HUDSON 91-033

CRUISE REPORT

compiled by

B.L. JOHNSTON, K. W. ASPREY, DR. J. P. M. SYVITSKI
DR. C. T. SCHAFER, M. UYESUGI, C. B. CHAPMAN
S. MERCHANT, W. A. BOYCE, R. J. MURPHY
K. W. LEBLANC, S. HINDS, DR. P. HAMBLIN, DR. J. LOCAT

(1992)

G.S.C. OPEN FILE 2468

TABLE OF CONTENTS

1. CRUISE OBJECTIVES

ADFEX 1991 is a multinational experiment to generate a mesoscale submarine slide and subsequently monitor its behaviour. The project was designed to meet engineering requirements - runout distance and forces generated by underwater slides - so as to design & configure seafloor installations (pipelines, cables, platforms). The project also aimed to understand the geological implications of this common form of sediment redistribution on the seafloor. Between 1987 and 1991, the project had completed the site selection, site investigation and environmental assessment stages. A pilot study was successfully carried out in northern Norway where explosives were placed on a lakefloor and a small slide initiated.

After intense negotiations with DFO Habitat and the Innu Community of Sheshatshiet, Labrador, the project proceeded in late Sept. early October. The Innu community placed no restrictions on the sequencing of the experiment but rather sought guarantees on the consultation process, the conduct of the field personnel, and clean-up of the site after the experiment. The DFO affected the project by delaying the field activities one month into a much deteriorated weather window and constraining the burial and blasting sequence of the explosives. Both DFO and INNU were given access the field site so as to safeguard their interests.

1991 Field Activites: Scientists from DFO, DOE, DEMR, the universities of Memorial, Laval, INRS-oceanologie, Calgary, Edmonton, the Norwegian Geotechnical Institute, and France's CEMAGREF lab joined forces on CSS Hudson leg 91-033 and at a GSC land camp. The experiment proved an operational success - all pre and post geophysical and geological surveys were carried out, over 50 oceanographic moorings were placed and retrieved, and thirty-two 30 foot explosive holes were drilled, armed and detonated. The experiment proved to be environmentally benign: habitat was protected and no fish were killed. The main objective of the project was <u>not</u> met: the detonation failed to generate the necessary underwater landslide. In contradiction to the DFO Habitat constraints, the explosives should have been placed in deeper water on the delta slope. ADFEX scientists agree that this would not have harmed the environment. With the experience gained in leading such a complex, preeminent experiment, in addition to collecting high quality geophysical-geological data, the project can be considered a GSC success. The main ADFEX objective remains to be completed and a second attempt in some form should be considered.

Excellent field data was obtained on:
- the liquefaction process of sand,
- a small grainflow near the delta front (generated by the detonation),
- older turbidity current deposits that result from deltafront failure,
- an extremely large debris flow deposit that probably resulted from an earthquake,
- dewatering phenomena (faults,sand diapirs and mud volcanoes), and
- biogenic gas distribution near river mouths.

Hudson 91-033 additionally spent 40% of its available time collecting high quality geophysical data throughout Lake Melville and Hamilton Inlet on behalf of the GSC-

lead SEDFLUX program that is investigating the distribution of Quaternary sediments along the coast of Canada.

2. CRUISE PERSONNEL

SENIOR SCIENTIST: **Dr. James P. Syvitski** (DEMR)
Scientific Staff List: (including affiliation)

Dr. Alex Hay	Memorial University of Newfoundland.
Dr. Peter Simpkin	IKB Technology
Jack Foley	Memorial University of Newfoundland
Bary Roberts	Memorial University of Newfoundland
Anna Crawford	Memorial University of Newfoundland
Dr. Frances Hein	University of Calgary
Dr. Paul Hamblin	Canadian Centre Inland Water; Dept. of Environment
John Valdmanis	Canadian Centre Inland Water; Dept. of Environment
James Daiz	Canadian Centre Inland Water; Dept. of Environment
Dr. Jacques Locat	University of Laval
Rejean Couture	University of Laval
Dr. Bernard Long	Institut National de la Recherche Scientifique - Oceanologie
Dominique Dufour	Institut National de la Recherche Scientifique - Oceanologie
Ken Asprey	AGC/DEMR
Dr.Charles Schafer	AGC/DEMR
Alice Dickinson,	AGC/DEMR
Bob Murphy	AGC/DEMR
William LeBlanc	AGC/DEMR
Richard Morykot	AGC/DEMR
Larry Johnson	AGC/DEMR
Susan Merchant	AGC/DEMR
Borden Chapman	AGC/DEMR
Austin Boyce	AGC/DEMR
Steve Hinds	AGC/DEMR
Kelly Bentham	Physical Chemical Sciences; DFO
Martin Uyesugi	Seakem

3. CRUISE DIARY

SAT. 21, 1991 OPERATIONS

- loaded ship
- meeting with Don Clark: received signed agreement
- meeting with Peter Penashue: tour of boat, hiring issues
- meeting with Robin Hill: tour of 20 grade 10 students (all ages) provided
- meeting with Captain Strumm: re cruise operations
- meeting with First Officer (Dave Morse): re bridge operations
- meeting with Alex Hay, Bernard Long & Peter Simpkin re: launch operations
- cruise planning meeting
- phone meeting with Charles Schafer: 20 cores, phone security problem

SUNDAY SEPT. 22 OPERATIONS

- offload container
- sailed to Kenamu
- boat drill
- overtime meeting with AGC staff
- mooring wheels 46, 47, 48, 49 and donut buoy 52 deployed: problems tying together
- shore party boarding problems: returned to camp
- grab sampling: G3, G50, G49, G48, G47, G46, G45, G43, G44, G42, G41, G38, G39, G40, G1, G2, G33, G34, G35, G36
- ADFEX geophysical line preparation

MONDAY SEPT. 23 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun, ADFEX geophysical lines 3/4, 5/6, 7/8, 9/10, 11/12, 13/14, 15/16, 17/18, 19/20
- launch work on moorings
- shore party on board [Schafer, Locat, Long]
- 10 moorings deployed [rest of MUN donut buoys and wheels]
- NGI equipment ashore
- communication system set up
- Lehigh coring & grab sampling: L16, L14, L15, L4, L13, G32, G31, G30

TUESDAY SEPT. 24 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun, ADFEX geophysical lines 19/20, 21/22-23-24-25-26-27
- launch work on moorings
- Cathy Anne loaded with geophysical gear: profiling test and transponders set up
- dynamite caps and dynamite to camp GSC-1
- Box core sampling BC47, BC46, BC45, BC44, BC42
- Lehigh core sampling: L2, L3
- CTD & FLOC CAMERA & WATER SAMPLING shakedown

WEDNESDAY SEPT. 25 OPERATIONS

- finished remaining ADFEX geophysics @ 4 KNTS
LINES 27/28, 28/29, 29/30, 30/31, 31/32, 32/33, 33/34, 34/35, 35/36, 36/37, 37/38, 38/39, 39/40, 40/41, 41/42, 42/43, 43/44, 44/45, 102/103
- Cathy Anne launch (Simpkin & Locat) seismic survey
- Merganser completed MUN mooring configuration
- (Murphy & Hinds) on Merganser for grab sampling
- (Locat & Rejean) grab sampling with shore whaler
- CTD & FLOC CAMERA & WATER SAMPLING shakedown at anchor site
- UMEL camera- Video shakedown
- photo transect line No. 1 & 3

THURSDAY SEPT. 26 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 4/5, 5/6, 6/7, 7/8, 8/56, 56/57, 57/58: heavy seas slowed to 3.5 knts
-completed photo transect line #2
- Merganser picked up blaster
- CTD-FLOC camera stations 6, 1, 3, 4, 5, 7

FRIDAY SEPT. 27 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 46/45, 45/44, 44/48, 58/59, 59/60, 60/61, 61/61
- launch to NW River: dropped off Schafer & picked up Kristiansen & Hay
- Mooring stations 1, 2, 3, 4, 5, 6, 16 (sediment traps and ocean B)
- launch with Hinds, Locat & Couture to Kenamu River: grab sampling
- Cathy Anne returned with Desmueles/Simpkin/Long and geophysical equipment
- Merganser return to NW river for Schafer, Hamblin, Diaz, Valdmanis, Roberts
- CTD/FLOC camera stations 8 & 9
- began SEDFLUX geophysical lines

SATURDAY SEPT. 28 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 44-43-42-41-40-39-38-37-36-35-34-33-32-31-30-29-28-47
- Merganser program with Locat/Couture/Hinds -- grab sampled
- Mooring stations 17-NG, 7-ST, 15-RA, 18-OC, 11-ST, 10-ST, 9-ST, 19-NG, 8-ST, 14-OC, 13-FC completed
-Ralph deployed at 0000/272 off at 0000279; ocean moorings set to have c.m. @ 1min sampling and t.c. @ 2min sampling rates
- Cathy Anne offloaded CCIW oceanographic & geophysical equipment
- began SEDFLUX geophysical lines

SUNDAY SEPT. 29 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83
- anchored HUDSON at station 20
-tested CCIW PEST profiler
-Locat, Long, Couture put ashore on launch to setup geophones
-Hay and MUN group secured donut buoys
- steamed to SEDFLUX lines

MONDAY SEPT. 30 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophys. lines: 56-55-55A-50-49-48-8
- anchored HUDSON at station 20
-tested PEST CTD configuration, doppler c.m.

-Locat, Long, Couture, Hinds put ashore on launch to complete geophone setup
-MUN personnel armed donut buoy echo sounders
-vibrocore deployment successful: rubber pieces at 28cm
-floc camera mooring deployed
-winch on launch prevented nearshore mooring deployment
-Fisheries Officers visited Hudson as did Innu representatives
- steamed to conduct SEDFLUX lines

TUESDAY OCT. 1 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 83A-83B-83C-84-85-86-87-88-89-90-91
- PEST CTD pre-survey at master station, doppler c.m. survey successful
- blast simulation carried out successfully including a last moment approach of an unidentified boat into the detonation area
- S4 mooring deployed on hudson, launch deployed 3 other moorings,
- 4 Fisheries Officers visited Hudson followed later by 4 Innu representatives
- Senior scientist visited to GSC-1 camp and detonation area
- launches equipped with final instrumentation.
- Locat & Bentham slept ashore; Desmueles & Simpkin slept aboard Cathy Anne
- Steve Sparks, blaster, stayed on board Hudson

WEDNESDAY OCT. 2 OPERATIONS

- detonation on schedule, Fisheries Helicopter and two fisheries boats on site
- Innu observation team moved onto detonation site too soon and had to be warned off
- no dead fish encountered
- Cathy Anne detected possible sand wave transport, Boston Whaler may have detected SPM transport, no geophone detection of slide, no Merganser detection of slide
- some CTD variation of bottom waters, no PEST detection, no doppler c.m. detection, no Huntec, sidescan or 12 kHz detection, no bridge detection.
- experiment considered a partial success, many of the detectors (moorings) have yet to be interrogated
- Cathy Anne recovered 5 moorings including one S4 Hudson mooring

THURSDAY OCT. 3 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 23-22-21-20-19-18-17-16-15-14-13-12-24-25
- retrieved 19 moorings, starting from outermost Kenamu Channel, including all sediment traps, nuclear gauges, Ralph, Floc Camera, CCIW mooring (3 instruments lost), oceanographic mooring
- steamed to start of SEDFLUX lines

FRIDAY OCT. 4 OPERATIONS

- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz

sounding, digital airgun recording SEDFLUX geophysical lines: 55A-54-12-11-10-9-8
- recovered remaining (MUN) moorings: railway wheels & donut buoys
- Hudson completed camera transects
- began nearshore clean up & grab sampling
- 3 MUN & 2 NGI personnel depart, Hein (UC) joined.

SATURDAY OCT. 5 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 54-53-52-51-55A
- coring VC7, L17, L48
- Merganser cored slide over recent sediments
-camp cleanup continued
-took on water at Goose Bay, INRS, UL, CCIW, MUN personnel departed with equipment

SUNDAY OCT. 6 OPERATIONS
-departed Goose Wharf and steamed to Kenamu for coring
-cored L16, L47, L46, L22, L45, L42, LG15, L39, LG16, L40, LG14, L11, L12, L5, LG33, LG34, LG35, L8, L9

MONDAY OCT. 7 OPERATIONS
- 40 cu in sleeve gun, klein 595 sidescan, Huntec internal & external, 3.5 kHz sounding, digital airgun recording SEDFLUX geophysical lines: 25-26-27-28-8
- CTD-FLOC Camera, water sampling stations 1 through 9 with station 9 repeated twice at higher resolution
- streamed seismic gear

TUESDAY OCT. 8 OPERATIONS
- klein 595 sidescan, Huntec internal & external, 12.5 kHz sounding, digital sidescan recording ADFEX geophysical lines: 22 through to 41
- box cored stations 6, 7, 8, 9, 10
-grab sampled: G29, G28, G50, G27, G26, G25, G24, G49, G3, G23, G48, G47
- ADFEX geophysical lines: 42 through to 41

WEDNESDAY OCT. 9 OPERATIONS
- klein 595 sidescan, Huntec internal & external, 12.5 kHz sounding, digital sidescan recording ADFEX geophysical lines: 41 through 45, 100-103
- piston cored P31, P34, P12, P15
- began ship clean-up, cruise report, continued cruise analysis
-cruise party

THURSDAY OCT. 10 OPERATIONS
- Schafer departed
- completed cruise track plots at various scales
- completed core subsampling and analysis
- disassembled Floc Camera, Ralph and Vibrocorer.

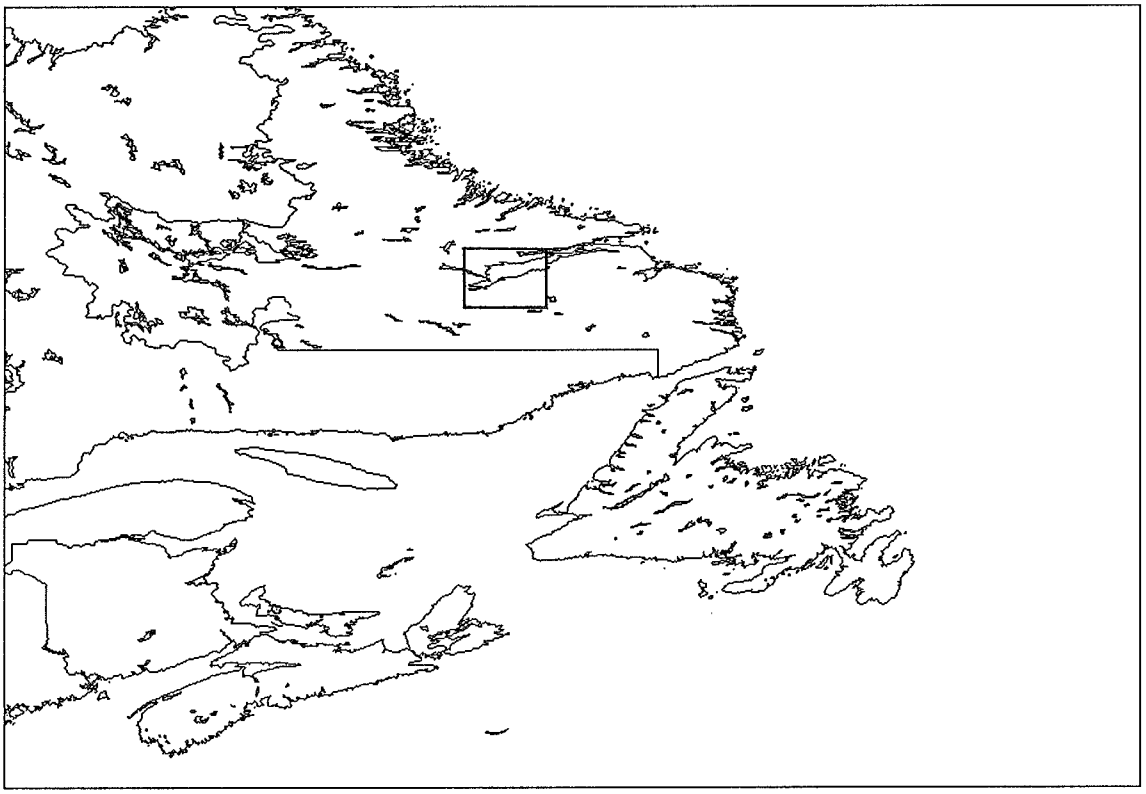
FRIDAY OCT. 11 OPERATIONS

- HUDSON tie-up at Goose Wharf: offloaded equipment from Hudson to containers
- Syvitski, Gorveatt & Asprey departed

SATURDAY OCT. 12 OPERATIONS

- packed-up personnel gear and other airfreight gear and remaining personnel depart ed Goose airport

Study area for Hudson 91-033



HUDSON 91-033 FACTS SHEET
+ CSL MERGANSER ACCOMPLISHMENTS

SAMPLE INVENTORY:

GRABS ----------	169
LEHIGH CORES ----------	32
LCF CORES ----------	11
VIBROCORES ----------	3
BOXCORES ----------	11
CTD PROFILES ----------	29
WATER SAMPLES -------	117
UMEL CAMERA TRANSECTS	10
FLOC CAMERA STNS -	21

KILOMETRES RUN:

HUNTEC DTS ----------	1044 km
3.5 KHZ BATHYMETRY ---------	865 km
12 KHZ BATHYMETRY ----------	185 km
SLEEVEGUN SEISMICS --------	848 km
KLEIN SIDESCAN ----------	863 km

5. Equipment list - Performance - Suggested improvements

SHIPS RINGMAIN SYSTEM

Several quick release takeoffs for the ringmain system are mounted underneath the Hudson's flightdeck. Besides the fact we are not using this system, these takeoffs are mounted verticall and extend at least 2 ft. below the deckhead. This has proven to be a very dangerous setup as several damaged heads can attest. This is under the flight deck and is not necessarily considered a hard hat area. A solution for this must be found. A suggestion would be to mount the quick release horizontally closer to the deckhead (above 6 ft. 4 "). This setup would probably require a 90 degree male connector to come off the deckhead mounted female quick release. A minor price to pay for safety.

SHIPBOARD POWER PROBLEMS

Approximately 3-4000 power failures (voltage < 98 or > 120) were logged by the new UPS system installed for the BIONAV system. Sid Spencer did considerable work with Jim Hinds (chief electrician) to track down the problem. Other than the usual fluctuations caused by turning on heavy equipment, the new heating system seems to be the culprit. This is a serious problem as computers not on the UPS system frequently shut down resulting in potential loss of data.
The white outlets in the GP lab, forward lab and gravity lab are considered essential services and power will be intentionally cut off to these outlets only as a last resort thus protecting power to these outlets for all but a total power outage.

Suggested solutions are;

- **have our own UPS system located in the drawing office to service equipment in this area as well as scientific equipment installed in the computer room (ex. CIGAL, PC's, Laser printer etc.)**

- **extend the white outlets to these areas**

- **individual surge protectors for each piece of equipment in areas other then white outlet areas**

- **individual UPS for each PC. (approx. $300.00)**

LOADING/OFFLOADING CONTAINERS/EQUIPMENT

Our experience in Goose Bay during two turn arounds clearly showed the need for a set of 20 ft. container strops to be made/acquired for permanant storage on the Hudson. A set was jury rigged from existing Hudson strops and a heavy set borrowed from the local container company to do the job but the cost in man hours lost would easily have paid for a dedicated set for Hudson.
A forklift was always available (GPO) during port stops. Movement of heavy equipment on the jetty would have been impossible without this forklift. Hudson's cranes are completely adequate for all loading/offloading to the jetty and a local heavy crane was available for container removal.

BATHYMETER 3.5 Khz ACOUSTIC PROFILER (HULL MOUNTED)

Bathymetry information was recorded every 5 minutes during the reflection operations. Depth was scaled from the record of a LSR 1811 recorder. The LSR triggered the ORE 140 transceiver connected to a hull mounted 16 transducer array. Because the water depth in the work area was consistanlly less than 365 metres, the sweep/ programmer option of the LSR was not employed. All bathy records were recorded at a 0 to 365 metre scan rate on the LSR (one half second recorder sweep).

PERFORMANCE

The system performed well and delivered excellent records in soft sediments.

BIO REFLECTION SEISMICS

Seismic reflection sound source equipment consisted of a 40 cu inch T.I. sleeve gun and ancillary equipment.

High pressure air for the sleeve gun was derived from a 230 cfm Price air compressor. The speed of the compressor was controlled by a variable speed electric motor controller running the compressor at 460 RPM, (approximately 50 % capacity) delivering air at 1850 psi. Baffles (1 inch) were also installed in the intake lines to the first stage to further reduce the low end volumn and cut down on the overside dumping of air when supplying the small gun. The motor speed controller operated the compressor at a fraction of its maximum speed/output and thus reduced the normal wear and tear on the compressor. No problems were encountered with the air source during the seismic program.

The sleeve gun was fired at a two second rate throughout the entire cruise. The tow cable bundle was mounted on the port airgun winch but the sleeve gun was towed from midship aft in order to allow sufficient space between the HUNTEC and SIDESCAN systems. In hindsight, it should have been mounted on the starboard airgun winch at the completion of the refraction cruise 91-039.

A Nova Scotia Research Foundation Model LT-18, 6 metre streamer received the seismic shot signals in the water. The hydrophone was towed from the starboard quarter of the ship.

Lab equipment for displaying the seismic signal included the following:

An NSRF pre-amp / termination unit receiving the streamer signal. The termination unit output signal was split and coupled to two channels of the AGC time varied gain (TVG) unit, then on to two Krohn-Hite Model 3323 Filters, (band pass set for 180-6500, and 300-10000 Hz).

Raytheon LSR1811 graphic recorders (two), running in the start / stop mode, at a 1 second sweep, were used to display the filtered signals.
The seismic data was recorded onto VHS cassette tapes on the TEAC XR-5000 multi-track unit (see cruise set-up specifications for sweep, paper speeds, etc).

Seismic data from the N.S.R.F. Model LT-18 streamer was also recorded on the new SE880 digital recording system on an XABYTE tape cartridge.

Firing of the sleeve gun was accomplished using the Airgun Firing/Control Unit. Trigger signals for the AFCU and the LSR graphic recorders was derived from the seismic clock.

Ship time was based on the cesium beam controlled SHIPCLOCK computer, which provided accurate timing to the various ship clock repeaters located throughout the ship. The 5-minute pulse output of the AGC SHIPCLOCK repeater was used to trigger the event annotation time for the TSS 312B annotator, to write "day/time, course/speed" on the records of all systems.

All recorders were synchronized using the 6.4 kHz from the seismic clock to prevent record interference from different sound sources.

PERFORMANCE

There were three down times (1 1/2 hours) during the cruise to repair broken hoses. These breaks resulted from the ship having to make some very sharp turns at line ends because of limited manuverability causing sidescan, huntec and airgun gear to sometimes cross over each other.

