77.6	1022.26	10.67	87.8
23/07/2011 21:38:10.000'	-0.98	27.20	77.6	1022.26	10.67	87.8
23/07/2011 22:38:10.000'	-0.99	27.20	77.6	1022.27	10.72	88.2
23/07/2011 23:38:10.000'	-0.99	27.20	77.6	1022.27	10.73	88.3
24/07/2011 00:38:10.000'	-0.99	27.20	77.5	1022.27	10.72	88.2
24/07/2011 01:38:10.000'	-0.99	27.20	77.5	1022.26	10.71	88.1
24/07/2011 02:38:10.000'	-0.99	27.20	77.4	1022.26	10.71	88.1
24/07/2011 03:38:10.000'	-0.99	27.20	77.4	1022.26	10.71	88.1
24/07/2011 04:38:10.000'	-0.99	27.20	77.4	1022.26	10.72	88.2
24/07/2011 05:38:10.000'	-1.00	27.20	77.4	1022.26	10.74	88.4
24/07/2011 06:38:10.000'	-1.00	27.20	77.4	1022.26	10.74	88.4
24/07/2011 07:38:10.000'	-1.00	27.20	77.4	1022.26	10.75	88.5
24/07/2011 08:38:10.000'	-0.99	27.20	77.4	1022.26	10.70	88.1
24/07/2011 09:38:10.000'	-0.99	27.20	77.5	1022.26	10.70	88.0
24/07/2011 10:38:10.000'	-0.99	27.20	77.5	1022.26	10.69	88.0
24/07/2011 11:38:10.000'	-0.99	27.20	77.5	1022.26	10.69	88.0
24/07/2011 12:38:10.000'	-0.98	27.20	77.5	1022.26	10.68	87.9
24/07/2011 13:38:10.000'	-0.98	27.20	77.5	1022.26	10.68	87.9
24/07/2011 14:38:10.000'	-0.98	27.20	77.6	1022.26	10.68	87.9
24/07/2011 15:38:10.000'	-0.97	27.19	77.6	1022.26	10.62	87.5
24/07/2011 16:38:10.000'	-0.99	27.20	77.6	1022.26	10.68	87.9
24/07/2011 17:38:10.000'	-0.99	27.20	77.6	1022.26	10.68	87.9
24/07/2011 18:38:10.000'	-0.99	27.20	77.6	1022.26	10.69	88.0
24/07/2011 19:38:10.000'	-0.99	27.20	77.6	1022.26	10.68	87.9
24/07/2011 20:38:10.000'	-0.99	27.20	77.6	1022.26	10.68	87.9
24/07/2011 21:38:10.000'	-0.99	27.20	77.6	1022.26	10.72	88.3
24/07/2011 22:38:10.000'	-1.00	27.20	77.6	1022.26	10.72	88.2
24/07/2011 23:38:10.000'	-1.00	27.20	77.6	1022.26	10.75	88.4
25/07/2011 00:38:10.000'	-1.00	27.20	77.5	1022.26	10.74	88.4
25/07/2011 01:38:10.000'	-1.00	27.20	77.5	1022.26	10.77	88.6
25/07/2011 02:38:10.000'	-1.03	27.20	77.5	1022.27	10.93	89.9
25/07/2011 03:38:10.000'	-1.03	27.21	77.4	1022.27	10.93	89.8
25/07/2011 04:38:10.000'	-1.04	27.20	77.4	1022.27	10.93	89.9
25/07/2011 05:38:10.000'	-1.04	27.21	77.4	1022.27	10.93	89.8
25/07/2011 06:38:10.000'	-1.03	27.20	77.4	1022.27	10.92	89.8
25/07/2011 07:38:10.000'	-1.03	27.21	77.4	1022.27	10.89	89.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
25/07/2011 08:38:10.000'	-1.03	27.21	77.4	1022.27	10.88	89.4
25/07/2011 09:38:10.000'	-1.03	27.21	77.5	1022.27	10.89	89.5
25/07/2011 10:38:10.000'	-1.03	27.21	77.5	1022.28	10.88	89.4
25/07/2011 11:38:10.000'	-1.03	27.22	77.5	1022.28	10.88	89.4
25/07/2011 12:38:10.000'	-1.03	27.22	77.6	1022.28	10.86	89.3
25/07/2011 13:38:10.000'	-1.04	27.21	77.6	1022.27	10.87	89.4
25/07/2011 14:38:10.000'	-1.04	27.21	77.6	1022.28	10.88	89.4
25/07/2011 15:38:10.000'	-1.04	27.21	77.6	1022.28	10.88	89.4
25/07/2011 16:38:10.000'	-1.04	27.22	77.6	1022.28	10.88	89.4
25/07/2011 17:38:10.000'	-1.03	27.21	77.6	1022.28	10.87	89.4
25/07/2011 18:38:10.000'	-1.03	27.21	77.6	1022.28	10.85	89.2
25/07/2011 19:38:10.000'	-1.03	27.21	77.7	1022.28	10.85	89.2
25/07/2011 20:38:10.000'	-1.02	27.21	77.7	1022.27	10.85	89.2
25/07/2011 21:38:10.000'	-1.03	27.21	77.7	1022.28	10.85	89.2
25/07/2011 22:38:10.000'	-1.04	27.22	77.7	1022.28	10.87	89.4
25/07/2011 23:38:10.000'	-1.04	27.22	77.7	1022.28	10.87	89.4
26/07/2011 00:38:10.000'	-1.04	27.22	77.7	1022.28	10.88	89.4
26/07/2011 01:38:10.000'	-1.03	27.22	77.7	1022.28	10.86	89.3
26/07/2011 02:38:10.000'	-1.03	27.21	77.6	1022.28	10.86	89.3
26/07/2011 03:38:10.000'	-1.03	27.21	77.6	1022.28	10.86	89.3
26/07/2011 04:38:10.000'	-1.03	27.21	77.6	1022.28	10.86	89.3
26/07/2011 05:38:10.000'	-1.03	27.21	77.5	1022.28	10.86	89.3
26/07/2011 06:38:10.000'	-1.03	27.21	77.5	1022.27	10.85	89.2
26/07/2011 07:38:10.000'	-1.03	27.21	77.5	1022.27	10.82	89.0
26/07/2011 08:38:10.000'	-1.02	27.21	77.5	1022.27	10.82	89.0
26/07/2011 09:38:10.000'	-1.02	27.21	77.6	1022.27	10.82	89.0
26/07/2011 10:38:10.000'	-1.02	27.21	77.6	1022.27	10.83	89.1
26/07/2011 11:38:10.000'	-1.02	27.21	77.7	1022.28	10.84	89.1
26/07/2011 12:38:10.000'	-1.02	27.21	77.7	1022.28	10.84	89.1
26/07/2011 13:38:10.000'	-1.03	27.21	77.8	1022.28	10.90	89.6
26/07/2011 14:38:10.000'	-1.03	27.21	77.8	1022.28	10.90	89.6
26/07/2011 15:38:10.000'	-1.03	27.22	77.8	1022.28	10.90	89.6
26/07/2011 16:38:10.000'	-1.03	27.22	77.8	1022.28	10.90	89.7
26/07/2011 17:38:10.000'	-1.03	27.22	77.8	1022.28	10.89	89.5
26/07/2011 18:38:10.000'	-1.03	27.22	77.8	1022.28	10.90	89.6
26/07/2011 19:38:10.000'	-1.03	27.22	77.8	1022.28	10.88	89.4
26/07/2011 20:38:10.000'	-1.03	27.22	77.7	1022.28	10.90	89.6
26/07/2011 21:38:10.000'	-1.03	27.22	77.7	1022.28	10.89	89.5
26/07/2011 22:38:10.000'	-1.03	27.22	77.7	1022.28	10.88	89.5
26/07/2011 23:38:10.000'	-1.03	27.22	77.7	1022.28	10.88	89.5
27/07/2011 00:38:10.000'	-1.03	27.22	77.7	1022.28	10.86	89.3
27/07/2011 01:38:10.000'	-1.03	27.22	77.7	1022.28	10.86	89.3
27/07/2011 02:38:10.000'	-1.03	27.21	77.6	1022.27	10.86	89.3
27/07/2011 03:38:10.000'	-1.03	27.21	77.6	1022.27	10.85	89.2
27/07/2011 04:38:10.000'	-1.03	27.21	77.6	1022.27	10.85	89.2
27/07/2011 05:38:10.000'	-1.03	27.21	77.5	1022.27	10.85	89.2

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
27/07/2011 06:38:10.000'	-1.03	27.21	77.5	1022.28	10.87	89.4
27/07/2011 07:38:10.000'	-1.03	27.21	77.5	1022.28	10.86	89.3
27/07/2011 08:38:10.000'	-1.03	27.21	77.6	1022.28	10.86	89.3
27/07/2011 09:38:10.000'	-1.03	27.21	77.6	1022.28	10.83	89.1
27/07/2011 10:38:10.000'	-1.02	27.21	77.6	1022.28	10.83	89.1
27/07/2011 11:38:10.000'	-1.03	27.21	77.7	1022.27	10.83	89.0
27/07/2011 12:38:10.000'	-1.03	27.21	77.8	1022.27	10.85	89.2
27/07/2011 13:38:10.000'	-1.03	27.21	77.8	1022.27	10.85	89.2
27/07/2011 14:38:10.000'	-1.03	27.21	77.8	1022.28	10.85	89.2
27/07/2011 15:38:10.000'	-1.03	27.21	77.8	1022.28	10.84	89.1
27/07/2011 16:38:10.000'	-1.02	27.21	77.8	1022.28	10.84	89.2
27/07/2011 17:38:10.000'	-1.03	27.21	77.8	1022.28	10.85	89.2
27/07/2011 18:38:10.000'	-1.03	27.21	77.8	1022.28	10.85	89.2
27/07/2011 19:38:10.000'	-1.03	27.21	77.8	1022.28	10.86	89.3
27/07/2011 20:38:10.000'	-1.03	27.21	77.7	1022.27	10.85	89.2
27/07/2011 21:38:10.000'	-1.02	27.21	77.7	1022.27	10.85	89.2
27/07/2011 22:38:10.000'	-1.02	27.21	77.7	1022.27	10.83	89.1
27/07/2011 23:38:10.000'	-1.02	27.21	77.7	1022.27	10.83	89.1
28/07/2011 00:38:10.000'	-1.02	27.21	77.7	1022.27	10.83	89.1
28/07/2011 01:38:10.000'	-1.02	27.21	77.6	1022.27	10.81	88.9
28/07/2011 02:38:10.000'	-1.02	27.21	77.6	1022.27	10.80	88.8
28/07/2011 03:38:10.000'	-1.02	27.21	77.6	1022.27	10.80	88.8
28/07/2011 04:38:10.000'	-1.02	27.21	77.5	1022.27	10.81	88.9
28/07/2011 05:38:10.000'	-1.02	27.21	77.5	1022.27	10.81	88.9
28/07/2011 06:38:10.000'	-1.02	27.21	77.5	1022.27	10.82	89.0
28/07/2011 07:38:10.000'	-1.02	27.21	77.5	1022.27	10.81	88.9
28/07/2011 08:38:10.000'	-1.02	27.21	77.5	1022.27	10.82	89.0
28/07/2011 09:38:10.000'	-1.02	27.21	77.5	1022.27	10.82	89.0
28/07/2011 10:38:10.000'	-1.02	27.21	77.5	1022.27	10.81	88.9
28/07/2011 11:38:10.000'	-1.02	27.21	77.6	1022.27	10.81	88.9
28/07/2011 12:38:10.000'	-1.02	27.21	77.7	1022.27	10.80	88.9
28/07/2011 13:38:10.000'	-1.02	27.21	77.7	1022.27	10.81	89.0
28/07/2011 14:38:10.000'	-1.02	27.21	77.8	1022.27	10.80	88.9
28/07/2011 15:38:10.000'	-1.02	27.21	77.8	1022.28	10.82	89.0
28/07/2011 16:38:10.000'	-1.02	27.21	77.8	1022.28	10.82	89.0
28/07/2011 17:38:10.000'	-1.02	27.21	77.8	1022.28	10.82	89.0
28/07/2011 18:38:10.000'	-1.02	27.21	77.8	1022.28	10.82	89.0
28/07/2011 19:38:10.000'	-1.02	27.21	77.7	1022.28	10.81	88.9
28/07/2011 20:38:10.000'	-1.02	27.21	77.7	1022.28	10.82	89.0
28/07/2011 21:38:10.000'	-1.03	27.22	77.6	1022.28	10.82	88.9
28/07/2011 22:38:10.000'	-1.03	27.22	77.6	1022.28	10.82	88.9
28/07/2011 23:38:10.000'	-1.03	27.22	77.6	1022.28	10.80	88.8
29/07/2011 00:38:10.000'	-1.03	27.22	77.6	1022.28	10.81	88.9
29/07/2011 01:38:10.000'	-1.03	27.22	77.6	1022.28	10.80	88.8
29/07/2011 02:38:10.000'	-1.03	27.22	77.6	1022.28	10.82	89.0
29/07/2011 03:38:10.000'	-1.03	27.22	77.6	1022.28	10.83	89.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
29/07/2011 04:38:10.000'	-1.03	27.22	77.5	1022.28	10.83	89.1
29/07/2011 05:38:10.000'	-1.03	27.22	77.5	1022.28	10.83	89.1
29/07/2011 06:38:10.000'	-1.03	27.21	77.5	1022.28	10.83	89.1
29/07/2011 07:38:10.000'	-1.03	27.22	77.5	1022.28	10.81	88.9
29/07/2011 08:38:10.000'	-1.03	27.21	77.5	1022.28	10.81	88.9
29/07/2011 09:38:10.000'	-1.03	27.22	77.5	1022.28	10.80	88.8
29/07/2011 10:38:10.000'	-1.03	27.22	77.5	1022.28	10.80	88.8
29/07/2011 11:38:10.000'	-1.03	27.22	77.6	1022.28	10.82	89.0
29/07/2011 12:38:10.000'	-1.03	27.22	77.6	1022.28	10.82	89.0
29/07/2011 13:38:10.000'	-1.03	27.21	77.7	1022.28	10.81	88.9
29/07/2011 14:38:10.000'	-1.03	27.22	77.8	1022.28	10.81	88.9
29/07/2011 15:38:10.000'	-1.03	27.22	77.8	1022.28	10.81	88.9
29/07/2011 16:38:10.000'	-1.03	27.22	77.8	1022.29	10.87	89.4
29/07/2011 17:38:10.000'	-1.03	27.22	77.8	1022.28	10.89	89.5
29/07/2011 18:38:10.000'	-1.04	27.23	77.8	1022.29	10.92	89.8
29/07/2011 19:38:10.000'	-1.04	27.22	77.8	1022.29	10.91	89.7
29/07/2011 20:38:10.000'	-1.04	27.23	77.7	1022.29	10.93	89.8
29/07/2011 21:38:10.000'	-1.04	27.23	77.7	1022.29	10.92	89.8
29/07/2011 22:38:10.000'	-1.04	27.23	77.6	1022.29	10.92	89.8
29/07/2011 23:38:10.000'	-1.04	27.23	77.6	1022.29	10.91	89.7
30/07/2011 00:38:10.000'	-1.04	27.23	77.6	1022.29	10.90	89.6
30/07/2011 01:38:10.000'	-1.04	27.22	77.6	1022.29	10.90	89.7
30/07/2011 02:38:10.000'	-1.04	27.23	77.6	1022.29	10.88	89.4
30/07/2011 03:38:10.000'	-1.04	27.23	77.6	1022.29	10.84	89.1
30/07/2011 04:38:10.000'	-1.04	27.23	77.5	1022.29	10.82	89.0
30/07/2011 05:38:10.000'	-1.04	27.23	77.5	1022.29	10.82	89.0
30/07/2011 06:38:10.000'	-1.04	27.23	77.5	1022.29	10.82	89.0
30/07/2011 07:38:10.000'	-1.04	27.23	77.5	1022.29	10.82	89.0
30/07/2011 08:38:10.000'	-1.03	27.23	77.4	1022.29	10.87	89.4
30/07/2011 09:38:10.000'	-1.03	27.22	77.4	1022.28	10.88	89.5
30/07/2011 10:38:10.000'	-1.04	27.23	77.4	1022.29	10.90	89.6
30/07/2011 11:38:10.000'	-1.04	27.23	77.5	1022.29	10.89	89.6
30/07/2011 12:38:10.000'	-1.04	27.23	77.6	1022.29	10.90	89.6
30/07/2011 13:38:10.000'	-1.04	27.23	77.6	1022.29	10.89	89.6
30/07/2011 14:38:10.000'	-1.04	27.23	77.7	1022.29	10.89	89.6
30/07/2011 15:38:10.000'	-1.04	27.23	77.8	1022.29	10.89	89.5
30/07/2011 16:38:10.000'	-1.04	27.23	77.8	1022.29	10.90	89.6
30/07/2011 17:38:10.000'	-1.04	27.23	77.8	1022.29	10.90	89.6
30/07/2011 18:38:10.000'	-1.04	27.23	77.8	1022.29	10.92	89.8
30/07/2011 19:38:10.000'	-1.04	27.23	77.8	1022.29	10.91	89.7
30/07/2011 20:38:10.000'	-1.04	27.23	77.7	1022.29	10.91	89.7
30/07/2011 21:38:10.000'	-1.04	27.23	77.6	1022.29	10.90	89.6
30/07/2011 22:38:10.000'	-1.04	27.23	77.6	1022.29	10.90	89.6
30/07/2011 23:38:10.000'	-1.04	27.23	77.5	1022.29	10.89	89.6
31/07/2011 00:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 01:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
31/07/2011 02:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 03:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 04:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 05:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 06:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 07:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 08:38:10.000'	-1.04	27.23	77.4	1022.29	10.90	89.6
31/07/2011 09:38:10.000'	-1.04	27.23	77.4	1022.29	10.90	89.6
31/07/2011 10:38:10.000'	-1.04	27.23	77.4	1022.29	10.90	89.6
31/07/2011 11:38:10.000'	-1.04	27.24	77.5	1022.29	10.90	89.6
31/07/2011 12:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 13:38:10.000'	-1.04	27.23	77.6	1022.29	10.90	89.6
31/07/2011 14:38:10.000'	-1.04	27.23	77.7	1022.29	10.90	89.6
31/07/2011 15:38:10.000'	-1.04	27.23	77.7	1022.29	10.90	89.6
31/07/2011 16:38:10.000'	-1.04	27.23	77.8	1022.29	10.89	89.5
31/07/2011 17:38:10.000'	-1.04	27.23	77.8	1022.29	10.88	89.5
31/07/2011 18:38:10.000'	-1.04	27.23	77.8	1022.29	10.88	89.5
31/07/2011 19:38:10.000'	-1.04	27.23	77.8	1022.29	10.88	89.4
31/07/2011 20:38:10.000'	-1.04	27.23	77.7	1022.29	10.89	89.6
31/07/2011 21:38:10.000'	-1.04	27.23	77.6	1022.29	10.89	89.5
31/07/2011 22:38:10.000'	-1.04	27.23	77.5	1022.29	10.90	89.6
31/07/2011 23:38:10.000'	-1.04	27.23	77.5	1022.29	10.89	89.5
01/08/2011 00:38:10.000'	-1.04	27.23	77.4	1022.29	10.86	89.3
01/08/2011 01:38:10.000'	-1.04	27.23	77.4	1022.29	10.86	89.3
01/08/2011 02:38:10.000'	-1.04	27.23	77.4	1022.29	10.86	89.3
01/08/2011 03:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
01/08/2011 04:38:10.000'	-1.04	27.23	77.4	1022.29	10.86	89.3
01/08/2011 05:38:10.000'	-1.04	27.23	77.4	1022.29	10.88	89.5
01/08/2011 06:38:10.000'	-1.04	27.23	77.4	1022.29	10.88	89.4
01/08/2011 07:38:10.000'	-1.04	27.23	77.4	1022.29	10.88	89.5
01/08/2011 08:38:10.000'	-1.04	27.23	77.4	1022.29	10.88	89.4
01/08/2011 09:38:10.000'	-1.04	27.23	77.3	1022.29	10.91	89.7
01/08/2011 10:38:10.000'	-1.04	27.23	77.3	1022.29	10.91	89.7
01/08/2011 11:38:10.000'	-1.04	27.23	77.3	1022.29	10.91	89.7
01/08/2011 12:38:10.000'	-1.04	27.23	77.4	1022.29	10.88	89.5
01/08/2011 13:38:10.000'	-1.04	27.23	77.4	1022.29	10.89	89.6
01/08/2011 14:38:10.000'	-1.04	27.23	77.5	1022.29	10.89	89.6
01/08/2011 15:38:10.000'	-1.04	27.23	77.6	1022.29	10.89	89.6
01/08/2011 16:38:10.000'	-1.04	27.23	77.7	1022.29	10.88	89.5
01/08/2011 17:38:10.000'	-1.04	27.23	77.7	1022.29	10.86	89.3
01/08/2011 18:38:10.000'	-1.04	27.23	77.7	1022.29	10.86	89.3
01/08/2011 19:38:10.000'	-1.04	27.23	77.7	1022.29	10.87	89.4
01/08/2011 20:38:10.000'	-1.04	27.23	77.7	1022.29	10.85	89.2
01/08/2011 21:38:10.000'	-1.04	27.23	77.6	1022.29	10.86	89.3
01/08/2011 22:38:10.000'	-1.04	27.23	77.5	1022.29	10.85	89.2
01/08/2011 23:38:10.000'	-1.04	27.23	77.5	1022.29	10.86	89.3

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
02/08/2011 00:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.3
02/08/2011 01:38:10.000'	-1.04	27.23	77.4	1022.29	10.86	89.3
02/08/2011 02:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
02/08/2011 03:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
02/08/2011 04:38:10.000'	-1.04	27.23	77.4	1022.29	10.83	89.0
02/08/2011 05:38:10.000'	-1.04	27.23	77.4	1022.29	10.84	89.1
02/08/2011 06:38:10.000'	-1.04	27.23	77.4	1022.29	10.83	89.1
02/08/2011 07:38:10.000'	-1.04	27.23	77.4	1022.29	10.83	89.1
02/08/2011 08:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
02/08/2011 09:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
02/08/2011 10:38:10.000'	-1.04	27.23	77.4	1022.29	10.85	89.2
02/08/2011 11:38:10.000'	-1.04	27.23	77.4	1022.29	10.83	89.1
02/08/2011 12:38:10.000'	-1.04	27.23	77.4	1022.29	10.83	89.1
02/08/2011 13:38:10.000'	-1.04	27.23	77.4	1022.29	10.82	89.0
02/08/2011 14:38:10.000'	-1.04	27.23	77.5	1022.29	10.85	89.2
02/08/2011 15:38:10.000'	-1.04	27.23	77.6	1022.29	10.84	89.1
02/08/2011 16:38:10.000'	-1.04	27.23	77.7	1022.29	10.85	89.2
02/08/2011 17:38:10.000'	-1.04	27.23	77.8	1022.29	10.84	89.1
02/08/2011 18:38:10.000'	-1.03	27.23	77.8	1022.29	10.84	89.1
02/08/2011 19:38:10.000'	-1.04	27.23	77.8	1022.29	10.84	89.1
02/08/2011 20:38:10.000'	-1.03	27.23	77.8	1022.29	10.84	89.1
02/08/2011 21:38:10.000'	-1.03	27.23	77.7	1022.29	10.84	89.1
02/08/2011 22:38:10.000'	-1.03	27.23	77.7	1022.29	10.84	89.1
02/08/2011 23:38:10.000'	-1.03	27.23	77.6	1022.29	10.83	89.1
03/08/2011 00:38:10.000'	-1.04	27.23	77.5	1022.29	10.83	89.0
03/08/2011 01:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	88.9
03/08/2011 02:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
03/08/2011 03:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
03/08/2011 04:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
03/08/2011 05:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
03/08/2011 06:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
03/08/2011 07:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
03/08/2011 08:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
03/08/2011 09:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.0
03/08/2011 10:38:10.000'	-1.03	27.23	77.5	1022.29	10.81	88.9
03/08/2011 11:38:10.000'	-1.03	27.23	77.5	1022.29	10.80	88.8
03/08/2011 12:38:10.000'	-1.03	27.23	77.5	1022.29	10.80	88.8
03/08/2011 13:38:10.000'	-1.03	27.23	77.5	1022.29	10.84	89.2
03/08/2011 14:38:10.000'	-1.03	27.23	77.5	1022.29	10.85	89.2
03/08/2011 15:38:10.000'	-1.03	27.23	77.6	1022.29	10.84	89.1
03/08/2011 16:38:10.000'	-1.03	27.23	77.6	1022.29	10.84	89.2
03/08/2011 17:38:10.000'	-1.03	27.23	77.7	1022.29	10.83	89.1
03/08/2011 18:38:10.000'	-1.03	27.23	77.8	1022.29	10.83	89.0
03/08/2011 19:38:10.000'	-1.03	27.23	77.8	1022.29	10.83	89.1
03/08/2011 20:38:10.000'	-1.02	27.23	77.8	1022.29	10.84	89.2
03/08/2011 21:38:10.000'	-1.02	27.23	77.7	1022.29	10.84	89.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
03/08/2011 22:38:10.000'	-1.02	27.23	77.7	1022.29	10.84	89.1
03/08/2011 23:38:10.000'	-1.02	27.23	77.6	1022.29	10.83	89.1
04/08/2011 00:38:10.000'	-1.02	27.23	77.5	1022.29	10.84	89.2
04/08/2011 01:38:10.000'	-1.02	27.23	77.4	1022.29	10.83	89.1
04/08/2011 02:38:10.000'	-1.02	27.23	77.4	1022.29	10.83	89.1
04/08/2011 03:38:10.000'	-1.03	27.23	77.4	1022.29	10.83	89.1
04/08/2011 04:38:10.000'	-1.03	27.23	77.4	1022.29	10.83	89.1
04/08/2011 05:38:10.000'	-1.03	27.23	77.4	1022.29	10.83	89.1
04/08/2011 06:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
04/08/2011 07:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
04/08/2011 08:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
04/08/2011 09:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
04/08/2011 10:38:10.000'	-1.03	27.23	77.5	1022.29	10.82	89.0
04/08/2011 11:38:10.000'	-1.03	27.23	77.5	1022.29	10.83	89.1
04/08/2011 12:38:10.000'	-1.02	27.23	77.5	1022.29	10.82	89.0
04/08/2011 13:38:10.000'	-1.02	27.23	77.5	1022.29	10.82	89.0
04/08/2011 14:38:10.000'	-1.02	27.23	77.5	1022.29	10.82	89.0
04/08/2011 15:38:10.000'	-1.02	27.23	77.5	1022.29	10.83	89.1
04/08/2011 16:38:10.000'	-1.02	27.23	77.6	1022.29	10.84	89.1
04/08/2011 17:38:10.000'	-1.03	27.23	77.7	1022.29	10.83	89.1
04/08/2011 18:38:10.000'	-1.03	27.23	77.7	1022.29	10.82	89.0
04/08/2011 19:38:10.000'	-1.03	27.23	77.7	1022.29	10.82	88.9
04/08/2011 20:38:10.000'	-1.03	27.23	77.7	1022.29	10.81	88.9
04/08/2011 21:38:10.000'	-1.03	27.23	77.7	1022.29	10.81	88.9
04/08/2011 22:38:10.000'	-1.03	27.22	77.7	1022.29	10.80	88.8
04/08/2011 23:38:10.000'	-1.03	27.23	77.6	1022.29	10.80	88.8
05/08/2011 00:38:10.000'	-1.04	27.23	77.5	1022.29	10.78	88.7
05/08/2011 01:38:10.000'	-1.03	27.23	77.5	1022.29	10.81	88.9
05/08/2011 02:38:10.000'	-1.03	27.23	77.4	1022.29	10.80	88.8
05/08/2011 03:38:10.000'	-1.04	27.23	77.4	1022.29	10.78	88.6
05/08/2011 04:38:10.000'	-1.03	27.23	77.4	1022.29	10.77	88.5
05/08/2011 05:38:10.000'	-1.03	27.23	77.4	1022.29	10.76	88.5
05/08/2011 06:38:10.000'	-1.03	27.22	77.4	1022.28	10.77	88.5
05/08/2011 07:38:10.000'	-1.03	27.22	77.5	1022.28	10.79	88.7
05/08/2011 08:38:10.000'	-1.03	27.22	77.5	1022.28	10.79	88.7
05/08/2011 09:38:10.000'	-1.03	27.23	77.5	1022.29	10.77	88.5
05/08/2011 10:38:10.000'	-1.03	27.23	77.5	1022.29	10.77	88.5
05/08/2011 11:38:10.000'	-1.03	27.23	77.5	1022.29	10.76	88.5
05/08/2011 12:38:10.000'	-1.02	27.22	77.5	1022.28	10.64	87.5
05/08/2011 13:38:10.000'	-1.02	27.23	77.5	1022.29	10.64	87.5
05/08/2011 14:38:10.000'	-1.02	27.23	77.5	1022.29	10.62	87.4
05/08/2011 15:38:10.000'	-1.02	27.23	77.5	1022.29	10.62	87.4
05/08/2011 16:38:10.000'	-1.02	27.22	77.5	1022.28	10.62	87.4
05/08/2011 17:38:10.000'	-1.02	27.22	77.6	1022.28	10.64	87.5
05/08/2011 18:38:10.000'	-1.02	27.22	77.6	1022.29	10.64	87.5
05/08/2011 19:38:10.000'	-1.02	27.22	77.7	1022.28	10.75	88.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
05/08/2011 20:38:10.000'	-1.02	27.22	77.7	1022.29	10.77	88.6
05/08/2011 21:38:10.000'	-1.02	27.23	77.7	1022.29	10.79	88.8
05/08/2011 22:38:10.000'	-1.02	27.23	77.7	1022.29	10.80	88.8
05/08/2011 23:38:10.000'	-1.02	27.23	77.6	1022.29	10.80	88.8
06/08/2011 00:38:10.000'	-1.02	27.23	77.6	1022.29	10.81	88.9
06/08/2011 01:38:10.000'	-1.02	27.23	77.5	1022.29	10.81	88.9
06/08/2011 02:38:10.000'	-1.02	27.23	77.4	1022.29	10.83	89.1
06/08/2011 03:38:10.000'	-1.02	27.24	77.4	1022.29	10.82	89.0
06/08/2011 04:38:10.000'	-1.02	27.23	77.4	1022.29	10.84	89.2
06/08/2011 05:38:10.000'	-1.02	27.23	77.4	1022.29	10.85	89.3
06/08/2011 06:38:10.000'	-1.02	27.23	77.4	1022.29	10.85	89.3
06/08/2011 07:38:10.000'	-1.02	27.23	77.4	1022.29	10.85	89.2
06/08/2011 08:38:10.000'	-1.02	27.23	77.5	1022.29	10.85	89.2
06/08/2011 09:38:10.000'	-1.02	27.23	77.5	1022.29	10.83	89.1
06/08/2011 10:38:10.000'	-1.02	27.23	77.6	1022.29	10.83	89.1
06/08/2011 11:38:10.000'	-1.02	27.23	77.6	1022.29	10.80	88.9
06/08/2011 12:38:10.000'	-1.02	27.23	77.6	1022.29	10.78	88.7
06/08/2011 13:38:10.000'	-1.02	27.23	77.6	1022.29	10.79	88.8
06/08/2011 14:38:10.000'	-1.02	27.23	77.5	1022.29	10.79	88.8
06/08/2011 15:38:10.000'	-1.02	27.23	77.5	1022.29	10.82	89.0
06/08/2011 16:38:10.000'	-1.02	27.23	77.5	1022.29	10.82	89.0
06/08/2011 17:38:10.000'	-1.02	27.23	77.6	1022.29	10.82	89.0
06/08/2011 18:38:10.000'	-1.02	27.23	77.6	1022.29	10.81	88.9
06/08/2011 19:38:10.000'	-1.02	27.23	77.6	1022.29	10.81	88.9
06/08/2011 20:38:10.000'	-1.02	27.23	77.7	1022.29	10.80	88.9
06/08/2011 21:38:10.000'	-1.02	27.23	77.7	1022.29	10.81	88.9
06/08/2011 22:38:10.000'	-1.02	27.24	77.7	1022.29	10.80	88.9
06/08/2011 23:38:10.000'	-1.02	27.23	77.7	1022.29	10.81	88.9
07/08/2011 00:38:10.000'	-1.02	27.23	77.6	1022.29	10.82	89.0
07/08/2011 01:38:10.000'	-1.02	27.23	77.5	1022.29	10.83	89.1
07/08/2011 02:38:10.000'	-1.02	27.23	77.5	1022.29	10.81	88.9
07/08/2011 03:38:10.000'	-1.02	27.23	77.4	1022.29	10.81	88.9
07/08/2011 04:38:10.000'	-1.02	27.23	77.4	1022.29	10.80	88.8
07/08/2011 05:38:10.000'	-1.02	27.23	77.4	1022.29	10.77	88.6
07/08/2011 06:38:10.000'	-1.02	27.23	77.4	1022.29	10.77	88.6
07/08/2011 07:38:10.000'	-1.02	27.23	77.4	1022.29	10.77	88.6
07/08/2011 08:38:10.000'	-1.02	27.23	77.5	1022.29	10.77	88.6
07/08/2011 09:38:10.000'	-1.02	27.23	77.5	1022.29	10.74	88.3
07/08/2011 10:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.3
07/08/2011 11:38:10.000'	-1.02	27.23	77.6	1022.29	10.73	88.3
07/08/2011 12:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.3
07/08/2011 13:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.3
07/08/2011 14:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.3
07/08/2011 15:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.3
07/08/2011 16:38:10.000'	-1.02	27.23	77.6	1022.29	10.74	88.4
07/08/2011 17:38:10.000'	-1.02	27.23	77.6	1022.29	10.77	88.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
07/08/2011 18:38:10.000'	-1.02	27.23	77.6	1022.29	10.79	88.7
07/08/2011 19:38:10.000'	-1.02	27.23	77.6	1022.29	10.79	88.8
07/08/2011 20:38:10.000'	-1.02	27.23	77.6	1022.29	10.80	88.9
07/08/2011 21:38:10.000'	-1.02	27.24	77.6	1022.29	10.85	89.2
07/08/2011 22:38:10.000'	-1.02	27.24	77.6	1022.29	10.85	89.2
07/08/2011 23:38:10.000'	-1.02	27.24	77.6	1022.29	10.86	89.3
08/08/2011 00:38:10.000'	-1.02	27.24	77.5	1022.29	10.85	89.2
08/08/2011 01:38:10.000'	-1.02	27.24	77.5	1022.30	10.85	89.2
08/08/2011 02:38:10.000'	-1.02	27.24	77.4	1022.30	10.83	89.1
08/08/2011 03:38:10.000'	-1.02	27.24	77.4	1022.29	10.82	89.0
08/08/2011 04:38:10.000'	-1.01	27.24	77.3	1022.30	10.83	89.1
08/08/2011 05:38:10.000'	-1.02	27.24	77.3	1022.30	10.85	89.3
08/08/2011 06:38:10.000'	-1.02	27.24	77.3	1022.30	10.85	89.3
08/08/2011 07:38:10.000'	-1.02	27.24	77.3	1022.30	10.85	89.2
08/08/2011 08:38:10.000'	-1.02	27.24	77.4	1022.30	10.85	89.3
08/08/2011 09:38:10.000'	-1.02	27.24	77.4	1022.30	10.84	89.2
08/08/2011 10:38:10.000'	-1.02	27.24	77.5	1022.30	10.84	89.2
08/08/2011 11:38:10.000'	-1.02	27.24	77.5	1022.30	10.85	89.2
08/08/2011 12:38:10.000'	-1.02	27.24	77.5	1022.30	10.84	89.2
08/08/2011 13:38:10.000'	-1.02	27.25	77.5	1022.30	10.85	89.3
08/08/2011 14:38:10.000'	-1.02	27.25	77.5	1022.30	10.87	89.5
08/08/2011 15:38:10.000'	-1.02	27.25	77.5	1022.30	10.87	89.4
08/08/2011 16:38:10.000'	-1.02	27.25	77.5	1022.30	10.92	89.8
08/08/2011 17:38:10.000'	-1.02	27.25	77.5	1022.30	10.92	89.8
08/08/2011 18:38:10.000'	-1.02	27.25	77.5	1022.30	10.92	89.8
08/08/2011 19:38:10.000'	-1.02	27.25	77.5	1022.30	10.91	89.7
08/08/2011 20:38:10.000'	-1.02	27.25	77.5	1022.30	10.87	89.4
08/08/2011 21:38:10.000'	-1.02	27.25	77.5	1022.30	10.88	89.5
08/08/2011 22:38:10.000'	-1.02	27.25	77.5	1022.30	10.88	89.5
08/08/2011 23:38:10.000'	-1.02	27.25	77.5	1022.30	10.87	89.4
09/08/2011 00:38:10.000'	-1.01	27.25	77.5	1022.31	10.92	89.8
09/08/2011 01:38:10.000'	-1.01	27.25	77.5	1022.31	10.91	89.8
09/08/2011 02:38:10.000'	-1.01	27.25	77.5	1022.31	10.91	89.8
09/08/2011 03:38:10.000'	-1.01	27.25	77.4	1022.31	10.89	89.6
09/08/2011 04:38:10.000'	-1.01	27.25	77.4	1022.31	10.89	89.6
09/08/2011 05:38:10.000'	-1.01	27.25	77.4	1022.31	10.89	89.6
09/08/2011 06:38:10.000'	-1.01	27.26	77.4	1022.31	10.89	89.6
09/08/2011 07:38:10.000'	-1.01	27.25	77.4	1022.31	10.91	89.8
09/08/2011 08:38:10.000'	-1.01	27.25	77.4	1022.31	10.92	89.9
09/08/2011 09:38:10.000'	-1.01	27.26	77.5	1022.31	10.94	90.0
09/08/2011 10:38:10.000'	-1.01	27.25	77.6	1022.31	10.93	90.0
09/08/2011 11:38:10.000'	-1.01	27.25	77.6	1022.31	10.91	89.8
09/08/2011 12:38:10.000'	-1.01	27.26	77.7	1022.31	10.89	89.6
09/08/2011 13:38:10.000'	-1.01	27.26	77.7	1022.31	10.90	89.7
09/08/2011 14:38:10.000'	-1.01	27.26	77.7	1022.31	10.87	89.5
09/08/2011 15:38:10.000'	-1.01	27.26	77.7	1022.31	10.88	89.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
09/08/2011 16:38:10.000'	-1.01	27.26	77.7	1022.31	10.86	89.4
09/08/2011 17:38:10.000'	-1.01	27.25	77.6	1022.31	10.85	89.3
09/08/2011 18:38:10.000'	-1.01	27.26	77.6	1022.31	10.85	89.3
09/08/2011 19:38:10.000'	-1.01	27.26	77.6	1022.31	10.84	89.2
09/08/2011 20:38:10.000'	-1.01	27.25	77.5	1022.31	10.85	89.3
09/08/2011 21:38:10.000'	-1.01	27.25	77.5	1022.31	10.88	89.6
09/08/2011 22:38:10.000'	-1.01	27.25	77.5	1022.31	10.89	89.6
09/08/2011 23:38:10.000'	-1.01	27.25	77.5	1022.31	10.90	89.7
10/08/2011 00:38:10.000'	-1.01	27.25	77.5	1022.31	10.89	89.7
10/08/2011 01:38:10.000'	-1.01	27.26	77.5	1022.31	10.90	89.7
10/08/2011 02:38:10.000'	-1.01	27.26	77.5	1022.31	10.89	89.7
10/08/2011 03:38:10.000'	-1.01	27.26	77.5	1022.31	10.89	89.6
10/08/2011 04:38:10.000'	-1.01	27.26	77.4	1022.31	10.91	89.8
10/08/2011 05:38:10.000'	-1.01	27.26	77.4	1022.31	10.89	89.6
10/08/2011 06:38:10.000'	-1.01	27.25	77.4	1022.31	10.89	89.6
10/08/2011 07:38:10.000'	-1.01	27.26	77.4	1022.31	10.88	89.6
10/08/2011 08:38:10.000'	-1.01	27.26	77.4	1022.31	10.89	89.6
10/08/2011 09:38:10.000'	-1.01	27.26	77.5	1022.31	10.89	89.6
10/08/2011 10:38:10.000'	-1.01	27.26	77.5	1022.31	10.88	89.5
10/08/2011 11:38:10.000'	-1.01	27.26	77.6	1022.31	10.88	89.6
10/08/2011 12:38:10.000'	-1.01	27.26	77.7	1022.31	10.87	89.5
10/08/2011 13:38:10.000'	-1.01	27.26	77.7	1022.31	10.87	89.4
10/08/2011 14:38:10.000'	-1.01	27.26	77.7	1022.32	10.87	89.5
10/08/2011 15:38:10.000'	-1.01	27.26	77.7	1022.32	10.85	89.3
10/08/2011 16:38:10.000'	-1.01	27.26	77.7	1022.32	10.86	89.4
10/08/2011 17:38:10.000'	-1.01	27.26	77.7	1022.32	10.86	89.4
10/08/2011 18:38:10.000'	-1.01	27.26	77.7	1022.32	10.87	89.4
10/08/2011 19:38:10.000'	-1.01	27.26	77.6	1022.32	10.87	89.5
10/08/2011 20:38:10.000'	-1.01	27.26	77.6	1022.32	10.88	89.5
10/08/2011 21:38:10.000'	-1.01	27.26	77.5	1022.32	10.87	89.5
10/08/2011 22:38:10.000'	-1.01	27.26	77.5	1022.31	10.87	89.5
10/08/2011 23:38:10.000'	-1.01	27.26	77.5	1022.31	10.86	89.4
11/08/2011 00:38:10.000'	-1.01	27.26	77.5	1022.32	10.90	89.7
11/08/2011 01:38:10.000'	-1.01	27.26	77.5	1022.31	10.90	89.7
11/08/2011 02:38:10.000'	-1.00	27.26	77.5	1022.31	10.89	89.7
11/08/2011 03:38:10.000'	-1.01	27.26	77.5	1022.31	10.89	89.7
11/08/2011 04:38:10.000'	-1.00	27.26	77.5	1022.32	10.89	89.7
11/08/2011 05:38:10.000'	-1.00	27.26	77.5	1022.31	10.92	89.9
11/08/2011 06:38:10.000'	-1.00	27.26	77.5	1022.31	10.90	89.8
11/08/2011 07:38:10.000'	-1.01	27.26	77.5	1022.31	10.92	89.9
11/08/2011 08:38:10.000'	-1.01	27.26	77.5	1022.31	10.93	90.0
11/08/2011 09:38:10.000'	-1.00	27.26	77.5	1022.31	10.92	89.9
11/08/2011 10:38:10.000'	-1.01	27.26	77.5	1022.31	10.92	89.9
11/08/2011 11:38:10.000'	-1.01	27.26	77.6	1022.31	10.91	89.8
11/08/2011 12:38:10.000'	-1.00	27.26	77.7	1022.31	10.91	89.8
11/08/2011 13:38:10.000'	-1.00	27.26	77.7	1022.32	10.90	89.8

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
11/08/2011 14:38:10.000'	-1.00	27.26	77.8	1022.32	10.89	89.7
11/08/2011 15:38:10.000'	-1.00	27.26	77.8	1022.32	10.90	89.7
11/08/2011 16:38:10.000'	-1.00	27.26	77.8	1022.31	10.91	89.8
11/08/2011 17:38:10.000'	-1.00	27.26	77.8	1022.32	10.90	89.7
11/08/2011 18:38:10.000'	-1.00	27.26	77.7	1022.31	10.91	89.8
11/08/2011 19:38:10.000'	-1.00	27.26	77.7	1022.32	10.91	89.8
11/08/2011 20:38:10.000'	-1.00	27.26	77.6	1022.31	10.92	89.9
11/08/2011 21:38:10.000'	-1.00	27.26	77.6	1022.31	10.91	89.8
11/08/2011 22:38:10.000'	-1.00	27.26	77.5	1022.31	10.91	89.8
11/08/2011 23:38:10.000'	-1.01	27.26	77.5	1022.31	10.88	89.5
12/08/2011 00:38:10.000'	-1.01	27.26	77.5	1022.31	10.88	89.5
12/08/2011 01:38:10.000'	-1.00	27.26	77.5	1022.31	10.88	89.5
12/08/2011 02:38:10.000'	-1.00	27.26	77.5	1022.31	10.89	89.6
12/08/2011 03:38:10.000'	-1.00	27.27	77.5	1022.32	10.90	89.7
12/08/2011 04:38:10.000'	-1.00	27.26	77.5	1022.32	10.90	89.7
12/08/2011 05:38:10.000'	-1.00	27.26	77.5	1022.32	10.90	89.7
12/08/2011 06:38:10.000'	-1.00	27.27	77.5	1022.32	10.89	89.7
12/08/2011 07:38:10.000'	-0.99	27.27	77.5	1022.32	10.93	90.0
12/08/2011 08:38:10.000'	-0.99	27.27	77.5	1022.32	10.93	90.0
12/08/2011 09:38:10.000'	-0.99	27.27	77.5	1022.32	10.93	90.0
12/08/2011 10:38:10.000'	-0.99	27.27	77.5	1022.32	10.93	90.0
12/08/2011 11:38:10.000'	-0.99	27.27	77.5	1022.32	10.94	90.1
12/08/2011 12:38:10.000'	-0.99	27.27	77.6	1022.32	10.92	89.9
12/08/2011 13:38:10.000'	-0.99	27.27	77.7	1022.32	10.91	89.9
12/08/2011 14:38:10.000'	-0.99	27.27	77.8	1022.32	10.90	89.8
12/08/2011 15:38:10.000'	-0.99	27.27	77.8	1022.32	10.90	89.8
12/08/2011 16:38:10.000'	-0.99	27.27	77.8	1022.32	10.90	89.8
12/08/2011 17:38:10.000'	-0.99	27.27	77.8	1022.32	10.92	89.9
12/08/2011 18:38:10.000'	-1.00	27.26	77.8	1022.32	10.91	89.8
12/08/2011 19:38:10.000'	-1.00	27.26	77.8	1022.32	10.91	89.8
12/08/2011 20:38:10.000'	-1.00	27.27	77.7	1022.32	10.90	89.8
12/08/2011 21:38:10.000'	-0.99	27.27	77.6	1022.32	10.91	89.8
12/08/2011 22:38:10.000'	-0.99	27.27	77.6	1022.32	10.91	89.8
12/08/2011 23:38:10.000'	-0.99	27.27	77.5	1022.32	10.91	89.8
13/08/2011 00:38:10.000'	-0.99	27.27	77.5	1022.32	10.92	89.9
13/08/2011 01:38:10.000'	-0.99	27.26	77.5	1022.32	10.92	89.9
13/08/2011 02:38:10.000'	-0.99	27.27	77.5	1022.32	10.90	89.8
13/08/2011 03:38:10.000'	-1.00	27.27	77.5	1022.32	10.89	89.7
13/08/2011 04:38:10.000'	-1.00	27.27	77.5	1022.32	10.91	89.8
13/08/2011 05:38:10.000'	-0.99	27.27	77.5	1022.32	10.90	89.8
13/08/2011 06:38:10.000'	-0.99	27.27	77.5	1022.32	10.92	89.9
13/08/2011 07:38:10.000'	-0.99	27.27	77.5	1022.32	10.94	90.1
13/08/2011 08:38:10.000'	-0.99	27.27	77.5	1022.32	10.95	90.2
13/08/2011 09:38:10.000'	-0.98	27.27	77.5	1022.32	10.94	90.1
13/08/2011 10:38:10.000'	-0.99	27.27	77.5	1022.32	10.94	90.1
13/08/2011 11:38:10.000'	-0.99	27.27	77.5	1022.32	10.94	90.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
13/08/2011 12:38:10.000'	-0.99	27.27	77.6	1022.32	10.93	90.0
13/08/2011 13:38:10.000'	-0.99	27.26	77.6	1022.32	10.92	89.9
13/08/2011 14:38:10.000'	-0.99	27.27	77.7	1022.32	10.92	89.9
13/08/2011 15:38:10.000'	-0.99	27.27	77.8	1022.32	10.91	89.8
13/08/2011 16:38:10.000'	-0.99	27.27	77.8	1022.32	10.90	89.7
13/08/2011 17:38:10.000'	-0.99	27.26	77.8	1022.32	10.89	89.7
13/08/2011 18:38:10.000'	-0.99	27.27	77.8	1022.32	10.89	89.7
13/08/2011 19:38:10.000'	-0.99	27.26	77.8	1022.32	10.89	89.7
13/08/2011 20:38:10.000'	-0.99	27.27	77.7	1022.32	10.89	89.7
13/08/2011 21:38:10.000'	-0.99	27.27	77.6	1022.32	10.93	90.0
13/08/2011 22:38:10.000'	-0.99	27.26	77.5	1022.32	10.92	89.9
13/08/2011 23:38:10.000'	-0.99	27.27	77.5	1022.32	10.92	89.9
14/08/2011 00:38:10.000'	-0.99	27.26	77.5	1022.32	10.91	89.8
14/08/2011 01:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.8
14/08/2011 02:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.8
14/08/2011 03:38:10.000'	-0.99	27.27	77.5	1022.32	10.90	89.8
14/08/2011 04:38:10.000'	-0.99	27.27	77.5	1022.32	10.91	89.8
14/08/2011 05:38:10.000'	-0.99	27.26	77.5	1022.32	10.91	89.8
14/08/2011 06:38:10.000'	-0.99	27.27	77.5	1022.32	10.91	89.9
14/08/2011 07:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.8
14/08/2011 08:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.8
14/08/2011 09:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.7
14/08/2011 10:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.7
14/08/2011 11:38:10.000'	-0.99	27.26	77.5	1022.32	10.91	89.8
14/08/2011 12:38:10.000'	-0.99	27.27	77.5	1022.32	10.90	89.8
14/08/2011 13:38:10.000'	-0.99	27.26	77.6	1022.32	10.92	89.9
14/08/2011 14:38:10.000'	-0.99	27.26	77.6	1022.32	10.92	89.9
14/08/2011 15:38:10.000'	-0.99	27.26	77.7	1022.32	10.92	89.9
14/08/2011 16:38:10.000'	-0.99	27.26	77.8	1022.32	10.92	89.9
14/08/2011 17:38:10.000'	-0.99	27.27	77.8	1022.32	10.91	89.8
14/08/2011 18:38:10.000'	-0.99	27.26	77.8	1022.32	10.92	89.9
14/08/2011 19:38:10.000'	-0.99	27.26	77.8	1022.32	10.90	89.8
14/08/2011 20:38:10.000'	-0.99	27.27	77.7	1022.32	10.91	89.9
14/08/2011 21:38:10.000'	-0.99	27.27	77.6	1022.32	10.91	89.8
14/08/2011 22:38:10.000'	-0.99	27.27	77.6	1022.32	10.90	89.8
14/08/2011 23:38:10.000'	-0.99	27.26	77.5	1022.32	10.90	89.8
15/08/2011 00:38:10.000'	-0.99	27.27	77.5	1022.32	10.90	89.8
15/08/2011 01:38:10.000'	-0.99	27.27	77.4	1022.32	10.90	89.8
15/08/2011 02:38:10.000'	-0.99	27.27	77.4	1022.32	10.91	89.8
15/08/2011 03:38:10.000'	-0.99	27.27	77.4	1022.32	10.92	89.9
15/08/2011 04:38:10.000'	-0.98	27.27	77.4	1022.32	10.92	90.0
15/08/2011 05:38:10.000'	-0.98	27.27	77.4	1022.32	10.92	89.9
15/08/2011 06:38:10.000'	-0.98	27.27	77.4	1022.32	10.92	90.0
15/08/2011 07:38:10.000'	-0.98	27.27	77.4	1022.32	10.92	89.9
15/08/2011 08:38:10.000'	-0.98	27.27	77.4	1022.32	10.93	90.0
15/08/2011 09:38:10.000'	-0.98	27.27	77.4	1022.32	10.92	89.9

