

CRUISE  
NUMBER

9529/9604

DAILY LOG  
INSTITUTE OF OCEAN SCIENCES  
OCEAN PHYSICS

DATE

Aug. 9, 95 — May 10, 96

Book #1  
of 2.

VESSEL

Various

PROJECT

Minette Bay, B.C., Proj.

# Minette Bay Project

Aug. 95 Project  
Cruise # 9529

Date      Time

Aug. 9      1115

- T. Suhász departs Victoria for P. Rupert. by Canadian Air
- Air freight checked, already at P. Rupert Airport (downtown) "hold for pickup"
- truck arranged with Uriah
- anchor arranged with CCG.

1335

- Tom arrives P. Rupert airport
- cross by ferry
- pickup truck
- pick up air freight - all arrived O.K.
- pick up anchor from Coast Guard
- buy tarp to cover equipment from rain.
- visited DFO warehouse in Rupert. + check our equipment left with Uriah.
- here's what I found:
  - 2 x 1.7L Niskins
  - 1 messenger
  - 1 anale-meter
  - 1 small TSK meter block
  - 1 partial case salinities (new) x
  - 1 box salinity caps (old)
  - 1 empty wooden O<sub>2</sub> flask case

1800

2030

- depart for Kitimat - drive straight thru.
- arrive Mount Laxton Hot Springs Resort.
- check in
- secure equipment in back of truck (open pickup)
  - electronics put in room or truck cab
  - also tools
  - secured hardware in truck box + covered with tarp.
  - truck parked outside Lobby window doors.
- set up STD12 and both computers in room
  - all works well.
  - put equipment on charge.

Aug. 10      0800

- STD12 air calibration values
- instrument in hotel room on + stabilizing since 0730

|      |        |       |       |       |       |
|------|--------|-------|-------|-------|-------|
| 0474 | 002116 | 19637 | 15259 | 20004 | 27864 |
| 0474 | 00273  | 19637 | 15294 | 20003 | 27854 |
| 0474 | 00332  | 19637 | 15334 | 20004 | 27855 |
| 0474 | 00432  | 19636 | 15369 | 20004 | 27830 |
| 0474 | 00470  | 19637 | 15373 | 20004 | 27828 |

# Equipment Shipped to P. Rupert Canadian Air. 018-51666333

- 1 small grey stacker - 24 O<sub>2</sub> flasks
- 1 grey plywood box 1'x1'x3' - 1090 #206 + isolators
- 1 aluminium suitcase. " - STD12 #474 d/w 2 short plugs  
2 dummy plugs.  
RS232 cable + spare  
data line.  
brush

- large grey stacker - Endeco 1184 #1078 #1007  
- 3 lengths 5/8" nylon app 20m.
- plywood suitcase - Interocean Transducer.
- large grey stacker - 1 case salinities - 1 TSK meter block  
- 100 ml MnCl<sub>2</sub> - handwinch + 150m  
- 100 ml NaOH.I spacelay.  
- sampling tube - 2 ss. bars.  
- 50 salinity caps - 2 Niskin 1.7 l bottles  
+ liners - bottle mounting board.  
- reagent dispensers

## Hand winch mast + extension.

- large grey stacker - Endeco 1184 #1079 - handwinch hardware  
- Endeco spares - multi-head crimpers  
- " reader - small wire cutter.  
- " eraser. - Magellan GPS + batteries  
- large hose clamps - 9 volt batteries for STD12  
- 2 RS232 20 mamp + blue boxes.  
100p boxes  
- 20 lb lead ball  
- 3 messengers.

- large grey stacker - 2 Viny 12B's  
- 4 m dropline + shackle.  
- 10 m 5/16" amgal mooring line  
- 5 x 5/8" 4 x 1/2" 1 x 3/4" 1 x 7/8"  
6 x 7/16" 2 odd littles - shackles.

- large grey stacker - 1 football Viny  
- Compaq computer - complete with accessories.  
- IO command unit.  
- pinger + battery  
- assorted cable ties.  
- extension cord.