The Price compressor/motor controller combination worked perfectly at rpm's of approx 460. At that speed, the Price looks like it could run forever. The motor controller has proven to be a very wise purchase and with the addition of safety shutoffs on the Price, the two provide a very reliable air supply for the large or small guns.
The SE880 digital recording system worked well but suffers from several undiagnosed bugs. Communications between the Hp computer and the SE 880 is occasionally lost while the SE continues to log and display data as if communications still existed. The problem is that the operator can no longer modify recording / display parameters such as delays, window widths etc. Most importantly an EOF (end of file) can not be written on the XABYTE tape at the end of the recording session requiring a new tape to be mounted. Until a method of writing an end of file on these tapes is found, the tape must be replaced for the next session as the end of data is undetectable on this tape.

HUNTEC DEEP TOW SYSTEM (DTS)

The Huntec deep tow system (DTS) number AGC 2 was deployed on this cruise to generate high resolution seismic data. A high voltage boomer sound source of 540 joules generated signals for a LC-10 single hydrophone internally mounted under the boomer plate. A Benthos 10 element 15 foot streamer was towed behind the vehicle and connected to the ship via a 600 meter tow cable on the Hawbolt winch. The Hawbolt winch was on loan from MUN in exchange for their using the smaller AGC winch on a vessel in the Mediterranean.

The LC-10 hydrophone data is the "internal hydrophone" data which is amplified and TVG'd through an adaptive signal processor unit and bandpass filtered in the system console before displaying on a EPC 4600 graphic recorder. (SN 359)

The towed streamer data is the "external hydrophone" data which is processed similarly but at lower filter setting through an external Krohn-Hite Model 3700 bandpass filter. This external hydrophone data is also displayed on an EPC 4100 graphic recorder. (SN 161)
The internal and external data was recorded on a TEAC XR-5000 VHS cassette recorder on direct record channels along with two other channels for (a) the trigger/sync. signal of 1 volt peak, 6.4 kHz EPC sync. pulse train with a negative master trigger pulse and a positive fire point pulse; and (b) a master +5v TTL pulse trigger signal. All data is tow vehicle heave compensated in the pressure mode.

See Seakem cruise report for detailed information regarding operation and equipment settings.

PERFORMANCE

The Deep Tow system worked 100% of the time and produced high quality records throughout the cruise.

NAVIGATION

Hudson navigation was provided by a Trimble 10X GPS receiver fed to the BIO developed 'BIONAV' integrated navigation system. The present satellite configuration consists of 20 high altitude satellites (space vehicles) providing for coverage of 23.5 hours per day.

The BIONAV system provided real time displays to the bridge, GP lab, forward lab and winch room. Because all watchkeeping officers are very familiar with the display capabilities and waypoint entry of BIONAV, much less time is required of the AGC navigation person then was previously the case with the old LC 408 Loran recievers.

An MRS3 (Mini-ranger) system was originally to be used as the main navigation system but problems recieving the stations forced the use of Bernard Longs Del Norte trisponder system for the launch work. The Hudson did all her work using the Bionav system fed by the Trimble 10X GPS reciever which, because of the size of Hudson's survey areas (75 miles) , would have been impossible to have been done with the Mini-Ranger's limited range (line of sight). Also training the mates in the use of the ISAH system would have been a time consuming job made more difficult considering that we were operating only two hours out of GOOSE BAY. It should also be noted that there were other transponders being used in the immediate area with the dredging operation going on in the GOOSE BAY narrows. Interference from these stations is possibly the reason the Mini-Ranger stations were jumping by 1000 metres or more. Positioning on the Hudson launch 'Merganser' was done with a Trimble "Pathfinder" portable GPS system borrowed from B. Long (Rimouski).

PERFORMANCE

For some unknown reason, the Trimble 10X would not go into DR mode when it did not have sufficient satelites to fix on (3). This caused only minor problems as the coverage with 3 satelites is almost a complete day with approx. a one half hour period on the morning 4-8 watch with interrupted fixing because of a lack of 3 satellites.

Bionav performed well but still suffers from several strange bugs in its software. Each cold start is an adventure as to which question it will ask today.

The overall accuracy of the Trimble 10X appears to have been within 25 metres (possibly with a mean scatter of 10 metres) which is considerably better then expected. The expected accuracy of only 50 metres was the main reason for considering the Mini-Ranger system as the primary nav source.

During the cruise, the second officer expressed some concern that though the GPS data was consistent, it was actually in error by 90 metres in an easterly direction. Since the data was consistent (not jumping around) a possible explanation was that the data from the reciever was in a different datum then the chart it was being plotted on. The charts used (5134 and 4728) do not specify the datum used in their generation. The Trimble GPS reciever is capable of outputing data in many datum but defaults to WGS72 datum on startup. A decision was made to stay with WGS72 for the duration of the cruise and check for a potential datum error when tied up at the jetty in Goose Bay at trips end.

While moored at the jetty, the ships position in WGS72 datum was plotted several times over a period of time. This position placed the vessel some distance east of the known location at the jetty. The Trimble GPS reciever was then programmed to output NAD27 datum and the GPS output position was immediately corrected to the known position at the jetty. These new positions were then plotted several times over a period of time to verified the shift to be approx. 60 metres due west of the WGS72 datum position.

Subsequent plots of the Merganser station locations suggested about a 30 metre shift to the south of actual locations.

NAVIGATION LOGGING

Data were logged via an RS232 link at 9600 baud directly into port TXA5: on the VAX. A routine was written to reformat this file into SHIPAC format for processing via the shipboard system.

Navigation quality was excellent with GPS positions being in error by 25 metres or less at all times.

PERFORMANCE

Logging was restarted on a daily basis prior to each nights survey lines. No problems were encountered with this setup.

DATA PROCESSING (VAX)

Data processing was carried out on a Microvax II minicomputer using the SHIPAC shipboard/shore geophysical processing and display software. Daily plots were done on navigation collected the previous day to continuously monitor navigation quality. The Microvax was configured with 11Mb of memory, a Wren 5 640 Mb disc, a Wren 7 1.2 gigabyte disc, a 95 Mb Tk50 tape cartridge and a 2 gigabyte XABYTE tape cartridge. Communications with the Vax were accomplished through two VT220 (System Console) and one VT240 graphics terminal. An LXY12 line printer was available for printing and an HP7586E pen plotter for plotting.

Modifications were made to the MAPS plotting package to allow plotting of mooring and sample locations.

The final cruise data files were backed up to an XABYTE data cartridge. The backup tape will then be loaded to the shore VAX at BIO for further plotting/processing and then into our multi-parameter database where it will be available to all users.

PERFORMANCE

SHIPAC is a proven system and as expected there were no problems encountered with the processing procedures.

CTD LOGGING

The Guildline CTD (continuity, temperature and depth (pressure)) were logged via software supplied by Ocean Circ on DUA1:[DATA.CTD]. A considerable number of casts were completed with no problems encountered other then operator error on two occasions which resulted in the loss of hard copy graphs but did not affect the data being logged. Post processing at BIO can recover these graphs.

PERFORMANCE

After some preliminary problems, solved by a call to Paul Dumphy and John O'Niel, the software performed very well and all resulting data files are backed up on an XABYTE data cartridge.

WATER SAMPLING

Water samples were collected using the new smaller General Oceanics (Ocean Circ) rosette sampler (4 bottles - 1.2 litre each).
Care must be taken when loading the bottles that no wires etc. are in the way of the trip elastic which did happen on one occasion.
A total of 117 water samples were collected. All samples were filtered on board using 0.45 micron nucleopore membrane filters. In addition to these, four more surface water samples were taken by throwing a bucket over the side on a rope. These samples were filtered as above.

PERFORMANCE

A brief run through on its operation by Bruce Carson was sufficient to ensure it that performed flawlessly.

SHIP INVENTORY SYSTEM (RECORDS,TAPES,SAMPLES)

The Dbase 3 Plus based inventory system 'SHIP' (SID - HOUSE inventory package) was used to handle the storage and report generation of all samples, records and tapes collected on the cruise. A full inventory generated by 'SHIP' of all collected data is included at the end of this report.

Hardware for this system includes a BULL Power Mate SX 386 computer operating at 16 Mh with a 1.2 Mb 5 1/4" floppy drive, a 1.2 Mb 3 1/2 " drive and a 40 Mb hard disc. Printing capability was provided by a HEWLETT PACKARD Thinkjet and a backup EPSON FX-100 printer.

PERFORMANCE

A proven system in use now for three years, it performed as expected. Two mods were made to allow multiple entries with the same roll number in the record databases for seismics because the same eel was recorded on two recorders.

OVERALL COMPUTING SERVICES (PC's)

Two BULL Powermate SX 386 computers were on board and, though each was assigned a specific function to run Dbase software, they were available at all other times for general computing (word processing etc.). Several printers including AGC'S new seagoing LaserJet 2 were available for hard copy.
One machine was loaned to CCIW for two days (one day before the event and the day of the event) when it was discovered their machine had been damaged by salt water.

PERFORMANCE

This setup works well as it means all personnel do not have to bring their own computers. A new BIOS which allows the use of a password at login time is becoming a necessity if these dedicated machines are to be used as general computers. This will allow some restrictions on who is allowed to use the machine, necessary because numerous cruise data files are also resident on these machines.
No files, other then those created by a user, should be modified or deleted without the permission of the person in charge of these machines. This has occurred and should not be repeated.

FINS INVENTORY SYSTEM (SUBSAMPLE ANALYSIS)

The shipboard inventory package for subsamples (FINS) was used quite extensively this trip for generating labels and general inventory of analysis work done on cores and grabs.
FINS will be converted to Dbase 4 this winter which will hopefully provide greater speed when accesing very large databases.

PERFORMANCE

This system performed well and requires little training of personnel in its operation.

SAMPLING EQUIPMENT

Bottom Photography

Bottom photos were acquired using the AGC underwater camera frame on which were mounted a Umel still camera and a video camera on loan fron DFO. Both were mounted vertically and the Umel was tripped as usual by a trip wire with a compass weight. The video camera (Metrology) was run on continuous mode during the transects.

All transects were done on Hudson in this configuration and one transect was done on the CSL Merganser without the video camera.

Video camera / Still camera

Video and still were shot of all Hudson onboard equipment operations, launch operations, work procedures on the delta as well as the detonation event itself. The detonation event was filmed from a helicopter and this film proved extremely important in determining if all 32 charges had fired.

Moorings

A.G.C. deployed a total of 17 moorings during the cruise. These consisted of 13 sediment trap arrays, 2 oceanographic moorings (current meters and thermistor chains), 1 floc camera and RALPH. Diagrams of the A.G.C. moorings are included in the appendix. Their times and locations are recorded in the list of data as well as a location map.

C.C.I.W. deployed an instrument mooring consisting of Neil Brown Current Meter, a SeaTech transmissometer, conductivity cell and temperature probe. This package was moored using a ground line and surface floats. Unfortunatly some of the instruments were lost due to a broken hose clamp. The location of this mooring is also recorded in the data and its location plotted on the map of the mooring location.

Memorial University deployed four fairly complicated moorings. Each of these moorings consisted of four train wheels with surface floats and high flyers. In the centre was a donut buoy equipped with a Elac depth sounder.

I.N.R.S. deployed 3 erosion moorings their position is recorded in the data as well they are shown on the mooring map.

N.G.I. deployed 2 piezometers, their time and locations are recorded in the appendix and their locations are plotted on the mooring map.

Floc camera mooring

The Floc Camera was confiqured in the settling mode of the programed to take a series of four pictures every 10 secs for ten starting times starting 30 minutes from the schedule event. All cameras transported film and the onboard computers memory dumped the following data. The values for depth and attenuance are uncorrected values and will be corrected at a later time. During the period of time the floc camera was taking its pictures continous CTD profiles were being done along with water sampling.

Grab Sampling

Grab samples on the Hudson were taken at selected sites (pre and post experiment) by a small vanveen (.3 cu. meter) sampler which due to the nature of the sediments performed very well.
From each grab sample, 5 subsamples were taken. These included samples for forams, organic carbon, grain size, minerals and a spare sample.
On the launch, grab samples were acquired using an Eckman sampler and a shovel was used to obtain grab samples on the delta and inter-tidal zone.

Lehigh Coring

The standard 10' barrels were used as well as 5' barrels. Results were variable depending on the depth at which sand was encountered which effectively stops penetration of the Lehigh barrels.

Vibrocoring

Three vibrocores were acquired using the new AGC (Brook Ocean Technology) vibrocorer configured for 15' barrels.
Core recovery was consistently 7' to 8' range.

PERFORMANCE

The vibrocorer itself worked very well but some problems remain in the handling and software area.
The extensiometer failed to work on all three drops making it impossible to know if full extension has been achieved. Drops were made by running the motor in vibrate mode for 8-10 minutes which seemed to result in 10-12' apparent extension as viewed on recovery.
The barrell retrieval winch motor failed to go into gear on the second drop resulting in a bent barrel (flange at top) on recovery. This may have been caused by a sharp blow against the ship or the guide bar was set too close to the end of the auger gear because the tolerances between having the winch out of gear and not having the guide bar drop out of the auger gear are very tight, perhaps too tight.
A second barrel was bent on the third drop when all indications were that the cable had broke (several feet of sampson braid were suddenly pulled through the bos'n's hands). The motor was retracted for about 30 seconds more and then the decision was made to recover by pulling directly on the sampson braid which pulls the barrel from the sediment. Because of strong tides in the area, the Hudson was no longer over the vibrocorer resulting in it being pulled over during recovery.

Suggestions

- Hinged sampson posts (uprights), flanged at the bottom to rest on a similiar flange as part of the base. The flanges to be bolted together by 4-6 bolts with self locking nuts. The time involved in assembling/disassembling this setup is considerably less and considerably safer then the present configuration which requires the use of an extension ladder to reach the 15 ft. level. An impact wrench could be used to speed up this operation.
This setup would require a modification to the base to allow the barrel to be rotated to a horizontal position.
The raising and lowering of the uprights would be performed by the ships crane. The base would provide support at one end and the protection ring at the other. The barrel would then be at a working height of approximately 2 - 2.5 ft. off the deck.

- Teflon guides on the base to provide guidance to the barrel as it travels into the sediment. With the present configuration, the barrel can be set off course during the first couple of ft. of penetration. It would probably continue in this direction potentially causing damage to the barrel or the flange at the top of the barrel.
One of these teflon guides would have to be easily removable to allow the barrel to be lowered to a horizontal position for core recovery.
Assembling a barrel could easily be done by hand and disassembling could be aided by the ships crane on recovery if a removable clamp could be mounted at the top of the barrel to which the ships crane could be attached. The crane would then raise the top of the barrel clear of the motor rack and slowly slew the barrel clear of the base. The barrel could then be manhandled in the horizontal position to a safe working area on deck.

- All bolts should have self locking nuts. Many nuts were loose on the unit when it was taken apart in Goose Bay.

- The locking ring system to secure the flange at the top of the barrel to the flange on the motor rack is cumbersome, damages the softer aluminum barrels and has resulted in several jammed fingers. It simply leaves insufficient manuvering room when it is opened to either install or remove the locking ring from these flanges. If the barrel is not properly supported when this ring is removed, it will drop, usually resulting in the clamp being jammed between the barrel and the uprights.

This is the point at which fingers are in serious danger. A suggested replacement to this locking ring would be to bolt these two flanges together with 4 selflocking nut/bolts. Some time is involved to do this but with the unit in a horizontal position, an impact wrench can also be used to speed up this operation.

- Is the trap door at the bottom of the barrel a viable means of securing the sample ?
The new catchers seemed to do the job much better then the previous type, at least in the type of sediment encountered in Goose Bay.

AGC Large Diameter Corer

The piston coring system used on this cruise was a large diameter system, 30 meter design that was modified for shipboard use on the CSS Hudson. The core sample obtained is 11 cm. diameter with potential lengths varing from 3 m to 30 m. Corer components consist of the following:

(1) Core head: 3m long, 0.6m diameter
(2) Core pipe: 4,25" I.D. with 3/8" and 3/4" wall thickness
(3) Couplings, straight and reduced for connecting barrels
(4) CAB liner
(5) split piston
(6) core catcher and cutter
(7) Trip arm
(8) 4.25" diameter gravity corer, used as trigger weight
(9) 3/4" diameter wire cable (6000m long) and end termination.
(10) Associated hardware such as set screws etc.

Due to the size of the corer, (maximum 30m long weighing approximately 4300 lbs) a special handling system was installed on the Hudson. This system consists of the following:

(1) Rotating core cradle
(2) Outboard support brackets
(3) Monorail transport system
- Trolly
- Chain hoists
(4) Lifting winches
(5) Process container which consists of storing, cutting and handling facilities for the core pipe and sample

PERFORMANCE

The AGC Wide Core performed very well although recoveries were short due to encountering sand. Only 20' attempts were made.

Deployment/Recovery of piston Core

The core barrels are stored in the process container located on the starboard waist. Barrels are sequentially loaded onto the trolley on the monorail and transported to the foredeck where they are coupled to the core head. The core head is secured in a rotating "cradle" resting outboard of the starboard rail. Using the appropriate coupling, each barrel is connected until the desired length of core is obtained. The barrels are nominally 3m. long. Plastic liners are inserted into the barrels to contain the sample.

Once rigged, the piston corer is rotated from its horizontal postion at the rail to the vertical position. This is accomplished using pickup winches located near the process container. Wire cable runs from the winches to the appropriate pickup points along the core barrel. The corehead rests in the core cradle until vertical, then it is released and loaded with the trip arm. The corer is a standard oceanograghic piston corer which is fitted with a split (breakaway piston) to eliminate sample flow-in during pullout. Recovery of the corer is the reverse sequence of the above. The corehead is placed into its cradle, rotated to the horizontal position at the rail and secured. The barrels are decoupled and transported to the process container. Here the linered sample is removed, capped, labelled and cut into 1.53 m. sections. The sample is then stored in a refrigerated locker until further processing is completed.

CORE PROCESSING

All cores collected on Hudson 91-033 were processed onboard. The core processing for this cruise included sediment description, split core photography, physical property measurement, magnetic susceptibility measurement, and subsampling for a variety of future land-based laboratory analysis.
The deck procedures which were followed utilized the newly modified half height core pipe handling and extrusion container located forward of the AGC refrigerated core container. The core samples were removed one section at a time from the core barrels and cut into 1.5 m (nominal) sections, labeled, capped and taped, and stored vertically in the container. The labeling at this stage of the processing was cruise number, sample number, zero depth mark, up arrow, and the section

letter code (starting with 'A' at the bottom of the core).

Core samples were brought into the General Purpose (GP) laboratory one section at a time for further processing. Each section was initially measured and labeled with archive, working, and depth downcore using white centimeter tape. All subsequent measurements and subsamples were then identified with the depth on the labeled section. The whole core was processed for magnetic susceptibility with a Saphire magnetic susceptibility meter. All magnetic susceptibility measurements were made after the cores reached a minimum temperature of 16° C. This measurement was made at a 5 cm interval.

The core liner was split using the AGC motorized splitter.

Following splitting of the core liner, the cored sediment was split in half with either a wire saw or the osmotic knife (for very soft sediment). The archive half was photographed and described for colour, texture, structure, and consistency. The working half of the core was used for all geotechnical measurements and subsampling.

Undrained shear strength was measured on all cores at a 10 cm interval using the AGC motorized miniature vane device unless otherwise instructed by the chief scientist. A 1.27 cm^2 vane was used at a rotation rate of 50°/minute. Residual strength was measured by continuation of the test post-peak. Data was logged on 3 1/2 diskettes on a laptop computer.

The working half was used for subsampling. Subsamples for density, salinity and water content determinations were taken from the working half as well as carbon and grain size samples. All test and subsample information was entered directly into FINS. This eliminated the need for handwritten annotation of sample/test information. The system saved time and reduced errors associated with mis-labeling samples.

All removed sections of the working half of cores were filled with foam prior to wrapping. Each half was wrapped with plastic and bagged and sealed with black tape. The bags were labeled with cruise number, sample number, section depth interval, working or archive, and a top arrow. Bagged cores were then stored in D-tubes. All processed cores were stored in the refrigerated container at 4° to 10° C.
The working half was labeled with a black pen and the archive half was labeled with a red pen.

6. ACTIVITIES OF UNIVERSITE LAVAL

Universite Laval was represented by Jacques Locat, Rejean Couture and Francois Gilbert at the time during the cruise. Francois Gilbert was in charge of the land drilling program related to the liquefaction study done in collaboration with scientists of the University of Alberta.

Rejean Couture and Jacques Locat were involved in land and nearshore operations related to: drilling of blast holes, pre and post surveying (bathymetry and geophysical surveys such as seismic reflection and georadar) of the delta and the tidal flats; pre and post sampling of sediments on the delta foreslope, tidal flats and land areas; and deployment of nearshore instrumentation.

The following tables give the geograpical positions of the blast holes as well as other positions occupied by the Universite Laval.

DRILL HOLE	LATITUDE	LONGITUDE
1	53 29.001	59 55.106
2	53 29.001	59 55.102
3	53 29.006	59 55.078
4	53 29.004	59 55.063
5	53 29.009	59 55.120
6	53 29.009	59 55.109
7	53 29.008	59 55.095
8	53 29.005	59 55.076
9	53 29.018	59 55.118
10	53 29.016	59 55.113
11	53 29.014	59 55.095
12	53 29.011	59 55.079
13	53 29.024	59 55.129
14	53 29.023	59 55.133
15	53 29.022	59 55.094
16	53 29.020	59 55.077
17	53 29.047	59 55.132
18	53 29.032	59 55.116
19	53 29.030	59 55.097
20	53 29.027	59 55.079
21	53 29.047	59 55.139
22	53 29.044	59 55.121
23	53 29.040	59 55.101
24	53 29.037	59 55.082
25	53 29.057	59 [illegible]40

DRILL HOLE	LATITUDE	LONGITUDE
26	53 29.052	59 55.121
27	53 29.049	59 55.104
28	53 29.048	59 55.080
29	53 29.071	59 55.152
30	53 29.066	59 55.121
31	53 29.062	59 55.098
32	53 29.061	59 55.075

STATION	LATITUDE	LONGITUDE
Piezometers:		
P300	53 29 04.9	59 55 22.8
P150	53 29 04.4	59 55 22.8
Geophones:		
G50W	53 29 04.0	59 55 10.7
G150W	5329 03.9	59 55 15.8
G300w	53 29 03.7	59 55 23.5
G300M	53 29 05.2	59 55 23.4
G150M	53 29 05.5	59 55 14.4
G300E	53 29 09.2	59 55 21.5
G150E	53 29 08.8	59 55 12.7
G50E	53 29 08.1	59 55 06.1
G500	53 29 07.7	59 55 28.1
G1000	53 29 09.3	59 55 41.9
Bouy:		
A (SE)	53 29.003	59 55.055
B (SW)	53 29.005	59 55.129
D (NW)	53 29.082	59 55.157
E (NE)	53 29.063	59 55.052
Onshore:		
Station 1	53 29.002	59 54.993
Station 2	53 29.053	59 54.954
Bench Mk	53 29.001	59 54.884

7. Activities of C.C.I.W. (Canadian Centre for Inland Waters)

Team: Paul Hamblin, John Valdmanis and Jim Diaz

Equipment:

(1) Underwater mooring in approximately 65m depth close to C.S.S. Hudson anchor station and comprising

(a) 1 Niel Brown SACM current meter
(b) 1 Brancker Temperature/Depth logger
(c) 1 Brancker Conductivity/Temperature logger
(d) 1 Brancker Voltage logger with Seatech 5 cm path length Transmissometer
(e) 27 khz Pinger
(f) Mooring PLATFORM WITH 165 KG LEAD WEIGHTS

Duration: September 29 12:04 to October 4 17:08 at 2 minute sampling interval

Note: Items b,c and d were not recovered due to unexplained mooring failure.