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
15/08/2011 10:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.9
15/08/2011 11:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.9
15/08/2011 12:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.9
15/08/2011 13:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.9
15/08/2011 14:38:10.000'	-0.98	27.27	77.5	1022.32	10.91	89.9
15/08/2011 15:38:10.000'	-0.98	27.27	77.6	1022.32	10.92	90.0
15/08/2011 16:38:10.000'	-0.98	27.27	77.6	1022.32	10.92	90.0
15/08/2011 17:38:10.000'	-0.98	27.27	77.7	1022.32	10.93	90.1
15/08/2011 18:38:10.000'	-0.98	27.27	77.7	1022.32	10.93	90.0
15/08/2011 19:38:10.000'	-0.98	27.27	77.7	1022.32	10.93	90.0
15/08/2011 20:38:10.000'	-0.98	27.27	77.6	1022.32	10.91	89.9
15/08/2011 21:38:10.000'	-0.98	27.28	77.6	1022.33	10.88	89.7
15/08/2011 22:38:10.000'	-0.98	27.28	77.5	1022.32	10.89	89.7
15/08/2011 23:38:10.000'	-0.98	27.28	77.5	1022.32	10.90	89.8
16/08/2011 00:38:10.000'	-0.98	27.28	77.4	1022.32	10.91	89.8
16/08/2011 01:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.8
16/08/2011 02:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.8
16/08/2011 03:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.9
16/08/2011 04:38:10.000'	-0.98	27.27	77.4	1022.32	10.91	89.8
16/08/2011 05:38:10.000'	-0.98	27.28	77.4	1022.32	10.92	90.0
16/08/2011 06:38:10.000'	-0.97	27.28	77.4	1022.33	10.93	90.0
16/08/2011 07:38:10.000'	-0.97	27.29	77.4	1022.33	10.96	90.3
16/08/2011 08:38:10.000'	-0.97	27.29	77.4	1022.33	10.97	90.4
16/08/2011 09:38:10.000'	-0.97	27.28	77.4	1022.33	10.96	90.3
16/08/2011 10:38:10.000'	-0.97	27.28	77.4	1022.33	10.97	90.4
16/08/2011 11:38:10.000'	-0.97	27.29	77.4	1022.33	10.96	90.3
16/08/2011 12:38:10.000'	-0.97	27.29	77.4	1022.33	10.95	90.2
16/08/2011 13:38:10.000'	-0.97	27.29	77.4	1022.33	10.96	90.3
16/08/2011 14:38:10.000'	-0.97	27.29	77.4	1022.34	10.95	90.3
16/08/2011 15:38:10.000'	-0.97	27.29	77.5	1022.34	10.95	90.2
16/08/2011 16:38:10.000'	-0.97	27.29	77.6	1022.33	10.94	90.1
16/08/2011 17:38:10.000'	-0.97	27.29	77.6	1022.34	10.94	90.2
16/08/2011 18:38:10.000'	-0.96	27.29	77.6	1022.34	10.93	90.1
16/08/2011 19:38:10.000'	-0.96	27.29	77.6	1022.34	10.94	90.2
16/08/2011 20:38:10.000'	-0.96	27.29	77.6	1022.34	10.94	90.2
16/08/2011 21:38:10.000'	-0.96	27.29	77.6	1022.34	10.94	90.2
16/08/2011 22:38:10.000'	-0.96	27.29	77.5	1022.34	10.94	90.2
16/08/2011 23:38:10.000'	-0.96	27.29	77.5	1022.34	10.95	90.2
17/08/2011 00:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.2
17/08/2011 01:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3
17/08/2011 02:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.2
17/08/2011 03:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3
17/08/2011 04:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3
17/08/2011 05:38:10.000'	-0.96	27.29	77.4	1022.34	10.94	90.2
17/08/2011 06:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3
17/08/2011 07:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
17/08/2011 08:38:10.000'	-0.96	27.29	77.4	1022.34	10.95	90.3
17/08/2011 09:38:10.000'	-0.95	27.30	77.4	1022.34	10.95	90.3
17/08/2011 10:38:10.000'	-0.95	27.30	77.4	1022.34	10.95	90.3
17/08/2011 11:38:10.000'	-0.95	27.30	77.4	1022.34	10.95	90.3
17/08/2011 12:38:10.000'	-0.95	27.30	77.4	1022.34	10.96	90.3
17/08/2011 13:38:10.000'	-0.95	27.30	77.4	1022.34	10.96	90.4
17/08/2011 14:38:10.000'	-0.95	27.30	77.5	1022.34	10.96	90.3
17/08/2011 15:38:10.000'	-0.95	27.30	77.5	1022.34	10.97	90.4
17/08/2011 16:38:10.000'	-0.94	27.30	77.6	1022.35	10.99	90.6
17/08/2011 17:38:10.000'	-0.94	27.30	77.6	1022.35	11.00	90.7
17/08/2011 18:38:10.000'	-0.93	27.31	77.6	1022.35	11.00	90.8
17/08/2011 19:38:10.000'	-0.93	27.31	77.6	1022.35	11.02	90.9
17/08/2011 20:38:10.000'	-0.93	27.31	77.6	1022.35	11.02	90.9
17/08/2011 21:38:10.000'	-0.93	27.31	77.6	1022.35	11.02	90.9
17/08/2011 22:38:10.000'	-0.93	27.31	77.5	1022.35	11.02	90.9
17/08/2011 23:38:10.000'	-0.93	27.31	77.5	1022.35	11.02	90.9
18/08/2011 00:38:10.000'	-0.92	27.31	77.4	1022.35	11.03	91.0
18/08/2011 01:38:10.000'	-0.92	27.31	77.4	1022.35	11.02	90.9
18/08/2011 02:38:10.000'	-0.92	27.31	77.4	1022.35	11.04	91.1
18/08/2011 03:38:10.000'	-0.92	27.31	77.4	1022.35	11.02	91.0
18/08/2011 04:38:10.000'	-0.92	27.31	77.4	1022.35	11.02	91.0
18/08/2011 05:38:10.000'	-0.92	27.31	77.4	1022.36	11.00	90.8
18/08/2011 06:38:10.000'	-0.91	27.32	77.4	1022.36	11.00	90.8
18/08/2011 07:38:10.000'	-0.91	27.32	77.5	1022.36	11.01	90.9
18/08/2011 08:38:10.000'	-0.91	27.32	77.5	1022.36	11.01	90.9
18/08/2011 09:38:10.000'	-0.91	27.32	77.5	1022.36	11.01	91.0
18/08/2011 10:38:10.000'	-0.90	27.32	77.5	1022.36	11.02	91.0
18/08/2011 11:38:10.000'	-0.91	27.32	77.5	1022.36	11.04	91.2
18/08/2011 12:38:10.000'	-0.90	27.33	77.4	1022.37	11.04	91.1
18/08/2011 13:38:10.000'	-0.90	27.32	77.4	1022.36	11.03	91.1
18/08/2011 14:38:10.000'	-0.89	27.33	77.4	1022.37	11.03	91.1
18/08/2011 15:38:10.000'	-0.89	27.33	77.5	1022.37	11.04	91.2
18/08/2011 16:38:10.000'	-0.87	27.34	77.5	1022.37	11.06	91.4
18/08/2011 17:38:10.000'	-0.86	27.35	77.6	1022.38	11.09	91.7
18/08/2011 18:38:10.000'	-0.86	27.34	77.6	1022.38	11.08	91.6
18/08/2011 19:38:10.000'	-0.86	27.35	77.6	1022.38	11.08	91.6
18/08/2011 20:38:10.000'	-0.87	27.34	77.6	1022.38	11.06	91.5
18/08/2011 21:38:10.000'	-0.86	27.34	77.6	1022.38	11.07	91.5
18/08/2011 22:38:10.000'	-0.87	27.33	77.6	1022.37	11.06	91.4
18/08/2011 23:38:10.000'	-0.87	27.33	77.5	1022.37	11.04	91.2
19/08/2011 00:38:10.000'	-0.88	27.33	77.4	1022.37	11.05	91.3
19/08/2011 01:38:10.000'	-0.88	27.33	77.4	1022.37	11.04	91.3
19/08/2011 02:38:10.000'	-0.88	27.33	77.4	1022.37	11.03	91.2
19/08/2011 03:38:10.000'	-0.89	27.33	77.4	1022.36	11.03	91.1
19/08/2011 04:38:10.000'	-0.90	27.32	77.4	1022.36	11.03	91.1
19/08/2011 05:38:10.000'	-0.90	27.32	77.4	1022.36	11.03	91.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
19/08/2011 06:38:10.000'	-0.91	27.32	77.5	1022.36	11.01	90.9
19/08/2011 07:38:10.000'	-0.93	27.31	77.5	1022.35	10.99	90.6
19/08/2011 08:38:10.000'	-0.94	27.30	77.5	1022.35	10.97	90.5
19/08/2011 09:38:10.000'	-0.94	27.30	77.5	1022.35	10.97	90.5
19/08/2011 10:38:10.000'	-0.94	27.30	77.5	1022.35	10.95	90.3
19/08/2011 11:38:10.000'	-0.94	27.30	77.5	1022.35	10.96	90.4
19/08/2011 12:38:10.000'	-0.94	27.30	77.5	1022.35	10.94	90.2
19/08/2011 13:38:10.000'	-0.94	27.30	77.5	1022.35	10.94	90.2
19/08/2011 14:38:10.000'	-0.94	27.30	77.5	1022.35	10.94	90.2
19/08/2011 15:38:10.000'	-0.94	27.31	77.5	1022.35	10.94	90.2
19/08/2011 16:38:10.000'	-0.94	27.30	77.6	1022.35	10.94	90.2
19/08/2011 17:38:10.000'	-0.94	27.30	77.6	1022.35	10.94	90.2
19/08/2011 18:38:10.000'	-0.95	27.30	77.7	1022.34	10.93	90.1
19/08/2011 19:38:10.000'	-0.96	27.29	77.7	1022.34	10.87	89.6
19/08/2011 20:38:10.000'	-0.96	27.29	77.7	1022.34	10.87	89.6
19/08/2011 21:38:10.000'	-0.96	27.29	77.7	1022.34	10.87	89.6
19/08/2011 22:38:10.000'	-0.94	27.31	77.7	1022.35	10.93	90.2
19/08/2011 23:38:10.000'	-0.90	27.33	77.6	1022.37	10.99	90.8
20/08/2011 00:38:10.000'	-0.89	27.33	77.5	1022.37	11.01	91.0
20/08/2011 01:38:10.000'	-0.87	27.34	77.5	1022.38	11.03	91.2
20/08/2011 02:38:10.000'	-0.87	27.34	77.5	1022.38	11.03	91.2
20/08/2011 03:38:10.000'	-0.88	27.34	77.5	1022.38	11.03	91.2
20/08/2011 04:38:10.000'	-0.88	27.34	77.5	1022.37	11.02	91.1
20/08/2011 05:38:10.000'	-0.88	27.34	77.5	1022.37	11.03	91.2
20/08/2011 06:38:10.000'	-0.88	27.34	77.5	1022.38	11.02	91.1
20/08/2011 07:38:10.000'	-0.88	27.35	77.5	1022.38	11.04	91.3
20/08/2011 08:38:10.000'	-0.87	27.35	77.6	1022.38	11.05	91.3
20/08/2011 09:38:10.000'	-0.86	27.35	77.6	1022.38	11.05	91.4
20/08/2011 10:38:10.000'	-0.85	27.35	77.6	1022.39	11.06	91.4
20/08/2011 11:38:10.000'	-0.85	27.36	77.6	1022.39	11.06	91.5
20/08/2011 12:38:10.000'	-0.83	27.37	77.5	1022.40	11.08	91.7
20/08/2011 13:38:10.000'	-0.82	27.37	77.5	1022.40	11.08	91.8
20/08/2011 14:38:10.000'	-0.82	27.37	77.5	1022.40	11.09	91.8
20/08/2011 15:38:10.000'	-0.81	27.38	77.5	1022.41	11.10	91.9
20/08/2011 16:38:10.000'	-0.80	27.38	77.5	1022.41	11.11	92.0
20/08/2011 17:38:10.000'	-0.79	27.39	77.6	1022.41	11.12	92.1
20/08/2011 18:38:10.000'	-0.79	27.39	77.6	1022.41	11.13	92.3
20/08/2011 19:38:10.000'	-0.79	27.39	77.6	1022.41	11.13	92.3
20/08/2011 20:38:10.000'	-0.78	27.39	77.6	1022.42	11.14	92.3
20/08/2011 21:38:10.000'	-0.77	27.40	77.6	1022.42	11.14	92.4
20/08/2011 22:38:10.000'	-0.77	27.40	77.6	1022.42	11.14	92.3
20/08/2011 23:38:10.000'	-0.77	27.40	77.5	1022.42	11.15	92.5
21/08/2011 00:38:10.000'	-0.76	27.40	77.5	1022.42	11.15	92.5
21/08/2011 01:38:10.000'	-0.77	27.40	77.4	1022.42	11.15	92.5
21/08/2011 02:38:10.000'	-0.75	27.40	77.4	1022.42	11.18	92.7
21/08/2011 03:38:10.000'	-0.75	27.40	77.3	1022.42	11.18	92.7

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
21/08/2011 04:38:10.000'	-0.75	27.40	77.3	1022.42	11.17	92.7
21/08/2011 05:38:10.000'	-0.75	27.40	77.3	1022.42	11.18	92.8
21/08/2011 06:38:10.000'	-0.75	27.40	77.3	1022.42	11.17	92.7
21/08/2011 07:38:10.000'	-0.75	27.40	77.4	1022.42	11.18	92.8
21/08/2011 08:38:10.000'	-0.75	27.40	77.4	1022.42	11.17	92.7
21/08/2011 09:38:10.000'	-0.75	27.40	77.4	1022.42	11.16	92.6
21/08/2011 10:38:10.000'	-0.75	27.40	77.4	1022.42	11.16	92.6
21/08/2011 11:38:10.000'	-0.75	27.40	77.4	1022.42	11.15	92.5
21/08/2011 12:38:10.000'	-0.76	27.39	77.4	1022.42	11.14	92.4
21/08/2011 13:38:10.000'	-0.77	27.39	77.4	1022.42	11.15	92.5
21/08/2011 14:38:10.000'	-0.77	27.39	77.3	1022.42	11.15	92.5
21/08/2011 15:38:10.000'	-0.77	27.40	77.3	1022.42	11.15	92.5
21/08/2011 16:38:10.000'	-0.76	27.40	77.3	1022.42	11.15	92.5
21/08/2011 17:38:10.000'	-0.76	27.40	77.3	1022.42	11.15	92.5
21/08/2011 18:38:10.000'	-0.76	27.40	77.4	1022.42	11.16	92.5
21/08/2011 19:38:10.000'	-0.77	27.39	77.4	1022.42	11.15	92.5
21/08/2011 20:38:10.000'	-0.77	27.39	77.4	1022.42	11.14	92.4
21/08/2011 21:38:10.000'	-0.77	27.39	77.4	1022.42	11.14	92.4
21/08/2011 22:38:10.000'	-0.77	27.39	77.4	1022.41	11.14	92.4
21/08/2011 23:38:10.000'	-0.77	27.39	77.4	1022.42	11.14	92.4
22/08/2011 00:38:10.000'	-0.77	27.39	77.3	1022.41	11.14	92.4
22/08/2011 01:38:10.000'	-0.77	27.39	77.3	1022.41	11.14	92.4
22/08/2011 02:38:10.000'	-0.77	27.39	77.3	1022.41	11.15	92.5
22/08/2011 03:38:10.000'	-0.77	27.39	77.2	1022.42	11.14	92.4
22/08/2011 04:38:10.000'	-0.77	27.39	77.2	1022.41	11.15	92.5
22/08/2011 05:38:10.000'	-0.77	27.39	77.2	1022.41	11.14	92.4
22/08/2011 06:38:10.000'	-0.78	27.39	77.3	1022.41	11.15	92.4
22/08/2011 07:38:10.000'	-0.78	27.39	77.3	1022.41	11.14	92.3
22/08/2011 08:38:10.000'	-0.79	27.38	77.3	1022.41	11.13	92.2
22/08/2011 09:38:10.000'	-0.79	27.38	77.3	1022.41	11.13	92.2
22/08/2011 10:38:10.000'	-0.81	27.37	77.3	1022.40	11.09	91.9
22/08/2011 11:38:10.000'	-0.81	27.37	77.3	1022.40	11.08	91.7
22/08/2011 12:38:10.000'	-0.81	27.37	77.3	1022.39	11.07	91.6
22/08/2011 13:38:10.000'	-0.81	27.37	77.3	1022.39	11.07	91.7
22/08/2011 14:38:10.000'	-0.81	27.37	77.3	1022.39	11.07	91.7
22/08/2011 15:38:10.000'	-0.81	27.37	77.3	1022.39	11.07	91.7
22/08/2011 16:38:10.000'	-0.81	27.37	77.3	1022.40	11.08	91.8
22/08/2011 17:38:10.000'	-0.83	27.36	77.4	1022.39	11.08	91.7
22/08/2011 18:38:10.000'	-0.83	27.36	77.4	1022.39	11.08	91.7
22/08/2011 19:38:10.000'	-0.83	27.36	77.4	1022.39	11.08	91.7
22/08/2011 20:38:10.000'	-0.83	27.36	77.4	1022.39	11.08	91.7
22/08/2011 21:38:10.000'	-0.82	27.37	77.4	1022.40	11.09	91.8
22/08/2011 22:38:10.000'	-0.82	27.37	77.4	1022.40	11.09	91.9
22/08/2011 23:38:10.000'	-0.80	27.38	77.4	1022.41	11.11	92.0
23/08/2011 00:38:10.000'	-0.80	27.38	77.4	1022.40	11.10	92.0
23/08/2011 01:38:10.000'	-0.80	27.38	77.4	1022.40	11.10	91.9

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
23/08/2011 02:38:10.000'	-0.80	27.38	77.4	1022.40	11.08	91.8
23/08/2011 03:38:10.000'	-0.80	27.38	77.4	1022.40	11.09	91.9
23/08/2011 04:38:10.000'	-0.80	27.38	77.4	1022.40	11.10	92.0
23/08/2011 05:38:10.000'	-0.80	27.38	77.4	1022.41	11.09	91.9
23/08/2011 06:38:10.000'	-0.80	27.38	77.4	1022.41	11.09	91.9
23/08/2011 07:38:10.000'	-0.80	27.38	77.5	1022.41	11.06	91.7
23/08/2011 08:38:10.000'	-0.84	27.36	77.5	1022.39	11.04	91.3
23/08/2011 09:38:10.000'	-0.86	27.34	77.5	1022.38	11.03	91.2
23/08/2011 10:38:10.000'	-0.86	27.35	77.6	1022.38	11.02	91.1
23/08/2011 11:38:10.000'	-0.87	27.34	77.6	1022.38	11.00	91.0
23/08/2011 12:38:10.000'	-0.87	27.34	77.6	1022.38	11.00	90.9
23/08/2011 13:38:10.000'	-0.88	27.34	77.6	1022.37	10.96	90.6
23/08/2011 14:38:10.000'	-0.88	27.34	77.6	1022.37	10.93	90.3
23/08/2011 15:38:10.000'	-0.88	27.33	77.6	1022.37	10.94	90.4
23/08/2011 16:38:10.000'	-0.90	27.32	77.6	1022.36	10.92	90.2
23/08/2011 17:38:10.000'	-0.90	27.32	77.6	1022.36	10.89	89.9
23/08/2011 18:38:10.000'	-0.90	27.32	77.6	1022.36	10.90	90.0
23/08/2011 19:38:10.000'	-0.90	27.32	77.6	1022.36	10.90	90.0
23/08/2011 20:38:10.000'	-0.89	27.33	77.6	1022.37	10.92	90.2
23/08/2011 21:38:10.000'	-0.87	27.34	77.6	1022.38	10.95	90.5
23/08/2011 22:38:10.000'	-0.86	27.34	77.6	1022.38	10.98	90.8
23/08/2011 23:38:10.000'	-0.86	27.34	77.5	1022.38	10.97	90.7
24/08/2011 00:38:10.000'	-0.85	27.35	77.5	1022.38	10.97	90.7
24/08/2011 01:38:10.000'	-0.85	27.35	77.5	1022.38	10.99	90.9
24/08/2011 02:38:10.000'	-0.85	27.35	77.4	1022.38	10.98	90.8
24/08/2011 03:38:10.000'	-0.85	27.35	77.4	1022.38	10.99	90.9
24/08/2011 04:38:10.000'	-0.85	27.35	77.4	1022.38	10.98	90.8
24/08/2011 05:38:10.000'	-0.85	27.35	77.4	1022.38	11.00	91.0
24/08/2011 06:38:10.000'	-0.84	27.36	77.4	1022.39	11.01	91.1
24/08/2011 07:38:10.000'	-0.83	27.36	77.5	1022.39	11.01	91.1
24/08/2011 08:38:10.000'	-0.83	27.36	77.5	1022.39	11.01	91.1
24/08/2011 09:38:10.000'	-0.83	27.36	77.6	1022.39	11.01	91.1
24/08/2011 10:38:10.000'	-0.84	27.36	77.6	1022.39	11.00	91.0
24/08/2011 11:38:10.000'	-0.84	27.35	77.6	1022.39	10.98	90.8
24/08/2011 12:38:10.000'	-0.84	27.35	77.7	1022.39	10.97	90.7
24/08/2011 13:38:10.000'	-0.84	27.35	77.7	1022.39	10.97	90.7
24/08/2011 14:38:10.000'	-0.84	27.35	77.7	1022.39	10.97	90.7
24/08/2011 15:38:10.000'	-0.84	27.36	77.7	1022.39	10.97	90.7
24/08/2011 16:38:10.000'	-0.84	27.35	77.6	1022.39	10.97	90.7
24/08/2011 17:38:10.000'	-0.84	27.36	77.6	1022.39	10.99	91.0
24/08/2011 18:38:10.000'	-0.84	27.36	77.6	1022.39	10.99	91.0
24/08/2011 19:38:10.000'	-0.84	27.36	77.6	1022.39	11.01	91.1
24/08/2011 20:38:10.000'	-0.83	27.36	77.5	1022.39	11.01	91.1
24/08/2011 21:38:10.000'	-0.80	27.38	77.5	1022.41	11.03	91.4
24/08/2011 22:38:10.000'	-0.80	27.38	77.5	1022.41	11.03	91.4
24/08/2011 23:38:10.000'	-0.79	27.39	77.5	1022.41	11.04	91.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
25/08/2011 00:38:10.000'	-0.78	27.40	77.5	1022.42	11.04	91.5
25/08/2011 01:38:10.000'	-0.77	27.40	77.5	1022.42	11.05	91.7
25/08/2011 02:38:10.000'	-0.76	27.41	77.5	1022.43	11.04	91.6
25/08/2011 03:38:10.000'	-0.76	27.41	77.4	1022.43	11.04	91.6
25/08/2011 04:38:10.000'	-0.76	27.41	77.4	1022.43	11.03	91.5
25/08/2011 05:38:10.000'	-0.76	27.41	77.4	1022.43	11.04	91.6
25/08/2011 06:38:10.000'	-0.76	27.41	77.4	1022.43	11.04	91.6
25/08/2011 07:38:10.000'	-0.76	27.41	77.4	1022.43	11.04	91.6
25/08/2011 08:38:10.000'	-0.77	27.40	77.5	1022.42	11.05	91.6
25/08/2011 09:38:10.000'	-0.77	27.40	77.5	1022.42	11.05	91.6
25/08/2011 10:38:10.000'	-0.77	27.40	77.6	1022.42	11.05	91.6
25/08/2011 11:38:10.000'	-0.77	27.40	77.6	1022.42	11.05	91.6
25/08/2011 12:38:10.000'	-0.77	27.40	77.7	1022.42	11.04	91.6
25/08/2011 13:38:10.000'	-0.77	27.40	77.7	1022.42	11.05	91.6
25/08/2011 14:38:10.000'	-0.77	27.40	77.7	1022.42	11.04	91.6
25/08/2011 15:38:10.000'	-0.77	27.40	77.7	1022.42	11.04	91.6
25/08/2011 16:38:10.000'	-0.77	27.40	77.7	1022.43	11.04	91.5
25/08/2011 17:38:10.000'	-0.76	27.40	77.7	1022.43	11.04	91.5
25/08/2011 18:38:10.000'	-0.76	27.40	77.6	1022.43	11.04	91.6
25/08/2011 19:38:10.000'	-0.77	27.40	77.6	1022.42	11.03	91.5
25/08/2011 20:38:10.000'	-0.77	27.40	77.6	1022.42	11.06	91.7
25/08/2011 21:38:10.000'	-0.77	27.40	77.5	1022.42	11.05	91.7
25/08/2011 22:38:10.000'	-0.77	27.40	77.5	1022.42	11.05	91.7
25/08/2011 23:38:10.000'	-0.76	27.40	77.5	1022.42	11.06	91.7
26/08/2011 00:38:10.000'	-0.76	27.40	77.5	1022.42	11.05	91.6
26/08/2011 01:38:10.000'	-0.76	27.40	77.5	1022.42	11.05	91.6
26/08/2011 02:38:10.000'	-0.76	27.40	77.5	1022.42	11.04	91.6
26/08/2011 03:38:10.000'	-0.76	27.40	77.5	1022.42	11.04	91.6
26/08/2011 04:38:10.000'	-0.76	27.40	77.5	1022.42	11.03	91.5
26/08/2011 05:38:10.000'	-0.76	27.40	77.5	1022.42	11.04	91.6
26/08/2011 06:38:10.000'	-0.77	27.40	77.5	1022.42	11.06	91.7
26/08/2011 07:38:10.000'	-0.77	27.39	77.5	1022.42	11.06	91.7
26/08/2011 08:38:10.000'	-0.78	27.39	77.5	1022.42	11.06	91.7
26/08/2011 09:38:10.000'	-0.78	27.39	77.6	1022.41	11.05	91.6
26/08/2011 10:38:10.000'	-0.78	27.39	77.6	1022.41	11.05	91.6
26/08/2011 11:38:10.000'	-0.79	27.39	77.7	1022.41	11.05	91.6
26/08/2011 12:38:10.000'	-0.79	27.38	77.7	1022.41	11.04	91.5
26/08/2011 13:38:10.000'	-0.79	27.38	77.8	1022.41	11.04	91.5
26/08/2011 14:38:10.000'	-0.79	27.38	77.8	1022.41	11.03	91.4
26/08/2011 15:38:10.000'	-0.80	27.38	77.8	1022.41	11.03	91.4
26/08/2011 16:38:10.000'	-0.80	27.38	77.8	1022.41	11.02	91.3
26/08/2011 17:38:10.000'	-0.80	27.38	77.8	1022.41	11.03	91.4
26/08/2011 18:38:10.000'	-0.80	27.38	77.7	1022.41	11.03	91.4
26/08/2011 19:38:10.000'	-0.80	27.38	77.6	1022.41	11.00	91.2
26/08/2011 20:38:10.000'	-0.80	27.38	77.6	1022.41	11.01	91.2
26/08/2011 21:38:10.000'	-0.79	27.38	77.5	1022.41	11.00	91.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
26/08/2011 22:38:10.000'	-0.80	27.38	77.5	1022.41	10.98	91.0
26/08/2011 23:38:10.000'	-0.81	27.37	77.5	1022.40	11.00	91.1
27/08/2011 00:38:10.000'	-0.81	27.37	77.5	1022.40	11.00	91.1
27/08/2011 01:38:10.000'	-0.81	27.37	77.5	1022.40	11.01	91.2
27/08/2011 02:38:10.000'	-0.80	27.37	77.5	1022.40	11.00	91.2
27/08/2011 03:38:10.000'	-0.80	27.38	77.5	1022.41	11.00	91.1
27/08/2011 04:38:10.000'	-0.80	27.38	77.5	1022.41	11.00	91.2
27/08/2011 05:38:10.000'	-0.80	27.38	77.4	1022.41	11.00	91.1
27/08/2011 06:38:10.000'	-0.81	27.37	77.4	1022.40	10.99	91.0
27/08/2011 07:38:10.000'	-0.81	27.37	77.4	1022.40	10.98	90.9
27/08/2011 08:38:10.000'	-0.82	27.37	77.4	1022.40	10.98	90.9
27/08/2011 09:38:10.000'	-0.82	27.37	77.5	1022.40	10.95	90.7
27/08/2011 10:38:10.000'	-0.82	27.37	77.5	1022.40	10.95	90.7
27/08/2011 11:38:10.000'	-0.82	27.37	77.6	1022.40	10.95	90.7
27/08/2011 12:38:10.000'	-0.83	27.37	77.6	1022.40	10.95	90.7
27/08/2011 13:38:10.000'	-0.83	27.36	77.7	1022.39	10.94	90.6
27/08/2011 14:38:10.000'	-0.83	27.36	77.7	1022.39	10.93	90.5
27/08/2011 15:38:10.000'	-0.83	27.36	77.7	1022.39	10.92	90.4
27/08/2011 16:38:10.000'	-0.83	27.36	77.7	1022.39	10.93	90.5
27/08/2011 17:38:10.000'	-0.84	27.36	77.7	1022.39	10.93	90.4
27/08/2011 18:38:10.000'	-0.84	27.36	77.7	1022.39	10.93	90.5
27/08/2011 19:38:10.000'	-0.84	27.36	77.6	1022.39	10.93	90.4
27/08/2011 20:38:10.000'	-0.84	27.36	77.6	1022.39	10.93	90.5
27/08/2011 21:38:10.000'	-0.84	27.36	77.5	1022.39	10.92	90.4
27/08/2011 22:38:10.000'	-0.83	27.36	77.5	1022.39	10.93	90.5
27/08/2011 23:38:10.000'	-0.83	27.36	77.5	1022.39	10.94	90.6
28/08/2011 00:38:10.000'	-0.83	27.36	77.5	1022.39	10.94	90.6
28/08/2011 01:38:10.000'	-0.83	27.36	77.5	1022.39	10.93	90.5
28/08/2011 02:38:10.000'	-0.83	27.36	77.5	1022.39	10.92	90.4
28/08/2011 03:38:10.000'	-0.83	27.36	77.5	1022.39	10.91	90.3
28/08/2011 04:38:10.000'	-0.82	27.37	77.5	1022.40	10.92	90.4
28/08/2011 05:38:10.000'	-0.82	27.37	77.5	1022.40	10.92	90.4
28/08/2011 06:38:10.000'	-0.82	27.37	77.5	1022.39	10.91	90.3
28/08/2011 07:38:10.000'	-0.81	27.37	77.5	1022.40	10.92	90.4
28/08/2011 08:38:10.000'	-0.81	27.37	77.5	1022.40	10.92	90.4
28/08/2011 09:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.3
28/08/2011 10:38:10.000'	-0.81	27.37	77.5	1022.40	10.87	90.0
28/08/2011 11:38:10.000'	-0.81	27.37	77.6	1022.40	10.88	90.1
28/08/2011 12:38:10.000'	-0.81	27.37	77.6	1022.40	10.88	90.1
28/08/2011 13:38:10.000'	-0.81	27.37	77.7	1022.40	10.89	90.2
28/08/2011 14:38:10.000'	-0.82	27.37	77.8	1022.40	10.89	90.2
28/08/2011 15:38:10.000'	-0.82	27.37	77.8	1022.40	10.88	90.1
28/08/2011 16:38:10.000'	-0.82	27.37	77.8	1022.40	10.90	90.3
28/08/2011 17:38:10.000'	-0.82	27.37	77.8	1022.40	10.90	90.2
28/08/2011 18:38:10.000'	-0.82	27.37	77.8	1022.40	10.91	90.3
28/08/2011 19:38:10.000'	-0.82	27.37	77.7	1022.40	10.92	90.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
28/08/2011 20:38:10.000'	-0.82	27.37	77.7	1022.40	10.91	90.3
28/08/2011 21:38:10.000'	-0.82	27.37	77.6	1022.40	10.91	90.3
28/08/2011 22:38:10.000'	-0.82	27.37	77.6	1022.39	10.91	90.3
28/08/2011 23:38:10.000'	-0.82	27.37	77.5	1022.40	10.90	90.3
29/08/2011 00:38:10.000'	-0.82	27.37	77.5	1022.40	10.89	90.2
29/08/2011 01:38:10.000'	-0.82	27.37	77.5	1022.40	10.90	90.3
29/08/2011 02:38:10.000'	-0.82	27.37	77.5	1022.40	10.91	90.3
29/08/2011 03:38:10.000'	-0.82	27.37	77.6	1022.40	10.90	90.3
29/08/2011 04:38:10.000'	-0.82	27.36	77.6	1022.39	10.90	90.3
29/08/2011 05:38:10.000'	-0.81	27.37	77.6	1022.40	10.90	90.3
29/08/2011 06:38:10.000'	-0.81	27.38	77.5	1022.40	10.89	90.2
29/08/2011 07:38:10.000'	-0.81	27.37	77.5	1022.40	10.89	90.2
29/08/2011 08:38:10.000'	-0.81	27.37	77.5	1022.40	10.89	90.2
29/08/2011 09:38:10.000'	-0.81	27.38	77.5	1022.40	10.89	90.2
29/08/2011 10:38:10.000'	-0.82	27.37	77.5	1022.40	10.90	90.2
29/08/2011 11:38:10.000'	-0.82	27.36	77.5	1022.39	10.90	90.2
29/08/2011 12:38:10.000'	-0.82	27.36	77.5	1022.39	10.91	90.3
29/08/2011 13:38:10.000'	-0.82	27.36	77.6	1022.39	10.91	90.3
29/08/2011 14:38:10.000'	-0.82	27.37	77.7	1022.40	10.89	90.2
29/08/2011 15:38:10.000'	-0.82	27.37	77.8	1022.40	10.90	90.2
29/08/2011 16:38:10.000'	-0.82	27.36	77.8	1022.40	10.90	90.2
29/08/2011 17:38:10.000'	-0.82	27.37	77.8	1022.40	10.91	90.3
29/08/2011 18:38:10.000'	-0.82	27.36	77.8	1022.40	10.91	90.3
29/08/2011 19:38:10.000'	-0.81	27.37	77.7	1022.40	10.91	90.4
29/08/2011 20:38:10.000'	-0.82	27.37	77.6	1022.40	10.91	90.3
29/08/2011 21:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.3
29/08/2011 22:38:10.000'	-0.82	27.37	77.5	1022.40	10.90	90.3
29/08/2011 23:38:10.000'	-0.82	27.37	77.4	1022.40	10.91	90.3
30/08/2011 00:38:10.000'	-0.82	27.36	77.4	1022.39	10.92	90.4
30/08/2011 01:38:10.000'	-0.82	27.37	77.4	1022.39	10.91	90.4
30/08/2011 02:38:10.000'	-0.82	27.37	77.5	1022.40	10.91	90.3
30/08/2011 03:38:10.000'	-0.82	27.37	77.5	1022.40	10.91	90.3
30/08/2011 04:38:10.000'	-0.81	27.37	77.5	1022.40	10.89	90.2
30/08/2011 05:38:10.000'	-0.82	27.37	77.5	1022.40	10.88	90.1
30/08/2011 06:38:10.000'	-0.82	27.37	77.5	1022.40	10.88	90.1
30/08/2011 07:38:10.000'	-0.82	27.37	77.5	1022.40	10.88	90.1
30/08/2011 08:38:10.000'	-0.82	27.37	77.5	1022.40	10.86	89.9
30/08/2011 09:38:10.000'	-0.82	27.37	77.5	1022.40	10.87	90.0
30/08/2011 10:38:10.000'	-0.82	27.37	77.5	1022.40	10.86	90.0
30/08/2011 11:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.4
30/08/2011 12:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.4
30/08/2011 13:38:10.000'	-0.81	27.37	77.5	1022.40	10.93	90.5
30/08/2011 14:38:10.000'	-0.81	27.37	77.6	1022.40	10.92	90.5
30/08/2011 15:38:10.000'	-0.80	27.38	77.7	1022.40	10.93	90.6
30/08/2011 16:38:10.000'	-0.80	27.38	77.8	1022.41	10.92	90.5
30/08/2011 17:38:10.000'	-0.80	27.38	77.8	1022.41	10.92	90.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
30/08/2011 18:38:10.000'	-0.80	27.38	77.8	1022.41	10.92	90.5
30/08/2011 19:38:10.000'	-0.81	27.37	77.7	1022.40	10.91	90.3
30/08/2011 20:38:10.000'	-0.81	27.37	77.7	1022.40	10.91	90.4
30/08/2011 21:38:10.000'	-0.81	27.37	77.6	1022.40	10.91	90.4
30/08/2011 22:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.4
30/08/2011 23:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.3
31/08/2011 00:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.3
31/08/2011 01:38:10.000'	-0.81	27.37	77.4	1022.40	10.89	90.2
31/08/2011 02:38:10.000'	-0.81	27.37	77.4	1022.40	10.89	90.2
31/08/2011 03:38:10.000'	-0.81	27.37	77.5	1022.40	10.89	90.2
31/08/2011 04:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.2
31/08/2011 05:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.3
31/08/2011 06:38:10.000'	-0.81	27.37	77.5	1022.40	10.89	90.2
31/08/2011 07:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.3
31/08/2011 08:38:10.000'	-0.81	27.37	77.5	1022.40	10.88	90.1
31/08/2011 09:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.2
31/08/2011 10:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.2
31/08/2011 11:38:10.000'	-0.81	27.37	77.5	1022.40	10.90	90.3
31/08/2011 12:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.3
31/08/2011 13:38:10.000'	-0.81	27.37	77.5	1022.40	10.91	90.3
31/08/2011 14:38:10.000'	-0.81	27.37	77.6	1022.40	10.90	90.3
31/08/2011 15:38:10.000'	-0.81	27.37	77.6	1022.40	10.90	90.3
31/08/2011 16:38:10.000'	-0.81	27.37	77.7	1022.40	10.90	90.3
31/08/2011 17:38:10.000'	-0.81	27.37	77.8	1022.40	10.90	90.3
31/08/2011 18:38:10.000'	-0.81	27.37	77.8	1022.40	10.90	90.3
31/08/2011 19:38:10.000'	-0.81	27.37	77.8	1022.40	10.90	90.3
31/08/2011 20:38:10.000'	-0.80	27.38	77.7	1022.40	10.92	90.4
31/08/2011 21:38:10.000'	-0.80	27.37	77.6	1022.40	10.92	90.4
31/08/2011 22:38:10.000'	-0.80	27.37	77.6	1022.40	10.92	90.4
31/08/2011 23:38:10.000'	-0.81	27.37	77.5	1022.40	10.92	90.4
01/09/2011 00:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.4
01/09/2011 01:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.4
01/09/2011 02:38:10.000'	-0.81	27.37	77.4	1022.40	10.90	90.3
01/09/2011 03:38:10.000'	-0.81	27.37	77.4	1022.40	10.94	90.6
01/09/2011 04:38:10.000'	-0.80	27.38	77.5	1022.40	10.94	90.7
01/09/2011 05:38:10.000'	-0.80	27.38	77.5	1022.40	10.95	90.7
01/09/2011 06:38:10.000'	-0.80	27.38	77.5	1022.40	10.95	90.8
01/09/2011 07:38:10.000'	-0.79	27.38	77.5	1022.40	10.95	90.8
01/09/2011 08:38:10.000'	-0.80	27.37	77.5	1022.40	10.95	90.7
01/09/2011 09:38:10.000'	-0.81	27.37	77.5	1022.40	10.95	90.7
01/09/2011 10:38:10.000'	-0.81	27.37	77.5	1022.40	10.93	90.5
01/09/2011 11:38:10.000'	-0.81	27.37	77.4	1022.40	10.93	90.5
01/09/2011 12:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.4
01/09/2011 13:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.4
01/09/2011 14:38:10.000'	-0.80	27.37	77.4	1022.40	10.91	90.4
01/09/2011 15:38:10.000'	-0.80	27.38	77.5	1022.40	10.93	90.5

