

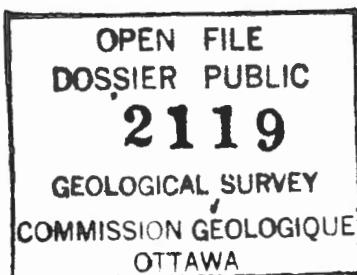
Dwason Cruise 89007

Gulf of St. Lawrence

G. Vilks, C. Rodrigues, Senior Scientists

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## Dawson 89007 Cruise Report

Leg 1Personnel

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Scientific Staff

R. Currie, AGC

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Leg 1 Objectives and Summary

This part of the cruise was designed to study the glacial and post - glacial sedimentary sequences in Esquiman, Anticosti and parts of Laurentian Channel, Gulf of St. Lawrence. Piston, trigger weight, box and Lehigh cores were collected to evaluate sedimentary units recognized on the basis of Huntac Deep Tow seismic profiles and to document changes in post-glacial paleoceanographic conditions, specifically late Wisconsinan meltwater events, using microfaunal assemblages and geochemical

data. Radiocarbon dating of microfossils from the cores will be used to establish a chronology of late Wisconsinan events in the Gulf of St. Lawrence.

Between May 20 and May 31, 1340 line kilometres of Huntec and airgun surveys were completed (Figure 1). Thirteen core sites were selected along the seismic lines to sample sequences of glacial to post-glacial sediments which could be penetrated by piston core (Table 1). A piston and box core, temperature and salinity measurements (CTD lowering), water samples (Niskin bottle cast), and planktonic foraminifera (vertical plankton tow) were obtained at each site and a Lehigh core at Site 98, Laurentian Channel. Water samples were filtered for analysis of particulate matter. In addition, 39 Van Veen grab samples were collected along four transects across Esquiman and Anticosti channels at 50 m intervals from water depths between 70 and 300 m.

#### Leg 2

#### Personnel

Senior Scientist: G. Vilks

#### Scientific Staff

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G. Fenn, AGC  
M. Hughes, AGC  
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### **Leg 2 Objectives and Summary**

The objectives of Leg 2 was to obtain bedrock samples from the Anticosti and Esquaman channels by drilling submarine outcrops. Between June 1 and 18, 21 cores (total length of 32.29 m) were obtained from 34 drill lowerings (Table 1). The drill sites were selected on the basis of 760 kilometres of Huntac and airgun seismic profiles off Newfoundland in St. Georges Bay and off the coast of Quebec on Banc Beauge, Banc de Natashquan, near Baie - Johan Beetz, off Le Grand Isle and on Banc Parent at the western tip of Anticosti Island.

In St. Georges Bay 3.05 m of sandstone was recovered at two localities. On Banc Beauge 2.34 m of gray sandy limestone was recovered at three core sites and 6.87 m of brownish gray

limestone along the inshore margin off Banc de Natashaquan was recovered also at three core sites. Seven core sites along a 18 kilometre transect off Baie - de Johan Beetz recovered a total of 18.02 m of laminated gray and mottled limestone, with numerous - shale partings. The longest core recovered along this transect was 4.57 metres in a 4.70 m drill extension. About 4.5 kilometres off La Grande Island one core recovered 1.69 m of gray limestone. On Banc Parent the drilling was difficult and only 13 cm of limestone was recovered at one site.

## Equipment list

### Airgun

A 10 and 40 cubic inch airgun sound source with a pulse shaper provided the sound source which was received on an NSRF-Type LT18 element 25 foot streamer. The air compressor was a RIX K88, 65 cfm running at 1500 psi.

Lab equipment consisted of an NSRF pre-amp to the AGC Time Varied Gain (TVG) unit; Krohn Hite Model 3323 Filter, band pass set for 100-2000 Hz through the T.S.S. 312B Annotator to an EPC4100. Timing was accomplished with a Seismic Clock Timing Unit to trigger the AGC H.V. Airgun Firing Unit and the TVG unit. Synchronization of the graphic recorders to 6.4 kHz was employed to prevent Huntex/Seismic shot interference.

The seismic data were recorded on RACAL 4DS 7 inch reel to reel recorder. An EPC8700 thermal recorder provided a second hard copy of the seismic data and because of its reduced paper size, proved useful in displaying the data at .5 second sweep.

The 5 minutes contact closure output of the Seismic Clock/Trigger Unit (SCTU) was used to trigger the event annotation time for the TSS 312B annotator, to write "day/time, course/speed" on the records of all the systems, during the first phase of the cruise. Table 8 summarizes airgun survey information.

### Huntec Deep Tow System (DTS)

An AGC2 Huntec Deep Tow System (DTS) was deployed on this cruise to generate the high resolution seismic data. A high voltage boomer sound source of 540 Joules generates signals for an LC-10 single hydrophone internally mounted under the boomer plate and a Nova Scotia Research Foundation (NSRF) type LT-10 element 10 foot streamer. The streamer is towed behind the vehicle connected to the ship via a 250 metre tow cable on a Huntec Model 1000-1 winch.

The LC-10 hydrophone signals are referred to as "internal hydrophone" data, which are amplified and TVG'd through an adaptive signal processor unit and bandpass filtered in the system before displayed on an EPC 4100 graphic recorder. The towed streamer signals are referred to as the "external hydrophone" data, which are processed in a similar way, but using a lower filter setting. The data are passed through an external Krohn-Hite Model 3700 Bandpass Filter. The external hydrophone data are displayed on an EPC4603 graphic recorder. All the recorders are synchronized to each other and the seismic system via the Seismic Clock Timing Unit.

The internal and external data are recorded on the RACAL 4D

recorder on the Direct Record Channels along with two other channels for (a) Trigger/Sync signal of 1 volt peak, 6.4 kHz EPC sync pulse train with a negative master trigger pulse and then a positive fire point pulse, and (b) a zero pulse graphic recorder trigger signal. All data are compensated for tow - fish heave in the pressure mode. Table 9 contains Huntac survey information.

### Bathymetry

Bathymetric information was recorded every 5 minutes from the Raytheon UGR recorder which controls a Raytheon PTR, 2000 watt, 12 kHz transmitter to a hull mounted transducer. Table 10 contains bathymetry line information.

Lab Equipment Setup Specifications**Seismics**

LSR1807M

Sweep = 0.5 second

Airgun fire rate = 1.5 seconds

10 cubic inch airgun with pulse shaper on an 8 inch Norwegian float (40 cubic inch air gun was used during Leg 2)

N.S.R.F. LT-18 Streamer on side boom, starboard

Filtered 100-2000 Hz, 40 db gain added

**Huntec D.T.S.**

AGC #2

with 2nd adaptive processor

with ARM reflectivity CPU

EPC 4100 x 2 each - S/N 160 &amp; 132

Boomer Firing Rate = 0.75 second

Boomer Power = 4 Kvols ( approximately 400 Joules )

Bottom Tracking (adaptive) TVG to maximum 6 volt level

Tow vehicle pressure compensated in pressure mode

Internal hydrophone filtered = 0.5 to 10 kHz

External hydrophone filtered = 0.5 to 10 kHz

RACAL STORE 4DS S/N 11261

Channel 1	NSRF Data RAW	- DR recorded
Channel 2	Not Used	
Channel 3	Not Used	
Channel 4	Shot	- FM recorded

#### **Extra Graphic Display**

EPC 8700 Thermal Printing 9 inch single channel recorder S/N 120 was used to test its feasibility to display airgun, Huntac and sidescan data. It is best for the airgun data.

Sweep = 0.5 second

Annotation = 5 minutes

Paper rate = 120 lines per inch

## Automatic Graphic Annotation

Technical Survey Services Model 312B-S/N 085

External Event - each 5 minutes from the seismic  
clock/timing unit

Channel 1 - Seismic data in series

Channel 2 - Huntex DTS to parallel event inputs

Channel 3 - Inputs

Channel 4 - Event

## Navigation

Navigation was provided by a RACAL-DECCA Loran C receiver using the 5930 chain.

Data were logged through a serial port on the shipboard MicroVax computer every minute. The data was processed and filtered at regular intervals to generate plots of the ships lines on the HP Draft Master II plotter.

## Data Processing

Data processing was carried out on a MicroVax II minicomputer using parts of the SHIPAC shipboard/shore

geophysical processing software. The MicroVax was configured with 4 megabytes of memory, two 72 megabyte RD53 disk drives and an additional 640 megabyte CDC WREN 5 disk drive. The system used a Digital VT220 terminal for the console as well as additional VT240 and VT220 terminals. A Digital LXY12 line printer was available for print jobs as well as the HP7586E plotter for generating track plots.

#### **Sample Inventory System**

A newly developed database system (FINS) was used to process the input, manipulation and report generation of all samples, records, and tapes collected/generated on the cruise. The hardware platform used for this cruise was an Olivetti 386 XP3 with dBase IV. The original FINS system was written in dBase III Plus but was ported to dBase IV with only minor changes.

### Sampling Program

#### **Surface sediments**

Surface sediments were collected with a small Van Veen bottom sampler (Table 2, Figure 2). The contents of the sampler were systematically subsampled (0 - 1 cm) for micropaleontological analysis (microfauna, polynomorphs, diatoms). The remainder of the samples were stored in glass jars and bags for further analysis. A number of subsamples were preserved in formalin for macrofaunal analysis.

#### **Box Cores**

Surface sediments (0-1 cm) from the Box Cores (Table 4, Figure 3) were systematically subsampled for geochemical (C,N), isotopic (U,Th,C,N) and micropaleontological (microfauna, polynomorphs, diatoms) analyses. In addition, push-cores were taken for detailed studies of the paleoenvironmental changes, and early diagenetic processes.

### Water Samples

Samples of water were taken from each of the water masses present at a station as shown by the temperature - and salinity - depth (CTD) profiles; 2 to 4 water layers were sampled (Table 5, Figures 4 and 5):

- (1) surface water mass, between 2 and 10 metres
- (2) the intermediate and low salinity water mass usually between 60 and 80 metres
- (3) a deep water mass, North Atlantic in character, at about 250 metres
- (4) a bottom water mass below 400 metres

The water was collected with Niskin bottles and filtered through 1.00 and .45 micron filters on board the ship. The residues will be analysed for particulate organic matter (CHN,C and N isotopes, turbidity). In addition, 30 ml subsamples were frozen for future study of the particulate phosphates.

### CTD Profiles

Temperature - Salinity (CTD) profiles (Figure 5) were obtained with an Applied Microsystems STD-12 system. Measurements were recorded at 10 second intervals on descent and ascent of the instrument. The output was expressed as averages calculated at 3

to 4 metre intervals.

### **PLankton Samples**

Plankton was collected with 200 micron mesh net mounted on a .75 x .75 m square frame (Table 7, Figure 6). The net was towed vertically from the depth of 200 metres to the surface at the speed of 60 metres per minute. The collected plankton is stored in glass jars and preserved in formalin buffered with borax. The plankton will be ashed with a Low Temperature Asher (LTA) to investigate the presence of planktonic foraminifera.

### **Piston, Gravity (Trigger Weight), and Lehigh Cores**

Sediment cores (Table 3, Figures 3 and 7) were collected with a Benthos piston corer (800 kg) in a 6.7 mm ID plastic liner and 9 metre core barrel. The trigger weight corer consisted of 130 kg core head, 1 m core barrel and 6.7 mm ID plastic liner. The Lehigh corer had a 130 kg core head and a 4.7 m PVC sewer pipe (10.2 cm ID) as core barrel.

### **Drilling Program**

The SEADRILL I system, which is manufactured and operated by NORDCO Limited, is a remote controlled underwater rock coring system capable of obtaining 2.54 cm diameter rock cores of lengths up to 6 m below the sea floor. The components of the system include the : drill frame, drive train mechanism,

mast/drill assembly, underwater electronic sensor package, surface controller console, and umbilical cable. The drive train mechanism provides the rotation and extension/retraction to the drill barrel through 2 chain driven collars that are individually keyed to the drill barrel. The drill barrel has a threaded brass bolt at the top which engages an internal thread that runs the entire length of the drive tube. Upon extension, the two collars, which are geared at different ratios, rotate the drive tube and drill barrel counter-clockwise. As a result of the different gear ratios, the drive tube and drill barrel rotate at different speeds; thus the drill barrel is threaded out of the drive tube. Upon retraction, a one-way clutch assembly prevents the drill barrel from rotating, but the drive tube, which is now rotating clockwise, threads the drill barrel up inside the drill string assembly.

The entire drive system is powered by one 5 HP underwater Franklin electric motor. An umbilical cable links the underwater package to the surface controller. The controller module provides on/off, forward/reverse control of the motor and gives readout of motor current, flushing pressure, tilt ( in two directions ) and extension/retraction. The operational procedure of the system is as follows:

- 1) lower the underwater package to the seafloor
- 2) ensure the tilt readings are within acceptable parameters
- 3) engage motor in forward mode

- 4) wait for either full extension or jamming of the drill barrel (indicated by excessive motor current) at which time the motor is shut off
- 5) engage motor in its reverse mode until drill barrel is fully retracted
- 6) retrieve system from sea floor

During this cruise (Dawson 89007) the drill system was lowered to the sea floor a total of 35 times (Table 6, Figure 8). The drilling operation at these sites resulted in: 22 cores of 0 m - 1 m in length, 9 cores of 1 m - 3 m in length, and 4 cores of 3 m - 5 m in length. Approximately 1 day was used to overcome mechanical difficulties such as replacing bent drill barrels, changing over mechanisms due to stripping of one-way clutches, and performing general maintenance of the drive train mechanism. Also, 1 day was used to overcome electrical difficulties such as resplicing faulty cable (cable that was supplied by BIO), and conducting repairs to the on-board electronics package. It is important to note that the time spent to overcome various technical problems was not all lost drilling time, because most of the repairs were done during transit between drill sites. In general it is felt that minimal downtime was incurred due to technical problems with the drill system and that the entire drill program was quite successful.

LATE QUATERNARY AND MODERN ENVIRONMENTS OF THE GULF OF  
ST. LAWRENCE BY MICROPALAEONTOLOGICAL AND GEOCHEMICAL STUDIES ON  
SEDIMENTS.

Participants: Anne de Vernal (UQAM), Marc Lucotte (UQAM), Cyril Rodrigues (U. of Windsor), Claude Hillaire-Marcel (UQAM), Martine Lapointe (UQAM).

Objectives:

This multidisciplinary research program have been defined in order to meet the following objectives:

- (1) Determine the origin of the particulate organic matter in the water masses and estimate the degree of mixing or biodegradation from geochemical analyses on water and surface sediments samples;
- (2) Develop models of Uranium and Thorium behavior with respect to the biological productivity, organic activity in the water column and sedimentation accumulation rates.
- (3) Determine the relationships between surface water mass conditions (temperature and salinity) and micropaleontological assemblages (diatoms and dinocysts) from the study of modern sediments collected in box cores and grabs.
- (4) Reconstruct the late- and post-glacial paleoenvironmental conditions (temperature, salinity and biological productivity) in water masses from micropaleontological, isotopic and geochemical analyses of cored sequences.

(5) determine the short term (10 to 100 years) variability of dinoflagellate cyst production from high resolution analysis of box and Lehigh cores.

Further work:

Water samples:

- Analyses of the carbon, hydrogen and nitrogen concentrations and isotopic composition of filtrared suspended matter (>1 micron);
- Turbidity calculation from nucleopore filters (.45 micron);
- Particulate phosphorus (organic inorganic, reactive) analyses.

Box core and grab samples:

- Analyses of the carbon, hydrogen and nitrogen concentrations and isotopic composition;
- Nutrient geochemical characterization (reactive phosphorus);
- Thorium/Uranium disequilibrium on fine grained deposits;
- Palynological analyses (pollen, spores, dinoflagllate cysts, prasinophytes ...etc);
- Diatom analyses.

Lehigh core samples:

- high resolution palynological analyses

Piston and gravity core samples:

- Microfaunal analyses (benthonic and planktonic foraminifera, ostracoda);
- determination of the carbon and oxygen isotopic composition of benthic and planktonic foraminifera;
- palynological and diatom analyses

Work to be completed by the end of 1989 (Rodrigues/Vilks)

1. Identification of foraminifera in surface grab samples.
2. Oxygen isotopic analysis of Cibicides lobatulus and possibly other benthic foraminiferal species.  
The relationship between the oxygen and carbon isotopic composition of foraminifera, mainly Cibicides lobatulus, and salinity and temperature of modern water masses.
3. Zonation of piston cores from selected sites using benthonic foraminifera ad the relationship between benthonic foraminiferal zones and seismic units.

### Seismic Surveys

Information on the unconsolidated sea-bed sequences and their distribution was derived from acoustic profiles obtained by the Huntec high resolution seismic system and airgun seismic reflection profiles (Tables 8, 9, 10, 11 and 12). A preliminary interpretation of the acoustic units is based on the extensive seismic and sample data base offshore eastern Canada and elsewhere.

The unconsolidated surficial sediments consist of three principal units:

1. A basal acoustically unstratified and unstructured unit that lies on bedrock and is interpreted to be glacial drift. It blankets the bedrock everywhere with a few local exceptions and locally fills depressions and forms in places positive constructional features, some of which may be moraines. The drift is commonly less than 10 metres thick and reaches a maximum thickness of 75 m in Cabot Strait. Multiple sequences were observed at a few localities, most prominently near the eastern end of Anticosti Channel and in Cabot Strait. The drift interfingers with glaciomarine sediments south of Anticosti Island, and in western Cabot Strait, a tongue of drift overlies part of the glaciomarine sequence east of the channel that separates Cape Breton and St. Paul Islands from the Magdalen Shelf.
2. Acoustically dark, finely stratified sediments interpreted to be glaciomarine sediments, overlie the glacial drift below

the channel floors, but are absent farther up the channel flanks. These sediments are generally less than 5 m thick with a maximum thickness of 9 metres in the Laurentian Channel south of Anticosti Island, where they interfinger with the drift. Data from other east coast areas suggest that these sediments were deposited in marine ice proximal and/or distal environments.

3. Acoustically transparent sediments interpreted to represent post-glacial deposits, overlie glaciomarine sediments and glacial drift; they comprise the uppermost acoustic unit. The lower part of this unit frequently contains one or more faintly stratified zones, whereas the upper part of the unit is acoustically unstratified. These sediments are thickest on the channel floors, where they commonly are 5-10 m thick.

The unconsolidated sediments for the most part lie on eroded, gently dipping sedimentary rocks except in Cabot Strait, where the underlying strata have been extensively deformed by folding and possibly diapirizing.

#### **Microfossils in Core Samples**

Samples from the cores were washed in a 63 micron sieve and the residues were scanned under a binocular microscope. Foraminifera, ostracodes and other microfauna present in the residues are listed below.

PC cutter - Residue sandy (red sand)

Benthonic foraminifers abundant.

Elphidium excavatum forma clavata - Cassidulina reniforme - dominant assemblage. Accompanying species include Astrononion gallowayi, Cassidulina laevigata, Pullenia bulloides, Melonis zaandamae, Islandiella helenae, I. norcrossi, Fursenkoina loeblichii, Nonionellina labradorica, Cibicides lobatulus, Pyrgo williamsoni, and Lagena spp.

Planktonic foraminifers common mainly Neogloboquadrina pachyderma (left coil).

Ostracodes rare - Cytheropteron inflatum, C. pseudomontrosiense, and Heterocyprideis sorbyana.

Diatoms common.

PC - base of segment DE (mud)

Benthonic foraminifers common. Species present include Bolivina subaenariensis, Bulimina aculeata, B. exilis, Cassidulina laevigata, C. reniforme, Elphidium excavatum forma clavata, Fursenkoina fusiformis, Nonionellina labradorica, Globobulimina auriculata, Glandulina laevigata, Gyroidina sp., Melonis sp., Lagena elongata, L. laevis, Quadrrimorphina sp., Gavelinopsis praegeri, Oolina sp., Quinqueloculina seminulum, Pullenia sp., Fissurina spp., Nonionella sp., and Astronoion sp.

Planktonic foraminifera abundant mainly Neogloboquadrina pachyderma (left coil); Globigerina bulloides rare.

Ostracodes present in low numbers mainly Sarsicytheridea

punctillata.

Sponge spicules, diatoms, radiolarians, and pteropods present.

TCW - cutter (mud)

Benthonic foraminifers abundant. Species include Bolivina pseudopunctata, B. subaenariensis, Bulimina exilis, Cassidulina reniforme, C. laevigata, Nonionella turgida, Nonionellina labradorica, Globobulimina auriculata, Melonis sp., Oridorsalis sp., Gyroidina sp., Melonis zaandamae, Islandiella helenae, I. norcrossi, Lagena elongata, L. laevis, Ceratobulimina sp., Fissurina spp., Robulus sp., Cibicides lobatulus, Fursenkoina fusiformis, F. loeblichi, Astronoion gallowayi, Elphidium excavatum forma clavata, Glandulina laevigata, Quinqueloculina seminulum, and Pyrgo williamsoni.

Planktonic foraminifers common mainly Neogloboquadrina pachyderma (left coil).

Ostracodes rare (Cytheropteron sp.).

Sponge spicules, diatoms, radiolarians, pteropods, and micro-pelecypods present.

## 89-007-006 (Core 2)

PC catcher - Residue very sandy (red sandstone fragments)  
Benthonic foraminifers rare; Elphidium excavatum forma clavata,  
Cassidulina laevigata, and Melonis zaandamae (tests well  
preserved); Islandiella helenae (tests poorly preserved).  
Planktonic foraminifers rare (Neogloboquadrina pachyderma - left  
coil).

PC cutter - Residue very sandy (red sandstone fragments)  
Benthonic foraminifers rare (Cibicides lobatulus).  
Planktonic foraminifers were not observed.

## 89-007-011 (Core 3)

PC catcher - Residue very sandy  
Benthonic foraminifers rare (Islandiella helenae and Nonionellina  
labradorica).  
Planktonic foraminifers were not observed.

89-007-016 (Core 4)

PC cutter - Residue very sandy

Benthonic foraminifers rare (Islandiella helenae).

Planktonic foraminifers were not observed.

TWC catcher - Mud

Benthonic foraminifers abundant. Species present include

Bolivina pseudopunctata, Bulimina aculeata, B. exilis, Cassidulina reniforme, Elphidium excavatum forma clavata, Globobulimina auriculata, Glandulina laevigata, Lagenia elongata, L. laevis, Furstenkoina fusiformis, F. loeblichii, Oridorsalis sp., Melonis sp., Nonionellina labradorica, Nonionella turgida, N. turgida digitata, Islandiella norcrossi, Astronoion gallowayi, Buccella arctica, Robertina sp., Fissurina spp., Cibicides lobatulus, Dentalina sp., and Robulus sp.

Planktonic foraminifers abundant mainly Neogloboquadrina pachyderma (left coil).

Ostracodes rare (Muellerina canadensis).

Sponge spicules and diatoms present.

89-007-018

Box core - Mud

Benthonic foraminifers abundant. Species present include

Bulimina aculeata, B. exilis, Nonionellina labradorica,

Globobulimina auriculata, Buccella tenerrima, B. arctica,  
Elphidium excavatum forma clavata, Islandiella norcrossi,  
Oridorsalis sp., Cassidulina reniforme, Nonionellina turgida,  
Lagena elongata, L. laevis, Furstenkoina loeblichii, Trifarina  
hughesi, Astronoion gallowayi, Dentalina frobisherensis,  
Pseudoparrella takayanagii, and unidentified agglutinated  
species.

Planktonic foraminifers common mainly Neogloboquadrina pachyderma  
(left coil).

Sponge spicules and diatoms present.

89-007-021 (Core 5)

PC cutter - Residue very sandy

Benthonic foraminifers rare (Cassidulina laevigata, C. reniforme, Islandiella helenae, Elphidium excavatum forma clavata, and Furstenkoina fusiformis).

Planktonic foraminifers were not observed.

89-007-026 (Core 6)

PC cutter - Residue very sandy (red sand)

Foraminifers were not observed in the residue.

TWC cutter - Mud

Benthonic foraminifers abundant. Species present include Bulimina aculeata, B. exilis, Bolivina subaenariensis, B. pseudopunctata, Nonionellina labradorica, Globobulimina auriculata, Buccella tenerrima, B. arctica, Elphidium excavatum forma clavata, Elphidium sp., Glandulina laevigata, Islandiella norcrossi, Melonis sp., Oridorsalis sp., Cassidulina reniforme, Nonionella turgida, Lagenaria elongata, L. laevis, Furstenkoina loeblichi, Trifarina hughesi, Astronoion gallowayi and unidentified agglutinated species.

Planktonic foraminifers common mainly Neogloboquadrina pachyderma (left coil).

Sponge spicules and diatoms present.

89-007-031 (Core 7)

PC cutter - Residue very sandy

Benthonic foraminifers rare. Species present include Cibicides lobatulus, Pullenia bulloides, Elphidium excavatum forma clavata, Astronoion gallowayi, Cassidulina laevigata, Nonionellina labradorica, and Melonis zaandamae.

Planktonic foraminifers rare (Neogloboquadrina pachyderma - left coil).

TWC cutter - Mud

Benthonic foraminifers abundant. Species present include Bulimina aculeata, B. exilis, Bolivina subaenariensis, B. pseudopunctata, Globobulimina auriculata, G. turgida, Glandulina laevigata, Lagena elongata, L. laevis, Lagena spp., Parafissurina sp., Dentalina sp., Melonis sp., Oridorsalis sp., O. tener, Furstenkoina loeblichii, Furstenkoina fusiformis, Elphidium excavatum forma clavata, Cassidulina reniforme, Oolina hexagona, Buccella arctica, Astronoion gallowayi, Nonionellina labradorica, Nonionella turgida, Quinqueloculina seminulum, Cibicides lobatulus, Pullenia quinqueloba, Islandiella norcrossi, Fissurina spp., Cassidulinoides bradyi, and unidentified agglutinated species.

Planktonic foraminifers abundant mainly Neogloboquadrina pachyderma (left coil); Globigerina bulloides present.

Sponge spicules, diatoms, and ostracodes present.

89-007-033

Box core - Sandy Mud

Benthonic foraminifers abundant. Species present include Bulimina aculeata, B. exilis, Bolivina subaenariensis, Globobulimina auriculata, Nonionellina labradorica, Buccella tenerima, Elphidium excavatum forma clavata, Glandulina laevigata, Melonis zaandamae, Cassidulina laevigata, Oridorsalis tener, Trifarina hughesi, Islandiella norcrossi, Dentalina sp., Pullenia quinqueloba, Lagenula elongata, L. laevis, Astrononion gallowayi, Saccammina atlantica, Cribrostomoides jeffreysi, Haplophragmoides bradyi, Tritaxis conica, Hyperammina sp., and Reophax sp.

Planktonic foraminifers common (Neogloboquadrina pachyderma - left coil).

Sponge spicules, diatoms, and ostracodes present.

89-007-036 (Core 8)

PC cutter - Residue very sandy

Benthonic foraminifers common. Species present include Pullenia bulloides, Cassidulina laevigata, Melonis zaandamae, Fursenkoina loeblichi, Elphidium excavatum forma clavata, Lagena elongata, Ordorsalis sp., Pyrgo williamsoni, Quinqueloculina seminulum, Melonis sp., Nonionellina labradorica, Glandulinoides ittai, Astronoion gallowayi, Cibicides lobatulus, Nonionella turgida, and Cassidulina reniforme.

Planktonic foraminifers common (Neogloboquadrina pachyderma - left coil).

Ostracodes rare (Cytheropteron paralatissimum).

Sponge spicules and diatoms present.

TWC catcher - Mud

Benthonic foraminifers abundant. Species present include Bulimina aculeata, B. exilis, Bolivina subaenariensis, B. pseudopunctata, Nonionellina labradorica, Ordorsalis sp., O. tener, Elphidium excavatum forma clavata, Cassidulina reniforme, Melonis sp., Nonionella turgida, Glandulina laevigata, Lagena elongata, L. laevis, Lagena spp., Fursenkoina fusiformis, F. loeblichi, Astronoion gallowayi, Islandiella norcrossi, Ceratobulimina sp., Cibicides lobatulus, Fissurina spp., and Oolina sp.

Planktonic foraminifers abundant mainly Neogloboquadrina pachyderma (left coil).

Sponge spicules and ostracodes present.

**Tables**

1. Total Sample Inventory.
2. Sediment Grab Sample locations, water depths and preliminary descriptions.
3. Piston Core locations, water depths and coring inventory.
4. Box Core locations, water depths and coring inventory.
5. Water Sample locations and sampling intervals.
6. Rock Core locations and drilling inventory.
7. Plankton Sample locations.
8. Airgun survey line locations and times.
9. Huntec survey line locations and times.
10. Salient information on bathymetry records.
11. Salient information on airgun tapes.
12. Salient information on Huntec tapes.