(2) Acoustic Doppler Current Profiler

Manufacture:	RdD Instruments 1200 Khz model and NWRI weighted fin for flow stability.
Location:	off stern c.s.s. Hudson at anchor station at 45m depth (approx) off port side
Duration:	Oct 12 11:13 to 19:45, sampling continuous or one profile at 1m depth resolution every 15s.
Data Observed:	3 components of flow, temperature at head, ship's horizontal motion and good data returns, acoustic back scatter intensity of each of 4 beams, error velocity, pitch, roll

(3) Estuarine Sediment Flux Profiler (PEST).
Profiler comprising:
(a) Niel Brown SACM current meter
(b) depth sensor
(c) high and low speed temperature sensors
(d) 2 optical backscatter sensors of DNA manufacture

(e) conductivity sensor of Niel Brown manufacture
(f) Campbell RC-10 logger
(g) 11 water sampling bottle and associated seston analysis

Duration: 7 profiles over ADCP period on Oct 2 consisting of 10-12 100s dwells over depth range 0-70m sampling rate 2hz at C.S.S. Hudson anchor station near bow on starboard side, note profiler also logged data between dwells at about 5cm depth resolution.

Data Observed: horizontal current, sediment concentration, depth and meter wheel readings, optical backscattering,conductivity and temperature

8. G.P. Geophysical Lab Set-up

Seismics

Raytheon LSR-1811 (x2) line scan recorder
Sweep = 1.0 second in start / stop mode, no delay
Sleeve gun firing rate = 2.0 seconds
40 in^3 Sleeve gun on a 20" norweigan float
N.S.R.F. LT-18 streamer towed on stbd quarter
Filtered 180-6500 Hz, 40 db gain + TVG (LSR #1)
Filtered 300-10000 Hz, 40 db gain + TVG (LSR #2)

Huntec D.T.S.

AGC # 3
with 2nd adaptive processor
EPC 4100 x 2 each - S/N 317 & 181
Boomer firing rate = 0.75 sec.
Boomer power = 4 Kvolts (app. 400 joules)
Bottom tracking (adaptive) TVG to max. 4 volt level
Tow vehicle heave compensated in pressure mode
Internal hydrophone filtered - 0.5 to 10 kHz
External hydrophone filtered - 0.5 to 10 kHz

Automatic Graphic Annotation

Technical Survey Services Model 312B-S/N 040
External Event - each 5 min. from seismics clock/timing unit
channel 1 - Hull Profiler 3.5Khz data on EPC 4100
channel 2 - Seismics data on LSR 1811 in series
channel 4 - Huntec DTS data on Two EPC 4100 recorders

TEAC XR5000 Multitrack VHS Cassette Recorder

S/N 723346
Tape speed = 2.4 cm/sec
T120 tape = 2 hr. 52 min.
ID code every 4 seconds in TIME CODE priority
Search for file # 0009 - Title: HN91-033 for
recording conditions on tape with time and tape counter
(0.1m)

Recording Conditions

Ch. #	Data	Mode	Input Range	Input Zero	Output Level	Output Zero	Filtr Type
1	Raw Seismics NSRF	DR	0.3v		2v		
2	Seismics Trigger	FM	3.0v	+000%	5v	0v	LP
3	n/c						
4	DTS Internal Signal	DR	0.3v		2v		
5	DTS Trigger/Sync.	DR	1.0v		5v		
6	DTS External Signal	DR	0.7v		2v		
7	Klein 595 ch1(100Khz)	FM	1.4v	-100%	2v	+100%	FA
8	Klein 595 Sync.	DR	3.0v		5v		
9	Klein 595 ch2(100Khz)	FM	1.4v	-100%	2v	+100%	FA
10	n/c						
11	Klein 595 anno.RS232/2	FM	10v				
12	n/c						
13	ID Code	FM	5.0v	+000%	5v	0v	LP
14	DTS master pulse	FM	3.0v	+000%	5v	0v	LP
15	DR - Voice Memo from Mike - each 1 hr.						

TEAC System Set-up

*	1.	Tape servo ch.:	Data
	2.	Ch. 13 memo read:	Off
	3.	Inhibit on rec.:	On
	4.	Erase:	On
*	5.	FM band select:	Hi Band
	6.	I.D. code format:	5000
	7.	Reverse rec.:	Off
*	8.	Reset initialize:	1
	9.	Power fail restart:	0
	10.	Power SW. off mode:	2
	11.	Cal. switch mode:	0
	12.	Tape remain:	min
	13.	Beep tone:	on

Bandwidth for DR mode is 100 Hz to 4.69 kHz - S/N = 28db
Bandwidth for FM mode on high band is: DC to 2.5 kHz - SN = 33db
Carrier frequency = 259.2 kHz

TABLE 1

PARAMETER START/STOP TIMES

3.5 KHZ BATHYMETRY

2660243-2661130
2670230-2671025
2680102-2681013
2690309-2691100
2700322-2701010
2710057-2710920
2720050-2720925
2722320-2730920
2740100-2740830
2760015-2760830
2770005-2770830
2780320-2780950
2800310-2800855

SLEEVEGUN SEISMICS

2660243-2660605
2660641-2661130
2670230-2671025
2680102-2681013
2690306-2691100
2700322-2700339
2700422-2701010
2710057-2710224
2710300-2710920
2720050-2720925
2722320-2730920
2740100-2740830
2760042-2760830
2770005-2770830
2780320-2780950
2800310-2800855

HUNTEC (DTS)

2660243-2661130
2670230-2671025
2680102-2681013
2690306-2691100
2700322-2701010
2710057-2710920
2720138-2720925
2722320-2730920
2740100-2740830
2741250-2741335
2751230-2751602
2760015-2760830
2770005-2770830
2780320-2780950
2800310-2800855
2810043-2811242
2820059-2821127

12 KHZ BATHYMETRY

2741250-2741325
2751230-2751647
2810043-2811242
2820059-2821127

TABLE 1

PARAMETER START/STOP TIMES

KLEIN SIDESCAN

2660243-2661130
2670253-2671025
2680102-2681013
2690306-2691100
2700322-2701010
2710057-2710912
2720138-2720925
2722320-2730050
2730142-2730200
2730228-2730920
2740100-2740830
2751230-2751647
2760223-2760707
2770005-2770345
2780320-2780950
2800610-2800855
2811000-2811242
2820059-2821127

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

9.FLOC CAMERA DATA MOORING

FRAME	DAY	HOUR	MIN	SEC	DEPTH	T'METER
1	3	13	30	9	5728	47072
2	3	13	30	19	5712	47120
3	3	13	30	29	5696	47152
4	3	13	30	39	5712	47088
5	3	14	0	9	5712	47168
6	3	14	0	19	5712	47120
7	3	14	0	29	5712	47104
8	3	14	0	39	5712	47040
9	3	14	5	9	5712	47232
10	3	14	5	19	5712	47200
11	3	14	5	29	5712	47152
12	3	14	5	39	5712	47136
13	3	14	10	9	5712	47280
14	3	14	10	19	5712	47232
15	3	14	10	29	5712	47200
16	3	14	10	39	5712	47232
17	3	14	15	9	5712	46864
18	3	14	15	19	5712	47104
19	3	14	15	29	5712	47248
20	3	14	15	39	5712	47248
21	3	14	20	9	5712	47184
22	3	14	20	19	5712	47136
23	3	14	20	29	5712	47136
24	3	14	20	39	5712	47200
25	3	14	40	9	5712	47136
26	3	14	40	19	5712	47104
27	3	14	40	29	5712	47088
28	3	14	40	39	5712	47136
29	3	15	20	9	5712	47008
30	3	15	20	19	5712	47056
31	3	15	20	29	5712	46976
32	3	15	20	39	5712	47024
33	3	16	40	9	5712	47200
34	3	16	40	19	5712	47072
35	3	16	40	29	5712	47088
36	3	16	40	39	5712	47040
37	3	22	40	9	5744	47200
38	3	22	40	19	5728	47168
39	3	22	40	29	5728	47136
40	3	22	40	39	5744	47120

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Floc Camera Profiling station 117

Post profile number 1

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	14	59	26	115	767
2	14	59	27	112	1998
3	14	59	37	110	1993
4	15	0	13	125	1987

Floc camera Profiling Station 119
Post profile number 2

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	12	5	31	63	890
2	12	5	32	62	1240
3	12	5	42	63	1242
4	12	9	30	91	2623

Floc Camera Profiling Station 121
Post profile number 3

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	15	18	56	9	1978
2	15	20	18	70	2435
3	15	21	52	129	2769
4	15	23	26	189	2770

Floc Camera Profiling Station 123
Post profile number 4

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	16	2	13	11	2312
2	16	3	16	73	2804
3	16	4	24	138	2824
4	16	5	31	202	2828
5	16	6	35	266	2818

Floc Camera Profiling Station 125
Post profile number 5

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	16	51	48	7	2453
2	16	52	56	85	2852
3	16	54	1	161	2931

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Floc Camera Profiling Station 127
Post profile number 6

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	17	47	8	10	2708
2	17	48	30	77	2901
3	17	49	59	146	2984
4	17	51	31	213	3010

Floc Camera Profiling Station 129
Post profile number 7

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	18	56	24	10	2519
2	18	58	18	106	2894
3	18	59	51	202	3036
4	19	1	20	298	3070
5	16	6	35	266	2818

Floc Camera Profiling Station 131
Post Profile number 8

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	20	10	56	11	2346
2	20	12	54	129	3041
3	20	14	49	249	3055
4	20	16	52	369	3114

Floc Camera Profiling Station 133
Post Profile number 9

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	21	12	25	11	2408
2	21	14	0	165	3061
3	21	15	23	321	3181
4	21	16	51	479	3182

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Floc Camera Profiling Station 135
Post profile Number 9 repeated pictures every 5 metres

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	21	55	38	7	2437
2	21	56	1	28	2304
3	21	56	25	48	2995
4	21	56	48	69	3025
5	21	57	11	88	3025
6	21	57	34	109	3033
7	21	57	59	129	3085
8	21	58	22	149	3095
9	21	58	45	169	3071
10	21	59	9	189	3099
11	21	59	32	209	3151
12	21	59	56	229	3154
13	22	0	20	248	3167
14	22	0	46	269	3181
15	22	1	9	289	3187
16	22	1	32	309	3189
17	22	1	55	329	3198
18	22	2	19	349	3200
19	22	2	43	368	3193
20	22	3	9	389	3199
21	22	3	33	409	3200
22	22	3	57	429	3207
23	22	4	21	448	3198
24	22	4	46	468	3201
25	22	5	12	489	3184
26	22	5	38	509	3188
27	22	6	1	528	3191
28	22	6	25	548	3196
29	22	6	49	569	3194
30	22	7	13	589	3160
31	22	7	37	608	3134

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Floc Camera Profiling Station 158
Post profile number 9 Repeated 24 hours later
Pictures taken every 5 metres.

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	21	36	41	21	2597
2	21	36	51	32	3005
3	21	37	1	45	3075
4	21	37	11	56	3055
5	21	37	21	71	3037
6	21	37	31	86	3050
7	21	37	41	101	3068
8	21	37	51	116	3121
9	21	38	1	131	3110
10	21	38	11	146	3128
11	21	38	21	161	3120
12	21	38	31	177	3129
13	21	38	41	190	3151
14	21	38	51	203	3179
15	21	39	1	216	3181
16	21	39	11	228	3184
17	21	39	21	241	3193
18	21	39	31	253	3202
19	21	39	41	266	3201
20	21	39	51	280	3210
21	21	40	1	295	3214
22	21	40	11	309	3221
23	21	40	21	324	3225
24	21	40	31	339	3224
25	21	40	41	352	3228
26	21	40	51	366	3234
27	21	41	1	381	3233
28	21	41	11	395	3233
29	21	41	21	407	3237
30	21	41	31	416	3237
31	21	41	41	425	3221
32	21	41	51	436	3209

Pre Profile number 1

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	22	31	16	10	1922
2	22	31	37	35	2116
3	22	31	57	60	2460
4	22	32	16	82	2662

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Pre Profile number 3

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	18	30	42	10	2230
2	18	31	47	94	2765
3	18	32	51	179	2814

Pre Profile number 4

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	0	12	26	10	2043
2	0	13	42	86	2765
3	0	14	54	161	2923
4	0	16	9	238	2890

Pre Profile number 5

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	1	0	57	9	2086
2	1	2	4	69	2898
3	1	3	11	129	2929
4	1	4	22	189	2933

Pre Profile number 6

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	17	14	1	8	2253
2	17	14	51	69	2986
3	17	15	52	129	3013
4	17	17	6	188	3073
5	17	18	19	249	2944

Pre Profile number 7

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	2	0	0	9	2093
2	2	2	23	106	2939
3	2	3	49	202	2981
4	2	5	10	297	3018

Pre Profile number 8

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	23	55	24	8	2226
2	23	58	7	125	2868
3	0	0	58	241	2967
4	0	3	51	358	2972

TABLE 2

(Note: Depth(m) uncalibrated- approx m/4)

Pre Profile number 9

FRAME	HOUR	MIN	SEC	DEPTH	T'METER
1	1	10	47	11	1813
2	1	14	5	161	2842
3	1	17	13	314	2921
4	1	20	34	464	2941
5	1	23	37	614	2892

TABLE 3

10. MEMORIAL UNIVERSITY MOORINGS

Short survey run first to check area for way points (WP) 1 and 2. Railway wheels deployed as moorings for echo sounders.

MOORING

DAY/TIME	LATITUDE	LONGITUDE	WD	WHEEL #
265/1729	53 29.170N	59 56.524W	52	RWW # 1
265/1751	53 29.276N	59 56.445W	58	RWW # 2
265/1812	53 29.127N	59 56.723W	54	RWW # 3
265/1833	53 29.310N	59 56.711W	63	RWW # 4

Survey run first to check area for WP 21, 20, 23

DAY/TIME	LATITUDE	LONGITUDE	WD	WHEEL #
266/1337	53 29.284N	59 56.258W	54	RWW # 7A
266/1356	53 29.194N	59 56.213W	56	RWW # 8A
266/1414	53 29.228N	59 56.031W	54	RWW # 6A
266/1425	53 29.129N	59 55.074W	46	RWW # 5A

Survey run first to check area for WP 19, 18, 17, 16.

DAY/TIME	LATITUDE	LONGITUDE	WD	WHEEL #
266/1546	53 29.059N	59 55.436W	33	RWW # 1A
266/1602	53 29.978N	59 55.574W	33	RWW # 2A
266/1616	53 29.172N	59 55.659W	46	RWW # 3A
266/1636	53 29.052N	59 55.736W	43	RWW # 4A

OTHER MOORINGS

DAY/TIME	LATITUDE	LONGITUDE	WD	MOORING #
270/1338	53 29.02N	59 57.08W	42	1060 1B
270/1437	53 29.26N	59 57.05W	64	1061 2A
270/1638	53 29.48N	59 57.03W	40	1062 3B
270/1758	53 29.41N	59 58.30W	54	1063 4B
270/1755	53 29.47N	59 58.09W	73	1064 5A
270/1905	53 29.47N	59 58.09W	65	1065 6B
271/1252	53 29.43N	59 58.35	73	MOORING 17,EROSION
271/1347	53 29.74N	59 58.70	77	TRAP A, 1066
271/1436	53 29.81N	59 58.76	77	RALPH #15
271/1555	53 29.88N	59 58.80	78	EROSION #18
271/1627	53 30.54N	59 58.28	65	MOORING #11, TRAP B
271/1630	53 30.59N	59 58.80	74	MOORING #10, TRAP B
271/1848	53 30.64N	59 59.24	85	MOORING #9, TRAP B
271/1916	53 30.62N	59 59.31	86	EROSION #19
271/2046	53 30.33N	59 59.87	77	TRAP B, 1067
271/2131	53 29.97N	59 59.28	87	14 OCEAN A, 1080
271/2300	53 30.83N	59 59.27	14	OCEAN A. REPOSITIONED

TABLE 3

CCIW MOORINGS

DAY/TIME	LATITUDE	LONGITUDE	NOTES
272/1420	53 29.28N	59 57.54W	COMMENCE PEST TEST,FOREDECK
272/1459	53 29.29N	59 57.57W	TEST COMPLETED
272/1922	53 29.29N	59 57.48W	CCIW DOPPLER ON BOTTOM
272/2103	53 29.31N	59 57.44W	CCIW DOPPLER ON BOTTOM
272/2108	53 29.38N	59 57.43W	GROUNDLINE & ANCHOR GONE
273/1242	53 29.31N	59 57.63W	ADCP AWAY,TESTS DOPPLER
273/1346	53 29.28N	59 57.63W	PEST AWAY
273/1498	53 59.28N	59 57.66W	PEST ONBOARD
273/2047	53 29.07N	59 58.71W	RETRIEVE SED.TRAP, STN.7
273/2113	53 29.65N	59 58.72W	REDEPLOY SED TRAP, STN.7

MOORINGS

DAY/TIME	LATITUDE	LONGTITUDE	WD	WHEEL #
274/1605	53 29.07N	59 58.62W	21	

11. Acknowledgements and Other Participants

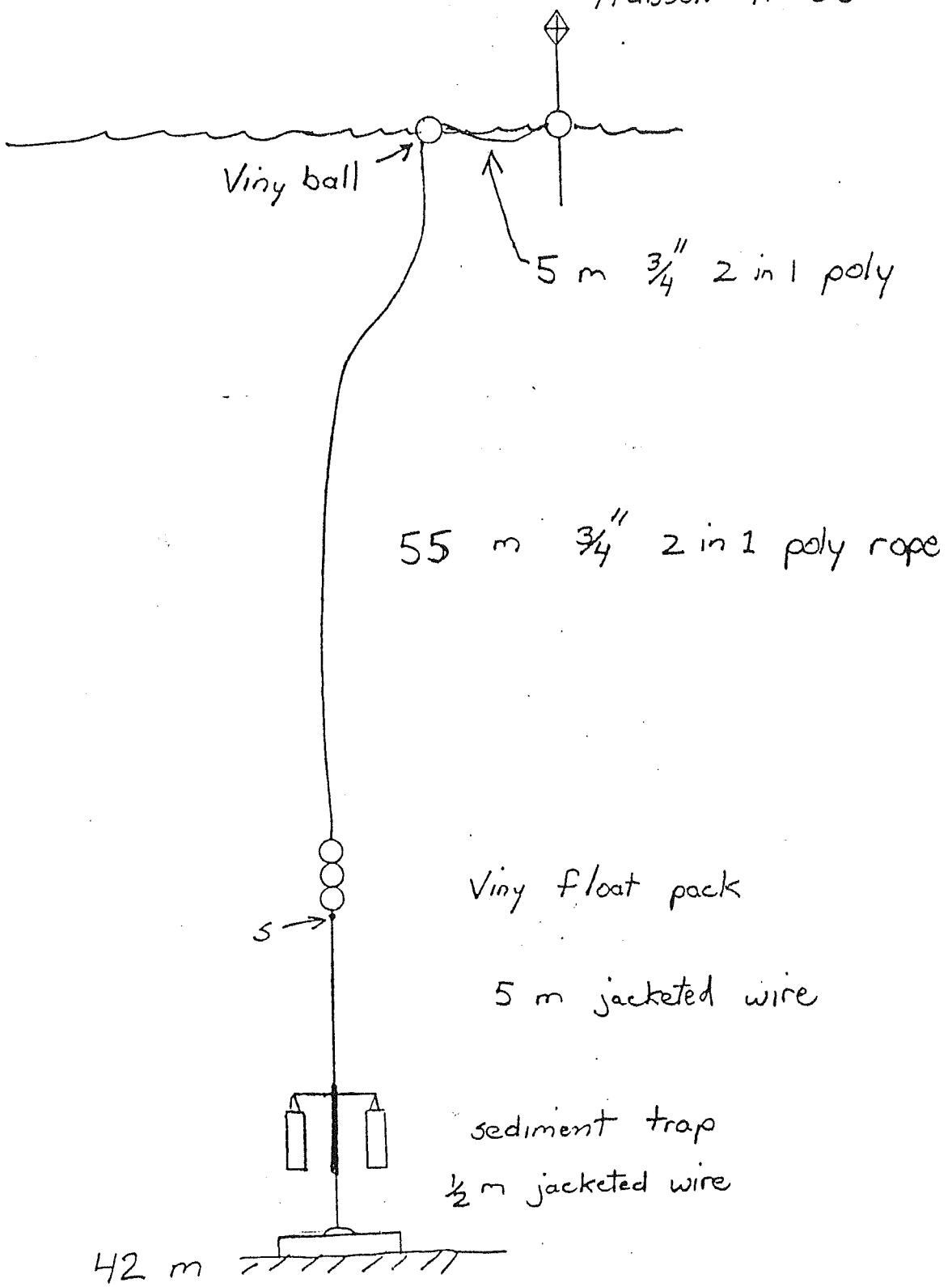
The authors of this report would like to thank Mr. Harvey Buffett of the Canadian Coast Guard stationed in Goose Bay who has continually supported this project. Mr. Daniel Ashini representitive and Mr. Peter Penashue President of the Innu Nation who supplied observers to this project. Mrs. Loraine Morris who did much to organize logistics in Goose Bay during the times field parties were working onshore and on the ship. Mr. John Hynes who allowed us the use of his cabin an helped in the operations of the Kathy Anne III. Mr J.G. (Tex) Arseneault who furnished the use of the Kathy Anne. The captain, officers and crew of the C.S.S. Hudson whose support and hard work made this crew a success. Finially we would like to offer a special thanks to Dr. David Ross whose hard work and support allowed this project to finally happen.