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
01/09/2011 16:38:10.000'	-0.80	27.37	77.6	1022.40	10.93	90.5
01/09/2011 17:38:10.000'	-0.81	27.37	77.6	1022.40	10.91	90.4
01/09/2011 18:38:10.000'	-0.81	27.37	77.7	1022.40	10.92	90.5
01/09/2011 19:38:10.000'	-0.81	27.37	77.7	1022.40	10.91	90.3
01/09/2011 20:38:10.000'	-0.81	27.37	77.7	1022.40	10.91	90.3
01/09/2011 21:38:10.000'	-0.80	27.37	77.6	1022.40	10.90	90.3
01/09/2011 22:38:10.000'	-0.80	27.37	77.6	1022.40	10.90	90.3
01/09/2011 23:38:10.000'	-0.80	27.37	77.5	1022.40	10.90	90.3
02/09/2011 00:38:10.000'	-0.80	27.37	77.4	1022.40	10.90	90.3
02/09/2011 01:38:10.000'	-0.81	27.37	77.4	1022.40	10.90	90.3
02/09/2011 02:38:10.000'	-0.81	27.37	77.4	1022.40	10.90	90.3
02/09/2011 03:38:10.000'	-0.81	27.37	77.4	1022.40	10.91	90.4
02/09/2011 04:38:10.000'	-0.80	27.37	77.4	1022.40	10.92	90.4
02/09/2011 05:38:10.000'	-0.80	27.37	77.5	1022.40	10.91	90.4
02/09/2011 06:38:10.000'	-0.80	27.37	77.5	1022.40	10.90	90.3
02/09/2011 07:38:10.000'	-0.80	27.38	77.5	1022.40	10.91	90.4
02/09/2011 08:38:10.000'	-0.80	27.37	77.5	1022.40	10.91	90.4
02/09/2011 09:38:10.000'	-0.80	27.37	77.5	1022.40	10.92	90.5
02/09/2011 10:38:10.000'	-0.80	27.37	77.5	1022.40	10.93	90.6
02/09/2011 11:38:10.000'	-0.79	27.37	77.5	1022.40	10.92	90.5
02/09/2011 12:38:10.000'	-0.79	27.37	77.4	1022.40	10.91	90.4
02/09/2011 13:38:10.000'	-0.79	27.38	77.4	1022.40	10.91	90.4
02/09/2011 14:38:10.000'	-0.79	27.38	77.4	1022.40	10.90	90.4
02/09/2011 15:38:10.000'	-0.79	27.38	77.5	1022.40	10.94	90.6
02/09/2011 16:38:10.000'	-0.79	27.38	77.5	1022.41	10.92	90.5
02/09/2011 17:38:10.000'	-0.79	27.38	77.6	1022.40	10.93	90.6
02/09/2011 18:38:10.000'	-0.78	27.38	77.6	1022.40	10.92	90.5
02/09/2011 19:38:10.000'	-0.78	27.38	77.6	1022.40	10.91	90.4
02/09/2011 20:38:10.000'	-0.78	27.38	77.6	1022.40	10.92	90.5
02/09/2011 21:38:10.000'	-0.78	27.38	77.6	1022.40	10.93	90.6
02/09/2011 22:38:10.000'	-0.78	27.38	77.6	1022.41	10.93	90.6
02/09/2011 23:38:10.000'	-0.78	27.38	77.5	1022.41	10.93	90.6
03/09/2011 00:38:10.000'	-0.77	27.38	77.4	1022.41	10.93	90.6
03/09/2011 01:38:10.000'	-0.75	27.39	77.4	1022.41	10.95	90.8
03/09/2011 02:38:10.000'	-0.75	27.39	77.4	1022.41	10.96	91.0
03/09/2011 03:38:10.000'	-0.75	27.39	77.4	1022.41	10.99	91.2
03/09/2011 04:38:10.000'	-0.75	27.39	77.4	1022.41	10.97	91.0
03/09/2011 05:38:10.000'	-0.76	27.39	77.4	1022.41	10.97	91.0
03/09/2011 06:38:10.000'	-0.76	27.39	77.5	1022.41	10.97	91.0
03/09/2011 07:38:10.000'	-0.76	27.38	77.5	1022.41	10.97	91.0
03/09/2011 08:38:10.000'	-0.75	27.39	77.5	1022.41	10.97	91.0
03/09/2011 09:38:10.000'	-0.75	27.39	77.5	1022.41	10.98	91.1
03/09/2011 10:38:10.000'	-0.75	27.39	77.5	1022.41	10.99	91.2
03/09/2011 11:38:10.000'	-0.75	27.39	77.5	1022.41	10.98	91.1
03/09/2011 12:38:10.000'	-0.76	27.39	77.5	1022.41	10.99	91.2
03/09/2011 13:38:10.000'	-0.77	27.38	77.4	1022.41	10.87	90.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
03/09/2011 14:38:10.000'	-0.78	27.39	77.4	1022.41	10.86	90.0
03/09/2011 15:38:10.000'	-0.78	27.39	77.4	1022.41	10.86	90.0
03/09/2011 16:38:10.000'	-0.78	27.38	77.5	1022.41	10.86	90.0
03/09/2011 17:38:10.000'	-0.78	27.39	77.5	1022.41	10.87	90.1
03/09/2011 18:38:10.000'	-0.78	27.38	77.6	1022.41	10.90	90.3
03/09/2011 19:38:10.000'	-0.78	27.38	77.6	1022.41	10.90	90.3
03/09/2011 20:38:10.000'	-0.79	27.38	77.6	1022.41	10.90	90.3
03/09/2011 21:38:10.000'	-0.79	27.38	77.6	1022.41	10.89	90.2
03/09/2011 22:38:10.000'	-0.79	27.38	77.5	1022.41	10.88	90.2
03/09/2011 23:38:10.000'	-0.78	27.39	77.5	1022.41	10.88	90.2
04/09/2011 00:38:10.000'	-0.78	27.39	77.4	1022.41	10.88	90.2
04/09/2011 01:38:10.000'	-0.78	27.38	77.3	1022.41	10.88	90.2
04/09/2011 02:38:10.000'	-0.76	27.39	77.3	1022.41	10.89	90.3
04/09/2011 03:38:10.000'	-0.76	27.39	77.3	1022.41	10.98	91.1
04/09/2011 04:38:10.000'	-0.75	27.39	77.3	1022.41	10.96	91.0
04/09/2011 05:38:10.000'	-0.75	27.39	77.4	1022.41	10.99	91.1
04/09/2011 06:38:10.000'	-0.75	27.39	77.4	1022.41	10.98	91.1
04/09/2011 07:38:10.000'	-0.75	27.39	77.5	1022.41	10.96	91.0
04/09/2011 08:38:10.000'	-0.74	27.39	77.5	1022.42	10.95	90.9
04/09/2011 09:38:10.000'	-0.74	27.39	77.5	1022.42	10.95	90.9
04/09/2011 10:38:10.000'	-0.74	27.39	77.5	1022.42	10.94	90.8
04/09/2011 11:38:10.000'	-0.74	27.40	77.5	1022.42	10.94	90.8
04/09/2011 12:38:10.000'	-0.74	27.40	77.5	1022.42	10.94	90.8
04/09/2011 13:38:10.000'	-0.74	27.40	77.5	1022.42	10.94	90.8
04/09/2011 14:38:10.000'	-0.74	27.40	77.4	1022.42	10.94	90.8
04/09/2011 15:38:10.000'	-0.75	27.39	77.4	1022.41	10.95	90.8
04/09/2011 16:38:10.000'	-0.75	27.39	77.4	1022.42	10.95	90.9
04/09/2011 17:38:10.000'	-0.75	27.39	77.4	1022.42	10.95	90.8
04/09/2011 18:38:10.000'	-0.74	27.39	77.4	1022.42	10.95	90.9
04/09/2011 19:38:10.000'	-0.73	27.40	77.5	1022.42	10.94	90.8
04/09/2011 20:38:10.000'	-0.74	27.39	77.5	1022.42	10.94	90.8
04/09/2011 21:38:10.000'	-0.73	27.40	77.5	1022.42	10.94	90.8
04/09/2011 22:38:10.000'	-0.73	27.40	77.5	1022.42	10.95	90.9
04/09/2011 23:38:10.000'	-0.73	27.40	77.4	1022.42	10.95	90.9
05/09/2011 00:38:10.000'	-0.73	27.40	77.4	1022.42	10.96	91.0
05/09/2011 01:38:10.000'	-0.73	27.40	77.3	1022.42	10.95	90.9
05/09/2011 02:38:10.000'	-0.73	27.40	77.3	1022.42	10.95	90.9
05/09/2011 03:38:10.000'	-0.73	27.40	77.3	1022.42	10.95	90.9
05/09/2011 04:38:10.000'	-0.73	27.40	77.3	1022.42	10.96	91.0
05/09/2011 05:38:10.000'	-0.73	27.40	77.3	1022.42	10.96	91.0
05/09/2011 06:38:10.000'	-0.73	27.41	77.3	1022.42	10.96	91.0
05/09/2011 07:38:10.000'	-0.73	27.40	77.4	1022.42	10.96	91.0
05/09/2011 08:38:10.000'	-0.73	27.40	77.5	1022.42	10.92	90.6
05/09/2011 09:38:10.000'	-0.73	27.40	77.5	1022.42	10.92	90.6
05/09/2011 10:38:10.000'	-0.74	27.40	77.6	1022.42	10.92	90.6
05/09/2011 11:38:10.000'	-0.74	27.40	77.6	1022.42	10.92	90.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
05/09/2011 12:38:10.000'	-0.75	27.39	77.6	1022.42	10.90	90.4
05/09/2011 13:38:10.000'	-0.78	27.38	77.6	1022.41	10.85	90.0
05/09/2011 14:38:10.000'	-0.79	27.38	77.5	1022.41	10.85	89.9
05/09/2011 15:38:10.000'	-0.79	27.38	77.5	1022.41	10.85	89.9
05/09/2011 16:38:10.000'	-0.79	27.38	77.5	1022.41	10.85	89.9
05/09/2011 17:38:10.000'	-0.79	27.37	77.5	1022.40	10.85	89.9
05/09/2011 18:38:10.000'	-0.79	27.38	77.5	1022.40	10.83	89.7
05/09/2011 19:38:10.000'	-0.79	27.38	77.5	1022.40	10.85	89.9
05/09/2011 20:38:10.000'	-0.79	27.38	77.5	1022.41	10.85	89.9
05/09/2011 21:38:10.000'	-0.79	27.38	77.5	1022.40	10.83	89.7
05/09/2011 22:38:10.000'	-0.80	27.38	77.5	1022.40	10.83	89.7
05/09/2011 23:38:10.000'	-0.80	27.38	77.5	1022.40	10.83	89.7
06/09/2011 00:38:10.000'	-0.80	27.38	77.5	1022.41	10.83	89.7
06/09/2011 01:38:10.000'	-0.80	27.38	77.5	1022.41	10.83	89.8
06/09/2011 02:38:10.000'	-0.77	27.39	77.4	1022.41	10.83	89.8
06/09/2011 03:38:10.000'	-0.75	27.39	77.4	1022.42	10.88	90.3
06/09/2011 04:38:10.000'	-0.75	27.39	77.4	1022.42	10.88	90.3
06/09/2011 05:38:10.000'	-0.75	27.40	77.4	1022.42	10.90	90.4
06/09/2011 06:38:10.000'	-0.75	27.40	77.4	1022.42	10.90	90.4
06/09/2011 07:38:10.000'	-0.74	27.39	77.5	1022.42	10.89	90.4
06/09/2011 08:38:10.000'	-0.74	27.40	77.5	1022.42	10.90	90.5
06/09/2011 09:38:10.000'	-0.74	27.40	77.6	1022.42	10.91	90.5
06/09/2011 10:38:10.000'	-0.74	27.40	77.6	1022.42	10.91	90.5
06/09/2011 11:38:10.000'	-0.74	27.40	77.6	1022.42	10.91	90.5
06/09/2011 12:38:10.000'	-0.74	27.40	77.6	1022.42	10.91	90.6
06/09/2011 13:38:10.000'	-0.74	27.40	77.6	1022.42	10.91	90.5
06/09/2011 14:38:10.000'	-0.72	27.40	77.6	1022.43	10.91	90.6
06/09/2011 15:38:10.000'	-0.72	27.41	77.6	1022.43	10.91	90.6
06/09/2011 16:38:10.000'	-0.72	27.41	77.5	1022.43	10.91	90.6
06/09/2011 17:38:10.000'	-0.72	27.41	77.5	1022.43	10.91	90.6
06/09/2011 18:38:10.000'	-0.72	27.41	77.4	1022.43	10.91	90.6
06/09/2011 19:38:10.000'	-0.72	27.41	77.4	1022.43	10.91	90.6
06/09/2011 20:38:10.000'	-0.72	27.40	77.4	1022.42	10.92	90.7
06/09/2011 21:38:10.000'	-0.72	27.40	77.4	1022.42	10.92	90.7
06/09/2011 22:38:10.000'	-0.72	27.40	77.4	1022.42	10.92	90.7
06/09/2011 23:38:10.000'	-0.72	27.40	77.3	1022.42	10.93	90.8
07/09/2011 00:38:10.000'	-0.72	27.40	77.3	1022.42	10.92	90.7
07/09/2011 01:38:10.000'	-0.72	27.40	77.3	1022.42	10.93	90.8
07/09/2011 02:38:10.000'	-0.71	27.41	77.3	1022.43	10.91	90.7
07/09/2011 03:38:10.000'	-0.70	27.42	77.3	1022.43	10.91	90.7
07/09/2011 04:38:10.000'	-0.70	27.42	77.2	1022.43	10.91	90.7
07/09/2011 05:38:10.000'	-0.70	27.42	77.2	1022.43	10.91	90.7
07/09/2011 06:38:10.000'	-0.71	27.41	77.2	1022.43	10.91	90.7
07/09/2011 07:38:10.000'	-0.71	27.41	77.3	1022.43	10.91	90.7
07/09/2011 08:38:10.000'	-0.72	27.41	77.3	1022.42	10.91	90.6
07/09/2011 09:38:10.000'	-0.72	27.40	77.3	1022.42	10.91	90.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
07/09/2011 10:38:10.000'	-0.72	27.41	77.4	1022.42	10.92	90.7
07/09/2011 11:38:10.000'	-0.71	27.41	77.5	1022.43	10.91	90.6
07/09/2011 12:38:10.000'	-0.71	27.41	77.5	1022.43	10.92	90.7
07/09/2011 13:38:10.000'	-0.71	27.41	77.5	1022.43	10.92	90.7
07/09/2011 14:38:10.000'	-0.71	27.41	77.6	1022.43	10.93	90.8
07/09/2011 15:38:10.000'	-0.72	27.41	77.6	1022.43	10.91	90.6
07/09/2011 16:38:10.000'	-0.73	27.40	77.6	1022.42	10.91	90.6
07/09/2011 17:38:10.000'	-0.75	27.39	77.6	1022.42	10.90	90.5
07/09/2011 18:38:10.000'	-0.76	27.39	77.5	1022.41	10.87	90.2
07/09/2011 19:38:10.000'	-0.83	27.36	77.5	1022.39	10.85	89.8
07/09/2011 20:38:10.000'	-0.83	27.36	77.5	1022.39	10.83	89.7
07/09/2011 21:38:10.000'	-0.83	27.36	77.5	1022.39	10.83	89.7
07/09/2011 22:38:10.000'	-0.83	27.36	77.5	1022.39	10.79	89.3
07/09/2011 23:38:10.000'	-0.83	27.36	77.4	1022.39	10.76	89.1
08/09/2011 00:38:10.000'	-0.84	27.35	77.4	1022.38	10.76	89.0
08/09/2011 01:38:10.000'	-0.85	27.34	77.4	1022.38	10.72	88.7
08/09/2011 02:38:10.000'	-0.85	27.34	77.4	1022.38	10.76	89.0
08/09/2011 03:38:10.000'	-0.85	27.34	77.4	1022.38	10.80	89.3
08/09/2011 04:38:10.000'	-0.81	27.35	77.5	1022.38	10.81	89.5
08/09/2011 05:38:10.000'	-0.80	27.35	77.5	1022.39	10.81	89.6
08/09/2011 06:38:10.000'	-0.80	27.36	77.5	1022.39	10.83	89.7
08/09/2011 07:38:10.000'	-0.80	27.37	77.5	1022.40	10.83	89.8
08/09/2011 08:38:10.000'	-0.80	27.37	77.6	1022.40	10.86	90.0
08/09/2011 09:38:10.000'	-0.77	27.38	77.6	1022.41	10.89	90.3
08/09/2011 10:38:10.000'	-0.77	27.39	77.6	1022.41	10.91	90.5
08/09/2011 11:38:10.000'	-0.73	27.40	77.7	1022.42	10.93	90.7
08/09/2011 12:38:10.000'	-0.73	27.41	77.7	1022.43	10.93	90.8
08/09/2011 13:38:10.000'	-0.72	27.41	77.7	1022.43	10.94	90.9
08/09/2011 14:38:10.000'	-0.71	27.41	77.7	1022.43	10.94	90.9
08/09/2011 15:38:10.000'	-0.71	27.41	77.7	1022.43	10.94	90.9
08/09/2011 16:38:10.000'	-0.71	27.41	77.7	1022.43	10.95	91.0
08/09/2011 17:38:10.000'	-0.70	27.42	77.6	1022.43	10.95	91.0
08/09/2011 18:38:10.000'	-0.68	27.42	77.6	1022.44	10.97	91.2
08/09/2011 19:38:10.000'	-0.64	27.45	77.5	1022.46	11.00	91.6
08/09/2011 20:38:10.000'	-0.63	27.44	77.5	1022.45	11.00	91.6
08/09/2011 21:38:10.000'	-0.63	27.45	77.5	1022.46	11.01	91.7
08/09/2011 22:38:10.000'	-0.62	27.45	77.4	1022.46	11.01	91.7
08/09/2011 23:38:10.000'	-0.62	27.45	77.4	1022.46	11.04	92.0
09/09/2011 00:38:10.000'	-0.62	27.45	77.4	1022.46	11.05	92.1
09/09/2011 01:38:10.000'	-0.62	27.44	77.3	1022.45	11.04	92.0
09/09/2011 02:38:10.000'	-0.64	27.44	77.3	1022.45	11.01	91.6
09/09/2011 03:38:10.000'	-0.65	27.43	77.3	1022.44	10.98	91.3
09/09/2011 04:38:10.000'	-0.66	27.43	77.3	1022.45	10.98	91.3
09/09/2011 05:38:10.000'	-0.65	27.43	77.3	1022.45	10.98	91.3
09/09/2011 06:38:10.000'	-0.65	27.43	77.3	1022.45	10.98	91.3
09/09/2011 07:38:10.000'	-0.65	27.43	77.3	1022.45	10.98	91.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
09/09/2011 08:38:10.000'	-0.65	27.43	77.3	1022.45	10.98	91.4
09/09/2011 09:38:10.000'	-0.65	27.44	77.4	1022.45	10.98	91.4
09/09/2011 10:38:10.000'	-0.64	27.44	77.4	1022.45	11.01	91.6
09/09/2011 11:38:10.000'	-0.64	27.44	77.5	1022.45	11.00	91.6
09/09/2011 12:38:10.000'	-0.64	27.44	77.5	1022.45	11.00	91.6
09/09/2011 13:38:10.000'	-0.66	27.43	77.5	1022.45	10.96	91.2
09/09/2011 14:38:10.000'	-0.66	27.43	77.6	1022.44	10.93	90.9
09/09/2011 15:38:10.000'	-0.69	27.42	77.6	1022.43	10.92	90.8
09/09/2011 16:38:10.000'	-0.72	27.40	77.6	1022.42	10.91	90.6
09/09/2011 17:38:10.000'	-0.74	27.39	77.5	1022.41	10.91	90.6
09/09/2011 18:38:10.000'	-0.74	27.39	77.5	1022.41	10.91	90.5
09/09/2011 19:38:10.000'	-0.75	27.39	77.4	1022.41	10.91	90.5
09/09/2011 20:38:10.000'	-0.75	27.38	77.3	1022.41	10.91	90.5
09/09/2011 21:38:10.000'	-0.75	27.38	77.3	1022.41	10.87	90.2
09/09/2011 22:38:10.000'	-0.77	27.37	77.3	1022.40	10.88	90.2
09/09/2011 23:38:10.000'	-0.77	27.37	77.3	1022.40	10.87	90.1
10/09/2011 00:38:10.000'	-0.77	27.37	77.3	1022.40	10.86	90.1
10/09/2011 01:38:10.000'	-0.77	27.37	77.3	1022.40	10.87	90.2
10/09/2011 02:38:10.000'	-0.76	27.37	77.3	1022.40	10.87	90.1
10/09/2011 03:38:10.000'	-0.76	27.38	77.3	1022.40	10.87	90.2
10/09/2011 04:38:10.000'	-0.76	27.38	77.3	1022.40	10.87	90.2
10/09/2011 05:38:10.000'	-0.75	27.38	77.3	1022.41	10.90	90.4
10/09/2011 06:38:10.000'	-0.72	27.39	77.3	1022.42	10.90	90.5
10/09/2011 07:38:10.000'	-0.71	27.40	77.3	1022.42	10.94	90.9
10/09/2011 08:38:10.000'	-0.71	27.40	77.3	1022.42	10.94	90.9
10/09/2011 09:38:10.000'	-0.71	27.39	77.4	1022.42	10.94	90.9
10/09/2011 10:38:10.000'	-0.71	27.39	77.4	1022.42	10.92	90.7
10/09/2011 11:38:10.000'	-0.71	27.40	77.4	1022.42	10.92	90.7
10/09/2011 12:38:10.000'	-0.71	27.40	77.5	1022.42	10.92	90.7
10/09/2011 13:38:10.000'	-0.71	27.40	77.6	1022.42	10.91	90.6
10/09/2011 14:38:10.000'	-0.71	27.40	77.7	1022.42	10.91	90.6
10/09/2011 15:38:10.000'	-0.71	27.40	77.7	1022.42	10.91	90.6
10/09/2011 16:38:10.000'	-0.71	27.40	77.7	1022.42	10.91	90.6
10/09/2011 17:38:10.000'	-0.72	27.39	77.7	1022.42	10.91	90.6
10/09/2011 18:38:10.000'	-0.73	27.38	77.7	1022.41	10.88	90.3
10/09/2011 19:38:10.000'	-0.73	27.38	77.7	1022.41	10.88	90.3
10/09/2011 20:38:10.000'	-0.73	27.38	77.6	1022.41	10.87	90.2
10/09/2011 21:38:10.000'	-0.71	27.40	77.5	1022.42	10.88	90.4
10/09/2011 22:38:10.000'	-0.71	27.40	77.5	1022.42	10.88	90.4
10/09/2011 23:38:10.000'	-0.70	27.40	77.5	1022.42	10.88	90.4
11/09/2011 00:38:10.000'	-0.70	27.40	77.5	1022.42	10.88	90.4
11/09/2011 01:38:10.000'	-0.70	27.41	77.4	1022.43	10.88	90.4
11/09/2011 02:38:10.000'	-0.69	27.41	77.4	1022.43	10.91	90.7
11/09/2011 03:38:10.000'	-0.70	27.41	77.4	1022.43	10.91	90.7
11/09/2011 04:38:10.000'	-0.70	27.41	77.4	1022.42	10.90	90.6
11/09/2011 05:38:10.000'	-0.70	27.40	77.4	1022.42	10.91	90.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
11/09/2011 06:38:10.000'	-0.70	27.40	77.4	1022.42	10.90	90.6
11/09/2011 07:38:10.000'	-0.70	27.40	77.4	1022.42	10.90	90.5
11/09/2011 08:38:10.000'	-0.70	27.40	77.4	1022.42	10.89	90.5
11/09/2011 09:38:10.000'	-0.70	27.41	77.4	1022.43	10.90	90.6
11/09/2011 10:38:10.000'	-0.70	27.41	77.4	1022.43	10.91	90.7
11/09/2011 11:38:10.000'	-0.70	27.41	77.5	1022.43	10.91	90.7
11/09/2011 12:38:10.000'	-0.70	27.41	77.5	1022.43	10.90	90.6
11/09/2011 13:38:10.000'	-0.70	27.41	77.6	1022.43	10.90	90.6
11/09/2011 14:38:10.000'	-0.69	27.41	77.7	1022.43	10.90	90.6
11/09/2011 15:38:10.000'	-0.69	27.41	77.8	1022.43	10.90	90.6
11/09/2011 16:38:10.000'	-0.68	27.42	77.8	1022.43	10.92	90.8
11/09/2011 17:38:10.000'	-0.68	27.42	77.8	1022.43	10.92	90.8
11/09/2011 18:38:10.000'	-0.68	27.42	77.8	1022.43	10.92	90.8
11/09/2011 19:38:10.000'	-0.69	27.41	77.8	1022.43	10.92	90.8
11/09/2011 20:38:10.000'	-0.69	27.41	77.8	1022.43	10.89	90.5
11/09/2011 21:38:10.000'	-0.70	27.40	77.7	1022.42	10.89	90.5
11/09/2011 22:38:10.000'	-0.70	27.40	77.6	1022.42	10.89	90.5
11/09/2011 23:38:10.000'	-0.70	27.40	77.6	1022.42	10.89	90.4
12/09/2011 00:38:10.000'	-0.70	27.41	77.6	1022.43	10.89	90.5
12/09/2011 01:38:10.000'	-0.70	27.41	77.6	1022.42	10.89	90.4
12/09/2011 02:38:10.000'	-0.70	27.41	77.6	1022.43	10.89	90.4
12/09/2011 03:38:10.000'	-0.70	27.41	77.6	1022.43	10.89	90.5
12/09/2011 04:38:10.000'	-0.70	27.41	77.6	1022.43	10.88	90.4
12/09/2011 05:38:10.000'	-0.70	27.41	77.6	1022.43	10.89	90.5
12/09/2011 06:38:10.000'	-0.69	27.41	77.6	1022.43	10.89	90.5
12/09/2011 07:38:10.000'	-0.69	27.41	77.6	1022.43	10.89	90.5
12/09/2011 08:38:10.000'	-0.69	27.41	77.6	1022.43	10.89	90.5
12/09/2011 09:38:10.000'	-0.69	27.41	77.6	1022.43	10.89	90.5
12/09/2011 10:38:10.000'	-0.69	27.41	77.6	1022.43	10.88	90.5
12/09/2011 11:38:10.000'	-0.69	27.41	77.6	1022.43	10.87	90.4
12/09/2011 12:38:10.000'	-0.69	27.41	77.6	1022.43	10.87	90.3
12/09/2011 13:38:10.000'	-0.69	27.41	77.7	1022.43	10.87	90.3
12/09/2011 14:38:10.000'	-0.69	27.41	77.7	1022.43	10.88	90.4
12/09/2011 15:38:10.000'	-0.69	27.41	77.8	1022.43	10.85	90.2
12/09/2011 16:38:10.000'	-0.69	27.41	77.8	1022.43	10.87	90.3
12/09/2011 17:38:10.000'	-0.71	27.40	77.8	1022.43	10.86	90.3
12/09/2011 18:38:10.000'	-0.73	27.39	77.8	1022.42	10.81	89.7
12/09/2011 19:38:10.000'	-0.74	27.39	77.8	1022.41	10.80	89.7
12/09/2011 20:38:10.000'	-0.74	27.39	77.7	1022.41	10.81	89.7
12/09/2011 21:38:10.000'	-0.74	27.39	77.7	1022.41	10.80	89.7
12/09/2011 22:38:10.000'	-0.73	27.39	77.6	1022.41	10.81	89.7
12/09/2011 23:38:10.000'	-0.73	27.39	77.6	1022.42	10.85	90.1
13/09/2011 00:38:10.000'	-0.71	27.40	77.5	1022.42	10.85	90.1
13/09/2011 01:38:10.000'	-0.71	27.40	77.5	1022.42	10.86	90.2
13/09/2011 02:38:10.000'	-0.70	27.40	77.5	1022.42	10.86	90.3
13/09/2011 03:38:10.000'	-0.70	27.40	77.6	1022.42	10.88	90.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
13/09/2011 04:38:10.000'	-0.70	27.41	77.6	1022.43	10.88	90.4
13/09/2011 05:38:10.000'	-0.70	27.41	77.6	1022.43	10.88	90.4
13/09/2011 06:38:10.000'	-0.70	27.41	77.6	1022.43	10.87	90.3
13/09/2011 07:38:10.000'	-0.70	27.40	77.6	1022.42	10.87	90.3
13/09/2011 08:38:10.000'	-0.70	27.40	77.5	1022.42	10.87	90.3
13/09/2011 09:38:10.000'	-0.70	27.40	77.5	1022.42	10.86	90.2
13/09/2011 10:38:10.000'	-0.70	27.40	77.5	1022.42	10.86	90.2
13/09/2011 11:38:10.000'	-0.70	27.40	77.5	1022.42	10.86	90.2
13/09/2011 12:38:10.000'	-0.70	27.40	77.5	1022.42	10.87	90.3
13/09/2011 13:38:10.000'	-0.70	27.41	77.6	1022.43	10.87	90.3
13/09/2011 14:38:10.000'	-0.70	27.41	77.6	1022.43	10.87	90.3
13/09/2011 15:38:10.000'	-0.70	27.40	77.7	1022.42	10.87	90.3
13/09/2011 16:38:10.000'	-0.70	27.41	77.7	1022.43	10.86	90.3
13/09/2011 17:38:10.000'	-0.70	27.40	77.7	1022.42	10.85	90.1
13/09/2011 18:38:10.000'	-0.70	27.40	77.7	1022.42	10.85	90.1
13/09/2011 19:38:10.000'	-0.70	27.40	77.7	1022.42	10.84	90.1
13/09/2011 20:38:10.000'	-0.70	27.41	77.6	1022.43	10.83	90.0
13/09/2011 21:38:10.000'	-0.70	27.41	77.6	1022.43	10.85	90.2
13/09/2011 22:38:10.000'	-0.70	27.41	77.5	1022.43	10.85	90.2
13/09/2011 23:38:10.000'	-0.69	27.41	77.5	1022.43	10.86	90.3
14/09/2011 00:38:10.000'	-0.69	27.41	77.4	1022.43	10.86	90.3
14/09/2011 01:38:10.000'	-0.69	27.41	77.4	1022.43	10.86	90.3
14/09/2011 02:38:10.000'	-0.68	27.41	77.4	1022.43	10.88	90.5
14/09/2011 03:38:10.000'	-0.68	27.41	77.5	1022.43	10.88	90.4
14/09/2011 04:38:10.000'	-0.68	27.41	77.5	1022.43	10.87	90.4
14/09/2011 05:38:10.000'	-0.68	27.41	77.5	1022.43	10.88	90.4
14/09/2011 06:38:10.000'	-0.68	27.41	77.5	1022.43	10.88	90.4
14/09/2011 07:38:10.000'	-0.67	27.41	77.5	1022.43	10.88	90.5
14/09/2011 08:38:10.000'	-0.67	27.42	77.4	1022.43	10.86	90.3
14/09/2011 09:38:10.000'	-0.67	27.41	77.4	1022.43	10.85	90.2
14/09/2011 10:38:10.000'	-0.68	27.41	77.4	1022.43	10.86	90.3
14/09/2011 11:38:10.000'	-0.68	27.41	77.4	1022.43	10.81	89.9
14/09/2011 12:38:10.000'	-0.70	27.41	77.4	1022.43	10.81	89.8
14/09/2011 13:38:10.000'	-0.70	27.41	77.4	1022.43	10.81	89.8
14/09/2011 14:38:10.000'	-0.70	27.41	77.5	1022.43	10.83	90.0
14/09/2011 15:38:10.000'	-0.70	27.41	77.5	1022.43	10.81	89.8
14/09/2011 16:38:10.000'	-0.70	27.41	77.6	1022.43	10.79	89.6
14/09/2011 17:38:10.000'	-0.71	27.41	77.6	1022.43	10.75	89.3
14/09/2011 18:38:10.000'	-0.70	27.41	77.6	1022.43	10.75	89.3
14/09/2011 19:38:10.000'	-0.71	27.41	77.6	1022.43	10.74	89.3
14/09/2011 20:38:10.000'	-0.71	27.41	77.6	1022.43	10.74	89.3
14/09/2011 21:38:10.000'	-0.70	27.41	77.6	1022.43	10.80	89.7
14/09/2011 22:38:10.000'	-0.71	27.41	77.5	1022.43	10.82	89.9
14/09/2011 23:38:10.000'	-0.69	27.41	77.5	1022.43	10.86	90.3
15/09/2011 00:38:10.000'	-0.69	27.41	77.5	1022.43	10.87	90.3
15/09/2011 01:38:10.000'	-0.69	27.41	77.5	1022.43	10.86	90.3

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
15/09/2011 02:38:10.000'	-0.68	27.41	77.5	1022.43	10.87	90.4
15/09/2011 03:38:10.000'	-0.69	27.41	77.6	1022.43	10.86	90.3
15/09/2011 04:38:10.000'	-0.68	27.41	77.6	1022.43	10.87	90.4
15/09/2011 05:38:10.000'	-0.69	27.41	77.7	1022.43	10.86	90.3
15/09/2011 06:38:10.000'	-0.68	27.41	77.7	1022.43	10.85	90.2
15/09/2011 07:38:10.000'	-0.67	27.41	77.7	1022.43	10.85	90.3
15/09/2011 08:38:10.000'	-0.67	27.42	77.7	1022.43	10.85	90.3
15/09/2011 09:38:10.000'	-0.67	27.41	77.7	1022.43	10.85	90.3
15/09/2011 10:38:10.000'	-0.67	27.42	77.7	1022.43	10.86	90.3
15/09/2011 11:38:10.000'	-0.67	27.41	77.7	1022.43	10.85	90.2
15/09/2011 12:38:10.000'	-0.68	27.41	77.7	1022.43	10.86	90.3
15/09/2011 13:38:10.000'	-0.68	27.41	77.8	1022.43	10.87	90.4
15/09/2011 14:38:10.000'	-0.68	27.41	77.8	1022.43	10.86	90.3
15/09/2011 15:38:10.000'	-0.68	27.41	77.9	1022.43	10.86	90.3
15/09/2011 16:38:10.000'	-0.68	27.41	78.0	1022.43	10.86	90.3
15/09/2011 17:38:10.000'	-0.67	27.41	78.0	1022.43	10.86	90.3
15/09/2011 18:38:10.000'	-0.67	27.41	78.0	1022.43	10.85	90.2
15/09/2011 19:38:10.000'	-0.67	27.41	77.9	1022.43	10.85	90.2
15/09/2011 20:38:10.000'	-0.68	27.41	77.9	1022.43	10.85	90.2
15/09/2011 21:38:10.000'	-0.68	27.41	77.8	1022.43	10.84	90.1
15/09/2011 22:38:10.000'	-0.68	27.41	77.7	1022.43	10.84	90.1
15/09/2011 23:38:10.000'	-0.68	27.41	77.7	1022.43	10.84	90.1
16/09/2011 00:38:10.000'	-0.67	27.41	77.7	1022.43	10.83	90.1
16/09/2011 01:38:10.000'	-0.67	27.41	77.6	1022.43	10.83	90.1
16/09/2011 02:38:10.000'	-0.67	27.42	77.6	1022.43	10.83	90.1
16/09/2011 03:38:10.000'	-0.67	27.42	77.6	1022.43	10.83	90.1
16/09/2011 04:38:10.000'	-0.67	27.42	77.7	1022.43	10.81	89.9
16/09/2011 05:38:10.000'	-0.67	27.42	77.7	1022.43	10.81	89.9
16/09/2011 06:38:10.000'	-0.67	27.42	77.7	1022.43	10.81	89.9
16/09/2011 07:38:10.000'	-0.67	27.42	77.7	1022.43	10.81	89.9
16/09/2011 08:38:10.000'	-0.67	27.42	77.6	1022.44	10.81	89.9
16/09/2011 09:38:10.000'	-0.67	27.42	77.6	1022.43	10.81	89.9
16/09/2011 10:38:10.000'	-0.67	27.41	77.6	1022.43	10.80	89.8
16/09/2011 11:38:10.000'	-0.67	27.41	77.6	1022.43	10.79	89.7
16/09/2011 12:38:10.000'	-0.67	27.41	77.6	1022.43	10.80	89.8
16/09/2011 13:38:10.000'	-0.67	27.41	77.6	1022.43	10.80	89.8
16/09/2011 14:38:10.000'	-0.66	27.41	77.6	1022.43	10.85	90.2
16/09/2011 15:38:10.000'	-0.66	27.41	77.6	1022.43	10.84	90.2
16/09/2011 16:38:10.000'	-0.66	27.42	77.7	1022.43	10.85	90.2
16/09/2011 17:38:10.000'	-0.66	27.42	77.7	1022.43	10.86	90.4
16/09/2011 18:38:10.000'	-0.66	27.42	77.7	1022.43	10.86	90.4
16/09/2011 19:38:10.000'	-0.66	27.42	77.7	1022.43	10.87	90.4
16/09/2011 20:38:10.000'	-0.66	27.42	77.7	1022.43	10.87	90.4
16/09/2011 21:38:10.000'	-0.66	27.42	77.6	1022.43	10.79	89.7
16/09/2011 22:38:10.000'	-0.66	27.42	77.6	1022.43	10.75	89.4
16/09/2011 23:38:10.000'	-0.66	27.42	77.6	1022.43	10.75	89.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
17/09/2011 00:38:10.000'	-0.66	27.42	77.5	1022.43	10.79	89.8
17/09/2011 01:38:10.000'	-0.66	27.42	77.5	1022.44	10.82	90.0
17/09/2011 02:38:10.000'	-0.65	27.42	77.5	1022.44	10.82	90.0
17/09/2011 03:38:10.000'	-0.65	27.42	77.5	1022.44	10.82	90.0
17/09/2011 04:38:10.000'	-0.65	27.42	77.5	1022.44	10.82	90.0
17/09/2011 05:38:10.000'	-0.65	27.43	77.6	1022.44	10.81	89.9
17/09/2011 06:38:10.000'	-0.66	27.42	77.6	1022.44	10.82	90.0
17/09/2011 07:38:10.000'	-0.65	27.42	77.6	1022.44	10.82	90.0
17/09/2011 08:38:10.000'	-0.66	27.42	77.6	1022.44	10.82	90.0
17/09/2011 09:38:10.000'	-0.65	27.42	77.6	1022.44	10.81	89.9
17/09/2011 10:38:10.000'	-0.65	27.43	77.6	1022.44	10.81	89.9
17/09/2011 11:38:10.000'	-0.65	27.43	77.6	1022.44	10.80	89.8
17/09/2011 12:38:10.000'	-0.65	27.43	77.6	1022.44	10.78	89.7
17/09/2011 13:38:10.000'	-0.66	27.42	77.6	1022.44	10.78	89.7
17/09/2011 14:38:10.000'	-0.65	27.42	77.6	1022.43	10.78	89.7
17/09/2011 15:38:10.000'	-0.65	27.42	77.6	1022.43	10.85	90.2
17/09/2011 16:38:10.000'	-0.65	27.42	77.6	1022.44	10.89	90.6
17/09/2011 17:38:10.000'	-0.64	27.42	77.7	1022.44	10.89	90.6
17/09/2011 18:38:10.000'	-0.64	27.42	77.7	1022.44	10.89	90.6
17/09/2011 19:38:10.000'	-0.64	27.42	77.7	1022.44	10.90	90.7
17/09/2011 20:38:10.000'	-0.64	27.42	77.7	1022.44	10.90	90.7
17/09/2011 21:38:10.000'	-0.63	27.42	77.7	1022.44	10.90	90.7
17/09/2011 22:38:10.000'	-0.62	27.42	77.6	1022.44	10.90	90.7
17/09/2011 23:38:10.000'	-0.63	27.43	77.6	1022.44	10.90	90.7
18/09/2011 00:38:10.000'	-0.63	27.42	77.6	1022.44	10.88	90.6
18/09/2011 01:38:10.000'	-0.63	27.43	77.5	1022.44	10.88	90.6
18/09/2011 02:38:10.000'	-0.63	27.43	77.5	1022.44	10.88	90.6
18/09/2011 03:38:10.000'	-0.62	27.43	77.5	1022.44	10.87	90.5
18/09/2011 04:38:10.000'	-0.62	27.43	77.6	1022.44	10.87	90.5
18/09/2011 05:38:10.000'	-0.62	27.43	77.6	1022.44	10.89	90.7
18/09/2011 06:38:10.000'	-0.60	27.43	77.6	1022.45	10.93	91.0
18/09/2011 07:38:10.000'	-0.60	27.44	77.7	1022.45	10.93	91.0
18/09/2011 08:38:10.000'	-0.59	27.43	77.7	1022.45	10.93	91.1
18/09/2011 09:38:10.000'	-0.59	27.44	77.7	1022.45	10.93	91.1
18/09/2011 10:38:10.000'	-0.59	27.44	77.7	1022.45	10.93	91.1
18/09/2011 11:38:10.000'	-0.59	27.44	77.6	1022.45	10.93	91.1
18/09/2011 12:38:10.000'	-0.58	27.44	77.6	1022.45	10.92	91.0
18/09/2011 13:38:10.000'	-0.58	27.44	77.6	1022.45	10.92	91.0
18/09/2011 14:38:10.000'	-0.59	27.44	77.6	1022.45	10.93	91.1
18/09/2011 15:38:10.000'	-0.58	27.44	77.6	1022.45	10.94	91.2
18/09/2011 16:38:10.000'	-0.58	27.44	77.6	1022.45	10.93	91.1
18/09/2011 17:38:10.000'	-0.58	27.44	77.6	1022.45	10.93	91.1
18/09/2011 18:38:10.000'	-0.57	27.45	77.6	1022.46	10.93	91.2
18/09/2011 19:38:10.000'	-0.56	27.45	77.6	1022.46	10.96	91.4
18/09/2011 20:38:10.000'	-0.55	27.45	77.6	1022.46	10.98	91.6
18/09/2011 21:38:10.000'	-0.55	27.45	77.6	1022.46	10.98	91.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
18/09/2011 22:38:10.000'	-0.55	27.45	77.6	1022.46	10.98	91.6
18/09/2011 23:38:10.000'	-0.55	27.45	77.5	1022.46	10.98	91.7
19/09/2011 00:38:10.000'	-0.55	27.45	77.5	1022.46	10.98	91.7
19/09/2011 01:38:10.000'	-0.55	27.45	77.5	1022.46	10.97	91.6
19/09/2011 02:38:10.000'	-0.55	27.45	77.5	1022.46	10.98	91.6
19/09/2011 03:38:10.000'	-0.55	27.46	77.5	1022.46	10.97	91.6
19/09/2011 04:38:10.000'	-0.55	27.45	77.5	1022.46	10.98	91.6
19/09/2011 05:38:10.000'	-0.54	27.46	77.6	1022.46	10.99	91.7
19/09/2011 06:38:10.000'	-0.54	27.46	77.6	1022.46	10.99	91.8
19/09/2011 07:38:10.000'	-0.54	27.46	77.6	1022.47	10.99	91.8
19/09/2011 08:38:10.000'	-0.54	27.46	77.7	1022.47	10.98	91.7
19/09/2011 09:38:10.000'	-0.54	27.46	77.7	1022.46	10.97	91.6
19/09/2011 10:38:10.000'	-0.54	27.46	77.7	1022.46	10.97	91.6
19/09/2011 11:38:10.000'	-0.54	27.45	77.7	1022.46	10.96	91.5
19/09/2011 12:38:10.000'	-0.55	27.45	77.6	1022.46	10.96	91.5
19/09/2011 13:38:10.000'	-0.55	27.45	77.6	1022.46	10.98	91.6
19/09/2011 14:38:10.000'	-0.55	27.45	77.6	1022.46	10.96	91.5
19/09/2011 15:38:10.000'	-0.55	27.45	77.6	1022.46	10.98	91.6
19/09/2011 16:38:10.000'	-0.56	27.45	77.6	1022.45	10.98	91.6
19/09/2011 17:38:10.000'	-0.56	27.45	77.6	1022.46	10.97	91.5
19/09/2011 18:38:10.000'	-0.57	27.45	77.6	1022.45	10.97	91.5
19/09/2011 19:38:10.000'	-0.57	27.44	77.6	1022.45	10.98	91.6
19/09/2011 20:38:10.000'	-0.58	27.44	77.6	1022.45	10.99	91.6
19/09/2011 21:38:10.000'	-0.58	27.44	77.6	1022.45	10.96	91.4
19/09/2011 22:38:10.000'	-0.61	27.43	77.6	1022.44	10.91	90.9
19/09/2011 23:38:10.000'	-0.61	27.43	77.5	1022.44	10.91	90.9
20/09/2011 00:38:10.000'	-0.61	27.43	77.5	1022.44	10.90	90.8
20/09/2011 01:38:10.000'	-0.60	27.43	77.5	1022.44	10.89	90.7
20/09/2011 02:38:10.000'	-0.60	27.44	77.5	1022.45	10.89	90.7
20/09/2011 03:38:10.000'	-0.60	27.44	77.5	1022.45	10.89	90.7
20/09/2011 04:38:10.000'	-0.59	27.44	77.5	1022.45	10.89	90.8
20/09/2011 05:38:10.000'	-0.60	27.44	77.5	1022.45	10.91	90.9
20/09/2011 06:38:10.000'	-0.60	27.44	77.6	1022.45	10.92	91.0
20/09/2011 07:38:10.000'	-0.60	27.44	77.6	1022.45	10.92	91.0
20/09/2011 08:38:10.000'	-0.59	27.44	77.6	1022.45	10.91	90.9
20/09/2011 09:38:10.000'	-0.59	27.44	77.7	1022.45	10.92	91.0
20/09/2011 10:38:10.000'	-0.59	27.43	77.7	1022.45	10.91	90.9
20/09/2011 11:38:10.000'	-0.59	27.44	77.7	1022.45	10.92	91.0
20/09/2011 12:38:10.000'	-0.58	27.44	77.6	1022.45	10.94	91.2
20/09/2011 13:38:10.000'	-0.57	27.45	77.6	1022.46	10.94	91.3
20/09/2011 14:38:10.000'	-0.57	27.45	77.5	1022.46	10.94	91.2
20/09/2011 15:38:10.000'	-0.58	27.44	77.5	1022.45	10.93	91.1
20/09/2011 16:38:10.000'	-0.57	27.45	77.5	1022.45	10.94	91.2
20/09/2011 17:38:10.000'	-0.57	27.44	77.5	1022.45	10.93	91.2
20/09/2011 18:38:10.000'	-0.57	27.44	77.5	1022.45	10.93	91.2
20/09/2011 19:38:10.000'	-0.58	27.44	77.4	1022.45	10.92	91.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
20/09/2011 20:38:10.000'	-0.58	27.44	77.4	1022.45	10.92	91.0
20/09/2011 21:38:10.000'	-0.58	27.44	77.4	1022.45	10.91	91.0
20/09/2011 22:38:10.000'	-0.57	27.45	77.4	1022.45	10.92	91.1
20/09/2011 23:38:10.000'	-0.57	27.45	77.4	1022.46	10.93	91.1
21/09/2011 00:38:10.000'	-0.56	27.45	77.3	1022.46	10.93	91.2
21/09/2011 01:38:10.000'	-0.56	27.45	77.3	1022.45	10.92	91.1
21/09/2011 02:38:10.000'	-0.56	27.45	77.3	1022.46	10.91	91.0
21/09/2011 03:38:10.000'	-0.56	27.45	77.3	1022.45	10.91	91.0
21/09/2011 04:38:10.000'	-0.56	27.45	77.3	1022.46	10.91	91.0
21/09/2011 05:38:10.000'	-0.57	27.45	77.3	1022.45	10.91	91.0
21/09/2011 06:38:10.000'	-0.57	27.45	77.3	1022.45	10.91	91.0
21/09/2011 07:38:10.000'	-0.57	27.45	77.4	1022.46	10.92	91.1
21/09/2011 08:38:10.000'	-0.57	27.45	77.4	1022.46	10.93	91.2
21/09/2011 09:38:10.000'	-0.57	27.45	77.5	1022.46	10.92	91.1
21/09/2011 10:38:10.000'	-0.56	27.45	77.5	1022.46	10.92	91.1
21/09/2011 11:38:10.000'	-0.57	27.45	77.5	1022.46	10.89	90.9
21/09/2011 12:38:10.000'	-0.57	27.45	77.5	1022.46	10.86	90.5
21/09/2011 13:38:10.000'	-0.58	27.44	77.5	1022.45	10.84	90.4
21/09/2011 14:38:10.000'	-0.59	27.44	77.5	1022.45	10.85	90.4
21/09/2011 15:38:10.000'	-0.59	27.44	77.5	1022.45	10.82	90.2
21/09/2011 16:38:10.000'	-0.60	27.44	77.5	1022.45	10.79	89.9
21/09/2011 17:38:10.000'	-0.61	27.43	77.5	1022.44	10.79	89.9
21/09/2011 18:38:10.000'	-0.62	27.43	77.5	1022.44	10.80	89.9
21/09/2011 19:38:10.000'	-0.64	27.42	77.5	1022.44	10.81	90.0
21/09/2011 20:38:10.000'	-0.65	27.42	77.4	1022.43	10.81	89.9
21/09/2011 21:38:10.000'	-0.65	27.42	77.4	1022.43	10.81	89.9
21/09/2011 22:38:10.000'	-0.65	27.42	77.4	1022.43	10.77	89.6
21/09/2011 23:38:10.000'	-0.66	27.41	77.4	1022.43	10.77	89.6
22/09/2011 00:38:10.000'	-0.66	27.42	77.3	1022.43	10.72	89.1
22/09/2011 01:38:10.000'	-0.66	27.41	77.3	1022.43	10.72	89.1
22/09/2011 02:38:10.000'	-0.66	27.41	77.2	1022.43	10.72	89.1
22/09/2011 03:38:10.000'	-0.66	27.42	77.2	1022.43	10.79	89.7
22/09/2011 04:38:10.000'	-0.65	27.41	77.2	1022.43	10.79	89.8
22/09/2011 05:38:10.000'	-0.63	27.42	77.2	1022.44	10.81	90.0
22/09/2011 06:38:10.000'	-0.63	27.42	77.2	1022.44	10.82	90.1
22/09/2011 07:38:10.000'	-0.63	27.42	77.2	1022.44	10.83	90.2
22/09/2011 08:38:10.000'	-0.61	27.43	77.3	1022.45	10.83	90.2
22/09/2011 09:38:10.000'	-0.61	27.43	77.4	1022.44	10.83	90.2
22/09/2011 10:38:10.000'	-0.61	27.43	77.4	1022.44	10.83	90.2
22/09/2011 11:38:10.000'	-0.61	27.43	77.5	1022.44	10.81	90.1
22/09/2011 12:38:10.000'	-0.62	27.43	77.5	1022.44	10.82	90.2
22/09/2011 13:38:10.000'	-0.62	27.43	77.5	1022.44	10.80	90.0
22/09/2011 14:38:10.000'	-0.62	27.43	77.5	1022.44	10.80	90.0
22/09/2011 15:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.1
22/09/2011 16:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.0
22/09/2011 17:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.0

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
22/09/2011 18:38:10.000'	-0.62	27.43	77.5	1022.44	10.82	90.1
22/09/2011 19:38:10.000'	-0.62	27.43	77.5	1022.44	10.82	90.1
22/09/2011 20:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.1
22/09/2011 21:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.0
22/09/2011 22:38:10.000'	-0.62	27.43	77.5	1022.44	10.81	90.1
22/09/2011 23:38:10.000'	-0.61	27.43	77.5	1022.44	10.81	90.1
23/09/2011 00:38:10.000'	-0.61	27.43	77.5	1022.44	10.82	90.1
23/09/2011 01:38:10.000'	-0.61	27.43	77.5	1022.44	10.81	90.1
23/09/2011 02:38:10.000'	-0.60	27.43	77.5	1022.45	10.81	90.0
23/09/2011 03:38:10.000'	-0.61	27.43	77.4	1022.45	10.82	90.1
23/09/2011 04:38:10.000'	-0.61	27.44	77.4	1022.45	10.81	90.0
23/09/2011 05:38:10.000'	-0.63	27.43	77.4	1022.44	10.78	89.7
23/09/2011 06:38:10.000'	-0.64	27.42	77.4	1022.44	10.78	89.7
23/09/2011 07:38:10.000'	-0.64	27.42	77.5	1022.44	10.74	89.4
23/09/2011 08:38:10.000'	-0.64	27.42	77.6	1022.44	10.75	89.5
23/09/2011 09:38:10.000'	-0.64	27.42	77.6	1022.44	10.75	89.5
23/09/2011 10:38:10.000'	-0.63	27.43	77.7	1022.44	10.80	89.9
23/09/2011 11:38:10.000'	-0.62	27.43	77.7	1022.44	10.79	89.9
23/09/2011 12:38:10.000'	-0.62	27.42	77.7	1022.44	10.79	89.9
23/09/2011 13:38:10.000'	-0.61	27.43	77.7	1022.44	10.79	89.9
23/09/2011 14:38:10.000'	-0.61	27.43	77.7	1022.44	10.79	89.9
23/09/2011 15:38:10.000'	-0.61	27.43	77.7	1022.44	10.80	90.0
23/09/2011 16:38:10.000'	-0.59	27.44	77.7	1022.45	10.81	90.1
23/09/2011 17:38:10.000'	-0.59	27.44	77.6	1022.45	10.81	90.1
23/09/2011 18:38:10.000'	-0.59	27.44	77.6	1022.45	10.81	90.1
23/09/2011 19:38:10.000'	-0.59	27.44	77.6	1022.45	10.80	90.0
23/09/2011 20:38:10.000'	-0.61	27.43	77.6	1022.44	10.80	89.9
23/09/2011 21:38:10.000'	-0.61	27.43	77.6	1022.44	10.79	89.9
23/09/2011 22:38:10.000'	-0.61	27.43	77.6	1022.44	10.79	89.9
23/09/2011 23:38:10.000'	-0.61	27.43	77.6	1022.44	10.80	90.0
24/09/2011 00:38:10.000'	-0.61	27.43	77.6	1022.44	10.80	89.9
24/09/2011 01:38:10.000'	-0.62	27.43	77.6	1022.44	10.77	89.7
24/09/2011 02:38:10.000'	-0.64	27.42	77.6	1022.44	10.74	89.4
24/09/2011 03:38:10.000'	-0.65	27.42	77.6	1022.43	10.72	89.2
24/09/2011 04:38:10.000'	-0.65	27.42	77.6	1022.43	10.72	89.2
24/09/2011 05:38:10.000'	-0.65	27.42	77.6	1022.43	10.71	89.1
24/09/2011 06:38:10.000'	-0.65	27.42	77.6	1022.43	10.70	89.1
24/09/2011 07:38:10.000'	-0.65	27.42	77.6	1022.43	10.71	89.1
24/09/2011 08:38:10.000'	-0.65	27.42	77.6	1022.44	10.71	89.1
24/09/2011 09:38:10.000'	-0.65	27.42	77.6	1022.44	10.71	89.1
24/09/2011 10:38:10.000'	-0.65	27.42	77.7	1022.44	10.71	89.1
24/09/2011 11:38:10.000'	-0.64	27.42	77.7	1022.44	10.72	89.2
24/09/2011 12:38:10.000'	-0.64	27.42	77.8	1022.44	10.72	89.2
24/09/2011 13:38:10.000'	-0.64	27.42	77.8	1022.44	10.70	89.1
24/09/2011 14:38:10.000'	-0.64	27.42	77.8	1022.44	10.69	89.0
24/09/2011 15:38:10.000'	-0.63	27.42	77.8	1022.44	10.70	89.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
24/09/2011 16:38:10.000'	-0.61	27.43	77.8	1022.44	10.79	89.9
24/09/2011 17:38:10.000'	-0.61	27.43	77.8	1022.44	10.78	89.8
24/09/2011 18:38:10.000'	-0.60	27.43	77.7	1022.44	10.78	89.8
24/09/2011 19:38:10.000'	-0.59	27.44	77.7	1022.45	10.79	89.9
24/09/2011 20:38:10.000'	-0.59	27.43	77.6	1022.45	10.80	90.0
24/09/2011 21:38:10.000'	-0.59	27.43	77.6	1022.44	10.81	90.1
24/09/2011 22:38:10.000'	-0.59	27.43	77.6	1022.44	10.80	90.0
24/09/2011 23:38:10.000'	-0.60	27.43	77.6	1022.44	10.78	89.8
25/09/2011 00:38:10.000'	-0.63	27.42	77.6	1022.44	10.73	89.3
25/09/2011 01:38:10.000'	-0.63	27.42	77.6	1022.44	10.61	88.4
25/09/2011 02:38:10.000'	-0.63	27.42	77.6	1022.44	10.60	88.3
25/09/2011 03:38:10.000'	-0.65	27.42	77.6	1022.43	10.58	88.0
25/09/2011 04:38:10.000'	-0.66	27.42	77.6	1022.43	10.58	88.0
25/09/2011 05:38:10.000'	-0.67	27.41	77.6	1022.43	10.51	87.4
25/09/2011 06:38:10.000'	-0.66	27.42	77.6	1022.43	10.47	87.1
25/09/2011 07:38:10.000'	-0.66	27.42	77.6	1022.43	10.47	87.1
25/09/2011 08:38:10.000'	-0.66	27.41	77.6	1022.43	10.47	87.1
25/09/2011 09:38:10.000'	-0.66	27.41	77.6	1022.43	10.51	87.4
25/09/2011 10:38:10.000'	-0.66	27.42	77.7	1022.43	10.60	88.2
25/09/2011 11:38:10.000'	-0.64	27.42	77.7	1022.44	10.68	88.9
25/09/2011 12:38:10.000'	-0.63	27.42	77.8	1022.44	10.71	89.2
25/09/2011 13:38:10.000'	-0.62	27.42	77.8	1022.44	10.74	89.4
25/09/2011 14:38:10.000'	-0.61	27.42	77.8	1022.44	10.76	89.7
25/09/2011 15:38:10.000'	-0.61	27.42	77.8	1022.44	10.76	89.6
25/09/2011 16:38:10.000'	-0.61	27.42	77.8	1022.44	10.76	89.6
25/09/2011 17:38:10.000'	-0.61	27.42	77.8	1022.44	10.76	89.7
25/09/2011 18:38:10.000'	-0.60	27.43	77.7	1022.44	10.77	89.8
25/09/2011 19:38:10.000'	-0.59	27.43	77.6	1022.44	10.79	90.0
25/09/2011 20:38:10.000'	-0.58	27.43	77.6	1022.44	10.80	90.0
25/09/2011 21:38:10.000'	-0.58	27.43	77.5	1022.45	10.80	90.1
25/09/2011 22:38:10.000'	-0.58	27.43	77.5	1022.45	10.80	90.0
25/09/2011 23:38:10.000'	-0.58	27.43	77.5	1022.45	10.79	90.0
26/09/2011 00:38:10.000'	-0.58	27.43	77.5	1022.44	10.78	89.9
26/09/2011 01:38:10.000'	-0.59	27.43	77.5	1022.44	10.79	89.9
26/09/2011 02:38:10.000'	-0.59	27.43	77.5	1022.44	10.80	90.0
26/09/2011 03:38:10.000'	-0.60	27.43	77.5	1022.44	10.79	89.9
26/09/2011 04:38:10.000'	-0.60	27.42	77.5	1022.44	10.77	89.7
26/09/2011 05:38:10.000'	-0.61	27.42	77.5	1022.44	10.74	89.4
26/09/2011 06:38:10.000'	-0.61	27.42	77.5	1022.44	10.72	89.3
26/09/2011 07:38:10.000'	-0.61	27.42	77.4	1022.44	10.73	89.4
26/09/2011 08:38:10.000'	-0.61	27.42	77.4	1022.44	10.74	89.5
26/09/2011 09:38:10.000'	-0.60	27.43	77.4	1022.44	10.74	89.5
26/09/2011 10:38:10.000'	-0.58	27.43	77.4	1022.44	10.76	89.7
26/09/2011 11:38:10.000'	-0.59	27.43	77.4	1022.44	10.76	89.7
26/09/2011 12:38:10.000'	-0.59	27.43	77.5	1022.44	10.77	89.8
26/09/2011 13:38:10.000'	-0.59	27.43	77.5	1022.44	10.76	89.7

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
26/09/2011 14:38:10.000'	-0.58	27.43	77.5	1022.44	10.77	89.8
26/09/2011 15:38:10.000'	-0.58	27.43	77.5	1022.44	10.76	89.7
26/09/2011 16:38:10.000'	-0.58	27.43	77.5	1022.44	10.77	89.8
26/09/2011 17:38:10.000'	-0.58	27.43	77.5	1022.44	10.78	89.9
26/09/2011 18:38:10.000'	-0.58	27.43	77.5	1022.44	10.79	90.0
26/09/2011 19:38:10.000'	-0.58	27.43	77.4	1022.44	10.80	90.0
26/09/2011 20:38:10.000'	-0.58	27.43	77.3	1022.44	10.79	89.9
26/09/2011 21:38:10.000'	-0.58	27.43	77.3	1022.44	10.78	89.9
26/09/2011 22:38:10.000'	-0.58	27.43	77.3	1022.44	10.78	89.8
26/09/2011 23:38:10.000'	-0.58	27.43	77.3	1022.44	10.77	89.8
27/09/2011 00:38:10.000'	-0.58	27.43	77.3	1022.44	10.76	89.7
27/09/2011 01:38:10.000'	-0.58	27.43	77.3	1022.44	10.76	89.7
27/09/2011 02:38:10.000'	-0.58	27.43	77.4	1022.44	10.75	89.6
27/09/2011 03:38:10.000'	-0.58	27.43	77.4	1022.44	10.76	89.7
27/09/2011 04:38:10.000'	-0.58	27.43	77.4	1022.44	10.75	89.6
27/09/2011 05:38:10.000'	-0.57	27.43	77.4	1022.45	10.75	89.7
27/09/2011 06:38:10.000'	-0.57	27.44	77.5	1022.45	10.76	89.7
27/09/2011 07:38:10.000'	-0.57	27.44	77.5	1022.45	10.77	89.8
27/09/2011 08:38:10.000'	-0.57	27.44	77.5	1022.45	10.77	89.8
27/09/2011 09:38:10.000'	-0.57	27.44	77.5	1022.45	10.76	89.7
27/09/2011 10:38:10.000'	-0.57	27.44	77.5	1022.45	10.77	89.8
27/09/2011 11:38:10.000'	-0.56	27.44	77.5	1022.45	10.75	89.7
27/09/2011 12:38:10.000'	-0.56	27.44	77.6	1022.45	10.77	89.8
27/09/2011 13:38:10.000'	-0.56	27.44	77.7	1022.45	10.77	89.8
27/09/2011 14:38:10.000'	-0.56	27.44	77.8	1022.45	10.78	90.0
27/09/2011 15:38:10.000'	-0.55	27.44	77.8	1022.45	10.78	90.0
27/09/2011 16:38:10.000'	-0.55	27.44	77.8	1022.45	10.81	90.2
27/09/2011 17:38:10.000'	-0.55	27.44	77.8	1022.45	10.80	90.1
27/09/2011 18:38:10.000'	-0.55	27.44	77.8	1022.45	10.80	90.1
27/09/2011 19:38:10.000'	-0.56	27.44	77.8	1022.45	10.80	90.1
27/09/2011 20:38:10.000'	-0.57	27.44	77.7	1022.45	10.77	89.8
27/09/2011 21:38:10.000'	-0.57	27.44	77.7	1022.45	10.77	89.8
27/09/2011 22:38:10.000'	-0.57	27.43	77.7	1022.45	10.77	89.8
27/09/2011 23:38:10.000'	-0.57	27.43	77.7	1022.45	10.75	89.7
28/09/2011 00:38:10.000'	-0.57	27.43	77.7	1022.44	10.77	89.8
28/09/2011 01:38:10.000'	-0.57	27.43	77.7	1022.45	10.76	89.7
28/09/2011 02:38:10.000'	-0.57	27.43	77.8	1022.45	10.78	89.9
28/09/2011 03:38:10.000'	-0.57	27.43	77.8	1022.44	10.76	89.7
28/09/2011 04:38:10.000'	-0.57	27.43	77.8	1022.45	10.75	89.7
28/09/2011 05:38:10.000'	-0.58	27.43	77.8	1022.45	10.76	89.7
28/09/2011 06:38:10.000'	-0.58	27.43	77.8	1022.44	10.75	89.7
28/09/2011 07:38:10.000'	-0.58	27.43	77.8	1022.44	10.73	89.4
28/09/2011 08:38:10.000'	-0.58	27.43	77.8	1022.44	10.74	89.5
28/09/2011 09:38:10.000'	-0.58	27.43	77.8	1022.45	10.73	89.5
28/09/2011 10:38:10.000'	-0.58	27.43	77.8	1022.45	10.73	89.5
28/09/2011 11:38:10.000'	-0.58	27.43	77.8	1022.45	10.73	89.4