ATLANTIC GEOSCIENCE CENTRE  
DATA SECTION  
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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
001	CORE	1411227	48 30.30N	60 38.10W	391	GULF OF ST. LAWRENCE
001TWC	CORE	1411227	48 30.30N	60 38.10W	391	GULF OF ST. LAWRENCE
002	WATER	1411324	48 30.25N	60 38.10W	391	GULF OF ST. LAWRENCE
003	BOXCORE	1411353	48 30.60N	60 38.09W	391	GULF OF ST. LAWRENCE
004	WATER	1411444	48 30.40N	60 38.10W	391	GULF OF ST. LAWRENCE
005	PLANKTON	1411534	48 30.25N	60 38.05W	399	GULF OF ST. LAWRENCE
006	CORE	1411805	48 20.29N	60 14.85W	399	GULF OF ST. LAWRENCE
006TWC	CORE	1411805	48 20.29N	60 14.85W	399	GULF OF ST. LAWRENCE
007	WATER	1411832	48 19.85N	60 14.70W	399	GULF OF ST. LAWRENCE
008	BOXCORE	1411850	48 20.02N	60 14.53W	427	GULF OF ST. LAWRENCE
009	PLANKTON	1411957	48 19.90N	60 14.92W	427	GULF OF ST. LAWRENCE
010	WATER	1412045	48 20.10N	60 14.85W	427	GULF OF ST. LAWRENCE
011	CORE	1421446	49 13.20N	60 10.40W	273	GULF OF ST. LAWRENCE
011TWC	CORE	1421446	49 13.20N	60 10.40W	273	GULF OF ST. LAWRENCE
012	WATER	14216??	49 13.20N	60 10.40W	267	GULF OF ST. LAWRENCE
013	BOXCORE	1421610	49 13.20N	60 10.04W	268	GULF OF ST. LAWRENCE
014	WATER	1421701	49 13.20N	60 10.40W	268	GULF OF

LANTIC GEOSCIENCE CENTRE  
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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
015	PLANKTON	1421715	49 13.20N	60 10.40W	268	GULF OF ST. LAWRENCE
016	CORE	1431212	49 42.80N	61 56.91W	258 4	GULF OF ST. LAWRENCE ANTICOSTI CHANNEL
016TWC	CORE	1431212	49 42.80N	61 56.91W	258	GULF OF ST. LAWRENCE
017	WATER	1431250	49 42.80N	61 57.00W	258	ANTICOSTI CHAN GULF ST. LAWRENCE
018	BOXCORE	1431303	49 42.80N	61 57.00W	258	ANTICOSTI CHAN GULF ST. LAWRENCE
019	WATER	1431406	49 42.80N	61 58.86W	258	ANTICOSTI CHAN GULF OF ST. LAWRENCE
020	PLANKTON	1431425	49 42.90N	61 57.10W	268	ANTICOSTI CHAN GULF OF ST. LAWRENCE
021	CORE	1431905	49 31.28N	60 48.13W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE
021TWC	CORE	1431905	49 31.28N	60 48.13W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE
022	WATER	1432000	49 31.31N	60 47.95W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE
023	BOXCORE	1432022	49 31.09N	60 47.96W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE
024	WATER	1432040	49 31.00N	60 48.04W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE
025	PLANKTON	1432109	49 31.08N	60 48.31W	281	ANTICOSTI CHAN GULF OF ST. LAWRENCE

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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
026	CORE	1441934	49 19.85N	59 46.81W	274	GULF OF ST. LAWRENCE
026TWC	CORE	1441934	49 19.85N	59 46.81W	274	GULF OF ST. LAWRENCE
027	WATER	1442030	49 19.85N	59 46.81W	274	GULF OF ST. LAWRENCE
028	BOXCORE	1442039	49 19.81N	59 46.85W	274	GULF OF ST. LAWRENCE
029	WATER	1442120	49 19.81N	59 46.85W	274	GULF OF ST. LAWRENCE
030	PLANKTON	1442124	49 19.93N	59 46.59W	274	GULF OF ST. LAWRENCE
031	CORE	1451131	49 48.20N	59 28.11W	261	GULF OF ST. LAWRENCE
031TWC	CORE	1451131	49 48.20N	59 28.11W	261	GULF OF ST. LAWRENCE
032	WATER	1451150	49 47.80N	59 27.70W	261	GULF OF ST. LAWRENCE
033	BOXCORE	1451215	49 47.90N	59 27.70W	261	GULF OF ST. LAWRENCE
034	WATER	1451225	49 47.90N	59 27.55W	276	GULF OF ST. LAWRENCE
035	PLANKTON	1451256	49 48.00N	59 27.50W	276	GULF OF ST. LAWRENCE
036	CORE	1452139	50 06.92N	58 43 59W	300	GULF OF ST. LAWRENCE
036TWC	CORE	1452139	50 06.92N	58 43 59W	300	GULF OF ST. LAWRENCE
037	WATER	1452158	50 06.92N	58 43 59W	300	GULF OF ST. LAWRENCE
038	BOXCORE	1452222	50 06.92N	58 43 59W	300	GULF OF ST. LAWRENCE
039	WATER	1452250	50 06.92N	58 43 59W	300	GULF OF ST. LAWRENCE

ANTIC GEOSCIENCE CENTRE  
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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
040	PLANKTON	1452324	50 06.92N	58 43.59W	300	GULF OF ST. LAWRENCE
041	WATER	1460213	49 45.00N	58 16.59W	73	GULF OF ST. LAWRENCE
042	GRAB	1460218	49 45.00N	58 16.98W	70	GULF OF ST. LAWRENCE
043	GRAB	1460252	49 47.59N	58 20.80W	100	GULF OF ST. LAWRENCE
044	GRAB	1460316	49 49.95N	58 24.38W	150	GULF OF ST. LAWRENCE
045	GRAB	1460416	49 55.13N	58 32.51W	200	GULF OF ST. LAWRENCE
046	GRAB	1460524	50 02.03N	58 42.73W	250	GULF OF ST. LAWRENCE
047	GRAB	1460551	50 04.19N	58 46.12W	300	GULF OF ST. LAWRENCE
048	GRAB	1460626	50 06.48N	58 49.65W	250	GULF OF ST. LAWRENCE
049	GRAB	1460712	50 10.08N	58 55.24W	200	GULF OF ST. LAWRENCE
050	GRAB	1460738	50 11.53N	58 56.87W	150	GULF OF ST. LAWRENCE
051	GRAB	1460829	50 17.04N	59 04.88W	095	GULF OF ST. LAWRENCE
052	WATER	1460854	50 17.07N	59 04.82W	088	GULF OF ST. LAWRENCE
053	WATER	1460910	50 17.07N	59 04.82W	088	GULF OF ST. LAWRENCE
054	WATER	1461352	49 40.49N	60 06.33W	070	GULF OF ST. LAWRENCE
055	GRAB	1461401	49 40.45N	60 08.19W	070	GULF OF ST. LAWRENCE
056	WATER	1461419	49 40.42N	60 07.99W	063	GULF OF ST. LAWRENCE

TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
057	GRAB	1461500	49 35.70N	60 02.34W	100	GULF OF ST. LAWRENCE
058	GRAB	1461544	49 30.57N	59 57.27W	150	GULF OF ST. LAWRENCE
059	GRAB	1461610	49 27.57N	59 54.41W	200	GULF OF ST. LAWRENCE
060	GRAB	1461641	49 24.32N	59 50.66W	250	GULF OF ST. LAWRENCE
061	GRAB	1461703	49 22.67N	59 48.30W	270	GULF OF ST. LAWRENCE
062	GRAB	1461803	49 15.52N	59 39.76W	250	GULF OF ST. LAWRENCE
063	GRAB	1461928	49 02.24N	59 24.92W	200	GULF OF ST. LAWRENCE
064	GRAB	1461955	48 59.39N	59 21.40W	150	GULF OF ST. LAWRENCE
065	GRAB	1462028	48 56.36N	59 17.88W	100	GULF OF ST. LAWRENCE
066	WATER	1462051	48 54.35N	59 15.48W	73	GULF OF ST. LAWRENCE
067	GRAB	1462100	48 54.32N	59 15.31W	73	GULF OF ST. LAWRENCE
068	WATER	1462113	48 54.29N	59 15.17W	73	GULF OF ST. LAWRENCE
069	GRAB	1462216	48 50.44N	59 22.44W	98	GULF OF ST. LAWRENCE
070	GRAB	1462248	48 50.83N	59 28.63W	146	GULF OF ST. LAWRENCE
071	GRAB	1462332	48 50.95N	59 33.60W	196	GULF OF ST. LAWRENCE
072	GRAB	1470001	48 51.56N	59 39.28W	250	GULF OF ST. LAWRENCE
073	GRAB	1470049	48 52.39N	59 48.39W	295	GULF OF ST. LAWRENCE

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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
074	GRAB	1470207	48 54.02N	60 06.96W	300	GULF OF ST. LAWRENCE
075	GRAB	1470254	48 56.12N	60 26.58W	250	GULF OF ST. LAWRENCE
076	GRAB	1470400	48 56.72N	60 34.14W	200	GULF OF ST. LAWRENCE
077	GRAB	1470458	48 57.99N	60 49.03W	150	GULF OF ST. LAWRENCE
078	GRAB	1470614	48 59.91N	61 09.63W	100	GULF OF ST. LAWRENCE
079	WATER	1470659	49 00.79N	61 18.79W	070	GULF OF ST. LAWRENCE
080	GRAB	1470706	49 00.82N	61 18.78W	070	GULF OF ST. LAWRENCE
081	WATER	1470724	49 00.82N	61 18.78W	070	GULF OF ST. LAWRENCE
082	GRAB	1470824	49 08.52N	61 19.97W	088	GULF OF ST. LAWRENCE
083	GRAB	1470817	49 09.39N	61 18.41W	100	GULF OF ST. LAWRENCE
084	GRAB	1470946	49 17.73N	61 05.63W	146	GULF OF ST. LAWRENCE
085	GRAB	1471020	49 19.88N	61 02.13W	200	GULF OF ST. LAWRENCE
086	GRAB	1472055	49 23.88N	60 55.76W	250	GULF OF ST. LAWRENCE
087	GRAB	1471310	49 38.71N	60 31.40W	251	GULF OF ST. LAWRENCE
088	GRAB	1471343	49 40.79N	60 27.28W	200	GULF OF ST. LAWRENCE
089	GRAB	1471410	49 42.50N	60 24.47W	150	GULF OF ST. LAWRENCE
090	GRAB	1471452	49 47.23N	60 17.48W	100	GULF OF ST. LAWRENCE

PLANTIC GEOSCIENCE CENTRE  
ATA SECTION  
-FINS- REPORTING PACKAGE

TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
091	GRAB	1471518	49 49.65N	60 13.37W	70	GULF OF ST. LAWRENCE
092	CORE	1481250	48 31.65N	62 37.24W	395	GULF OF ST. LAWRENCE
092TWC	CORE	1481250	48 31.65N	62 37.24W	395	GULF OF ST. LAWRENCE
093	WATER	1481305	48 31.58N	62 36.92W	395	GULF OF ST. LAWRENCE
094	WATER	1481345	48 31.52	62 37.47W	395	GULF OF ST. LAWRENCE
095	BOXCORE	1481400	48 31.45N	62 37.48W	395	GULF OF ST. LAWRENCE
096	WATER	1481427	48 31.12N	62 37.16W	395	GULF OF ST. LAWRENCE
097	PLANKTON	1481453	48 30.95N	62 37.07W	395	GULF OF ST. LAWRENCE
098	CORE	1481546	48 35.38N	62 34.81W	428	GULF OF ST. LAWRENCE
099	CORE	1481635	48 38.32N	62 32.53W	421	GULF OF ST. LAWRENCE
099TWC	CORE	1481635	48 38.32N	62 32.53W	421	GULF OF ST. LAWRENCE
100	BOXCORE	1481723	48 38.36N	62 32.61W	420	GULF OF ST. LAWRENCE
101	WATER	1490217	48 31.22N	61 40.91W	420	GULF OF ST. LAWRENCE
102	WATER	1490235	48 31.32N	61 40.93W	420	GULF OF ST. LAWRENCE
103	WATER	1501158	47 21.20N	60.00.43W	420	GULF OF ST. LAWRENCE
104	WATER	1501235	47 21.24N	59 59.96W	420	GULF OF ST. LAWRENCE
105	PLANKTON	1501308	47 21.23N	59 59.68W	420	GULF OF ST. LAWRENCE

LANTIC GEOSCIENCE CENTRE  
DATA SECTION  
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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
106	CORE	1501355	47 20.98N	60.00.62W	420	GULF OF ST. LAWRENCE
106TWC	CORE	1501355	47 20.98N	60.00.62W	420	GULF OF ST. LAWRENCE
107	CORE	1501448	47 21.01N	60.00.69W	420	GULF OF ST. LAWRENCE
107TWC	CORE	1501448	47 21.01N	60.00.69W	420	GULF OF ST. LAWRENCE
108	BOXCORE	1501607	47 21.00N	60 01.66W	420	GULF OF ST. LAWRENCE
109	WATER	1510407	48 04.40N	60 33.20W	439	GULF OF ST. LAWRENCE
110	WATER	1510514	48 04.90N	60 32.80W	439	GULF OF ST. LAWRENCE
111	CORE	1510907	47 31.00N	59 53.06W	503	GULF OF ST. LAWRENCE
111TWC	CORE	1510907	47 31.00N	59 53.06W	503	GULF OF ST. LAWRENCE
112	PLANKTON	1510936	47 30.92N	59 52.94W	503	GULF OF ST. LAWRENCE
113	BOXCORE	1510950	47 31.04N	59 53.05W	503	GULF OF ST. LAWRENCE
114	DRILL	1531332	48 19.41N	59 20.76W	71	GULF OF ST. LAWRENCE
115	DRILL	1531547	48 15.54N	59 27.16W	76	GULF OF ST. LAWRENCE
116	DRILL	1531656	48 15.52N	59 27.16W	77	GULF OF ST. LAWRENCE
117	DRILL	1531903	48 15.37N	59 27.26W	80	GULF OF ST. LAWRENCE ST. GEORGES BAY
118	DRILL	1532208	48 21.34N	59 13.11W	73	GULF OF ST. LAWRENCE ST. GEORGES BAY

TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
119	DRILL	1541312	48 26.39N	60 09.25W	182	GULF OF ST. LAWRENCE BANC BEAUGE
120	DRILL	1541401	49 26.30N	60 09.36W	188	GULF OF ST. LAWRENCE BANC BEAUGE
121	DRILL	1541558	49 31.87N	60 08.74W	126	GULF OF ST. LAWRENCE BANC BEAUGE
122	DRILL	1541650	49 31.80N	60 08.71W	124	GULF OF ST. LAWRENCE BANC BEAUGE
123	DRILL	1541857	49 40.17N	60 28.80W	217	GULF OF ST. LAWRENCE BANC BEAUGE
124	DRILL	1542019	49 40.14N	60 28.75W	217	GULF OF ST. LAWRENCE BANC BEAUGE
125	DRILL	1542217	49 40.11N	60 28.66W	219	GULF OF ST. LAWRENCE BANC BEAUGE
126	DRILL	1552245	49 54.00N	61 41.90W	91	GULF OF ST. LAWRENCE PTE DE NATASHQUAN
127	DRILL	1561115	49 57.00N	61 42.42W	78	GULF OF ST. LAWRENCE SOUTH OF PTE DE NATASHQUAN
128	DRILL	1561349	49 57.20N	61 42.58W	70	GULF OF ST. LAWRENCE SOUTH OF PTE DE
129	DRILL	1561523	49 59.60N	61 50.24W	51	GULF OF ST. LAWRENCE SW OF PTE DE NATASHQUAN
130	DRILL	1561624	49 56.65N	61 56.28W	70	GULF OF ST. LAWRENCE SW OF PTE DE NATASHQUAN

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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
131	DRILL	1562025	50 06.93N	62 08.02W	48	GULF OF ST. LAWRENCE SW OF PTE DE NATASHQUAN
132	DRILL	1571122	50 11.36N	62 42.10W	33	GULF OF ST. LAWRENCE S OF BAIE JOHAN BEITZ
133	DRILL	1571225	50 10.65N	62 41.98W	51	GULF OF ST. LAWRENCE S OF BAIE JOHAN BEITZ
134	DRILL	1571324	50 09.04N	62 41.56W	42	GULF OF ST. LAWRENCE S OF BAIE JOHAN-BEITZ
135	DRILL	1571402	50 07.23N	62 41.03W	59	GULF OF ST. LAWRENCE
136	DRILL	1571503	50 07.34N	62 41.18W	53	GULF OF ST. LAWRENCE S OF BAIE JOHAN BEITZ
137	DRILL	1571605	50 01.91N	62 39.94W	128	GULF OF ST. LAWRENCE S OF BAIE JOHAN-BEITZ
139	DRILL	1571747	49 58.71N	62 39.63W	164	GULF OF ST. LAWRENCE
140	DRILL	1571914	49 58.82N	62 39.59W	166	GULF OF ST. LAWRENCE JACQUES CARTIER CHANNEL
141	DRILL	1572045	49 55.36N	62 39.07W	112	GULF OF ST. LAWRENCE JACQUES CARTIER CHANNEL
142	DRILL	1581211	50 06.00N	63 53.44W	60	GULF OF ST. LAWRENCE JACQUES CARTIER CHANNEL

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TABLE 1

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## TOTAL SAMPLE INVENTORY

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
143	DRILL	1581311	50 02.71N	63 52.70W	84	JACQUES CARTIER CHANNEL
144	DRILL	1581832	50 02.74N	63 53.06W	84	JACQUES CARTIER CHANNEL
145	DRILL	1581911	50 02.66N	63 52.87W	84	GULF OF ST. LAWRENCE JACQUES CARTIER
146	DRILL	1591149	49 51.43N	64 55.20W	71	GULF OF ST. LAWRENCE BANC PARENT
147	DRILL	1591222	49 51.44N	64 55.17W	71	GULF OF ST. LAWRENCE BANC PARENT
148	DRILL	1591355	49 53.13N	65 09.89W	82	GULF OF ST. LAWRENCE BANC PARENT

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TABLE 2

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

GRAB SAMPLES

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
J42	VANVEEN	1460218	49 45.00N 58 16.98W	70	1	GULF OF ST. LAWRENCE	0216 IN WATER 0218 ON BOTTOM SURFACE ABUNDANT COBBLES. PEBBLES AND GRAVEL WITH RICH MACROFAUNA (WINNOWED SURFACE ?) GREENISH SUBSURFACE. GRAYISH SANDY MUD VILKS - BAG/JAR, POCKLINGTON - WASHED SAMPLE DE VERNAL - VIAL (20 CC)
043	VANVEEN	1460252	49 47.59N 58 20.80W	100	1	GULF OF ST. LAWRENCE	0249 IN WATER 0252 ON BOTTOM 0256 ON SURFACE SURFACE ABUNDANT IN COBBLES, PEBBLES AND GRAVELS WITH SANDY SILT . ABUNDANT SEA STARS SUBSURFACE GRAYISH SANDY MUD WITH GRAVELS VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIGUES (VIAL 20CC) , DE VERNAL (VIAL 20CC)
J44	VANVEEN	1460316	49 49.95N 58 24.38W	150	1	GULF OF ST. LAWRENCE	0314 IN WATER 0316 ON BOTTOM SURFACE APPROX 1 CM BROWNISH SILTY MUD - SOUPY RARE MICROFAUNA (1 SEA STAR) SUBSURFACE GRAYISH SILTY MUD (RARE GRAVELS) VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIGUES (VIAL 20CC), DE VERNAL (VIAL 20CC)
045	VANVEEN	1460416	49 55.13N 58 32.51W	200	3	GULF OF ST. LAWRENCE	0358 ON WAY DOWN 0401 ON BOTTOM (DID NOT TRIP) 0407 (DID NOT TRIP) 0416 ON BOTTOM SURFACE APPROX. 2 CM OF BROWNISH SILTY MUD SUBSURFACE GRAYISH SILTY MUD WITH BLACK DOTS. NO MACROFAUNA VISIBLE (RARE GRAVELS) VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE) RODRIGUES (VIAL 20CC) , DE VERNAL (VIAL 20CC)
J46	VANVEEN	1460524	50 02.03N 58 42.73W	250	1	GULF OF ST. LAWRENCE	0520 ON WAY DOWN 0524 ON BOTTOM BROWNISH GRAY SILTY MUD WITH GRAVELS AND GRANULES MACROFAUNA NOT OBSERVED. RARE PEBBLES. SLIGHTLY BROWN AT THE SURFACE VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIGUES (VIAL 20 CC), DEVERNAL (VIAL 20 CC)
047	VANVEEN	1460551	50 04.19N 58 46.12W	300	1	GULF OF ST. LAWRENCE	0547 IN WATER 0551 ON BOTTOM SURFACE: BROWNISH SILTY MUD (SOUPY) APPROX 1 CM SUB-SURFACE: GRAYISH SILTY, CLAYEY MUD, RARE GRANULES AND GRAVELS. RARE MACROFAUNA VILKS (BAG,JAR) , POCKLINGTON (WASHED SAMPLE) RODRIGUES (VIAL 20 CC) , DEVERNAL (VIAL 20 CC)

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TABLE 2

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

GRAB SAMPLES

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
48	VANVEEN	1460626	50 06.48N 58 49.65W	250	2	GULF OF ST. LAWRENCE	0626 ON BOTTOM (DID NOT TRIP) 0634 ON BOTTOM SURFACE: BROWNISH SILTY MUD SUB-SURFACE: GRAYISH SILTY/CLAYEY MUD. RARE GRANULES AND GRAVELS - SPARSE. MACROFAUNA VILKS (BAG,JAR), RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
49	VANVEEN	1460712	50 10.08N 58 55.24W	200	1	GULF OF ST. LAWRENCE	0709 IN WATER 0712 ON BOTTOM SURFACE: BROWNISH SILTY MUD (SOUPY) SUB-SURFACE: GRAYISH SILTY MUD NO MACROFAUNA VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
50	VANVEEN	1460738	50 11.53N 58 56.87W	150	1	GULF OF ST. LAWRENCE	0737 IN WATER 0738 ON BOTTOM SURFACE: BROWNISH SILTY MUD SUBSURFACE: GRAYISH SILTY AND SANDY MUD WITH SOME PEBBLES. NO MACROFAUNA OBSERVED. VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
051	VANVEEN	1460829	50 17.04N 59 04 88W	095	2	GULF OF ST. LAWRENCE	0822 IN WATER: 0824 ON BOTTOM 0828 IN WATER: 0829 ON BOTTOM SURFACE: WASH OUT SUBSURFACE: MUDDY SAND, GRAVEL (GRAYISH) NO MACROFAUNA OBSERVED VILKS (BAG,JAR), RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
55	VANVEEN	1461401	49 40.45N 60 08.19W	070	2	GULF OF ST. LAWRENCE	GRAB 1 : RECOVER 1 COBBLE UPPER PART COVERED WITH LITHOTHAMNIUM. LOWER PART CLEAN EXCEPT FOR ADHERING SAND/SILT GRAINS; 1 CLEAN PEBBLE. GRAB 2: 2 PEBBLES AS 1 ABOVE. 3 CLEAN PEBBLES.
057	VANVEEN	1461500	49 35.70N 60 02.34W	100	2	GULF OF ST. LAWRENCE	1459 IN WATER: 1500 ON BOTTOM PEBBLES AND COBBLES WASHED OUT. MACROFAUNA, SEA STARS. 1504 IN WATER: 1506 ON BOTTOM PEBBLES AND COBBLES WASHED OUT. SAME MACROFAUNA. PIECES OF UNCRUSHED BROWNISH SILTY MUD. VILKS (BUCKET), POCKLINGTON (WASHED SAMPLES), RODRIGUES (VIAL 20 CC) , DE VERNAL (VIAL 20 CC)

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TABLE 2

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

GRAB SAMPLES

MPL MBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
J58	VANVEEN	1461544	49 30.57N 59 57.27W	150	1	GULF OF ST. LAWRENCE	1541 IN WATER: 1544 ON BOTTOM SURFACE: APPROX. 3 CM BROWNISH SANDY, SILTY MUD WITH ABUNDANT MACROFAUNA (SHELLS, ECHINODERMS) SUBSURFACE: GRAYISH GRAVELLY SANDY MUD WITH PEBBLE AND COBBLES. VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE) RODRIGUES (VIAL 20 CC,SHELLS), DE VERNAL (VIAL 20 CC)
J59	VANVEEN	1461610	49 27.57N 59 54.41W	200	1	GULF OF ST. LAWRENCE	1607: SURFACE , 1610: BOTTOM SURFACE: 1-2CM BROWNISH SILTY SANDY MUD SUBSURFACE: GRAYISH SANDY GRAVELLY MUD WITH PEBBLES AND COBBLES. NO MACROFAUNA OBSERVED. VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIGUES (VIAL 20 CC) , DE VERNAL (VIAL 20 CC)
J60	VANVEEN	1461641	49 24.32N 59 50.66W	250	1	GULF OF ST. LAWRENCE	1636 IN WATER , 1641 ON BOTTOM SURFACE: APPROX 1 CM BROWNISH SILTY MUD SUBSURFACE: GRAYISH CLAYEY MUD, RARE SAND AND GRAVELS. NO MACROFAUNA OBSERVED VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIGUES (VIAL 20 CC) , DE VERNAL (VIAL 20 CC)
J61	VANVEEN	1461703	49 22.67N 59 48.30W	270	1	GULF OF ST. LAWRENCE	1658: IN WATER , 1703: ON BOTTOM SURFACE: BROWNISH SILTY CLAYEY MUD SUBSURFACE: GRAYISH CLAYEY MUD NO MACROFAUNA OBSERVED. VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE) RODRIGUES (VIAL 20 CC), DE VERNAL (VIAL 20 CC)
J62	VANVEEN	1461803	49 15.52N 59 39.76W	250	1	GULF OF ST. LAWRENCE	1758: IN WATER , 1803: ON BOTTOM SURFACE: BROWNISH SANDY MUD WITH SPARSE SHELLS. SUBSURFACE: GRAYISH SANDY MUD WITH COMMON GRAVELS AND FEW PEBBLES AND COBBLES. NOTE: GRAB DID NOT CLOSE PROPERLY, SLIGHTLY COLLAPSED ON THE DECK VILKS (BAG,JAR,2 COBBLES), RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
J63	VANVEEN	1461928	49 02.24N 59 24.92W	200	1	GULF OF ST. LAWRENCE	1925: IN WATER , 1928: ON BOTTOM POOR RECOVERY - BROWNISH SANDY MUD WITH 2 COBBLES (ATTACHED SPONGES) VILKS (BAG,JAR), RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)

TABLE 2

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

GRAB SAMPLES

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
054	VANVEEN	1461955	48 59.39N 59 21.40W	150	2	GULF OF ST. LAWRENCE	1953: GRAB IN WATER , 1958: ON BOTTOM FIRST ATTEMPT NO SAMPLE GREY BROWN SAND , 3 PEBBLES VILKS (JAR,BAG) , RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
65	VANVEEN	1462028	48 56.36N 59 17.88W	100	2	GULF OF ST. LAWRENCE	2027: IN WATER , 2028: ON BOTTOM SAND , GRAVELS AND PEBBLES (SPONGES) 2032: IN WATER , 2033: ON BOTTOM SAND WITH GRAVELS AND PEBBLES. ABUNDANT MACROFAUNA (SEA STARS , SHELLS) VILKS (BAG,JAR)
67	VANVEEN	1462100	48 54.32N 59 15.31W	73	1	GULF OF ST. LAWRENCE	2059: IN WATER , 2100: ON BOTTOM SANDY SUBANGULAR GRAVEL. RARE MACROFAUNA GROWING ON THE SURFACE OF THESE PEBBLES AND COBBLES VILKS (BAG,JAR)
069	VANVEEN	1462216	48 50.44N 59 22.44W	98	1	GULF OF ST. LAWRENCE	2217: IN WATER , 2218: ON BOTTOM SURFACE: WASH OUT SUBSURFACE: GRAYISH SANDY MUD , GRAVEL, RARE MACROFAUNA VILKS (BAG,JAR) , RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
070	VANVEEN	1462248	48 50.83N 59 28.63W	146	1	GULF OF ST. LAWRENCE	2246: IN WATER , 2248: ON BOTTOM SURFACE: BROWNISH SANDY MUD (WASH OUT ?) SUBSURFACE: GRAYISH SANDY MUD WITH PEBBLES, RARE MACROFAUNA. VILKS (BAG,JAR) , RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
071	VANVEEN	1462332	48 50.95N 59 33.60W	196	3	GULF OF ST. LAWRENCE	2314: IN WATER , 2316: ON BOTTOM 2320: IN WATER , 2323: ON BOTTOM 2329: IN WATER , 2332: ON BOTTOM SUBSURFACE: OLIVE GREEN SANDY MUD, RARE MACROFAUNA RARE COBBLES SURFACE: BROWNISH SANDY MUD VILKS (BAG,JAR), RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
072	VANVEEN	1470001	48 51.56N 59 39.28W	250	1	GULF OF ST. LAWRENCE	2356: IN WATER , 0001: ON BOTTOM SURFACE: BROWNISH SILTY MUD (SOUPY) SUBSURFACE: GRAYISH SILTY MUD. NO MACROFAUNA OBSERVED. VILKS (BAG,JAR), RODRIQUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)

TABLE 2

CRUISE NUMBER = 89-007  
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PROJECT NUMBER = 830045

GRAB SAMPLES

AMPLE MBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
73	VANVEEN	1470049	48 52.39N 59 48.39W	295	1	GULF OF ST. LAWRENCE	0045: IN WATER , 0049: ON BOTTOM SURFACE: BROWNISH SILTY MUD SUBSURFACE: GRAYISH SILTY MUD VERY RARE MACROFAUNA OBSERVED VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
74	VANVEEN	1470207	48 54.02N 60 06.96W	300	1	GULF OF ST. LAWRENCE	0202: IN WATER , 0207: ON BOTTOM SURFACE: BROWNISH SILTY MUD SUBSURFACE: GRAYISH SILTY MUD , RARE MACROFAUNA VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
75	VANVEEN	1470254	48 56.12N 60 26.58W	250	1	GULF OF ST. LAWRENCE	0320: IN WATER , 0324: ON BOTTOM SURFACE: BROWNISH SILTY SANDY MUD SUBSURFACE: GRAYISH SILTY SANDY MUD WITH ABUNDANT GRAVELS AND PEBBLES. NO MACROFAUNA OBSERVED. VILKS (JAR,BAG) , RODRIGUES (VIAL 20 CC, SHELL) DE VERNAL ( VIAL 20 CC)
076	VANVEEN	1470400	48 56.72N 60 34.14W	200	1	GULF OF ST. LAWRENCE	0357: IN WATER , 0400: ON BOTTOM SURFACE: BROWNISH SILTY SANDY MUD WITH PEBBLES AND GRAVELS, RARE MACROFAUNA SUBSURFACE: GRAYISH SILTY SANDY MUD. SPARSE PEBBLE AND GRAVELS. VILKS (JAR,BAG) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
77	VANVEEN	1470458	48 57.99N 60 49.03W	150	1	GULF OF ST. LAWRENCE	0454: IN THE WATER , 0458: ON BOTTOM POOR RECOVERY , COLLAPSED SURFACE: BROWNISH SANDY MUD WITH SHELL AND WORMS SUBSURFACE: GRAYISH SANDY MUD WITH GRAVELS , COBBLES AND PEBBLES. VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
78	VANVEEN	1470614	48 59.91N 61 09.63W	100	2	GULF OF ST. LAWRENCE	0611: IN WATER , 0614: ON BOTTOM BOULDER, PEBBLES AND GRAVELS WASHED OUT. MACROFAUNA (STARS, SPONGES) 0618: IN WATER , 0620: ON BOTTOM ONE PEBBLE , NO MUD SAMPLE VILKS ( BAG )

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SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
180	VANVEEN	1470706	49 00.82N 61 18.78W	070	2	GULF OF ST. LAWRENCE	0704: IN WATER NO RECOVERY, EXCEPT 2 VALVES OF SHELL 0710: IN WATER SAND AND GRAVELS WITH PEBBLES AND COBBLES AT SURFACE - ABUNDANT SHELLS AND LIVING MACROFAUNA (STARS AND ECHINODERMS) VILKS (BAG,JAR) , RODRIQUES (SHELLS)
083	VANVEEN	1470817	49 09.39N 61 18.41W	100	1	GULF OF ST. LAWRENCE	0845: IN WATER GRAVELS AND PEBBLES OVERLYING GRAYISH SILTY SANDY MUD. ABUNDANT MACROFAUNA - SEA STARS, ECHINODERMS VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE)
184	VANVEEN	1470946	49 17.73N 61 05.63W	146	1	GULF OF ST. LAWRENCE	0954: IN WATER , SURFACE: BROWNISH SANDY MUD SUBSURFACE: GRAYISH SANDY MUD WITH PEBBLES AND COBBLES, RARE MACROFAUNA VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE) RODRIGUES (VIAL 20 CC) , DE VERNAL (VIAL 20 CC)
185	VANVEEN	1471020	49 19.88N 61 02.13W	200	1	GULF OF ST. LAWRENCE	1017: IN WATER , SURFACE: BROWNISH SILTY MUD (SOUPY) SUBSURFACE: GRAYISH SILTY MUD, RARE MACROFAUNA VILKS (BAG,JAR), POCKLINGTON (WASHED SAMPLE), RODRIQUES (VIAL 20 CC) , DEVERNAL (VIAL 20 CC)
186	VANVEEN	1472055	49 23.88N 60 55.76W	250	1	GULF OF ST. LAWRENCE	1055: IN WATER , SURFACE: GRAYISH MUD SUBSURFACE: GRAYISH SILTY MUD WORM TUBES, SMALL SHELLS
087	VANVEEN	1471310	49 38.71N 60 31.40W	251	2	GULF OF ST. LAWRENCE	1255: IN WATER , 1300: ON BOTTOM 1307: IN WATER , SURFACE: BROWNISH SILTY MUD SUBSURFACE: GRAYISH SILTY MUD. NO MACROFAUNA OBSERVED. VILKS (BAG,JAR) , RODRIGUES (VIAL 20 CC) DEVERNAL (VIAL 20 CC)
088	VANVEEN	1471343	49 40.79N 60 27.28W	200	2	GULF OF ST. LAWRENCE	1335 IN WATER 1338 ON BOTTOM 1341 IN WATER 1343 ON BOTTOM SURFACE - POOR BROWNISH SILTY MUD SUBSURFACE - GRAYISH SILTY MUD, SCARCE SANDY MUD