Land based participants:

Mike Gorveatt	**AGC/EMR**
Pien Penashue	**Innu Nation**
Pierre Begin	**CEMAGREF (France)**
driller 1	**Contract J. M. Konrad (Laval University)**
driller 2	**Contract J. M. Konrad (Laval University)**
driller 3	**Contract J. M. Konrad (Laval University)**
driller 4	**Contract J. M. Konrad (Laval University)**
Hareld Norem	**Norweigan Geotechnical Institute**
Jan Christen	**Norweigan Geotechnical Institute**
Francois Gilbert	**Laval University**
Phillip Martegnoni	**Laval University**
Martin Pelletier	**Laval University**
Steve Sparks	**Bay Industries**
Emilly Mesher	**Camp Cook**
Wilber Patey	**Boat Operators**
Gerry Patey	**Boat Operators**
Gordon Morris	**Boat Operators**

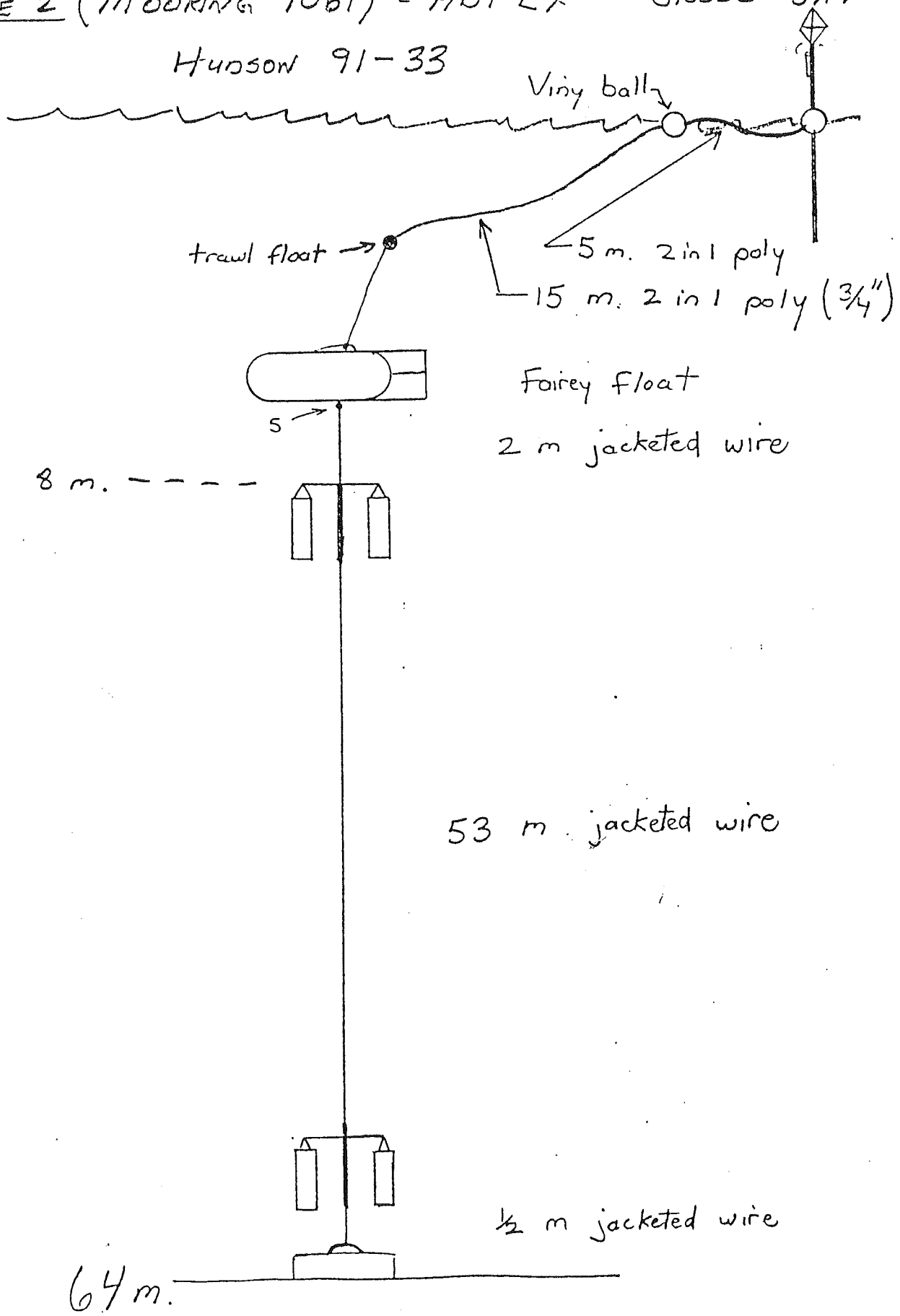
APPENDIX 1

Site 1 (Mooring 1060) - ADFEX - Goose Bay
Hudson 91-33

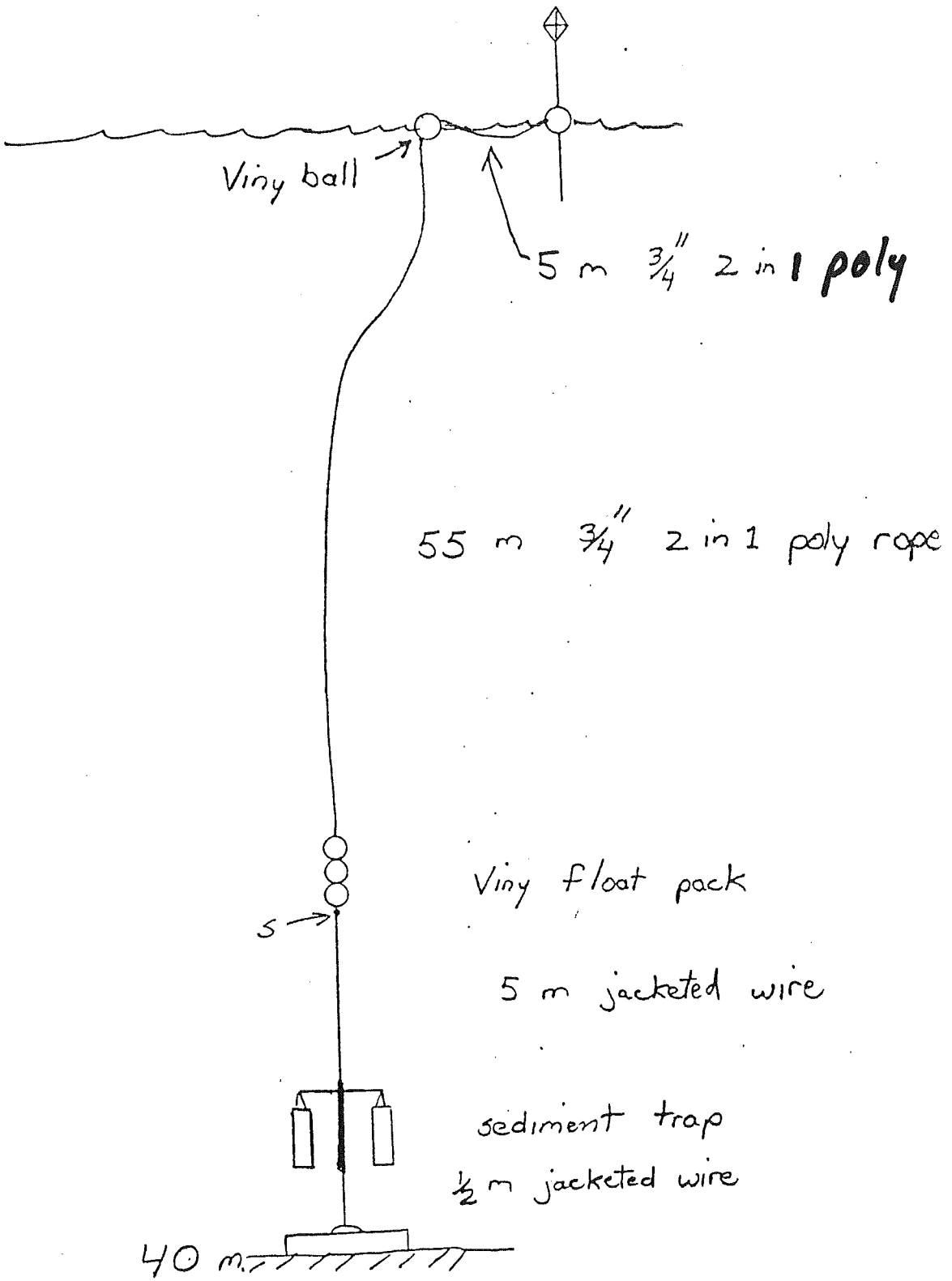


SITE 2 (MOORING 1061) - AOFEX - GOOSE BAY

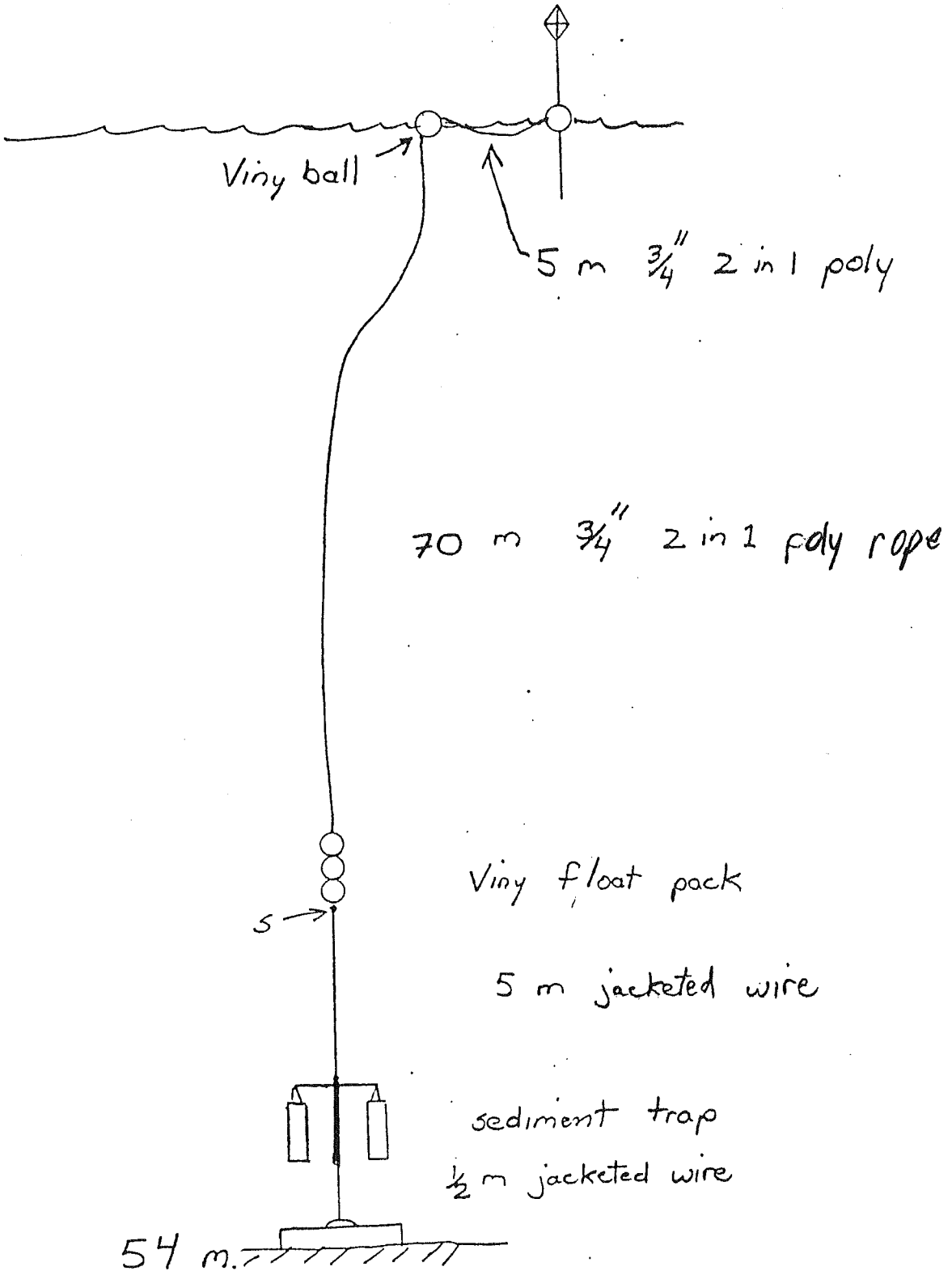
HUDSON 91-33



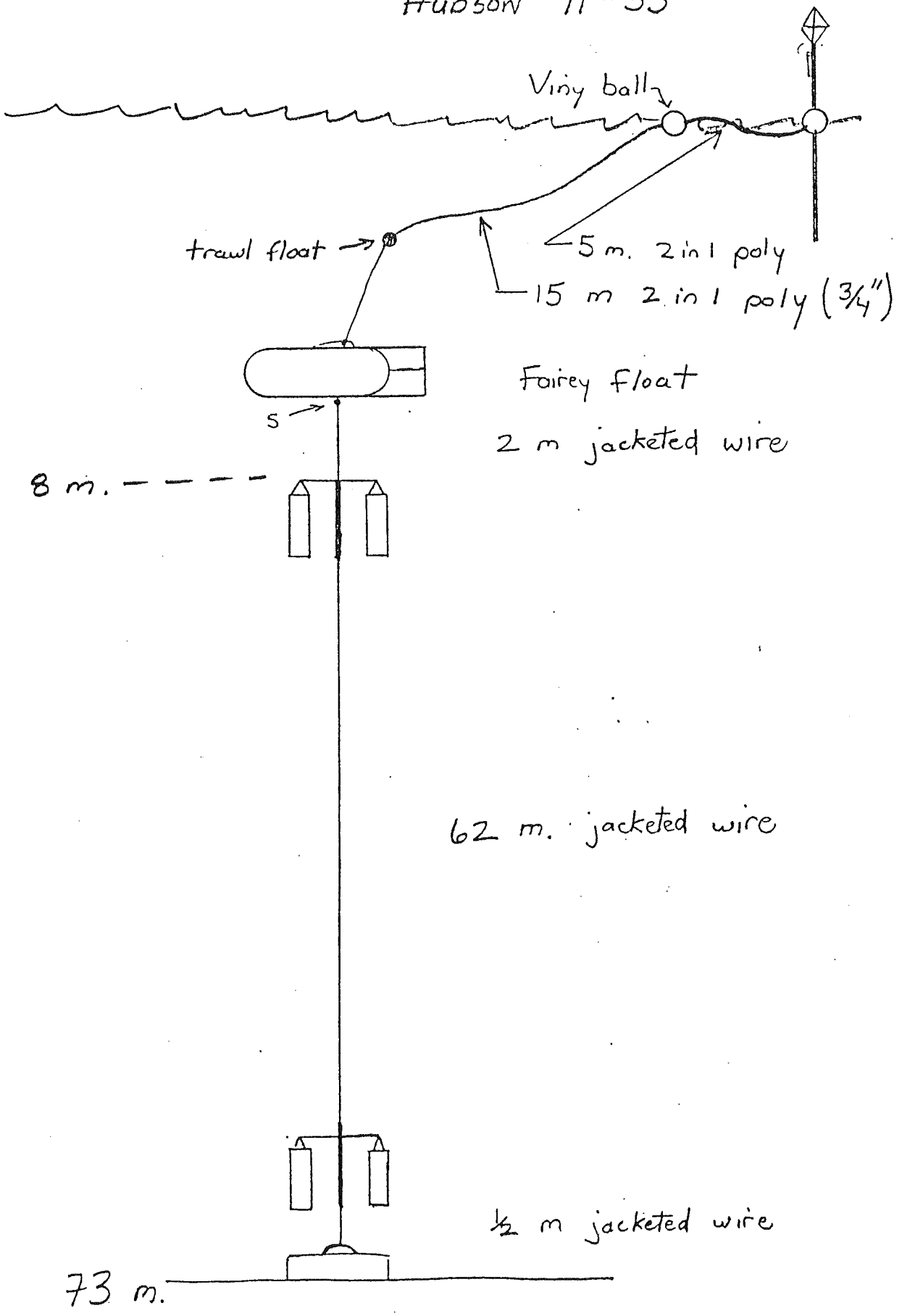
Site 3 (Mooring 1062) - AOFEX - Goose Bay
Hudson 91-33



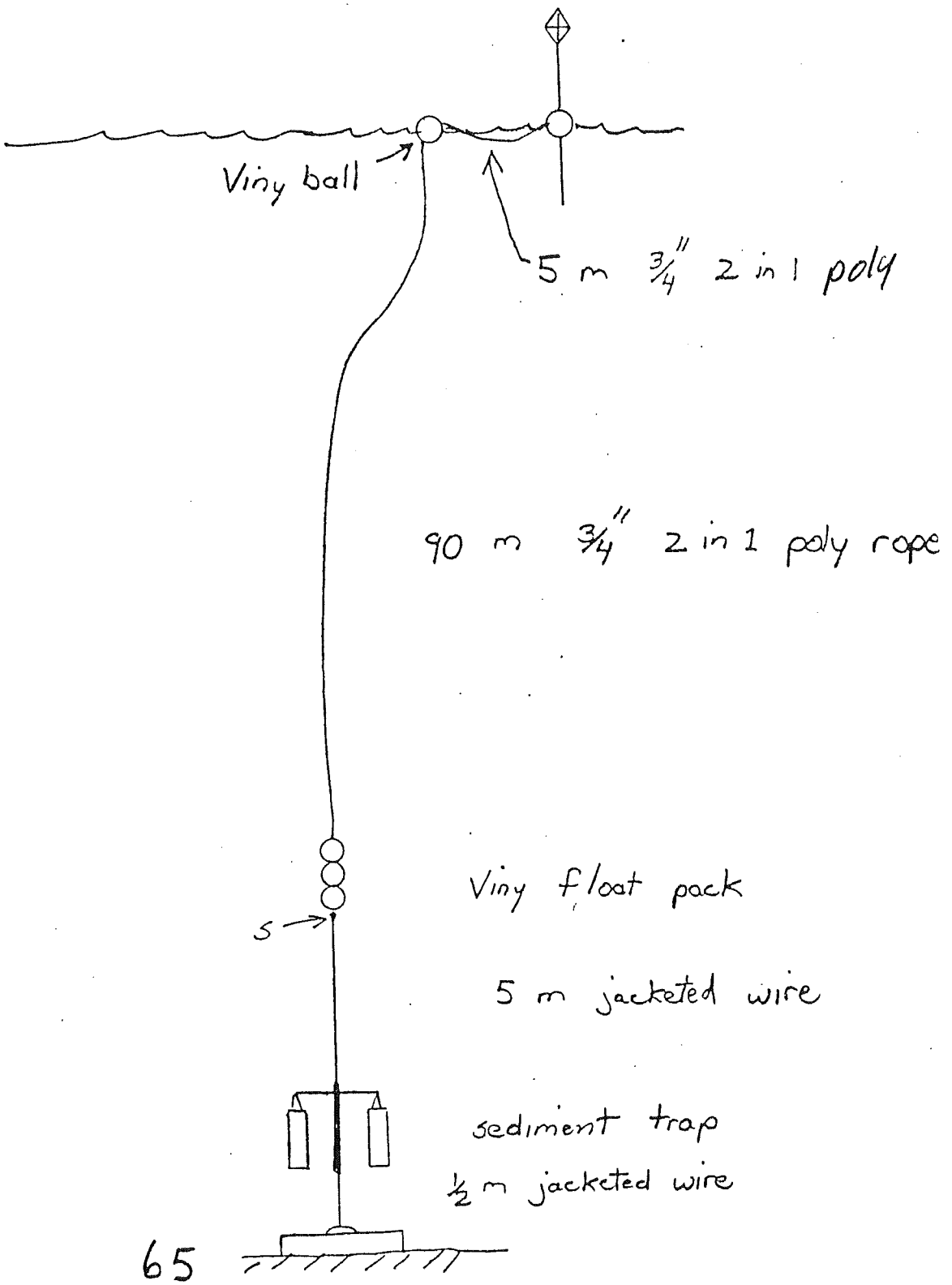
Site 4 (Mooring 1063) - ADFEX - Goose Bay
Hudson 91-33



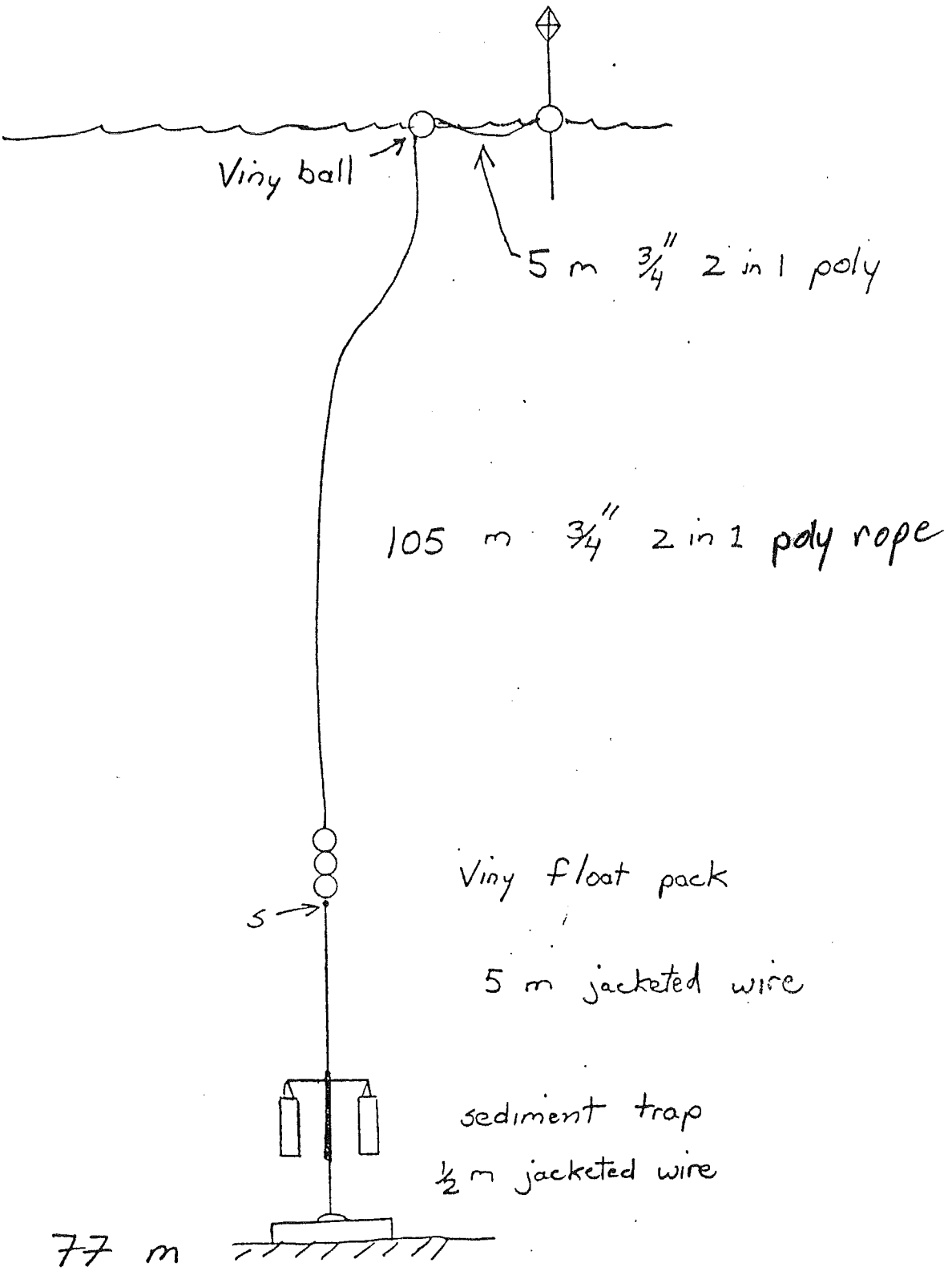
SITE 5 (MOOR 1064) - AOFEX - GOOSE BAY
HUDSON 91-33