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
28/09/2011 12:38:10.000'	-0.58	27.43	77.8	1022.45	10.73	89.4
28/09/2011 13:38:10.000'	-0.58	27.43	77.9	1022.44	10.72	89.4
28/09/2011 14:38:10.000'	-0.58	27.43	77.9	1022.45	10.71	89.3
28/09/2011 15:38:10.000'	-0.58	27.43	77.9	1022.44	10.71	89.3
28/09/2011 16:38:10.000'	-0.58	27.43	77.9	1022.45	10.71	89.3
28/09/2011 17:38:10.000'	-0.58	27.43	77.9	1022.45	10.71	89.3
28/09/2011 18:38:10.000'	-0.58	27.43	77.9	1022.44	10.71	89.3
28/09/2011 19:38:10.000'	-0.59	27.43	77.8	1022.44	10.69	89.1
28/09/2011 20:38:10.000'	-0.59	27.43	77.8	1022.44	10.69	89.1
28/09/2011 21:38:10.000'	-0.59	27.43	77.7	1022.44	10.67	89.0
28/09/2011 22:38:10.000'	-0.59	27.43	77.7	1022.44	10.63	88.6
28/09/2011 23:38:10.000'	-0.60	27.43	77.6	1022.44	10.61	88.4
29/09/2011 00:38:10.000'	-0.60	27.43	77.6	1022.44	10.63	88.5
29/09/2011 01:38:10.000'	-0.60	27.43	77.6	1022.44	10.62	88.5
29/09/2011 02:38:10.000'	-0.60	27.43	77.6	1022.44	10.63	88.6
29/09/2011 03:38:10.000'	-0.61	27.42	77.6	1022.44	10.66	88.8
29/09/2011 04:38:10.000'	-0.61	27.42	77.6	1022.44	10.66	88.8
29/09/2011 05:38:10.000'	-0.61	27.42	77.7	1022.44	10.66	88.8
29/09/2011 06:38:10.000'	-0.61	27.42	77.7	1022.44	10.57	88.0
29/09/2011 07:38:10.000'	-0.62	27.42	77.7	1022.44	10.57	88.0
29/09/2011 08:38:10.000'	-0.62	27.43	77.6	1022.44	10.57	88.0
29/09/2011 09:38:10.000'	-0.62	27.42	77.6	1022.44	10.65	88.7
29/09/2011 10:38:10.000'	-0.62	27.42	77.6	1022.44	10.65	88.7
29/09/2011 11:38:10.000'	-0.62	27.42	77.6	1022.44	10.65	88.7
29/09/2011 12:38:10.000'	-0.62	27.42	77.6	1022.43	10.68	88.9
29/09/2011 13:38:10.000'	-0.62	27.42	77.6	1022.43	10.69	89.1
29/09/2011 14:38:10.000'	-0.62	27.42	77.6	1022.43	10.69	89.1
29/09/2011 15:38:10.000'	-0.62	27.42	77.7	1022.43	10.68	88.9
29/09/2011 16:38:10.000'	-0.62	27.41	77.7	1022.43	10.67	88.9
29/09/2011 17:38:10.000'	-0.62	27.41	77.7	1022.43	10.70	89.1
29/09/2011 18:38:10.000'	-0.62	27.41	77.7	1022.43	10.79	89.8
29/09/2011 19:38:10.000'	-0.62	27.41	77.6	1022.43	10.78	89.8
29/09/2011 20:38:10.000'	-0.62	27.41	77.6	1022.42	10.78	89.8
29/09/2011 21:38:10.000'	-0.63	27.41	77.5	1022.42	10.74	89.4
29/09/2011 22:38:10.000'	-0.61	27.40	77.5	1022.42	10.74	89.4
29/09/2011 23:38:10.000'	-0.62	27.40	77.4	1022.42	10.74	89.4
30/09/2011 00:38:10.000'	-0.62	27.41	77.4	1022.42	10.74	89.4
30/09/2011 01:38:10.000'	-0.62	27.41	77.4	1022.42	10.76	89.6
30/09/2011 02:38:10.000'	-0.62	27.41	77.4	1022.42	10.76	89.6
30/09/2011 03:38:10.000'	-0.62	27.41	77.4	1022.42	10.72	89.3
30/09/2011 04:38:10.000'	-0.62	27.41	77.5	1022.42	10.72	89.3
30/09/2011 05:38:10.000'	-0.62	27.41	77.5	1022.42	10.77	89.7
30/09/2011 06:38:10.000'	-0.62	27.41	77.5	1022.42	10.76	89.6
30/09/2011 07:38:10.000'	-0.60	27.41	77.5	1022.42	10.77	89.7
30/09/2011 08:38:10.000'	-0.59	27.41	77.5	1022.42	10.76	89.7
30/09/2011 09:38:10.000'	-0.59	27.40	77.5	1022.42	10.75	89.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
30/09/2011 10:38:10.000'	-0.59	27.41	77.4	1022.42	10.75	89.6
30/09/2011 11:38:10.000'	-0.59	27.40	77.4	1022.42	10.75	89.5
30/09/2011 12:38:10.000'	-0.59	27.40	77.4	1022.42	10.75	89.6
30/09/2011 13:38:10.000'	-0.59	27.40	77.4	1022.42	10.73	89.4
30/09/2011 14:38:10.000'	-0.59	27.41	77.4	1022.42	10.74	89.5
30/09/2011 15:38:10.000'	-0.59	27.40	77.4	1022.42	10.73	89.4
30/09/2011 16:38:10.000'	-0.59	27.40	77.4	1022.42	10.74	89.5
30/09/2011 17:38:10.000'	-0.59	27.41	77.4	1022.42	10.74	89.5
30/09/2011 18:38:10.000'	-0.59	27.40	77.4	1022.42	10.73	89.5
30/09/2011 19:38:10.000'	-0.59	27.41	77.4	1022.42	10.73	89.5
30/09/2011 20:38:10.000'	-0.59	27.41	77.4	1022.42	10.72	89.3
30/09/2011 21:38:10.000'	-0.59	27.41	77.4	1022.42	10.73	89.4
30/09/2011 22:38:10.000'	-0.59	27.41	77.3	1022.42	10.73	89.4
30/09/2011 23:38:10.000'	-0.59	27.41	77.3	1022.42	10.73	89.4
01/10/2011 00:38:10.000'	-0.59	27.41	77.3	1022.42	10.73	89.4
01/10/2011 01:38:10.000'	-0.59	27.41	77.3	1022.42	10.73	89.4
01/10/2011 02:38:10.000'	-0.59	27.41	77.3	1022.42	10.72	89.4
01/10/2011 03:38:10.000'	-0.58	27.41	77.3	1022.42	10.73	89.4
01/10/2011 04:38:10.000'	-0.58	27.41	77.4	1022.43	10.74	89.6
01/10/2011 05:38:10.000'	-0.57	27.41	77.5	1022.43	10.76	89.7
01/10/2011 06:38:10.000'	-0.56	27.42	77.6	1022.43	10.76	89.7
01/10/2011 07:38:10.000'	-0.56	27.41	77.6	1022.43	10.76	89.7
01/10/2011 08:38:10.000'	-0.54	27.43	77.6	1022.44	10.76	89.8
01/10/2011 09:38:10.000'	-0.53	27.43	77.6	1022.44	10.76	89.8
01/10/2011 10:38:10.000'	-0.54	27.43	77.6	1022.44	10.76	89.8
01/10/2011 11:38:10.000'	-0.55	27.42	77.6	1022.44	10.75	89.7
01/10/2011 12:38:10.000'	-0.55	27.42	77.6	1022.44	10.75	89.7
01/10/2011 13:38:10.000'	-0.56	27.42	77.6	1022.43	10.71	89.3
01/10/2011 14:38:10.000'	-0.57	27.41	77.6	1022.43	10.71	89.3
01/10/2011 15:38:10.000'	-0.57	27.41	77.6	1022.43	10.71	89.3
01/10/2011 16:38:10.000'	-0.56	27.42	77.7	1022.43	10.71	89.4
01/10/2011 17:38:10.000'	-0.55	27.42	77.7	1022.44	10.73	89.5
01/10/2011 18:38:10.000'	-0.54	27.43	77.7	1022.44	10.73	89.6
01/10/2011 19:38:10.000'	-0.52	27.44	77.7	1022.45	10.74	89.7
01/10/2011 20:38:10.000'	-0.52	27.43	77.7	1022.45	10.74	89.7
01/10/2011 21:38:10.000'	-0.52	27.43	77.7	1022.45	10.74	89.7
01/10/2011 22:38:10.000'	-0.53	27.43	77.7	1022.45	10.70	89.3
01/10/2011 23:38:10.000'	-0.54	27.43	77.6	1022.44	10.70	89.3
02/10/2011 00:38:10.000'	-0.54	27.44	77.6	1022.45	10.70	89.3
02/10/2011 01:38:10.000'	-0.53	27.44	77.6	1022.45	10.71	89.4
02/10/2011 02:38:10.000'	-0.52	27.44	77.6	1022.45	10.71	89.4
02/10/2011 03:38:10.000'	-0.52	27.44	77.6	1022.45	10.75	89.8
02/10/2011 04:38:10.000'	-0.52	27.44	77.6	1022.45	10.76	89.9
02/10/2011 05:38:10.000'	-0.52	27.44	77.7	1022.45	10.77	90.0
02/10/2011 06:38:10.000'	-0.52	27.44	77.7	1022.45	10.77	90.0
02/10/2011 07:38:10.000'	-0.52	27.43	77.8	1022.44	10.79	90.1

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
02/10/2011 08:38:10.000'	-0.47	27.44	77.8	1022.45	10.79	90.3
02/10/2011 09:38:10.000'	-0.45	27.45	77.8	1022.46	10.81	90.4
02/10/2011 10:38:10.000'	-0.45	27.45	77.8	1022.46	10.82	90.5
02/10/2011 11:38:10.000'	-0.45	27.45	77.7	1022.46	10.81	90.4
02/10/2011 12:38:10.000'	-0.45	27.45	77.7	1022.46	10.81	90.4
02/10/2011 13:38:10.000'	-0.48	27.45	77.6	1022.46	10.81	90.4
02/10/2011 14:38:10.000'	-0.49	27.45	77.6	1022.46	10.77	90.0
02/10/2011 15:38:10.000'	-0.49	27.44	77.6	1022.45	10.77	90.0
02/10/2011 16:38:10.000'	-0.50	27.44	77.6	1022.45	10.76	89.9
02/10/2011 17:38:10.000'	-0.55	27.43	77.6	1022.44	10.72	89.4
02/10/2011 18:38:10.000'	-0.55	27.42	77.6	1022.43	10.72	89.4
02/10/2011 19:38:10.000'	-0.56	27.41	77.6	1022.43	10.72	89.4
02/10/2011 20:38:10.000'	-0.56	27.42	77.6	1022.43	10.71	89.4
02/10/2011 21:38:10.000'	-0.55	27.42	77.6	1022.43	10.73	89.5
02/10/2011 22:38:10.000'	-0.55	27.42	77.5	1022.43	10.73	89.5
02/10/2011 23:38:10.000'	-0.56	27.42	77.5	1022.43	10.74	89.5
03/10/2011 00:38:10.000'	-0.56	27.42	77.4	1022.43	10.74	89.6
03/10/2011 01:38:10.000'	-0.57	27.41	77.4	1022.43	10.75	89.6
03/10/2011 02:38:10.000'	-0.57	27.41	77.4	1022.43	10.75	89.6
03/10/2011 03:38:10.000'	-0.58	27.41	77.4	1022.42	10.74	89.5
03/10/2011 04:38:10.000'	-0.58	27.41	77.5	1022.42	10.74	89.5
03/10/2011 05:38:10.000'	-0.58	27.41	77.6	1022.42	10.72	89.3
03/10/2011 06:38:10.000'	-0.58	27.41	77.6	1022.42	10.73	89.4
03/10/2011 07:38:10.000'	-0.59	27.41	77.7	1022.42	10.72	89.3
03/10/2011 08:38:10.000'	-0.60	27.40	77.7	1022.42	10.73	89.4
03/10/2011 09:38:10.000'	-0.62	27.40	77.7	1022.42	10.65	88.7
03/10/2011 10:38:10.000'	-0.63	27.39	77.7	1022.41	10.58	88.1
03/10/2011 11:38:10.000'	-0.64	27.39	77.7	1022.41	10.58	88.1
03/10/2011 12:38:10.000'	-0.66	27.39	77.6	1022.41	10.53	87.5
03/10/2011 13:38:10.000'	-0.66	27.39	77.6	1022.41	10.52	87.5
03/10/2011 14:38:10.000'	-0.66	27.39	77.5	1022.41	10.52	87.5
03/10/2011 15:38:10.000'	-0.65	27.39	77.5	1022.41	10.52	87.5
03/10/2011 16:38:10.000'	-0.64	27.39	77.5	1022.41	10.57	88.0
03/10/2011 17:38:10.000'	-0.63	27.39	77.5	1022.41	10.63	88.5
03/10/2011 18:38:10.000'	-0.61	27.39	77.5	1022.41	10.70	89.2
03/10/2011 19:38:10.000'	-0.58	27.40	77.5	1022.42	10.70	89.2
03/10/2011 20:38:10.000'	-0.58	27.40	77.5	1022.42	10.72	89.3
03/10/2011 21:38:10.000'	-0.58	27.41	77.5	1022.42	10.72	89.3
03/10/2011 22:38:10.000'	-0.58	27.40	77.5	1022.42	10.73	89.4
03/10/2011 23:38:10.000'	-0.58	27.41	77.5	1022.42	10.70	89.2
04/10/2011 00:38:10.000'	-0.58	27.41	77.5	1022.43	10.70	89.2
04/10/2011 01:38:10.000'	-0.58	27.41	77.5	1022.43	10.70	89.2
04/10/2011 02:38:10.000'	-0.58	27.41	77.5	1022.43	10.69	89.1
04/10/2011 03:38:10.000'	-0.58	27.40	77.5	1022.42	10.68	89.0
04/10/2011 04:38:10.000'	-0.59	27.40	77.5	1022.42	10.69	89.1
04/10/2011 05:38:10.000'	-0.61	27.40	77.5	1022.42	10.64	88.6

Table A3-3.6. Temperature, Salinity, Density, and Dissolved Oxygen Time Series Data at 77 m Depth in Roberts Bay, Doris North Project, July-October 2011

Date/Time	Temperature (°C)	Salinity	Depth (m)	Density (kg/m ³)	Dissolved Oxygen (mg/L)	Oxygen Saturation (%)
04/10/2011 06:38:10.000'	-0.61	27.40	77.6	1022.42	10.60	88.3
04/10/2011 07:38:10.000'	-0.61	27.40	77.6	1022.42	10.60	88.3
04/10/2011 08:38:10.000'	-0.62	27.40	77.7	1022.42	10.60	88.2
04/10/2011 09:38:10.000'	-0.62	27.40	77.7	1022.42	10.56	87.9
04/10/2011 10:38:10.000'	-0.61	27.40	77.7	1022.42	10.56	87.9

3-3.2 ROBERTS BAY CURRENTS DATA

This section provides a general overview of the current dataset collected within Roberts Bay during the 2011 sampling season. Representative data bins were selected from each of the ADCP datasets for analysis and plotting. In the case of the 38 m deep site, three depth levels were chosen for processing. In the case of the 85 m deep site, four levels were chosen.

3-3.2.1 QA/QC Procedures

The current meters were configured with the settings summarized in Table A3-3.7.

Due to the proximity of the earth's magnetic pole, the magnetic field vector actually dips at an angle of approximately 85° from horizontal, reducing the horizontal component to only 4,924 nT. This is calculated from a Canadian government magnetic field model (http://geomag.nrcan.gc.ca/apps/mfcal_e.php) that does not account for magnetic storms and nearby anomalies. Due to the weak horizontal component of the magnetic field, the fluxgate compass in the ADCP is not as reliable as at more southerly latitudes. Therefore, the ADCP was carefully calibrated on site to best compensate for the effect of the battery and other nearby disturbances.

During the ice-covered winter months, it was possible to bypass the ADCP's compass altogether. This involved recording directions in instrument XYZ coordinates and subsequently re-orienting the ADCP from the surface. The directions could then be modified during processing. This was the procedure undertaken for the initial ice-based deployment, where an aluminum mast was used to suspend the ADCP just beneath the ice, looking downward. The mast/ADCP heading was determined after the ADCP was deployed.

Table A3-3.7. ADCP Configurations

February 10 - April 21 Deployment at 38 m Site and April 21 - May 22 Deployment at 85 m Site	
ADCP Frequency (kHz)	300
ADCP Serial Number	11162
Vertical Resolution / Bin Size (m)	3
Ensemble Interval (min)	20
Number of Pings per Ensemble	380
May 22 - July 17 Deployment	
ADCP Frequency (kHz)	300
ADCP Serial Number	11162
Vertical Resolution / Bin Size (m)	3
Ensemble Interval (min)	30
Number of Pings per Ensemble	370
July 17 - October 4 Deployment: ADCP	
ADCP Frequency (kHz)	600
ADCP Serial Number	7806
Vertical Resolution / Bin Size (m)	2
Ensemble Interval (min)	10
Number of Pings per Ensemble	108

Table A3-3.7. ADCP Configurations (continued)

July 17 - October 4 Deployment: AQD	
AQD Frequency (kHz)	600
AQD Serial Number	0643
Vertical Resolution / Bin Size (m)	2
Ensemble Interval (min)	20

For the February 10 to April 19 period when the ADCP was at the shallow 38 m depth site, the bearing of the pole and the ADCP beam #3 was 13° true. This was determined using two methods:

1. Using a Furuno SC-30 satellite compass. The SC-30 used two DGPS units to measure heading in degrees true. The ADCP beam #3 heading using the SC-30 was 11.8° true ($\pm 2^\circ$). This was corroborated by the second method:
2. Two GPS positions 50 m apart along the axis of the pole gave a heading of 13.9° true ($\pm 2^\circ$).

When the ADCP was re-located on April 19-21 to the deeper site (again suspended from the ice), the beam #3 heading was 172° true. This was determined using two GPS positions 50 m apart along the axis of the pole.

This method was not possible to use for the open-water deployments, so the internal ADCP compass had to be used with the magnetic declination correction. Table A3-3.8 and Table A3-3.9 list the rotations and magnetic declinations applied to each dataset.

Table A3-3.8. Rotations Applied during Deployments where the ADCP Recorded in XYZ Coordinates, Suspended from the Ice Looking Downward

Date	Water Depth (m)	Rotation
Feb 10 - Feb 22	38	13°
Feb 22 - Apr 16	38	13°
Apr 21 - May 22	85	172°

Table A3-3.9. Magnetic Declination Applied to the Bottom Taut-line Mooring Deployments, where the ADCP was Configured in Geographic Coordinates

Date	Water Depth (m)	Magnetic Declination
May 22 - Jul 17	85	11.93° E
Jul 17 - Oct 04	85	11.93° E

Once the moorings were retrieved and the datasets downloaded, each specific time series data set was subjected to quality control procedures. The steps in the error detection and removal procedures were applied as follows:

1. Plots of all the raw data sets were prepared and reviewed, including the ADCP vertical and error velocities.
2. Values of measured horizontal components of current that had absolute values exceeding 25 cm/s were selected;

3. Values of measured horizontal components of current with accompanying error velocities that exceeded 10 cm/s were selected;
4. Single point 'spikes' in each component of the horizontal velocities were identified. A single point spike consisted of two successive first difference values exceeding 4 cm/s and opposite in sign. A 6 cm/s threshold was used in processing the Aquadopp ADCP dataset, which had a higher standard deviations and consisted of two bins averaged together.
5. 'Double spikes' exceeding a double spike threshold of 5 cm/s (8 cm/s for the Aquadopp) in each component of the horizontal velocities were identified. A double spike consisted of two consecutive points, both of which were either larger or smaller than the preceding and following points by more than the double spike threshold.
6. 'Triple spikes' exceeding a triple spike threshold of 6 cm/s (10 cm/s for the Aquadopp) in each component of the horizontal velocities were identified. A triple spike consisted of three consecutive points that were smaller than the preceding and following points by more than the triple spike threshold, but whose middle points could not change by more than one third of the triple spike threshold from their respective leading neighbours.
7. 'Quadruple spikes' exceeding a quadruple spike threshold of 7 cm/s (12 cm/s for the Aquadopp) in each component of the horizontal velocities were identified. A quadruple spike consisted of four consecutive points which were smaller than the preceding and following points by more than the quadruple spike threshold, but whose middle points could not change by more than one third of the quadruple spike threshold from their respective leading neighbours.
8. For all suspect values found as above in items 2 to 7, the values were replaced by linear interpolation over all individual segments with durations of less than two and a half hours. For longer segments of erroneous or suspect data, the values were replaced with flag values (-9999) and reviewed again in step 9.
9. Plots of the edited data sets (following step 8) were prepared and manually reviewed. Any remaining suspect values were manually edited. These suspect values were generally determined as being anomalous from adjoining values at nearby times or at adjacent bins above and below.

Following quality control, the datasets were converted to true coordinates. During the deployments suspended from the ice, the instrument recorded in XYZ coordinates and a rotation was applied during processing to correct for the ADCP beam #3 heading. The ADCP heading was 13° true at the 38 m site, and 172° true at the 85 m site, when suspended from ice. The taut-line moorings were configured in geographic coordinates, and a magnetic declination of 11.93° E was applied during processing to convert from magnetic to true coordinates.

3-3.2.2 February 10 - April 16 Deployment

Current bins corresponding to 9 m, 21 m, and 30 m depths were selected for processing.

The number of points edited using the quality control procedures described in Section 3-3.2.1 is listed in Table A3-3.10 and Table A3-3.11. A time series plot of each velocity component at each depth is shown in Figure A3-3.3 through Figure A3-3.14.

Summary statistics computed for each depth are shown in Table A3-3.12 and Table A3-3.13. Speed and direction joint frequency tables are presented in Table A3-3.14 through Table A3-3.19 and are further illustrated with compass plots in Figure A3-3.16 through Figure A3-3.20. The color of each segment in the compass plots denotes its speed interval. The radial length of each segment denotes the proportion of

measurements within the illustrated speed and direction interval. The maximum and mean are illustrated through the second radial scale as the red and light green lines respectively for clear viewing.

Measurement Statistics

Table A3-3.10. Summary of Points Edited at each Depth for February 10-22 at the 38 m Site

	Veast			Vnorth		
	9 m	21 m	30 m	9 m	21 m	30 m
Out of Range	0	0	0	0	0	0
Single Spike	0	0	0	0	0	0
Double Spike	0	0	0	0	0	0
Triple Spike	0	0	0	0	0	0
Quad. Spike	0	0	0	0	0	0
Manual Edit	0	0	0	0	0	0
Verror >10	0	0	0	0	0	0
% Edit	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
Total Pts	847			847		

Table A3-3.11. Summary of Points Edited at each Depth for February 22 - April 16 at the 38 m Site

	Veast			Vnorth		
	9 m	21 m	30 m	9 m	21 m	30 m
Out of Range	0	0	0	0	0	0
Single Spike	0	0	0	0	0	0
Double Spike	0	0	0	0	0	0
Triple Spike	0	0	0	0	0	0
Quad. Spike	0	0	0	0	0	0
Manual Edit	0	0	1	0	0	0
Verror >10	0	0	0	0	0	0
% Edit	0.00 %	0.00 %	0.03 %	0.00 %	0.00 %	0.00 %
Total Pts	3,827			3,827		

Current Time-Series

Figure A3-3.3. Time-series Plot of the East Velocity Component at 9 m Depth for February 10 - 22 at the 38 m Site

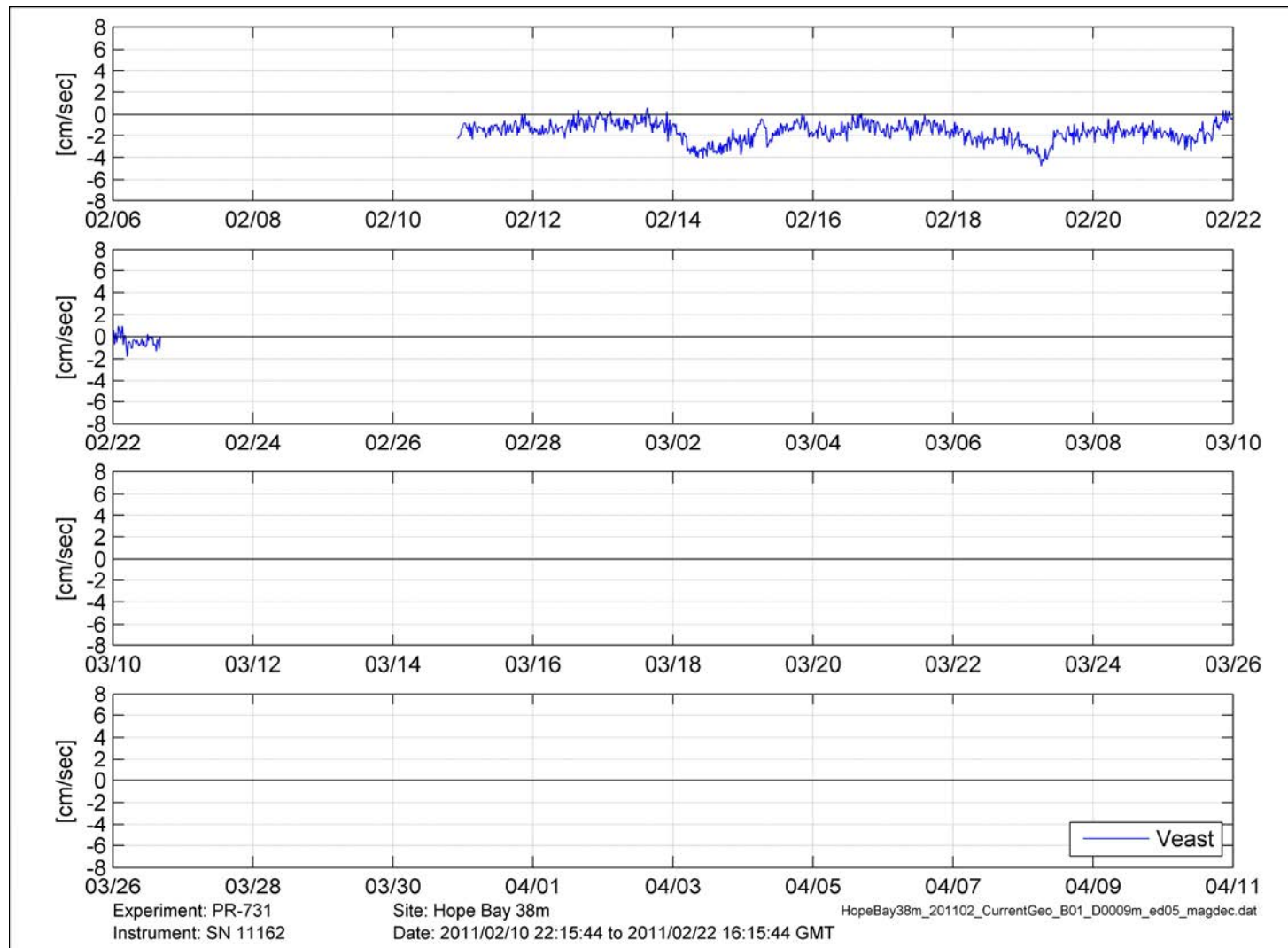


Figure A3-3.4. Time-series Plot of the North Velocity Component at 9 m Depth for February 10 - 22 at the 38 m Site

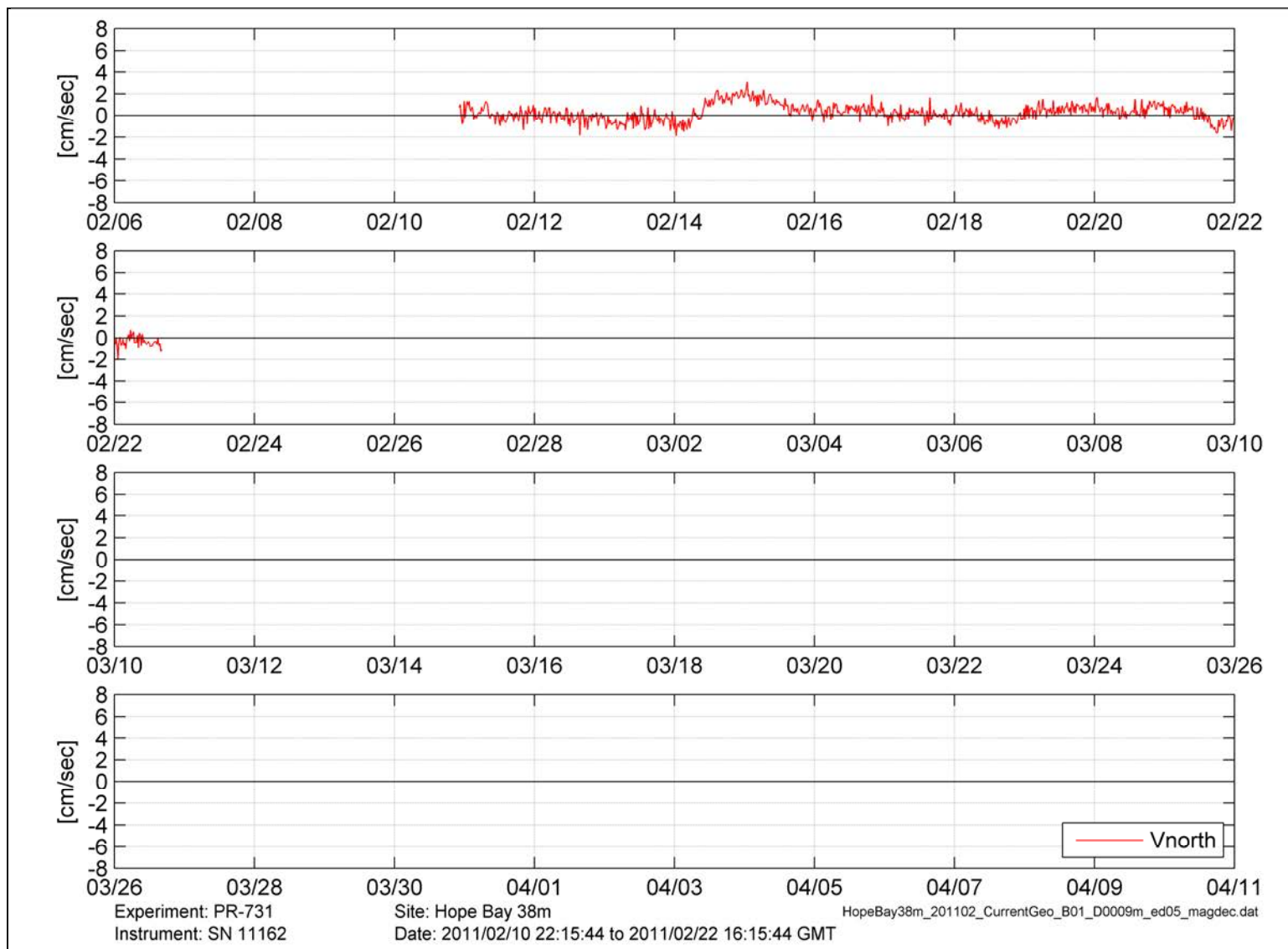


Figure A3-3.5. Time-series Plot of the East Velocity Component at 21 m depth for February 10 - 22 at the 38 m Site

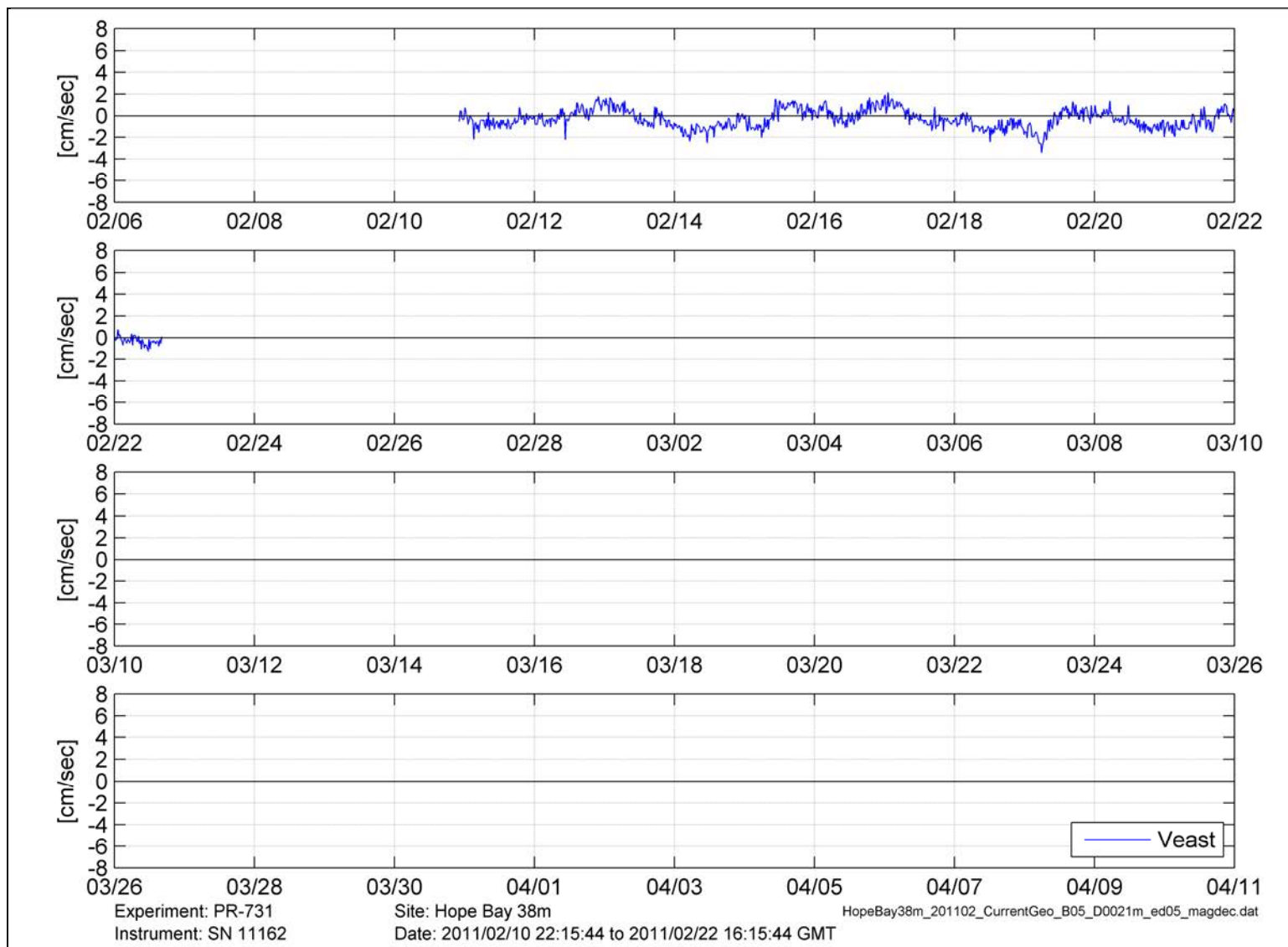


Figure A3-3.6. Time-series Plot of the North Velocity Component at 21 m Depth for February 10 - 22 at the 38 m Site

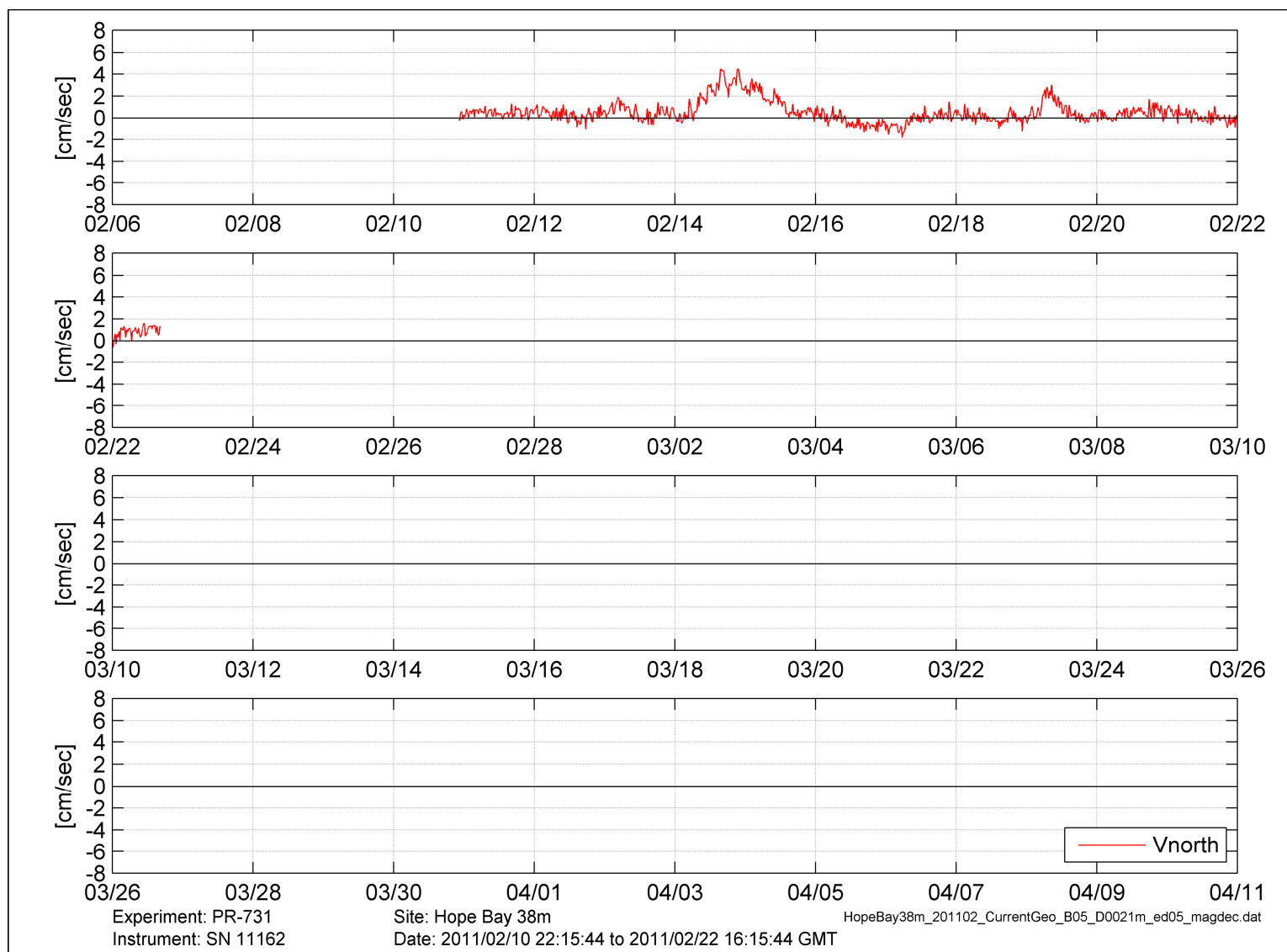


Figure A3-3.7. Time-series Plot of the East Velocity Component at 30 m Depth for February 10 - 22 at the 38 m Site

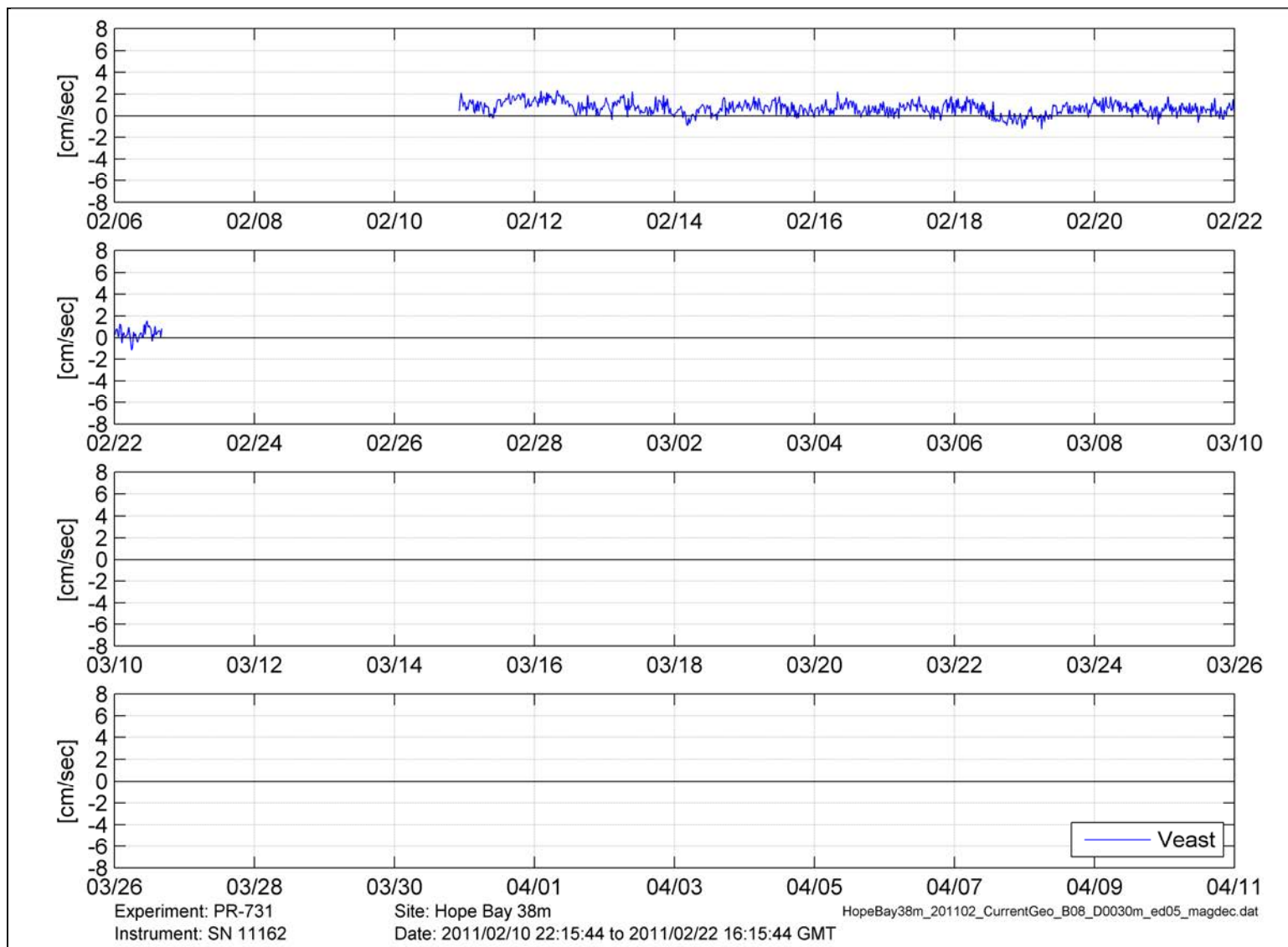


Figure A3-3.8. Time-series Plot of the North Velocity Component at 30 m Depth for February 10 - 22 at the 38 m Site

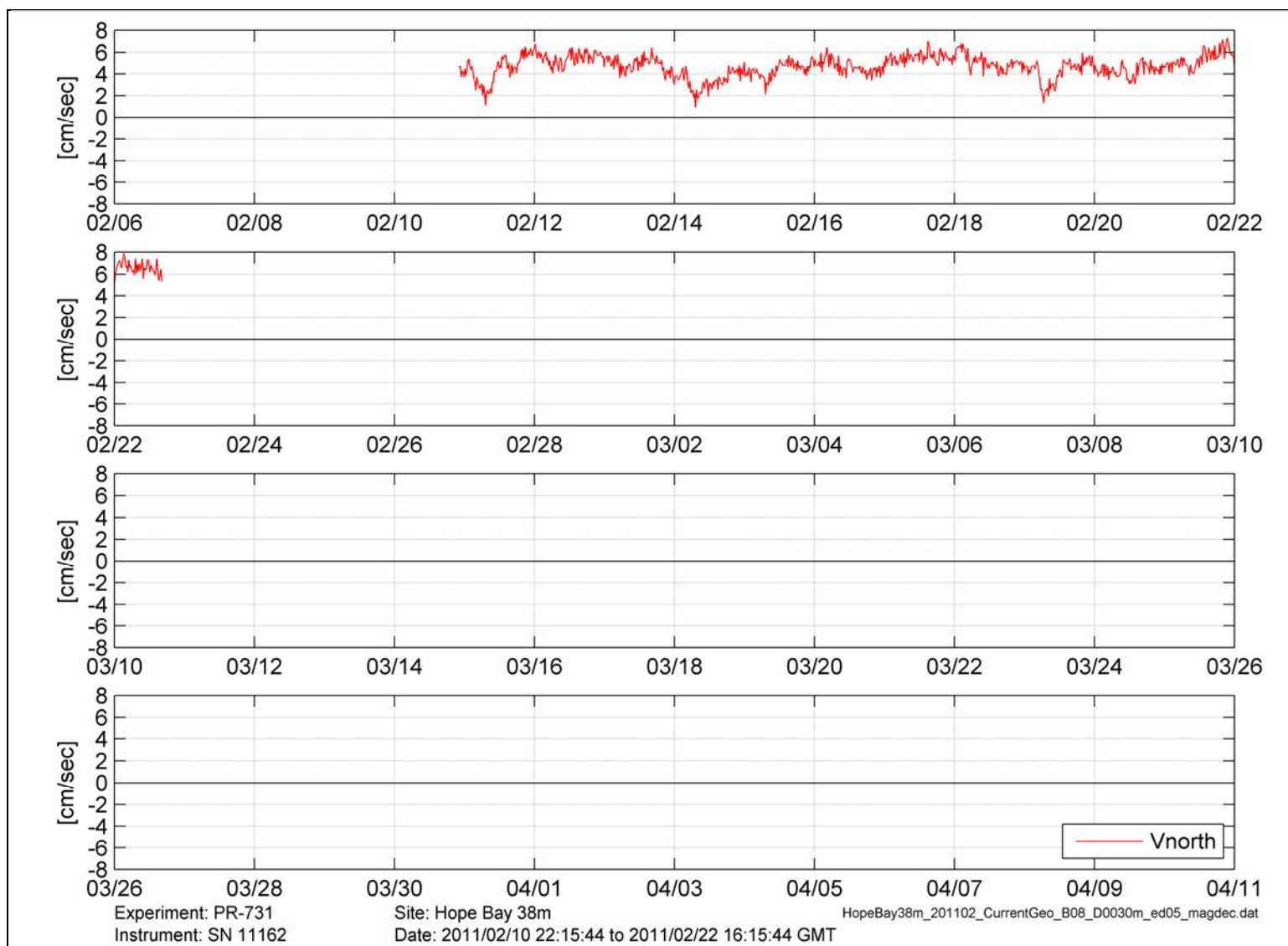


Figure A3-3.9. Time-series Plot of the East Velocity Component at 9 m Depth for February 22 - April 16 at the 38 m Site

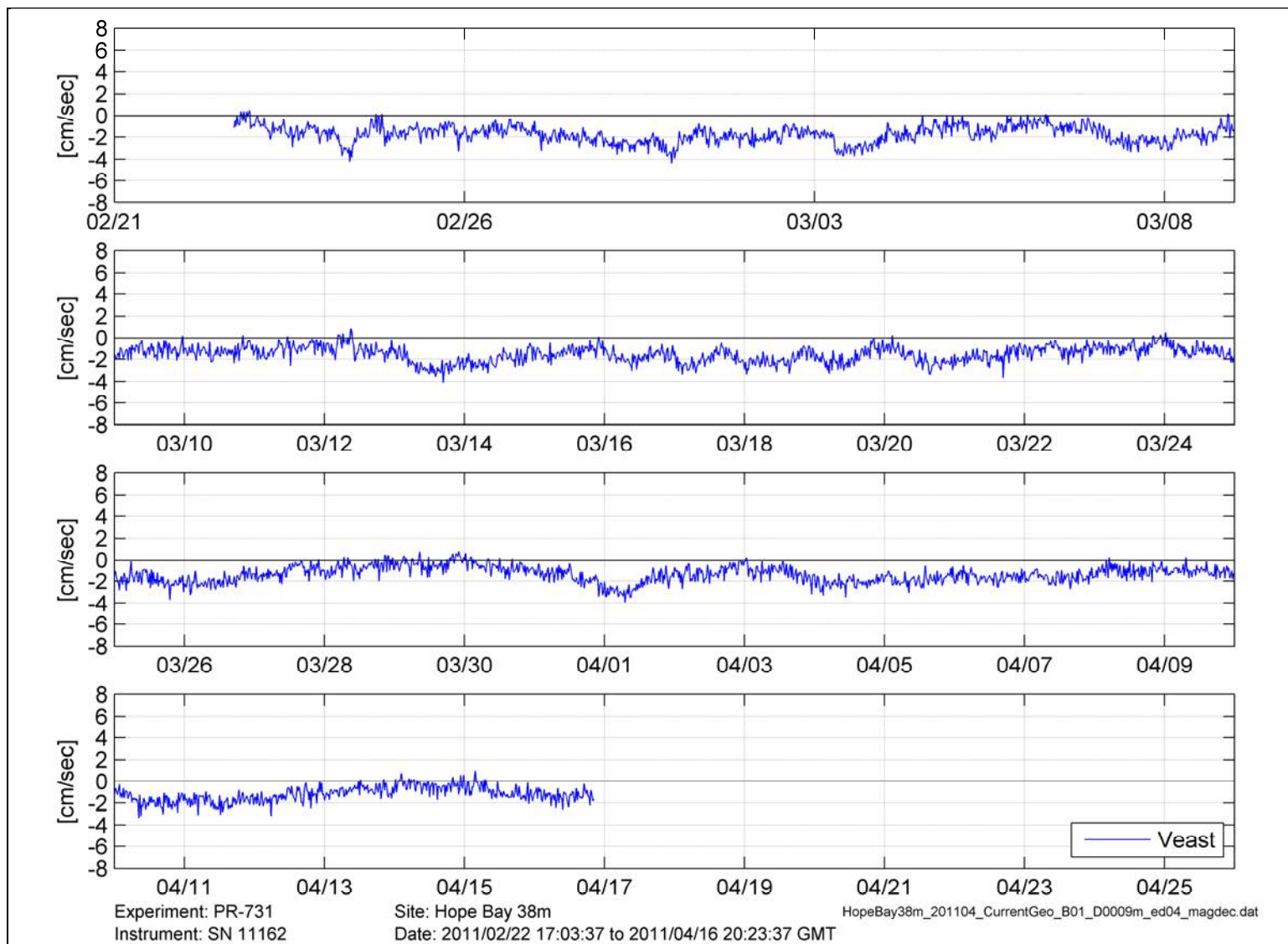


Figure A3-3.10. Time-series Plot of the North Velocity Component at 9 m Depth for February 22 - April 16 at the 38 m Site