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TABLE 2

CRUISE NUMBER = 89-007  
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PROJECT NUMBER = 830045

## GRAB SAMPLES

SAMPLE MBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
89	VANVEEN	1471410	49 42.50N 60 24.47W	150	1	GULF OF ST. LAWRENCE	1408 IN WATER : 1410 ON BOTTOM SURFACE - BROWNISH SANDY , SILTY MUD SUBSURFACE - GRAYISH SANDY, SILTY MUD, VILKS (BAG,JAR), RODRIGUES (VIAL 20 CC) DE VERNAL (VIAL 20 CC)
90	VANVEEN	1471452	49 47.23N 60 17.48W	100	1	GULF OF ST. LAWRENCE	GRAVELS AND PEBBLES WITHIN A SANDY MUD MATRIX VILKS ( BAG,JAR )
91	VANVEEN	1471518	49 49.65N 60 13.37W	70	1	GULF OF ST. LAWRENCE	1517 IN WATER : 1510 ON BOTTOM COBBLES, PEBBLES, AND GRAVEL WITHIN A SANDY MUD MATRIX. MACROFAUNA (SEA STARS, ECHINODERMS, SHELLS VILKS (JAR,BAG,+ 1 COBBLE) , RODRIGUES (SHELLS)

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TABLE 3  
CORE SAMPLES

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

SAMPLE NUMBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	DEPTH (MTRS)	CORER LENGTH	APP. PENN LENGTH	CORE (CM)	NO. OF SECT	GEOGRAPHIC LOCATION	NOTES
					(CM)	(CM)	(CM)			
101	BENTHOS	1411227	48 30.30N 60 38.10W	391	700	619	5		GULF OF ST. LAWRENCE	SITE PICKED FROM HUNTEC RECORD (141/0903) 141/1228 CORE ON BOTTOM APPROX 10 CM OF SEDIMENTS LOST DECK. SECTION BETWEEN E-TOP AND E-BOT PLACED IN BAG.
001TWC TRIGGER WEIG		1411227	48 30.30N 60 38.10W	391	150	100	98	1	GULF OF ST. LAWRENCE	TOP SEDIMENTS DISTURBED BY HANDLING.
106	BENTHOS	1411805	48 20.29N 60 14.85W	399	912	304	3		GULF OF ST. LAWRENCE	20 CM FROM "C" IN BAG
06TWC TRIGGER WEIG		1411805	48 20.29N 60 14.85W	399	150	100	89	1	GULF OF ST. LAWRENCE	
11	BENTHOS	1421446	49 13.20N 60 10.40W	273	900	1000	720	3	GULF OF ST. LAWRENCE	20 CM SECTION FROM C PLACED IN CORE CUTTER AND CATCHER SAMPLES IN BAGS.
-11TWC TRIGGER WEIG		1421446	49 13.20N 60 10.40W	273	150	100	98	1	GULF OF ST. LAWRENCE	
016	BENTHOS	1431212	49 42.80N 61 56.91W	258 4	912	1000	538	4	GULF OF ST. LAWRENCE ANTICosti	ON WAY 1212 ON BOTTOM 1216 CORE UP 1222 ON DECK 1224 FULL APPARENT PENETRATION
16TWC TRIGGER WEIG		1431212	49 42.80N 61 56.91W	258	150	100	99	1	GULF OF ST. LAWRENCE	
021	BENTHOS	1431905	49 31.28N 60 48.13W	281	913	600	483	4	ANTICOSTI CHAN GULF OF ST. LAWRENCE	CORE AT 143/0148 ON ORIGINAL 143/1842 ON SITE SURVEY CUTTER AND CATCHER SAMPLE IN BA
021TWC TRIGGER WEIG		1431905	49 31.28N 60 48.13W	281	150	73	1		ANTICOSTI CHAN GULF OF ST. LAWRENCE	

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TABLE 3

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MPL MBER	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	DEPTH (MTRS)	CORE SAMPLES					GEOGRAPHIC LOCATION	NOTES
					CORER LENGTH (CM)	APP. PENN (CM)	CORE LENGTH (CM)	NO OF SECT			
26	BENTHOS	1441934	49 19.85N 59 46.81W	274	912	600	393	3	GULF OF ST. LAWRENCE	SITE OF CORE STATION ON ORIGINA RECORD = 144/1125. ON SITE SURVEY 144/1915 20 CM SAMPLE FROM CATCHER IN BA	
026TWC TRIGGER WEIG	1441934	49 19.85N 59 46.81W		274	150	100	123	1	GULF OF ST. LAWRENCE		
031	BENTHOS	1451131	49 48.20N 59 28.11W	261	912	700	479	4	GULF OF ST. LAWRENCE	HUNTEC SITE SURVEY 145/1116 1127 ON WAY DOWN 1131 ON BOTTOM 1136 CORE UP 1142 CORE ON DECK CORE CUTTER DAMAGED. UPPER 10 FOOT LINER IMPLDED SAMPLES AND PEBBLE FROM CUTTER BAG	
031TWC TRIGGER WEIG	1451131	49 48.20N 59 28.11W		261	150	150	114	1	GULF OF ST. LAWRENCE		
^36	BENTHOS	1452139	50 06.92N 58 43 59W	300	900	1000	861	6	GULF OF ST. LAWRENCE	2133 ON WAY DOWN 2139 ON BOTTOM	
											SUBSAMPLES FROM CATCHER AND SECTION C IN BAGS
036TWC TRIGGER WEIG	1452139	50 06.92N 58 43 59W		300	150	150	104	1	GULF OF ST. LAWRENCE		
092	BENTHOS	1481250	48 31.65N 62 37.24W	395	913	900	677	5	GULF OF ST. LAWRENCE	1243 IN WATER : 1256 ON BOTTOM REDDISH MUD AT BASE OF CORE APPROX 320 CM. SUBSAMPLES IN BAGS - CORE CUTTE CORE CATCHER	
092TWC TRIGGER WEIG	1481250	48 31.65N 62 37.24W		395	150	150	136	1	GULF OF ST. LAWRENCE		
098	LEHIGH	1481546	48 35.38N 62 34.81W	428	300	300	254	2	GULF OF ST. LAWRENCE	1541 IN WATER 1546 ON BOTTOM	

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TABLE 3

CRUISE NUMBER = 89-007  
 CHIEF SCIENTIST = GUS VILKS  
 PROJECT NUMBER = 830045

SAMPLE #	SAMPLE TYPE	DAY/TIME (GMT)	LATITUDE	DEPTH (MTRS)	CORER	APP.	CORE	NO	GEOGRAPHIC LOCATION	NOTES
					LENGTH (CM)	PENN (CM)	LENGTH (CM)	OF SECT		
79	BENTHOS	1481635	48 38.32N 62 32.53W	421	900	700	641	5	GULF OF ST. LAWRENCE	REDISH MUD AT BOTTOM
79TWC TRIGGER WEIG		1481635	48 38.32N 62 32.53W	421	150	100	86	1	GULF OF ST. LAWRENCE	
06	BENTHOS	1501355	47 20.98N 60.00.62W	420	900	900	868	6	GULF OF ST. LAWRENCE	REDDISH MUD AT BASE OF THE CORE IN A-B AND B-C SECTIONS.
06TWC TRIGGER WEIG		1501355	47 20.98N 60.00.62W	420	150	150	102	1	GULF OF ST. LAWRENCE	SUBSAMPLES - CORE CUTTER, CORE CATCHER, SECTION E PIECE BETWEEN SECTIONS D-E AND E-F (10 CM)
107	BENTHOS	1501448	47 21.01N 60.00.69W	420	900	900	829	6	GULF OF ST. LAWRENCE	SECTION D-C STRETCHED. SUBSAMPLES - CUTTER C PIECE (BETWEEN SECTION B-C AN E PIECE (BETWEEN SECTION D-E AN CUTTER DAMAGED
107TWC TRIGGER WEIG		1501448	47 21.01N 60.00.69W	420	150	150	77	1	GULF OF ST. LAWRENCE	
111	BENTHOS	1510907	47 31.00N 59 53.06W	503	900	1000	785	6	GULF OF ST. LAWRENCE	REDDISH MUD AT BOTTOM OF CORE SUBSAMPLES - CORE CUTTER - CORE CATCHER
111TWC TRIGGER WEIG		1510907	47 31.00N 59 53.06W	503	150	150	115	1	GULF OF ST. LAWRENCE	



TABLE 4

## BOXCORE SAMPLES 89-007

SAMPLE NUMBER	TYPE OF BOXCORE	JULIAN DAY/TIME	LATITUDE	DEPTH (MTRS)	NO OF ATTEMPTS	NO OF SUBSAMPLES	NO OF CORES	GEOGRAPHIC LOCATION	NOTES
003	BOXCORE	1411353	48 30.60N 60 38.09W	391	1	4	3	GULF OF ST. LAWRENCE	APPROX 1 CM OF BROWNISH SILTY MUD OVERLAYING GRAY MUD. SUBSAMPLED 0-1 CM. AREA E CORED SUBSAMPLED AREA E 3 X 20 CUBIC CM. SAMPLES 1 X 100 CUBIC CM. SAMPLE
108	BOXCORE	1411850	48 20.02N 60 14.53W	427	1	4	3	GULF OF ST. LAWRENCE	SUBSAMPLED 0-1 CM 3 PUSH CORES 3 X 20 CU CM. 1 X 100 CU CM.
213	BOXCORE	1421610	49 13.20N 60 10.04W	268	1	8	4	GULF OF ST. LAWRENCE	VERY LIQUID GRAY MUD. SOME WORM TUBES SUBSAMPLED 0-1 CM 4 TUBES 3 X 20 CU CM. 1 SURFACE (0-1CM) 1 X 100 CC (SURFACE 0-1 CM)
18	BOXCORE	1431303	49 42.80N 61 57.00W	258	1		3	ANTICosti C GULF ST.	SURFACE BROWNISH GRAY SOUPY MUD. WORM TUBES. SUBSAMPLED 0 - 1 CM PUSH CORES AT A , E , F 3 X 20 CU CM. 1 X 100 CU CM SURFACE SEDIMENTS ( 0 - 1 CM
023	BOXCORE	1432022	49 31.09N 60 47.96W	281	1	3	3	ANTICosti C GULF OF	SUBSAMPLE SURFACE 0 - 1 CM 3 PUSH CORES AT A,E,G 3 X 20 CU CM 1 X 100 CU CM
128	BOXCORE	1442039	49 19.81N 59 46.85W	274	1	4	3	GULF OF ST. LAWRENCE	SUBSAMPLE SURFACE 0 - 1 CM 3 PUSH CORES (B,D,F) 3 X 20 CU CM 1 X 50 CU CM SUBSAMPLED 0 - 1 CM SURFACE
33	BOXCORE	1451215	49 47.90N 59 27.70W	261	1	1	0	GULF OF ST. LAWRENCE	PEBBLES IN SEDIMENT SUBSAMPLED 0 - 1 CM POOR RECOVERY DUE TO LARGE PEBBLES IN SEDIMENT SURFACE SEDIMENTS COLLECTED 3 X 20 CC 1 X 100 CC

TABLE 4

## BOXCORE SAMPLES 89-007

SAMPLE NUMBER	TYPE OF BOXCORE	JULIAN DAY/TIME	LATITUDE	DEPTH (MTRS)	NO OF ATTEMPTS	NO OF SUBSAMPLES	NO OF CORES	GEOGRAPHIC LOCATION	NOTES
038	BOXCORE	1452222	50 06.92N 58 43 59W	300	1	3	3	GULF OF ST. LAWRENC	BROWNISH MUD ABUNDANT FAUNA SUBSAMPLE 0-1 CM TAKEN AT A, C, H 3 X 20 CC SURFACE 1 X 100 CC SURFACE
095	BOXCORE	1481400	48 31.45N 62 37.48W	395	1	4	4	GULF OF ST. LAWRENC	SOUPY , BROWNISH SILTY MUD AT SURFACE 4 PUSH CORES 3 X 20 CC SURFACE 1 X 100CC SURFACE
100	BOXCORE	1481723	48 38.36N 62 32.61W	420	1	4	4	GULF OF ST. LAWRENC	BROWNISH SILTY MUD PUSH CORES AT A,C,E,I 3 X 20 CC SURFACE 1 X 100 CC SURFACE
08	BOXCORE	1501607	47 21.00N 60 01.66W	420	1	5	4	GULF OF ST. LAWRENC	BROWNISH SILTY MUD VERY SILTY 4 PUSH CORES 4 X 20 CU CM (0-1 CM) 1 X 100 CU CM (0-1 CM)
13	BOXCORE	1510950	47 31.04N 59 53.05W	503	1	5	4	GULF OF ST. LAWRENC	BROWNISH SILTY MUD - SOUPY 4 PUSH CORES AT D,F,H,I 4 X 20 CC SURFACE 1 X 100 CC SURFACE

TABLE 5

## WATER SAMPLES 89-007

MPL#	SAMPLE NUMBER	SAMPLE TYPE	JULIAN DAY/TIME	LATITUDE	LONGITUDE	DEPTH (MTRS)	BOTTLE COLUMN	DEPTH 1 DEPTH 2 DEPTH 3	GEOGRAPHIC LOCATION	NOTES
004	WATER	1411444	48 30.40	60 38.10	391	005		0 0 0 60 60 60 320 320 320 0	GULF OF ST. LAWRENC	
07	WATER	1411832	48 19.85	60 14.70	399	005			GULF OF ST. LAWRENC	CTD STATION TO 38
^10	WATER	1412045	48 20.10	60 14.85	427	005		0 0 0 80 80 80 270 270 270 360	GULF OF ST. LAWRENC	3 SAMPLES TAKEN A 270 AND 360 METRE
12	WATER	14216??	49 13.20	60 10.40	267				GULF OF ST. LAWRENC	
14	WATER	1421701	49 13.20	60 10.40	268	005		0 0 0 55 55 65 235 240 245	GULF OF ST. LAWRENC	
17	WATER	1431250	49 42.80	61 57.00	258	013			ANTICOSTI C	CTD CAST GULF ST.
^19	WATER	1431406	49 42.80	61 58.86	258	013		0 0 0 60 60 60 250 250 250 250	ANTICOSTI C	GULF OF ST. LAWRENC

TABLE 5

## WATER SAMPLES 89-007

SAMPLE NUMBER	SAMPLE TYPE	JULIAN DAY/TIME	LATITUDE	LONGITUDE	DEPTH (MTRS)	BOTTLE VOLUME	DEPTH 1 DEPTH 2 DEPTH 3			GEOGRAPHIC LOCATION	NOTES
							—	—	—		
024	WATER	1432040	49 31.00	60 48.04	281	10	0	0	0	ANTICOST CH GULF OF ST. LAWRENC	
							60	60	60		
							245	245	245		
027	WATER	1442030	49 19.85	59 46.81	274					GULF OF ST. LAWRENC	
							0	0	0		
029	WATER	1442120	49 19.81	59 46.85	274	10	0	0	0	GULF OF ST. LAWRENC	
							60	60	60		
							240	240	240		
							240	240	240		
032	WATER	1451150	49 47.80	59 27.70	261	0				GULF OF ST. LAWRENC	CTD TO BOTTOM
034	WATER	1451225	49 47.90	59 27.55	276	12	0	0	0	GULF OF ST. LAWRENC	3 12 LITRE NISKIN EACH LEVEL
							80	80	80		
							240	240	240		
037	WATER	1452158	50 06.92	58 43 59	300	12				GULF OF ST. LAWRENC	CTD TO BOTTOM
039	WATER	1452250	50 06.92	58 43 59	300	10	0	0	0	GULF OF ST. LAWRENC	
							70	70	70		
							260	260	260		
041	WATER	1460213	49 45.00	58 16.59	73	10				GULF OF ST. LAWRENC	

TABLE 5

## WATER SAMPLES 89-007

AMPLE NUMBER	SAMPLE TYPE	JULIAN DAY/TIME	LATITUDE	LONGITUDE	DEPTH (MTRS)	BOTTLE VOLUMN	DEPTH 1 DEPTH 2 DEPTH 3	GEOGRAPHIC LOCATION	NOTES
052	WATER	1460854	50 17.07	59 04.82	088			GULF OF ST. LAWRENC	
053	WATER	1460910	50 17.07	59 04.82	088	10	0 0 0 60 60 60	GULF OF ST. LAWRENC	
054	WATER	1461352	49 40.49	60 06.33	070			GULF OF ST. LAWRENC	
056	WATER	1461419	49 40.42	60 07.99	063	10	0 0 0 55 55 55	GULF OF ST. LAWRENC	
066	WATER	1462051	48 54.35	59 15.48	73			GULF OF ST. LAWRENC	
068	WATER	1462113	48 54.29	59 15.17	73	10	0 0 0 60 60 60	GULF OF ST. LAWRENC	
079	WATER	1470659	49 00.79	61 18.79	070			GULF OF ST. LAWRENC	
081	WATER	1470724	49 00.82	61 18.78	070	10	0 0 0 50 50 50	GULF OF ST. LAWRENC	
093	WATER	1481305	48 31.58	62 36.92	395			GULF OF ST. LAWRENC	CTD TO BOTTOM
094	WATER	1481345	48 31.52	62 37.47	395			GULF OF ST. LAWRENC	
-96	WATER	1481427	48 31.12	62 37.16	395	10	0 0 0 70 70 70	GULF OF ST. LAWRENC	ADDITIONAL 4 SAMP

TABLE 5

## WATER SAMPLES 89-007

MPL#	SAMPLE NUMBER	SAMPLE TYPE	JULIAN DAY/TIME	LATITUDE	LONGITUDE	DEPTH (MTRS)	BOTTLE VOLUME	DEPTH 1	DEPTH 2	DEPTH 3	GEOGRAPHIC LOCATION	NOTES
101	WATER	1490217	48 31.22	61 40.91	420						GULF OF ST. LAWRENC	
102	WATER	1490235	48 31.32	61 40.93	420	10		0	0	0	GULF OF ST. LAWRENC	4 ADDITIONAL SAMP
								60	60	60		
								280	280	280		
03	WATER	1501158	47 21.20	60.00.43	420						GULF OF ST. LAWRENC	
104	WATER	1501235	47 21.24	59 59.96	420	10		0	0	0	GULF OF ST. LAWRENC	4 ADDITIONAL SAMPL
								60	60	60		
								240	240	240		
09	WATER	1510407	48 04.40	60 33.20	439						GULF OF ST. LAWRENC	
10	WATER	1510514	48 04.90	60 32.80	439	10		0	0	0	GULF OF ST. LAWRENC	3 ADDITIONAL SAMP
								60	60	60		
								280	280	280		
								420				

TABLE 6

## ROCK CORE DRILL STATIONS 89-007

SAMPLE NUMBER	TYPE OF DRILL	JULIAN DAY/TIME	LATITUDE	DEPTH (MTRS)	SEISMIC DRILLING								CORE LENGTH	SEISMIC RECORD	GRAB SAMPLE	GEOGRAPHIC LOCATION				
					EST.		OVER-		OVER-		AUGER DRILL DRILLING									
					MAST (CM)	BURDEN (CM)	BURDEN (CM)	EXT (CM)	EXT (CM)	TIME (MIN)	TIME (CM)									
114	BIO ROCK	1531332	48 19.41N 59 20.76W	71	600	150				468	26	292	1531050	N	GULF OF ST. LAWRE					
115	BIO ROCK	1531547	48 15.54N 59 27.16W	76	600					78	5		1530930	N	GULF OF ST. LAWRE					
116	BIO ROCK	1531656	48 15.52N 59 27.16W	77	600	150				183	15		1530930	N	GULF OF ST. LAWRE					
117	BIO ROCK	1531903	48 15.37N 59 27.26W	80	600					90	6		1530926	N	GULF OF ST. LAWRE ST. GEORG					
118	BIO ROCK	1532208	48 21.34N 59 13.11W	73	600	0				213	13	13	1531154	N	GULF OF ST. LAWRE ST. GEORG					
119	BIO ROCK	1541312	48 26.39N 60 09.25W	182	600					91	10	40	1421107	N	GULF OF ST. LAWRE BANC BEAU					
120	BIO ROCK	1541401	49 26.30N 60 09.36W	188	600					2	29		1421100	N	GULF OF ST. LAWRE BANC BEAU					
121	BIO ROCK	1541558	49 31.87N 60 08.74W	126	600								1421205		GULF OF ST. LAWRE BANC BEAU					
122	BIO ROCK	1541650	49 31.80N 60 08.71W	124	600	100	40			182	20	130	1421205	N	GULF OF ST. LAWRE BANC BEAU					
123	BIO ROCK	1541857	49 40.17N 60 28.80W	217	600					130	10	35	1440512	N	GULF OF ST. LAWRE BANC BEAU					
124	BIO ROCK	1542019	49 40.14N 60 28.75W	217	600					30			1440512	N	GULF OF ST. LAWRE BANC BEAU					
125	BIO ROCK	1542217	49 40.11N 60 28.66W	219	600					115	20	29	1440512	N	GULF OF ST. LAWRE BANC BEAU					
126	BIO ROCK	1552245	49 54.00N 61 41.90W	91	600					32	0		1552223		GULF OF ST. LAWRE PTE DE NATASHQUA					

TABLE 6

## ROCK CORE DRILL STATIONS 89-007

SAMPLE NUMBER	TYPE OF DRILL	JULIAN DAY/TIME	LATITUDE	DEPTH (MTRS)	SEISMIC DRILLING										GEOGRAPHIC LOCATION
					MAST LENGTH (CM)	OVER- BURDEN (CM)	OVER- BURDEN (CM)	AUGER EXT (CM)	DRILL EXT (CM)	DRILLING TIME (MIN)	CORE LENGTH (CM)	SEISMIC RECORD TIME	GRAB SAMPLE		
					EST.	EST.	EXT.	EXT.	TIME	LENGTH	RECORD	GRAB	SAMPLE		
127	BIO ROCK	1561115	49 57.00N 61 42.42W	78	600	100				5		1561154	N	GULF OF ST. LAWRE SOUTH OF NATASHQUA	
128	BIO ROCK	1561349	49 57.20N 61 42.58W	70	600				273	20	216	1561154	N	GULF OF ST. LAWRE SOUTH OF	
129	BIO ROCK	1561523	49 59.60N 61 50.24W	51	600				219	10	178	1560204	N	GULF OF ST. LAWRE SW OF PTE NATASHQUA	
130	BIO ROCK	1561624	49 56.65N 61 56.28W	70	600				450	17	273	1560258	N	GULF OF ST. LAWRE SW OF PTE NATASHQUA	
31	BIO ROCK	1562025	50 06.93N 62 08.02W	48	600		156		277	18	125	1561904	N	GULF OF ST. LAWRE SW OF PTE NATASHQUA	
132	BIO ROCK	1571122	50 11.36N 62 42.10W	33	600		21		470	29	457	1570949	N	GULF OF ST. LAWRE S OF BAIE JOHAN BEI	
33	BIO ROCK	1571225	50 10.65N 62 41.98W	51	600				468	28	451	1570937	N	GULF OF ST. LAWREN S OF BAIE JOHAN BEI	
134	BIO ROCK	1571324	50 09.04N 62 41.56W	42	600				154		118	1570923	N	GULF OF ST. LAWRE S OF BAIE JOHAN-BEI	
35	BIO ROCK	1571402	50 07.23N 62 41.03W	59	600		110		250	14	44	1570858	N	GULF OF ST. LAWRE	
36	BIO ROCK	1571503	50 07.34N 62 41.18W	53	600		85		300	19	217	1570858	N	GULF OF ST. LAWRE S OF BAIE JOHAN BEI	
137	BIO ROCK	1571605	50 01.91N 62 39.94W	128	600	100	75		458	29	374		N	GULF OF ST. LAWRE	

TABLE 6

## ROCK CORE DRILL STATIONS 89-007

SAMPLE NUMBER	TYPE OF DRILL	JULIAN DAY/TIME	LATITUDE	DEPTH (MTRS)	SEISMIC		DRILLING		AUGER	DRILL	CORE	SEISMIC	GRAB	GEOGRAPHIC LOCATION
					EST.	OVER-	OVER-	EST.						
					MAST (CM)	BURDEN (CM)	BURDEN (CM)	EXT (CM)						
139	BIO ROCK	1571747	49 58.71N 62 39.63W	164	600		12		90	6	15	1570718	N	GULF OF ST. LAWRE
140	BIO ROCK	1571914	49 58.82N 62 39.59W	166	600		159		220	16	13	1570718	N	GULF OF ST. LAWRE JACQUES C CHANNEL
141	BIO ROCK	1572045	49 55.36N 62 39.07W	112	600		0		194	14	155	1570640	N	GULF OF ST. LAWRE JACQUES C CHANNEL
142	BIO ROCK	1581211	50 06.00N 63 53.44W	60	60				310	10	169	1581033		GULF OF ST. LAWRE JACQUES C CHANNEL
143	BIO ROCK	1581311	50 02.71N 63 52.70W	84	600							1580956	N	JACQUES C CHANNEL
144	BIO ROCK	1581832	50 02.74N 63 53.06W	84	600		95		233	16	3		N	JACQUES C CHANNEL
145	BIO ROCK	1581911	50 02.66N 63 52.87W	84	600				73	6	73	1580956	N	GULF OF ST. LAWRE JACQUES C
146	BIO ROCK	1591149	49 51.43N 64 55.20W	71	600				118	9		1590027	N	GULF OF ST. LAWRE BANC PARE
147	BIO ROCK	1591222	49 51.44N 64 55.17W	71	600				128	5		1590027	N	GULF OF ST. LAWRE BANC PARE
148	BIO ROCK	1591355	49 53.13N 65 09.89W	82	600				76		17	1590913	N	GULF OF ST. LAWRE BANC PARE

ATLANTIC GEOSCIENCE CENTRE  
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TABLE 7

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

PLANKTON SAMPLES

AMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	START DEPTH	GEOGRAPHIC LOCATION	PLANKTON SAMPLE NOTES
005	PLANKTON	1411534	48 30.25N 60 38.05W	399	200	GULF OF ST. LAWRENCE	
009	PLANKTON	1411957	48 19.90N 60 14.92W	427	200	GULF OF ST. LAWRENCE	
015	PLANKTON	1421715	49 13.20N 60 10.40W	268	200	GULF OF ST. LAWRENCE	
020	PLANKTON	1431425	49 42.90N 61 57.10W	268	200	ANTICosti CHAN GULF OF ST. LAWRENCE	RETRIEVE 60M / MIN
025	PLANKTON	1432109	49 31.08N 60 48.31W	281	200	ANTICosti CHAN GULF OF ST. LAWRENCE	RETRIEVE 1M / SEC
030	PLANKTON	1442124	49 19.93N 59 46.59W	274	200	GULF OF ST. LAWRENCE	ON DECK 2135
035	PLANKTON	1451256	49 48.00N 59 27.50W	276	200	GULF OF ST. LAWRENCE	
040	PLANKTON	1452324	50 06.92N 58 43 59W	300	200	GULF OF ST. LAWRENCE	VERTICAL TOW FROM 200 METRES
097	PLANKTON	1481453	48 30.95N 62 37.07W	395	200	GULF OF ST. LAWRENCE	
105	PLANKTON	1501308	47 21.23N 59 59.68W	420	200	GULF OF ST. LAWRENCE	
112	PLANKTON	1510936	47 30.92N 59 52.94W	503	200	GULF OF ST. LAWRENCE	

ANTIC GEOSCIENCE CENTRE  
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TABLE 8

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## SEISMIC RECORDS

ROLL MBERS	START DAY/TIME	STOP DAY/TIME	HYDROPHONE	LINE NUMBERS	RECORD TYPE	GEOGRAPHIC LOCATION	RECORDER	SYSTEM / SOUND SOURCE
1	1402350	1410945	NSRF 100'	1	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
2	1410948	1421220	NSRF 100'	1,2	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
3	1431910	1431150	NSRF 100'	3,4	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
4	1432325	1441630	NSRF 100'	5,6	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
5	1442250	1452050	NSRF 100'	7,8	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
6	1471535	1471850	NSRF 100'	9	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
7	1480200	1481115	NSRF 100'	10	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
8	1481837	1481955	NSRF 100'	11	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	AGC AIRGUN SYSTEM
								AIRGUN 10 CU.IN
9	1482035	1482318	NSRF 100'	11	SINGLE	GULF OF ST. LAWRENCE	LSR	AGC AIRGUN SYSTEM

ANTIC GEOSCIENCE CENTRE  
DATA SECTION  
-FINS- REPORTING PACKAGE

TABLE 8

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## **SEISMIC RECORDS**

LANTIC GEOSCIENCE CENTRE  
WATA SECTION  
-FINS- REPORTING PACKAGE

TABLE 8

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## SEISMIC RECORDS

ROLL MBERS	START DAY/TIME	STOP DAY/TIME	HYDROPHONE	LINE NUMBERS	RECORD TYPE	GEOGRAPHIC LOCATION	RECORDER	SYSTEM / SOUND SOURCE
S3	1471610	1471850	NSRF 100'	9	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S4	1480200	1480408	NSRF 100'	9,10	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S5	1481840	1501025	NSRF 100'	11,12	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S6	1501710	1510400	NSRF 100'	14,15	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S7	1530616	1540954	NSRF 100'	16,17	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S8	1550027	1581100	NSRF 100'	19,20	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S9	1582313	1590300	NSRF 100'	23	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM
S10	1590330	1591000	NSRF 100'	23	SINGLE	GULF OF ST. LAWRENCE	EPC 8700	AGC AIRGUN SYSTEM

ATLANTIC GEOSCIENCE CENTRE  
DATA SECTION  
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TABLE 9

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC RECORDS 89-007

ROLL NUMBER	START DAY/TIME	STOP DAY/TIME	HYDROPHONE	LINE NUMBERS	RECORD TYPE	GEOGRAPHIC LOCATION	RECORDER	HUNTEC SYSTEM
I1	1411203	1420320	INT	2, STN1,STN	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I2	1420335	1421215	INT	2	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I3	1421855	1430400	INT	3	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I4	1430403	1431153	INT	4	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I5	1431820	1440815	INT	STN21,5,6	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I6	1440830	1450906	INT	6,STN26,7	SINGLE	GULF OF ST. LAWRENCE	EPC 4100	HUNTEC DTS
I7	1451058	1452126	INT	STN31,8	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I9	1480155	1481115	INT	10	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I10	1481905	1491020	INT	11	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I11	1491025	1500830	INT	11,12	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I12	1500838	1501025	INT	12	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I13	1501710	1510400	INT	14,15	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I14	1530605	1531525	INT	16,STN115	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I15	1532133	1540953	INT	STN118,18	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I16	1541141	1550830	INT	STN119,19	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I17	1550840	1551400	INT	19	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I18	1552210	1561153	INT	STN126,20	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I19	1561836	1562245	INT	21	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I20	1562250	1571015	INT	21	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS

ANTIC GEOSCIENCE CENTRE  
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TABLE 9

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC RECORDS 89-007

ROLL MBERS	START DAY/TIME	STOP DAY/TIME	HYDROPHONE	LINE NUMBERS	RECORD TYPE	GEOGRAPHIC LOCATION	RECORDER	HUNTEC SYSTEM
I21	1572311	1580835	INT	22	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I22	1580840	1581130	INT	22	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
I23	1582300	1591000	INT	23	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
1	1410035	1411058	EXT	1	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
2	1410000	1411055	EXT	1	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
3	1411203	1420503	EXT	2	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
4	1420505	1421215	EXT	2	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
5	1421905	143 054	EXT	3	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
6	1430555	1431150	EXT	4	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
7	1431820	1440250	EXT	STN21 , 5	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
8	1440255	1441546	EXT	5,6	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
9	1441855	1450907	EXT	STN26,7	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
10	1451100	1452126	EXT	STN31,8	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
11	1471535	1471555	EXT	9	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
12	1471600	1481115	EXT	9,10	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
13	1481836	1490530	EXT	11	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
14	1490530	1500431	EXT	11,12	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
15	1500435	1501025	EXT	12,13	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
16	1501715	1510400	EXT	14,15	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
17	1530605	1530957	EXT	16	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS

LANTIC GEOSCIENCE CENTRE  
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TABLE 9

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## HUNTEC RECORDS 89-007

ROLL NUMBERS	START DAY/TIME	STOP DAY/TIME	HYDROPHONE	LINE NUMBERS	RECORD TYPE	GEOGRAPHIC LOCATION	RECORDER	HUNTEC SYSTEM
18	1531006	1531300	EXT	16	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
19	1532310	1540953	EXT	17,18	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
20	1541141	1550400	EXT	STN119,19	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
21	1550400	1550500	EXT	19	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
22	1550545	1551400	EXT	19	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
23	1552210	1561000	EXT	STN126,20	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
24	1561005	1561155	EXT	20	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
25	1561856	1571000	EXT	21	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
26	1572311	1580425	EXT	22	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
27	1580430	1581132	EXT	22	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS
28	1582300	1591000	EXT	23	SINGLE	GULF OF ST. LAWRENCE	EPC 4603	HUNTEC DTS

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TABLE 10

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## BATHYMETRY RECORDS

ROLL MBERS	START DAY/TIME	STOP DAY/TIME	FREQUENCY	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	RECORDER	NOTES
1	1402352	1430630	12 KHZ	1,2,3		GULF OF ST. LAWRENCE	UGR	
10	1572300	1591415		22,23				
2	1430655	1460715	12 KHZ	4,5,6,7,8		GULF OF ST. LAWRENCE	UGR	
3	1460725	1490045	12 KHZ	9,10,11		GULF OF ST. LAWRENCE	UGR	
4	1490050	1490510	12 KHZ	11		GULF OF ST. LAWRENCE	UGR	
5	1490520	1510944	12 KHZ	11,12,13,14,15		GULF OF ST. LAWRENCE	UGR	
6	1530615	1540535	12 KHZ	16,17,18		GULF OF ST. LAWRENCE	UGR	
7	1540540	1542229	12 KHZ	18		GULF OF ST. LAWRENCE	UGR	
8	1540027	1562043		19,20,21				
9	1562210	1572105		21				

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TABLE 11

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

## SEISMIC TAPES

TAPE NUMBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	SYSTEM / SOUND SOURCE
11	1501717	1510400	T-U,U-V 13,14	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
12	1530615	1540548	16,17,18 16,17,18	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
13	1540549	1551033	18,19 18	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
14	1551036	1560845	19,20	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
15	1560848	1570615	20,21	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
16	1570630	1580745	21,22	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
17	1580748	1590805	22,23	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
18	1590808	1591000	23	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.