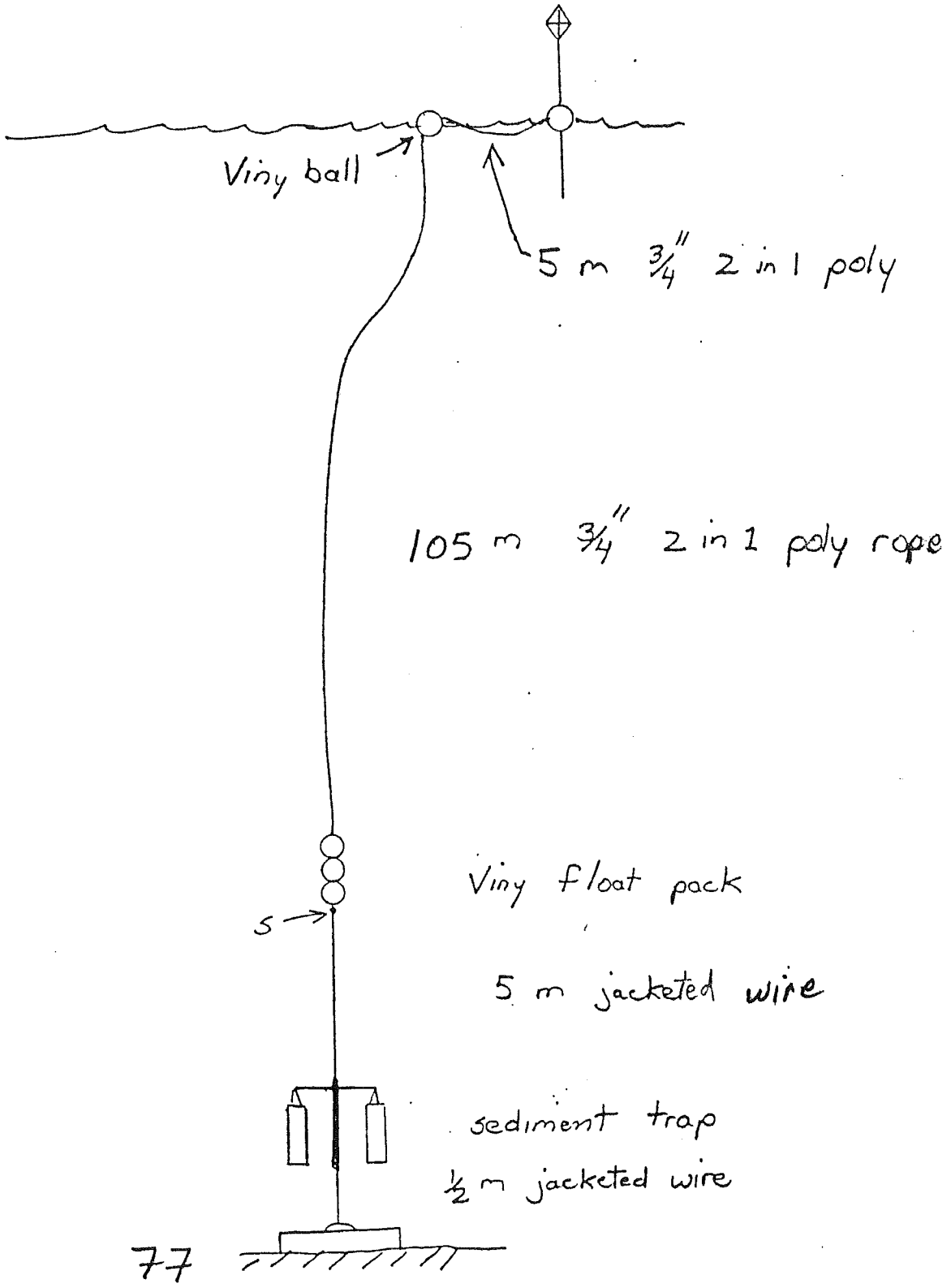
SITE 6 (MOOR 1065) - ADFEX - GOOSE BAY
HUDSON 91-33



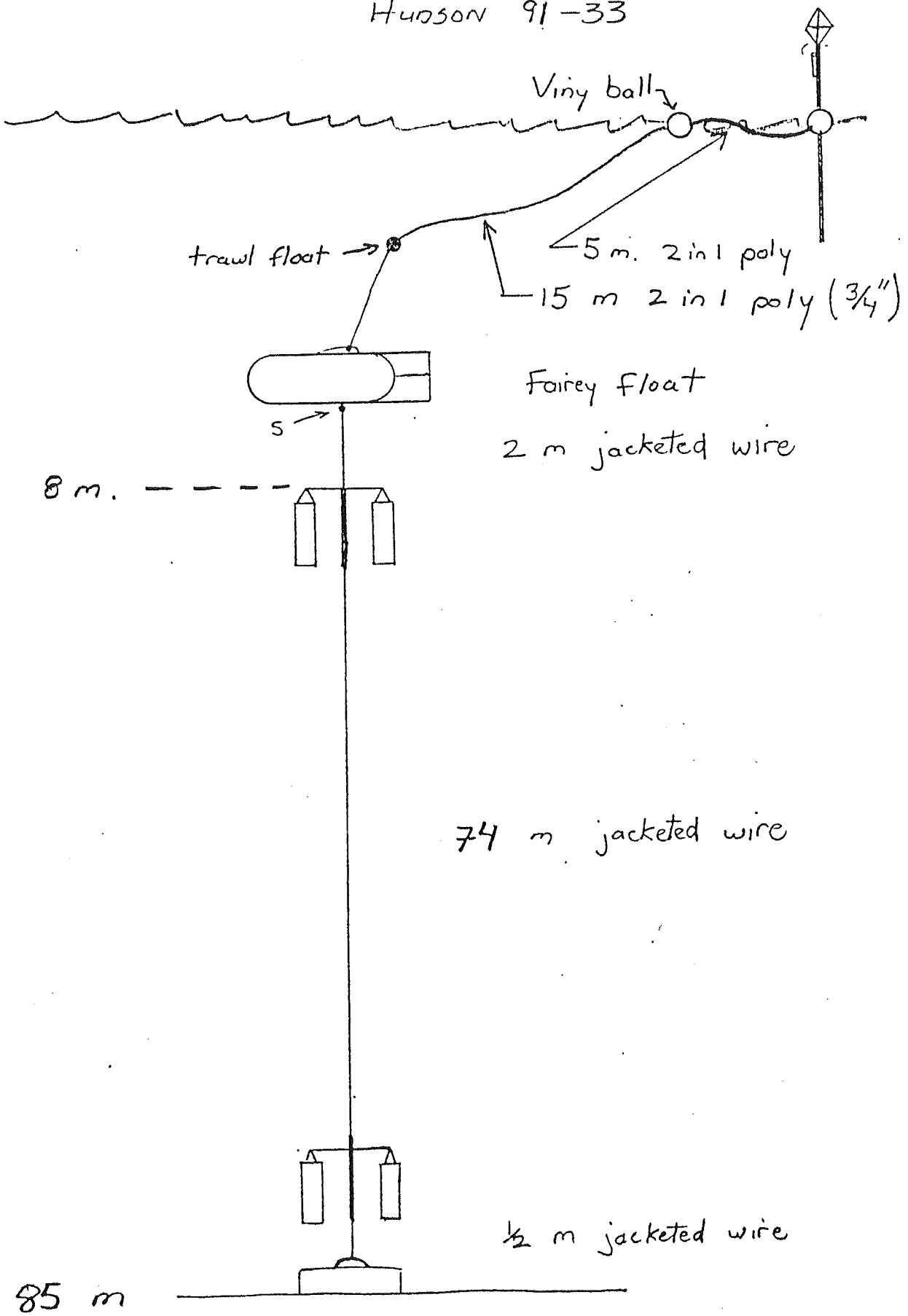
SITE 7 (MOORING 1066) - AUFEX - GOOSE BAY
HUDSON 91-33



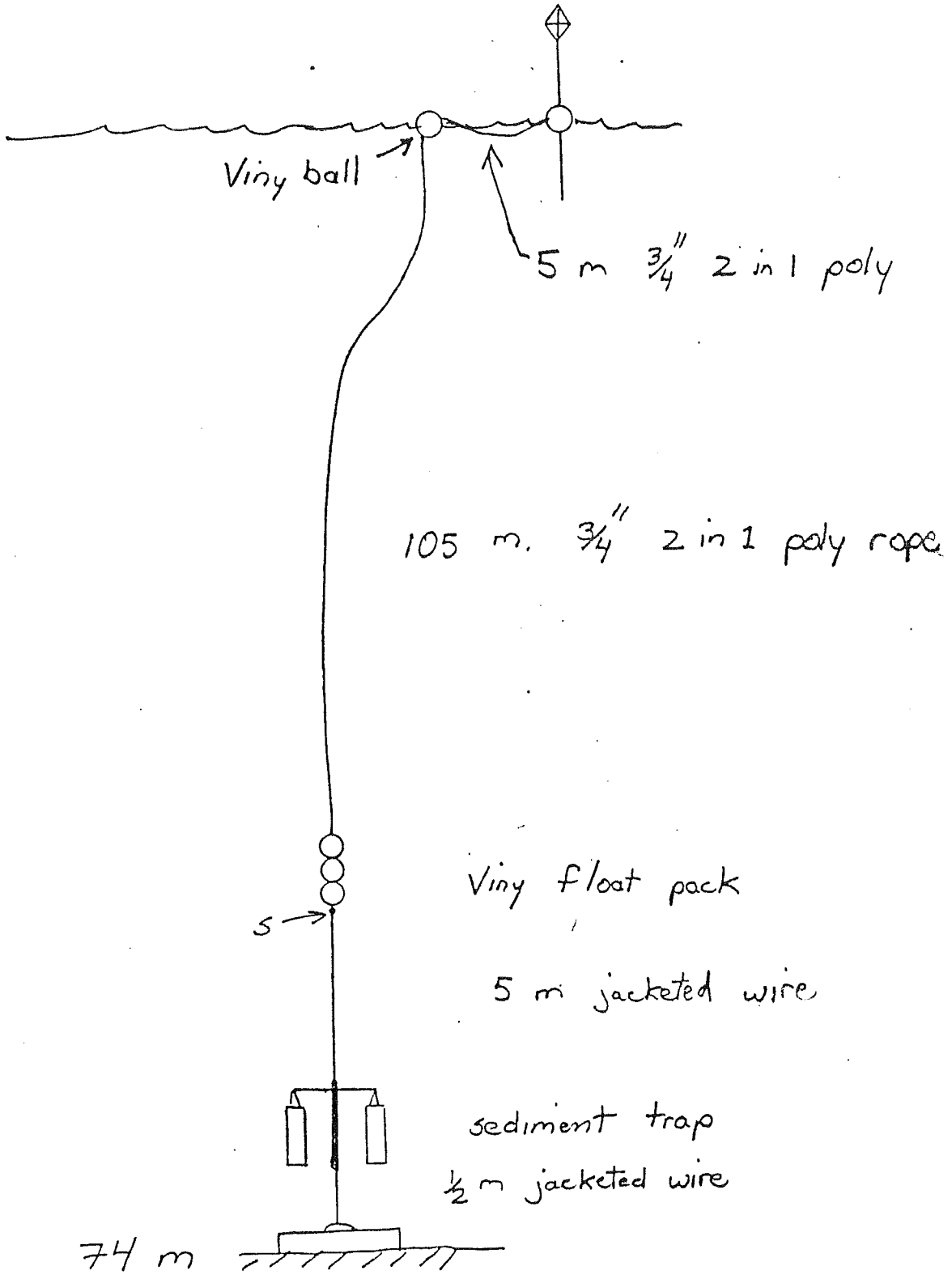
SITE 8 (MOOR 1067) - AOFEX - GOOSE BAY
HUDSON 91-33



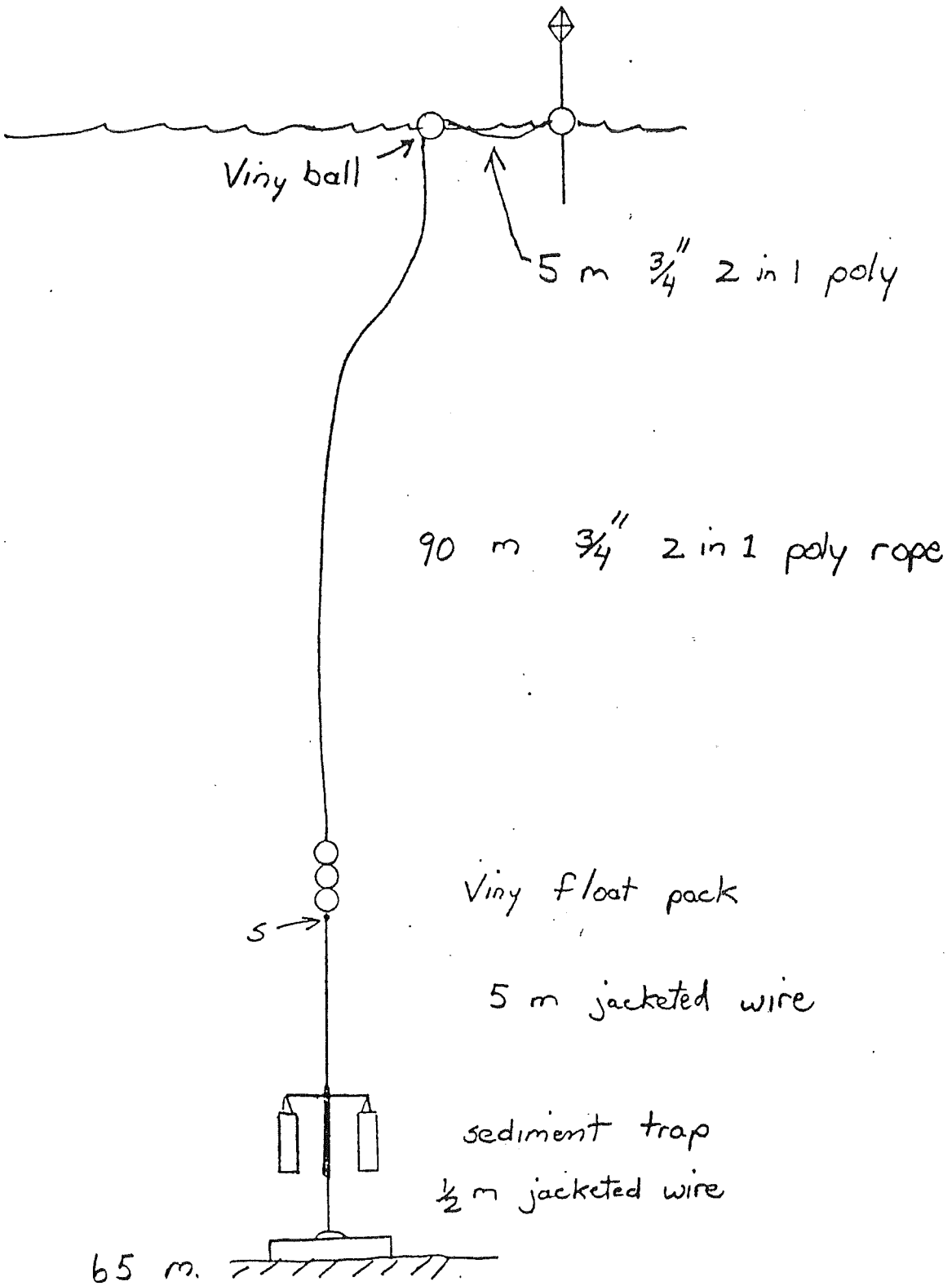
SITE 9 (MOOR 1068) - ANFEX - GOOSE BAY
HUDSON 91-33



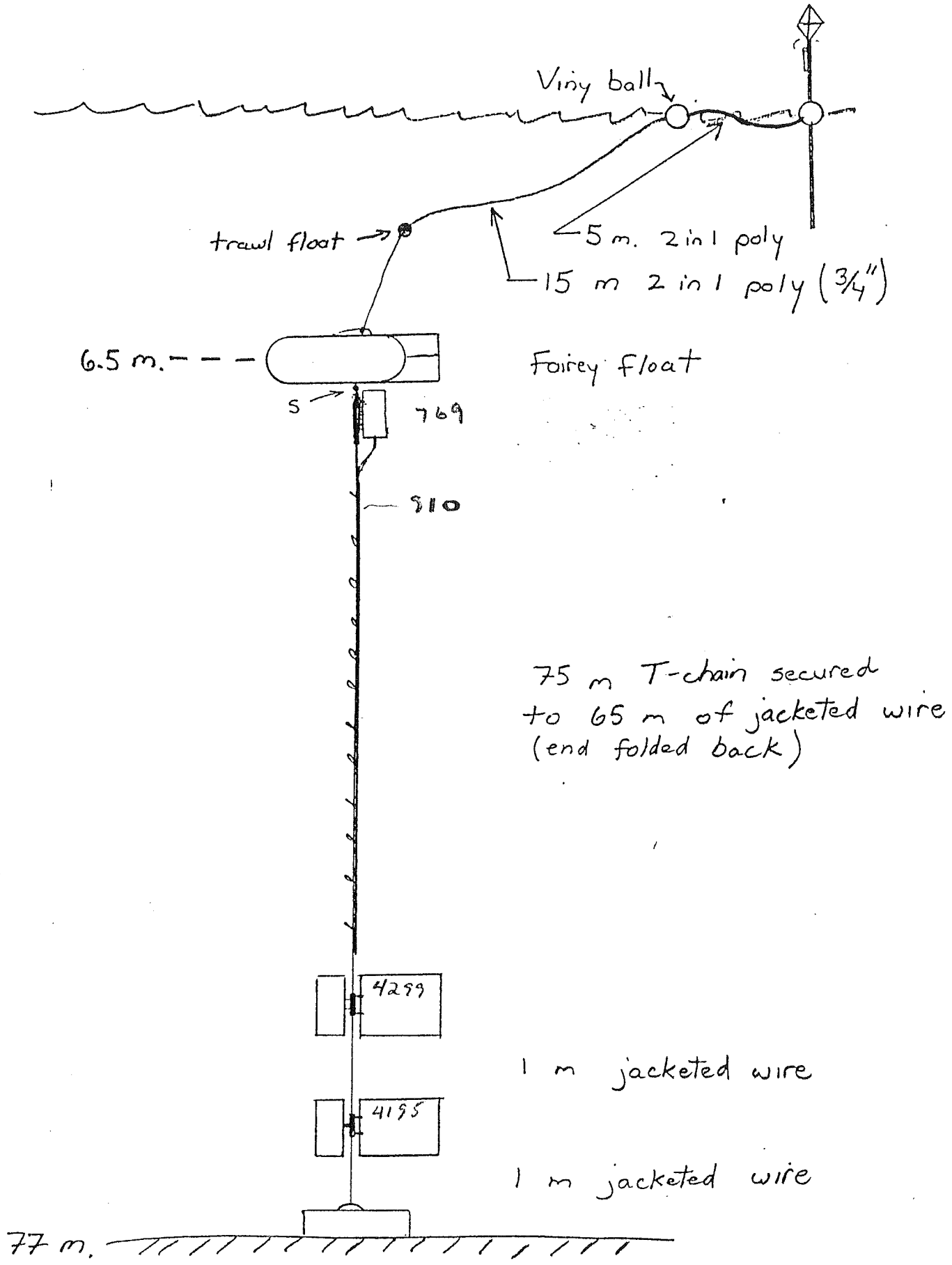
SITE 10 (MOOR 1069) - ADFEX - GOOSE BAY
HUDSON 91-33



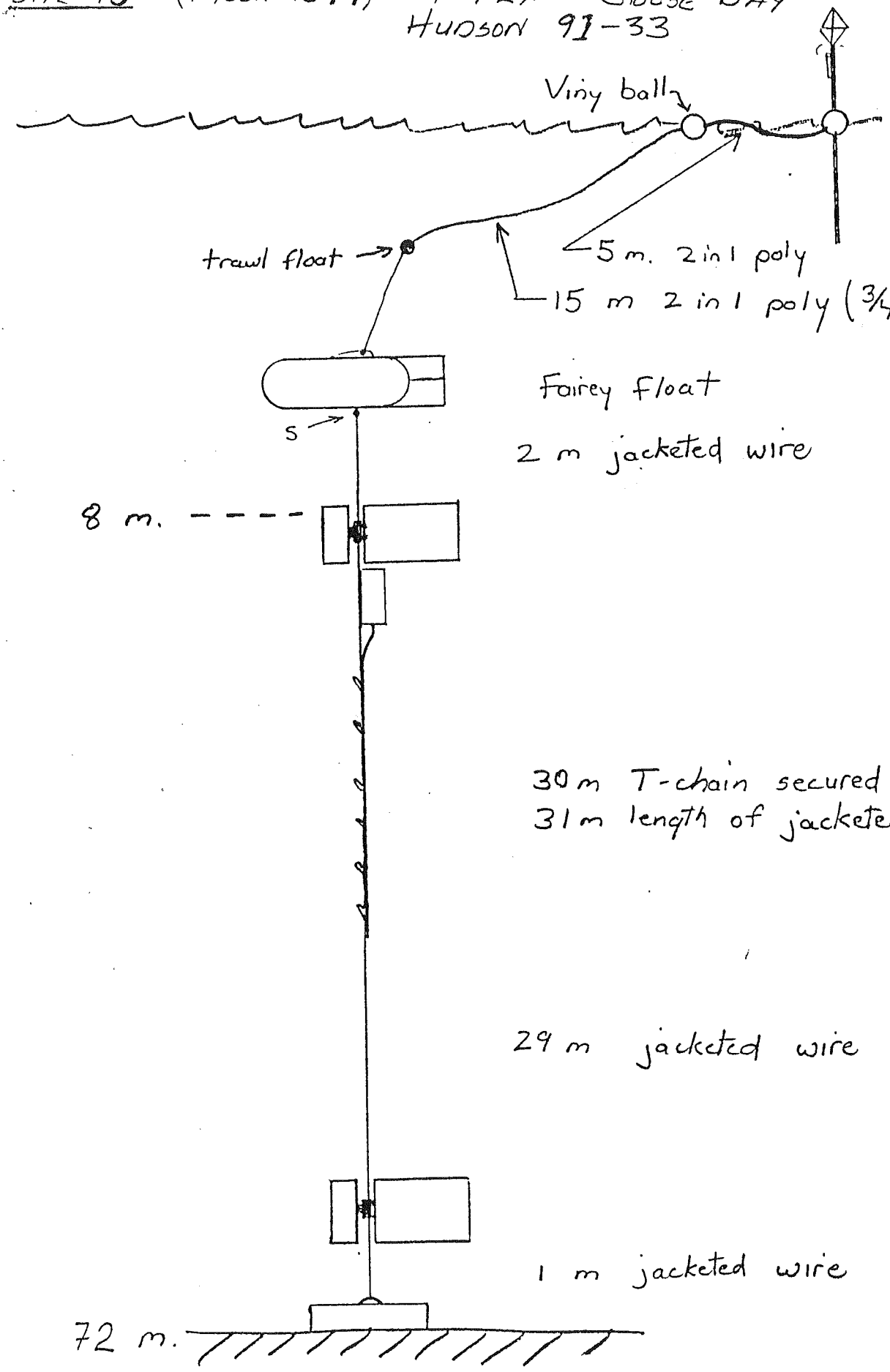
..SITE 11 (MOORING 1070) - ADFEX - GOOSE BAY
HUDSON 91-33