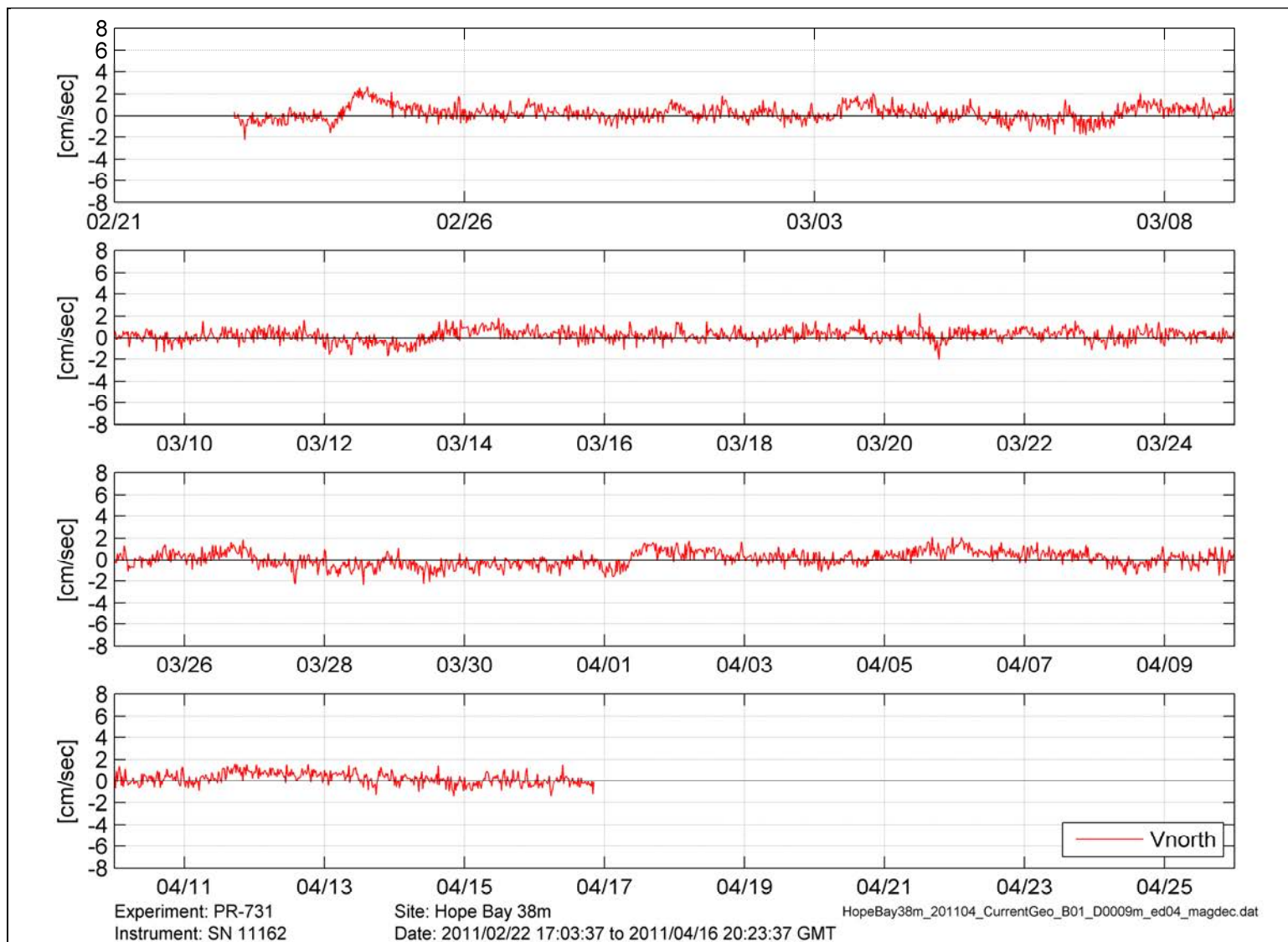


Figure A3-3.11. Time-series Plot of the East Velocity Component at 21 m Depth for February 22 - April 16 at the 38 m Site

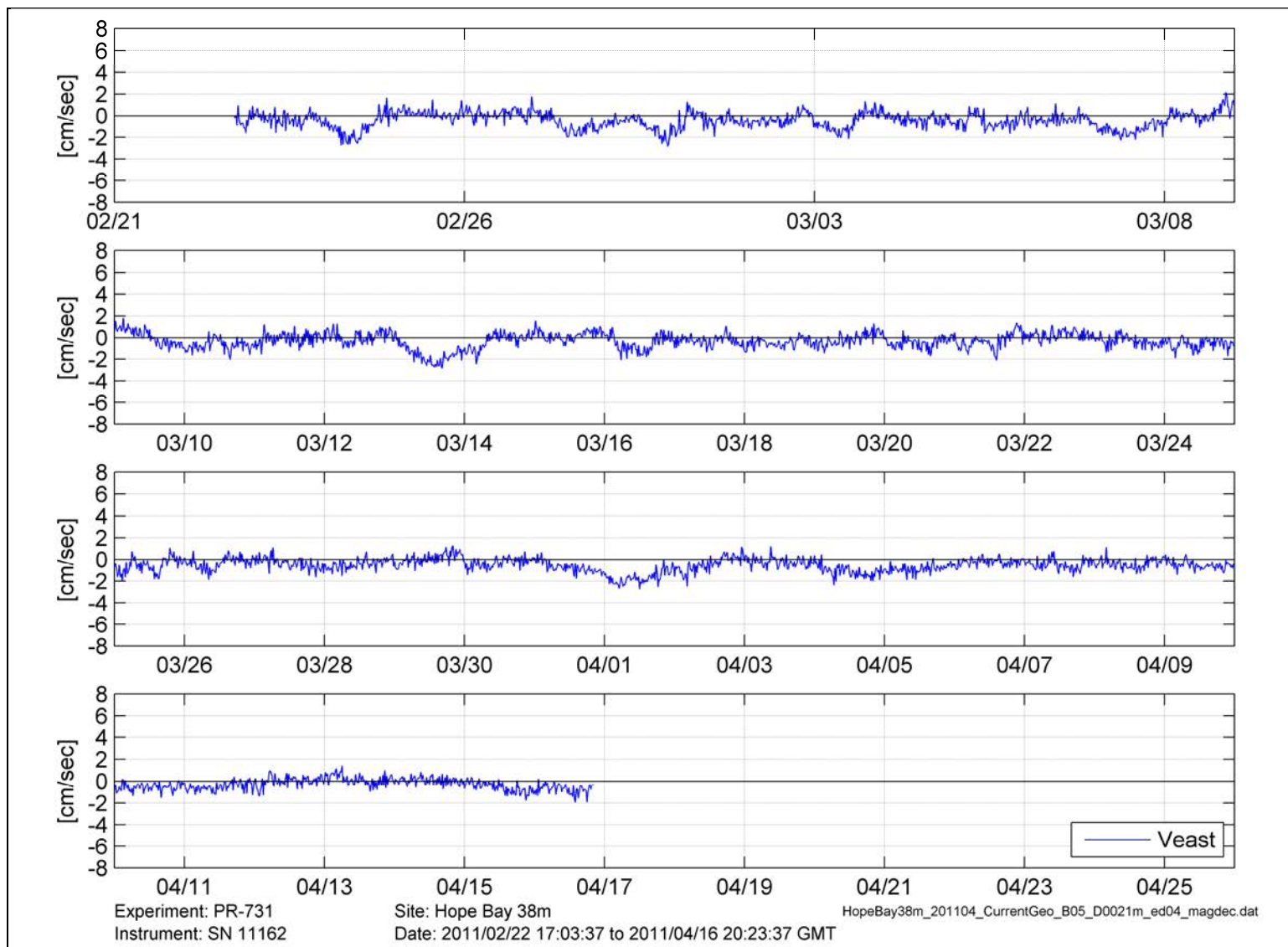


Figure A3-3.12. Time-series Plot of the North Velocity Component at 21 m Depth for February 22 - April 16 at the 38 m Site

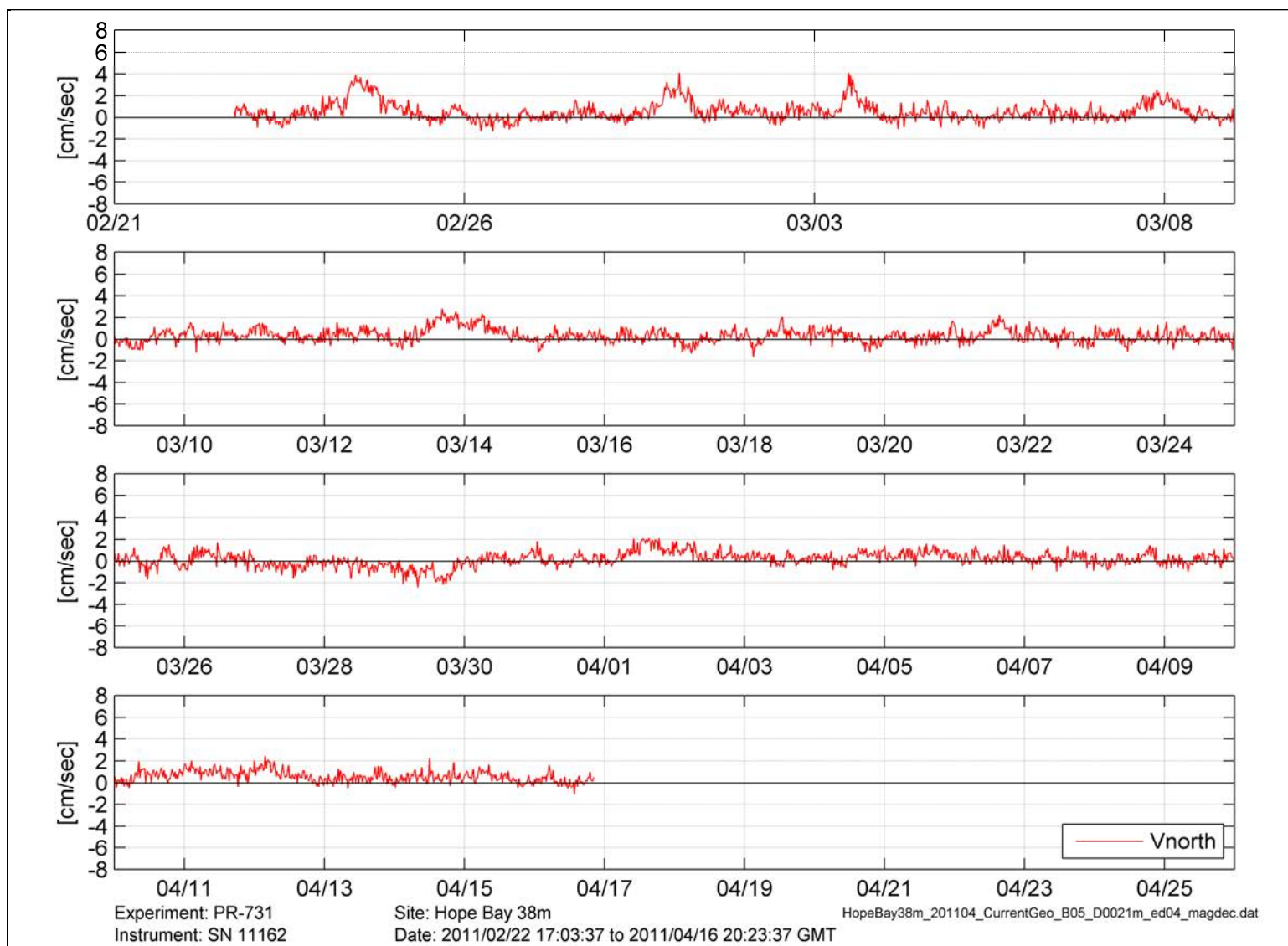


Figure A3-3.13. Time-series Plot of the East Velocity Component at 30 m Depth for February 22 - April 16 at the 38 m Site

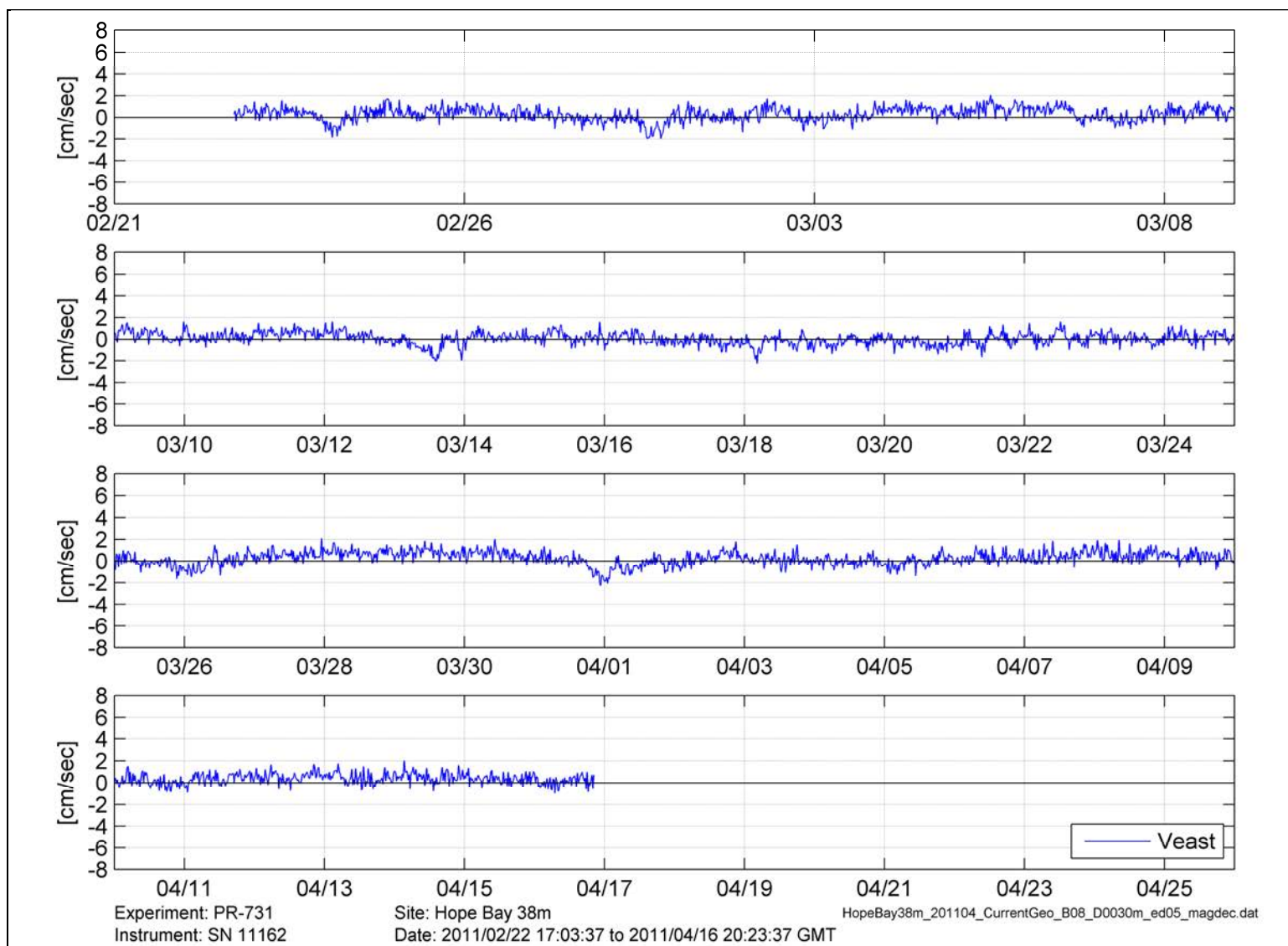


Figure A3-3.14. Time-series Plot of the North Velocity Component at 30 m Depth for February 22 - April 16 at the 38 m Site

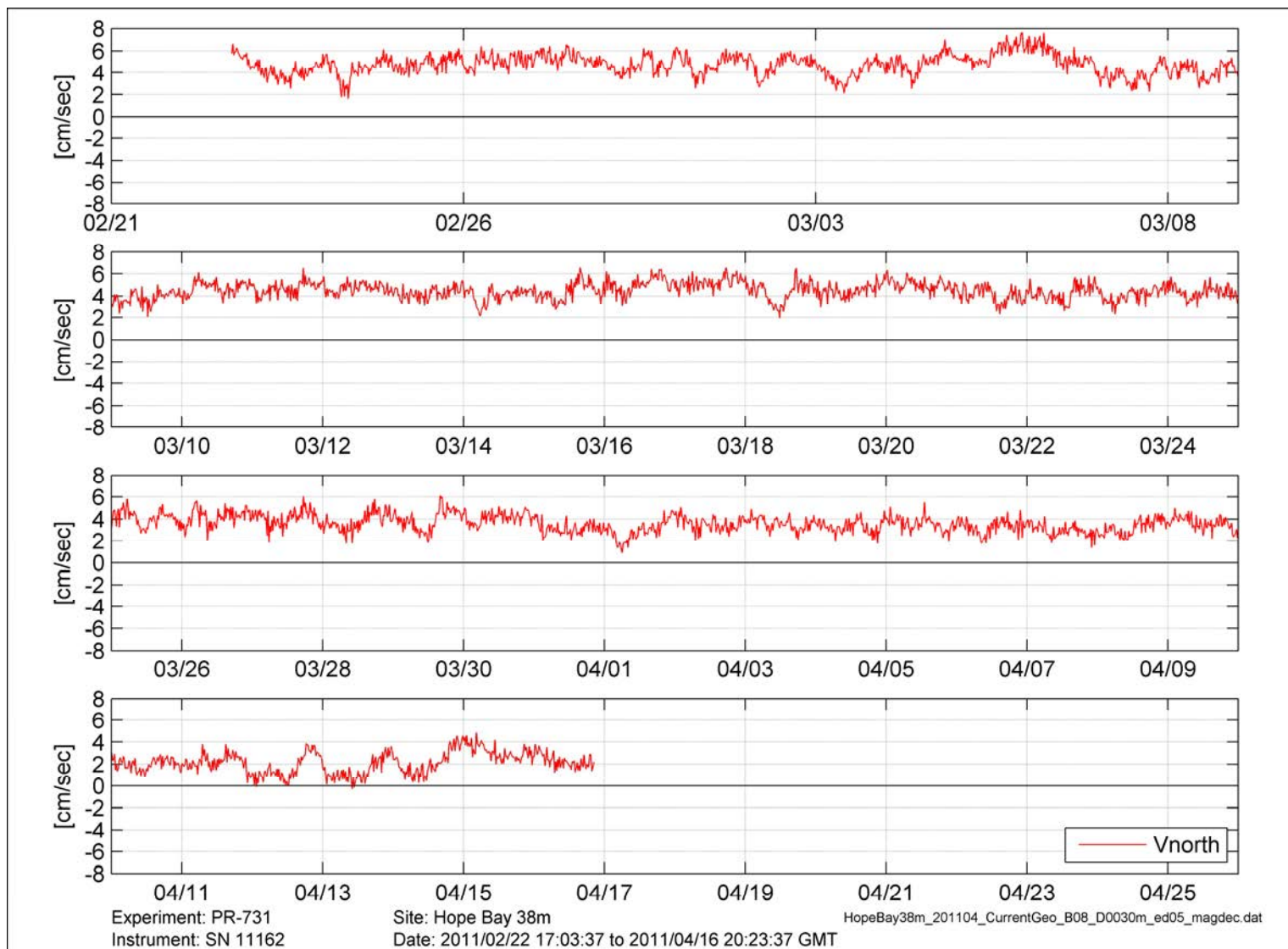


Table A3-3.12. Summary Statistics for Data Measured at each Depth for February 10 - 22 at the 38 m Site

Depth (m)		Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max	# Valid	Total #
9	Veast	-4.78	-4.09	-3.32	-2.14	-1.48	-1.57	-0.91	-0.13	0.38	0.94	0.96	847	847
	Vnorth	-1.93	-1.41	-1.03	-0.34	0.18	0.20	0.71	1.58	2.17	0.78	3.10		
	Speed	0.14	0.30	0.58	1.14	1.68	1.80	2.26	3.51	4.20	0.88	5.02		
21	Veast	-3.41	-2.38	-1.63	-0.95	-0.40	-0.34	0.26	1.16	1.54	0.86	2.13	847	847
	Vnorth	-1.83	-1.30	-0.76	-0.08	0.37	0.51	0.87	2.59	3.67	0.97	4.47		
	Speed	0.00	0.14	0.28	0.64	1.02	1.19	1.49	2.96	3.94	0.79	4.56		
30	Veast	-1.24	-0.88	-0.35	0.25	0.68	0.66	1.08	1.66	2.06	0.61	2.34	847	847
	Vnorth	0.94	1.93	2.74	4.14	4.84	4.79	5.49	6.51	7.27	1.09	7.89		
	Speed	1.06	2.01	2.85	4.26	4.91	4.88	5.60	6.55	7.33	1.08	7.91		

Table A3-3.13. Summary Statistics for Data Measured at each Depth for February 22 - April 16 at the 38 m Site

Depth (m)		Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max	# Valid	Total #
9	Veast	-4.37	-3.36	-2.86	-2.07	-1.50	-1.52	-0.97	-0.23	0.25	0.79	0.97	3,827	3,827
	Vnorth	-2.36	-1.45	-0.94	-0.27	0.20	0.17	0.62	1.24	1.68	0.67	2.63		
	Speed	0.00	0.22	0.57	1.17	1.65	1.69	2.19	2.98	3.49	0.73	4.63		
21	Veast	-2.84	-2.31	-1.66	-0.86	-0.41	-0.43	0.05	0.70	1.10	0.71	2.16	3,827	3,827
	Vnorth	-2.42	-1.30	-0.71	-0.07	0.32	0.37	0.75	1.63	2.59	0.73	4.09		
	Speed	0.00	0.10	0.22	0.54	0.85	0.98	1.27	2.16	3.06	0.62	4.61		
30	Veast	-2.28	-1.42	-0.86	-0.18	0.23	0.21	0.64	1.16	1.56	0.63	2.09	3,827	3,827
	Vnorth	-0.29	0.64	1.73	3.21	4.07	3.96	4.80	5.76	6.42	1.21	7.64		
	Speed	0.14	0.91	1.84	3.28	4.12	4.02	4.83	5.79	6.50	1.18	7.72		

Joint Frequency Tab

Table A3-3.14. Joint Frequency Table for Data Measured at 9 m Depth for February 10 - 22 at the 38 m Site

Location: Hope Bay 38m
Instrument: SN 11162
For period: 2011/02/10 22:15:44 to 2011/02/22 16:15:44
Sample interval: 20 min

			Speed (cm/s)								Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	7.0 to 8.0	
Direction (deg)											
11.25	33.75	NNE	0.35								0.35
33.75	56.25	NE	0.12								0.12
56.25	78.75	ENE									0.00
78.75	101.25	E	0.12								0.12
101.25	123.75	ESE	0.12								0.12
123.75	146.25	SE	0.47	0.12							0.59
146.25	168.75	SSE	0.59	0.35							0.94
168.75	191.25	S	0.83	1.06							1.89
191.25	213.75	SSW	2.01	1.65	0.24						3.90
213.75	236.25	SW	1.06	3.66	0.35						5.08
236.25	258.75	WSW	3.78	6.26	4.49	0.47					14.99
258.75	281.25	W	2.24	14.05	8.26	3.78	0.83				29.16
281.25	303.75	WNW	3.31	12.63	7.67	4.25	0.83	0.12			28.81
303.75	326.25	NW	1.42	6.38	1.77	1.65	0.24				11.45
326.25	348.75	NNW	0.71	0.83	0.35						1.89
348.75	11.25	N	0.59								0.59
Column Total (%)			17.71	46.99	23.14	10.15	1.89	0.12	0.00	0.00	

Filename: HopeBay38m_201102_CurrentGeo_B01_D0009m_ed05_magdec.dat
Max Speed: 5.02 cm/s # non-flagged records: 847
Mean Speed: 1.80 cm/s # flagged records: 0
Vector-averaged Speed: 1.58 cm/s at 277.29 deg

Table A3-3.15. Joint Frequency Table for Data Measured at 21 m Depth for February 10 - 22 at the 38 m Site

Location: Hope Bay 38m
 Instrument: SN 11162
 For period: 2011/02/10 22:15:44 to 2011/02/22 16:15:44
 Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	3.78	2.48	0.24					6.49
33.75	56.25	NE	2.13	2.13	0.24					4.49
56.25	78.75	ENE	2.24	2.60	0.12					4.96
78.75	101.25	E	2.48	0.94						3.42
101.25	123.75	ESE	3.19	2.01	0.24					5.43
123.75	146.25	SE	1.77	1.65	0.12					3.54
146.25	168.75	SSE	1.65	0.94	0.12					2.72
168.75	191.25	S	0.71	0.12						0.83
191.25	213.75	SSW	1.53	0.47						2.01
213.75	236.25	SW	0.94	0.59						1.53
236.25	258.75	WSW	3.90	2.83	0.12					6.85
258.75	281.25	W	3.66	5.55	0.47					9.68
281.25	303.75	WNW	5.90	7.08	0.83		0.12			13.93
303.75	326.25	NW	4.96	5.90	1.53	0.47				12.87
326.25	348.75	NNW	5.19	4.37	2.36	2.83	0.47			15.23
348.75	11.25	N	2.72	1.65	0.83	0.47	0.35			6.02
Column Total (%)			46.75	41.32	7.20	3.78	0.94	0.00	0.00	0.00

Filename: HopeBay38m_201102_CurrentGeo_B05_D0021m_ed05_magdec.dat
 Max Speed: 4.56 cm/s # non-flagged records: 847
 Mean Speed: 1.19 cm/s # flagged records: 0
 Vector-averaged Speed: 0.62 cm/s at 326.69 deg

Table A3-3.16. Joint Frequency Table for Data Measured at 30 m Depth for February 10 - 22 at the 38 m Site

Location: Hope Bay 38m
Instrument: SN 11162
For period: 2011/02/10 22:15:44 to 2011/02/22 16:15:44
Sample interval: 20 min

			Speed (cm/s)								Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	7.0 to 8.0	
Direction (deg)											
11.25	33.75	NNE		0.12	1.89	4.25	13.11	11.33	2.24	0.24	33.18
33.75	56.25	NE		0.12							0.12
56.25	78.75	ENE									0.00
78.75	101.25	E									0.00
101.25	123.75	ESE									0.00
123.75	146.25	SE									0.00
146.25	168.75	SSE									0.00
168.75	191.25	S									0.00
191.25	213.75	SSW									0.00
213.75	236.25	SW									0.00
236.25	258.75	WSW									0.00
258.75	281.25	W									0.00
281.25	303.75	WNW									0.00
303.75	326.25	NW									0.00
326.25	348.75	NNW		0.12	0.35	0.24	0.47				1.18
348.75	11.25	N		0.47	2.36	7.67	21.61	22.55	9.33	1.53	65.53
Column Total (%)			0.00	0.83	4.60	12.16	35.18	33.88	11.57	1.77	

Filename: HopeBay38m_201102_CurrentGeo_B08_D0030m_ed05_magdec.dat
Max Speed: 7.91 cm/s # non-flagged records: 847
Mean Speed: 4.88 cm/s # flagged records: 0
Vector-averaged Speed: 4.84 cm/s at 7.87 deg

Table A3-3.17. Joint Frequency Table for Data Measured at 9 m Depth for February 22 - April 16 at the 38 m Site

Location: Hope Bay 38m
Instrument: SN 11162
For period: 2011/02/22 17:03:37 to 2011/04/16 20:23:37
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	0.44	0.03						0.47
33.75	56.25	NE	0.13							0.13
56.25	78.75	ENE	0.18							0.18
78.75	101.25	E	0.05							0.05
101.25	123.75	ESE	0.24	0.03						0.26
123.75	146.25	SE	0.18	0.03						0.21
146.25	168.75	SSE	0.52	0.26						0.78
168.75	191.25	S	0.47	0.31	0.08					0.86
191.25	213.75	SSW	1.33	1.38	0.05					2.77
213.75	236.25	SW	1.46	3.14	0.44	0.03				5.07
236.25	258.75	WSW	3.00	8.26	2.77	0.60				14.63
258.75	281.25	W	2.74	15.21	12.65	1.91	0.05			32.56
281.25	303.75	WNW	3.61	14.27	10.30	2.06	0.10			30.34
303.75	326.25	NW	1.86	5.10	1.88	0.21				9.04
326.25	348.75	NNW	0.91	1.02	0.18					2.12
348.75	11.25	N	0.34	0.13	0.05					0.52
Column Total (%)			17.48	49.15	28.40	4.81	0.16	0.00	0.00	0.00

Filename: HopeBay38m_201104_CurrentGeo_B01_D0009m_ed04_magdec.dat
Max Speed: 4.63 cm/s # non-flagged records: 3827
Mean Speed: 1.69 cm/s # flagged records: 0
Vector-averaged Speed: 1.53 cm/s at 276.44 deg

Table A3-3.18. Joint Frequency Table for Data Measured at 21 m Depth for February 22 - April 16 at the 38 m Site

Location: Hope Bay 38m
Instrument: SN 11162
For period: 2011/02/22 17:03:37 to 2011/04/16 20:23:37
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	4.76	1.54	0.18					6.48
33.75	56.25	NE	2.38	0.84	0.03					3.24
56.25	78.75	ENE	3.24	0.52						3.76
78.75	101.25	E	1.57	0.37	0.03					1.96
101.25	123.75	ESE	2.53	0.42						2.95
123.75	146.25	SE	1.38	0.55						1.93
146.25	168.75	SSE	2.17	0.52	0.08					2.77
168.75	191.25	S	1.57	0.65	0.08					2.30
191.25	213.75	SSW	2.98	0.73						3.71
213.75	236.25	SW	2.51	1.02	0.03					3.55
236.25	258.75	WSW	4.29	1.91	0.03					6.22
258.75	281.25	W	4.63	4.49	0.52					9.64
281.25	303.75	WNW	9.67	6.66	1.28	0.03				17.64
303.75	326.25	NW	5.20	6.74	1.72	0.57	0.08			14.32
326.25	348.75	NNW	6.66	3.97	1.18	0.31	0.16			12.28
348.75	11.25	N	3.79	3.00	0.39	0.03	0.03			7.24
Column Total (%)			59.32	33.94	5.54	0.94	0.26	0.00	0.00	0.00

Filename: HopeBay38m_201104_CurrentGeo_B05_D0021m_ed04_magdec.dat
Max Speed: 4.61 cm/s # non-flagged records: 3827
Mean Speed: 0.98 cm/s # flagged records: 0
Vector-averaged Speed: 0.57 cm/s at 310.58 deg

Table A3-3.19. Joint Frequency Table for Data Measured at 30 m Depth for February 22 - April 16 at the 38 m Site

Location: Hope Bay 38m
Instrument: SN 11162
For period: 2011/02/22 17:03:37 to 2011/04/16 20:23:37
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	0.26	1.52	3.84	6.58	4.13	1.25	0.47	18.06
33.75	56.25	NE	0.21	0.78	0.13	0.05				1.18
56.25	78.75	ENE	0.18	0.21	0.03					0.42
78.75	101.25	E	0.03	0.08						0.10
101.25	123.75	ESE	0.03							0.03
123.75	146.25	SE	0.03							0.03
146.25	168.75	SSE								0.00
168.75	191.25	S								0.00
191.25	213.75	SSW								0.00
213.75	236.25	SW								0.00
236.25	258.75	WSW								0.00
258.75	281.25	W	0.03							0.03
281.25	303.75	WNW	0.03							0.03
303.75	326.25	NW	0.05	0.05	0.05	0.05				0.21
326.25	348.75	NNW	0.13	0.55	1.05	1.70	1.83	0.91	0.08	6.25
348.75	11.25	N	0.24	1.62	7.26	18.55	28.35	14.76	2.61	73.69
Column Total (%)			1.20	4.81	12.36	26.94	34.31	16.93	3.16	0.29

Filename: HopeBay38m_201104_CurrentGeo_B08_D0030m_ed05_magdec.dat
Max Speed: 7.72 cm/s # non-flagged records: 3827
Mean Speed: 4.02 cm/s # flagged records: 0
Vector-averaged Speed: 3.96 cm/s at 2.99 deg

Compass Plots

Figure A3-3.15. Compass Plot at 9 m Depth for February 10 - 22 at the 38 m Site

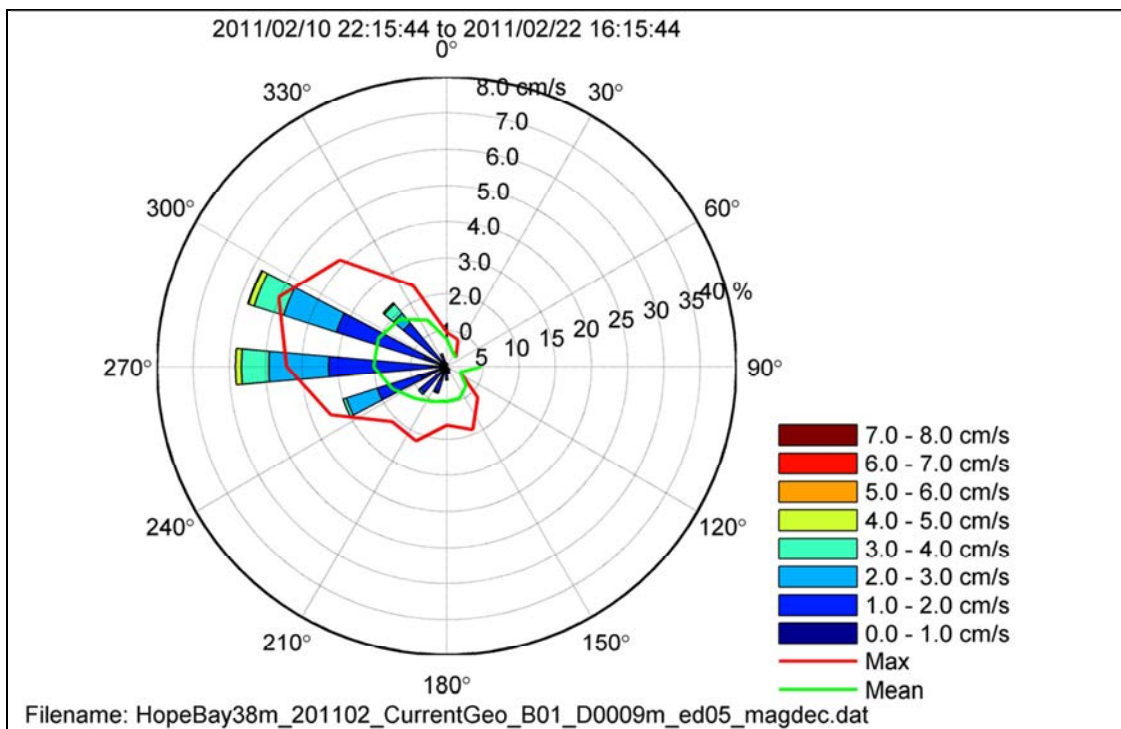


Figure A3-3.16. Compass Plot at 21 m Depth for February 10 - 22 at the 38 m Site

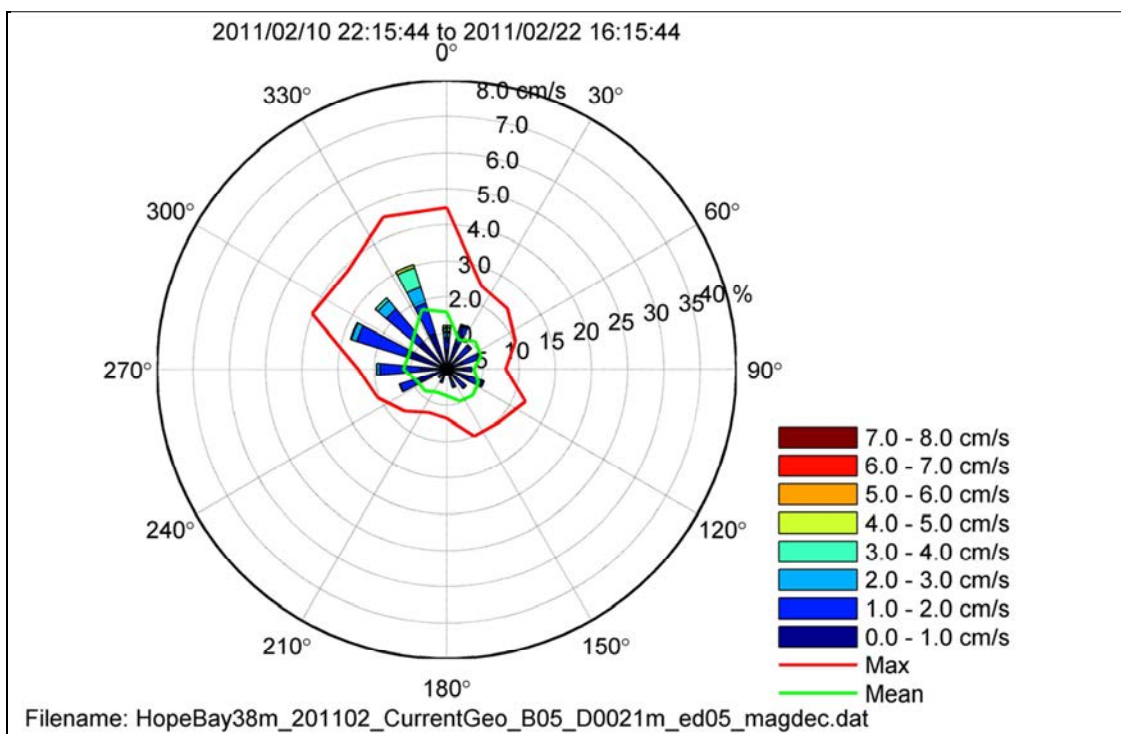


Figure A3-3.17. Compass Plot at 30 m Depth for February 10 - 22 at the 38 m Site

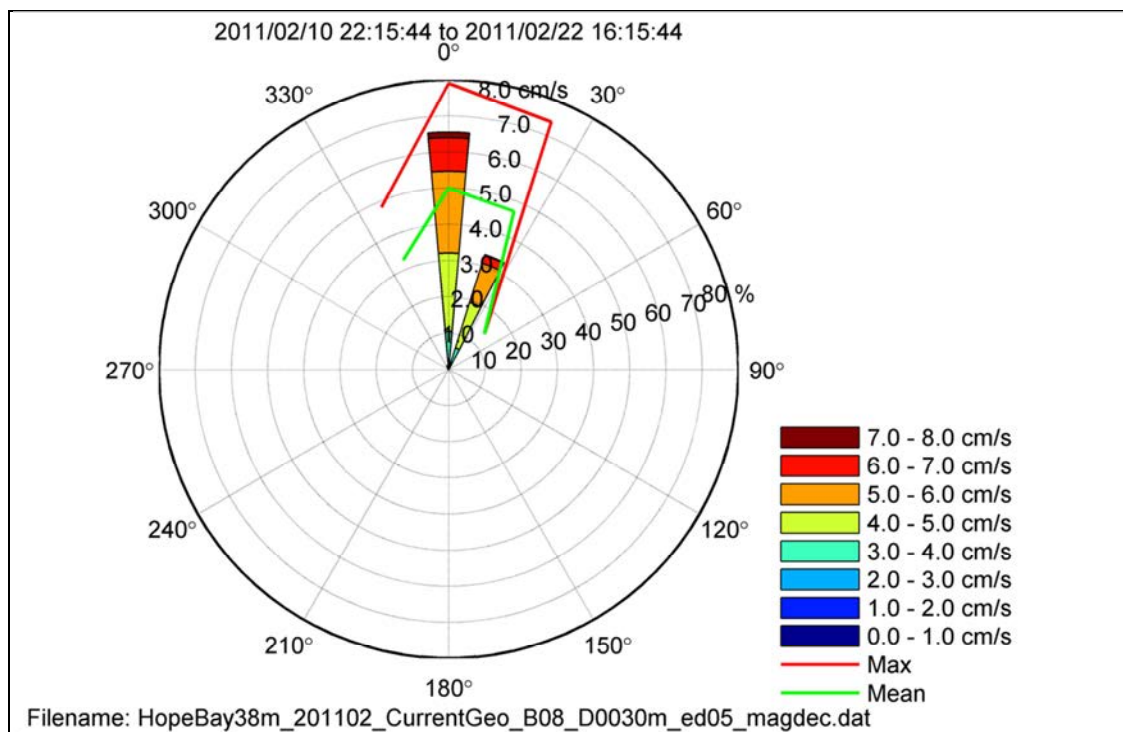


Figure A3-3.18. Compass Plot at 9 m Depth for February 22 - April 16 at the 38 m Site

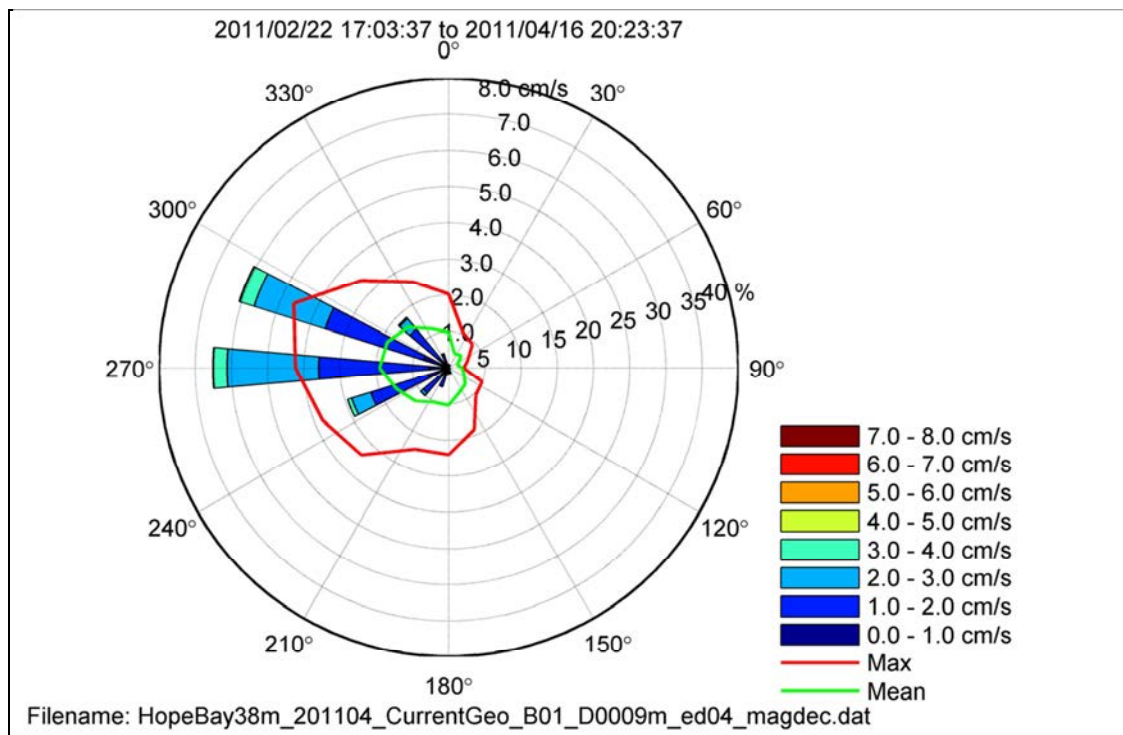


Figure A3-3.19. Compass Plot at 21 m Depth for February 22 - April 16 at the 38 m Site

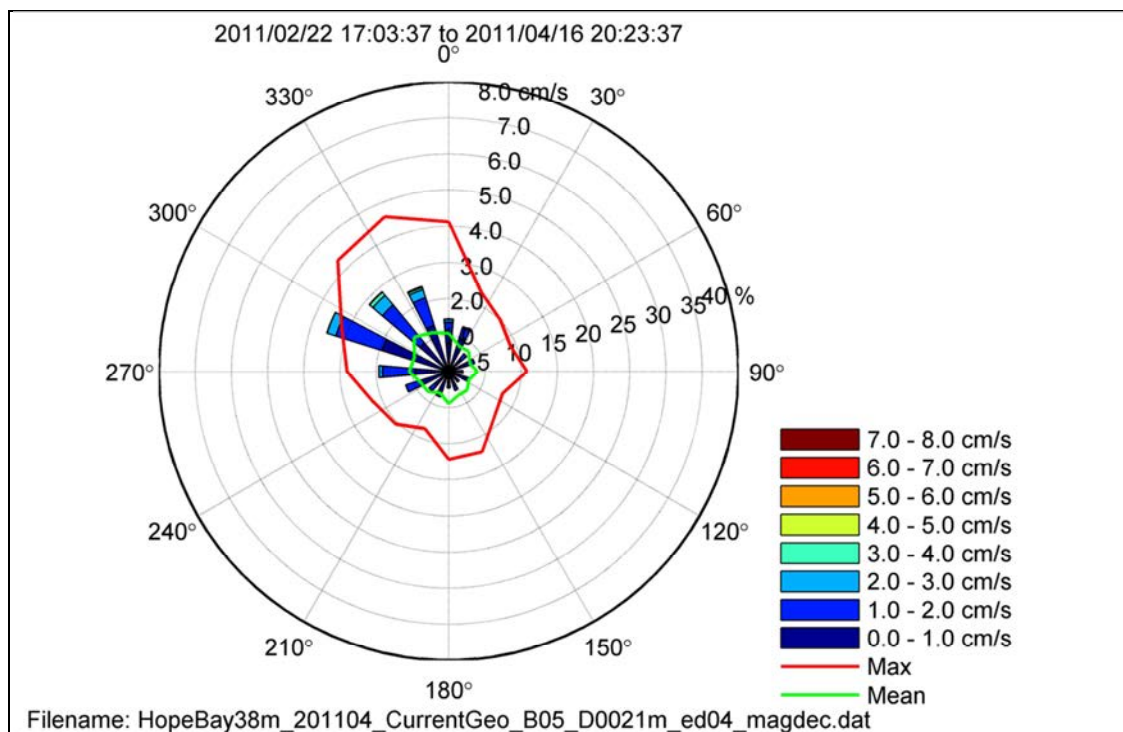
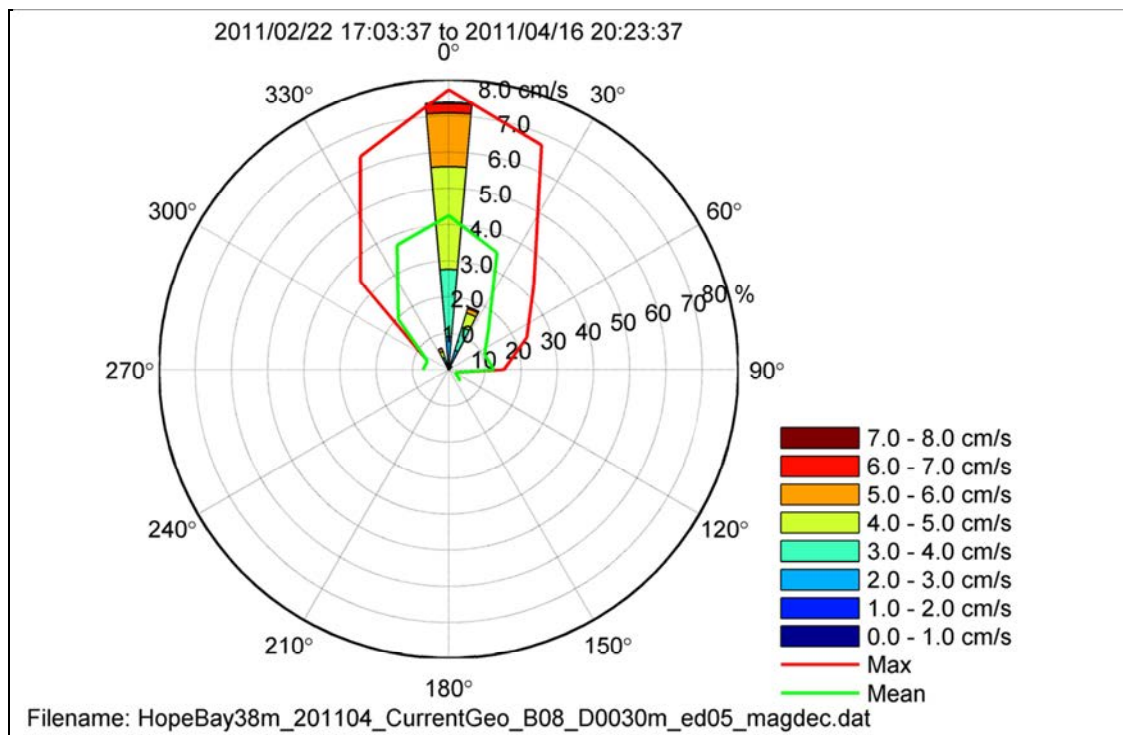


Figure A3-3.20. Compass Plot at 30 m Depth for February 22 - April 16 at the 38 m Site



3-3.2.3 April 21 - May 11 Deployment

Current bins corresponding to 12 m, 36 m, 66 m and 78 m depths were selected for processing.

The number of points edited using the quality control procedures described in Section 3-3.2.1 is listed in Table A3-3.20. A time series plot of each velocity component at each depth is shown in Figure A3-3.21 through Figure A3-3.28.

Summary statistics computed for each depth are shown in Table A3-3.21. Speed and direction joint frequency tables are presented in Table A3-3.22 through Table A3-3.25 and are further illustrated with compass plots in Figure A3-3.29 through Figure A3-3.32. The color of each segment in the compass plots denotes its speed interval. The radial length of each segment denotes the proportion of measurements within the illustrated speed and direction interval. The maximum and mean are illustrated through the second radial scale as the red and light green lines respectively for clear viewing.