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TABLE 11

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

SEISMIC TAPES

TAPE NUMBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	SYSTEM / SOUND SOURCE
1	1410000	1412347	A-B,C-D 1,2	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
2	1412349	1421225	C-D 2	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
3	1421900	1430740	E-F 3	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
4	1430742	1400800	E-F,G-H,H-I 3,4,5	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
5	1440800	1450253	H-I,J-K 5,6	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
6	1450254	1452000	J-K,L-M 6,7	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
7	1452002	1481045	L-M,V7-V8,M1-M2 7,8,9	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
8	1481045	1490810	M3-M4 10	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
9	1480812	1492200	M3-M4 10	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.
10	1492202	1501026	M3-M4,M4-S,S-T 10,11,12	GULF OF ST. LAWRENCE	NSRF RAW DATA N/U N/U FM SHOT 0-5 VOLT	AGC AIRGUN SYSTEM AIRGUN 100 IN.

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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE MBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
001	1410029	1410340	1		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
002	1410342	1410654	1		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
003	1410658	1411030	1		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
004	1412224	1420138	2		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
005	1420139	1420455	2		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
006	1420458	1420810	2		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
007	1420812	1421123	2		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
008	1421125	1422107	2,3		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
009	1422108	1430020	3		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
010	1430021	1430334	3,4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE MBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
011	1430335	1430652	4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
012	1430655	1431006	4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
013	1431007	1440032	4,5		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
014	1440100	1440412	5		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
015	1440414	1440725	5,6		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
016	1440727	1441040	6		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
017	1441055	1441400	6		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
018	1441401	1442322	6,7		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
019	1442324	1450235	7		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
020	1450238	1450556	7		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE NUMBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
021	1450559	1450910	7		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
022	1451340	1451658	7,8		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
023	1451659	1452010	8		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
024	1452012	1461726	8,9		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
025	1471727	1480312	9,10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
026	1480313	1480625	10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
027	1480627	1480938	10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
028	1480939	1482022	10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
029	1482030	1482336	10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
030	1482338	1490427	10		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

LANTIC GEOSCIENCE CENTRE  
DATA SECTION  
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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE NUMBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
031	1490429	1490748	M3-M4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
032	1490750	1491100	M3-M4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
033	1491101	1491506	M3-M4		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
034	1491508	1491820	M3-M4, M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
035	1491822	1492134	M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
036	1492135	1500048	M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
037	1500049	1500406	M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
038	1500408	1500721	M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
039	1500722	1501026	M4-S		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
040	1501721	1502021	M4-S, T-U		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

LANTIC GEOSCIENCE CENTRE  
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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE NUMBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
041	1502023	1502340	T-U		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
042	1502341	1510255	T-U		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
043	1510255	1530812	T-U,16		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
044	1530815	1531127	16		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
045	1531128	1540028	16,18		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
046	1540029	1540354	18		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
047	1540357	1540659	18		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
048	1540700	1540955	18		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
049	1541141	1550336	STN119,19		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
050	1550337	1550700	19		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE MBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
051	1550701	1551012	19		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
052	1551014	1551326	19		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
053	1551327	1560210	19,20		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
054	1560213	1560530	20		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
055	1560533	1560826	20		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
056	1560830	1561140	20		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
057	1561142	1562353	20,21		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
058	1562355	1570232	21		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
059	1570330	1570636	21		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
060	1570637	1570948	21		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

LANTIC GEOSCIENCE CENTRE  
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TABLE 12

CRUISE NUMBER = 89-007  
CHIEF SCIENTIST = GUS VILKS  
PROJECT NUMBER = 830045

HUNTEC TAPES

TAPE MBERS	START DAY/TIME	STOP DAY/TIME	LINE NUMBERS	FIX NUMBERS	GEOGRAPHIC LOCATION	CHANNEL INFO	HUNTEC SYSTEM
061	1570950	1580200	21,22		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
062	1580201	1580512	22		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
063	1580514	1580825	22		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
064	1580826	1581132	22		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
065	1582300	1590215	23		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J'
066	1590215	1590510	23		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
067	1590515	1590839	23		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J
068	1590840	1590959	23		GULF OF ST. LAWRENCE	INTERNAL HYD TRIGGER SYNC EXTERNAL HYD VOICE	HUNTEC DTS 500J

**Figures**

Figure 1. Location of survey lines

Figure 2. Location of Van Veen grabs.

Figure 3. Location of piston and box cores

Figure 4. Location of water samples and CTD stations

Figure 5. Temperature - depth and salinity - depth profiles

Figure 6. Location of plankton tows

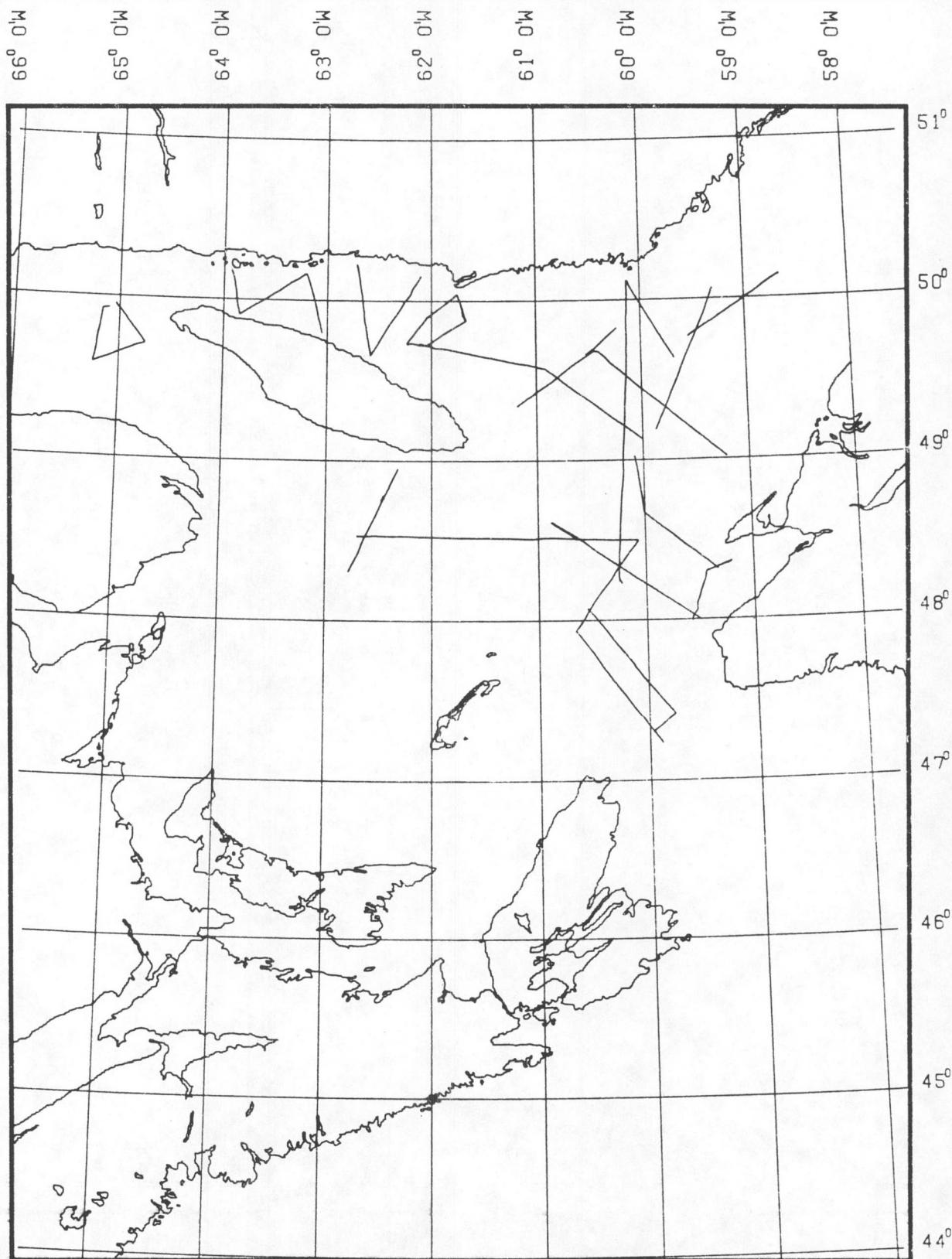
Figure 7. Location of Lehigh core

Figure 8. Location of drill core stations

Figure 1. Location of survey lines.

DATE = 89/06/20. TIME = 08.51.14. SCALE = 3000000.00 REF LATS = 47.00 49.00

# DAWSON 89007 TRACK PLOT



URVILLES/PLTS ON THIS PLT HLT

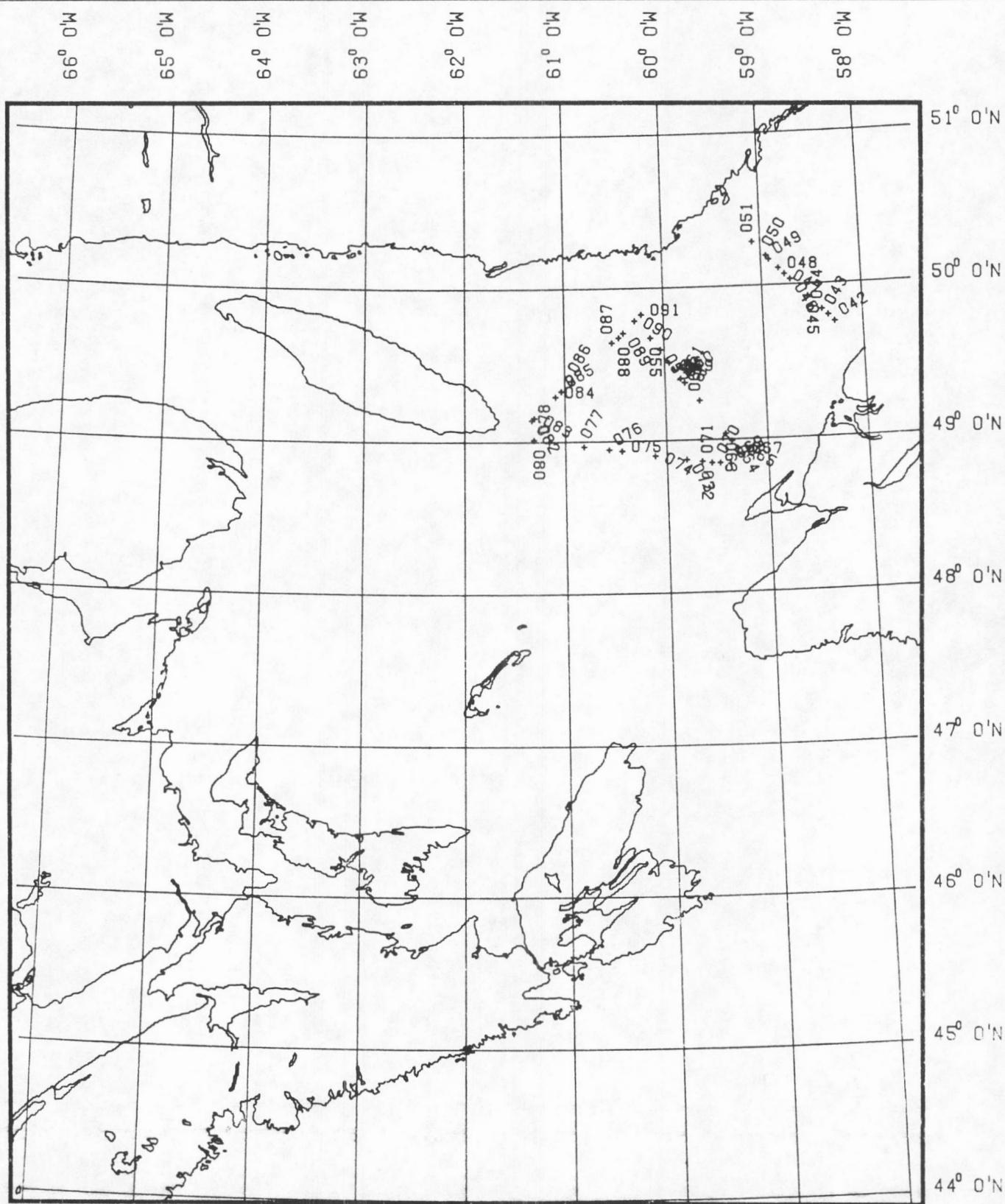
89007

ATLANTIC GEOSCIENCE CENTRE

**Figure 2. Location of Van Veen grabs**

DATE = 89/07/28. TIME = 09.35.39. SCALE = 3000000.00 REF LATS = 47.00 49.00

DAWSON 89007 VAN VEEN GRABS

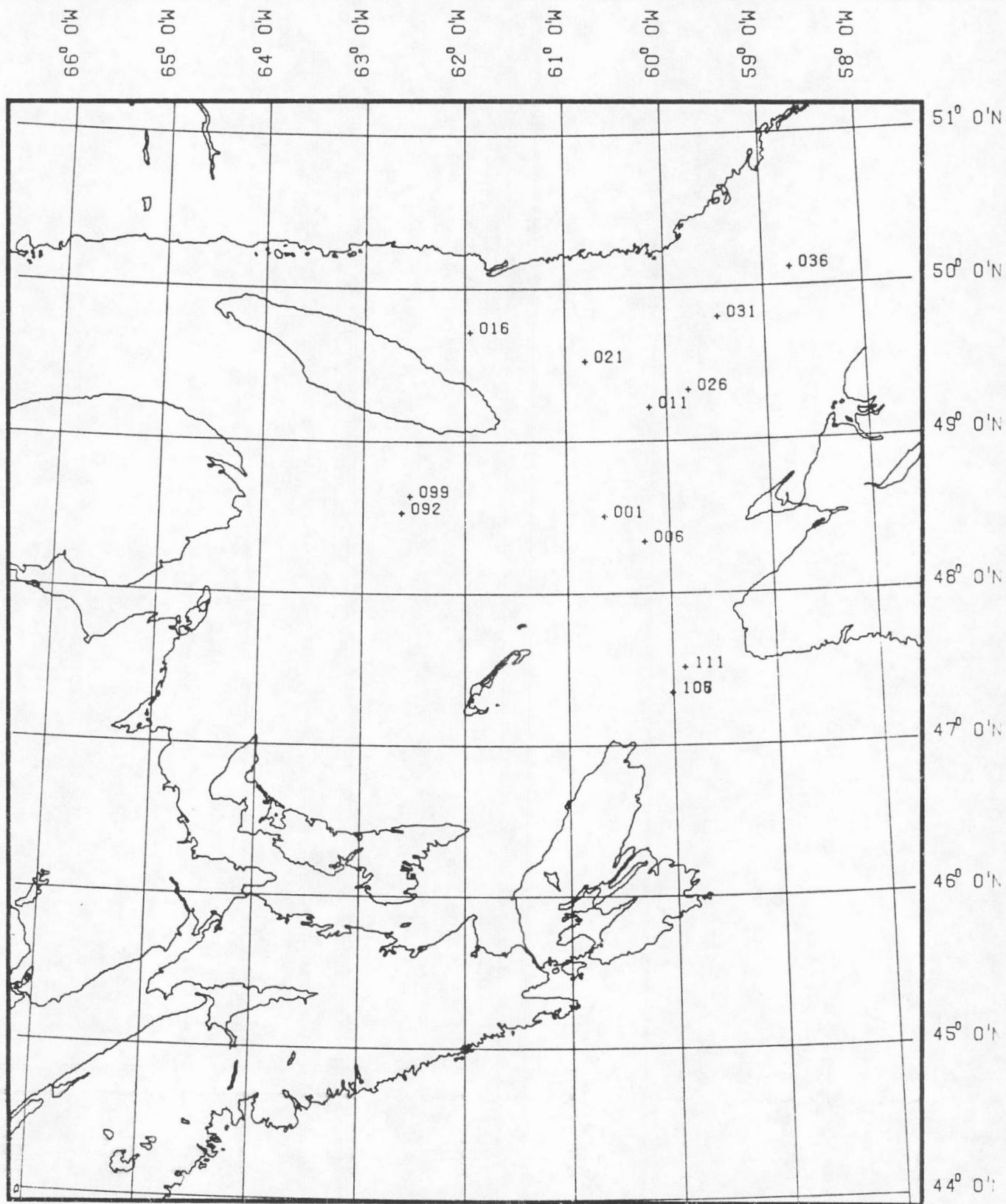


ATLANTIC GEOSCIENCE CENTRE

Figure 3. Location of piston and box cores.

DATE = 89/07/28. TIME = 09.30.10. SCALE = 3000000.00 REF LATS = 47.00 49.00

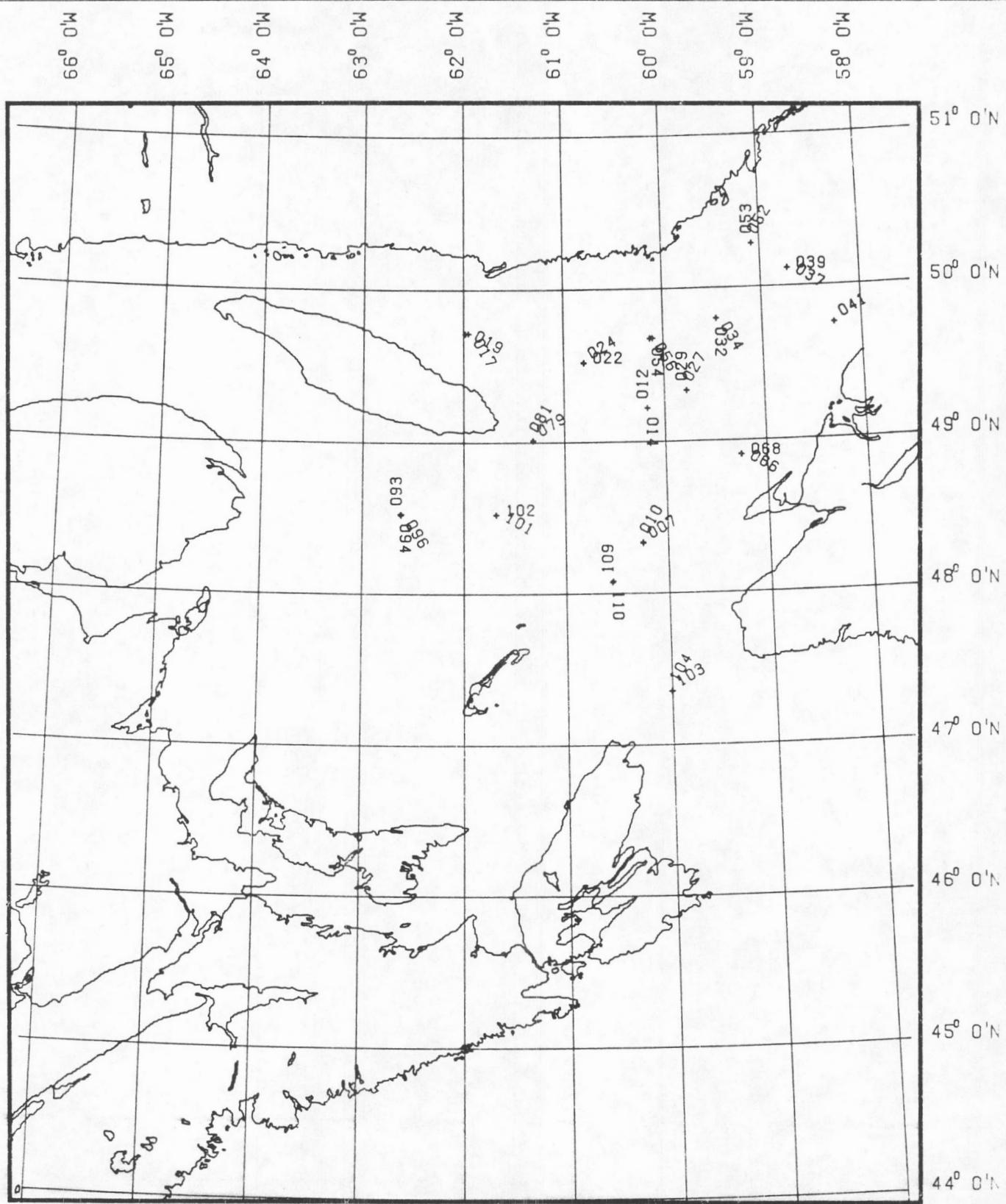
DAWSON 89007 PISTON CORES



**Figure 4. Location of water sample and CTD stations**

DATE = 89/07/28. TIME = 14.07.27. SCALE = 3000000.00 REF LATS = 47.00 49.00

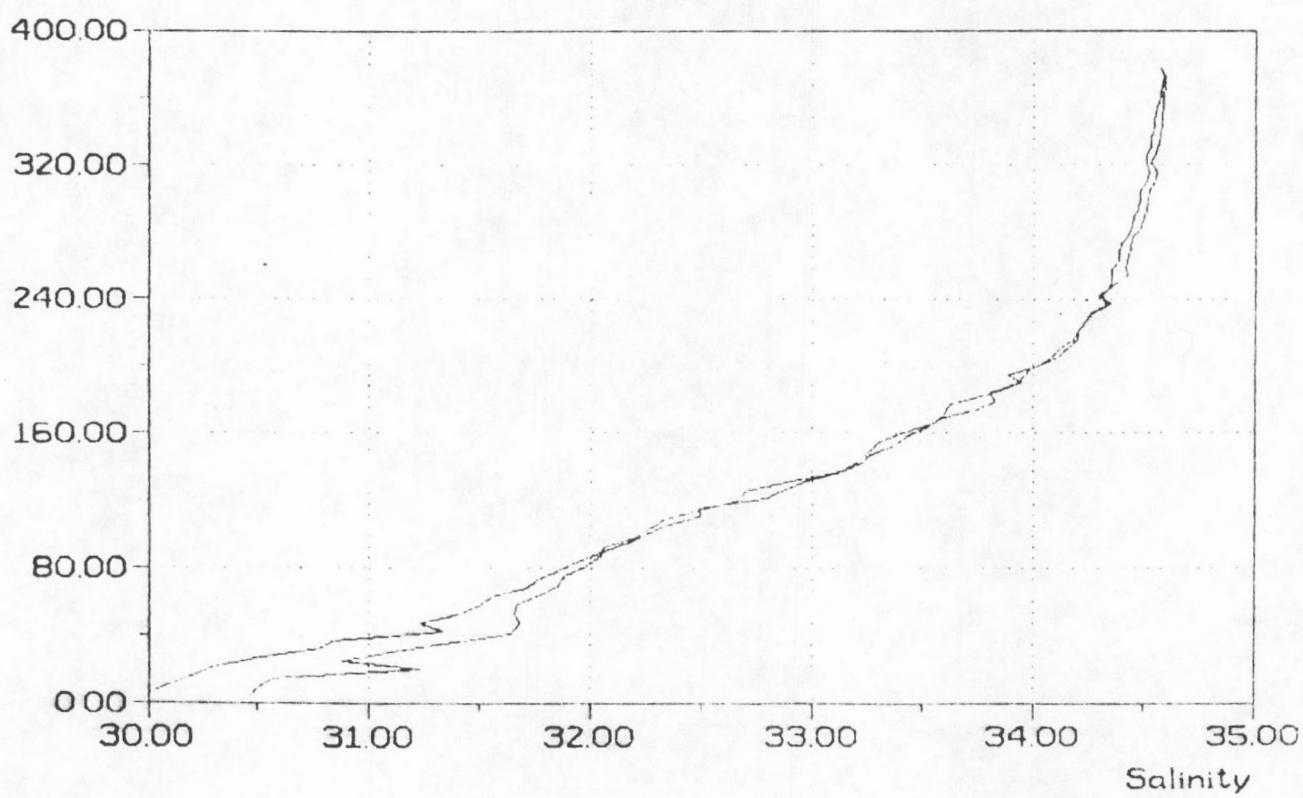
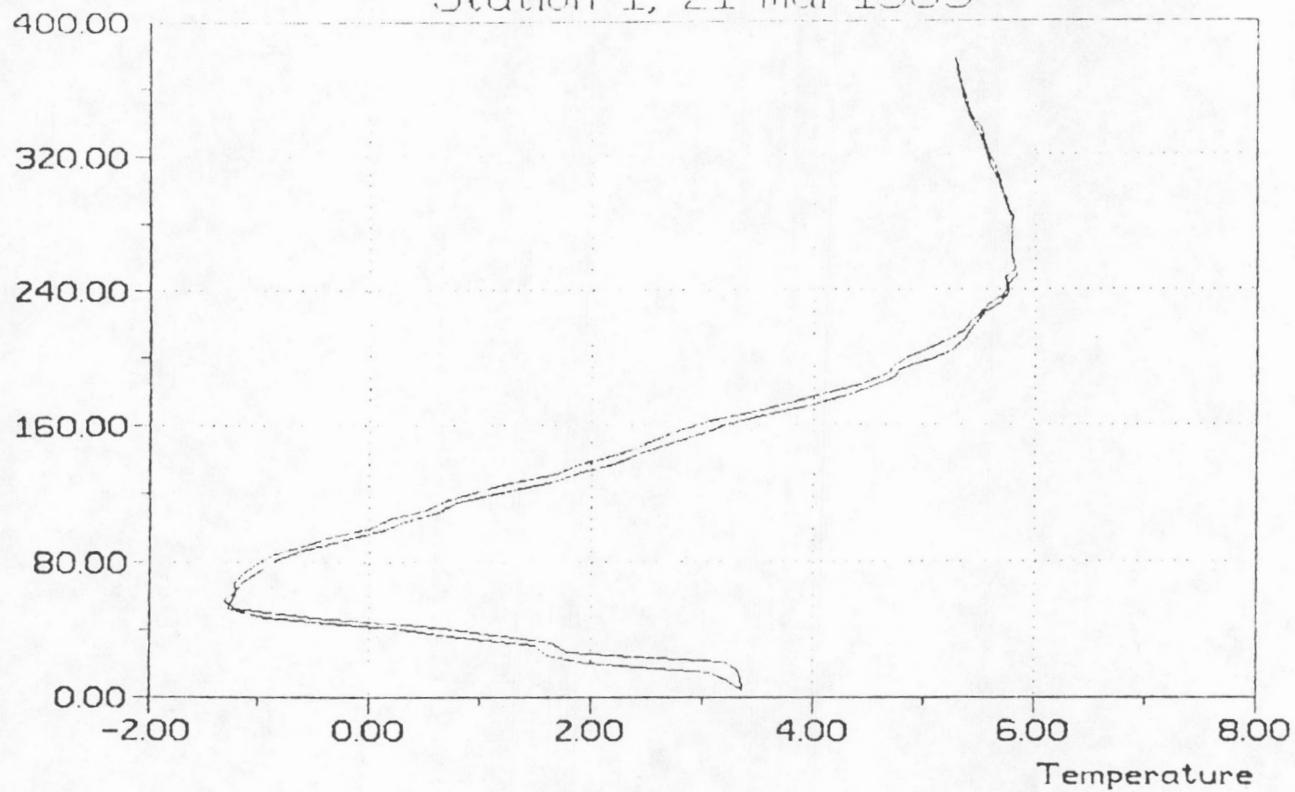
DAWSON 89007 WATER SAMPLES



