

CRN

8912

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

Aug. 15-25

VESSEL

Parizeau

PROJECT

La Perouse Bank Monitoring

YEAR	89	MONTH	08	TIME	ZONE	UTC	SHIP	PARIZOAU	CRUISE	89-12	PAGE	1	OF	
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSAGE TIME	SALINITY #/CALIBRATION	LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/	SALINITY	NOTES
16	LG8	2075	0500	48 55.23 001	0506	1	500	0554	1001					STD started at 10m brought to surface and then cast down.
16	LG7	1775	0700	48 59.69 002	0700	/			1022					STD started at 12m brought to sfc + then down
16	LG6	990	0815	49 03.93 003	0816	3	500	0907	1023					started at 11m brought to sfc + then down
16	LG5	285	0955	49 07.23 004	0959	4	250	1030	1040					started @ 11m brought up to sfc + then down
16	LG4	142	1124	49 11.28 005	1132	5	140	1202	1052					
16	LG3	119	1248	49 14.92 006	1253	6	120	1317	1062					
16	LG2A	112	1343	49 16.89 007	1347	/			1069					
16	LG2	97	1410	49 18.70 008	1415	8	95	1429	1071					
16	LG1A	79	1448	49 19.58 009	1451	/			1078					
16	LG01	55	1510	49 20.48 010	1512	10	50	1522	1079					
16	LG00	27	1550	49 21.80 11	1550	/			1083					10 meter start up to surface then down

CRUISE 89-12
CSS PARIZEAU

AUGUST 15/25 1989

Rich Thomson
Reg BIGHAM
John Love
Les Spearman
Mike FORCE
Mike DENNEY

CABIN A
CABIN D
CABIN G
CABIN F
CABIN C
CABIN B

Rob ZELLERER
Ulrich SUESSER
CABIN F
11

WATCHES

0800 - 1200
1200 - 0400
0400 - 0800

REG & John
Rick & Mike & Ulrich
Les & Rob

AUG 16/89

Problems with RDI, SAIL stopped polling so RDI was waiting for navigation. Wind speed sensor broken (module #2).

@ approx 1830 got SAIL working. RDI working (in PDT)

Station LG#8. Went to 500m; water depth well over 2000m. Mis-read of depth sounder (wrap-around). J.L. did it!!

AUG 17/89

0015 John attempted to alter SAIL start time to UTC.
0026 Operational. Computer however is using PDT

NOTE: SAIL is in PDT. RDI is in PDT

LG#7: Wind: 280/020 knots

LG#6: Taken to bottom @ 900m
Wind 310°/22 kts

LG#5: Taken to bottom
Wind 320°/18 kts

Station #1 STD lowered to 10 m and program set to logging mode
probe then brought back to surface, then main cast started down.