Measurement Statistics

Table A3-3.20. Summary of Points Edited at Each Depth for April 21 - May 11 at the 85 m Site

	Veast				Vnorth			
	12 m	36 m	66 m	78 m	12 m	36 m	66 m	78 m
Out of Range	0	0	0	0	0	0	0	0
Single Spike	0	0	0	0	0	0	0	0
Double Spike	0	0	0	0	0	0	0	0
Triple Spike	0	0	0	0	0	0	0	0
Quad. Spike	0	0	0	0	0	0	0	0
Manual Edit	1	0	0	0	1	0	0	0
Verror >10	0	0	0	0	0	0	0	0
% Edit	0.07 %	0.00 %	0.00 %	0.00 %	0.07 %	0.00 %	0.00 %	0.00 %
Total Pts	1,404				1,404			

Current Time-Series

Figure A3-3.21. Time-series Plot of the East Velocity Component at 12 m Depth for April 21 - May 11 at the 85 m Site

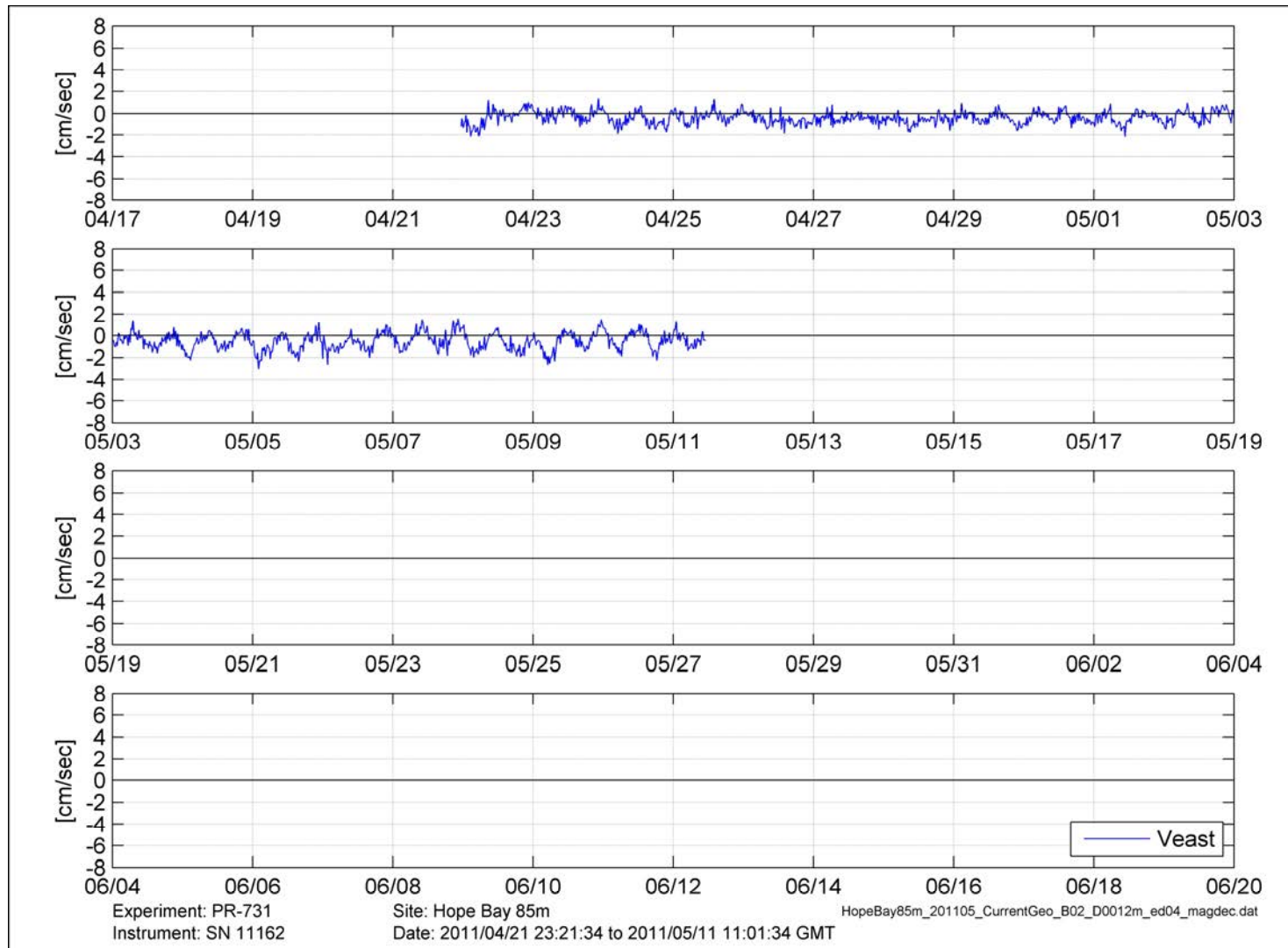


Figure A3-3.22. Time-series Plot of the North Velocity Component at 12 m Depth for April 21 - May 11 at the 85 m Site

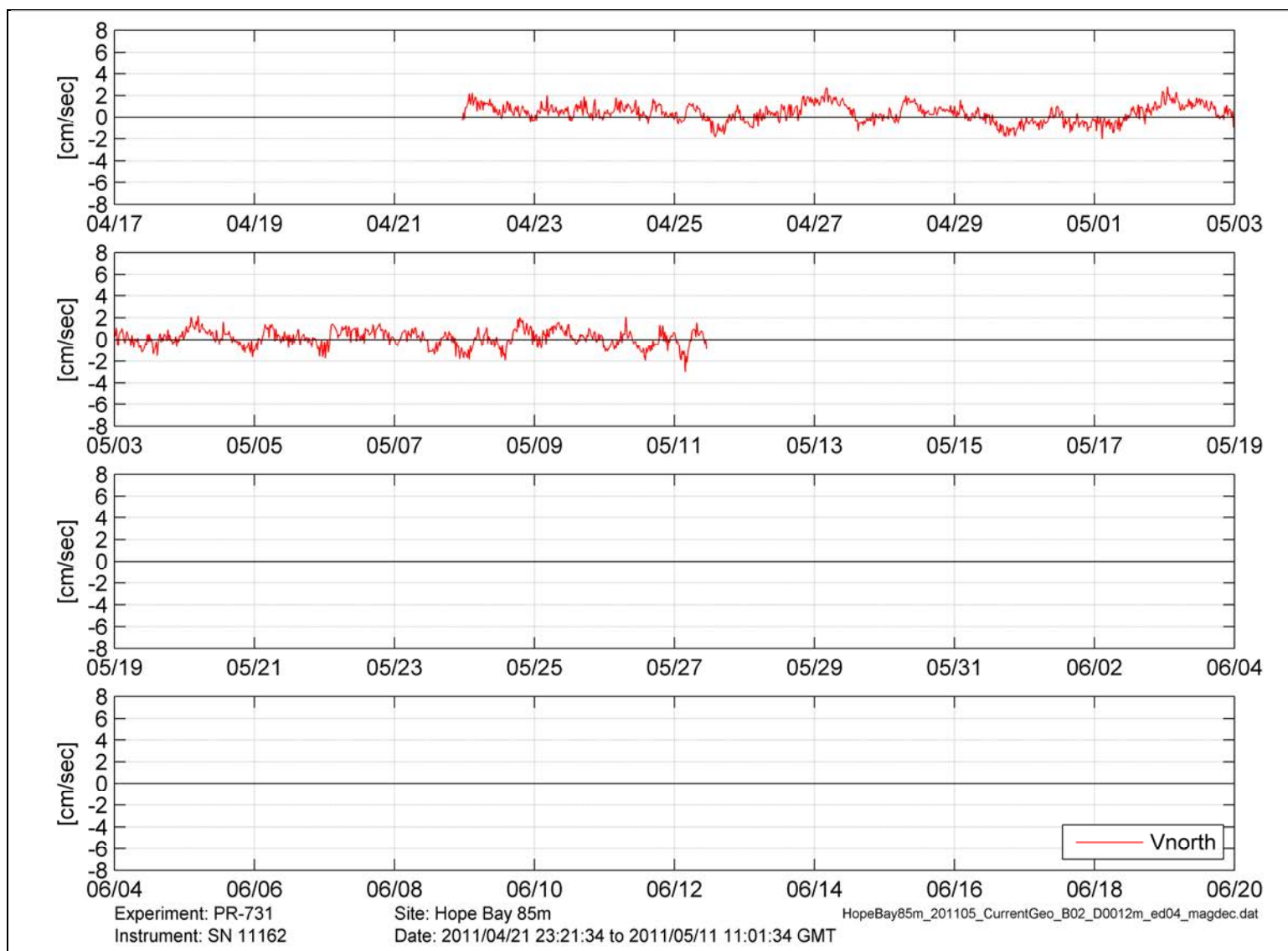


Figure A3-3.23. Time-series Plot of the East Velocity Component at 36 m Depth for April 21 - May 11 at the 85 m Site

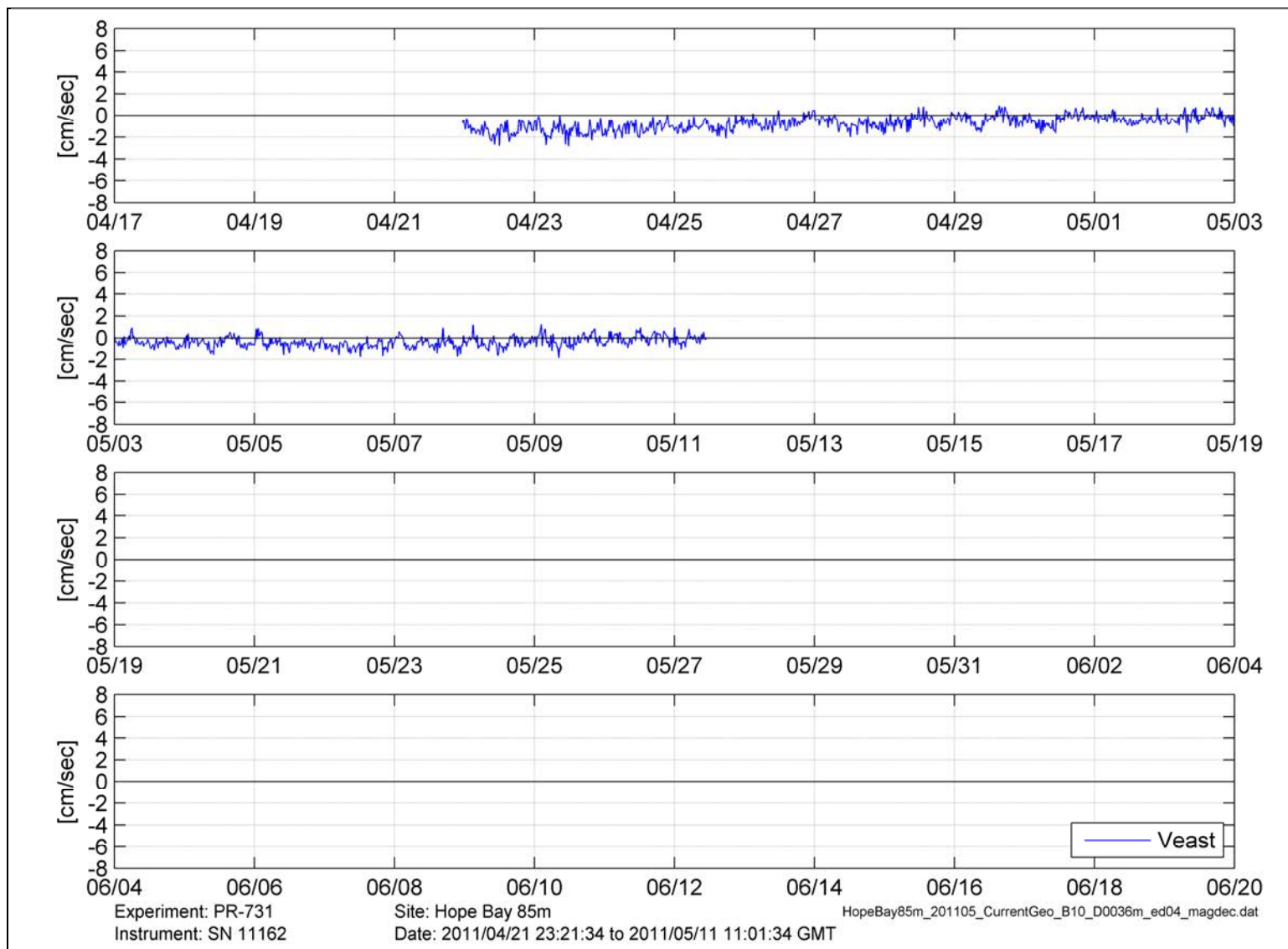


Figure A3-3.24. Time-series Plot of the North Velocity Component at 36 m Depth for April 21 - May 11 at the 85 m Site

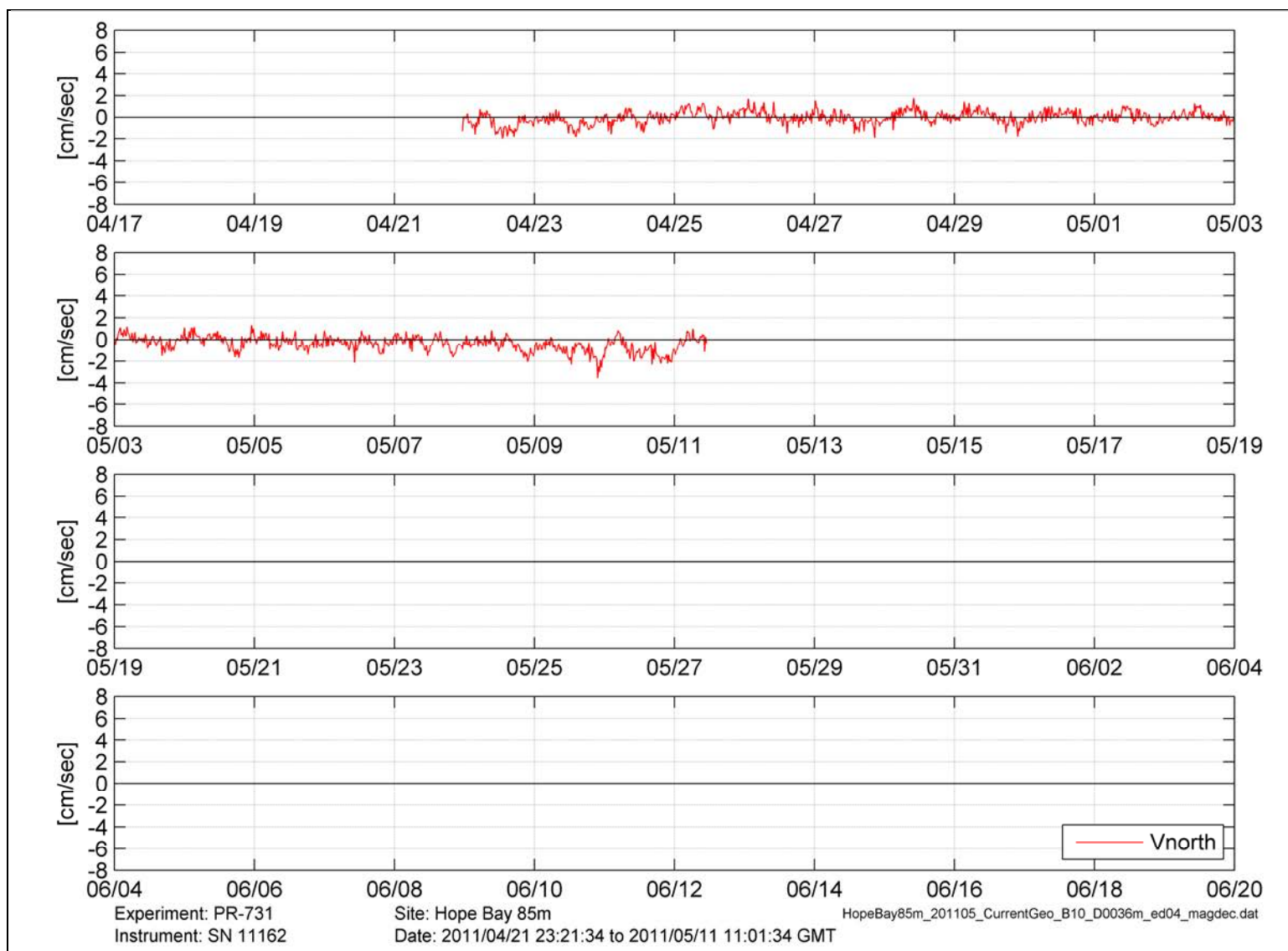


Figure A3-3.25. Time-series Plot of the East Velocity Component at 66 m Depth for April 21 - May 11 at the 85 m Site

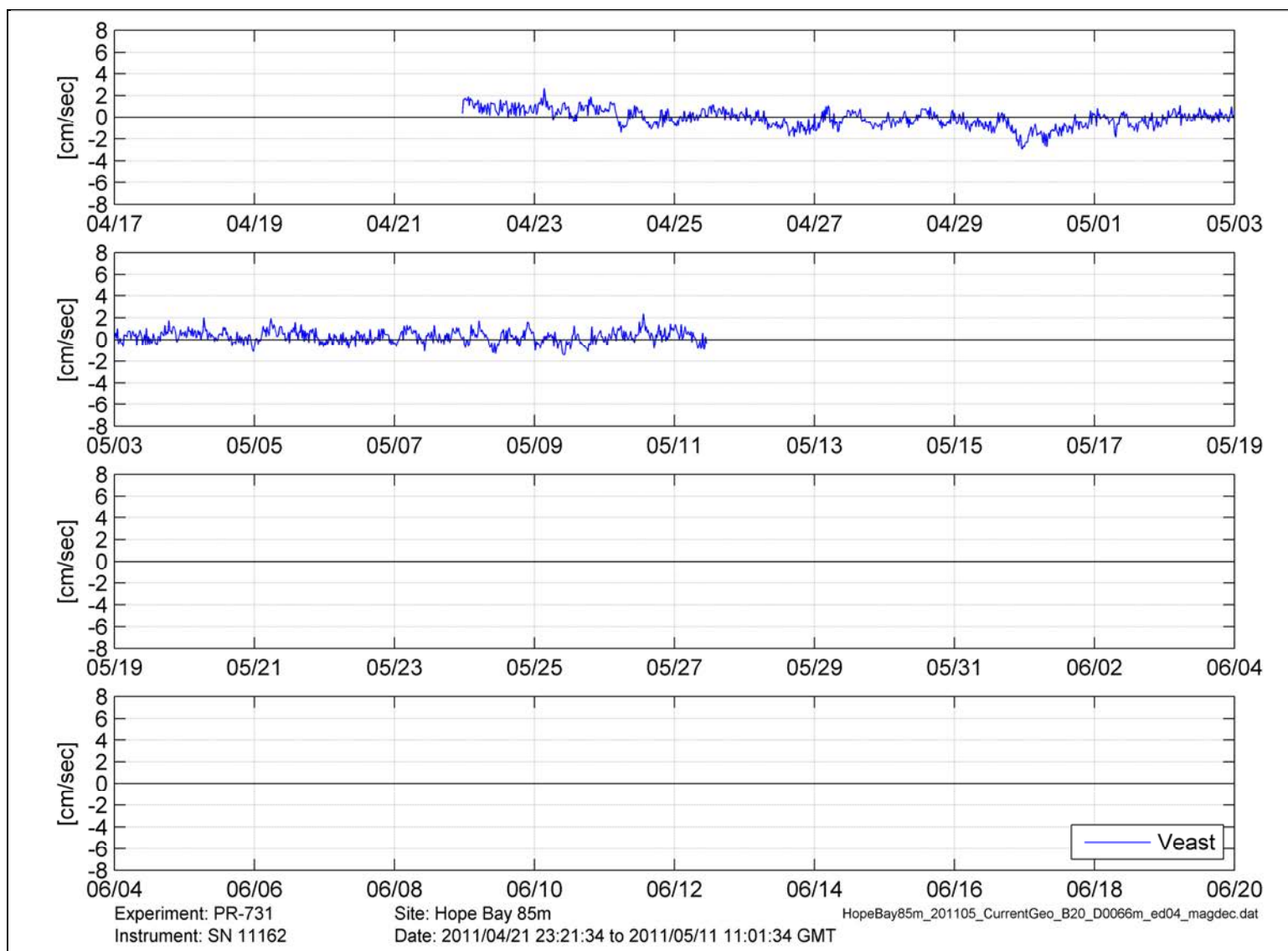


Figure A3-3.26. Time-series Plot of the North Velocity Component at 66 m Depth for April 21 - May 11 at the 85 m Site

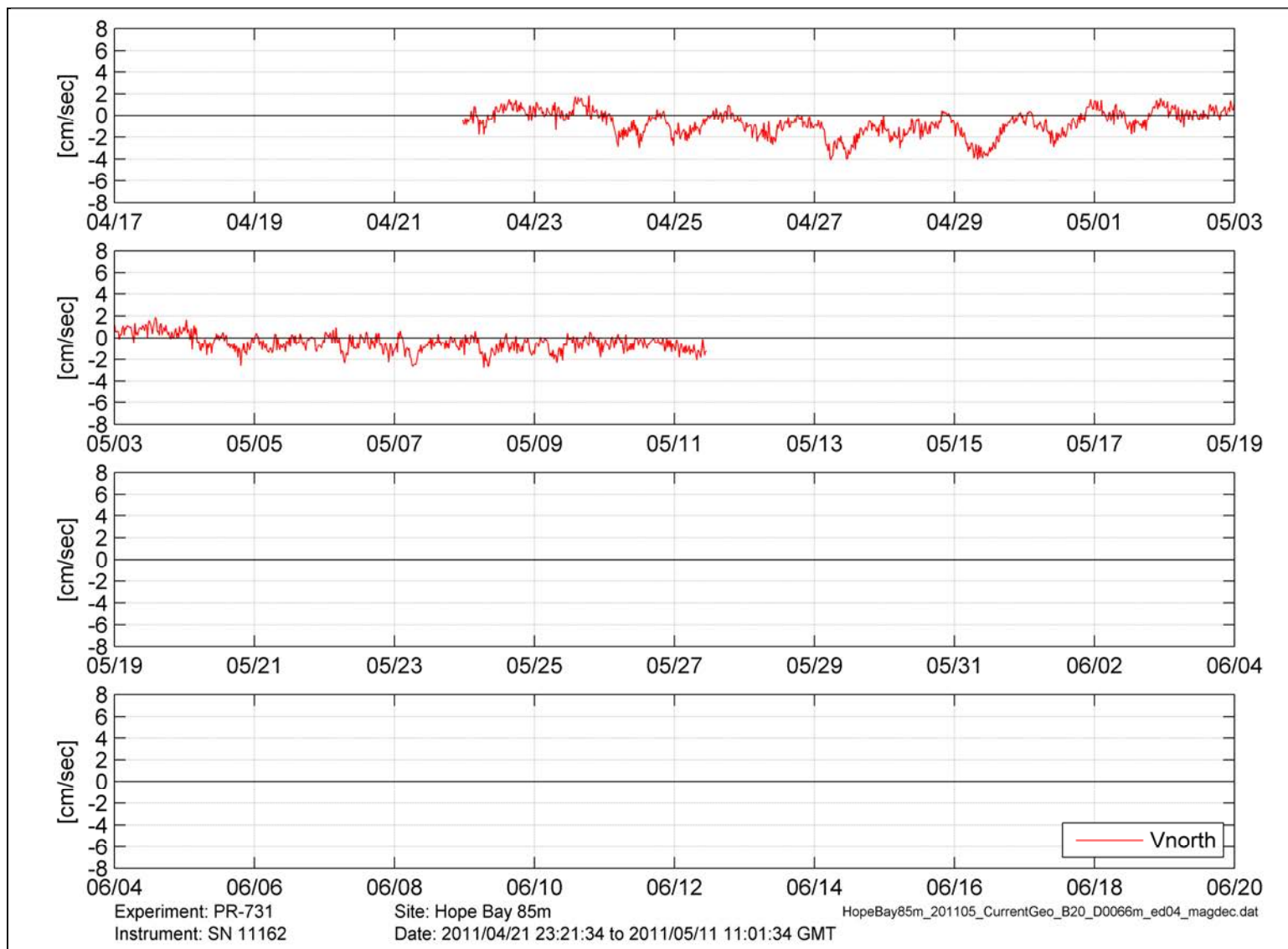


Figure A3-3.27. Time-series Plot of the East Velocity Component at 78 m Depth for April 21 - May 11 at the 85 m Site

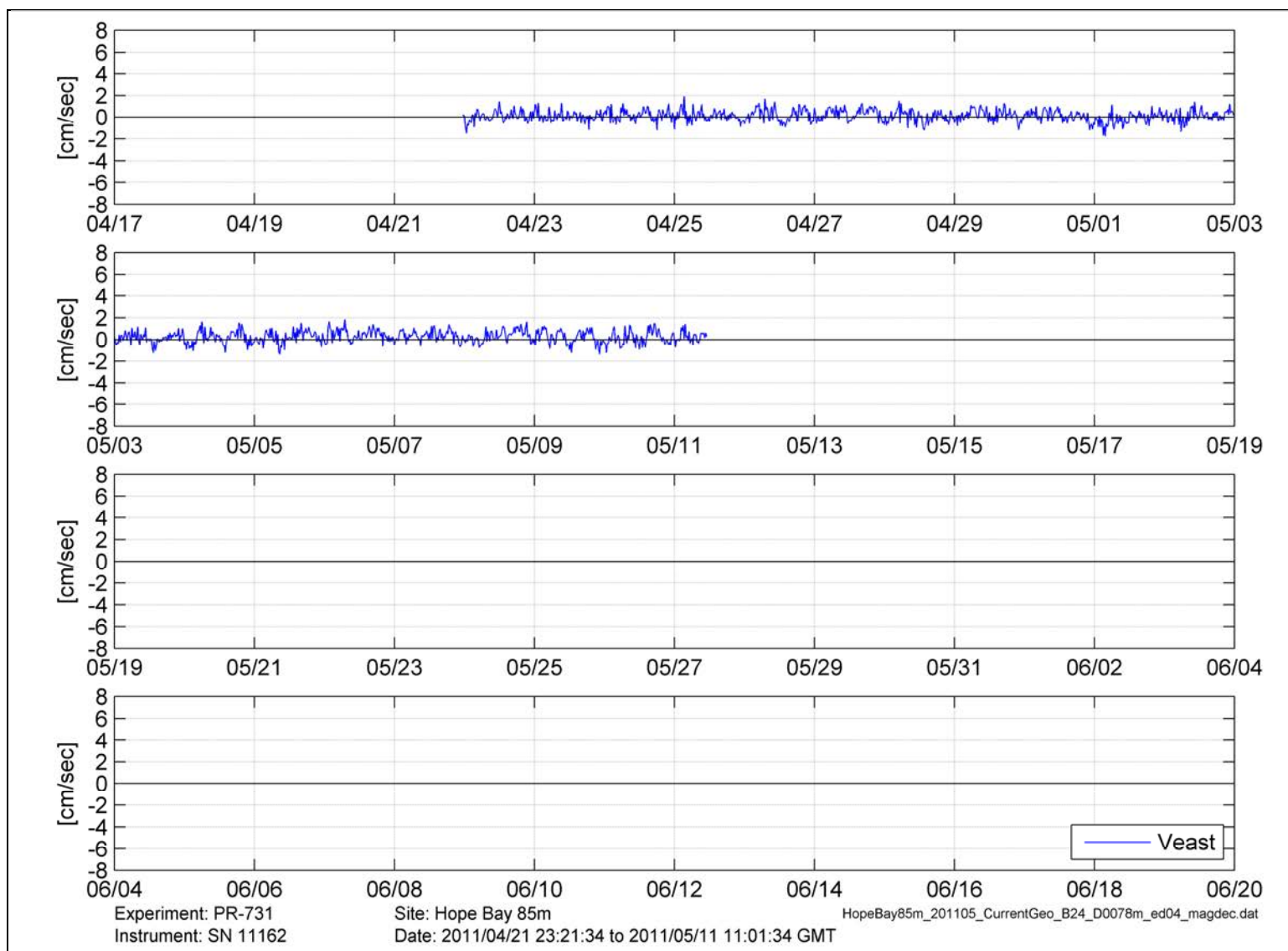


Figure A3-3.28. Time-series Plot of the North Velocity Component at 78 m depth for April 21 - May 11 at the 85 m Site

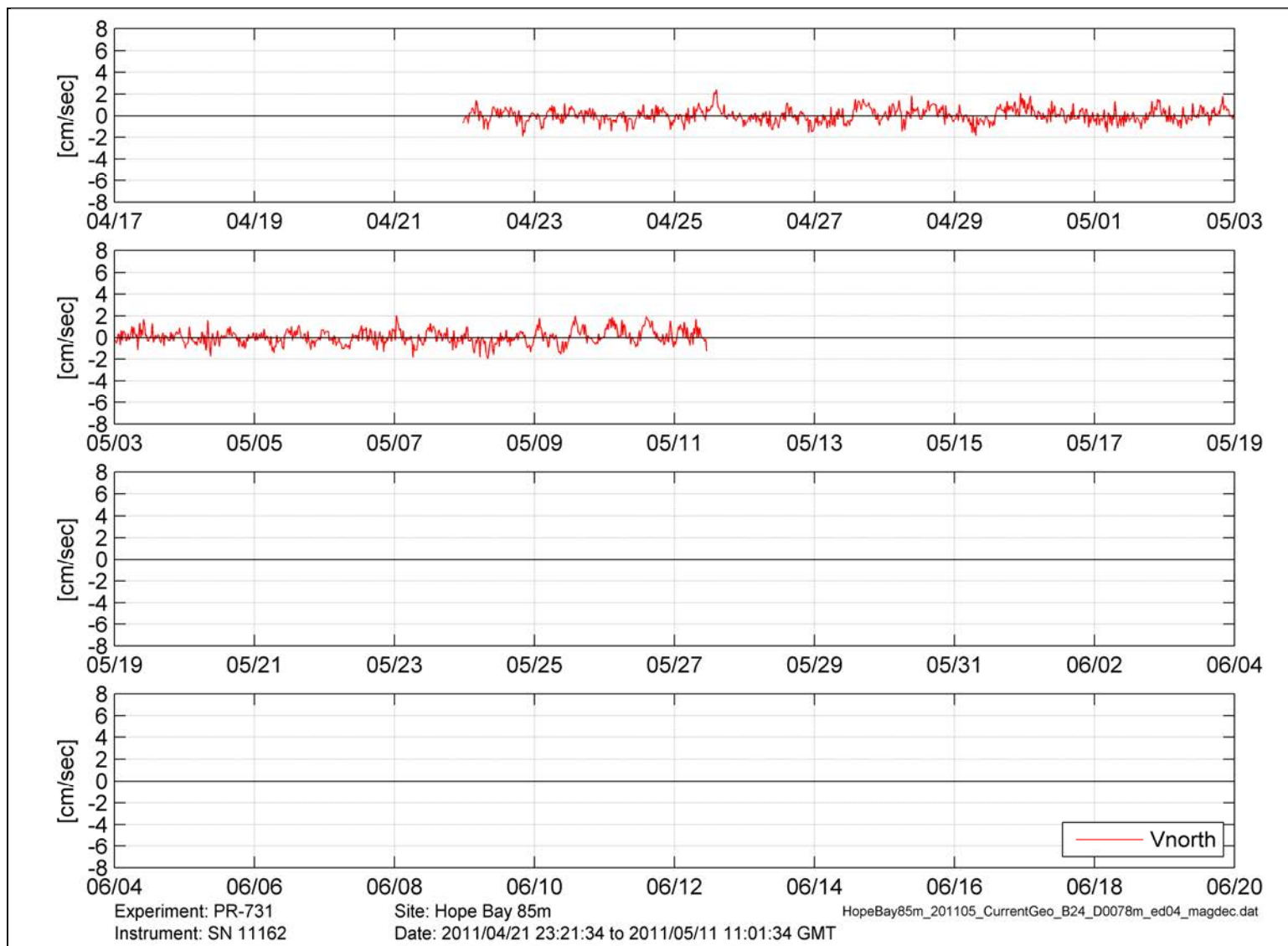


Table A3-3.21. Summary Statistics for Data Measured at Each Depth for April 21 - May 11 at the 85 m Site

Depth (m)		Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max	# Valid	Total #
12	Veast	-3.03	-2.14	-1.61	-0.92	-0.44	-0.47	-0.01	0.65	1.02	0.69	1.57	1,404	1,404
	Vnorth	-2.97	-1.75	-1.18	-0.30	0.27	0.24	0.82	1.54	2.01	0.82	2.80		
	Speed	0.00	0.10	0.28	0.63	0.99	1.05	1.43	2.06	2.55	0.56	3.08		
36	Veast	-2.82	-2.12	-1.68	-0.99	-0.58	-0.60	-0.17	0.40	0.77	0.62	1.24	1,404	1,404
	Vnorth	-3.55	-2.01	-1.47	-0.62	-0.16	-0.21	0.24	0.84	1.16	0.69	1.76		
	Speed	0.00	0.14	0.22	0.60	0.91	0.99	1.30	1.97	2.50	0.53	3.64		
66	Veast	-2.93	-2.01	-1.29	-0.46	0.09	0.04	0.58	1.22	1.65	0.77	2.64	1,404	1,404
	Vnorth	-4.09	-3.66	-2.53	-1.22	-0.57	-0.62	0.07	0.96	1.41	1.03	1.87		
	Speed	0.00	0.14	0.32	0.71	1.12	1.23	1.57	2.68	3.69	0.73	4.10		
78	Veast	-1.76	-1.20	-0.74	-0.20	0.16	0.17	0.54	1.10	1.43	0.56	1.91	1,404	1,404
	Vnorth	-2.01	-1.54	-1.08	-0.41	-0.02	0.02	0.44	1.12	1.68	0.67	2.40		
	Speed	0.00	0.10	0.20	0.45	0.71	0.78	1.03	1.58	2.00	0.43	2.41		

Joint Frequency Tables

Table A3-3.22. Joint Frequency Table for Data Measured at 12 m Depth for April 21 - May 11 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/04/21 23:21:34 to 2011/05/11 11:01:34
Sample interval: 20 min

			Speed (cm/s)								Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	7.0 to 8.0	
Direction (deg)											
11.25	33.75	NNE	2.21	1.57							3.77
33.75	56.25	NE	2.42	0.57	0.07						3.06
56.25	78.75	ENE	1.71	0.14							1.85
78.75	101.25	E	1.92	0.64							2.56
101.25	123.75	ESE	1.57	0.21							1.78
123.75	146.25	SE	1.85	0.93	0.14						2.92
146.25	168.75	SSE	1.64	1.21							2.85
168.75	191.25	S	3.35	2.21	0.07						5.63
191.25	213.75	SSW	2.85	2.78	0.36						5.98
213.75	236.25	SW	3.63	2.07							5.70
236.25	258.75	WSW	2.42	3.42	0.36						6.20
258.75	281.25	W	4.77	5.06	0.57	0.07					10.47
281.25	303.75	WNW	4.70	5.13	1.28						11.11
303.75	326.25	NW	6.20	7.98	2.07	0.07					16.31
326.25	348.75	NNW	4.06	6.84	1.00						11.89
348.75	11.25	N	4.91	2.42	0.57						7.91
Column Total (%)			50.21	43.16	6.48	0.14	0.00	0.00	0.00	0.00	

Filename: HopeBay85m_201105_CurrentGeo_B02_D0012m_ed04_magdec.dat
Max Speed: 3.08 cm/s # non-flagged records: 1404
Mean Speed: 1.05 cm/s # flagged records: 0
Vector-averaged Speed: 0.53 cm/s at 297.51 deg

Table A3-3.23. Joint Frequency Table for Data Measured at 36 m depth for April 21 - May 11 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/04/21 23:21:34 to 2011/05/11 11:01:34
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	1.35							1.35
33.75	56.25	NE	1.99	0.28						2.28
56.25	78.75	ENE	0.78							0.78
78.75	101.25	E	1.42							1.42
101.25	123.75	ESE	0.85	0.07						0.93
123.75	146.25	SE	1.50	0.43						1.92
146.25	168.75	SSE	1.85	1.28						3.13
168.75	191.25	S	3.85	3.21	0.64	0.07				7.76
191.25	213.75	SSW	4.42	3.99	0.43	0.07				8.90
213.75	236.25	SW	6.05	5.56	0.93					12.54
236.25	258.75	WSW	6.41	7.41	1.28	0.07				15.17
258.75	281.25	W	9.12	7.34	0.78					17.24
281.25	303.75	WNW	5.56	5.20	0.21					10.97
303.75	326.25	NW	5.41	3.13						8.55
326.25	348.75	NNW	2.92	1.35						4.27
348.75	11.25	N	2.28	0.50						2.78
Column Total (%)			55.77	39.74	4.27	0.21	0.00	0.00	0.00	0.00

Filename: HopeBay85m_201105_CurrentGeo_B10_D0036m_ed04_magdec.dat
Max Speed: 3.64 cm/s # non-flagged records: 1404
Mean Speed: 0.99 cm/s # flagged records: 0
Vector-averaged Speed: 0.63 cm/s at 250.32 deg

Table A3-3.24. Joint Frequency Table for Data Measured at 66 m Depth for April 21 - May 11 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/04/21 23:21:34 to 2011/05/11 11:01:34
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	2.85	2.07						4.91
33.75	56.25	NE	2.35	1.99	0.07					4.42
56.25	78.75	ENE	2.71	2.28						4.99
78.75	101.25	E	3.56	2.78	0.07					6.41
101.25	123.75	ESE	2.85	2.71	0.28					5.84
123.75	146.25	SE	4.06	4.06	0.07					8.19
146.25	168.75	SSE	4.27	5.91	1.28	0.07				11.54
168.75	191.25	S	3.63	5.84	3.06	1.50	0.28			14.32
191.25	213.75	SSW	3.77	5.63	3.77	1.00				14.17
213.75	236.25	SW	3.42	4.20	0.78					8.40
236.25	258.75	WSW	1.71	2.28	0.57	0.07				4.63
258.75	281.25	W	1.99	1.00	0.43					3.42
281.25	303.75	WNW	1.21	0.57	0.07					1.85
303.75	326.25	NW	2.07	0.43						2.49
326.25	348.75	NNW	0.64	0.93						1.57
348.75	11.25	N	1.57	1.28						2.85
Column Total (%)			42.66	43.95	10.47	2.64	0.28	0.00	0.00	0.00

Filename: HopeBay85m_201105_CurrentGeo_B20_D0066m_ed04_magdec.dat
Max Speed: 4.10 cm/s # non-flagged records: 1404
Mean Speed: 1.23 cm/s # flagged records: 0
Vector-averaged Speed: 0.62 cm/s at 176.53 deg

Table A3-3.25. Joint Frequency Table for Data Measured at 78 m depth for April 21 - May 11 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/04/21 23:21:34 to 2011/05/11 11:01:34
Sample interval: 20 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	5.06	2.42	0.21					7.69
33.75	56.25	NE	6.27	2.56	0.14					8.97
56.25	78.75	ENE	3.42	2.07						5.48
78.75	101.25	E	7.26	2.92						10.19
101.25	123.75	ESE	4.77	2.07	0.07					6.91
123.75	146.25	SE	5.20	2.64	0.07					7.91
146.25	168.75	SSE	3.28	2.14	0.21					5.63
168.75	191.25	S	6.34	1.50						7.83
191.25	213.75	SSW	3.42	1.50						4.91
213.75	236.25	SW	5.70	0.71						6.41
236.25	258.75	WSW	1.92	0.71	0.07					2.71
258.75	281.25	W	4.42	0.78						5.20
281.25	303.75	WNW	2.64	0.64						3.28
303.75	326.25	NW	3.13	0.50						3.63
326.25	348.75	NNW	2.35	1.21						3.56
348.75	11.25	N	6.48	2.92	0.28					9.69
Column Total (%)			71.65	27.28	1.07	0.00	0.00	0.00	0.00	

Filename: HopeBay85m_201105_CurrentGeo_B24_D0078m_ed04_magdec.dat
Max Speed: 2.41 cm/s # non-flagged records: 1404
Mean Speed: 0.78 cm/s # flagged records: 0
Vector-averaged Speed: 0.17 cm/s at 84.33 deg

Compass Plots

Figure A3-3.29. Compass Plot at 12 m Depth for April 21 - May 11 at the 85 m Site

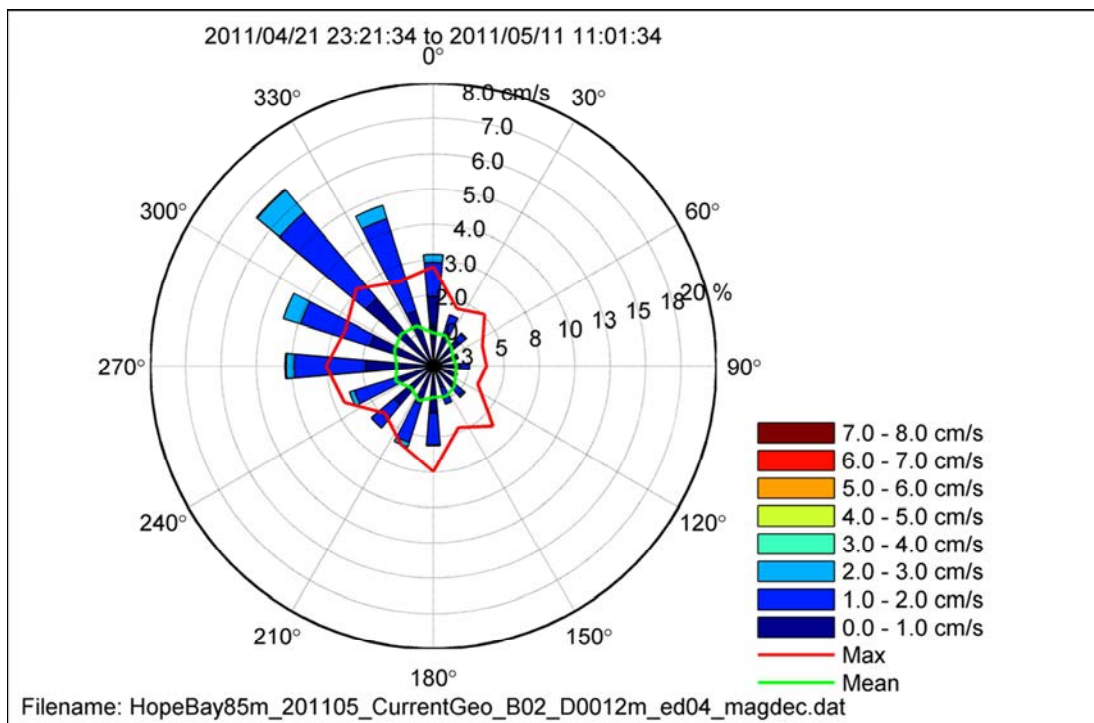


Figure A3-3.30. Compass Plot at 36 m Depth for April 21 - May 11 at the 85 m Site

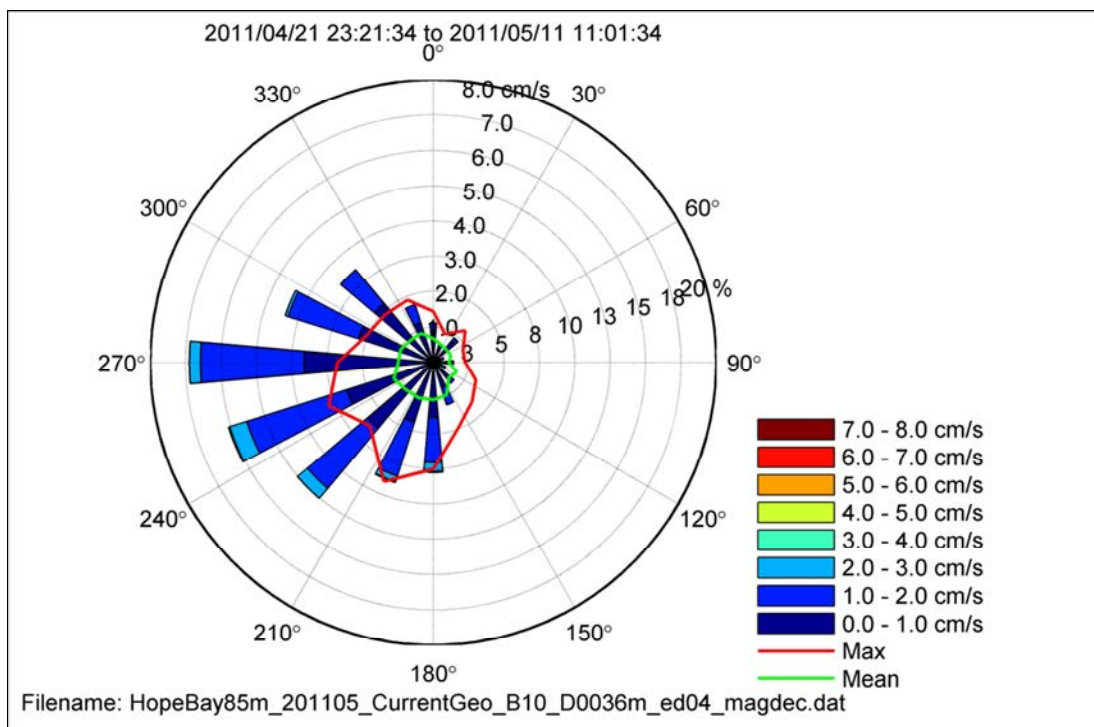


Figure A3-3.31. Compass Plot at 66 m Depth for April 21 - May 11 at the 85 m Site

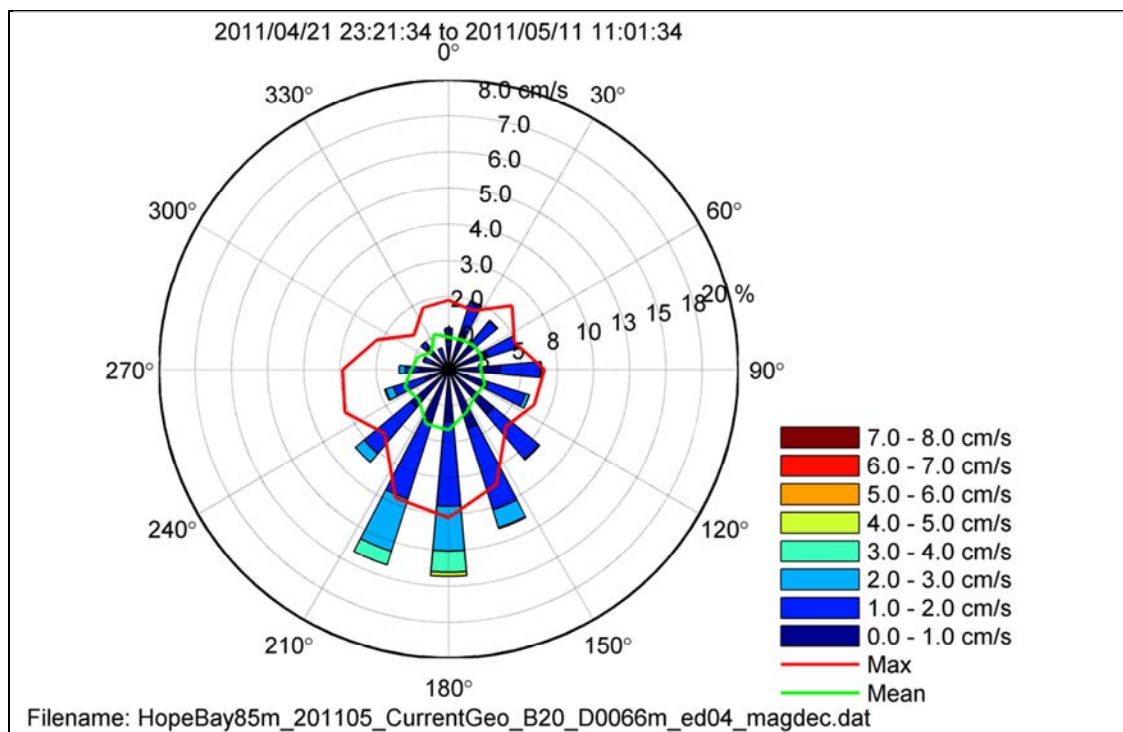
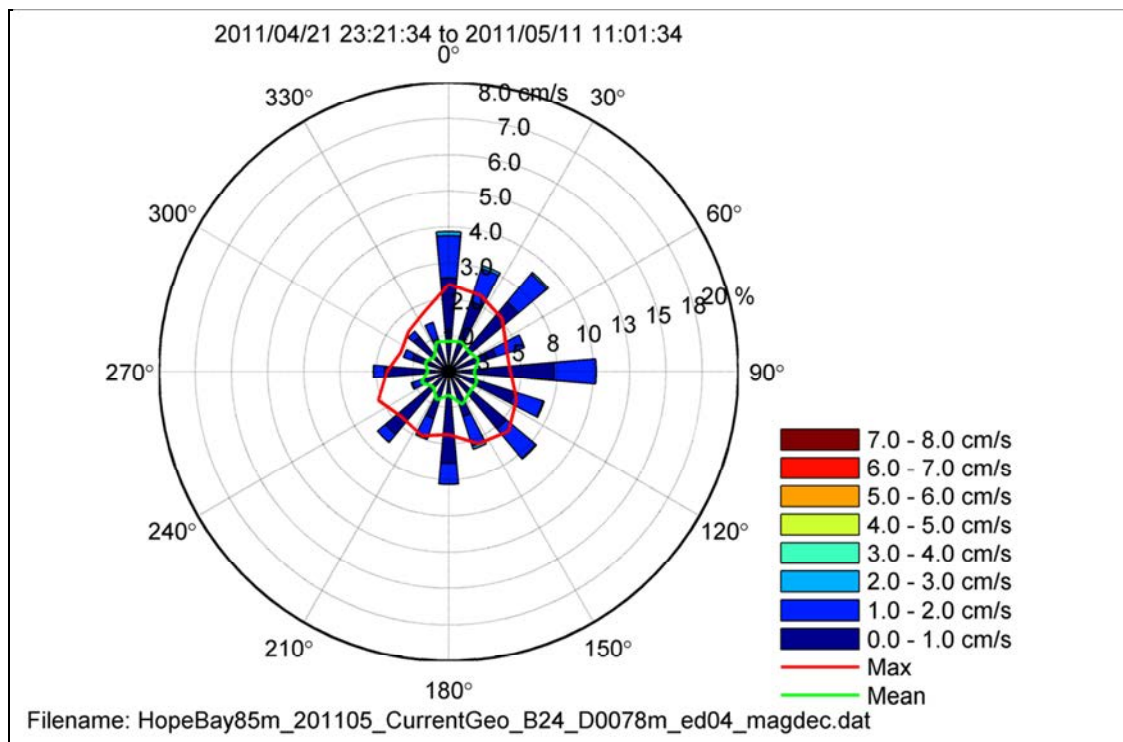


Figure A3-3.32. Compass Plot at 78 m Depth for April 21 - May 11 at the 85 m Site



3-3.2.4 May 22 - July 17 Deployment

Current bins corresponding to 16 m, 34 m, 58 m and 76 m depths were selected for processing.

The number of points edited using the quality control procedures described in Section 3-3.2.1 is listed in Table A3-3.26. A time series plot of each velocity component at each depth is shown in Figure A3-3.33 through Figure A3-3.40.

Statistics computed for each depth are shown in Table A3-3.27. Speed and direction joint frequency tables are presented in Table A3-3.28 through Table A3-3.31 and are further illustrated with compass plots in Figure A3-3.41 through Figure A3-3.44. The color of each segment denotes its speed interval. The radial length of each segment denotes the proportion of measurements within the illustrated speed and direction interval. The maximum and mean are illustrated through the second radial scale as the red and light green lines respectively for clear viewing.