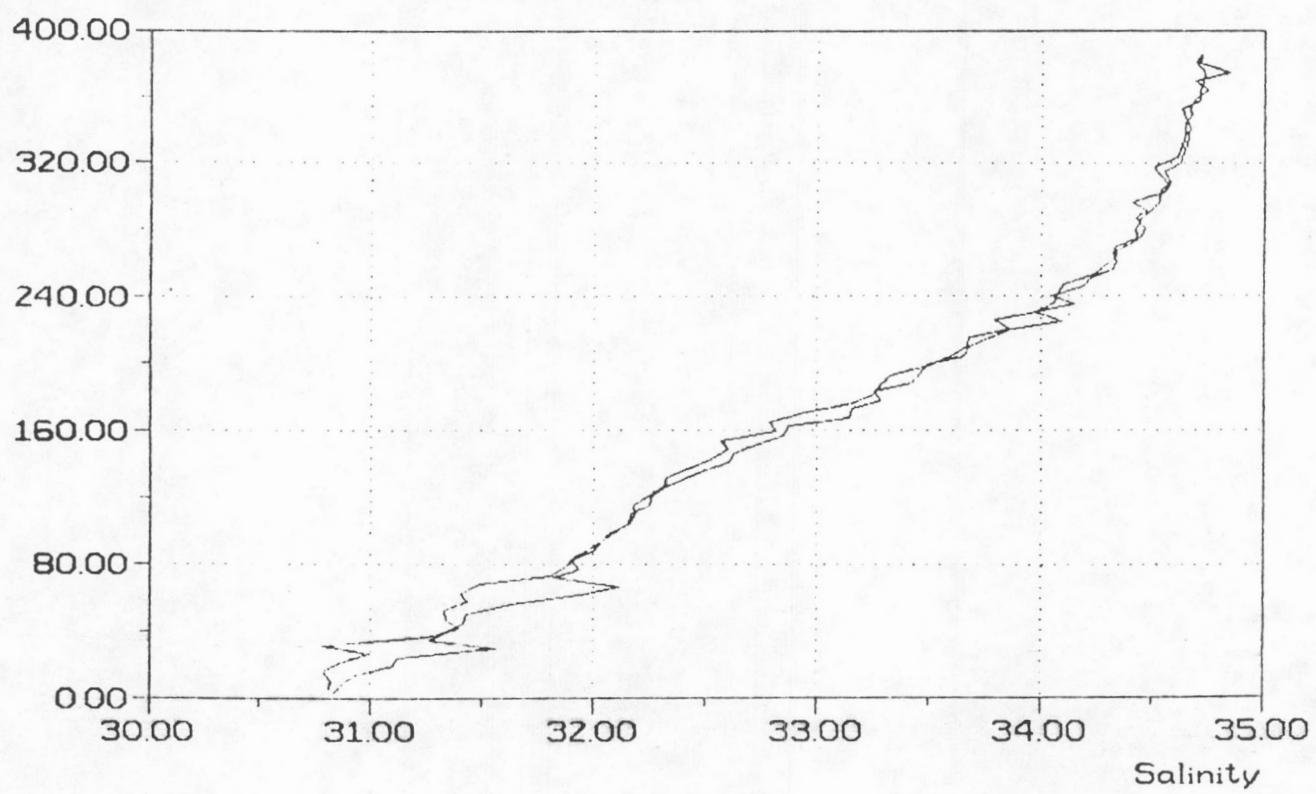
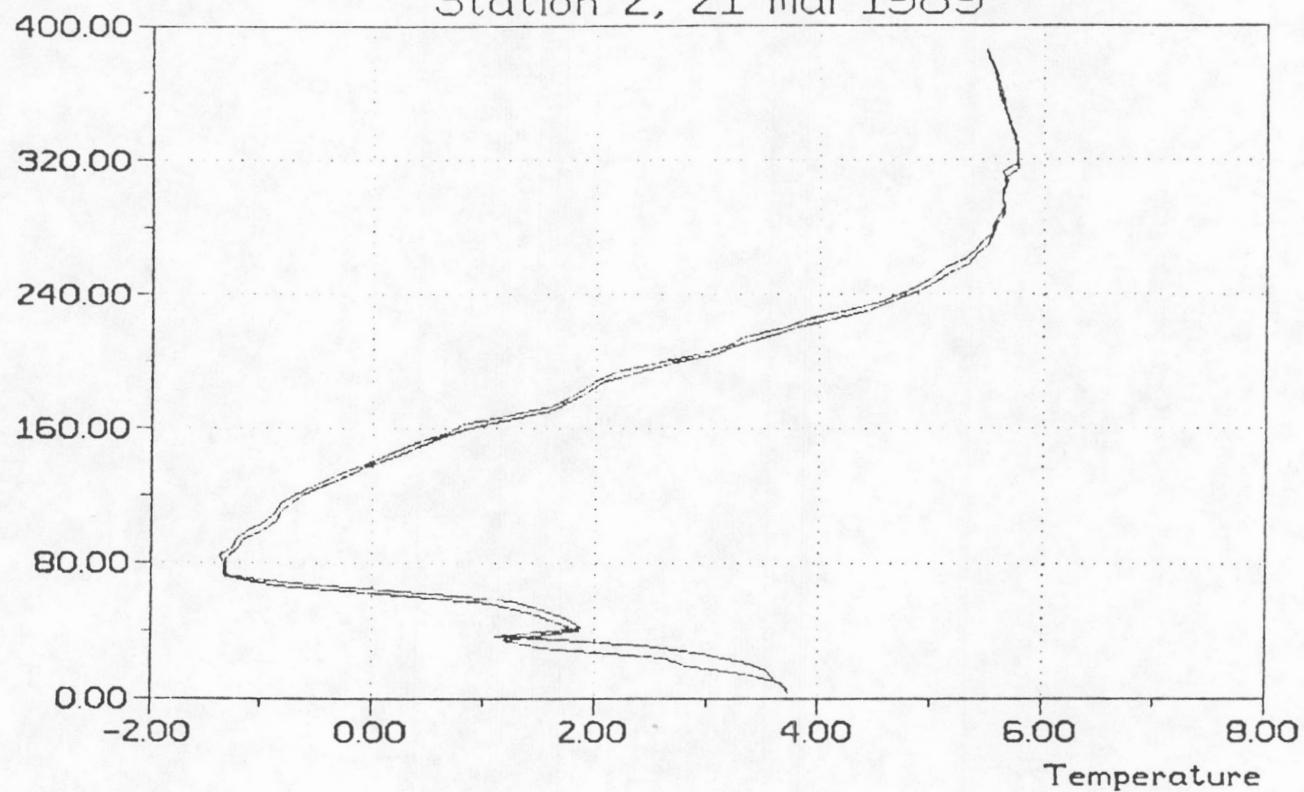
ATLANTIC GEOSCIENCE CENTRE

**Figure 5. Temperature - depth and salinity - depth profiles**

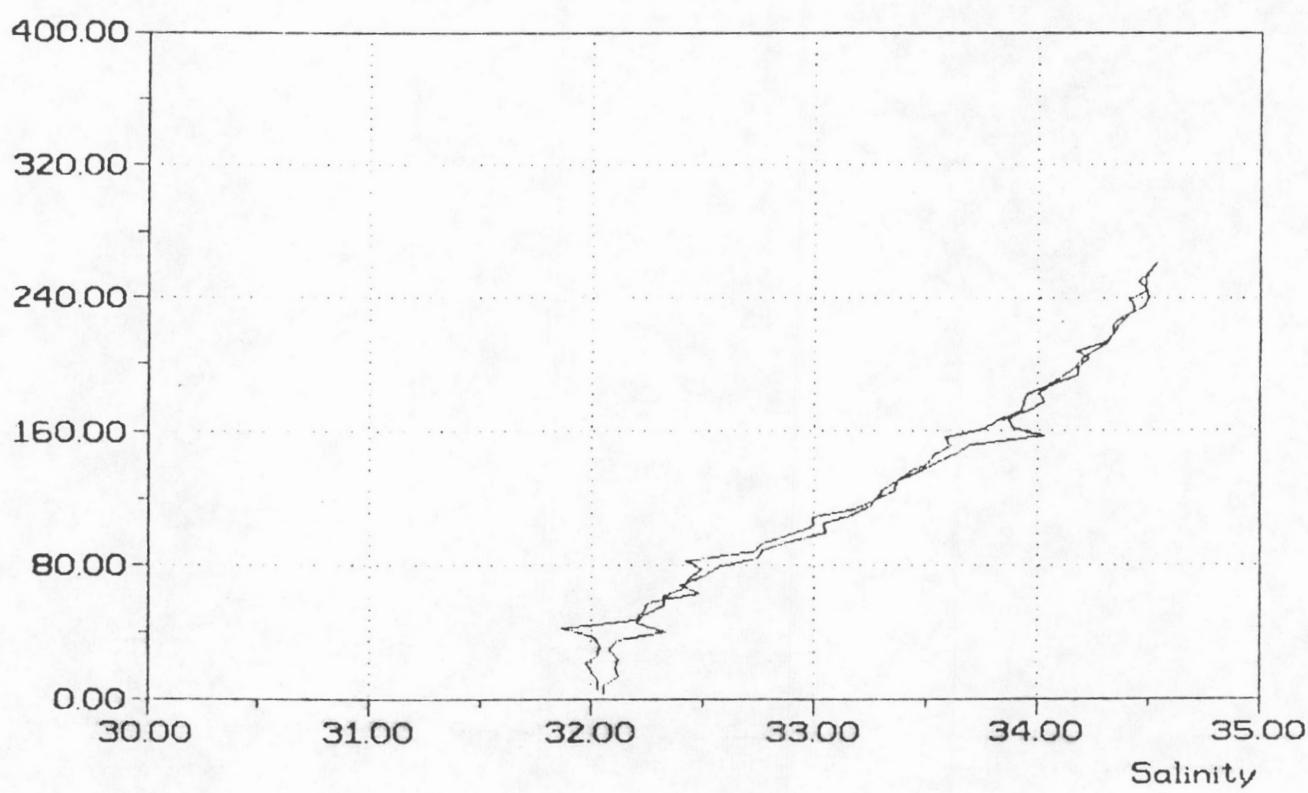
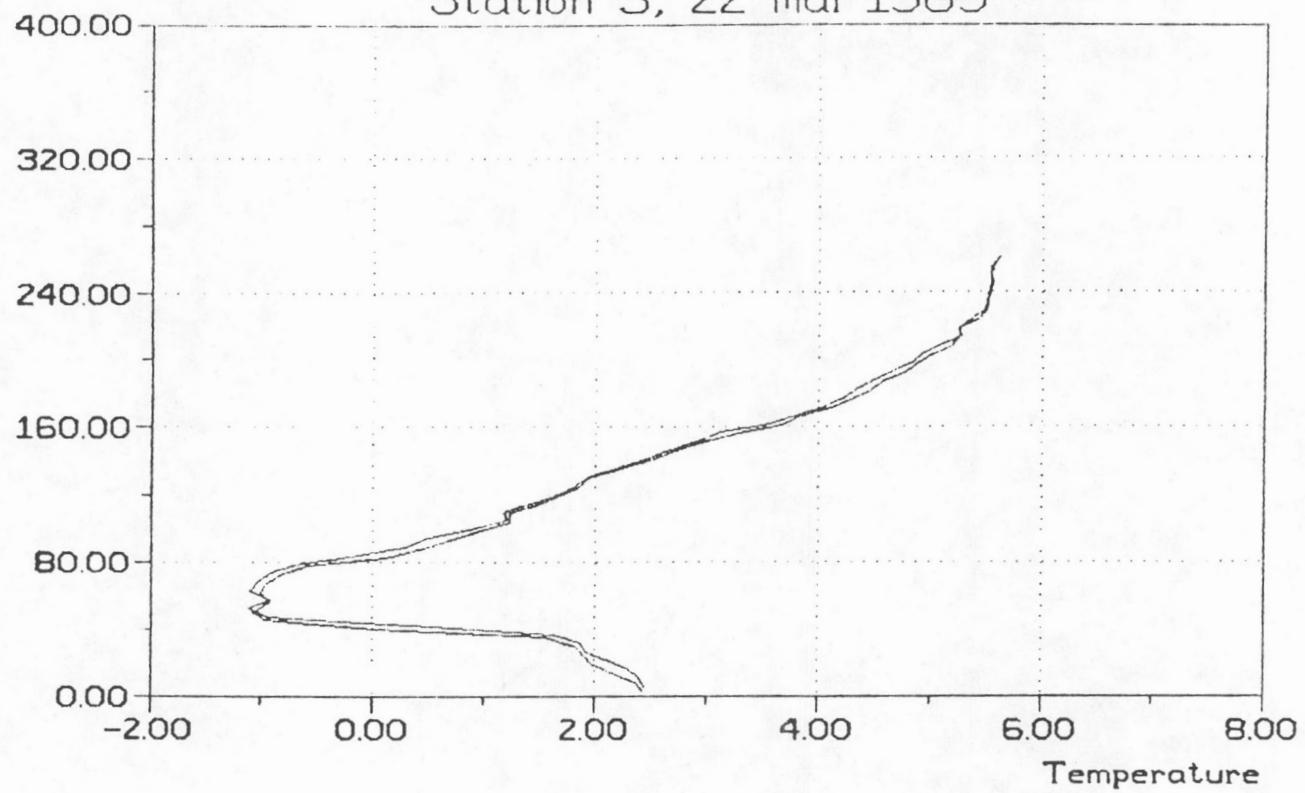
Station 1, 21 mai 1989



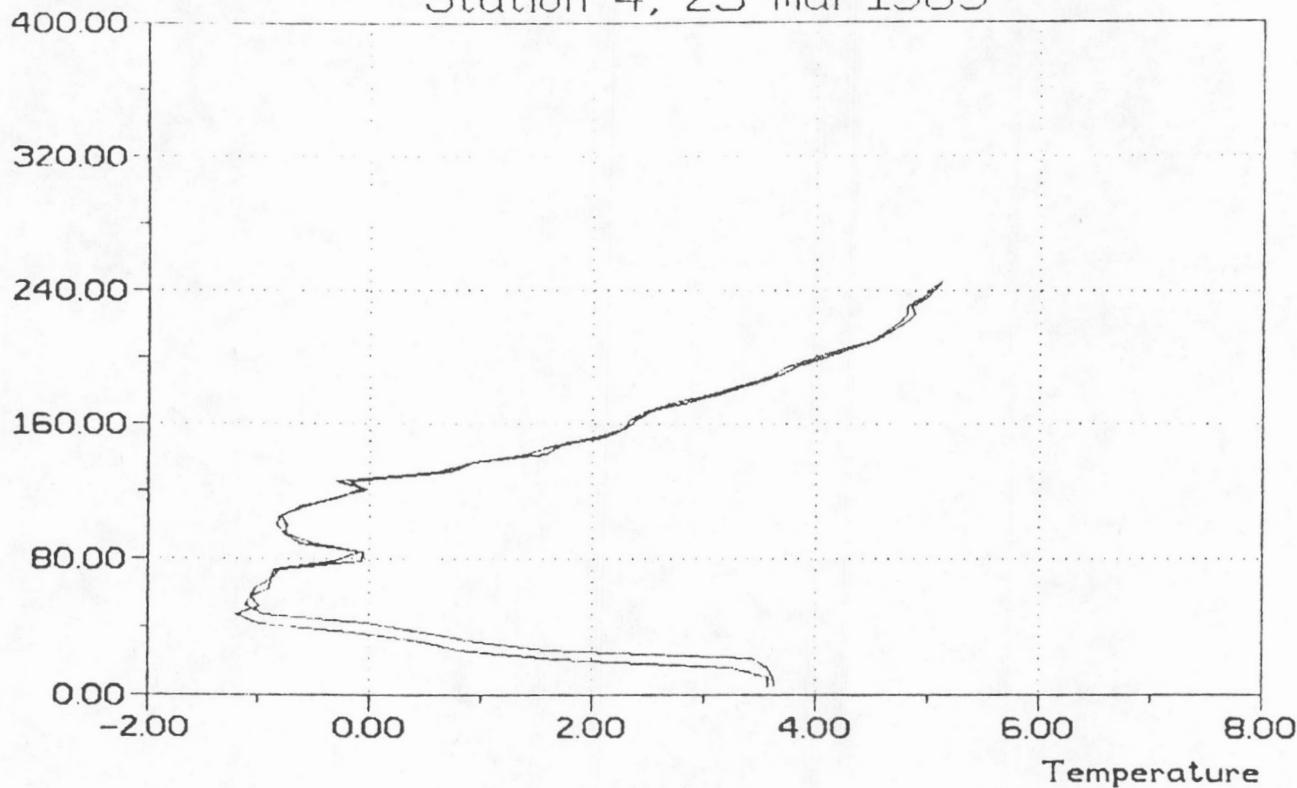
Station 2, 21 mai 1989



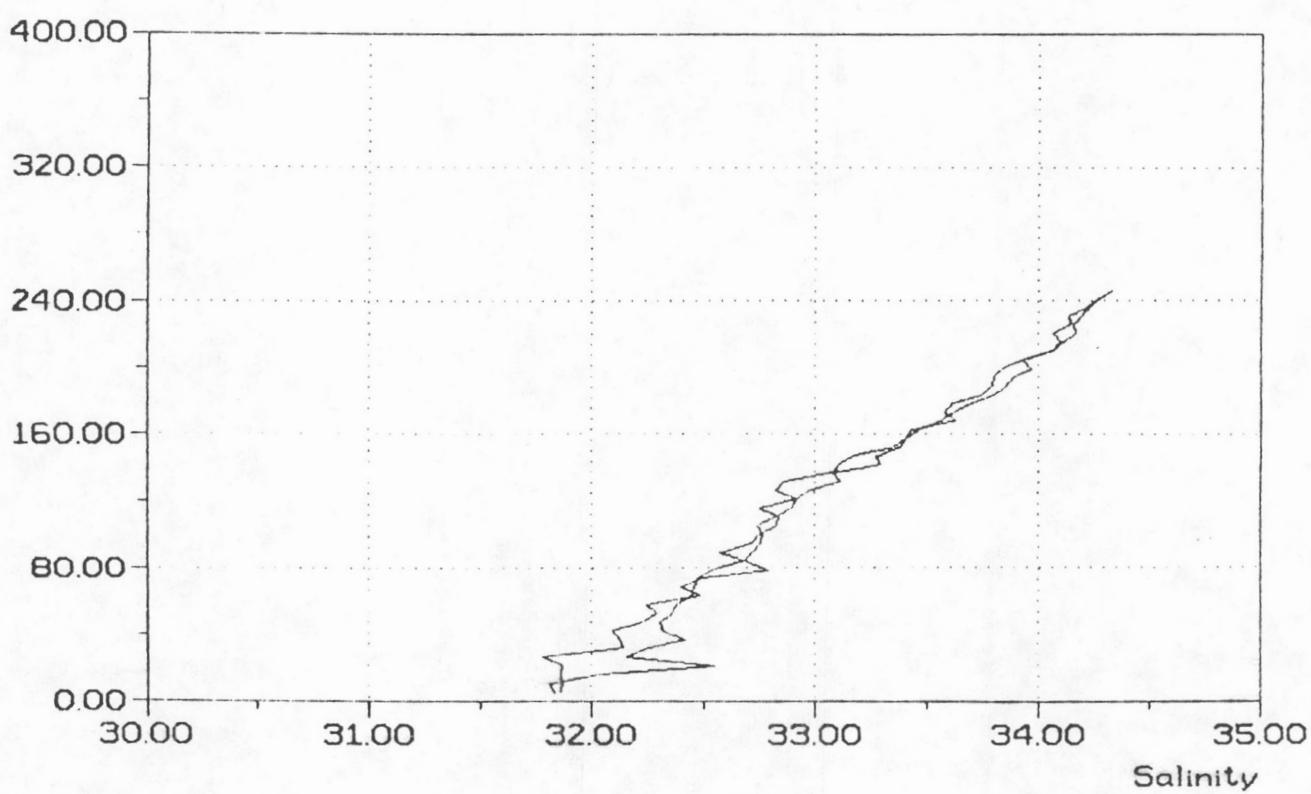
Station 3, 22 mai 1989



Station 4, 23 mai 1989

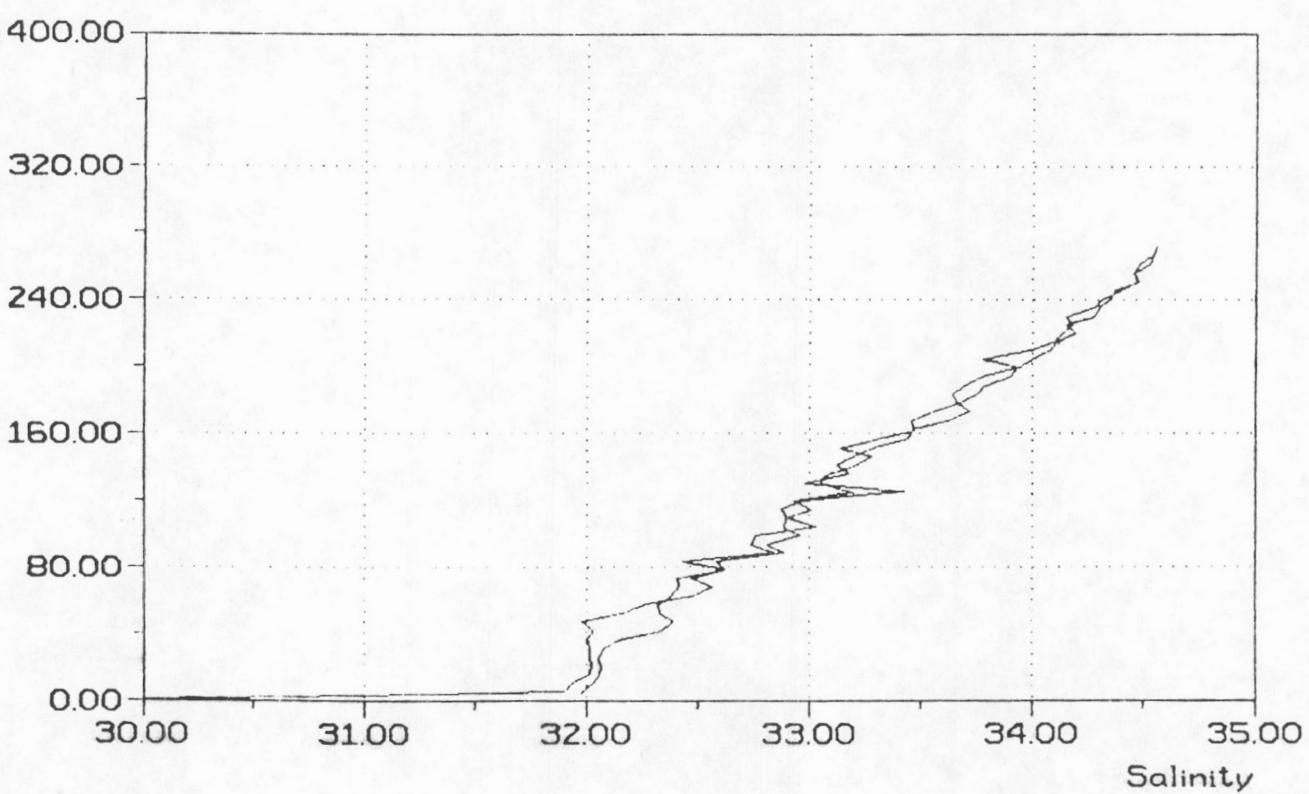
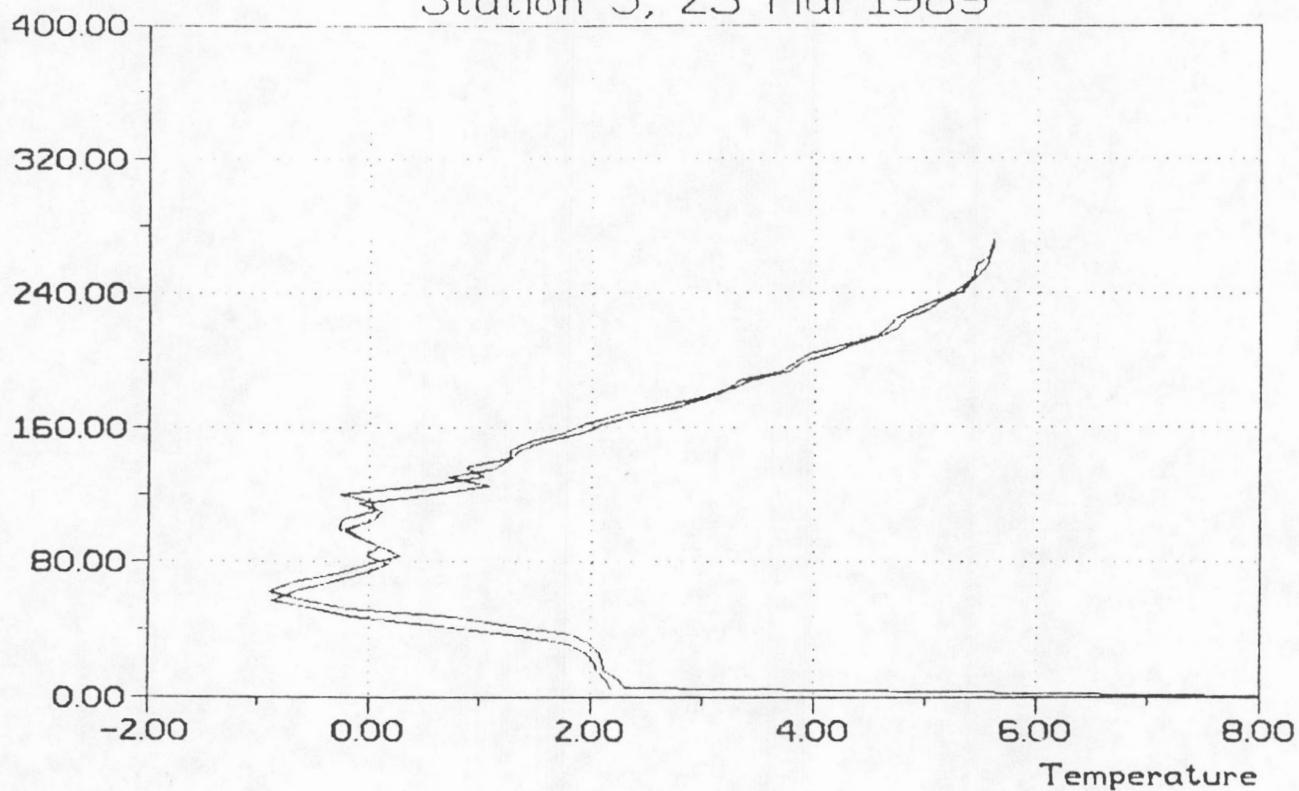


Pressure  
mbar

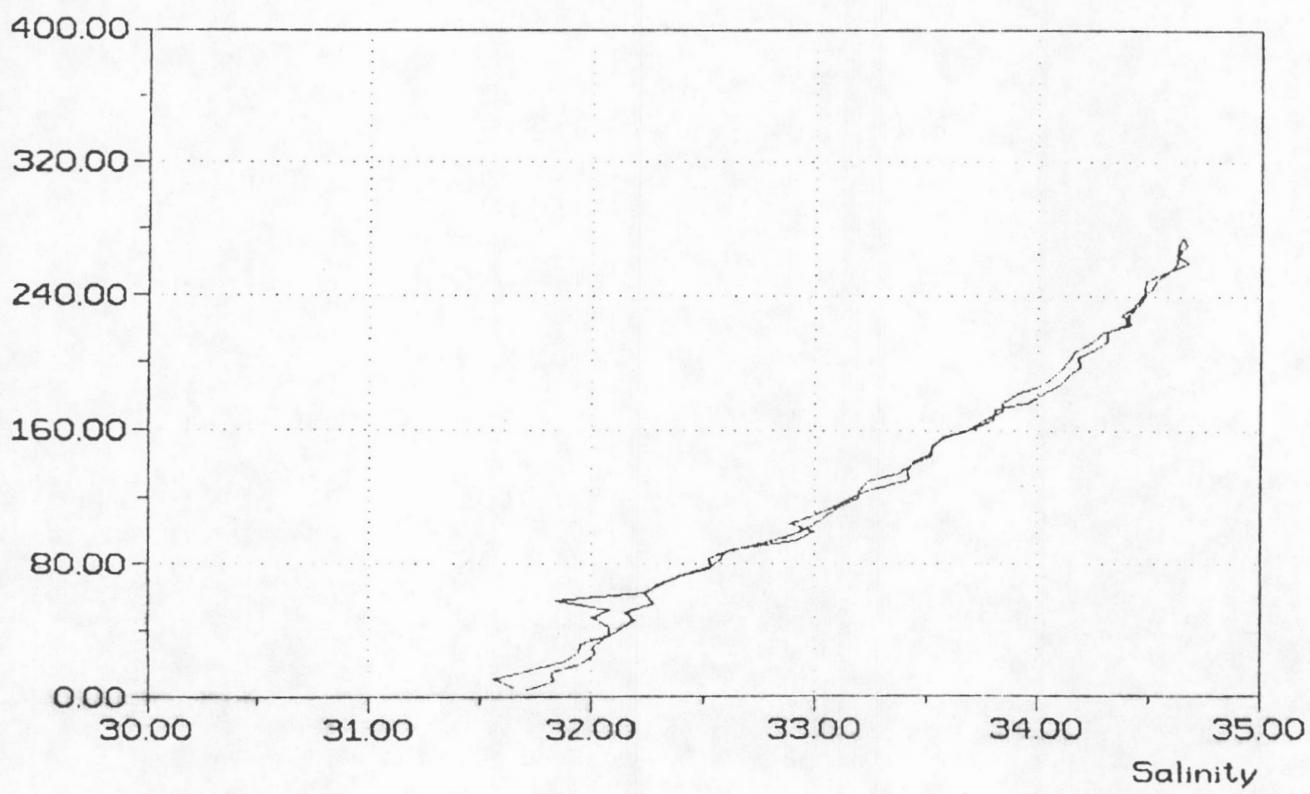
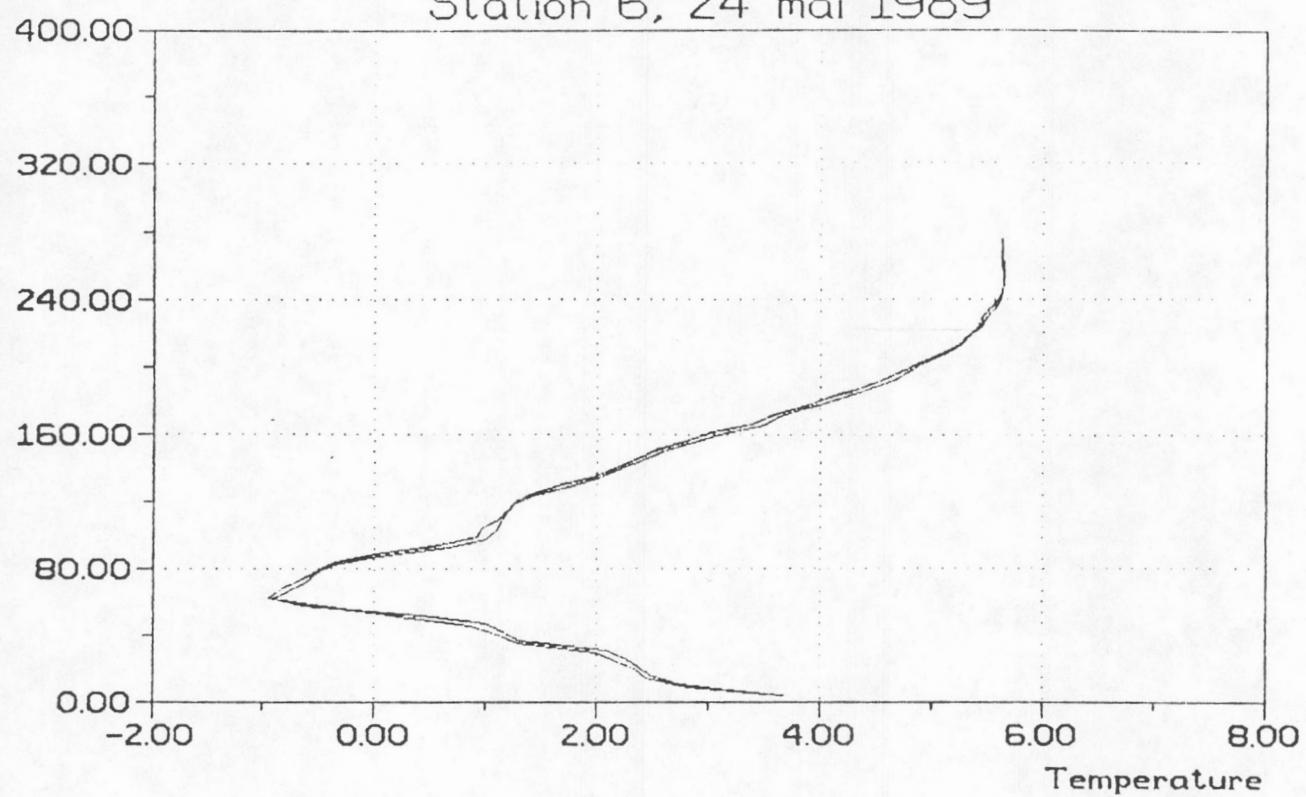