## 11) Electronic tool box

## 12) Mechanical tool box.

# Date Time (local)

- Aug. 10 0810 - contacted Ken. - he will meet me in Kitimat
- 0820 - check out and leave for Kitimat.
- 0910 - meet Ken in Kitimat  
- we drive to sorting area E side Minette Bay  
- meet Fred who is assisting and operating boat for project  
- Fred + Tom go to MK Bay and load "Bull Block" tug - operations largest vessel.  
- prepare equipment
- 1115 - leave jetty MK Bay for station KA.  
- set up GPS - Fred familiarizes with navigating using GPS
- 1145 - on station KA - sounding to depth = 58 1/2 m with app 4-5 tide
- 1202 - start <sup>CTD</sup> cast #001 KA Cast KA001. raw  
53° 59.16'  
128° 39.38'  
- cal bottle on CTD  
- messenger 1205 cast depth 58 m  
calibration bottle tripped at 57m
- 1228 - 53° 59.12' start Hydro casts also  
128° 39.37' with CTD at bottom.  
- boat keeps station during hydrocasts using GPS
- |                 | Btl depths  | ‰   | On Sample # | O <sub>2</sub> | Salinity | temp. |
|-----------------|-------------|-----|-------------|----------------|----------|-------|
| messenger times | 1318 { 0    | 009 | 009         | 1111 ✓         | 13.29    | 15.98 |
|                 | 5           | 008 | 008         | 1113 ✓         | 30.74    | 11.36 |
|                 | 1301 { 10   | 007 | 007         | 1106 ✓         | 31.53    | 8.95  |
|                 | 15          | 006 | 006         | 1105 ✓         | 31.27    | 7.13  |
|                 | 1255 { 20   | 005 | 005         | 1101 ✓         | 31.11    | 6.46  |
|                 | 30          | 004 | 004         | 1103 ✓         | 31.74    | 6.67  |
|                 | 1230 → { 40 | 003 | 003         | 1097 ✓         | 32.44    | 7.16  |
| 57              | 002         | 002 | 1100 ✓      | 33.30          | 7.52     |       |
- CTD cast KA002. raw  
. rel.
- 1322 - % sample 009 may not be good - confusion in bottles.  
- depart for CTD site MB1  
53° 59.14'  
128° 39.38'

11/10/96

95290002.07  
recalculated using  
bottle salinity est.  
pickling temps  
from CTD  
(DJ5)

Date      Time

Aug. 10      1351      - on station MBI  
                                  54° 01.39'  
                                  128° 37.28'  
                                  - sounded depth to 39m  
                                  (ie datum 34 + 5m high tide.)

1356      - CTD MB1003. raw + MB1003. rel  
                  - cast to 39m  
                  - CTD cal btle on wire app 1m above  
                                  #010

15/10/96  
 95290004.0 x Y  
 recalculated using  
 bottle salinities +  
 est. pickling temp.  
 from CTD  
 (DJS).

1417      - Hydro cast + CTD MB1004. raw + MB1004. rel  
                  Btle depths      ‰      #      O<sub>2</sub>

|                     |      |      |   | O <sub>2</sub> Sample |       | Sal T.             |
|---------------------|------|------|---|-----------------------|-------|--------------------|
| messenger<br>times. | 1417 | { 38 | - | 111                   | 111 - | 1110 ✓ 30.18/5.90  |
|                     |      | { 35 | - | 112                   | 112 - | 1109 ✓ 30.15/5.86  |
|                     | 1428 | { 30 | - | 113                   | 113 < | 1108 ✓ 29.99/5.81  |
|                     |      |      |   |                       | 114   | 1125 ✓             |
|                     |      | { 25 | - | 114                   | 115 < | 1122 ✓ 29.78/5.82  |
|                     | 1440 |      |   |                       | 116   | 1121 ✓             |
|                     |      | { 20 | < | 115                   | 117 < | 1120 ✓ 28.93/5.83  |
|                     |      |      |   | 116                   | 118   | 1119 ✓             |
|                     |      | { 15 | < | 117                   | 119 < | 1114 ✓ 19.86/12.73 |
|                     |      |      |   | 118                   | 120   | 1132 ✓             |
|                     | 1508 | { 10 | < | 119                   | 121 < | 1130 ✓ 16.08/14.74 |
|                     |      |      |   | 120                   | 122   | 1096 ✓             |
|                     |      | { 5  | < | 121                   | 123 < | 1129 ✓ 14.44/15.19 |
|                     | 1518 |      |   | 122                   | 124   | 1128 ✓             |
|                     |      | 0    | < | 123                   | 125 < | 1126 ✓             |
|                     |      |      |   | 124                   | 126   | 1104 ✓ 13.21/15.02 |