SITE 18 - (MOORING 1080) - AOFEX - GOOSE BAY
HUDSON 91-33



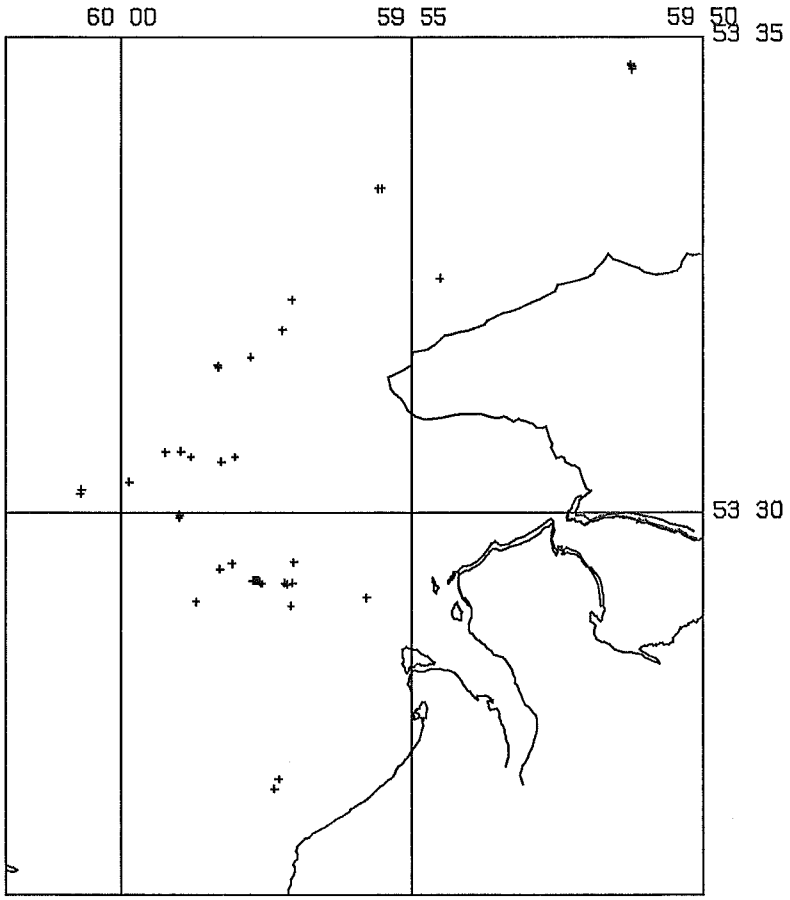
SITE 13 - (11/OOR 1041) - HNTEX - Goose Bay
Hudson 91-33



APPENDIX 2

ADFEX WATER SAMPLING SITES

KENAMU DELTA

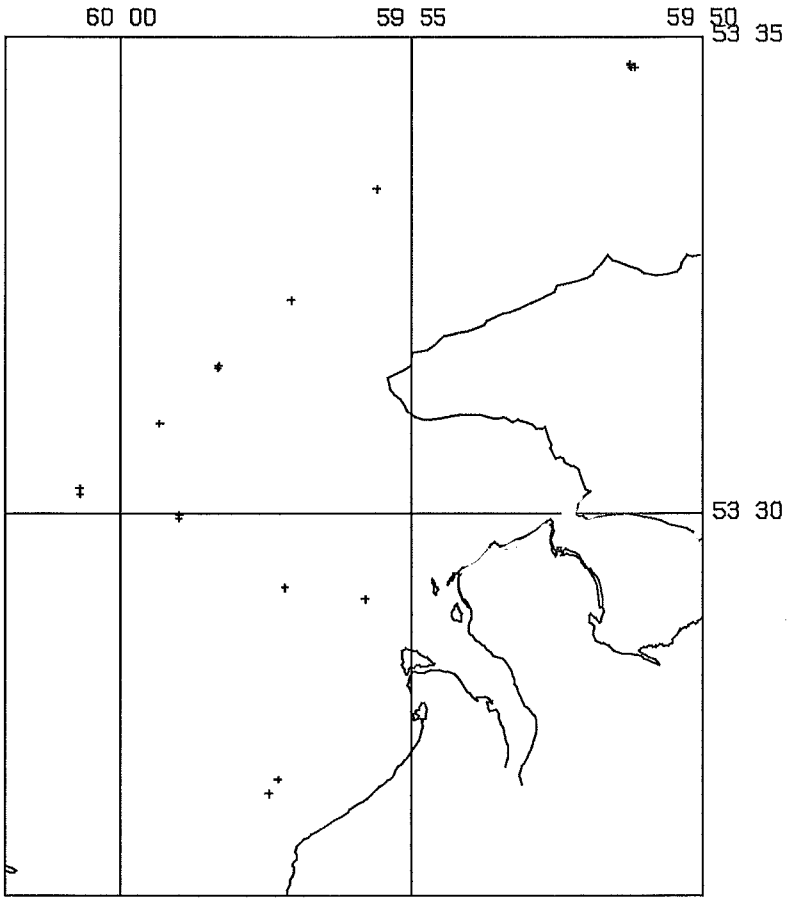


MERCATOR 90000. AT 55.00 N.

5-NOV-1991 10:55:51.75

ADFEX FLOC CAMERA SITES

KENAMU DELTA

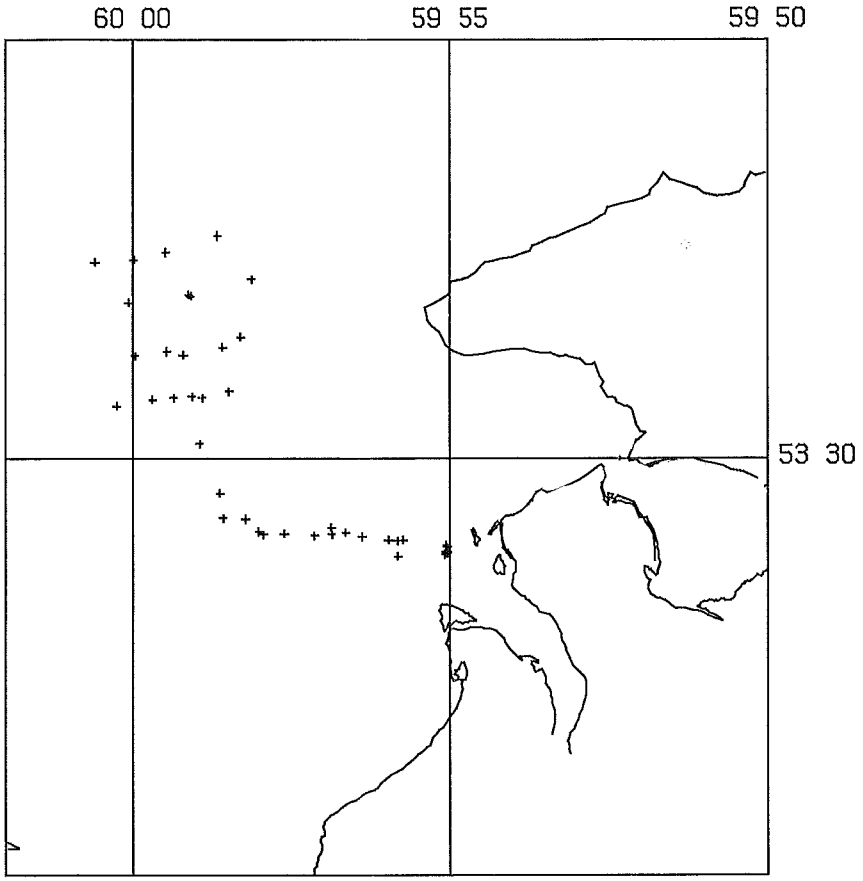


MERCATOR 90000. AT 55.00 N.

5-NOV-1991 09:03:20.35

ADFEX GRAB SAMPLE SITES

KENAMU DELTA

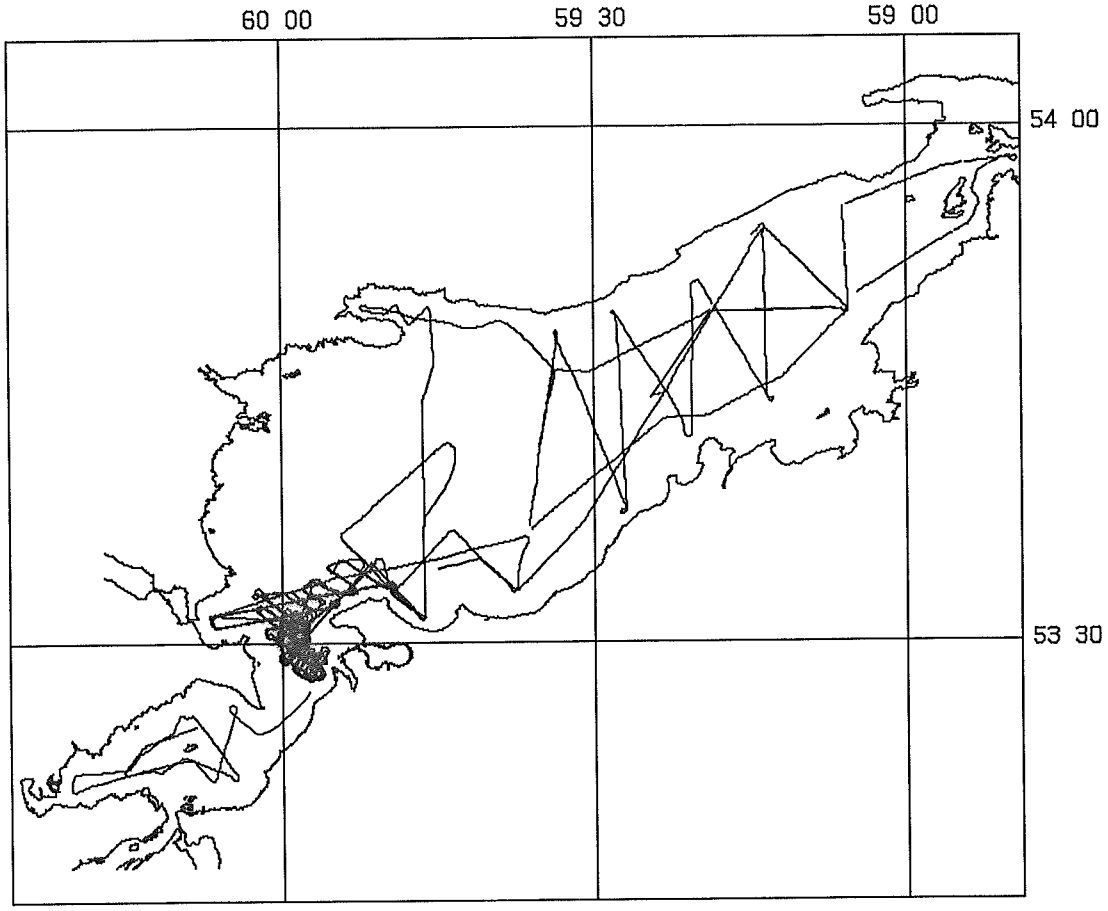


MERCATOR 90000. AT 55.00 N.

4-NOV-1991 09:50:55.26

HN91-033 ADFEX / SEDFLUX LINES

GOOSE BAY - LAKE MELVILLE (LABRADOR)

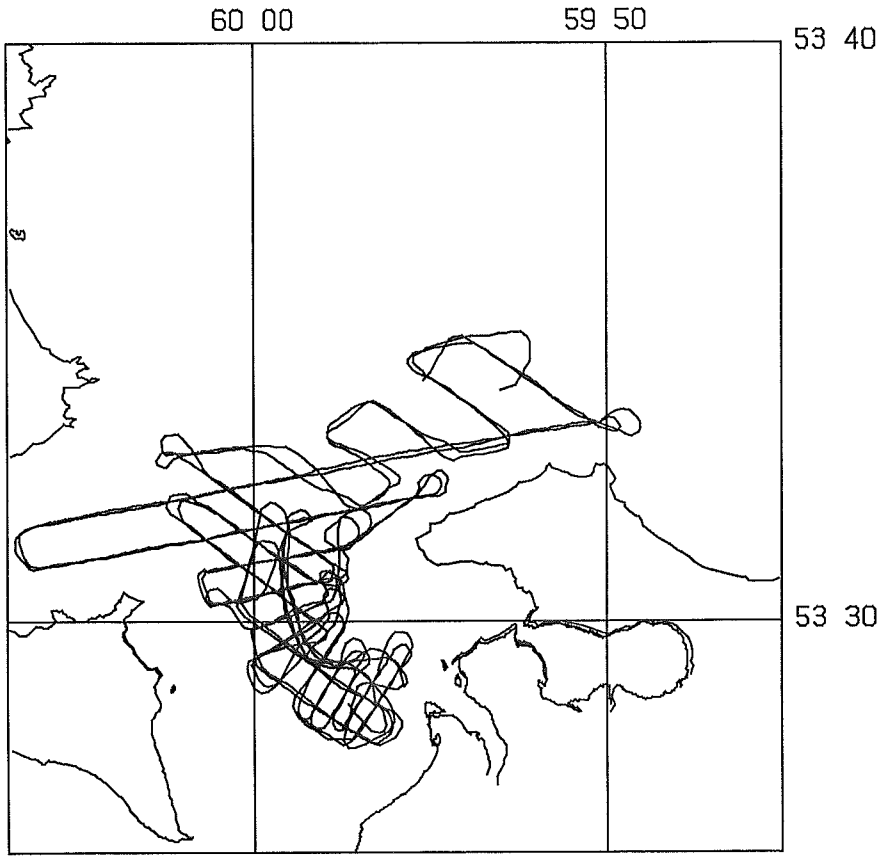


MERCATOR 500000. AT 55.00 N.

2-NOV-1991 19:35:29.17

HN91-033 ADFEX LINES

KENAMU DELTA (LABRADOR)

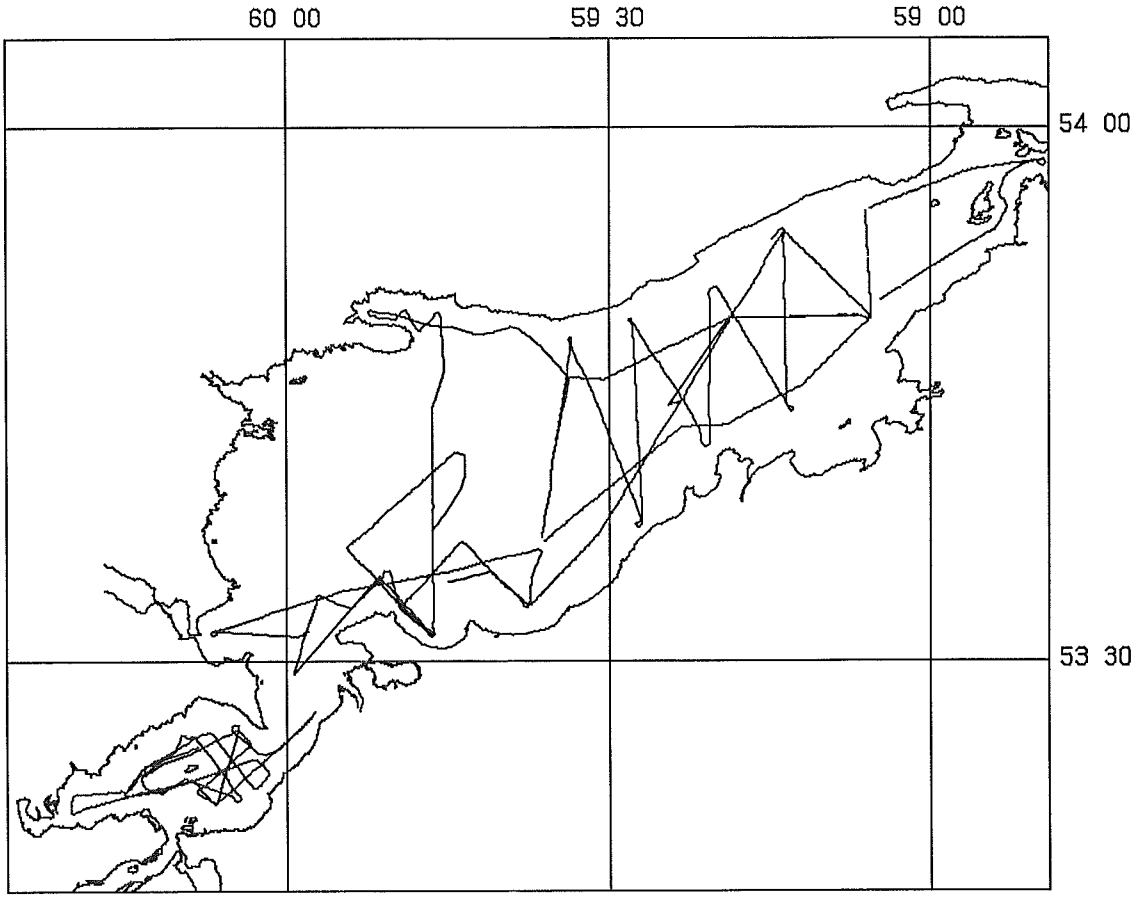


MERCATOR 175000. AT 55.00 N.

3-NOV-1991 08:53:15.19

HN91-033 SEDFLUX LINES

GOOSE BAY - LAKE MELVILLE (LABRADOR)

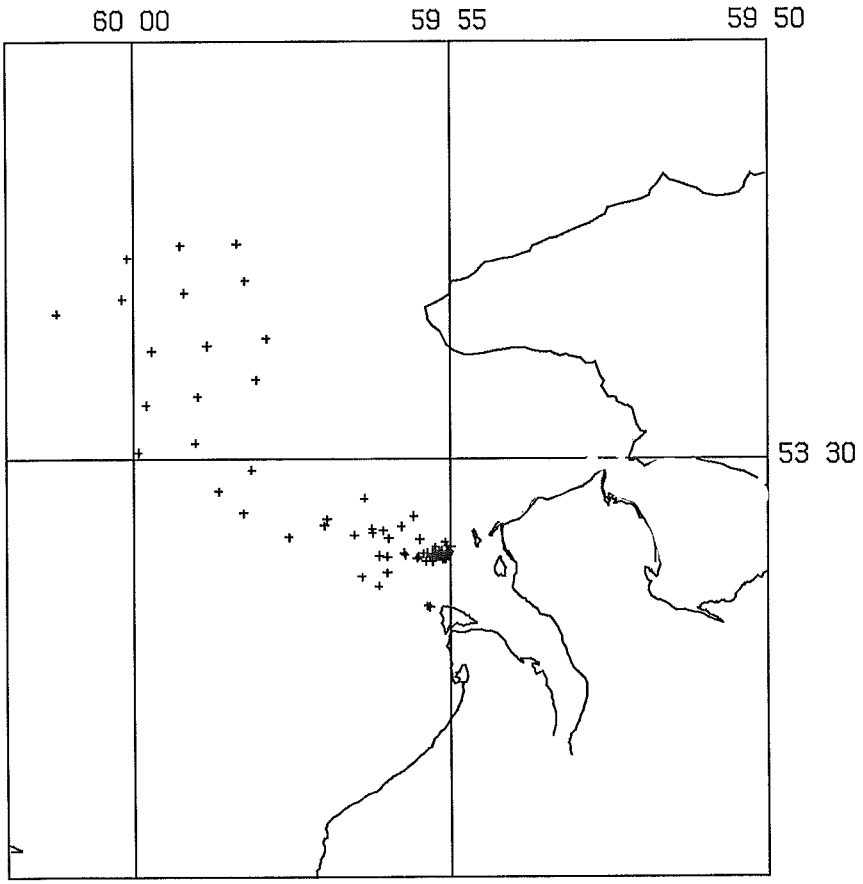


MERCATOR 500000. AT 55.00 N.

4-NOV-1991 07:11:20.62

ADFEX CORE SAMPLE SITES

KENAMU DELTA

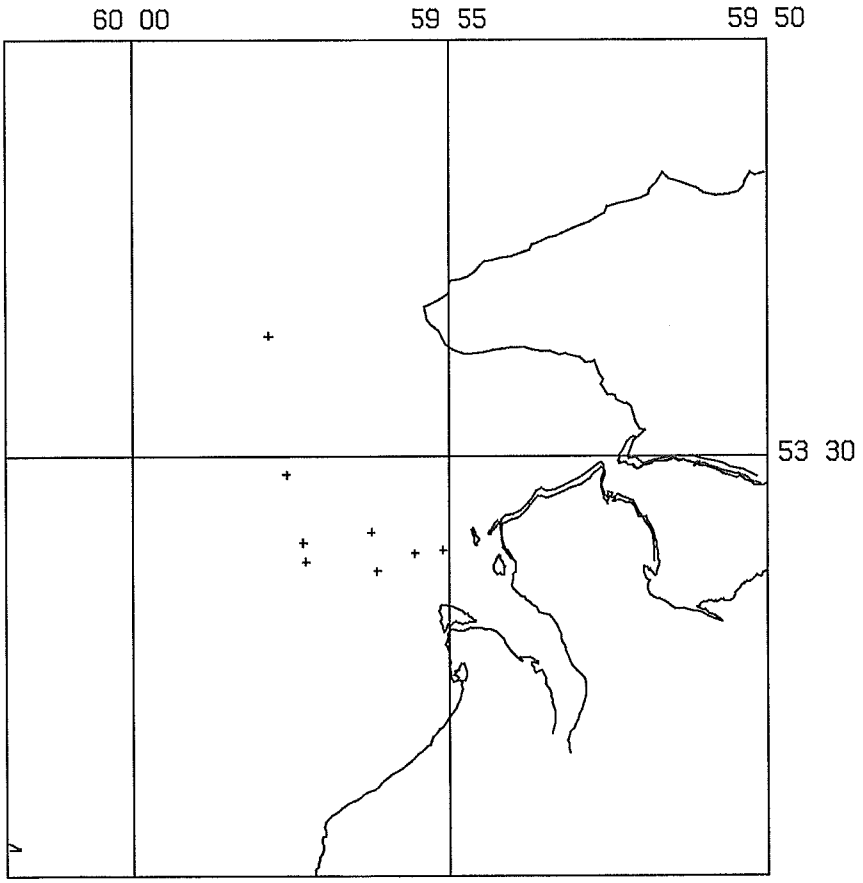


MERCATOR 90000. AT 55.00 N.