Pressure  
mbar

Station 5, 23 Mai 1989

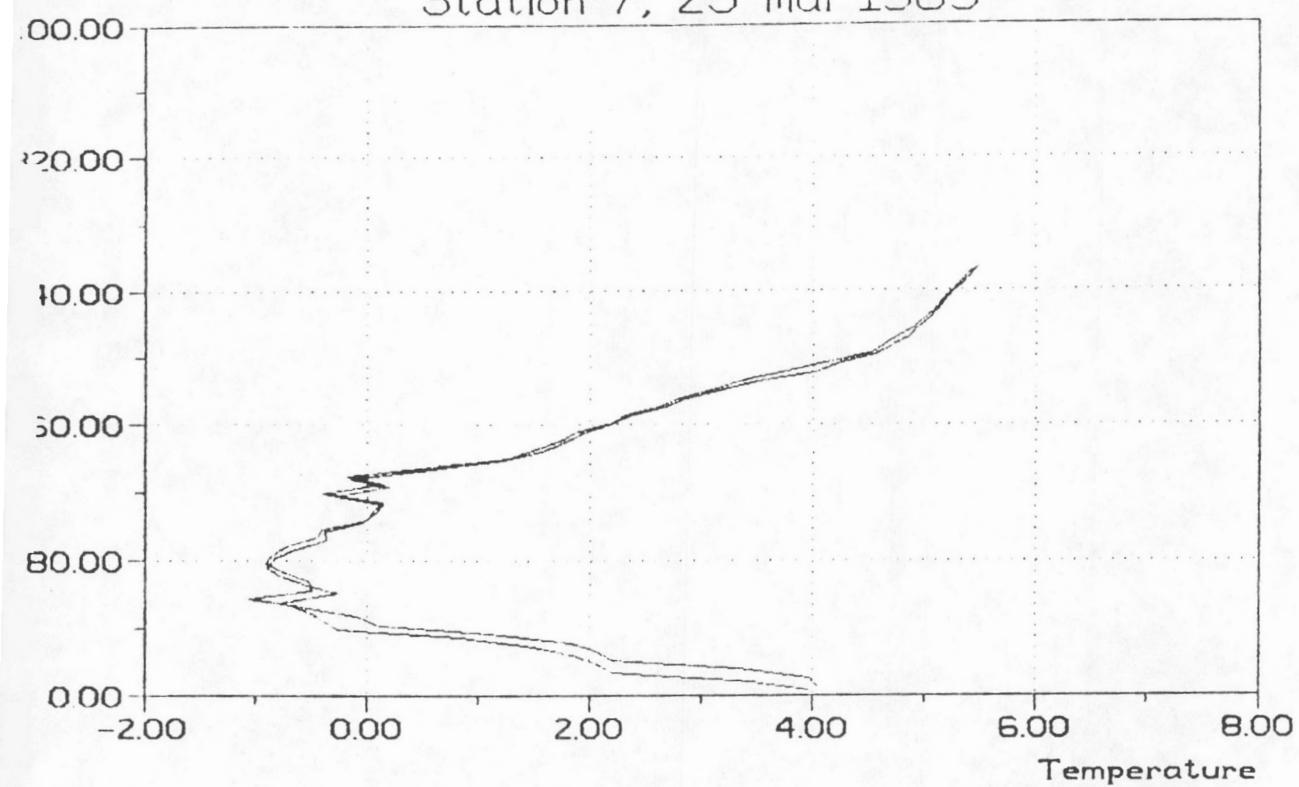


Station 6, 24 mai 1989

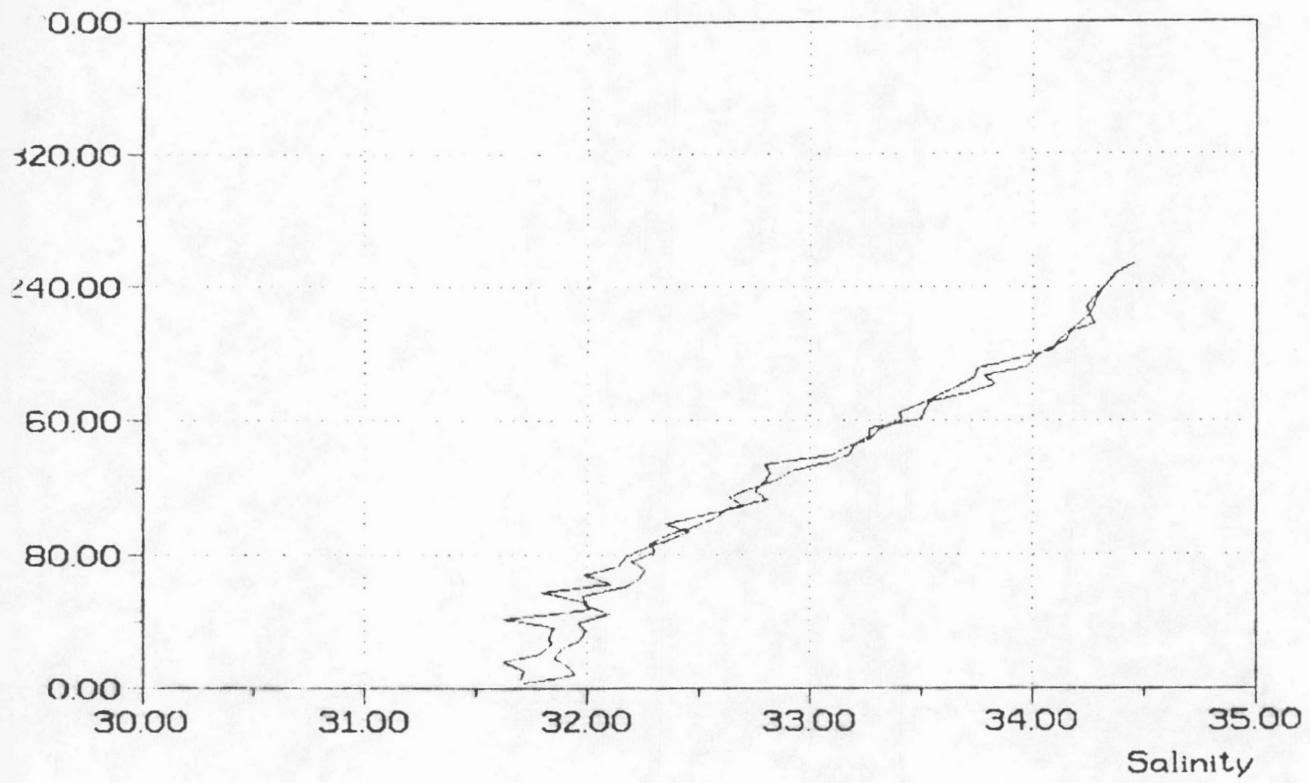


Station 7, 25 mai 1989

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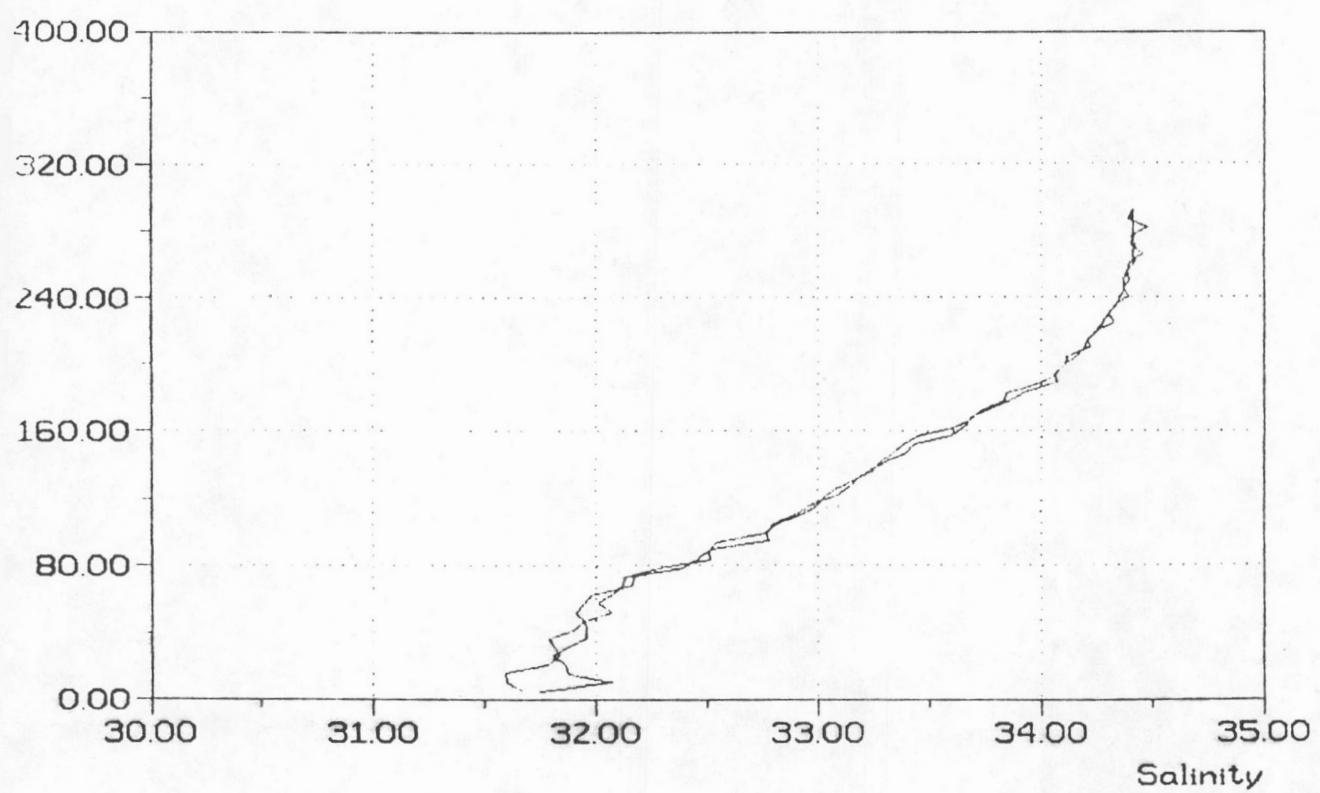
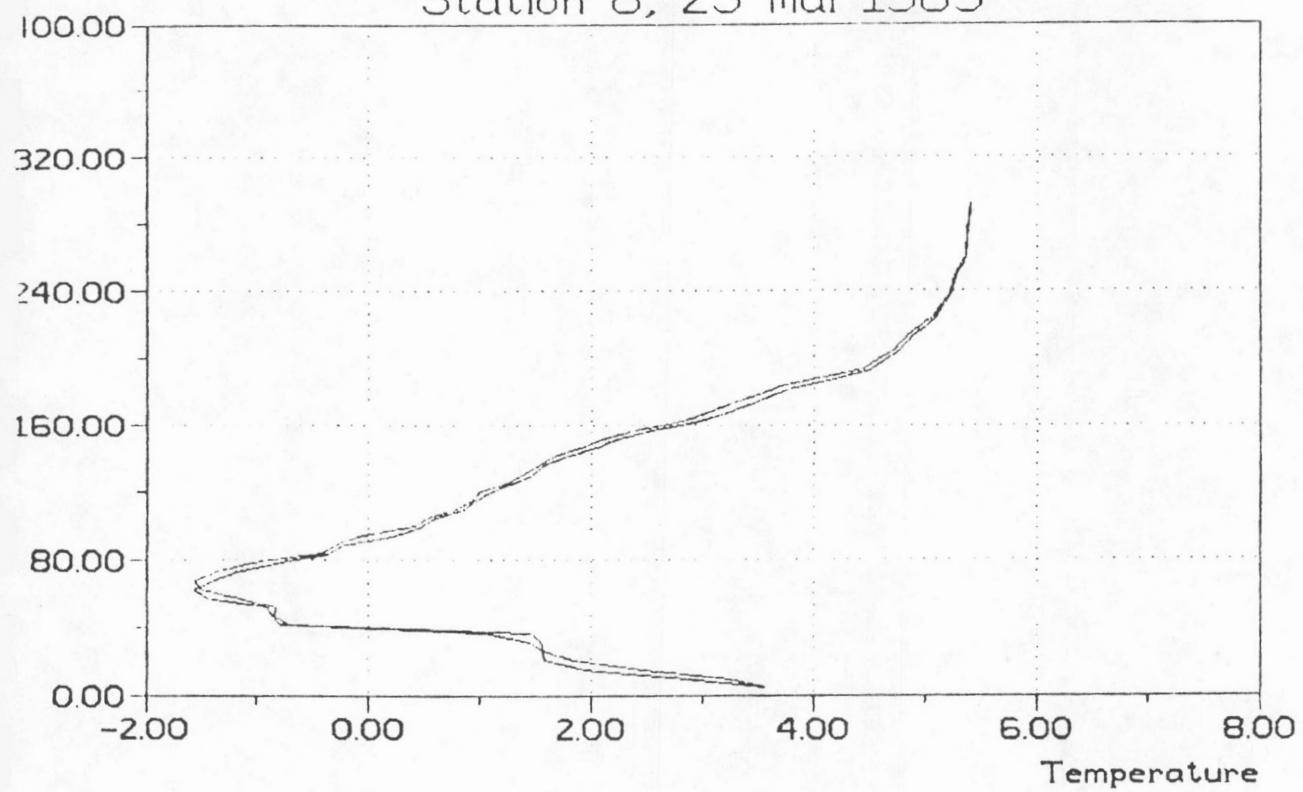


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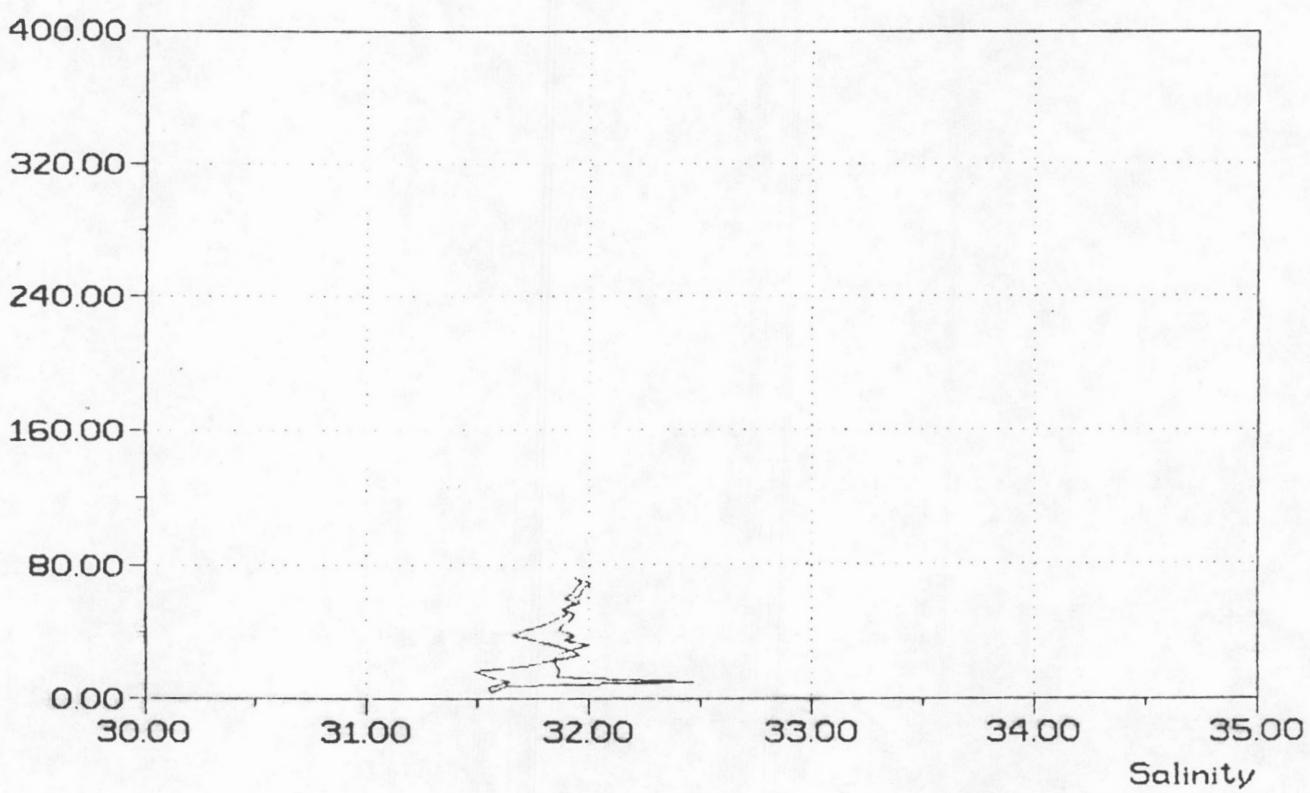
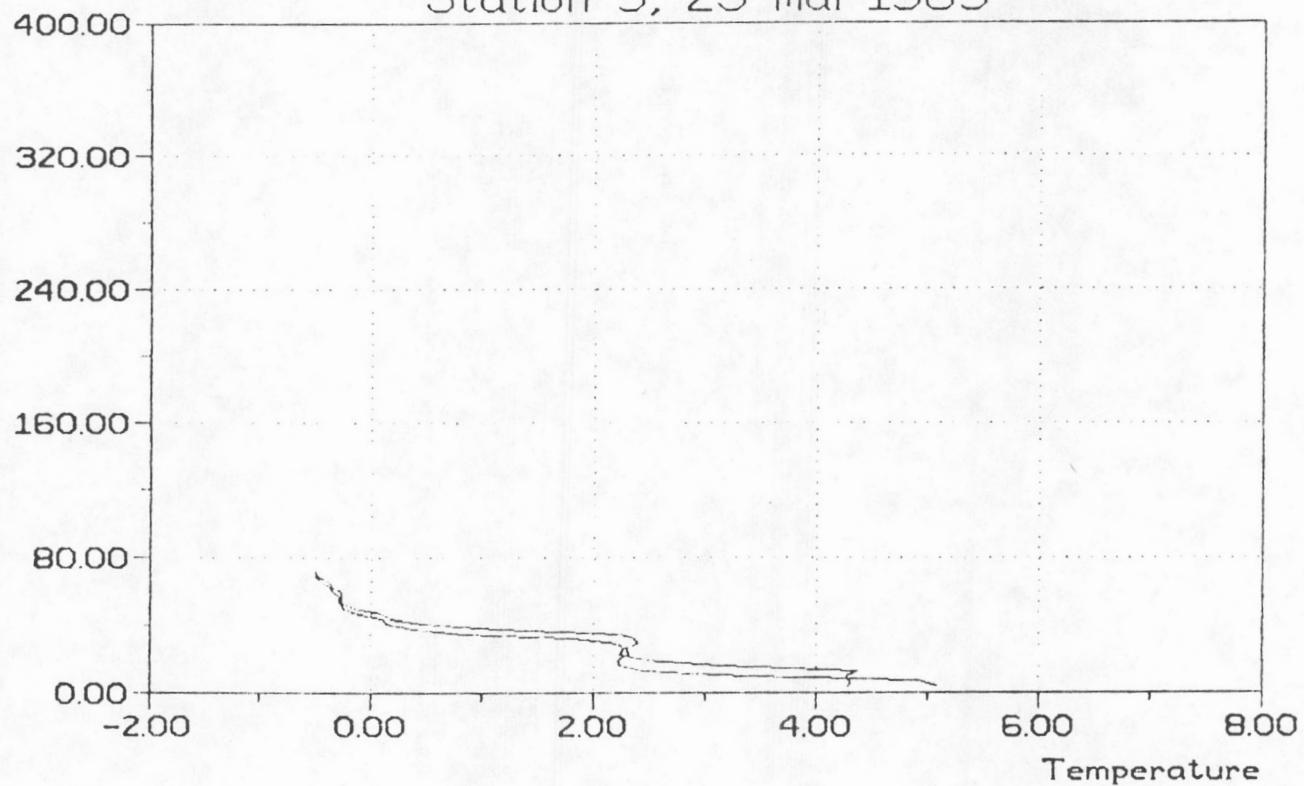


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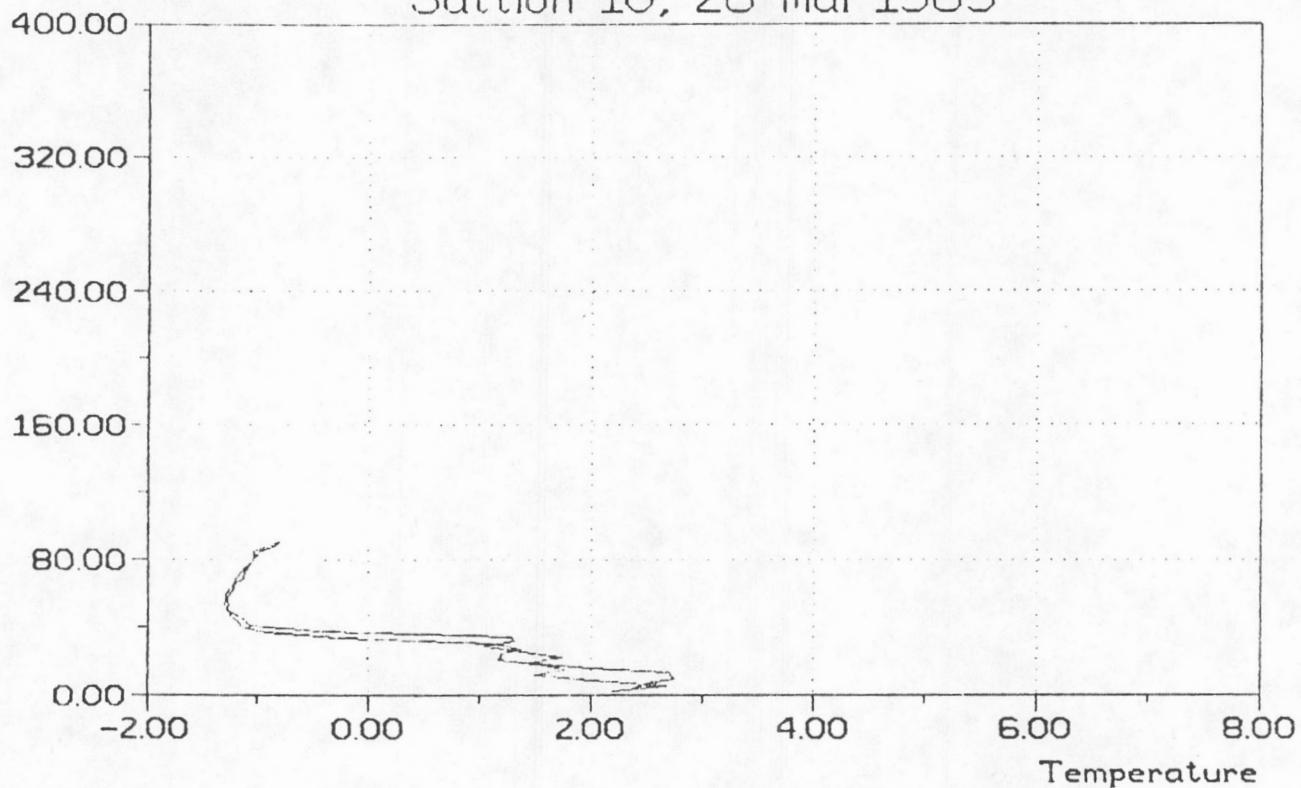
Station 8, 25 mai 1989



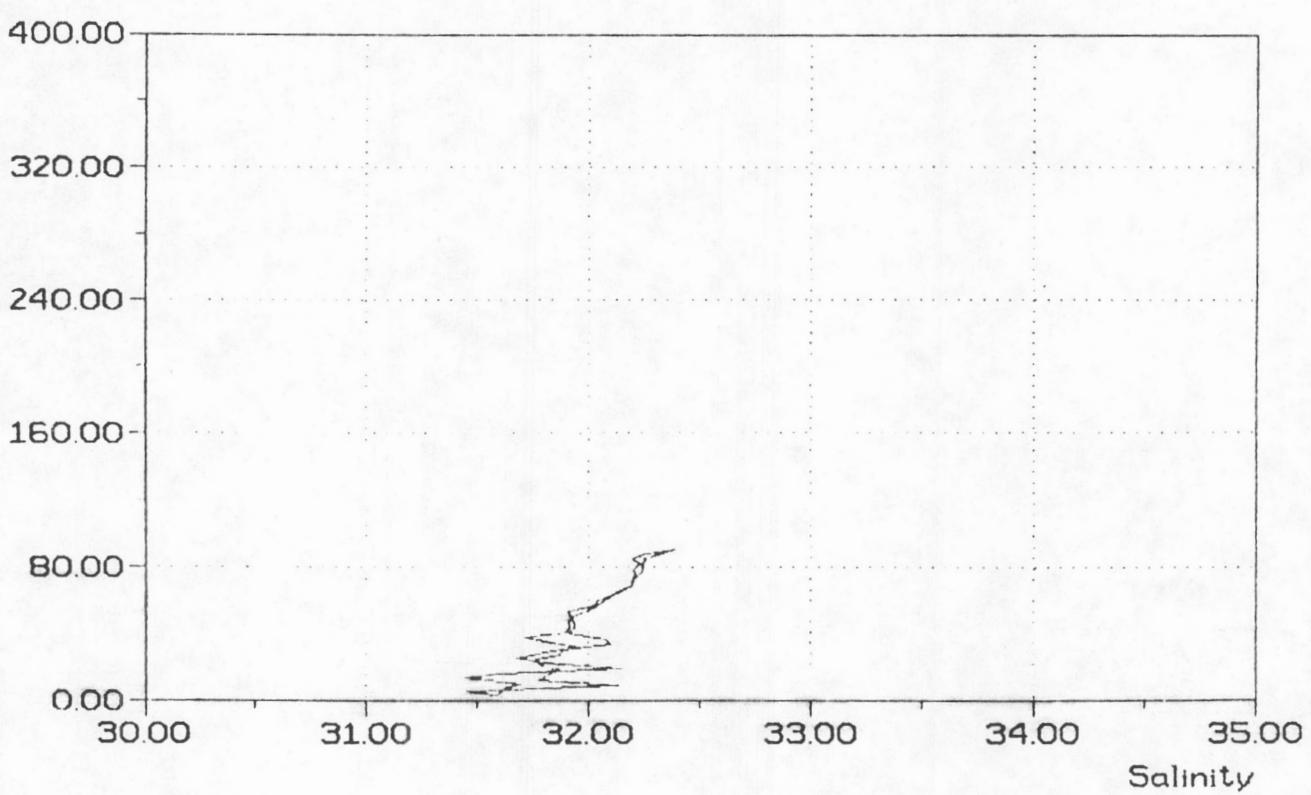
Station 9, 25 mai 1989



Sattion 10, 26 mai 1989

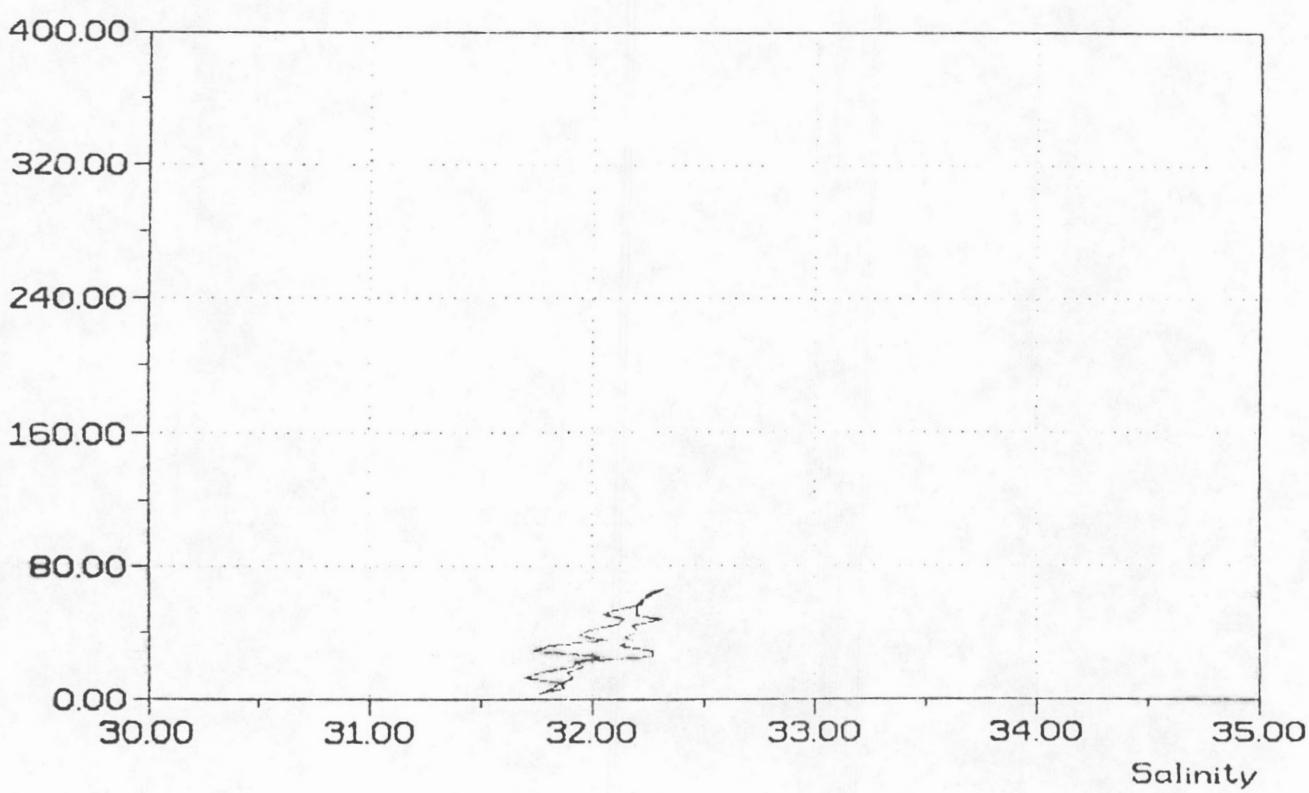
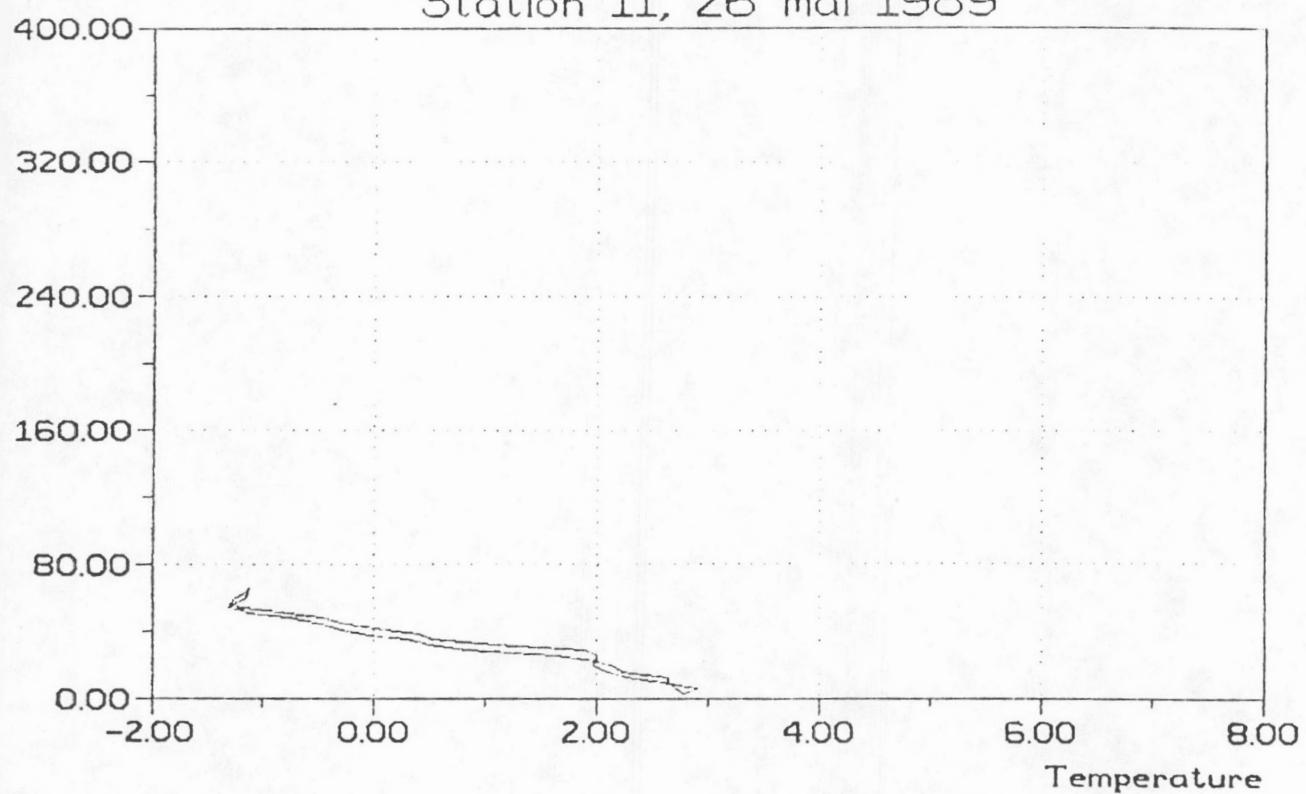