-1518      - sampling ops. interrupted to help boom under  
                                  tow come in to Minette Bay before tide  
                                  changes

-1650      - mooring prep + pack up hydro/CTD equip

-1650      - return to survey operations  
                  - on site at MBO mooring taking sounding  
                                  by hydro line. 36.5 m with ±1m tide.

-1701      - launched mooring MBO-A at  
                                  128° 37.37' 54° 01.35' in 36.5m water.

- ranged on release OK Transpond

-1714      - at Kitimat Booming yard offloading

-1813      - offloaded - picked up truck from MK Bay and  
                                  secured equipment - start for Prince Rupert

-2120      - offloading equipment in DFO warehouse  
                                  P. Rupert.

-2145      - leave warehouse

-2200      - checked in at Crest Hotel

## Equipment Left in DFO Warehouse

- ① empty box for IO 1090 #206 - no isolators
- ② aluminium suitcase - STD12 # 474 cleaned, capped, dummy plugs in.  
c/w - 2 short plugs  
- RS232 cable + spare  
- data line.  
- brush  
- manual.
- ③ large grey stacker. (mooring)  
- 3 lengths  $5/8"$  nylon line. app. 20m  
- short length anchor connecting chain  
- 5 x 17 lb scrap shackles  
- shackles. 2 x  $5/8"$ , 4 x  $1/2"$ , 4 x  $7/16"$ .  
2 odd litters.
- ④ large grey stacker. (hydro)  
- app 75 ml  $MnCl_2$   
- app 75 ml  $NaOH$   
- sampling tube.  
- app 25 salinity cups + liners  
- 2 reagent dispensers rinsed.  
- TSK meter block  
- hand winch + 150 m cable (spaceboy)  
- " hardware  
- 2 Niskin bottles. 1, 7 l.  
- bottle mounting board.  
- hand winch mast + extension  
- 20 lb lead ball  
- 3 messengers

NB. For next trip

- need more scrap shackles
- need mooring drop line complete
- need Blue Box for STD12
- lease salinities
- special case  $O_2$  flasks

Date    Time

- Aug 11    0800    - depart Crest for DFO warehouse  
- rinse equipment  
- pack water samples  
- pack returning freight.  
- organize equipment left at Rupert warehouse  
- drop-off air freight  
- return truck
- 1010    - board bus for airport.  
- samples + freight on same flight.
- 1515    - arrive Victoria  
Victoria - Vancouver flight delayed
- 1900    - samples run  
- Margaretta and I set up O<sub>2</sub> kit prior to my departure  
Margaretta standardized while I was in field.  
Margaretta completed app 1/3 case  
I completed the remainder.

- Aug. 14    - contacted DFO P. Rupert re project + truck return and equipment left behind.  
- demobilized returned equipment.

- Aug. 16    - asked CCG to issue Notice to Mariners.  
re MBO-A mooring.

- Comments.
- Kitimat Booming operators very cooperative + helpful.
  - O<sub>2</sub> flasks travelled well ~~boxed~~ in special container with ethafoam insert holding each flask individually  
NB - on return trip flask stoppers were taped in place. with black tape.  
- need lots of black tape.