Hydro to 500 m

2117.5 m
2117.8 m
2118.1 m
2118.4 m
2118.7 m
2119.0 m
2119.3 m
2119.6 m
2119.9 m
2120.2 m
2120.5 m
2120.8 m
2121.1 m
2121.4 m
2121.7 m
2122.0 m
2122.3 m
2122.6 m
2122.9 m
2123.2 m
2123.5 m
2123.8 m
2124.1 m
2124.4 m
2124.7 m
2125.0 m
2125.3 m
2125.6 m
2125.9 m
2126.2 m
2126.5 m
2126.8 m
2127.1 m
2127.4 m
2127.7 m
2128.0 m
2128.3 m
2128.6 m
2128.9 m
2129.2 m
2129.5 m
2129.8 m
2130.1 m
2130.4 m
2130.7 m
2131.0 m
2131.3 m
2131.6 m
2131.9 m
2132.2 m
2132.5 m
2132.8 m
2133.1 m
2133.4 m
2133.7 m
2134.0 m
2134.3 m
2134.6 m
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2135.8 m
2136.1 m
2136.4 m
2136.7 m
2137.0 m
2137.3 m
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2137.9 m
2138.2 m
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2138.8 m
2139.1 m
2139.4 m
2139.7 m
2140.0 m
2140.3 m
2140.6 m
2140.9 m
2141.2 m
2141.5 m
2141.8 m
2142.1 m
2142.4 m
2142.7 m
2143.0 m
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2148.7 m
2149.0 m
2149.3 m
2149.6 m
2149.9 m
2150.2 m
2150.5 m
2150.8 m
2151.1 m
2151.4 m
2151.7 m
2152.0 m
2152.3 m
2152.6 m
2152.9 m
2153.2 m
2153.5 m
2153.8 m
2154.1 m
2154.4 m
2154.7 m
2155.0 m
2155.3 m
2155.6 m
2155.9 m
2156.2 m
2156.5 m
2156.8 m
2157.1 m
2157.4 m
2157.7 m
2158.0 m
2158.3 m
2158.6 m
2158.9 m
2159.2 m
2159.5 m
2159.8 m
2160.1 m
2160.4 m
2160.7 m
2161.0 m
2161.3 m
2161.6 m
2161.9 m
2162.2 m
2162.5 m
2162.8 m
2163.1 m
2163.4 m
2163.7 m
2164.0 m
2164.3 m
2164.6 m
2164.9 m
2165.2 m
2165.5 m
2165.8 m
2166.1 m
2166.4 m
2166.7 m
2167.0 m
2167.3 m
2167.6 m
2167.9 m
2168.2 m
2168.5 m
2168.8 m
2169.1 m
2169.4 m
2169.7 m
2170.0 m
2170.3 m
2170.6 m
2170.9 m
2171.2 m
2171.5 m
2171.8 m
2172.1 m
2172.4 m
2172.7 m
2173.0 m
2173.3 m
2173.6 m
2173.9 m
2174.2 m
2174.5 m
2174.8 m
2175.1 m
2175.4 m
2175.7 m
2176.0 m
2176.3 m
2176.6 m
2176.9 m
2177.2 m
2177.5 m
2177.8 m
2178.1 m
2178.4 m
2178.7 m
2179.0 m
2179.3 m
2179.6 m
2179.9 m
2180.2 m
2180.5 m
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2181.1 m
2181.4 m
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2182.0 m
2182.3 m
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2190.1 m
2190.4 m
2190.7 m
2191.0 m
2191.3 m
2191.6 m
2191.9 m
2192.2 m
2192.5 m
2192.8 m
2193.1 m
2193.4 m
2193.7 m
2194.0 m
2194.3 m
2194.6 m
2194.9 m
2195.2 m
2195.5 m
2195.8 m
2196.1 m
2196.4 m
2196.7 m
2197.0 m
2197.3 m
2197.6 m
2197.9 m
2198.2 m
2198.5 m
2198.8 m
2199.1 m
2199.4 m
2199.7 m
2200.0 m

89/8/16 PDT

0400 - SAIL on B: 8912_2.D1 ; Live B 89% free.
- RDT on D: PINGDATA.007 ensemble 185

0441 - LG04 - wind 25 kt 320°

0605 - LG03 - wind 27 kt 320°

0650 - LG2A - wind 26 kt 320°

0719 - LG2 - wind 22 kt 320°

0752 - LG1A - wind 18 kt 320°

0815 LG1 - WIND 20-25 320°

0852 LG00 - WIND 15-20 320

LG00 & LG08 entered into Ho Station. ANS
file

Recovered Morning EOL (I & C) off Estevan

Recovered Morning EOL (to be serviced)

Proceed to North Sound (arrive ~ 1200)

August 16/

STUS in North Sound while John Service - Morning
EOL and Reg prepares morning for launch tomorrow.

YEAR	89	MONTH	8	TIME	ZONE	UTC	SHIP	PARIZEAU	CRUISE	89-12	PAGE	2 OF		
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	UTC	STD TIME	HYDRO CONSEC. #/DEPTH	MESSENGER TIME	SALINITY #/CALIBRATION	LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE / SALINITY	NOTES
16	NS3	163	2000	49 33.64	12	2012	12	2028		1084				Start @ 14m up to sfc + down
			2050	126 36.12	169		150			333				
16	NS2	165	2115	49 36.76	13	2118	13	2135		337				12m + then up to sfc + then down.
				126 35.38	163		125			418				
16	NS1	90	2256	49 35.14	14	2308	14	2242		419				Started @ 12m, then to sfc + then down
				126 35.58	90		90			463				
16	NSØ	95	2327	49 34.39	15	2330	15	2342		467				Down to 13m, up + then down
				126 37.08	92		90			509				
16	LGØ1		START OUTBOUND ADCP Survey along Line G @ 1812 PDT Ship Speed 28.5 knots.											
17	EO1	90		49 20.99*						49 21.6 N				MOORING EØ1
				126 37.10						126 43.17W				
17	LG1B	90		49 20.99* 16	1804					"				down to 12m + then sfc, + down
				126 37.10	96									
17	LFØ1	33	2018	49 20.99* 17	2022					49 14.8 N				10m + sfc + down
				126 37.10	38					126 14.3 W				
17	LFØ2	50	2045	49 13.09	18	2049								4m + sfc + down + up
				126 16.25	51									
17	LFØ3	ØØ	2130	49 09.32	19	2131								13m, sfc + down
				126 21.49	89									
17	LFØ4	125	2210	49 05.93	20	2212								13m, sfc + down
				126 27.03	130									
17	LFØ5	150	2258	49 02.05	21	2304								320° 16 kt. wind.
			2308	126 33.07	155									