Préf. de l'Est



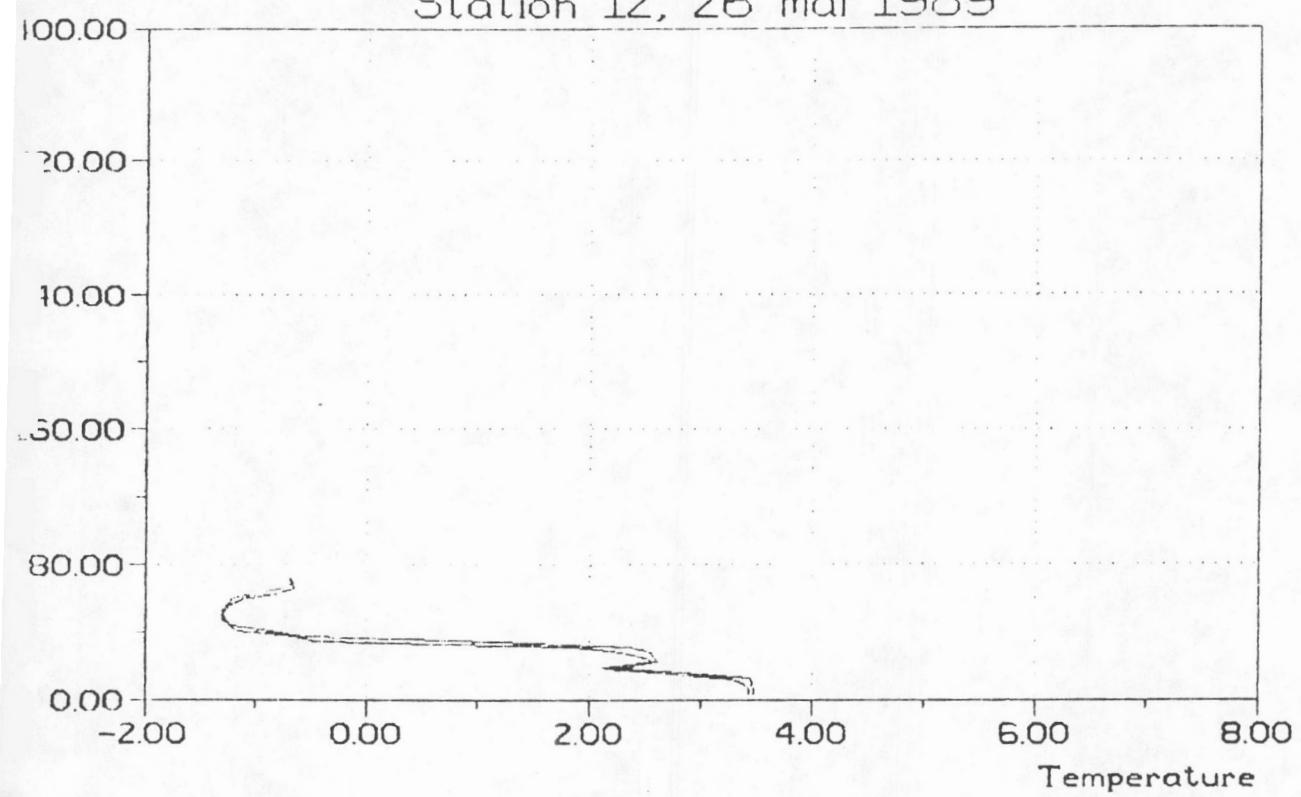
Préf. de l'Est

Station 11, 26 mai 1989



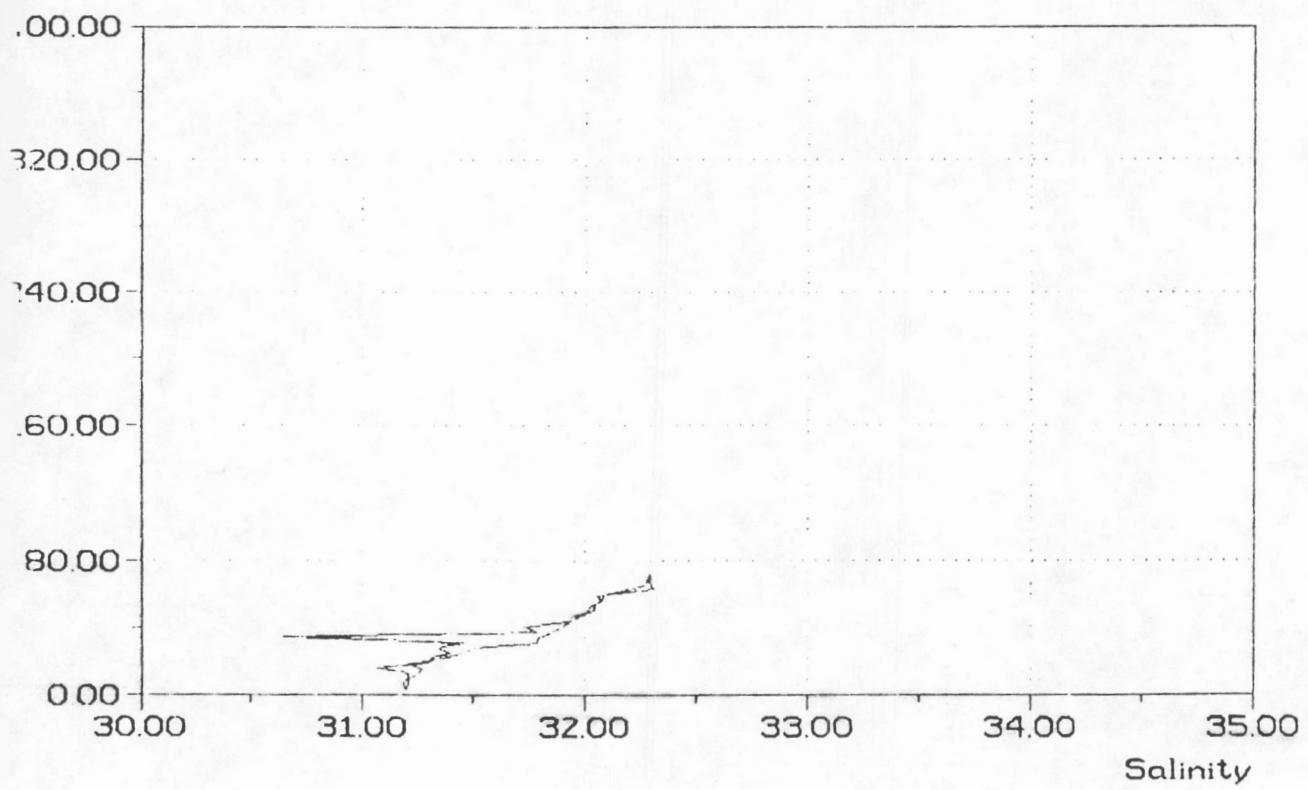
Station 12, 26 mai 1989

Profondeur  
m

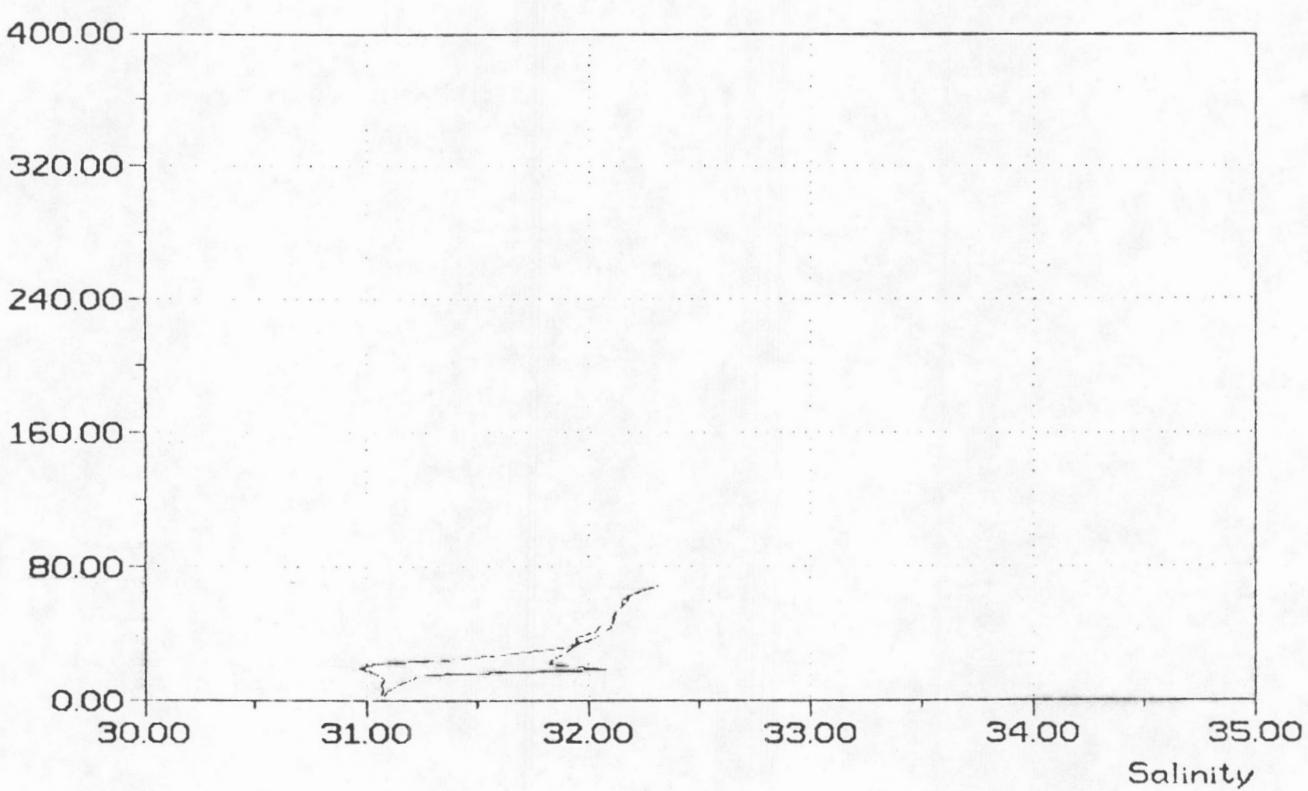
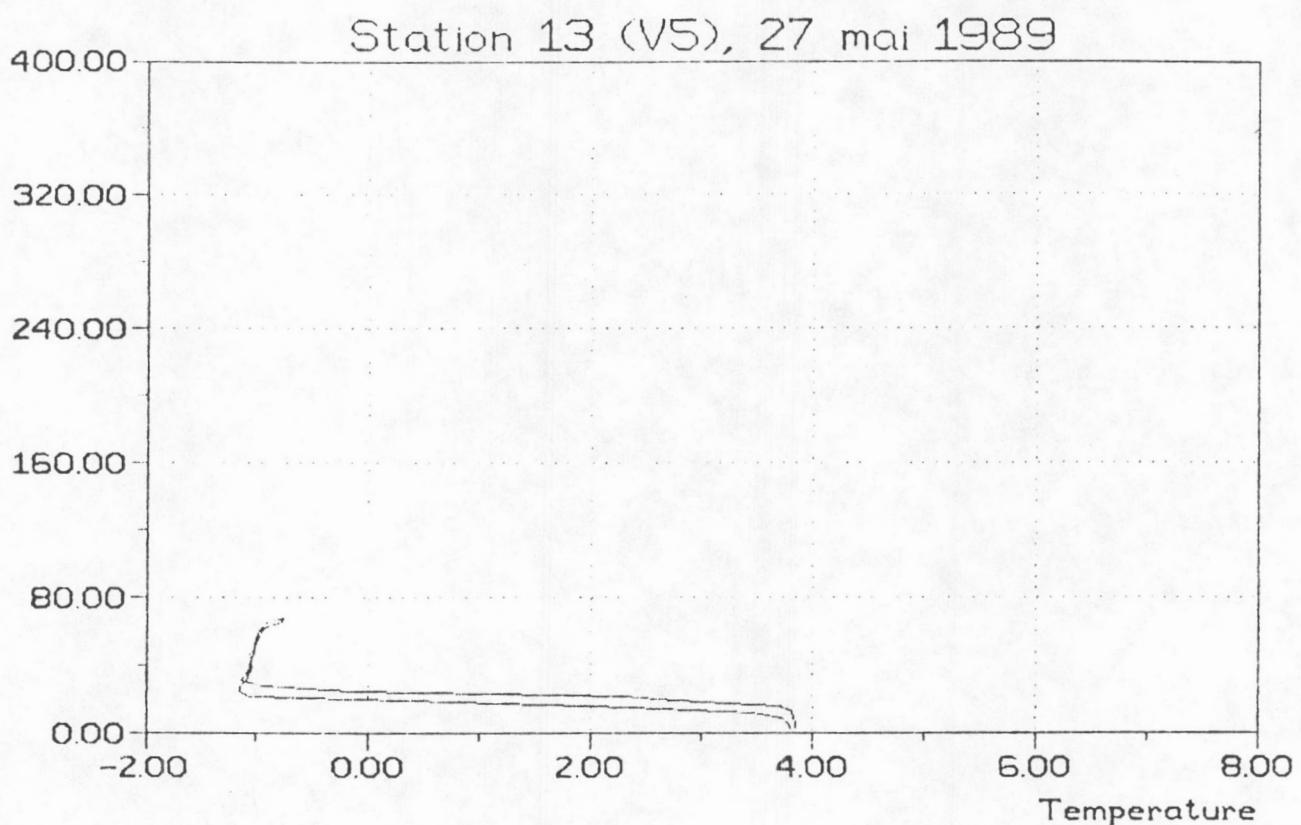


Temperature

Profondeur  
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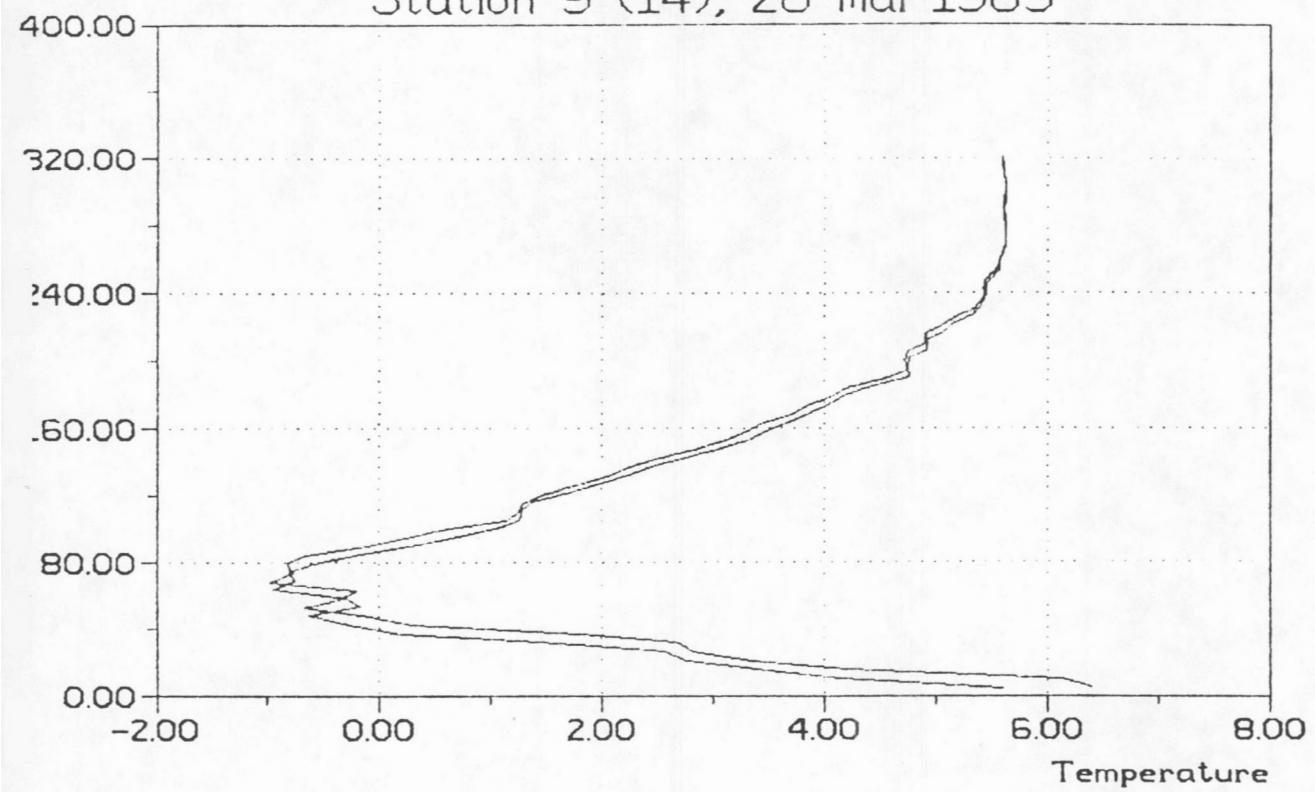


Salinity

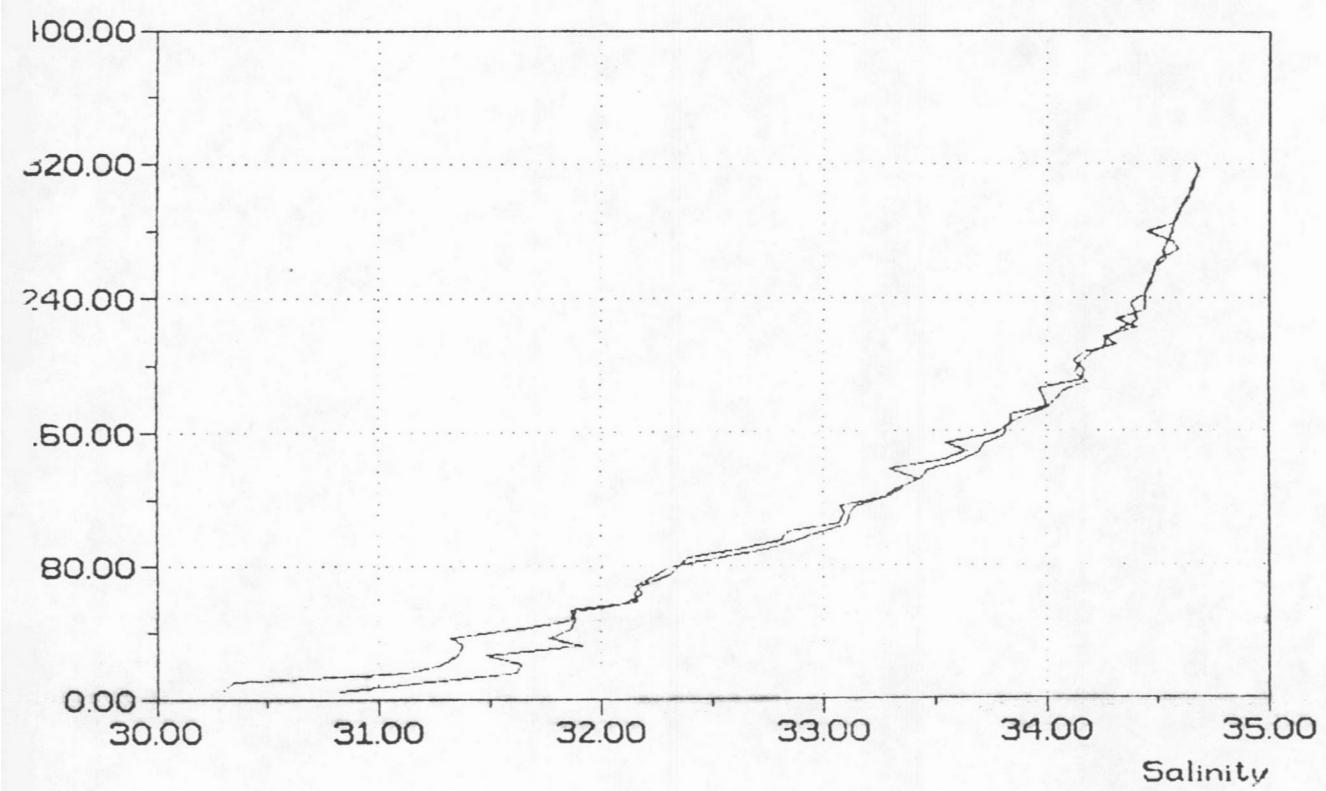


Station 9 (14), 28 mai 1989

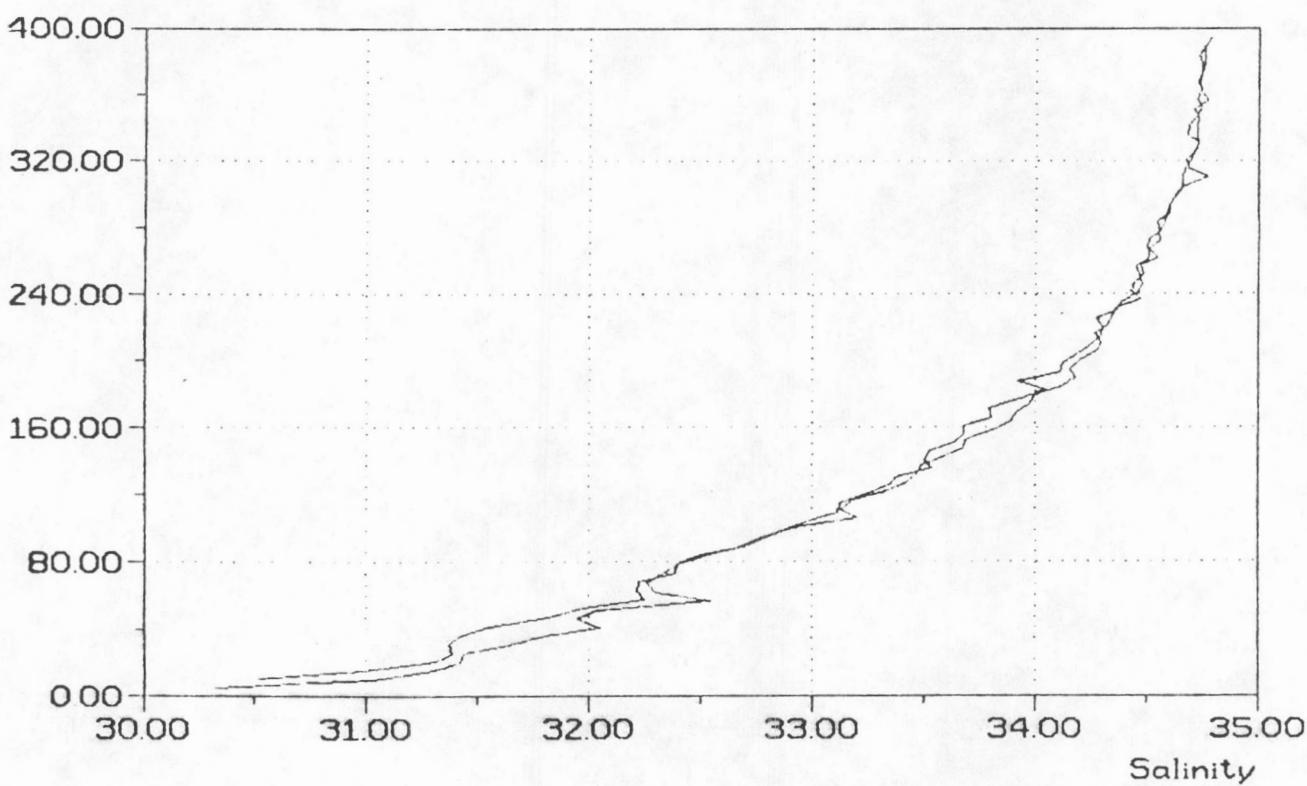
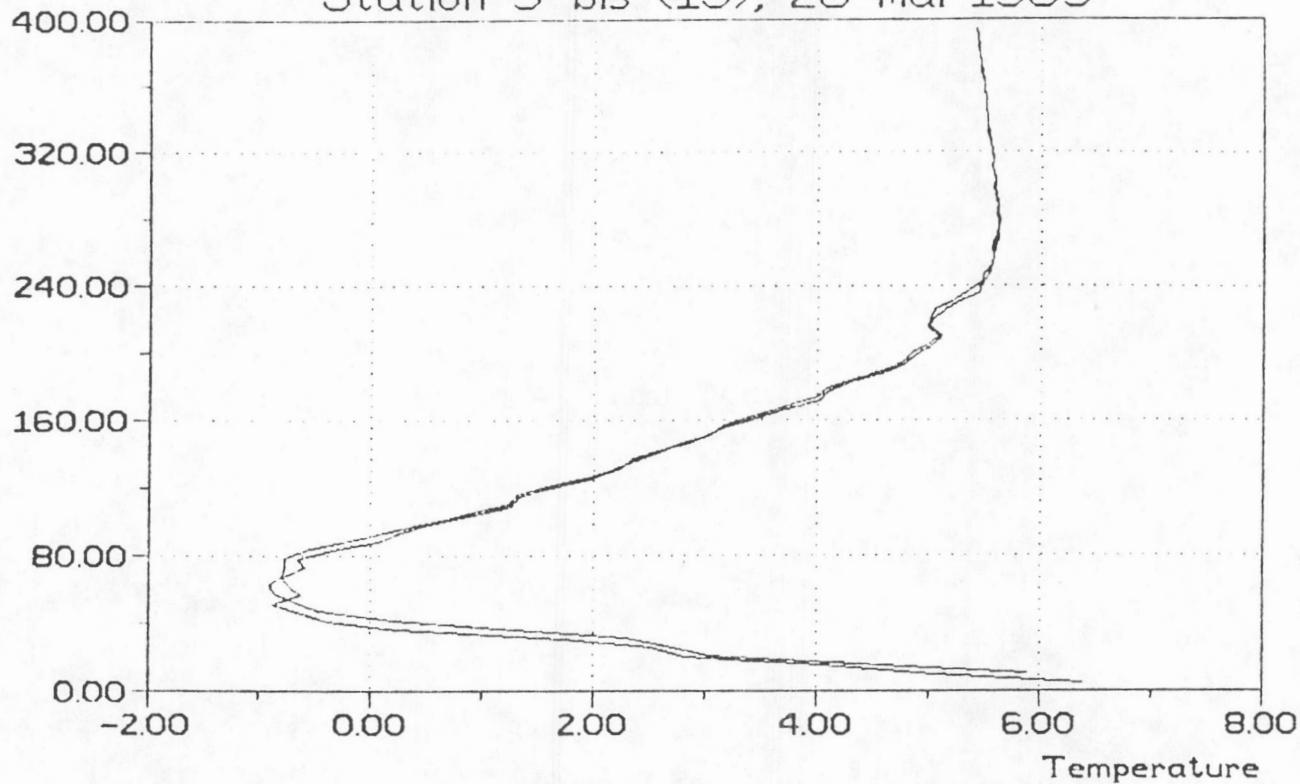
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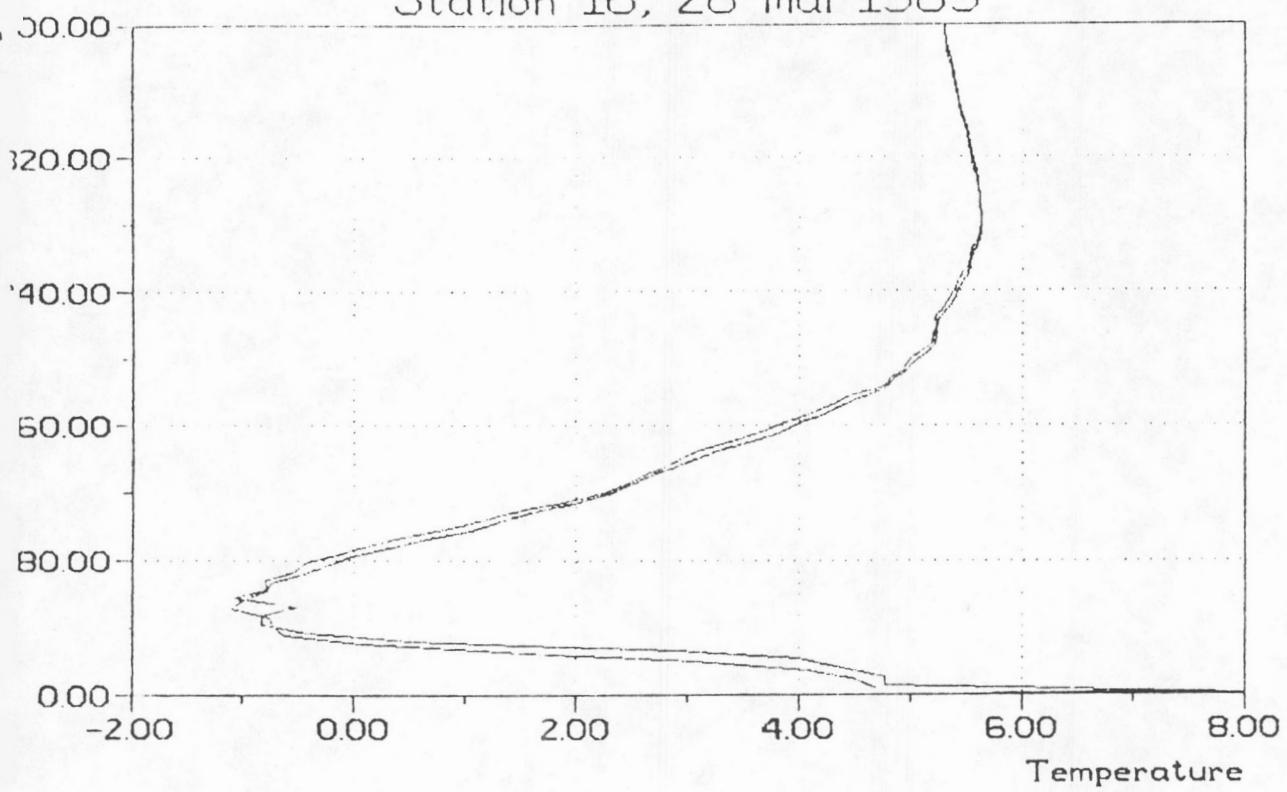