Measurement Statistics

Table A3-3.26. Summary of Points Edited at Each Depth for May 22 - July 17 at the 85 m Site

	Veast				Vnorth			
	16 m	34 m	58 m	76 m	16 m	34 m	58 m	76 m
Out of Range	0	0	0	0	0	0	0	0
Single Spike	1	1	0	0	0	0	0	0
Double Spike	1	0	0	0	0	0	0	0
Triple Spike	0	0	0	0	0	0	0	0
Quad. Spike	0	0	0	0	0	0	0	0
Manual Edit	17	0	0	0	14	0	0	0
Verror >10	3	2	0	0	3	2	0	0
% Edit	0.85 %	0.11 %	0.00 %	0.00 %	0.63%	0.07 %	0.00 %	0.00 %
Total Pts	2,691				2,691			

Current Time-Series

Figure A3-3.33. Time-series Plot of the East Velocity Component at 16 m Depth for May 22 - July 17 at the 85 m Site

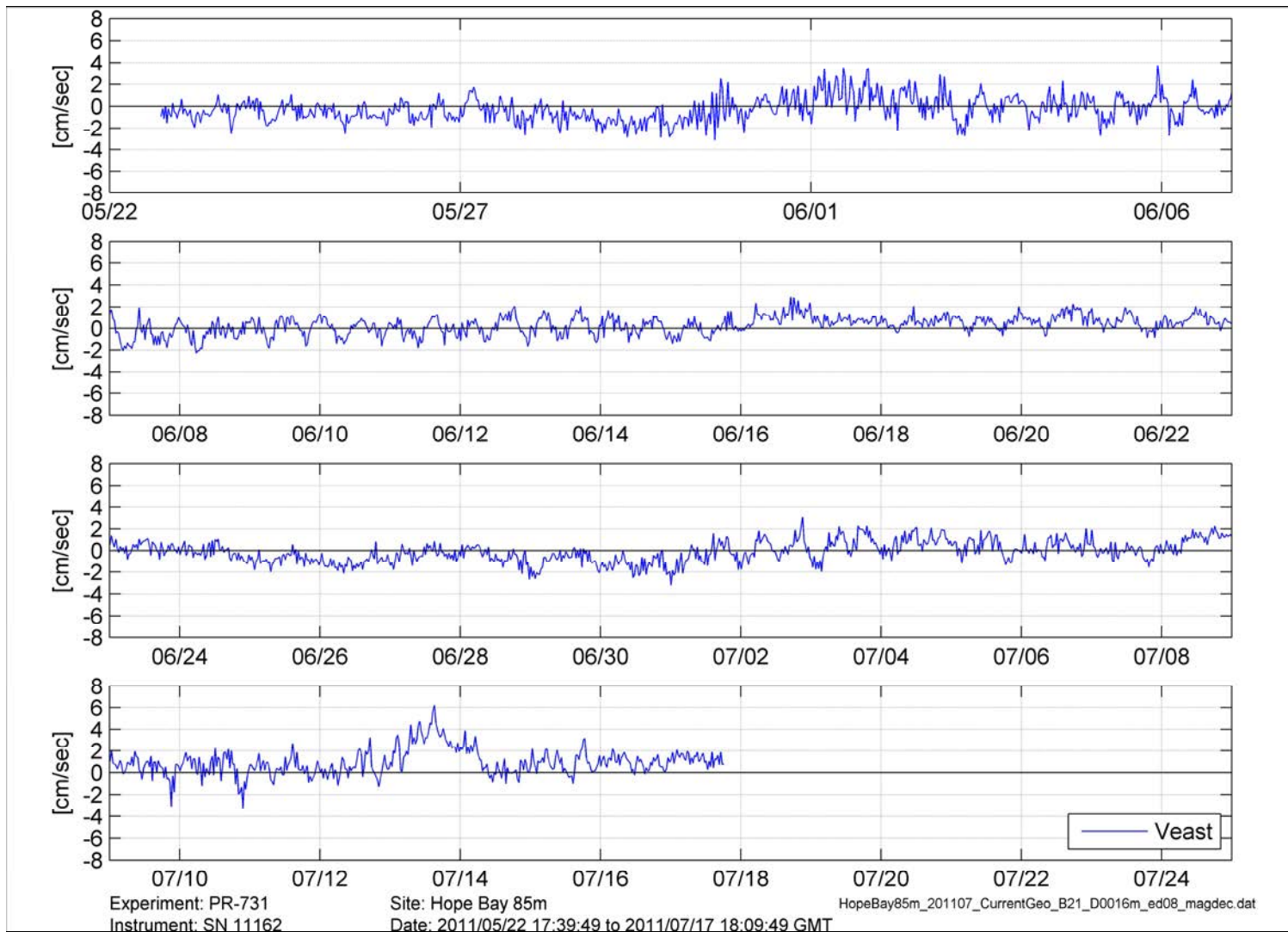


Figure A3-3.34. Time-series Plot of the North Velocity Component at 16 m Depth for May 22 - July 17 at the 85 m Site

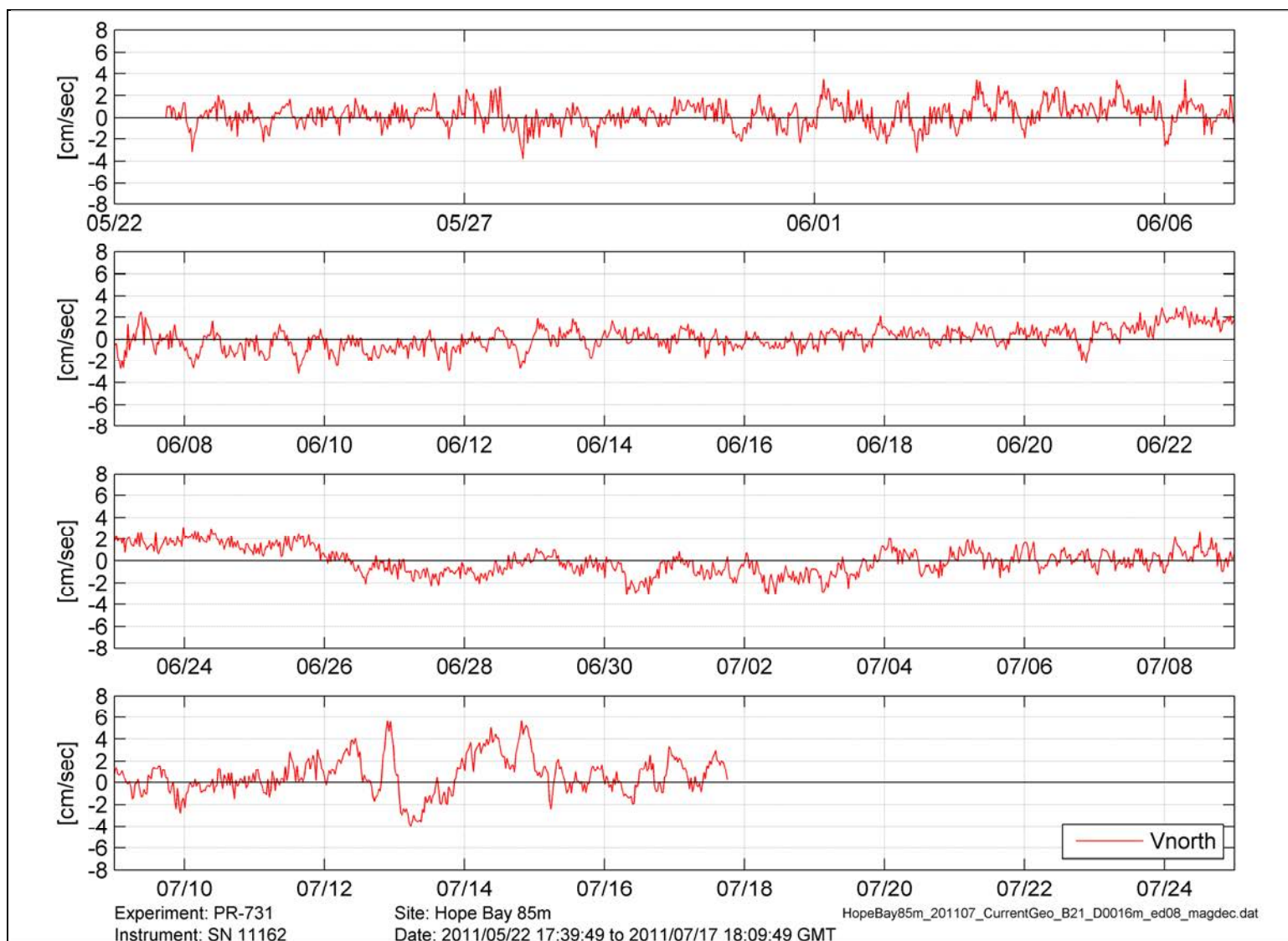


Figure A3-3.35. Time-series Plot of the East Velocity Component at 34 m Depth for May 22- July 17 at the 85 m Site

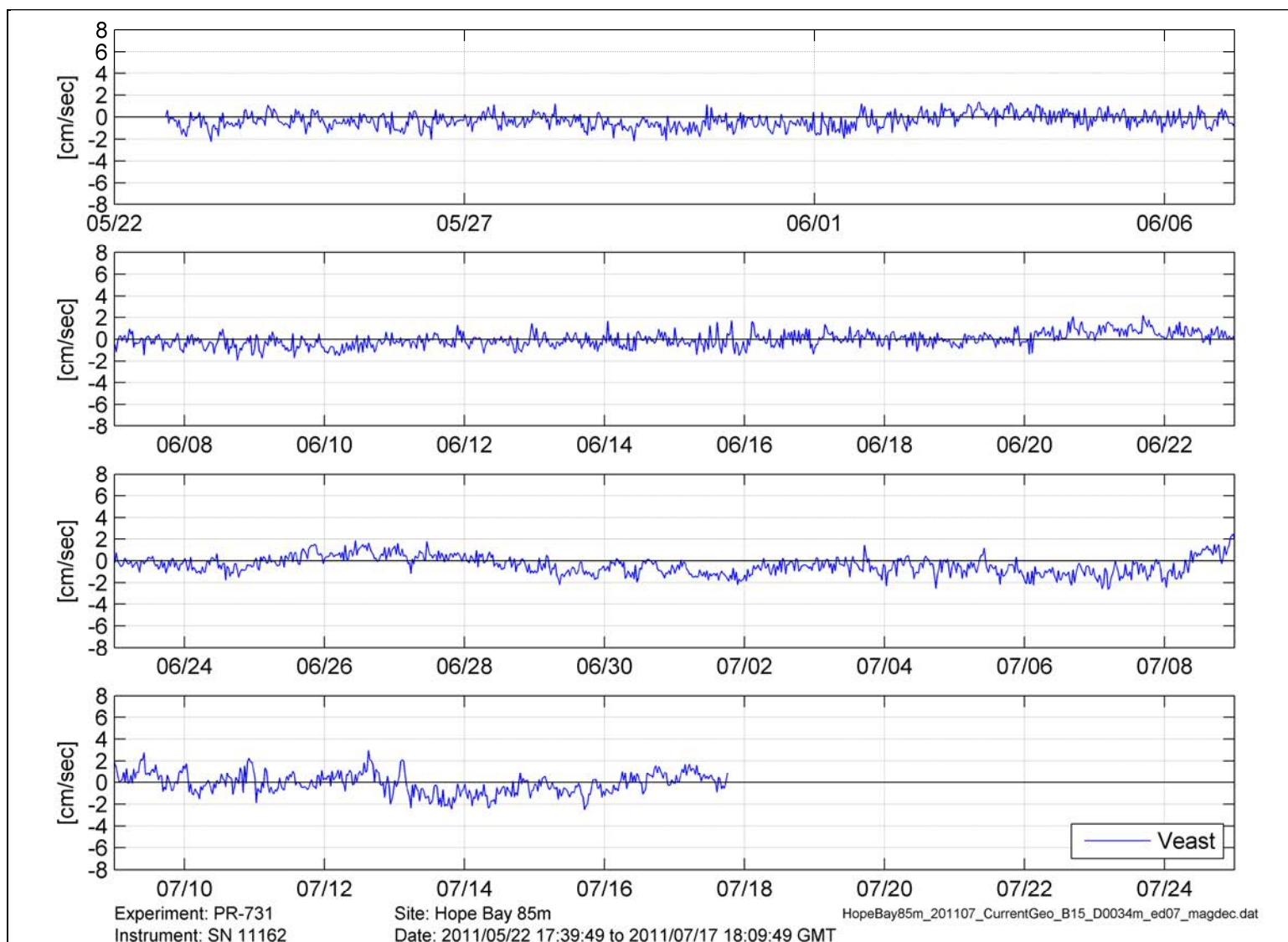


Figure A3-3.36. Time-series Plot of the North Velocity Component at 34 m Depth for May 22 - July 17 at the 85 m Site

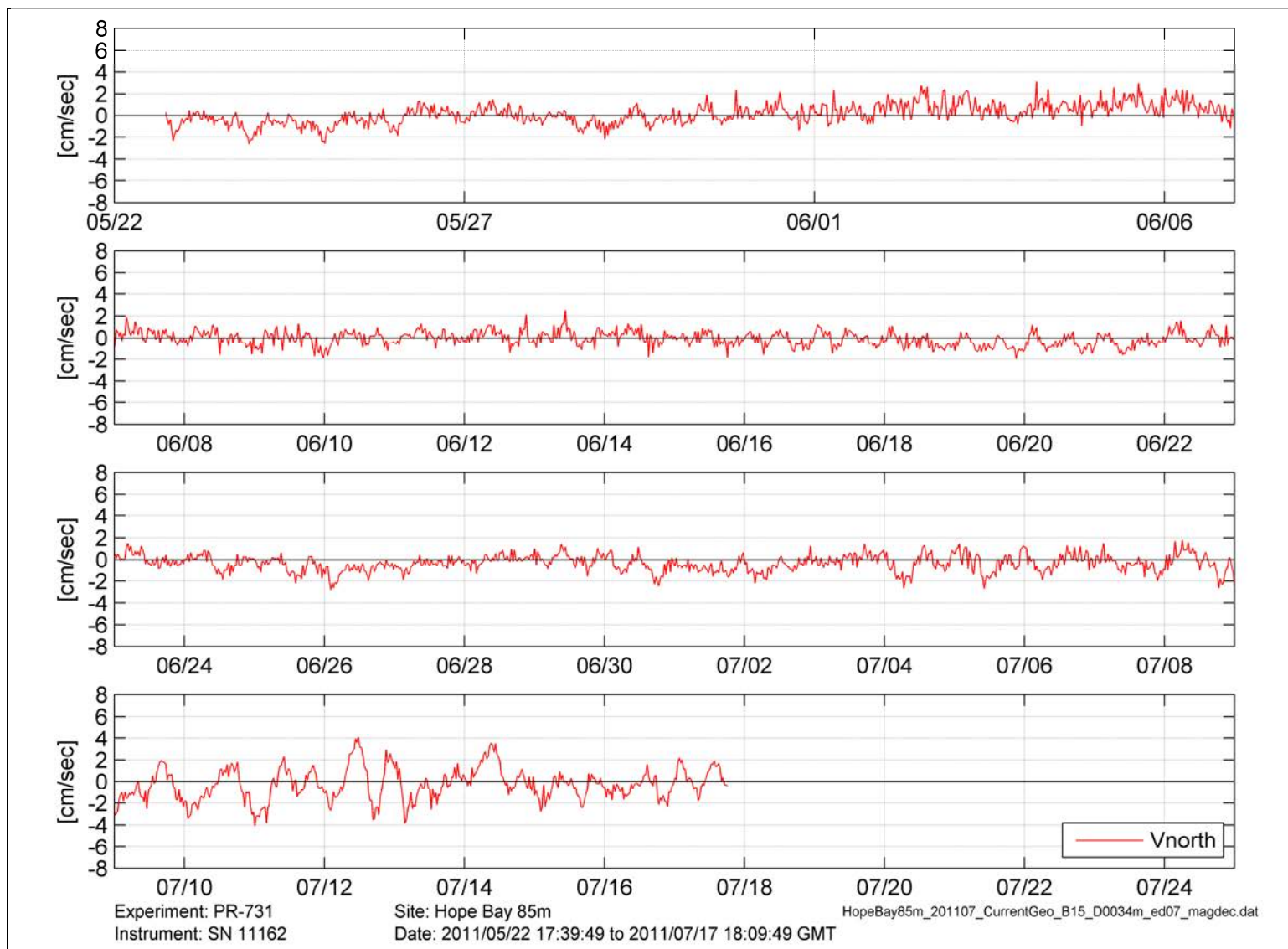


Figure A3-3.37. Time-series Plot of the East Velocity Component at 58 m Depth for May 22- July 17 at the 85 m Site

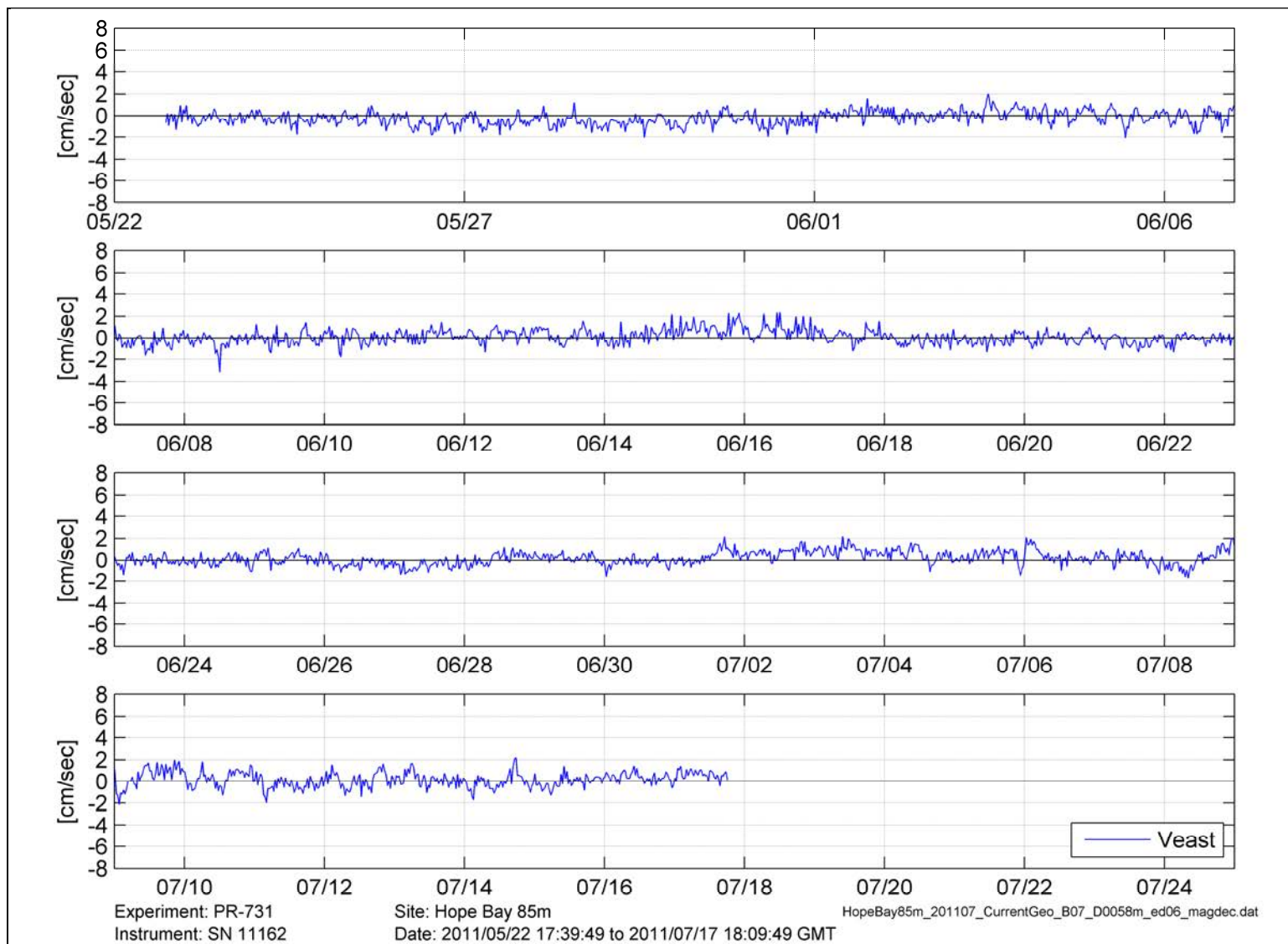


Figure A3-3.38. Time-series Plot of the North Velocity Component at 58 m Depth for May 22 - July 17 at the 85 m Site

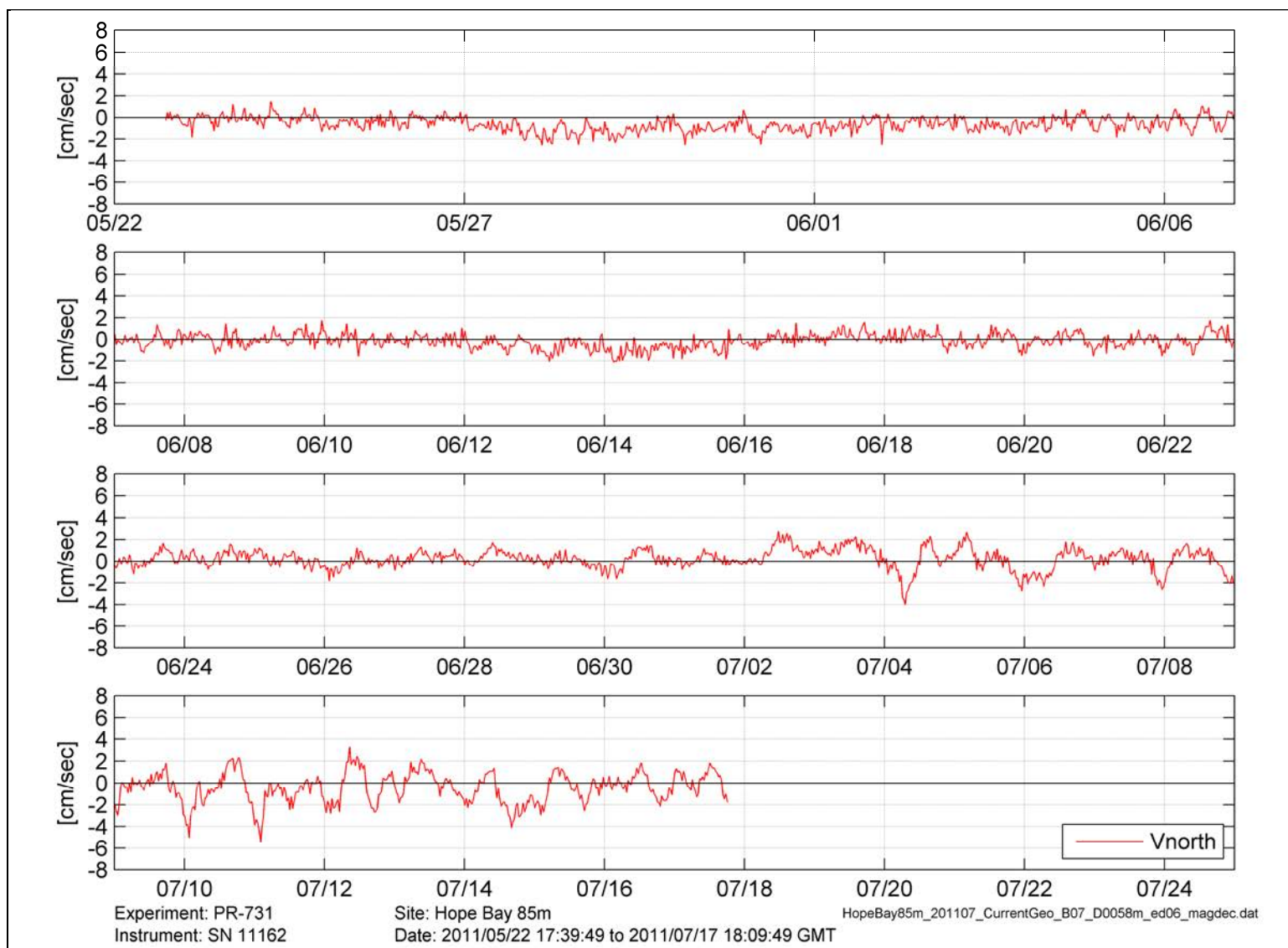


Figure A3-3.39. Time-series Plot of the East Velocity Component at 76 m Depth for May 22 - July 17 at the 85 m Site

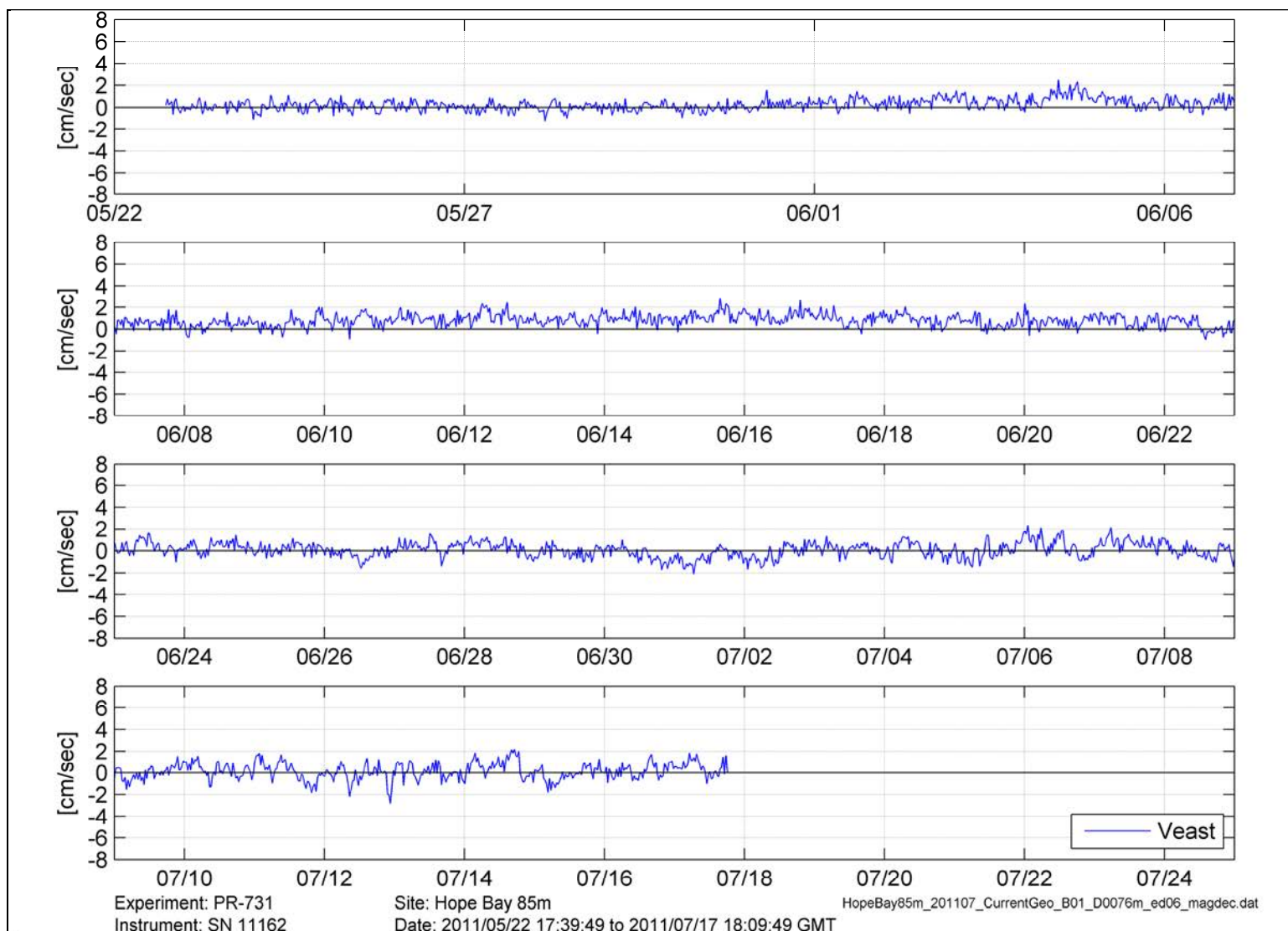


Figure A3-3.40. Time-series Plot of the North Velocity Component at 76 m Depth for May 22 - July 17 at the 85 m Site

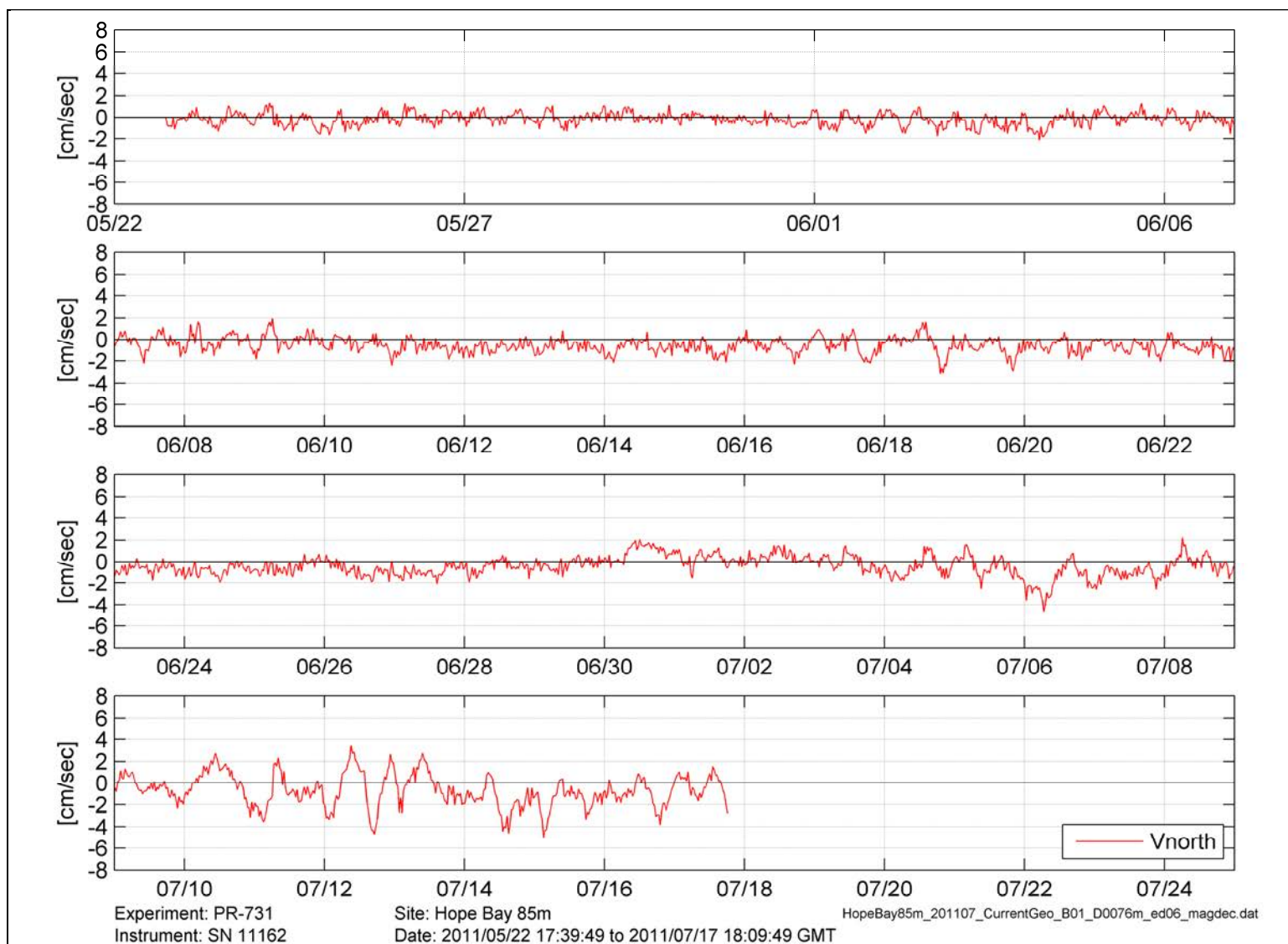


Table A3-3.27. Summary Statistics for Data Measured at each Depth for May 22 - July 17 at the 85 m Site

Depth (m)		Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max	# Valid	Total #
16	Veast	-3.24	-2.42	-1.64	-0.67	0.11	0.11	0.79	1.88	3.22	1.11	6.21	2,690	2,690
	Vnorth	-3.98	-2.81	-1.79	-0.63	0.11	0.17	0.94	2.22	3.64	1.26	5.66		
	Speed	0.00	0.14	0.36	0.86	1.33	1.46	1.90	3.00	4.42	0.85	6.24		
34	Veast	-2.64	-2.12	-1.50	-0.78	-0.27	-0.25	0.27	1.10	1.68	0.79	2.95	2,690	2,690
	Vnorth	-4.08	-2.64	-1.67	-0.73	-0.15	-0.15	0.41	1.39	2.40	0.96	4.05		
	Speed	0.00	0.10	0.28	0.63	1.00	1.10	1.43	2.34	3.18	0.65	4.11		
58	Veast	-3.11	-1.60	-1.07	-0.47	0.02	0.01	0.46	1.13	1.76	0.69	2.32	2,690	2,690
	Vnorth	-5.46	-2.84	-1.84	-0.81	-0.18	-0.23	0.35	1.25	1.94	0.95	3.29		
	Speed	0.00	0.10	0.22	0.58	0.90	1.02	1.33	2.20	3.01	0.63	5.50		
76	Veast	-2.82	-1.40	-0.81	-0.12	0.33	0.33	0.80	1.44	1.96	0.70	2.87	2,690	2,690
	Vnorth	-5.00	-3.30	-1.93	-0.98	-0.42	-0.45	0.10	1.01	1.80	0.94	3.39		
	Speed	0.00	0.10	0.22	0.63	1.00	1.11	1.43	2.33	3.38	0.68	5.03		

Joint Frequency Tables

Table A3-3.28. Joint Frequency Table for Data Measured at 16 m Depth for May 22 - July 17 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/05/22 17:39:49 to 2011/07/17 18:09:49
Sample interval: 30 min

			Speed (cm/s)								Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	7.0 to 8.0	
Direction (deg)											
11.25	33.75	NNE	2.79	4.68	2.23	0.41	0.11	0.04			10.26
33.75	56.25	NE	1.90	3.90	1.41	0.26	0.15	0.04			7.66
56.25	78.75	ENE	2.71	3.20	0.93	0.19					7.03
78.75	101.25	E	1.56	2.49	0.78	0.19	0.04	0.04	0.04		5.13
101.25	123.75	ESE	2.34	2.68	0.86	0.45	0.22	0.04			6.58
123.75	146.25	SE	1.38	2.08	0.67	0.11	0.26	0.04			4.54
146.25	168.75	SSE	2.04	2.79	1.00	0.19	0.07				6.10
168.75	191.25	S	1.34	2.30	0.86	0.11					4.61
191.25	213.75	SSW	2.04	3.35	0.74	0.26	0.04				6.43
213.75	236.25	SW	1.64	2.71	1.00	0.26					5.61
236.25	258.75	WSW	2.19	2.64	0.56						5.39
258.75	281.25	W	1.75	3.27	0.82	0.07					5.91
281.25	303.75	WNW	2.16	3.61	0.97	0.04					6.77
303.75	326.25	NW	1.23	2.71	0.45	0.04					4.42
326.25	348.75	NNW	1.78	2.45	0.82	0.07	0.07				5.20
348.75	11.25	N	1.60	3.42	2.12	0.74	0.30	0.19			8.36
Column Total (%)			30.45	48.29	16.21	3.38	1.26	0.37	0.04	0.00	

Filename: HopeBay85m_201107_CurrentGeo_B21_D0016m_ed08_magdec.dat
Max Speed: 6.24 cm/s # non-flagged records: 2690
Mean Speed: 1.46 cm/s # flagged records: 0
Vector-averaged Speed: 0.20 cm/s at 31.43 deg

Table A3-3.29. Joint Frequency Table for Data Measured at 34 m Depth for May 22 - July 17 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/05/22 17:39:49 to 2011/07/17 18:09:49
Sample interval: 30 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	3.01	2.27	0.52	0.11				5.91
33.75	56.25	NE	1.60	1.08	0.11					2.79
56.25	78.75	ENE	2.16	0.93	0.04					3.12
78.75	101.25	E	1.41	1.00	0.07					2.49
101.25	123.75	ESE	2.94	1.64	0.26	0.04				4.87
123.75	146.25	SE	2.71	1.97	0.41	0.07				5.17
146.25	168.75	SSE	3.53	2.60	0.86	0.30				7.29
168.75	191.25	S	2.42	2.90	0.78	0.22	0.04			6.36
191.25	213.75	SSW	4.57	4.46	0.97	0.11				10.11
213.75	236.25	SW	2.71	4.01	0.67	0.07				7.47
236.25	258.75	WSW	4.87	4.98	0.56					10.41
258.75	281.25	W	3.05	2.83	0.41					6.28
281.25	303.75	WNW	5.35	3.79	0.56					9.70
303.75	326.25	NW	3.05	2.86	0.30	0.11				6.32
326.25	348.75	NNW	3.75	2.53	0.63	0.15	0.04			7.10
348.75	11.25	N	1.97	1.86	0.63	0.07	0.07			4.61
Column Total (%)			49.11	41.71	7.77	1.26	0.15	0.00	0.00	0.00

Filename: HopeBay85m_201107_CurrentGeo_B15_D0034m_ed07_magdec.dat
Max Speed: 4.11 cm/s # non-flagged records: 2690
Mean Speed: 1.10 cm/s # flagged records: 0
Vector-averaged Speed: 0.28 cm/s at 239.28 deg

Table A3-3.30. Joint Frequency Table for Data Measured at 58 m Depth for May 22 - July 17 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/05/22 17:39:49 to 2011/07/17 18:09:49
Sample interval: 30 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	3.94	2.60	0.89					7.43
33.75	56.25	NE	2.90	2.12	0.37					5.39
56.25	78.75	ENE	4.57	1.41	0.26					6.25
78.75	101.25	E	2.04	1.04	0.19					3.27
101.25	123.75	ESE	4.80	1.78	0.15					6.73
123.75	146.25	SE	3.09	2.04	0.45	0.04				5.61
146.25	168.75	SSE	5.50	3.61	0.78	0.30				10.19
168.75	191.25	S	2.12	3.61	1.04	0.33	0.11	0.07		7.29
191.25	213.75	SSW	5.24	5.32	1.56	0.11				12.23
213.75	236.25	SW	2.94	2.86	0.48					6.28
236.25	258.75	WSW	4.57	2.04	0.15	0.04				6.80
258.75	281.25	W	2.64	1.34						3.98
281.25	303.75	WNW	3.75	1.08						4.83
303.75	326.25	NW	2.38	1.38	0.11					3.87
326.25	348.75	NNW	3.61	2.04	0.15	0.04				5.84
348.75	11.25	N	1.82	2.01	0.19					4.01
Column Total (%)			55.91	36.28	6.77	0.86	0.11	0.07	0.00	0.00

Filename: HopeBay85m_201107_CurrentGeo_B07_D0058m_ed06_magdec.dat
Max Speed: 5.50 cm/s # non-flagged records: 2690
Mean Speed: 1.02 cm/s # flagged records: 0
Vector-averaged Speed: 0.23 cm/s at 177.54 deg

Table A3-3.31. Joint Frequency Table for Data Measured at 76 m Depth for May 22 - July 17 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 11162
For period: 2011/05/22 17:39:49 to 2011/07/17 18:09:49
Sample interval: 30 min

			Speed (cm/s)							Row Total (%)
			0.0 to 1.0	1.0 to 2.0	2.0 to 3.0	3.0 to 4.0	4.0 to 5.0	5.0 to 6.0	6.0 to 7.0	
Direction (deg)										
11.25	33.75	NNE	3.98	0.93	0.11					5.02
33.75	56.25	NE	2.04	1.26	0.04					3.35
56.25	78.75	ENE	3.46	1.38	0.04					4.87
78.75	101.25	E	3.57	3.01	0.22					6.80
101.25	123.75	ESE	6.32	6.06	0.74	0.04				13.16
123.75	146.25	SE	4.39	7.03	1.49	0.19				13.09
146.25	168.75	SSE	5.95	7.06	1.52	0.45	0.15			15.13
168.75	191.25	S	3.46	4.61	1.30	0.59	0.26	0.04		10.26
191.25	213.75	SSW	4.87	3.05	0.52	0.11	0.04			8.59
213.75	236.25	SW	1.60	1.49	0.15					3.23
236.25	258.75	WSW	1.86	0.48	0.04					2.38
258.75	281.25	W	1.15	0.26	0.04					1.45
281.25	303.75	WNW	2.42	0.86	0.04					3.31
303.75	326.25	NW	1.56	0.82	0.19	0.07				2.64
326.25	348.75	NNW	1.93	1.38	0.33	0.04				3.68
348.75	11.25	N	1.41	1.38	0.26					3.05
Column Total (%)			49.96	41.04	7.03	1.49	0.45	0.04	0.00	0.00

Filename: HopeBay85m_201107_CurrentGeo_B01_D0076m_ed06_magdec.dat
Max Speed: 5.02 cm/s # non-flagged records: 2690
Mean Speed: 1.11 cm/s # flagged records: 0
Vector-averaged Speed: 0.56 cm/s at 143.87 deg

Compass Plots

Figure A3-3.41. Compass Plot at 16 m Depth for May 22 - July 17 at the 85 m Site

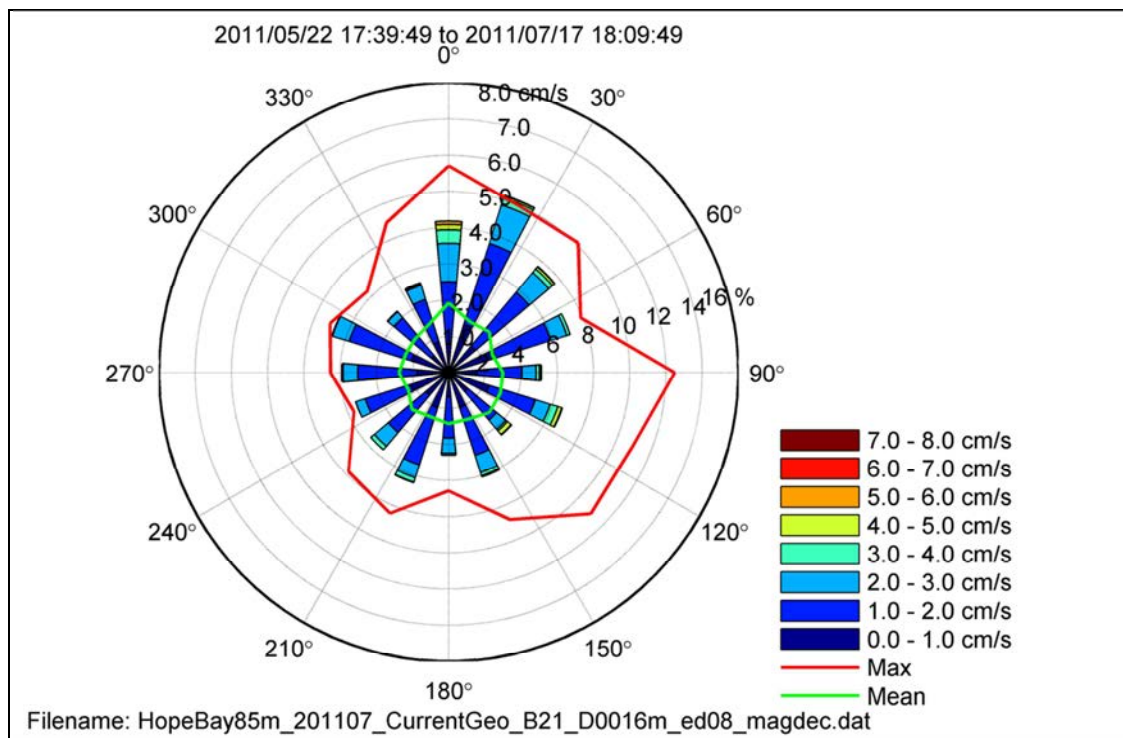


Figure A3-3.42. Compass Plot at 34 m Depth for May 22 - July 17 at the 85 m Site

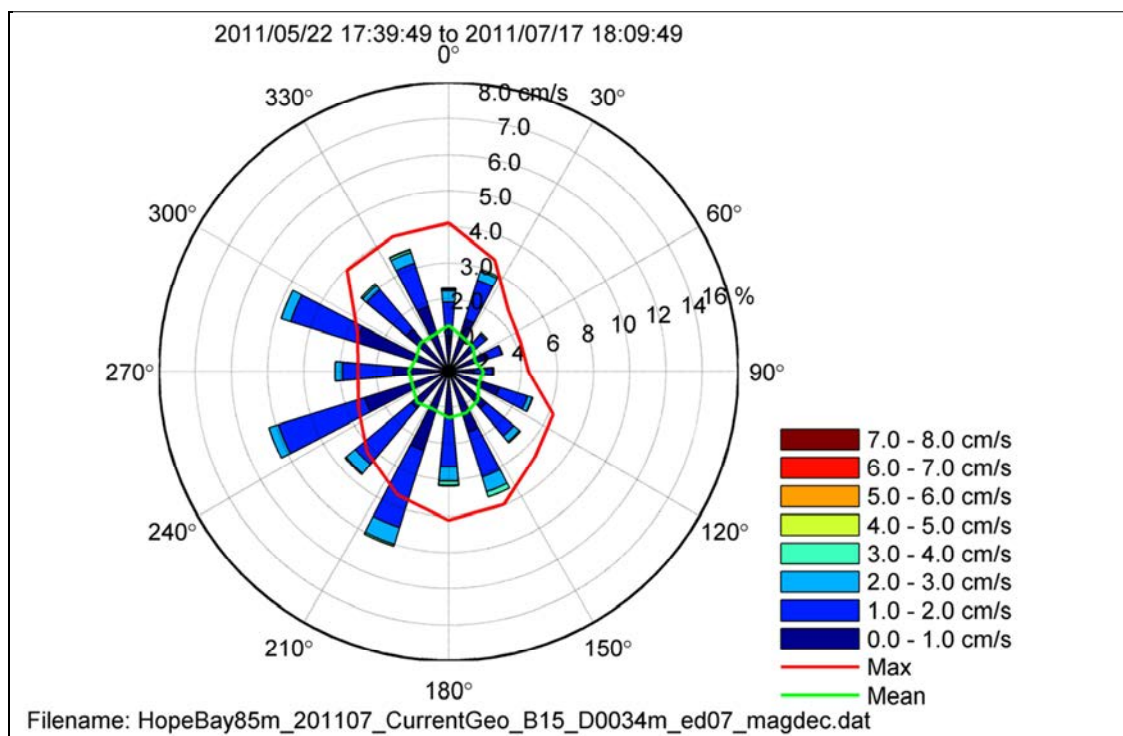


Figure A3-3.43. Compass Plot at 58 m Depth for May 22 - July 17 at the 85 m Site

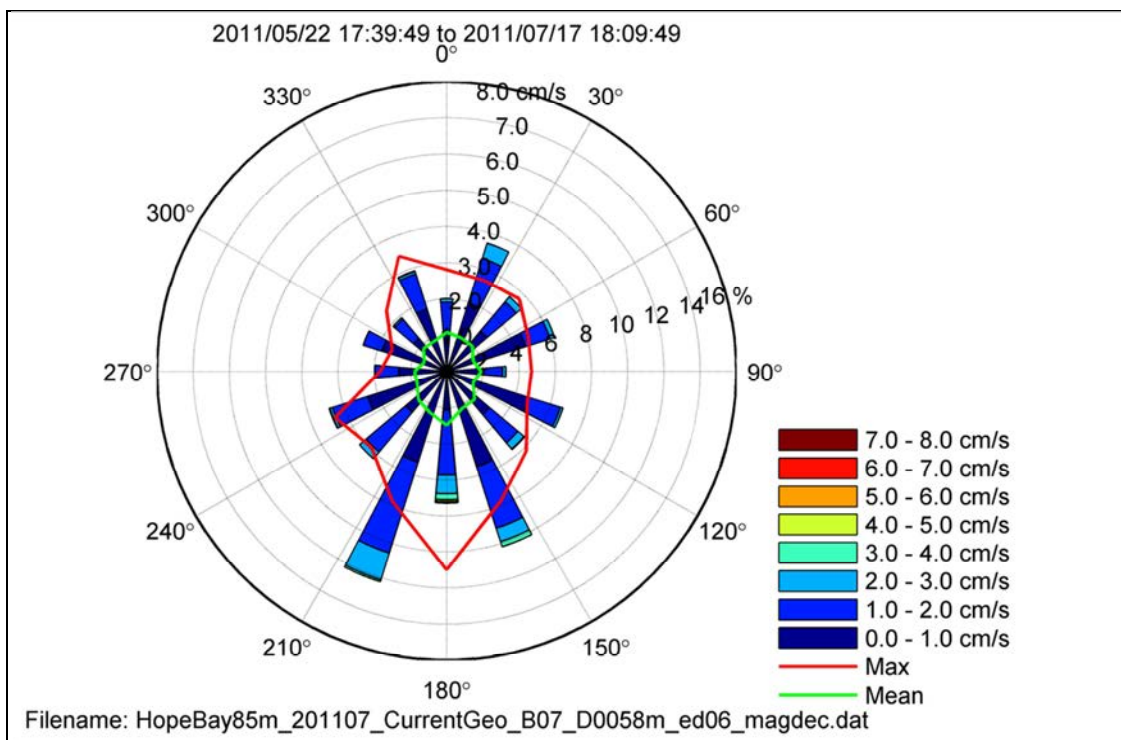
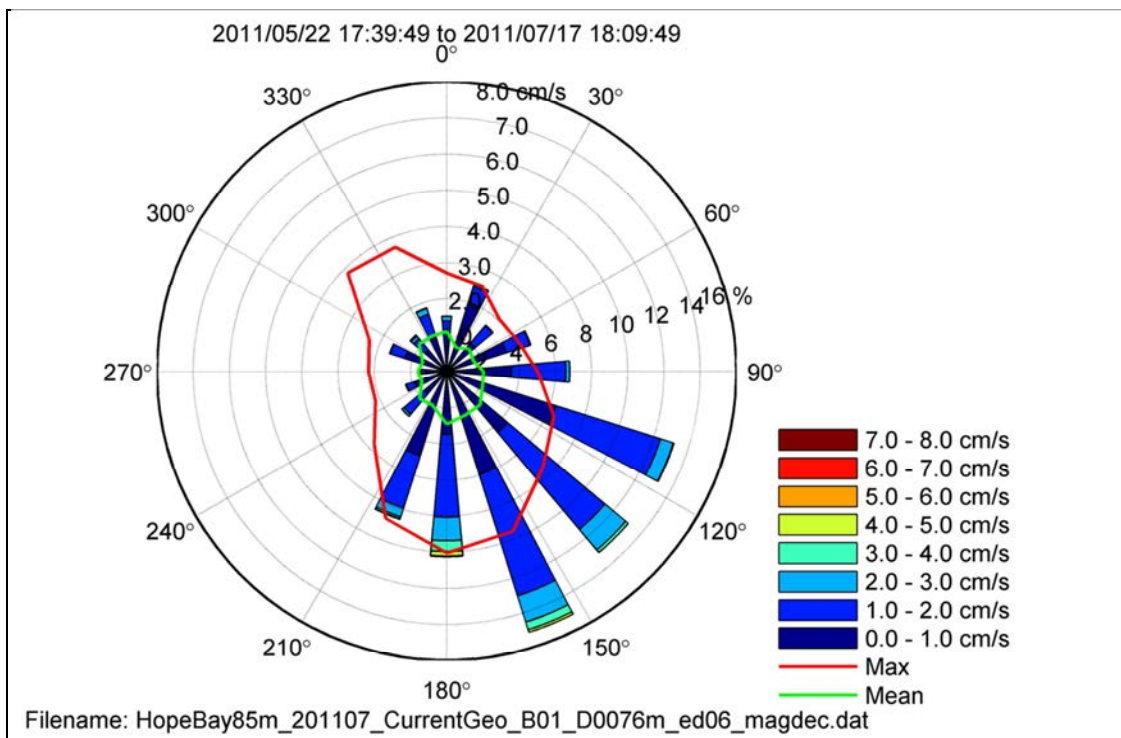


Figure A3-3.44. Compass Plot at 76 m Depth for May 22 - July 17 at the 85 m Site



3-3.2.5 July 17 - October 4 Deployment

Current bins corresponding to 17 m, 34 m and 58 m depths were selected for processing. Near the bottom of the water column, a lack of scatterers prevented the ADCP from obtaining reliable current velocities. Bins of variable depths (between 66-72 m) were chosen to capture significant events nearest the bottom whenever possible. Figure A3-3.45 presents a time-series of the variability in depth chosen for the near bottom current processing.

The number of points edited using the quality control procedures described in Section 3-3.2.1 is listed in Table A3-3.32. A time series plot of each velocity component at each depth is shown in Figure A3-3.46 through Figure A3-3.53.

Statistics computed for each depth are shown in Table A3.3-33. Speed and direction joint frequency tables are presented in Table A3-3.34 through Table A3-3.37 and are further illustrated with compass plots in Figure A3-3.54 through Figure A3-3.57. The color of each segment in the compass plots denotes its speed interval. The radial length of each segment denotes the proportion of measurements within the illustrated speed and direction interval. The maximum and mean are illustrated through the second radial scale as the red and light green lines respectively for clear viewing.