## Oct. 95 Trip to Minette Bay

### Equipment Shipped

- ① Anderson RCM<sub>7</sub> Vane Box
  - RCM<sub>7</sub> vane complete with pins + cotter pins
  - 1 spare rotor + spare body band
  - small Anderson field kit
- ② plywood suitcase (grey) - Interocean release dunking transducer
- ③ fiberglass suitcase (grey) - Mesotech Pinger receiver complete
- ④ RCM case (plywood)
  - RCM<sub>7</sub> # 9049 - ready to go \*require to be turned on.
  - spare DSU - ready to go.
- ⑤ small grey stacker - oxygen flasks
- ⑥ small grey stacker
  - wet weather gear
  - Trimble Transpak GPS + antenna + mast cable
- ⑦ large grey stacker
  - Endeco 1079 ready for deployment
  - Endeco spares kit reader, eraser spare cartridges, 24 "D" cells
- ⑧ large grey stacker
  - Interocean deck unit
  - 1 12B Viny with .65m poly  $\frac{3}{4}$ " rope
  - spare pinger battery + spare pinger
  - 1m x  $\frac{5}{16}$ " angal + zincs
  - 4 isolation thimbles (assorted)
  - 4 x  $\frac{1}{8}$ " SS  $\phi$
  - 2 x  $\frac{5}{8}$ "  $\phi$
  - 2 x  $\frac{7}{16}$ "  $\phi$
  - 1 x 2 ft length  $\frac{3}{8}$ " anchor connect chain.
- ⑨ large grey stacker
  - 3m x  $\frac{3}{4}$ " poly + 1" drop  $\phi$  + isolator +  $\frac{1}{2}$ " link
  - 1 case salinity bottles
  - IO deck unit head set.
  - 9 x 9 volt batteries
  - 4 x AA batteries
  - 2 sampling tubes
  - 100 liners + 50 caps salinity btles
  - 8.5m x  $\frac{5}{16}$ " angal. + zincs.
  - tarp
  - assorted tie down line
- ⑩ small grey stacker - supplies + consumables + electronics equipment.
- ⑪ 1 small green wood box for samples to be shipped back
- ⑫ blue tool box - hand tools

## 2nd Air shipment

① 1 small grey  
stacker

- Dell Laptop computer complete  
with accessories

- Compaq Laptop computer complete  
with accessories

- Oki cellular phone complete  
with accessories.

② 1 grey plywood  
box

- IO 1090 #214

Date    Time

- Oct 24    1115    - to airport. in Victoria, check in.
- 1535    - arrive at Digby Island Airport
- 1630    - arrive at Prince Rupert Canadian Air office  
- called Uriah  
- checked baggage + air freight
- 1700    - met Uriah and loaded truck  
- go to warehouse and picked up remaining equipment
- 1800    - depart Prince Rupert for Kitimat in heavy rain wind + fog
- 2130    - arrived Aluminum City Motel Kitimat  
- check in + unload.  
- set up equipment  
- ping receiver NFG due to loose board - repaired.  
- IO deck unit does not function same reason  
- XMT continuously on - most code buttons on  
- blows main fuse on power up  
- I go inside + find loose boards + repair.  
- system works but sounds bad - irregular clicks.  
- decide to call after alternate system in the morning as back up.
- 0100    - set up GPS  
- set up STD  
- work ends

Oct. 25

- 0730    - STD    O<sub>2</sub> Air calibration
- 0800
- |       |       |       | Trawl | Crawl | Doran |
|-------|-------|-------|-------|-------|-------|
| 00474 | 00156 | 19635 | 18234 | 20003 | 23491 |
| 00474 | 00189 | 19634 | 18230 | 20003 | 23485 |
| 00474 | 00222 | 19635 | 18226 | 20003 | 23477 |
| 00474 | 00251 | 19635 | 18221 | 20003 | 23470 |
| 00474 | 00258 | 19635 | 18218 | 20003 | 23465 |
- 0830    - loaded  
- called Dario re bad deck unit  
- called Don at Kitimat Booming  
set up day
- 0900    - at dry sort looking for Don  
some trouble connecting. - Don on the move.  
- load "Bull Block" + set up
- 0930    - Don arrives and operates boat for day  
Brian comes as a helper.