Station 9-bis (15), 28 mai 1989

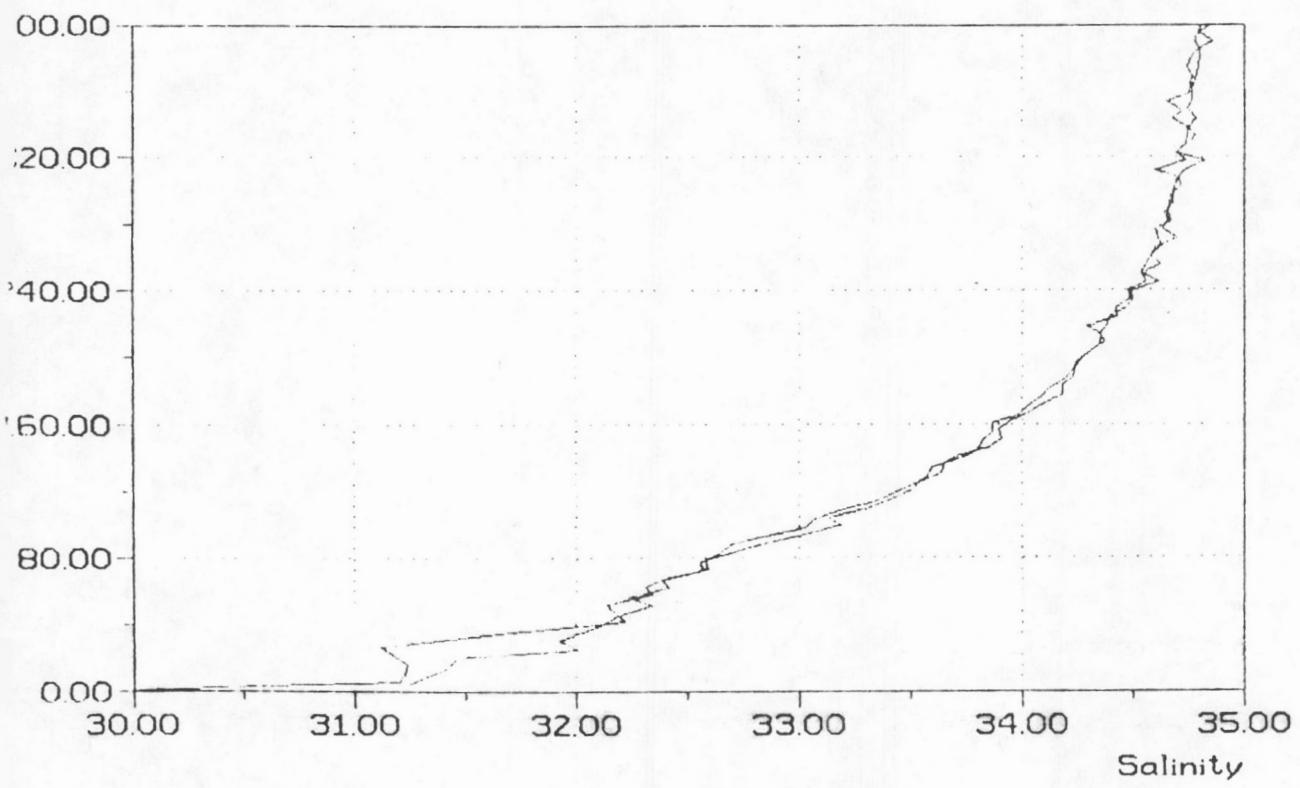


Station 16, 28 mai 1989

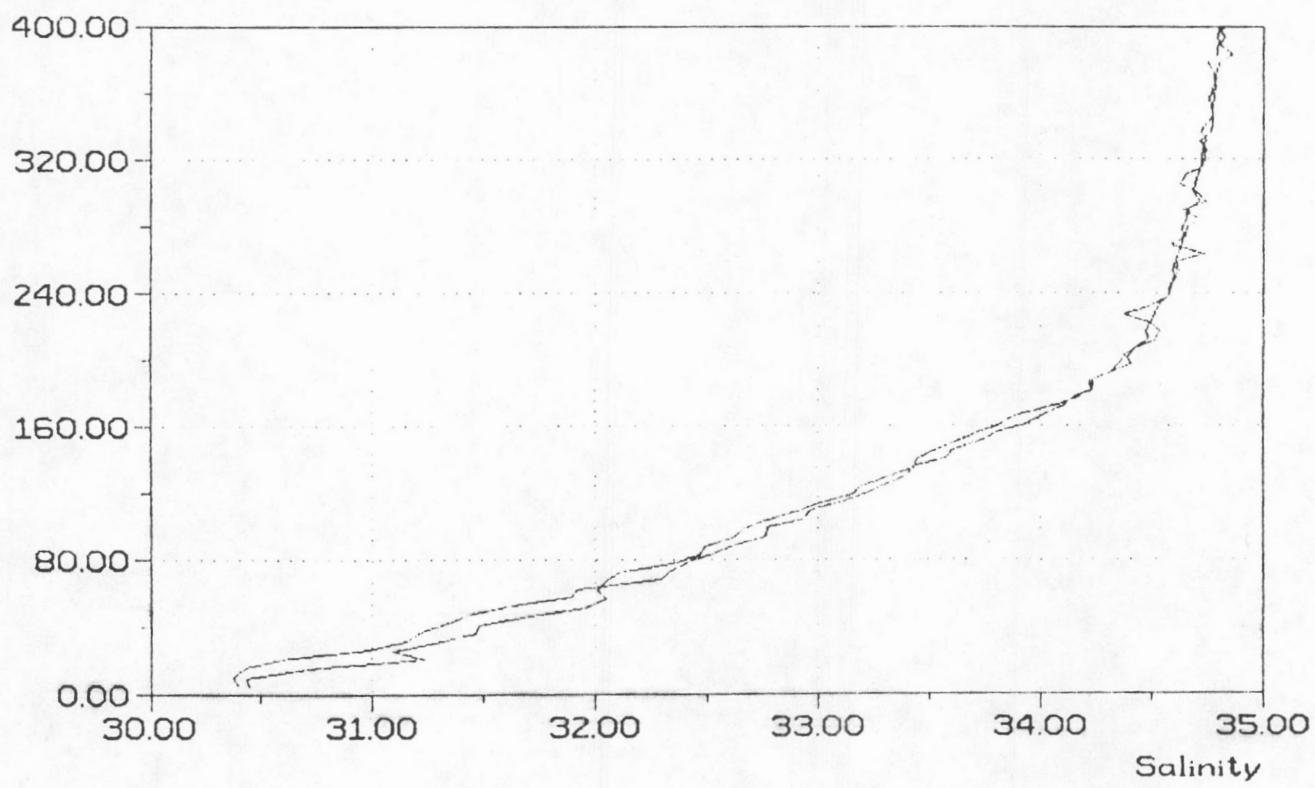
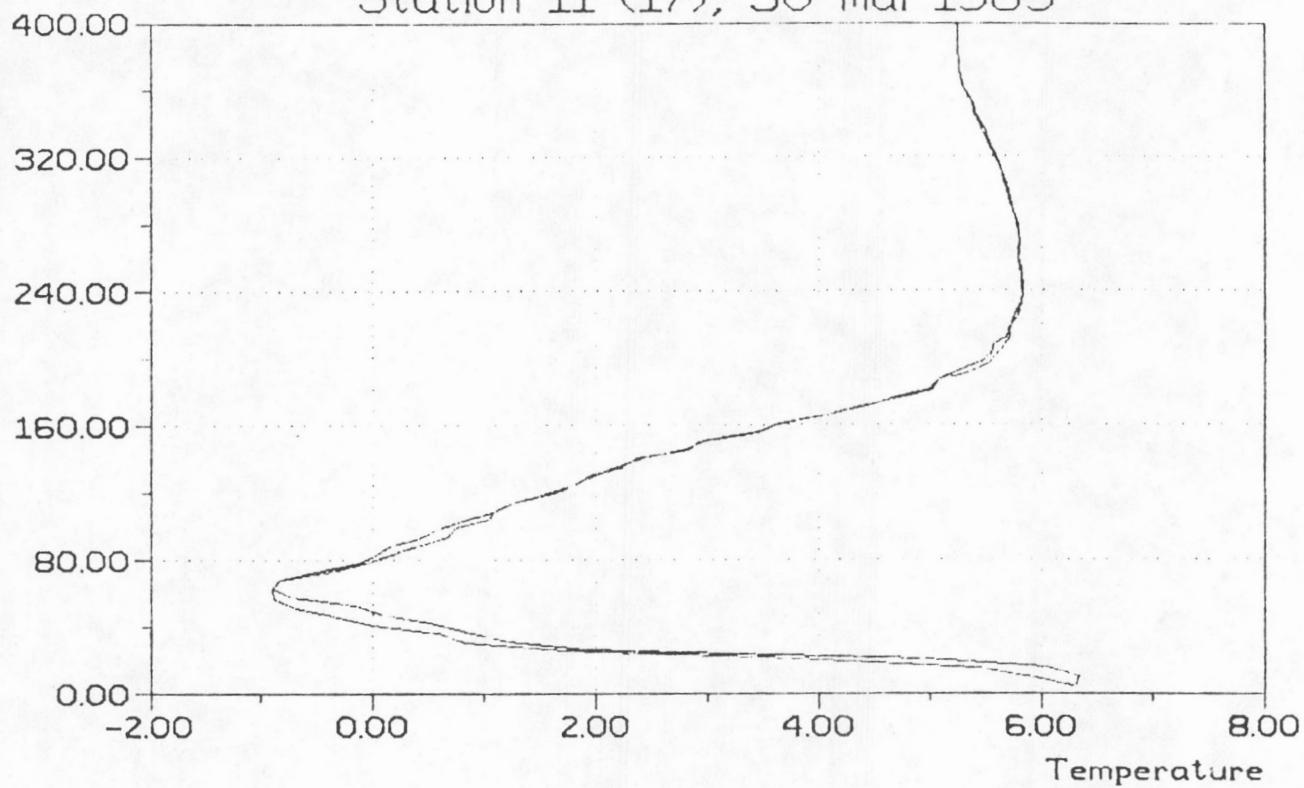
PROFILER



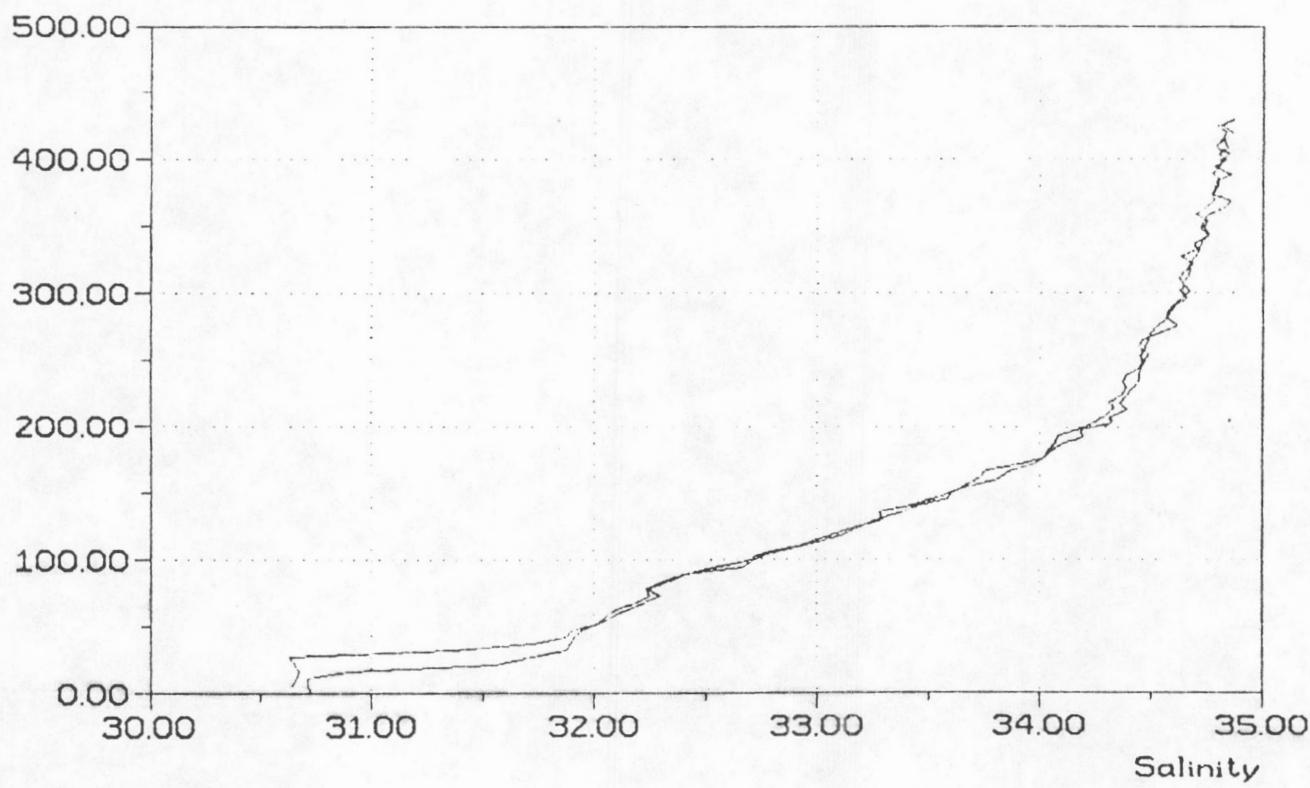
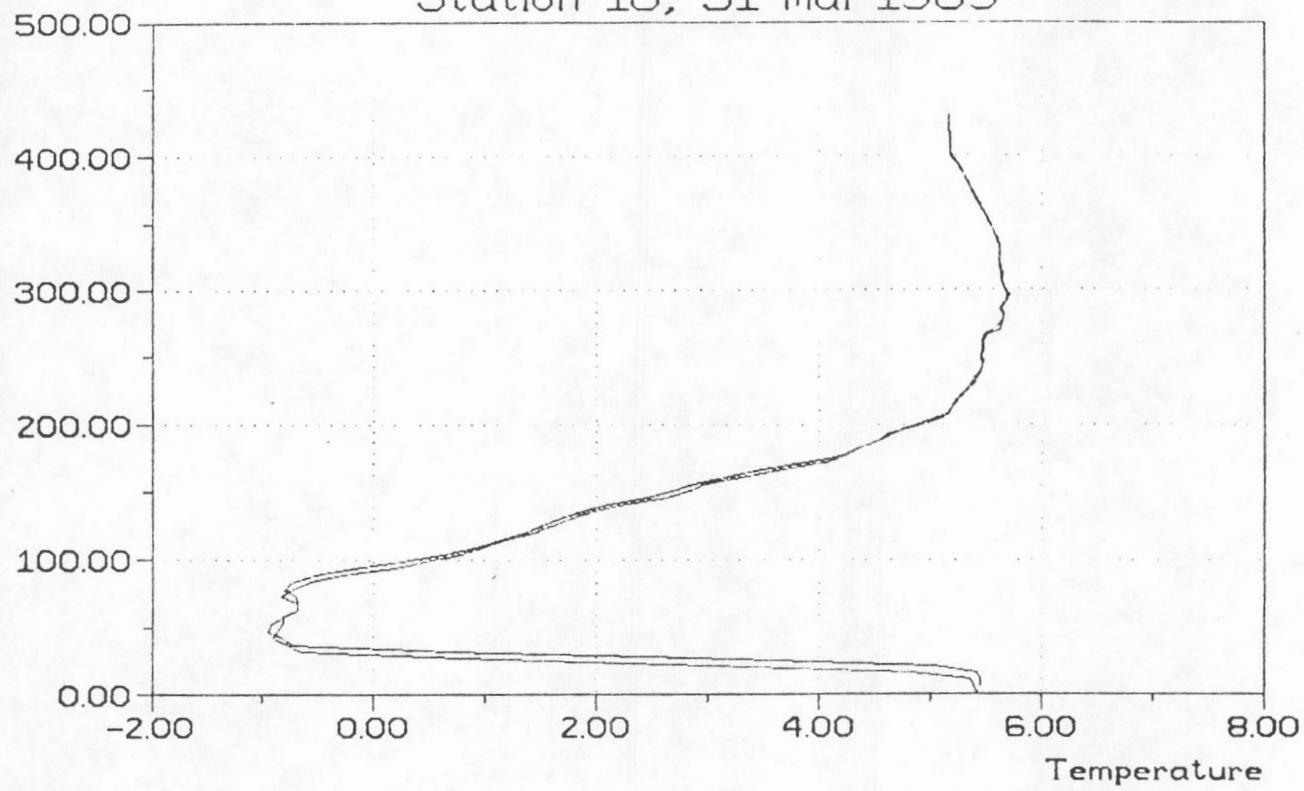
PROFILER



Station 11 (17), 30 mai 1989



Station 18, 31 mai 1989



**Figure 6. Location of plankton tows**

DATE = 89/07/27. TIME = 15.47.09. SCALE = 3000000.00 REF LATS = 47.00 49.00

DAWSON 89007 PLANKTON TOWS

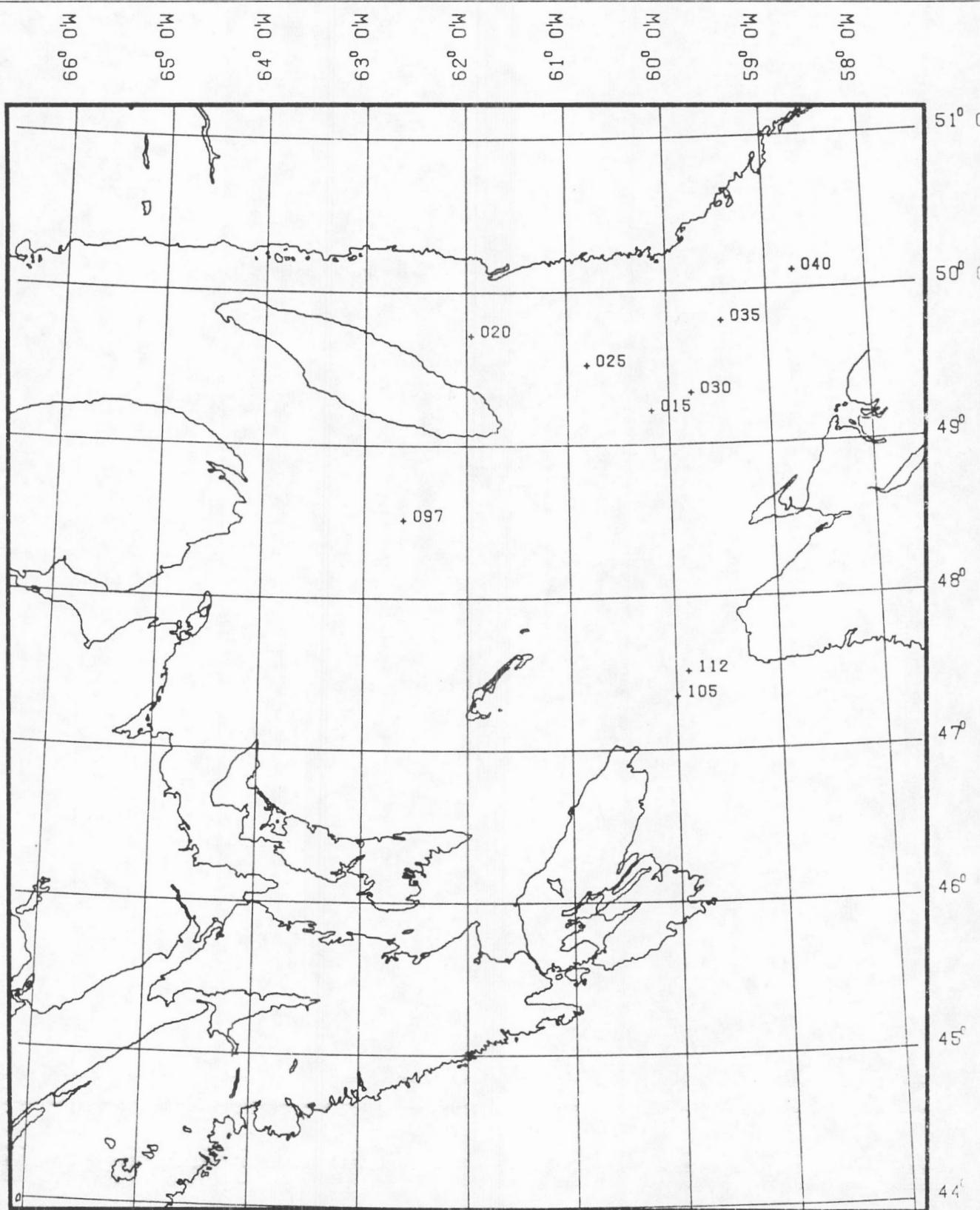


Figure 7. Location of Lehigh core

DATE = 89/07/28. TIME = 09.33.48. SCALE = 3000000.00 REF LATS = 47.00 49.00

DAWSON 89007 LEHIGH CORE

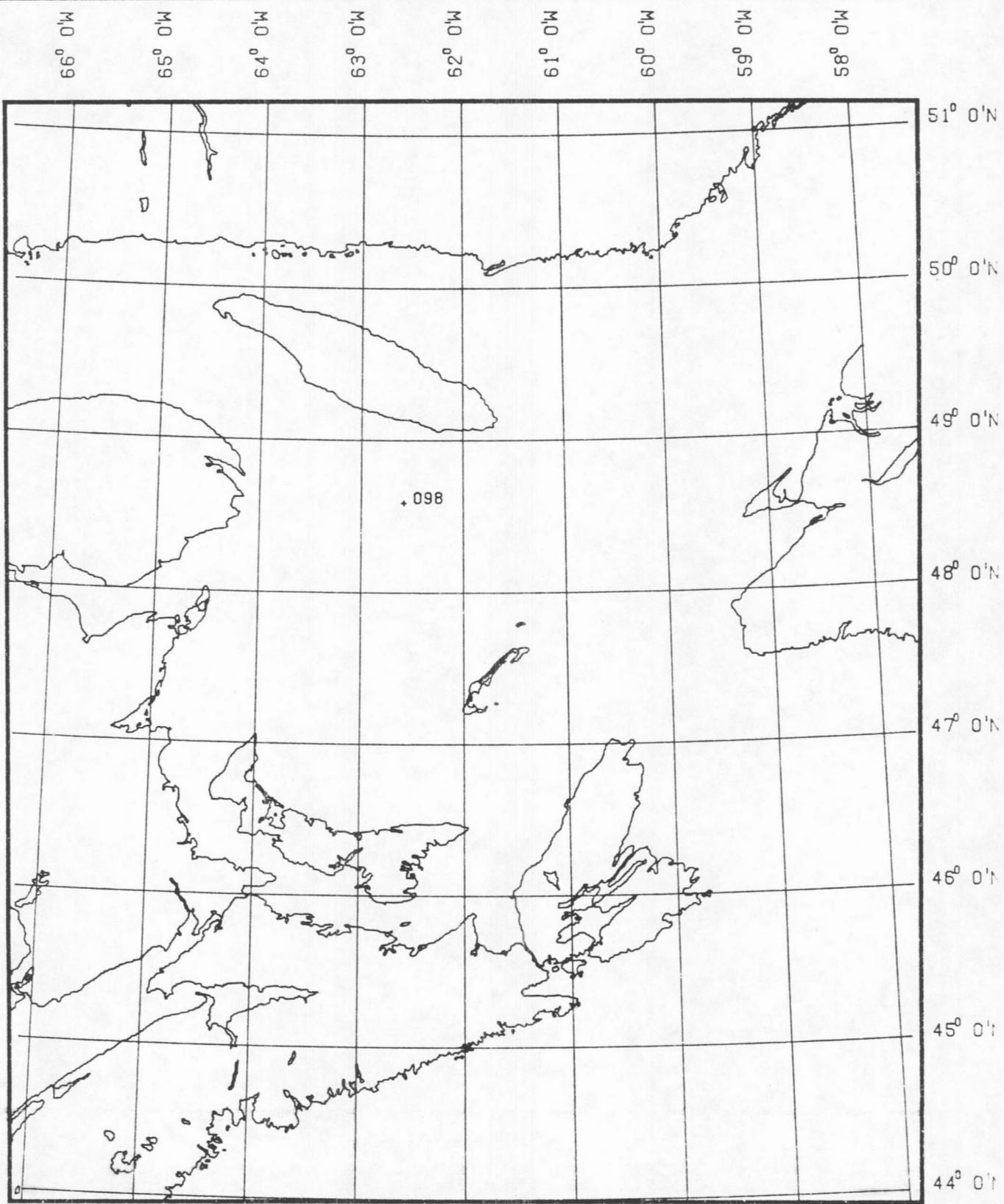
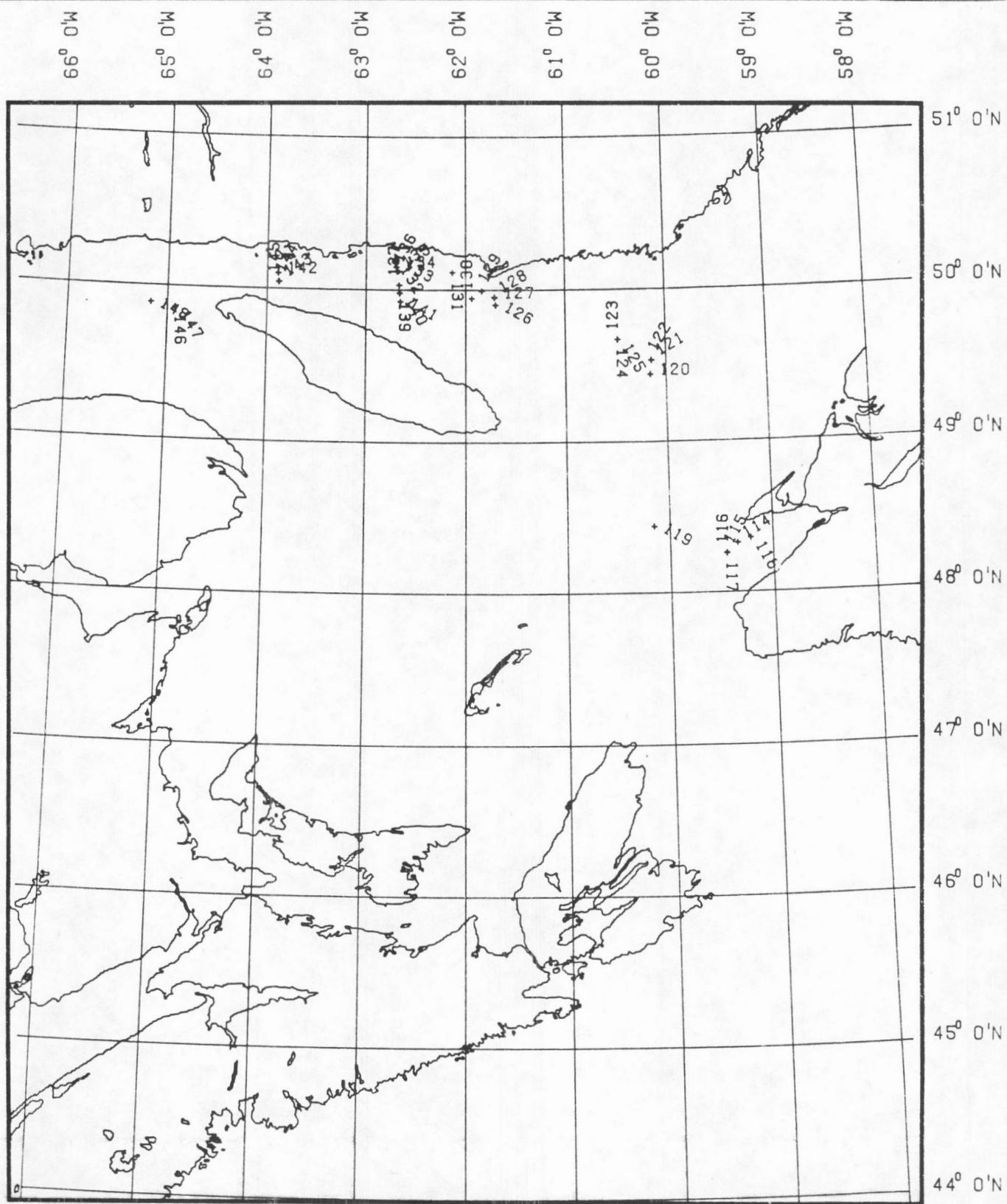


Figure 8. Location of drill core stations

DATE = 89/07/28. TIME = 09.53.18. SCALE = 3000000.00 REF LATS = 47.00 49.00

DAWSON 89007 DRILL CORES



ATLANTIC GEOSCIENCE CENTRE