4-NOV-1991 11:24:43.85

ADFEX CAMERA TRANSECTS

KENAMU DELTA

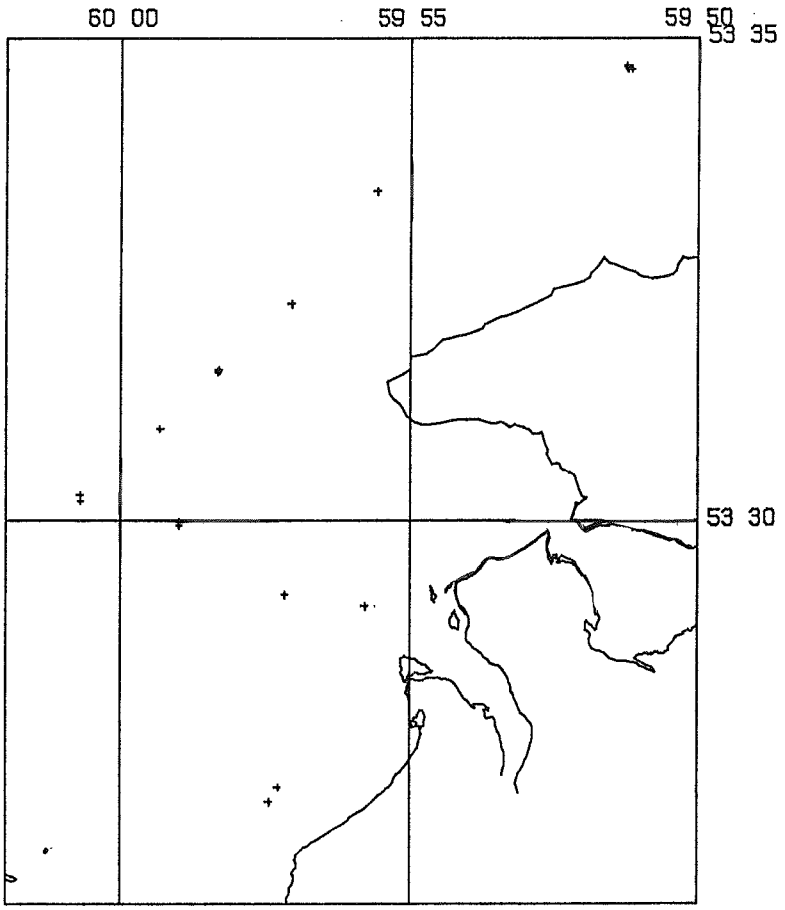


MERCATOR 90000. AT 55.00 N.

4-NOV-1991 13:57:04.01

ADFEX CTD PROFILE SITES

KENAMU DELTA



MERCATOR 90000. AT 55.00 N.

6-NOV-1991 08:00:46.36

APPENDIX 3

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
M1	GRAB	270		53 28.87N	59 55.55W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
M2	GRAB	270		53 28.92N	59 55.49W	26M	KENAMU BAY (GOOSE BAY) LABRADOR
M4	GRAB	270		53 29.06N	59 55.37W	37M	KENAMU BAY (GOOSE BAY) LABRADOR
M5	GRAB	270		53 29.10N	59 55.32W	34M	KENAMU BAY (GOOSE BAY) LABRADOR
M6	GRAB	270		53 29.11N	59 55.32W	32M	KENAMU BAY (GOOSE BAY) LABRADOR
M7	GRAB	270		53 29.08N	59 55.28W	26M	KENAMU BAY (GOOSE BAY) LABRADOR
M8	GRAB	270		53 29.18N	59 55.22W	26M	KENAMU BAY (GOOSE BAY) LABRADOR
M9	GRAB	270		53 29.24N	59 55.15W	26M	KENAMU BAY (GOOSE BAY) LABRADOR
M10	GRAB	270		53 29.28N	59 55.11W	23M	KENAMU BAY (GOOSE BAY) LABRADOR
M11	GRAB	270		53 29.33N	59 55.05W	22M	KENAMU BAY (GOOSE BAY) LABRADOR
M12	GRAB	270		53 28.90N	59 55.62W	33M	KENAMU BAY (GOOSE BAY) LABRADOR
M13	GRAB	270		53 28.94N	59 55.58W	31M	KENAMU BAY (GOOSE BAY) LABRADOR
M14	GRAB	270		53 28.99N	59 55.52W	39M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
N15	GRAB	270		53 29.04N	59 55.40W	39M	KENAMU BAY (GOOSE BAY) LABRADOR
N16	GRAB	270		53 29.09N	59 55.44W	36M	KENAMU BAY (GOOSE BAY) LABRADOR
N17	GRAB	270		53 29.13N	59 55.37W	34M	KENAMU BAY (GOOSE BAY) LABRADOR
N18	GRAB	271		53 29.08N	59 55.23W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
N19	GRAB	271		53 29.15N	59 55.12W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
N20	GRAB	271		53 29.21N	59 55.10W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
N21	GRAB	271		53 29.27N	59 55.02W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
N22	GRAB	271		53 29.10N	59 55.24W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
N23	GRAB	271		53 29.20N	59 55.26W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
N24	GRAB	271		53 29.29N	59 55.12W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
N25	GRAB	271		53 29.35N	59 55.17W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
N26	GRAB	271		53 29.15N	59 55.33W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
N27	GRAB	271		53 29.25N	59 55.43W	30M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
M28	GRAB	271		53 29.20N	59 55.34W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
M29	GRAB	271		53 28.90N	59 55.55W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
M30	GRAB	271		53 29.00N	59 55.63W	35M	KENAMU BAY (GOOSE BAY) LABRADOR
M31	GRAB	271		53 29.05N	59 55.50W	35M	KENAMU BAY (GOOSE BAY) LABRADOR
M32	GRAB	271		53 29.12N	59 55.41W	34M	KENAMU BAY (GOOSE BAY) LABRADOR
M33	GRAB	271		53 29.10N	59 55.50W	35M	KENAMU BAY (GOOSE BAY) LABRADOR
M34	GRAB	271		53 29.18N	59 55.63W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
M35	GRAB	271		53 29.11N	59 55.58W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
M36	GRAB	271		53 29.04N	59 55.67W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
M37	GRAB	271		53 29.09N	59 55.90W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
M38	GRAB	271		53 29.11N	59 56.03W	45M	KENAMU BAY (GOOSE BAY) LABRADOR
M39	GRAB	271		53 29.10N	59 55.86W	45M	KENAMU BAY (GOOSE BAY) LABRADOR
M40	GRAB	271		53 29.16N	59 55.75W	45M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
NLCF1	CORE	2791000		53 29.12N	59 55.13W	14M	KENAMU BAY (GOOSE BAY) LABRADOR
NLCF2	CORE	2791330		53 29.13N	59 55.08W	5.5M	KENAMU BAY (GOOSE BAY) LABRADOR
NLCF3R	CORE	2791420		53 29.15N	59 55.08W	10M	KENAMU BAY (GOOSE BAY) LABRADOR
NLCF5	CORE	2800853		53 29.27N	59 55.10W	12M	KENAMU BAY (GOOSE BAY) LABRADOR
NLCF6	CORE	2800912		53 29.17N	59 55.12W	15M	KENAMU BAY (GOOSE BAY) LABRADOR
NLCF7R	CORE	2800942		53 29.23N	59 55.08W	10M	KENAMU BAY (GOOSE BAY) LABRADOR
N41	GRAB	2801103		53 29.10N	59 55.03W	2M	KENAMU BAY (GOOSE BAY) LABRADOR
N42	GRAB	2801113		53 29.10N	59 55.05W	4M	KENAMU BAY (GOOSE BAY) LABRADOR
N43	GRAB	2801121		53 29.10N	59 55.07W	10M	KENAMU BAY (GOOSE BAY) LABRADOR
N44	GRAB	2801120		53 29.20N	59 55.08W	15M	KENAMU BAY (GOOSE BAY) LABRADOR
N45	GRAB	2801204		53 29.13N	59 55.13W	1.5M	KENAMU BAY (GOOSE BAY) LABRADOR
N46	GRAB	2801217		53 29.13N	59 55.08W	7M	KENAMU BAY (GOOSE BAY) LABRADOR
N47	GRAB	2801224		53 29.13N	59 55.10W	8M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
M48	GRAB	2801233		53 29.12N	59 55.12W	13.0M	KENAMU BAY (GOOSE BAY) LABRADOR
M49	GRAB	2801243		53 29.07N	59 55.13W	1.5M	KENAMU BAY (GOOSE BAY) LABRADOR
M50	GRAB	2801250		53 29.07N	59 55.13W	3.2M	KENAMU BAY (GOOSE BAY) LABRADOR
M51	GRAB	2801257		53 29.08N	59 55.17W	9M	KENAMU BAY (GOOSE BAY) LABRADOR
M52	GRAB	2801306		53 29.08N	59 55.17W	13M	KENAMU BAY (GOOSE BAY) LABRADOR
M53	GRAB	2801319		53 29.08N	59 55.18W	16M	KENAMU BAY (GOOSE BAY) LABRADOR
M54	GRAB	2801333		53 29.10N	59 55.20W	19.5M	KENAMU BAY (GOOSE BAY) LABRADOR
M55R	GRAB	2801348		53 29.12N	59 55.25W	25.2M	KENAMU BAY (GOOSE BAY) LABRADOR
M56R	GRAB	2801407		53 29.10N	59 55.30W	29M	KENAMU BAY (GOOSE BAY) LABRADOR
M57	GRAB	2801416		53 29.13N	59 55.42W	32.5M	KENAMU BAY (GOOSE BAY) LABRADOR
M58	GRAB	2801427		53 29.07N	59 55.13W	1.5M	KENAMU BAY (GOOSE BAY) LABRADOR
M59	GRAB	2801433		53 29.07N	59 55.15W	0M	KENAMU BAY (GOOSE BAY) LABRADOR
M60R	GRAB	2801444		53 29.08N	59 55.15W	12M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4
TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
M61	GRAB	2801454		53 29.08N	59 55.18W	16M	KENAMU BAY (GOOSE BAY) LABRADOR
M62	GRAB	2801502		53 29.10N	59 55.20W	21M	KENAMU BAY (GOOSE BAY) LABRADOR
T1	GRAB			53 29.09N	59 55.17W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T2	GRAB			53 29.09N	59 55.12W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T4	GRAB			53 29.12N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T5	GRAB			53 29.13N	59 55.09W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T6	GRAB			53 29.16N	59 55.06W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T7	GRAB			53 29.17N	59 55.04W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
T8	GRAB			53 29.15N	59 55.02W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F1	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F2	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F3	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F4	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
F5	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F6	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F7	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F8	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F9	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F10	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F11	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F12	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F13	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F14	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F15	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F16	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F17	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
F18	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F19	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F20	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F21	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F22	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F23	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F24	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F25	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F26	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F27	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F28	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F29	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F30	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
F31	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
F32	GRAB			53 29.02N	59 55.08W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LF20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LST120	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LA20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LB20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LC20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LD20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LE20	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LF35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LST135	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LA35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LB35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
LC35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LD35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LE35	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LF50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LST150	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LA50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LB50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LC50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LD50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LE50	GRAB			53 29.02N	59 55.10W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LST120	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
LST126	GRAB			53 29.02N	59 55.00W	0	KENAMU DELTA (GOOSE BAY) LABRADOR
M3	GRAB	270		53 28.96N	59 55.44W	35M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 060026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
1G3	GRAB	2651952		53 29.29N	59 56.24W	47M	KENAMU BAY (GOOSE BAY) LABRADOR
2G50	GRAB	2652022		53 29.10N	59 55.75W	46M	KENAMU BAY (GOOSE BAY) LABRADOR
3G49	GRAB	2652030		53 29.31N	59 56.07W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
4G48	GRAB	2652052		53 29.27N	59 56.52W	50M	KENAMU BAY (GOOSE BAY) LABRADOR
5G47	GRAB	2652112		53 29.42N	59 56.95W	41M	KENAMU BAY (GOOSE BAY) LABRADOR
6G46	GRAB	2652123		53 29.25N	59 57.55W	71M	KENAMU BAY (GOOSE BAY) LABRADOR
7G45	GRAB	2652139		53 29.48N	59 58.26W	71M	KENAMU BAY (GOOSE BAY) LABRADOR
8G43	GRAB	2652152		53 29.89N	59 58.13W	52M	KENAMU BAY (GOOSE BAY) LABRADOR
9G44	GRAB	2652213		53 29.69N	59 58.65W	71M	KENAMU BAY (GOOSE BAY) LABRADOR
10G42	GRAB	2652235		53 30.15N	59 59.02W	82M	KENAMU BAY (GOOSE BAY) LABRADOR
11G41	GRAB	2652253		53 30.06N	59 59.92W	60M	KENAMU BAY (GOOSE BAY) LABRADOR
12G38	GRAB	2652317		53 30.75N	59 58.06W	64M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
13G39	GRAB	2652339		53 30.59N	59 58.98W	82M	KENAMU BAY (GOOSE BAY) LABRADOR
14G40	GRAB	2652353		53 30.51N	59 59.80W	80M	KENAMU BAY (GOOSE BAY) LABRADOR
15G37	GRAB	2660010		53 31.02N	59 59.71W	82M	KENAMU BAY (GOOSE BAY) LABRADOR
16G1	GRAB	2660026		53 31.07N	59 58.83W	86M	KENAMU BAY (GOOSE BAY) LABRADOR
17G2	GRAB	2660040		53 31.14N	59 57.90W	75M	KENAMU BAY (GOOSE BAY) LABRADOR
18G33	GRAB	2660056		53 31.70N	59 58.23W	98M	KENAMU BAY (GOOSE BAY) LABRADOR
19G34	GRAB	2660114		53 31.50N	59 59.19W	94M	KENAMU BAY (GOOSE BAY) LABRADOR
20G35	GRAB	2660130		53 31.52N	60 00.17W	94M	KENAMU BAY (GOOSE BAY) LABRADOR
21G36	GRAB	2660145		53 31.38N	60 01.21W	97M	KENAMU BAY (GOOSE BAY) LABRADOR
22L7	CORE	2661930		53 29.2 N	59 55.83W	28M	KENAMU BAY (GOOSE BAY) LABRADOR
24L16	CORE	2662137		53 29.26N	59 56.85W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
25L14	CORE	2662224		53 29.42N	59 58.57W	57M	KENAMU BAY (GOOSE BAY) LABRADOR
26L15	CORE	2662258		53 29.29N	59 58.01W	69M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
27L4	CORE	2662340		53 30.98N	59 59.63W	90M	KENAMU BAY (GOOSE BAY) LABRADOR
28L13	CORE	2670014		53 31.07N	59 59.13W	92M	KENAMU BAY (GOOSE BAY) LABRADOR
29G32	GRAB	2670045		53 32.06N	59 58.36W	90M	KENAMU BAY (GOOSE BAY) LABRADOR
30G31	GRAB	2670109		53 32.04N	59 59.25W	96M	KENAMU BAY (GOOSE BAY) LABRADOR
31G30	GRAB	2670129		53 31.92N	60 00.09W	95M	KENAMU BAY (GOOSE BAY) LABRADOR
32L1	CORE	2670155		53 31.80N	60 00.59W	99M	KENAMU BAY (GOOSE BAY) LABRADOR
33B47	BOXCORE	2671614		53 29.25N	59 56.01W	60M	KENAMU BAY (GOOSE BAY) LABRADOR
34B46	BOXCORE	2671710		53 29.21N	59 57.25W	67M	KENAMU BAY (GOOSE BAY) LABRADOR
35B45	BOXCORE	2671742		53 29.43N	59 58.16W	72M	KENAMU BAY (GOOSE BAY) LABRADOR
36B44	BOXCORE	2671843		53 29.68N	59 58.58W	77M	KENAMU BAY (GOOSE BAY) LABRADOR
37B42	BOXCORE	2671910		53 30.11N	59 58.94W	82M	KENAMU BAY (GOOSE BAY) LABRADOR
38L2	CORE	2672019		53 31.97N	59 59.48W	100M	KENAMU BAY (GOOSE BAY) LABRADOR
39L3	CORE	2672111		53 32.13N	59 58.66W	103M	KENAMU BAY (GOOSE BAY) LABRADOR

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
40W6	WATER	2672320		53 31.73N	60 04.87W	68M	KENAMU BAY (GOOSE BAY) LABRADOR
41F6	FLOC	2681645		53 31.73N	60 04.87W	61M	KENAMU BAY (GOOSE BAY) LABRADOR
43PTT	CAMERA	2681731		53 29.10N	59 57.31W	61M	KENAMU BAY (GOOSE BAY) LABRADOR
44PT1	CAMERA	2682300		53 29.00N	59 57.27W	41M	KENAMU BAY (GOOSE BAY) LABRADOR
45PT3	CAMERA	2690017		53 29.02N	59 57.57W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
46W6T	WATER	2690215		53 32.25N	59 57.06W	105M	KENAMU BAY (GOOSE BAY) LABRADOR
47PT2	CAMERA	2691335		53 31.16N	59 57.85W	65M	KENAMU BAY (GOOSE BAY) LABRADOR
48W6	WATER	2691619		53 32.25N	59 57.06W	72M	KENAMU BAY (GOOSE BAY) LABRADOR
49F6	FLOC	2691615		53 32.25N	59 57.06W	72M	KENAMU BAY (GOOSE BAY) LABRADOR
50W1	WATER	2692205		53 27.22N	59 57.29W	24M	KENAMU BAY (GOOSE BAY) LABRADOR
51F1	FLOC	2692231		53 27.22N	59 57.29W	24M	KENAMU BAY (GOOSE BAY) LABRADOR
52W3	WATER	2692259		53 29.26N	59 57.19W	66M	KENAMU BAY (GOOSE BAY) LABRADOR
53W4	WATER	2692343		53 29.96N	59 59.00W	62M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 960026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
54F4	FLOC	2690014		53 29.96N	59 59.00W	62M	KENAMU BAY (GOOSE BAY) LABRADOR
55W5	WATER	2700039		53 30.21N	60 0.71W	42M	KENAMU BAY (GOOSE BAY) LABRADOR
56F5	FLOC	2700100		53 30.21N	60 0.70W	50M	KENAMU BAY (GOOSE BAY) LABRADOR
57W7	WATER	2700133		53 31.54N	59 58.33W	99M	KENAMU BAY (GOOSE BAY) LABRADOR
58F7	FLOC	2700200		53 31.54N	59 58.33W	99M	KENAMU BAY (GOOSE BAY) LABRADOR
59W8	WATER	2702220		53 33.41N	59 55.58W	116M	KENAMU BAY (GOOSE BAY) LABRADOR
60F8	FLOC	2702255		53 33.41N	59 55.58W	116M	KENAMU BAY (GOOSE BAY) LABRADOR
61W9	WATER	2702340		53 34.71N	59 51.24W	154M	KENAMU BAY (GOOSE BAY) LABRADOR
62F9	FLOC	2710010		53 34.71N	59 51.24W	154M	KENAMU BAY (GOOSE BAY) LABRADOR
63W20	WATER	2731352		53 29.20N	59 57.62W	66M	KENAMU BAY (GOOSE BAY) LABRADOR
64W20	CORE	2731701		53 29.27N	59 57.60W	68M	KENAMU BAY (GOOSE BAY) LABRADOR
65F20	FLOC	2731856		53 30.95N	59 59.33W	87M	KENAMU BAY (GOOSE BAY) LABRADOR
66ST7	WATER	2732047		53 29.07N	59 58.71W	77M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
67W20	WATER	2741302		53 29.26N	59 57.59W	67M	KENAMU BAY (GOOSE BAY) LABRADOR
68W20	WATER	2741332		53 29.26N	59 57.58W	67M	KENAMU BAY (GOOSE BAY) LABRADOR
69C2	WATER	2751301		53 29.29N	59 57.65W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
70C3	WATER	2751330		53 29.29N	59 57.65W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
71C6	WATER	2751400		53 29.29N	59 57.64W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
72C7	WATER	2751430		53 29.29N	59 57.60W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
73C8	WATER	2751502		53 29.29N	59 57.71W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
74C9	WATER	2751536		53 29.29N	59 57.73W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
75C10	WATER	2751602		53 29.29N	59 57.72W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
76C11	WATER	2751630		53 29.29N	59 57.69W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
77C12	WATER	2751831		53 29.29N	59 57.64W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
78ST9	WATER	2771323		53 30.64N	59 59.24W	05M	KENAMU BAY (GOOSE BAY) LABRADOR
79ST10	WATER	2771345		53 30.59N	59 58.80W	74M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
80ST11	WATER	2771400		53 30.54N	59 58.28W	65M	KENAMU BAY (GOOSE BAY) LABRADOR
81ST8	WATER	2771422		53 30.33N	59 59.07W	77M	KENAMU BAY (GOOSE BAY) LABRADOR
82ST5	WATER	2771751		53 29.47N	59 58.09W	73M	KENAMU BAY (GOOSE BAY) LABRADOR
83ST6	WATER	2771800		53 29.47N	59 58.09W	65M	KENAMU BAY (GOOSE BAY) LABRADOR
84ST4	WATER	2771926		53 29.41N	59 58.30W	54M	KENAMU BAY (GOOSE BAY) LABRADOR
85ST3	WATER	2772044		53 29.48N	59 57.03W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
86ST2	WATER	2772112		53 29.26N	59 57.05W	64M	KENAMU BAY (GOOSE BAY) LABRADOR
87ST1	WATER	2772130		53 29.02N	59 57.08W	42M	KENAMU BAY (GOOSE BAY) LABRADOR
88PT4	CAMERA	2761350		53 29.11N	59 55.10W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
89PT5	CAMERA	2771750		53 29.08N	59 55.55W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
90VC2	CORE	2772014		53 29.21N	59 55.74W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
91PT6	CAMERA	2772127		53 28.91N	59 56.15W	42M	KENAMU BAY (GOOSE BAY) LABRADOR
92PT7	CAMERA	2772243		53 29.28N	59 56.24W	55M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
93VC7	CORE	2781326		53 29.05N	59 55.82W	33M	KENAMU BAY (GOOSE BAY) LABRADOR
94L17	CORE	2781559		53 29.21N	59 55.97W	53M	KENAMU BAY (GOOSE BAY) LABRADOR
95L48	CORE	2781643		53 29.24N	59 56.38W	60M	KENAMU BAY (GOOSE BAY) LABRADOR
97L16	CORE	2791343		53 29.28N	59 56.64W	40M	KENAMU BAY (GOOSE BAY) LABRADOR
98L47	CORE	2791415		53 29.33N	59 56.86W	50M	KENAMU BAY (GOOSE BAY) LABRADOR
99L46	CORE	2791434		53 29.25N	59 57.31W	67M	KENAMU BAY (GOOSE BAY) LABRADOR
100L22	CORE	2791520		53 29.26N	59 57.93W	73M	KENAMU BAY (GOOSE BAY) LABRADOR
101L45	CORE	2791536		53 29.41N	59 58.22W	75M	KENAMU BAY (GOOSE BAY) LABRADOR
102L44	CORE	2791643		53 29.66N	59 58.62W	77M	KENAMU BAY (GOOSE BAY) LABRADOR
103L42	CORE	2791702		53 30.14N	59 58.94W	86M	KENAMU BAY (GOOSE BAY) LABRADOR
104L15	CORE	2791720		53 30.50N	59 59.35W	88M	KENAMU BAY (GOOSE BAY) LABRADOR
105L39	CORE	2791817		53 30.50N	59 58.90W	87M	KENAMU BAY (GOOSE BAY) LABRADOR
106L16	CORE	2791842		53 30.64N	59 58.48W	77M	KENAMU BAY (GOOSE BAY) LABRADOR