- Oct. 25 1030 - leave for mooring site
- 1043 - on station.
- listened for pinger - received strong signal
- 1050 - sent XPND strong signal received good communications strong XPND replies
- 1055 - sent ADEF release command - received positive response
- 1057 - mooring sighted app 200m astern.
- 1110 - mooring all onboard moving to MBI - for CTD + Hydro MB005
- 1125 - set up for CTD + completed sounding.
- 37 m at low tide.

(18:30 UTC) → 1130 - CTD MB005 at station MBI to 36m

54° 01.53' } returned to MBI

128° 37.34' } position for each portion of CTD/Hydro cast.

start. 1155 - Hydro for O<sub>2</sub> + ‰ MB005

|                          | Depth   | ‰   | O <sub>2</sub> flask # | Salinity (DSS)<br>(Bottle) | Pick T * |
|--------------------------|---------|-----|------------------------|----------------------------|----------|
| 15/10/96                 | ✓ 36 m. | 125 | 2075                   | 29.926                     | 7        |
| 95290005.0XY             | ✓ 30 m  | 126 | 2074                   | 29.686                     | 7        |
| recalculated using       | ✓ 25 m  | 127 | 2073                   | 28.277                     | 8        |
| bottle salinity +        | ✓ 20 m  | 128 | 2072                   | 26.604                     | 9        |
| estimated Pickling Temp. | ✓ 15 m  | 129 | 2071                   | 24.766                     | 11       |
| (DSS)                    | ✓ 10 m  | 130 | 2070                   | 13.090                     | 11       |
|                          | ✓ 5 m   | 131 | 2069                   | 8.080                      | 8        |
| 1245                     | ✓ 0 m   | 132 | 2068                   | 4.742                      | 8        |

1245 - hydro complete - depart for sta KA.

\* Pickling temp has been estimated from CTD Temp (DSS)

Date  
Oct. 25

Time  
1310

- on station KA - sounding = 31 m  
53°59.525' 128°39.330'  
- moving deeper.

- 53°59.230' 128°39.410'  
- sounding = 54 m

1320 - CTD KA006 to 53 m.

1345 - Hydro KA006 to 53 m

15/10/86  
95290006.0 x Y  
recalculated using  
bottle salinities &  
pickling temperatures  
estimated from CTD  
(DSS).

| Depths | ‰   | O <sub>2</sub> | Bottle<br>Salinity | Est. Pickling<br>Temp. |
|--------|-----|----------------|--------------------|------------------------|
| 53     | 133 | 2066 ✓         | 30.840             | 8                      |
| 40     | 134 | 2065 ✓         | 30.578             | 8                      |
| 30     | 135 | 2064 ✓         | 30.301             | 8                      |
| 20     | 136 | 2063 ✓         | 29.710             | 8                      |
| 10     | 137 | 2062 ✓         | 24.915             | 9                      |
| 5      | 138 | 2061 ✓         | 16.106             | 9                      |
| 0      | 139 | 2060 ✓         | 3.850              | 7                      |

1415 - all done heading in to Kitimat.  
Booming dry sort jetty.  
- off loading.

1505 - back at Aluminium City Motel.  
- un loading.

1535 - call Dario re deck unit  
- deck unit on its way  
018-524-20826  
- I asked if he could stop its  
shipment.?

1630 - Dario calls back - stopped shipment  
of deck unit.  
- down loading Endeco's 1078 worked well 1007 failed (see  
1830 - going to airport to ship data + notes).  
samples back to Victoria.

1930 - returned - called Dario with waybill

2030 - setting up equipment for next  
day.  
- setup Endeco's  
- setup RCM7 + acoustic release.

Date      Time

Oct. 26      0830

- met Hans at Kitimat Booming
- loaded + set up mooring on deck
- Hans operates boat - Fred (old) comes a-bug to help.

1015

- depart for deployment.

1030

- on site and completed sounding by 1035 = 35m slightly off station due to drift.

1048

|                          |                  |
|--------------------------|------------------|
| 54 01.366                | *cut on position |
| 128° 37.392              | 54 01.35         |
| position taken after cut | 128 37.37        |

- launched MBO-B

- set up for CTD

- air cal.