NS03: Sea rippled, wind l/r

Nootka Sound

NS02: Sea rippled, wind l/r

Nootka Sound

Had troubles getting bottom sample. Messenger hung-up on kink so no 150m bottle first time. During 150m sample bottle sample we had drifted into 130m water. Had to move ship back to original station and re-do 150m bottle.

FIRST Messenger @ 1435 PDT

2ND Messenger @ 1515 PDT (150m bottle)

water depth = 160m

NS01: Sea: lgt swell winds l/r

Data logger DCTD hung-up, cold booted

then did not respond to ctrl-s at bottom of cast.

System re-booted & tested with a "dummy"

NS00 - seems to work alright!

* - data for NS01 appears to be stored on hard drive, but is not backed up to tape

[Note: 13 Aug 10:15 UTC, file for NS01 lost - refer to paper printout]

NS00: Sea: lgt chop/swell; winds l/r

- Data logger appears to operating normally now

Proceed to ADCP Line G survey

1812 START ADP survey at LG01 @ 1812 PDT

PDT OUTBOUND LG01 to LG07 Ensemble # 46500

ADCP: File = Rick.CNF 4 AGC Beams

SAMPLING RATE = 180 seconds (3 min)

RANGE BLANK = 4.0 m

Bin Length = 8 m

0 Reversal from NW to SE flow appears to take place near 49,242 / 126,7812 Ensemble # 489
Water depth = 130m PINGDATA 008
Time: 1918 Aug. 16/89

WHAT STATION is this? about 10 minutes before LGØ4.
Get about 88 pings per ensemble.

0 21:27 16/08/89
New Disk #3 sail in drive A should switch over when the B disk is full.

89/8/17/0401 PDT

1000 Records written.

- SAIL on B: 8912_2.D2; Drive B 29.7% free.
- RDI on D: PINGDATA.009 ensemble 664

0544: 1422 records written on SAIL B: 8912_2.D2

0700: We are getting approximately 88 pings per ensemble during the 3min ensemble period. Sometimes only 78 pings. ADCP thinks it sees bottom at around 360m in deep (>500m) water.

Delay between ensembles may be as much as 30 s or as little as 5 s as RDI waits for SAIL NAVIGATION

0718 PDT: Ensemble No. 729.

RDI gives water depth = 385.0m

Sounder depth at this time = 1250.0m [inbound along Line G; depth decreasing rapidly]. Ship Heading = 42.5°
Ship Speed 10 knots

0724 PDT: Ensemble No. 731

RDI gives water depth = 374.0

Sounder depth = 2020 to 1030m

0748 PDT: Ensemble No. 739

RDI gives water depth = 492.0

Sounder depth = 500m

0758

Slow down for foreign FACTORY Ships.
5 Flake boats in the area. Fishing inside of Shelf Break

0800 Ensemble No. 743
RDI depth = 336.0 (c/o good $\rightarrow$ around 25m)
Depth Sounder = 320+ m.

0854 PDT No. of Pings ranges from 78-92 per Ensemble.

Asked Bridge to continue to LGØ1 before
stepping for mooring deployment EØ1

MOORING EØ1 17 Aug '89

S4 @ 25 m depth
RCM4 @ 35 m depth
RCM4 @ 75 m depth

LG1B: CTD performed at site of mooring EØ1
Winds L/V, sea lgt swell

LFØ1: Wind L/V, Sea lgt Swell

LFØ2: Wind L/V, Sea lgt Swell
DCTP failed to respond to cntl-S
on first attempt. Logging continued to
top.