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
107L40	CORE	2792100		53 30.56N	59 59.68W	84M	KENAMU BAY (GOOSE BAY) LABRADOR
108L14	CORE	2792136		53 30.50N	60 00.25W	77M	KENAMU BAY (GOOSE BAY) LABRADOR
109L11	CORE	2792157		53 31.02N	59 59.46W	93M	KENAMU BAY (GOOSE BAY) LABRADOR
110L12	CORE	2792222		53 31.06N	59 58.50W	89M	KENAMU BAY (GOOSE BAY) LABRADOR
111L5	CORE	2792247		53 31.16N	59 58.29W	91M	KENAMU BAY (GOOSE BAY) LABRADOR
112L33	CORE	2792301		53 31.71N	59 58.12W	99M	KENAMU BAY (GOOSE BAY) LABRADOR
113L34	CORE	2792322		53 31.55N	59 59.08W	93M	KENAMU BAY (GOOSE BAY) LABRADOR
114L35	CORE	2792346		53 31.49N	60 00.06W	95M	KENAMU BAY (GOOSE BAY) LABRADOR
115L8	CORE	2792359		53 31.90N	59 59.98W	96M	KENAMU BAY (GOOSE BAY) LABRADOR
116L9	CORE	2800024		53 31.97N	59 58.01W	97M	KENAMU BAY (GOOSE BAY) LABRADOR
117	FLOC	2801210		53 27.07N	59 57.44W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
118	WATER	2801226		53 27.12N	59 57.36W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
119	FLOC	2801402		53 29.11N	59 55.79W	43M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
120	WATER	2801417		53 29.11N	59 55.70W	44M	KENAMU BAY (GOOSE BAY) LABRADOR
121	FLOC	2801520		53 29.23N	59 57.17W	67M	KENAMU BAY (GOOSE BAY) LABRADOR
122	WATER	2801535		53 29.25N	59 57.15W	70M	KENAMU BAY (GOOSE BAY) LABRADOR
123	FLOC	2801602		53 29.99N	59 58.99W	70M	KENAMU BAY (GOOSE BAY) LABRADOR
124	WATER	2801617		53 29.90N	59 58.99W	70M	KENAMU BAY (GOOSE BAY) LABRADOR
125	FLOC	2801652		53 30.27N	60 00.71W	61M	KENAMU BAY (GOOSE BAY) LABRADOR
126	WATER	2801709		53 30.25N	60 00.69W	53M	KENAMU BAY (GOOSE BAY) LABRADOR
127	FLOC	2801748		53 31.76N	60 04.88W	73M	KENAMU BAY (GOOSE BAY) LABRADOR
128	WATER	2801802		53 31.74N	60 04.86W	66M	KENAMU BAY (GOOSE BAY) LABRADOR
129	FLOC	2801857		53 31.56N	59 58.31W	97M	KENAMU BAY (GOOSE BAY) LABRADOR
130	WATER	2801912		53 31.56N	59 58.34W	92M	KENAMU BAY (GOOSE BAY) LABRADOR
131	FLOC	2802011		53 33.41N	59 55.59W	117M	KENAMU BAY (GOOSE BAY) LABRADOR
132	WATER	2802028		53 33.41N	59 55.52W	115M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
133	FLOC	2802113		53 34.68N	59 51.17W	157M	KENAMU BAY (GOOSE BAY) LABRADOR
134	WATER	2802128		53 34.69N	59 51.22W	157M	KENAMU BAY (GOOSE BAY) LABRADOR
135	FLOC	2802155		53 34.68N	59 51.22W	158M	KENAMU BAY (GOOSE BAY) LABRADOR
136	WATER	2802219		53 34.66N	59 51.22W	158M	KENAMU BAY (GOOSE BAY) LABRADOR
137	WATER	2802313		53 31.65N	59 57.77W	100M	KENAMU BAY (GOOSE BAY) LABRADOR
138	WATER	2802332		53 30.65N	59 58.97W	80M	KENAMU BAY (GOOSE BAY) LABRADOR
139	WATER	2810101		53 31.93N	59 57.23W	103M	KENAMU BAY (GOOSE BAY) LABRADOR
140	WATER	2810153		53 32.47N	59 54.52W	50M	KENAMU BAY (GOOSE BAY) LABRADOR
14186	BOXCORE	2811306		53 28.93N	59 55.57W	25M	KENAMU BAY (GOOSE BAY) LABRADOR
14207	BOXCORE	2811357		53 28.99N	59 55.36W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
14300	BOXCORE	2811426		53 29.06N	59 55.29W	20M	KENAMU BAY (GOOSE BAY) LABRADOR
14409	BOXCORE	2811606		53 29.05N	59 55.24W	23M	KENAMU BAY (GOOSE BAY) LABRADOR
14500	BOXCORE	2811641		53 29.13N	59 55.19W	26M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
146G29	GRAB	2011712		53 28.70N	59 56.14W	31M	KENAMU BAY (GOOSE BAY) LABRADOR
147G28	GRAB	2011723		53 28.91N	59 56.01W	30M	KENAMU BAY (GOOSE BAY) LABRADOR
148G50	GRAB	2011737		53 29.08N	59 55.73W	43M	KENAMU BAY (GOOSE BAY) LABRADOR
149G27	GRAB	2011751		53 29.23N	59 55.50W	39M	KENAMU BAY (GOOSE BAY) LABRADOR
150G26	GRAB	2011802		53 29.33N	59 56.25W	29M	KENAMU BAY (GOOSE BAY) LABRADOR
151G25	GRAB	2011830		53 29.45N	59 55.59W	29M	KENAMU BAY (GOOSE BAY) LABRADOR
152G24	GRAB	2011847		53 29.35N	59 55.79W	36M	KENAMU BAY (GOOSE BAY) LABRADOR
153G49	GRAB	2011909		53 29.24N	59 55.99W	53M	KENAMU BAY (GOOSE BAY) LABRADOR
154G3	GRAB	2011922		53 29.07N	59 56.13W	39M	KENAMU BAY (GOOSE BAY) LABRADOR
155G23	GRAB	2012003		53 28.87N	59 56.40W	35M	KENAMU BAY (GOOSE BAY) LABRADOR
156G48	GRAB	2012020		53 29.62N	59 56.36W	59M	KENAMU BAY (GOOSE BAY) LABRADOR
157G47	GRAB	2012037		53 29.36N	59 56.99W	59M	KENAMU BAY (GOOSE BAY) LABRADOR
158F9A	FLOC	2012130		53 34.70N	59 51.24W	166M	KENAMU BAY (GOOSE BAY) LABRADOR

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE 4

TOTAL SAMPLE INVENTORY

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	SAMPLE TYPE	SAMPLE DAY/TIME	SEISMIC DAY/TIME	LATITUDE	LONGITUDE	DEPTH (M)	GEOGRAPHIC LOCATION
159	WATER	2012202		53 34.70N	59 51.24W	166M	KENAMU BAY (GOOSE BAY) LABRADOR
160PC1	CORE	2021153		53 32.04N	59 59.28W	98M	KENAMU BAY (GOOSE BAY) LABRADOR
161PC2	CORE	2021331		53 31.56N	59 59.11W	96M	KENAMU BAY (GOOSE BAY) LABRADOR
162PC3	CORE	2021423		53 30.99N	59 59.20W	93M	KENAMU BAY (GOOSE BAY) LABRADOR
163PC4	CORE	2021617		53 30.59N	59 59.06W	88M	KENAMU BAY (GOOSE BAY) LABRADOR

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M1	VAN VEEN	270	53 28.87N 59 55.55W	25M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES. (1 VIAL, 1 BAG)
M2	VAN VEEN	270	53 28.92N 59 55.49W	26M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M4	VAN VEEN	270	53 29.06N 59 55.37W	32M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M5	VAN VEEN	270	53 29.10N 59 55.32W	34M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M6	VAN VEEN	270	53 29.11N 59 55.32W	32M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M7	VAN VEEN	270	53 29.00N 59 55.28W	26M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M8	VAN VEEN	270	53 29.10N 59 55.22W	26M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M9	VAN VEEN	270	53 29.24N 59 55.15W	26M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M10	VAN VEEN	270	53 29.20N 59 55.11W	23M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS (1 VIAL, NO BAG).
M11	VAN VEEN	270	53 29.33N 59 55.05W	22M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M12	VAN VEEN	270	53 28.90N 59 55.62W	33M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN FROM HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3 SUBSAMPLED FOR FORAMS (1 VIAL, NO BAG).
M13	VAN VEEN	270	53 28.94N 59 55.58W	31M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M14	VAN VEEN	270	53 28.99N 59 55.52W	39M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M15	VAN VEEN	270	53 29.04N 59 55.48W	39M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M16	VAN VEEN	270	53 29.09N 59 55.44W	36M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M17	VAN VEEN	270	53 29.13N 59 55.37W	34M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 3. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
M18	VAN VEEN	271	53 29.08N 59 55.23W	20M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M19	VAN VEEN	271	53 29.15N 59 55.12W	20M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M20	VAN VEEN	271	53 29.21N 59 55.10W	20M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M21	VAN VEEN	271	53 29.27N 59 55.02W	20M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M22	VAN VEEN	271	53 29.10N 59 55.24W	25M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M23	VAN VEEN	271	53 29.20N 59 55.26W	25M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M24	VAN VEEN	271	53 29.29N 59 55.12W	25M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M25	VAN VEEN	271	53 29.35N 59 55.17W	25M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M26	VAN VEEN	271	53 29.15N 59 55.33W	30M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M27	VAN VEEN	271	53 29.25N 59 55.43W	30M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M28	VAN VEEN	271	53 29.20N 59 55.34W	30M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M29	VAN VEEN	271	53 28.90N 59 55.55W	30M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M30	VAN VEEN	271	53 29.00N 59 55.63W	35M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M31	VAN VEEN	271	53 29.05N 59 55.50W	35M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M32	VAN VEEN	271	53 29.12N 59 55.41W	34M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M33	VAN VEEN	271	53 29.18N 59 55.50W	35M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M34	VAN VEEN	271	53 29.18N 59 55.63W	40M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M35	VAN VEEN	271	53 29.11N 59 55.50W	40M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M36	VAN VEEN	271	53 29.04N 59 55.67W	40M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M37	VAN VEEN	271	53 29.09N 59 55.90W	40M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M38	VAN VEEN	271	53 29.11N 59 56.03W	45M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M39	VAN VEEN	271	53 29.10N 59 55.86W	45M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M40	VAN VEEN	271	53 29.16N 59 55.75W	45M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES.
M41	VAN VEEN	2801103	53 29.18N 59 55.03W	2M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	ALL SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M42	VAN VEEN	2801113	53 29.18N 59 55.05W	4M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE THICKNESS ESTIMATE 1.5CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M43	VAN VEEN	2801121	53 29.18N 59 55.07W	10M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND SURFICIAL LAYER LESS THAN 0.5CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M44	VAN VEEN	2801128	53 29.20N 59 55.00W	15M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND SURFICIAL LAYER LESS THAN 0.2CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M45	VAN VEEN	2801204	53 29.13N 59 55.13W	1.5M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND LESS THAN 0.2CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M46	VAN VEEN	2801217	53 29.13N 59 55.08W	7M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND THICKNESS LESS THAN 0.2CM. TAKEN FROM HUDSON LAUNCH, MERGNASER.
M47	VAN VEEN	2801224	53 29.13N 59 55.10W	8M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND LAYER LESS THAN 0.1CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M48	VAN VEEN	2801233	53 29.12N 59 55.12W	13.0M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND SURFICIAL LAYER LESS THAN 0.1CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M49	VAN VEEN	2801243	53 29.07N 59 55.13W	1.5M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	ALL SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M50	VAN VEEN	2801250	53 29.07N 59 55.13W	3.2M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SURFICIAL SAND SLIDE MATERIAL ABOUT 0.5CM THICK. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M51	VAN VEEN	2801257	53 29.08N 59 55.17W	9M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SLIDE SAND ABOUT 0.5CM THICK. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M52	VAN VEEN	2801306	53 29.08N 59 55.17W	13M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	POSSIBLE VERY THIN SURFICIAL SLIDE LAYER LESS THAN 0.1CM. TAKEN FROM HUDSON LAUNCH, MERGANSER.

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLES

GRAB SAMPLES

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
M53	VAN VEEN	2801319	53 29.08N 59 55.18W	16M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	NO INDICATION OF SANDY SURFICIAL LAYER. SURFACE LAYER IS MUD BUT THERE IS EVIDENCE OF COARSE SAND AT 2CM DEPTH. SURFICIAL COARSE SAND MAY HAVE SLIPPED DOWN THE SIDE OF SAMPLE. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M54	VAN VEEN	2801333	53 29.10N 59 55.20W	19.5M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	NO SANDY SURFICIAL LAYER - MUD INSTEAD, SAMPLE VERY SIMILAR TO #13. (WHAT IS SOURCE OF SUBSURFACE SAND LAYER?). TAKEN FROM HUDSON LAUNCH, MERGANSER.
M55R	VAN VEEN	2801348	53 29.12N 59 55.25W	25.2M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	COARSE SAND. SUBLAYER(?) DARK, MAY ACTUALLY BE SAND THAT WASHED DOWN THE SIDE OF THE SAMPLE DURING WATER DRAWING PROCESS (?). TAKEN FROM HUDSON LAUNCH, MERGANSER.
M56R	VAN VEEN	2801407	53 29.10N 59 55.30W	29M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	NO SAND EVIDENT. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M57	VAN VEEN	2801416	53 29.13N 59 55.42W	32.5M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	NO SAND EVIDENT. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M58	VAN VEEN	2801427	53 29.07N 59 55.13W	1.5M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	ALL SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M59	VAN VEEN	2801433	53 29.07N 59 55.15W	8M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	FINE CLAY ON TOP OF DARK SAND LAYER. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M60R	VAN VEEN	2801444	53 29.08N 59 55.15W	12M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	SEEMS TO BE FINE SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M61	VAN VEEN	2801454	53 29.08N 59 55.18W	16M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	FINE SEDIMENT ON SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.
M62	VAN VEEN	2801502	53 29.10N 59 55.20W	21M	1	1	KENAMU BAY (GOOSE BAY) LABRADOR	FINE SEDIMENT ON SAND. TAKEN FROM HUDSON LAUNCH, MERGANSER.
T1	SHOVEL		53 29.09N 59 55.17W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
T2	SHOVEL		53 29.09N 59 55.12W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
T4	SHOVEL		53 29.12N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
T5	SHOVEL		53 29.13N 59 55.09W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
T6	SHOVEL		53 29.16N 59 55.06W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
T7	SHOVEL		53 29.17N 59 55.04W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
T8	SHOVEL		53 29.15N 59 55.02W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F1	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F2	SHOVEL		53 29.02N 59 55.00W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F3	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F4	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F5	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F6	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
F7	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F8	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F9	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F10	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F11	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F12	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F13	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F14	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F15	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F16	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F17	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F18	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
F19	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F20	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F21	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F22	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F23	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F24	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F25	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F26	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F27	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F28	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F29	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F30	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
F31	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
F32	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LF20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LST120	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LA20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LB20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LC20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LD20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LE20	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LF35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LST135	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LA35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
LB35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LC35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LD35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LE35	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LF50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LST150	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LA50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LB50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LC50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LD50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LE50	SHOVEL		53 29.02N 59 55.10W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
LST120	SHOVEL		53 29.02N 59 55.00W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE5

GRAB SAMPLES

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
LST126	SHOVEL		53 29.02N 59 55.08W	0	1		KENAMU DELTA (GOOSE BAY) LABRADOR	SAMPLE IN BAG
M3	VAN VEEN	270	53 28.96N 59 55.44W	35M	1	2	KENAMU BAY (GOOSE BAY) LABRADOR	TAKEN ON HUDSON LAUNCH MERGANSER, NEARSHORE, LINE 1. SUBSAMPLED FOR FORAMS AND SEDIMENT ANALYSES (1 VIAL, 1 BAG).
1G3	VAN VEEN	2651952	53 29.29N 59 56.24W	47M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3 CM BROWN (LIGHT TO MED). REMAINDER IS A MEDIUM GRAY SILTY CLAY. WORM INCLUDED IN THE SAMPLE. SUBSAMPLES FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMS
2G50	VAN VEEN	2652022	53 29.10N 59 55.75W	46M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3 CM BROWN (CLAY) REST MEDIUM GRAY (SILT). SUBSAMPLES FOR: GRAIN SIZE, MINERALS, CARBON, FORAMS, EXTRA
3G49	VAN VEEN	2652038	53 29.31N 59 56.07W	48M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	3 CM LIGHT BROWN (SOUPY) REST MEDIUM GRAY SILTY CLAY. SUBSAMPLES FOR: CARBON, FORAMS, EXTRA, GRAIN SIZE, MINERALS
4G48	VAN VEEN	2652052	53 29.27N 59 56.52W	58M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 4 CM LIGHT BROWN CLAY REST MEDIUM GRAY SILT CLAY GETS FINER GRAINED WITH DEPTH SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
5G47	VAN VEEN	2652112	53 29.42N 59 56.95W	41M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM LIGHT BROWN CLAY (REST) MEDIUM GRAY CLAY SAMPLES TAKEN FROM SURFACE ONLY FROM NOW ON SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
6G46	VAN VEEN	2652123	53 29.25N 59 57.55W	71M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM LIGHT BROWN CLAY VERTICAL WORM TUBES (4CM LONG) NEXT 3CM MEDIUM GRAY SILT CLAY LOWER PART CLAY MEDIUM CLAY SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
7G45	VAN VEEN	2652139	53 29.40N 59 58.26W	71M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 4CM LIGHT BROWN CLAY (REMAINDER) SILT MOD-DARK GRAY CHARCOAL GRAY WITH ORGANICS. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE5

GRAB SAMPLES

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
8G43	VAN VEEN	2652152	53 29.89N 59 58.13W	52M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY, VERTICAL WORM BURROWS. REST MEDIUM TO DARK BROWN CLAY SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
9G44	VAN VEEN	2652213	53 29.69N 59 58.65W	71M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 2CM LIGHT BROWN CLAY, VERTICAL WORM BURROWS. (REST) MEDIUM TO DARK BROWN CLAY (HOMOGENEOUS). SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
10G42	VAN VEEN	2652235	53 30.15N 59 59.02W	82M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY, SOME VERTICAL WORM BURROWS. (REST) MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
11G41	VAN VEEN	2652253	53 30.06N 59 59.92W	60M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 4CM LIGHT BROWN CLAY. NEXT 4CM OF MEDIUM GRAY SOUPY CLAY. MEDIUM GRAY CLAY. (NO APPARENT BURROWS). SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
12G38	VAN VEEN	2652317	53 30.75N 59 58.06W	64M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 4CM LIGHT BROWN CLAY WITH VERTICAL WORM BURROWS. LOWER PART LIGHT MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
13G39	VAN VEEN	2652339	53 30.59N 59 58.98W	82M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY WITH VERTICAL WORM BURROWS. LOWER PART MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
14G40	VAN VEEN	2652353	53 30.51N 59 59.80W	80M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 5CM LIGHT BROWN CLAY VERTICAL BURROWS. LOWER PART MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
15G37	VAN VEEN	2660010	53 31.02N 59 59.71W	82M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY WITH VERTICAL BURROWS (4CM IN LENGTH). LOWER PART MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
16G1	VAN VEEN	2660026	53 31.07N 59 58.83W	86M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY ORGANICS, NO BURROWS. LOWER PART MEDIUM GRAY CLAY SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
17G2	VAN VEEN	2660040	53 31.14N 59 57.90W	75M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 4CM LIGHT BROWN CLAY. LOWER PART MEDIUM GRAY CLAY. SPORATIC WORM BURROWS UPPER 4 CM. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
18G33	VAN VEEN	2660056	53 31.70N 59 58.23W	98M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY. NO BURROW HOLES. LOWER PART IS MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
19G34	VAN VEEN	2660114	53 31.58N 59 59.19W	94M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 3CM LIGHT BROWN CLAY. NO APPARENT BURROW HOLES. LOWER PART IS MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
20G35	VAN VEEN	2660130	53 31.52N 60 00.17W	94M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 4CM LIGHT BROWN CLAY, NO WORM BURROWS. LOWER MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
21G36	VAN VEEN	2660145	53 31.38N 60 01.21W	97M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	UPPER 4CM LIGHT BROWN CLAY WITH PLANT MATERIAL. LOWER GRAB MEDIUM GRAY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
29G32	VAN VEEN	2670045	53 32.06N 59 58.36W	98M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	MUDDY LIGHT BROWN CLAY 0-2CM. REST IS MEDIUM GREY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
30G31	VAN VEEN	2670109	53 32.04N 59 59.25W	96M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	LIGHT BROWN MUDDY CLAY. SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA
31G30	VAN VEEN	2670129	53 31.92N 60 00.09W	95M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	SUBSAMPLING FOR: GRAIN SIZE, MINERALS, CARBON, EXTRA, FORAMINIFERA.
146G29	VAN VEEN	2811712	53 28.78N 59 56.14W	31M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 2CM - BROWN SOUPY MUD. BELOW THIS IS GREY SILTY MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE5

GRAB SAMPLES

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYVITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
147628	VAN VEEN	2811723	53 28.91N 59 56.01W	30M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	WORM AND EEL GRASS ON SURFACE. TOP 2CM - SOUPY BROWN MUD, BELOW THIS - GREY SILTY MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
148650	VAN VEEN	2811737	53 29.08N 59 55.73W	43M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	SMALL AMOUNT OF EEL GRASS AND A FEW WORMS ON SURFACE. TOP 2CM - SOUPY BROWN MUD, BELOW THIS - GREY SILTY MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
149627	VAN VEEN	2811751	53 29.23N 59 55.50W	39M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 2CM - BROWN SOUPY MUD, BELOW THIS GREYISH BROWN MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
150626	VAN VEEN	2811802	53 29.33N 59 56.25W	29M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM - BROWN SOUPY MUD, BELOW THIS - GREY MUD. WORM BURROWS FREQUENT. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
151625	VAN VEEN	2811830	53 29.45N 59 55.59W	29M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM - BROWN SOUPY MUD, BELOW THIS - GREY MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
152624	VAN VEEN	2811847	53 29.35N 59 55.79W	36M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 2CM - BROWN SOUPY MUD, BELOW THIS - GREY MUD. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
153649	VAN VEEN	2811909	53 29.24N 59 55.99W	53M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
154643	VAN VEEN	2811922	53 29.07N 59 56.13W	39M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
155623	VAN VEEN	2812003	53 28.87N 59 56.40W	35M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM BROWN SOUPY MUD, BELOW THIS - STIFF GREY CLAY. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.
156648	VAN VEEN	2812020	53 29.62N 59 56.36W	59M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3CM - BROWN SOUPY MUD OVER A STIFF DARK ORGANIC MUD. N.B.: ORGANIC LAYER SAMPLED AT 3CM. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.

ATLANTIC GEOSCIENCE CENTRE
DATA SECTION
-SHIP- REPORTING PACKAGE

TABLE5

GRAB SAMPLES

CRUISE NUMBER = 91033
CHIEF SCIENTIST = DR. J. SYUITSKI
PROJECT NUMBER = 860026

SAMPLE NUMBER	TYPE OF SAMPLER	DAY/TIME (GMT)	LATITUDE LONGITUDE	DEPTH (M)	NO. OF ATTEMPTS	NO. OF SUBSAMPLES	GEOGRAPHIC LOCATION	GRAB SAMPLE NOTES
152647	VAN VEEN	2812032	53 29.36N 59 56.99W	59M	1	5	KENAMU BAY (GOOSE BAY) LABRADOR	TOP 3-4CM - BROWN SOUPY MUD OVER A STIFF GREY CLAY. SUBSAMPLED FOR FORAMS, EXTRA, MINERALS, CARBON, GRAIN SIZE.