1055 1st - 474      00079      19683      25641      19995      21177

- allowing instrument to come to equilibrium

1100

|      |        |       |       | Traw  | Draw  | Down  |
|------|--------|-------|-------|-------|-------|-------|
|      | 00474  | 00204 | 19683 | 25500 | 19995 | 21146 |
| 1105 | -00474 | 00319 | 19685 | 25257 | 19996 | 21113 |
|      | 00474  | 00348 | 19685 | 25317 | 19995 | 21112 |
|      | 00474  | 00376 | 19685 | 25237 | 19995 | 21111 |

1112 - CTD MBO07 to 34m in 35m.  
54° 01.378 N  
128° 37.329 W

1125 - Hydro MBO07 to 34m

|                                           | <u>Depth</u> | <u>‰</u> | <u>O<sub>2</sub> flask</u> | <u>Bottle Salinity</u> | <u>Probe Temp</u> |
|-------------------------------------------|--------------|----------|----------------------------|------------------------|-------------------|
|                                           |              | 148      | 2047                       | 29.588                 | 7                 |
|                                           | 34           | 140      | 2049                       | 27.590                 | 7                 |
| 15/10/96                                  | 30           | 141      | 2051                       | 29.750                 | 7                 |
| 95290007.0x9                              | 25           | 142      | 2052                       | 28.936                 | 7                 |
| recalculated using                        | 20           | 143      | 2054                       | 27.032                 | 8                 |
| bottle salinities +                       | 15           | 144      | 2055                       | 26.059                 | 9                 |
| estimated <sup>Peeling</sup> temperatures | 10           | 145      | 2056                       | 20.479                 | 10                |
| from CTD                                  | 5            | 146      | 2057                       | 11.663                 | 8                 |
| (DJ55)                                    | 0            | 147      | 2059                       | 5.447                  | 7                 |

1215 - all done heading back to Aluminum City.

Date    Time

Oct. 26    1345    - packed up from motel - checked out  
- called Uriah re truck + my arrival  
- called Crest for reservation!  
- set off to Terrace Airport

1530    - sent off samples Can. Air Freight  
          018-3325-2391  
- 02 samples from MB007 +  
          data disk.  
- set off for Pr. Rupert

2130    - arrive P. Rupert  
- heavy <sup>rain</sup> ~~rain~~ <sup>wind</sup> along way driving slow  
          conditions bad.

2200    - offloaded at DFO warehouse  
- + checked in at Crest.

Oct. 27    0900    - leave Crest for warehouse.  
  
- prepare equipment to be shipped  
          back + packing + labelling.  
- secured equipment left for storage at  
          Pr. Rupert warehouse (below)  
- shipped 11 boxes by Can. Air 018-52440614

At Prince Rupert: DFO warehouse

- 6 scrap shackles
- 2 grey large stackers
- 2 Niskin bottles + 2 more bottles previously loaned to Uriah
- 3 messengers + 2 messengers " " " "
- 2 reagent pipettes + 4 pipettes " " " "
- 150 ml NaOH + 750 ml " " " "
- 150 ml MnCl<sub>2</sub> + 200 ml " " " "
- hydro weight.
- 50 caps + 100 liners.
- 2 sampling tubes
- empty RCM<sub>7</sub> case + empty RCM<sub>7</sub> vane case
- empty IO 1090 case
- 2 Endeco foam containers
- Niskin bottle mounting board
- 5/8" nylon davit tie down line + assorted small lines
- blue tarp (broken) + green tarp.
- 10.5 m 5/16" amgal (MBO-A mooring line) good for reuse + good zincs.
- TSK meter block
- hand winch + davit + hardware
- 2 x 5/8" sp Ø + 2 x 1/2" sp Ø + 3 x 7/16 sp Ø
- 3 assorted small Ø
- 2 x 1/2" ss-sp Ø

Date.

Time

Oct. 27

1245

- arrive at DFO office in Pt. Rupert
- meet Uriah - out to lunch.
- do some log catch up.

1315

- meet Uriah return truck & discuss project.

1330

- go to Canadian office, await return flight.

14/0

- board buses to Digby Island

1555

-depart Pr. Rupert

1845

- arrive Victoria

1900

- arrive 1.0.5