Top line of SAIL "LORAN-C" appears
to be dead. As a consequence these
logged positions are definitely in
question. Must see ship's log for positions

To be sure to use SAIL Satnav from hereon

LFØ3: Wind 290°/1.0 kt, lgt chop

LFØ4: Wind 315°/1.2 kt, lgt-mlt chop

89/8/17/1603 PDT Stn LFØ5 wind 320° 16 kt.

YEAR	MONTH	TIME ZONE	SHIP	CRUISE	PAGE	OF						
89	08	UTC	PARIZEAU	89-12	3							
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSENGER TIME	SALINITY #/CALIBRATION LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/SALINITY	NOTES
17	LF6	448	2346 0005	48 58.04 126 38.83	22 449	2353	/					WIND 320° 16 kt
18	LF7	728	0045 ↓	48 53.98 126 44.85	23 /	0053	/	(EMPTY FILE)				WIND 305° 14 kt
18	LF7	733	0135 ↓	48 50.99 126 44.88	23 733	0119	/					WIND 305° 15 kts
18	LF8	1242	0212 0242	48 50.00 126 50.66	24 1023	0219	/					WIND 320° 20 kt.
18	LD10	1500	0446	48 32.01 126 36.83	25 1100	0449	25 500	0542	1 1001 LOOP 1022		Sal 2,3,4	Salinity @ 10, 400, 500 Wind 320 15-20 kt
18	LD09	1065	0638	48 35.71 126 30.06	26 1100	0644	/		5 LOOP	{ Note: file on HD found empty - refer to paper print out }		320 @ 15-20 kt
18	LD08	795	0756	48 39.24 126 21.05	27 797	0801	27 500	0840	1023 1039			10m to stc + down 310 @ 18 kts (Wind)
18	LD07	455	0936	48 42.74 126 17.27	28 /	0940 1000	/		{ 2nd attempt made due system crash @ 10:00 UTC }			10m to stc + down 310 @ 15 kts (Wind)
18	LD6	136	1057 1127	48 46.14 126 10.35	29 140	1104	29 125	1121	1040 1047			310° 13 kt
18	LD5	88	1207 1216	48 49.52 126 03.54	30 91	1214	/					WIND 310° 10 kt.
18	LD4	58	1258 1320	48 53.25 125 56.98	31 61	1305	15 50	1317	1048 1052			WIND 320° 4 kt

89/8/17 PDT

1659 - Stn LFG wind 320° 16 kt.

1752 - Stn LF7 wind 305° 14 kt

1802 - when control S pushed to stop logging program locked up. Buf stuck, mode still logging.
- No response to control S or control alt del.
or Q or (ESC).

(Data file D:\8912023.CTD.)

- Powered AT off and on.

- Checked D:\8912023.CTD - nothing in it.

- back to surface.

1819 - Start Repeat Cast.

1824 - Stn LF7 (#2) wind 305° 15 kts

1903 - SAIL on A: 8912_2.D2, 2227 rec. written

- RDI on D: PINGDATA.010 eus 964, 5.4 Mb left.

1917 - Stn LF8 wind 320° 20 kt.

22:02 LD10 STD to 1000 m

Loop Salinity also Oxygen 0 - 500 m

Salinity Sample also taken from 10M, 400M, 500M
2, 3, 4

LD09 - DCTD program locks up again at bottom of cast! - system cold booted
file appears

* to exist on hard drive but is not backed up on tape

[Note: file lost on hard drive
see paper print out
18 Aug 10115 UTC]

LD07 - DCTD program hangs up again at bottom of cast!

- 2nd attempt made after system reboot
@ 10:00 UTC - water depth increases to 600m

- It now appears that all casts on which the system crashed were not saved to the hard drive

- files listed on drive D: show 0 bytes
for those costs at which system crashes.

- Blank files as of 10:12 UTC are:

consec #

14
+ 26

Stations

NSD1

LD09

89/8/18 PDT

0410 - Stn LD6 wind 310° 13 kt.

0437 ~ SAIL on A: 8912 2.D3, 1146 records written
- RDI on D: PINGDATA.010 ends 1156, 5.2 Mb left.

0517 - Stn LD5 wind 310° 10 kt.

0602 - Stn LD4 wind 320° 4 kt.