Measurement Statistics

Table A3-3.32. Summary of Points Edited at Each Depth for July 17 - Oct 4 at the 85 m Site

	Veast				Vnorth			
	17 m	34 m	58 m	** Near Bottom	17 m	34 m	58 m	** Near Bottom
Out of Range	0	0	0	-	0	0	0	-
Single Spike	26	0	0	-	18	0	0	-
Double Spike	0	0	0	-	0	0	0	-
Triple Spike	0	0	0	-	0	0	0	-
Quad. Spike	0	0	0	-	0	0	0	-
Manual Edit	13	2	0	-	9	0	0	-
Verror >1+0	0	0	0	-	0	0	0	-
% Edit	0.69 %	0.02 %	0.00 %	-	0.48 %	0.00 %	0.00 %	-
Total Pts	5,675		11,351		5,675		11,351	

Current Time-Series

Figure A3-3.45. Time-Series Plot of the Depths Used for the Near Bottom Current Processing for July 17 - October 4 at the 85 m Site

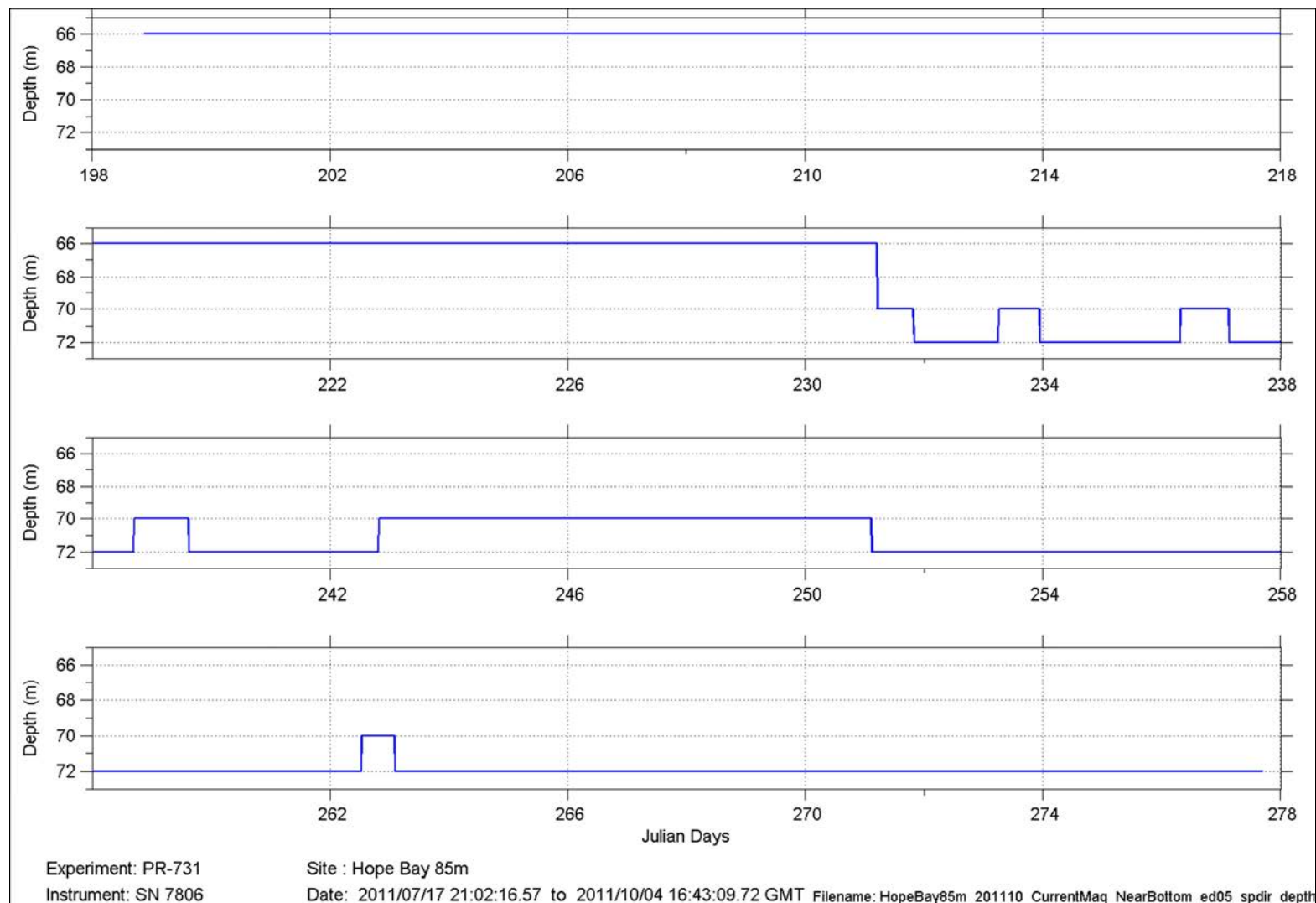


Figure A3-3.46. Time-series Plot of the East Velocity Component at 17 m Depth for July 17 - October 4 at the 85 m Site

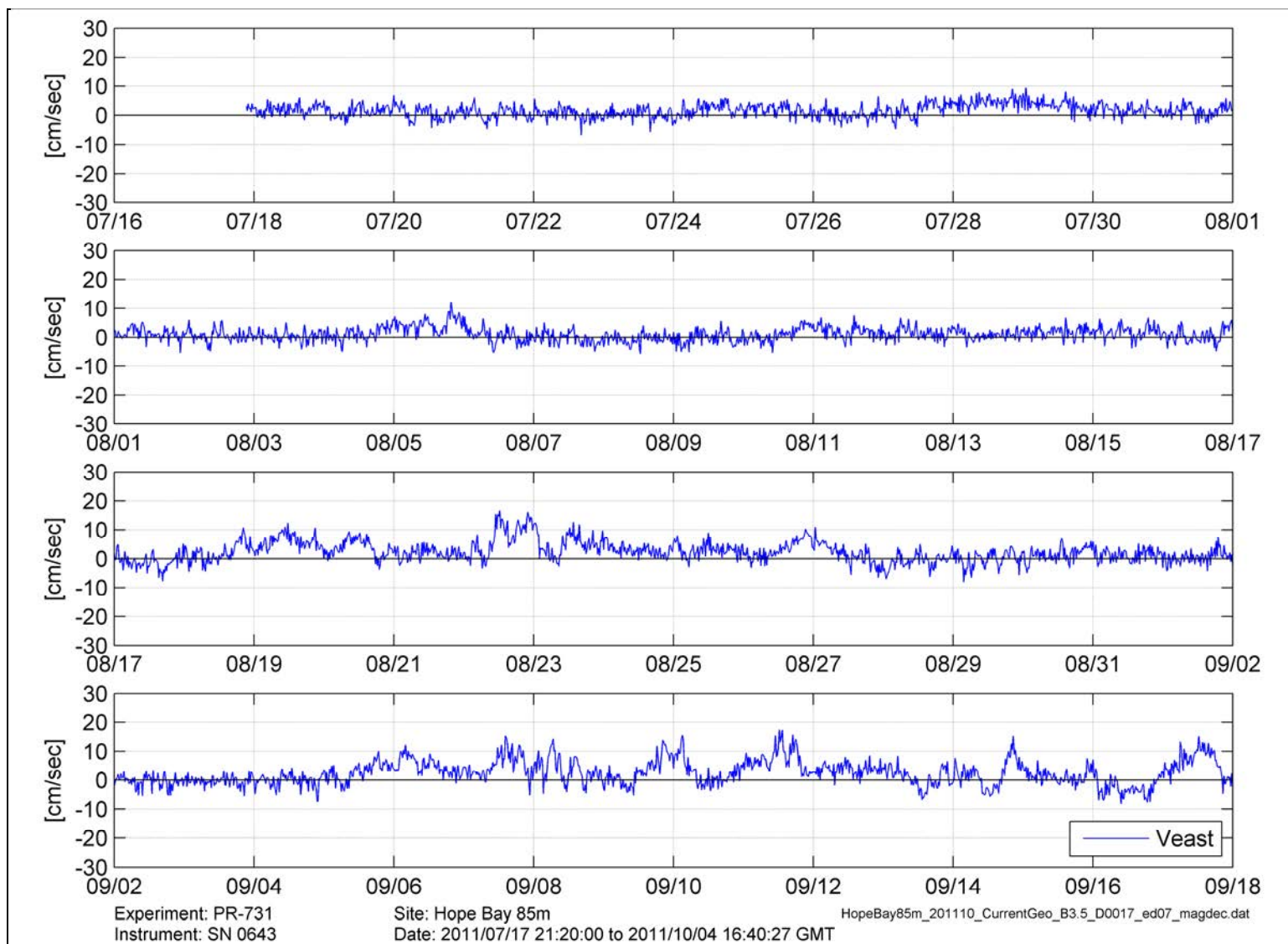


Figure A3-3.47. Time-series Plot of the North Velocity Component at 17 m Depth for July 17 - October 4 at the 85 m Site

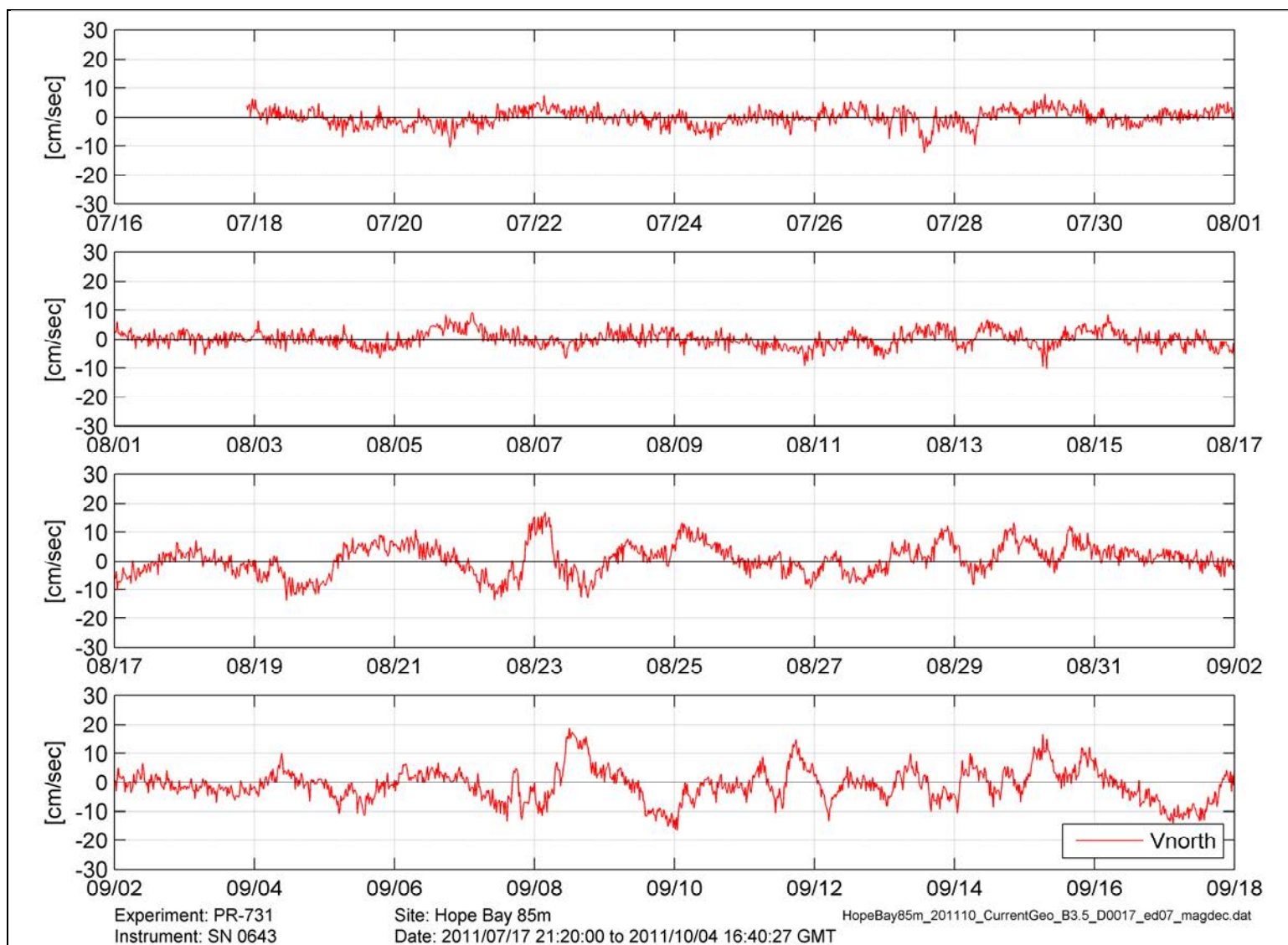


Figure A3-3.48. Time-series Plot of the East Velocity Component at 34 m Depth for July 17 - October 4 at the 85 m Site

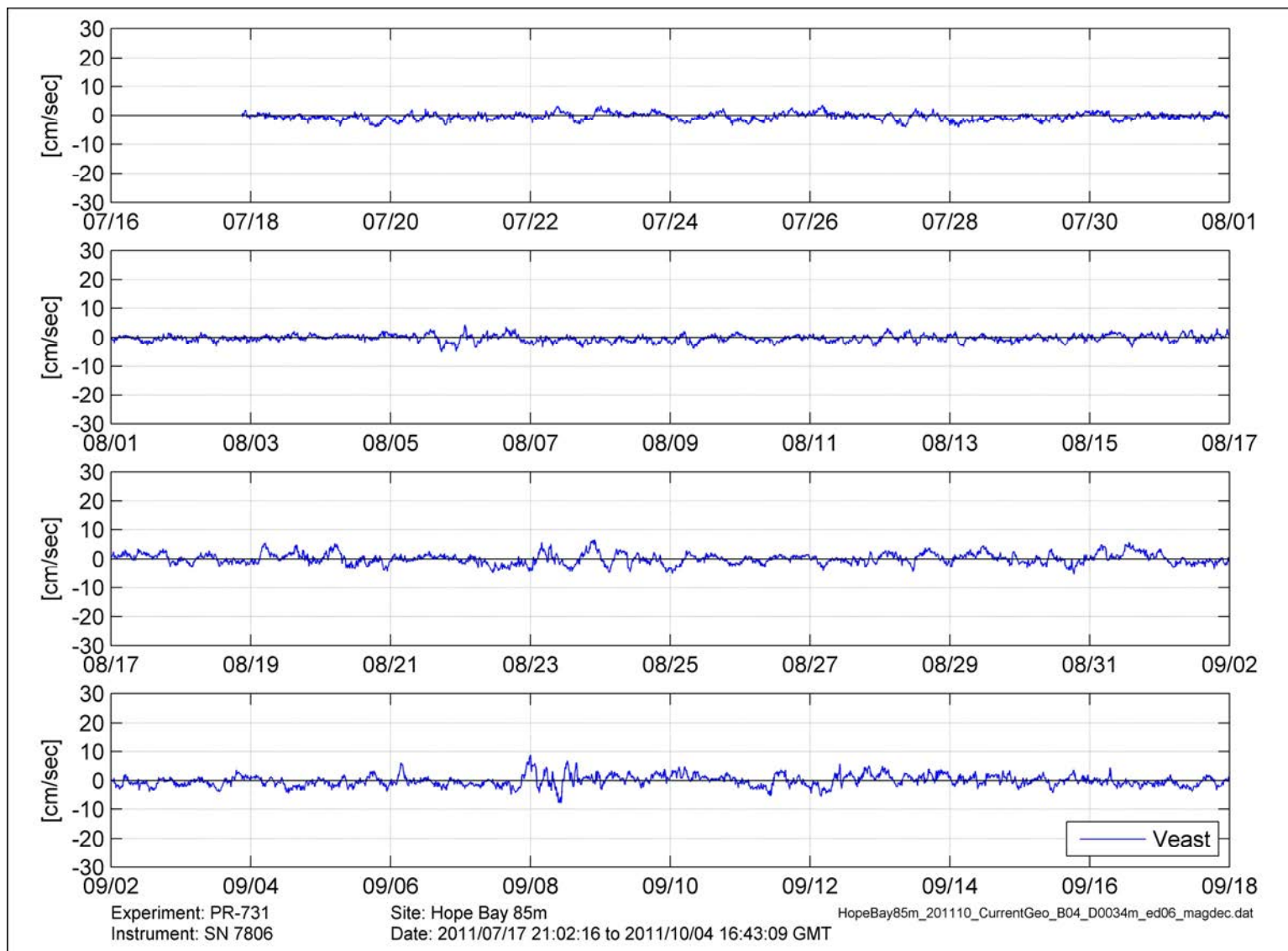


Figure A3-3.49. Time-series Plot of the North Velocity Component at 34 m Depth for July 17 - October 4 at the 85 m Site

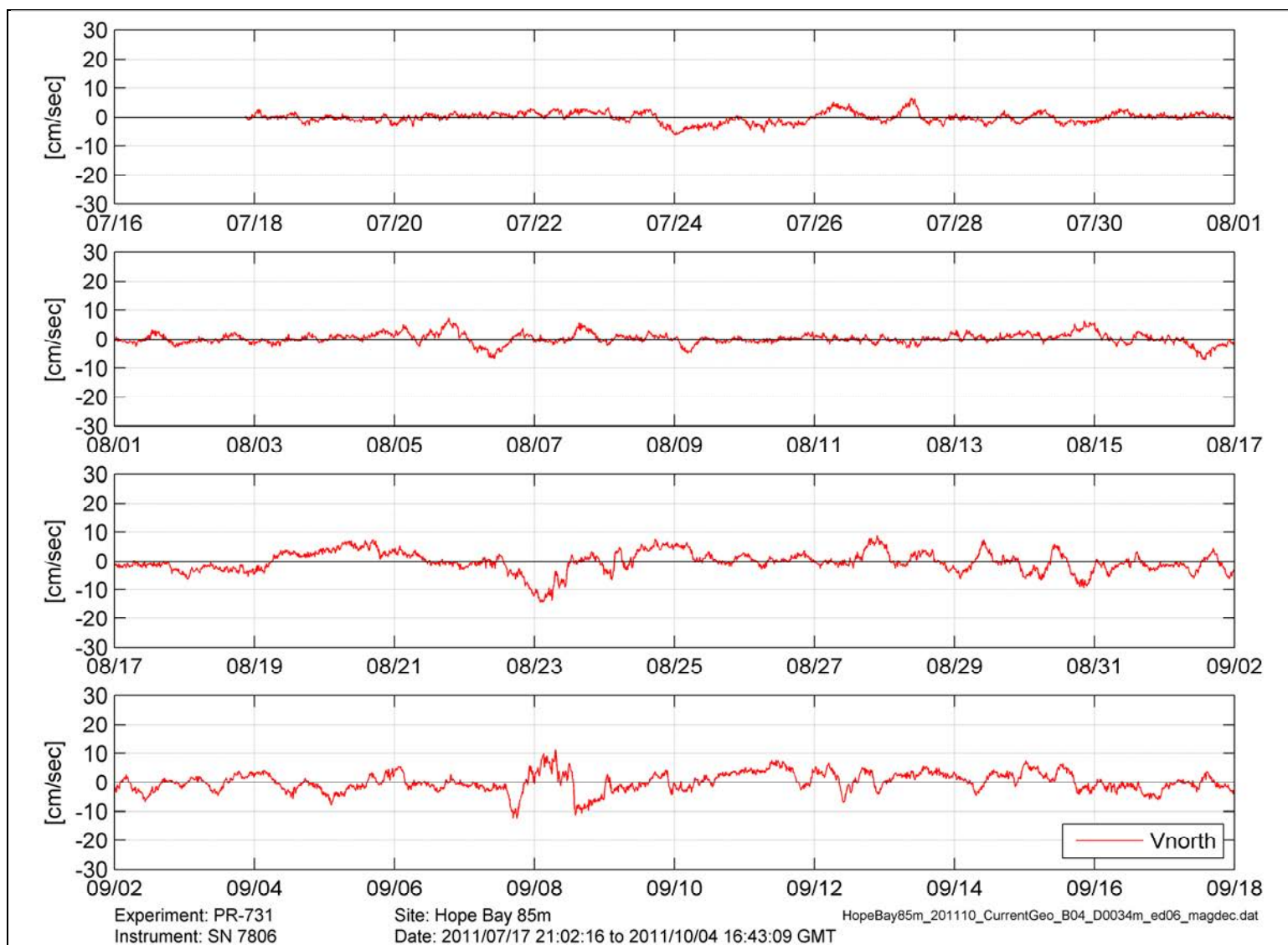


Figure A3-3.50. Time-series Plot of the East Velocity Component at 58 m Depth for July 17 - October 4 at the 85 m Site

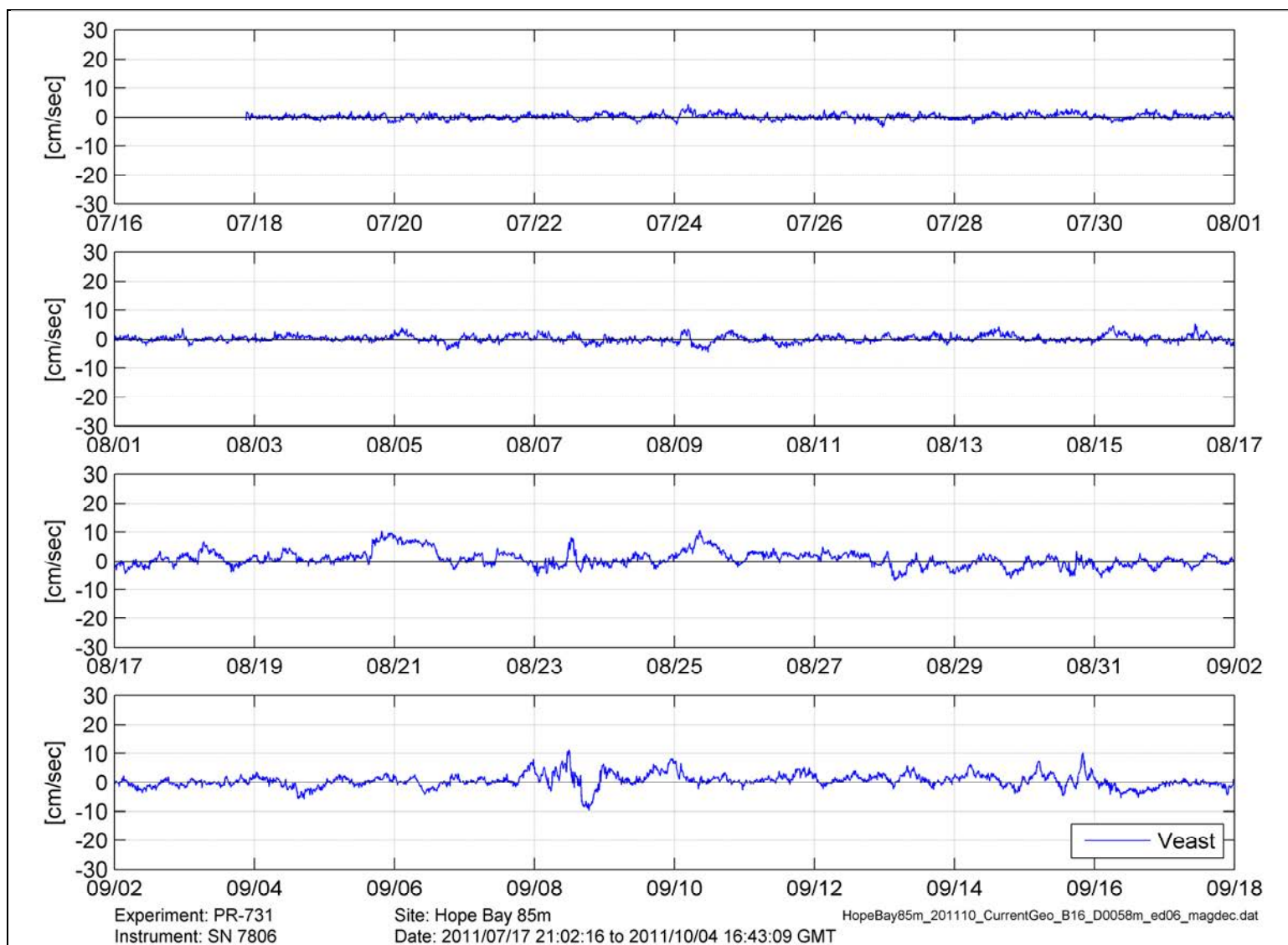


Figure A3-3.51. Time-series Plot of the North Velocity Component at 58 m Depth for July 17 - October 4 at the 85 m Site

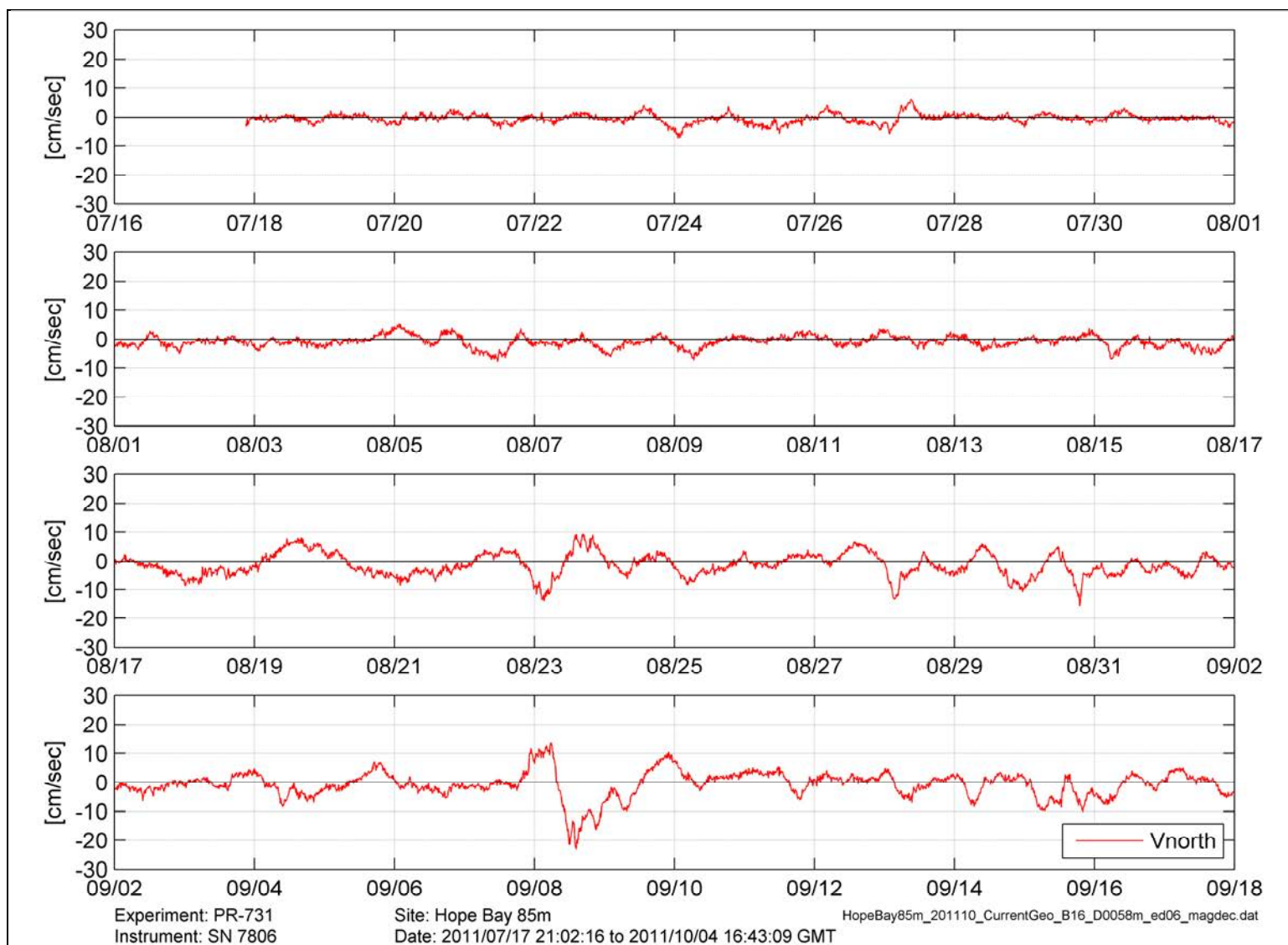


Figure A3-3.52. Time-series Plot of the East Velocity Component at Near Bottom Depth for July 17 - October 4 at the 85 m Site

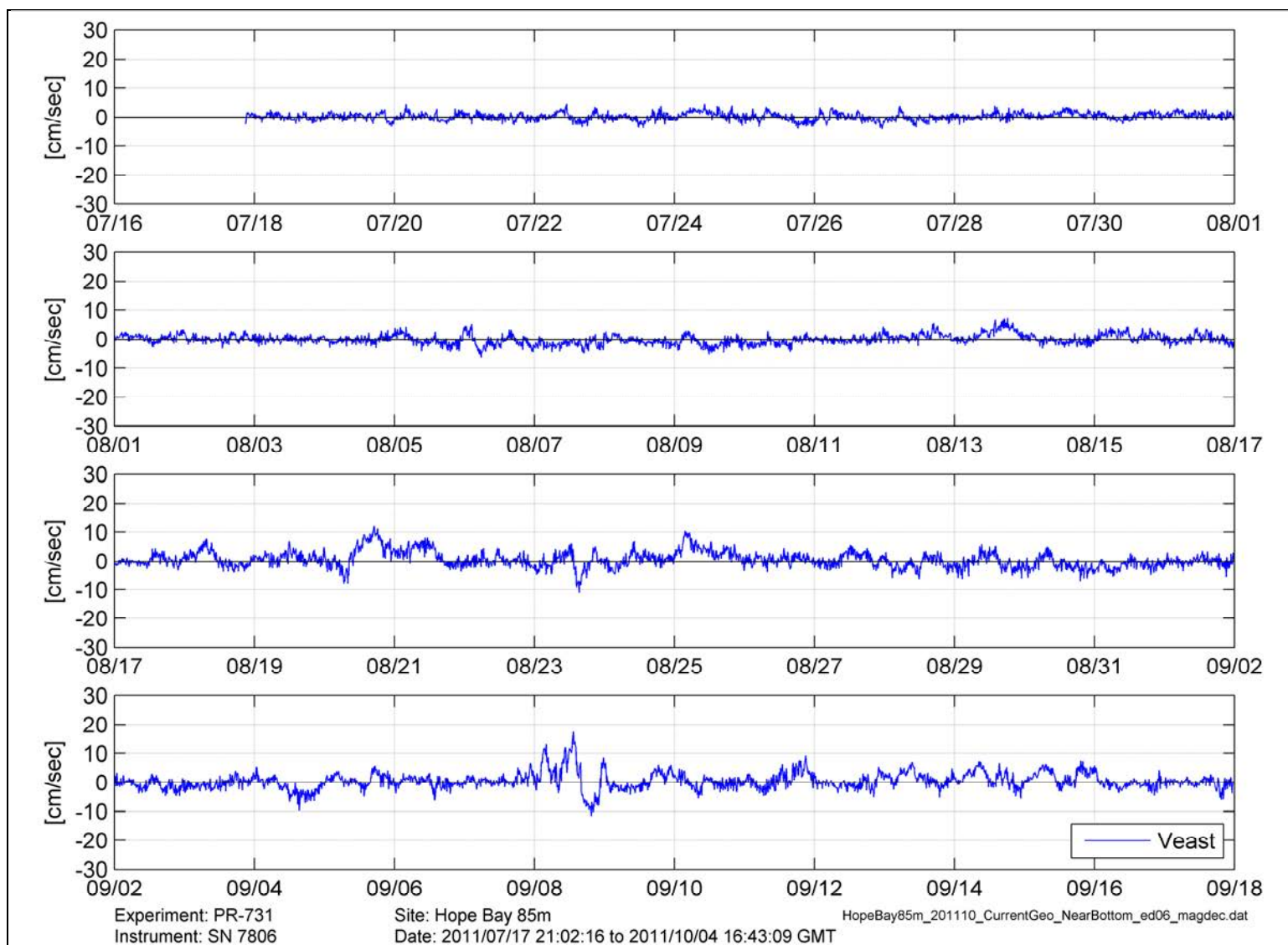
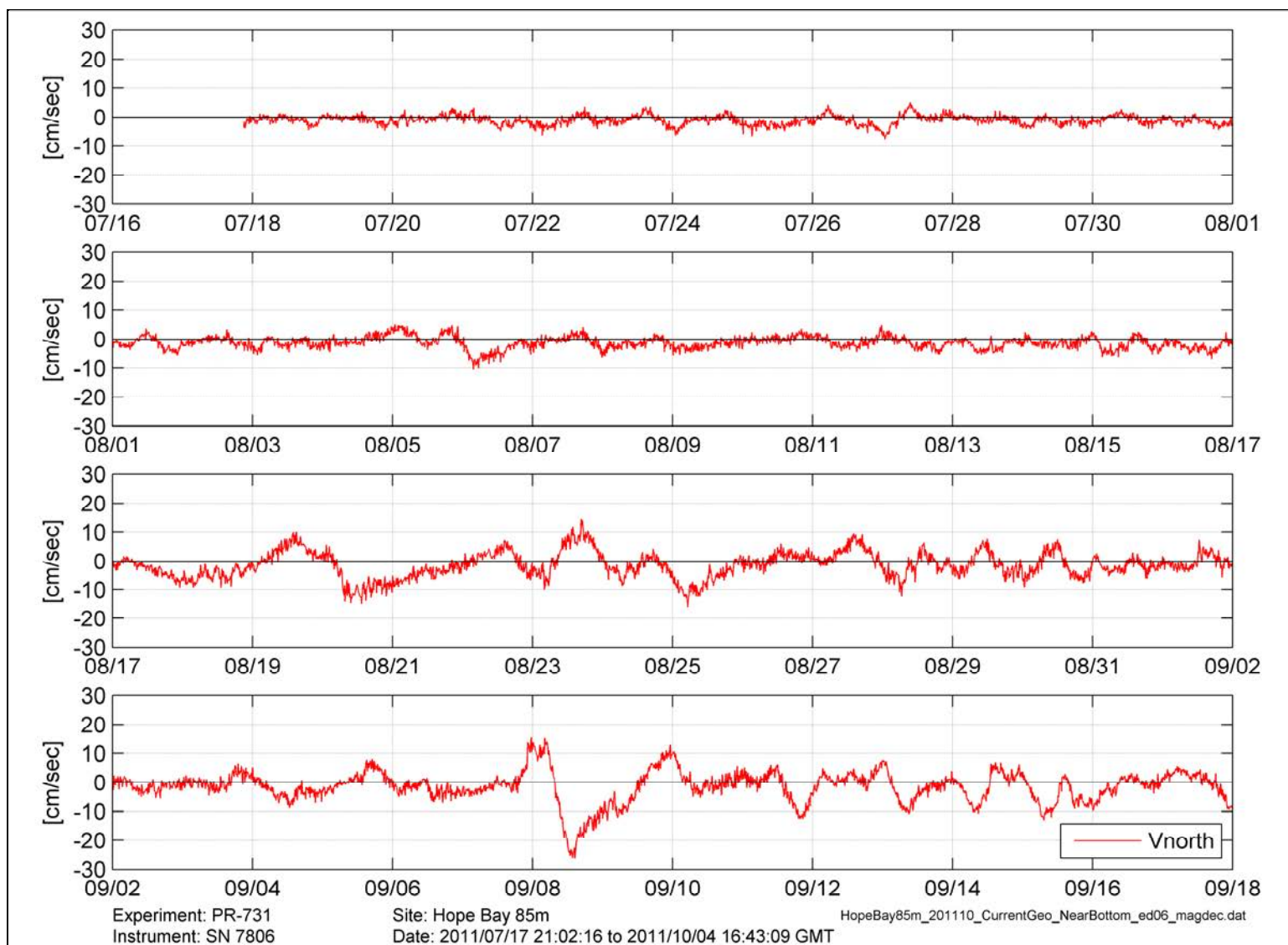


Figure A3-3.53. Time-series Plot of the North Velocity Component at Near Bottom Depth for July 17 - October 4 at the 85 m Site



Compass Plots

Figure A3-3.54. Compass Plot at 17 m Depth for July 17 - October 4 at the 85 m Site

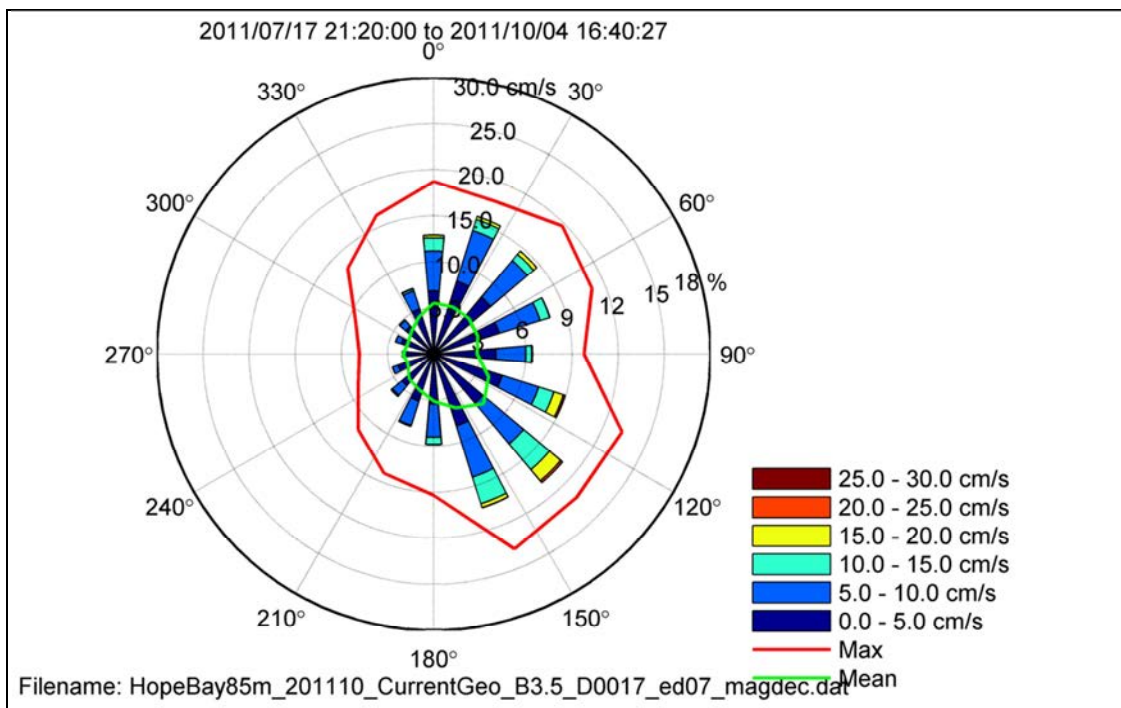


Figure A3-3.55. Compass Plot at 34 m Depth for July 17 - October 4 at the 85 m Site

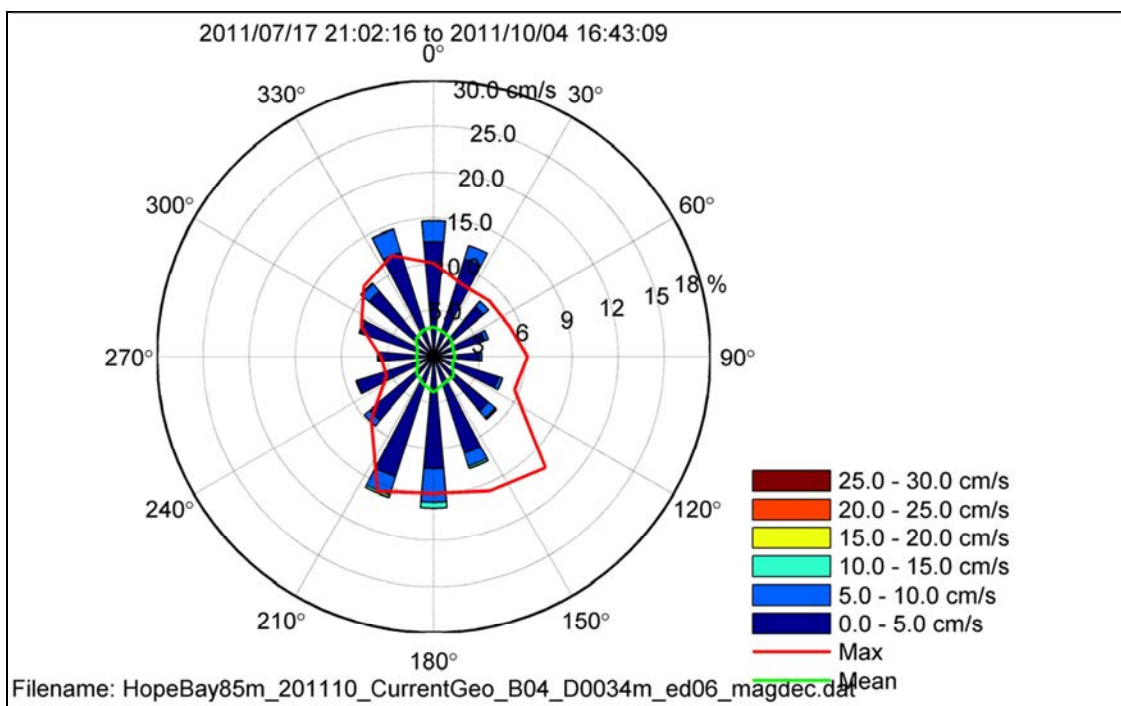


Figure A3-3.56. Compass Plot at 58 m Depth for July 17 - October 4 at the 85 m Site

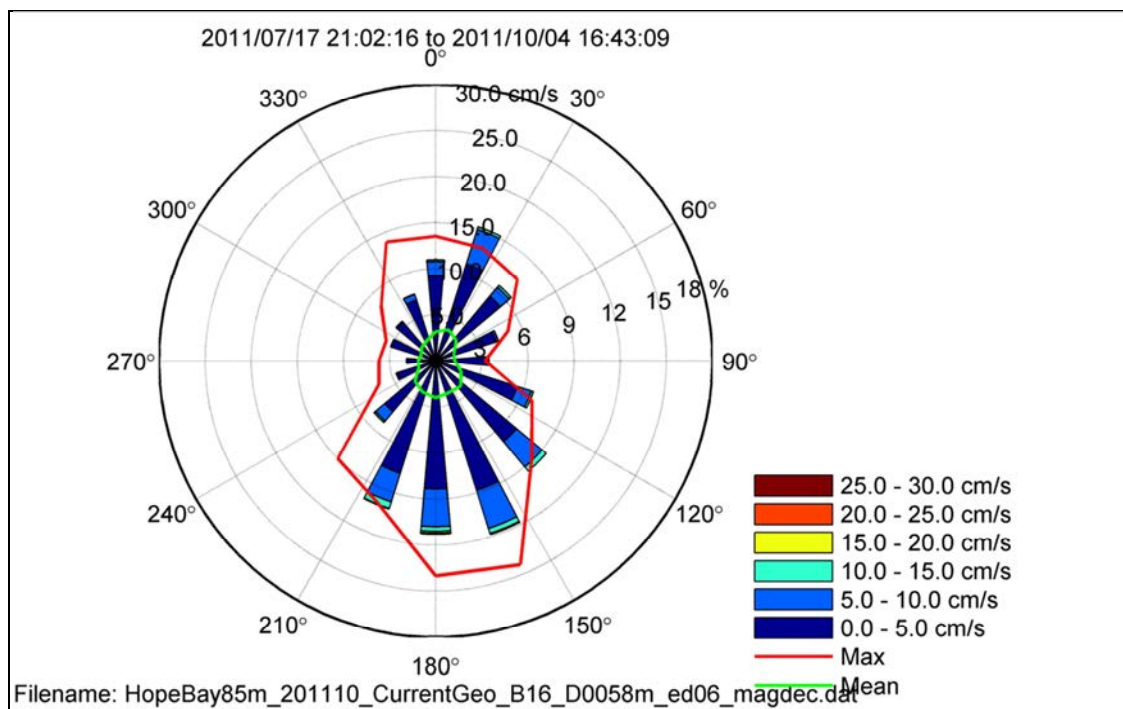


Figure A3-3.57. Compass Plot at Near Bottom Depth for July 17 - October 4 at the 85 m Site

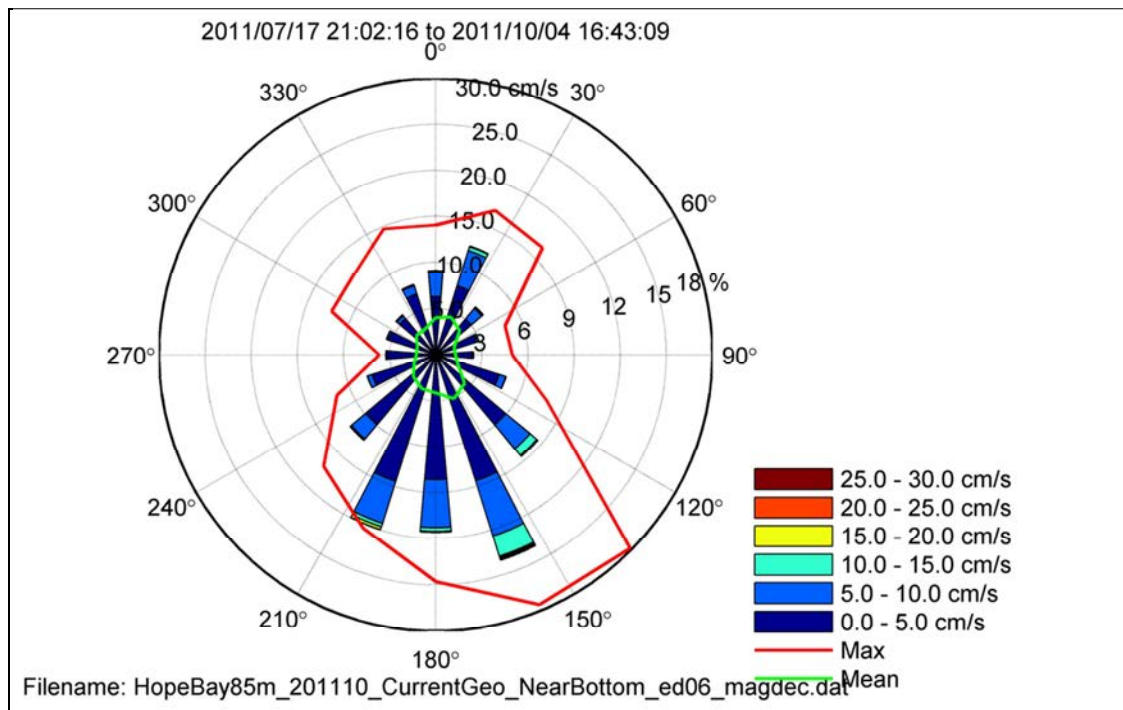


Table A3-3.33. Summary Statistics for Data Measured at Each Depth for July 17 - Oct 4 at the 85 m Site

Depth (m)		Min	1%	5%	25%	50%	Mean	75%	95%	99%	Std	Max	# Valid	Total #
17	Veast	-10.28	-5.48	-3.33	-0.39	1.65	2.07	3.93	9.22	14.26	3.82	20.37	5,675	5,675
	Vnorth	-19.61	-12.68	-9.10	-3.18	-0.19	-0.38	2.63	7.55	11.75	4.91	18.57		
	Speed	0.07	0.49	1.10	2.69	4.44	5.38	7.02	13.15	17.82	3.76	22.89		
34	Veast	-8.00	-4.08	-2.77	-1.18	-0.16	-0.07	0.92	2.93	4.86	1.80	12.96	11,351	11,351
	Vnorth	-15.47	-9.18	-5.07	-1.77	-0.11	-0.18	1.58	4.56	6.65	2.97	11.22		
	Speed	0.00	0.22	0.54	1.41	2.38	2.83	3.71	6.63	10.00	2.02	17.14		
58	Veast	-9.79	-4.37	-2.64	-0.61	0.40	0.55	1.60	4.00	7.27	2.09	11.17	11,351	11,351
	Vnorth	-23.21	-10.68	-6.44	-2.55	-0.64	-0.81	1.12	4.47	7.52	3.42	13.57		
	Speed	0.00	0.22	0.58	1.44	2.51	3.22	4.19	8.32	12.43	2.58	23.94		
Near Bottom	Veast	-11.57	-5.08	-3.25	-1.13	0.15	0.28	1.54	4.29	7.13	2.37	17.49	11,351	11,351
	Vnorth	-26.24	-12.07	-7.83	-3.22	-1.15	-1.26	0.82	5.14	8.48	3.93	15.41		
	Speed	0.00	0.30	0.70	1.73	2.96	3.74	4.84	9.31	14.07	2.96	29.81		

Joint Frequency Tables

Table A3-3.34. Joint Frequency Table for Data Measured at 17 m Depth for July 17 - October 4 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 0643
For period: 2011/07/17 21:20:00 to 2011/10/04 16:40:27
Sample interval: 2.000008e+001 min

			Speed (cm/s)						Row Total (%)
			0.0 to 5.0	5.0 to 10.0	10.0 to 15.0	15.0 to 20.0	20.0 to 25.0	25.0 to 30.0	
Direction (deg)									
11.25	33.75	NNE	4.97	3.45	0.76	0.21			9.39
33.75	56.25	NE	4.83	3.12	0.53	0.28			8.76
56.25	78.75	ENE	4.48	2.78	0.65	0.02			7.93
78.75	101.25	E	4.05	1.94	0.39	0.05			6.43
101.25	123.75	ESE	4.67	2.48	1.04	0.65	0.12		8.97
123.75	146.25	SE	4.16	3.47	2.20	0.95	0.16		10.94
146.25	168.75	SSE	4.90	3.51	1.81	0.26	0.02		10.50
168.75	191.25	S	3.24	2.17	0.48	0.02			5.90
191.25	213.75	SSW	3.21	1.66	0.07				4.93
213.75	236.25	SW	2.70	0.81	0.11				3.61
236.25	258.75	WSW	2.43	0.39					2.82
258.75	281.25	W	1.73	0.32					2.04
281.25	303.75	WNW	2.20	0.41					2.61
303.75	326.25	NW	2.36	0.51	0.05				2.93
326.25	348.75	NNW	3.07	1.23	0.14	0.04			4.48
348.75	11.25	N	4.11	2.61	0.86	0.18			7.75
Column Total (%)			57.09	30.85	9.09	2.66	0.30	0.00	

Filename: HopeBay85m_201110_CurrentGeo_B3.5_D0017_ed07_magdec.dat
Max Speed: 22.89 cm/s # non-flagged records: 5675
Mean Speed: 5.38 cm/s # flagged records: 0
Vector-averaged Speed: 2.11 cm/s at 100.30 deg

Table A3-3.35. Joint Frequency Table for Data Measured at 34 m Depth for July 17 - October 4 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 7806
For period: 2011/07/17 21:02:16 to 2011/10/04 16:43:09
Sample interval: 1.000008e+001 min

			Speed (cm/s)						Row Total (%)
			0.0 to 5.0	5.0 to 10.0	10.0 to 15.0	15.0 to 20.0	20.0 to 25.0	25.0 to 30.0	
11.25	33.75	NNE	6.63	0.93					7.57
33.75	56.25	NE	4.20	0.46					4.66
56.25	78.75	ENE	3.47	0.26					3.73
78.75	101.25	E	2.94	0.19	0.01				3.14
101.25	123.75	ESE	4.44	0.26					4.70
123.75	146.25	SE	4.63	0.57	0.04	0.10			5.34
146.25	168.75	SSE	6.62	0.89	0.15	0.03			7.68
168.75	191.25	S	7.33	2.17	0.40				9.89
191.25	213.75	SSW	8.23	1.25	0.17	0.01			9.66
213.75	236.25	SW	5.42	0.48					5.89
236.25	258.75	WSW	5.27	0.03					5.29
258.75	281.25	W	3.64	0.01					3.65
281.25	303.75	WNW	4.95	0.14					5.09
303.75	326.25	NW	5.50	0.63	0.07				6.20
326.25	348.75	NNW	7.10	1.55	0.04				8.69
348.75	11.25	N	7.46	1.35	0.01				8.82
Column Total (%)			87.82	11.16	0.88	0.13	0.00	0.00	

Filename: HopeBay85m_201110_CurrentGeo_B04_D0034m_ed06_magdec.dat
Max Speed: 17.14 cm/s # non-flagged records: 11351
Mean Speed: 2.83 cm/s # flagged records: 0
Vector-averaged Speed: 0.19 cm/s at 201.35 deg

Table A3-3.36. Joint Frequency Table for Data Measured at 58 m Depth for July 17 - October 4 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 7806
For period: 2011/07/17 21:02:16 to 2011/10/04 16:43:09
Sample interval: 1.000008e+001 min

			Speed (cm/s)						Row Total (%)
			0.0 to 5.0	5.0 to 10.0	10.0 to 15.0	15.0 to 20.0	20.0 to 25.0	25.0 to 30.0	
Direction (deg)									
11.25	33.75	NNE	6.62	2.35	0.18				9.15
33.75	56.25	NE	5.48	0.77	0.16				6.40
56.25	78.75	ENE	4.13	0.15					4.28
78.75	101.25	E	3.43	0.04					3.46
101.25	123.75	ESE	5.55	0.96	0.15				6.66
123.75	146.25	SE	6.86	2.16	0.35				9.37
146.25	168.75	SSE	8.84	2.60	0.33	0.04	0.04		11.85
168.75	191.25	S	8.33	2.46	0.30	0.13	0.06		11.29
191.25	213.75	SSW	7.67	1.95	0.45	0.04			10.11
213.75	236.25	SW	4.32	0.78	0.12	0.01			5.23
236.25	258.75	WSW	2.58	0.11					2.70
258.75	281.25	W	1.88	0.02					1.89
281.25	303.75	WNW	3.04	0.03					3.07
303.75	326.25	NW	3.28	0.10					3.37
326.25	348.75	NNW	4.15	0.39	0.02				4.55
348.75	11.25	N	5.55	0.93	0.12				6.60
Column Total (%)			81.71	15.78	2.18	0.23	0.10	0.00	

Filename: HopeBay85m_201110_CurrentGeo_B16_D0058m_ed06_magdec.dat
Max Speed: 23.94 cm/s # non-flagged records: 11351
Mean Speed: 3.22 cm/s # flagged records: 0
Vector-averaged Speed: 0.98 cm/s at 145.84 deg

Table A3-3.37. Joint Frequency Table for Data Measured at Near Bottom Depth for July 17 - October 4 at the 85 m Site

Location: Hope Bay 85m
Instrument: SN 7806
For period: 2011/07/17 21:02:16 to 2011/10/04 16:43:09
Sample interval: 1.000008e+001 min

			Speed (cm/s)						Row Total (%)
			0.0 to 5.0	5.0 to 10.0	10.0 to 15.0	15.0 to 20.0	20.0 to 25.0	25.0 to 30.0	
Direction (deg)									
11.25	33.75	NNE	4.67	2.41	0.26	0.04			7.39
33.75	56.25	NE	3.01	0.90	0.07	0.04			4.03
56.25	78.75	ENE	2.78	0.16					2.93
78.75	101.25	E	2.40	0.06					2.46
101.25	123.75	ESE	4.33	0.46	0.02				4.80
123.75	146.25	SE	5.94	2.07	0.56	0.07	0.01	0.02	8.67
146.25	168.75	SSE	8.62	3.78	1.39	0.10	0.06	0.11	14.06
168.75	191.25	S	8.14	3.14	0.26	0.02	0.04		11.58
191.25	213.75	SSW	8.66	2.87	0.24	0.19	0.01		11.97
213.75	236.25	SW	5.92	1.23	0.05	0.06			7.27
236.25	258.75	WSW	4.33	0.33	0.01				4.67
258.75	281.25	W	3.22	0.03					3.24
281.25	303.75	WNW	3.21	0.13	0.02				3.36
303.75	326.25	NW	3.06	0.24	0.07				3.37
326.25	348.75	NNW	4.11	0.56	0.08				4.75
348.75	11.25	N	3.75	1.59	0.11				5.45
Column Total (%)			76.13	19.97	3.14	0.53	0.11	0.12	

Filename: HopeBay85m_201110_CurrentGeo_NearBottom_ed06_magdec.dat
Max Speed: 29.81 cm/s # non-flagged records: 11351
Mean Speed: 3.74 cm/s # flagged records: 0
Vector-averaged Speed: 1.29 cm/s at 167.38 deg