0705 - Stn LD3 wind 130° 5 kt.
- FOG at this station.

0742 - Stn LD2 wind 130° 9 kt., FOG.

Lc #1 Hydro #16 Loop #6

Fog low swell Wind 140° 7-8 Kt.

Lc #2 Hydro #18

YEAR	1989	MONTH	8	TIME ZONE	UTC	SHIP	PARIZEAU	CRUISE	89-12	PAGE	4 OF	
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18	LD3	41	1357	48 56.51	32							
			1405	125 50.35	45	1404						FOG WIND: 130° 5kt
18	LD2	39	1433	48 58.41	33	1439	33		1053			
			1448	125 47.02	42		30	1446	1056			FOG WIND: 130° 9kt
18	LD01	35	1519	49 00.32	34	1524						
			15:30	125 43.96	35.5							FOG WIND 145° 15kt
18	LC01	95	17:35	48 50.47	35	1742	35	17:53	6	1057		
			18:00	125 27.70			90		LOOP	1064		FOG WIND 140 7-8kt
18	LC02	109	1820	48 48.77	36	1823	36	1833		1065		
			1838	125 30.80			100			1072		FOG WIND 130° 7kt
18	LC03	135	1905	48 47.02	37	1912						
				125 34.26	137							FOG WIND CALM.
18	LC04	165	2005	48 43.40	38	2009	38	2025		1073		
				125 41.19	169		150			1082		FOG WIND CALM
18	LC05	66	2110	48 39.98	39	2111						
				125 47.25	65							FOG WIND CALM
18	LC06	93	2155	48 36.55	40	2157	40	2208		1083		
				125 53.88			95			1090		WIND 300/09 kts / Vertical not used 86
18	LC7	125	2312	48 32.91	41	2318	41	2336		1001		
			2339	126 00.54	132		125			1011		NO FOG. WIND 320° 18kt
19	LC8	200	0086	48 29.57	42	0028	42	0107		1014		Changed CTD S/P
				126 06.98			190			1027		new coefficients
19	LC8		0114	48 29.59	42	0045						310/20 knots WIND.
				126 07.60	199							{ 3rd attempt after system rebooted + new CTD probe in place }

probe 53501

Temp A -.364759E-2
B .100039D1

Cond

Probe 41226

Cond no corrections

Temp -.138616D-1 A

.1000001 B



LC05 : Water very murky, visibility down to a couple of meters - soupy red colour

Echo sounder showed only 6m as compared to 90m indicated on program sheet

LC06 : Water visibility down, murky red colour

89/8/18 PDT

1603 - SAIL and RDI clocks are about 2 min apart.

- SAIL is :01:56 slow
RDI is :00:46 fast

1612 - SAIL on A:8912-2-D3 : 4014 rec. written

- RDI on D:PNGDATA.011 end 1387, 4.96 mb left.

1618 - Stn LC7 - wind 320° 18 kt.

- Guildline showed error light after control S used to stop logging at bottom of cast.

- Guildline turned OFF 20min, then ON. error light out, but back on after 1 min.

- by eliminating cable, determined control unit and probe are OK. Problem is in cable or slip rings.

Slip ring & cable ~ 30 M.R. (OK).

Re-check control unit + probe → error light.

Suspect probl. Spare probe OK.

Spare probe = 8705 s.n. 41226.

NOTE

Must back up LC07

Coefficient for T and C = 0.1

Make the slight offset change to data on return to IOS Give JOE Coeff of CTD 41226 for entry into his header.

LC09

- system locks up again / must reboot & do cast over again (the 3rd time)

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19	LC9	615	0154	48 25.94	43	0202	43	0302	7-9	1028		SALINITY 10 400 500	WIND 320° 16 kts	
			↓	126 13.70	605		590			1044				
19	LC9	605	0315	48 26.15	44	0234	/						Cast to 100m.	
			↓	126 13.48										
19	LC10	1210	0355	48 22.52	45	0400	/	10	Computer	Repeat			Wind 310 20-23 kts Surface problem with salinity will check for bubble after cast	
				126 20.21				loop	erase					
19	LC10	1255		48 22.62	45	0442	45	0607	1045				Finally found lock-up problem Only 2 hr memory left in C to run the program	
				126 20.29					1061					
19	LC11	1490	0700	48 19.15	47	0706	47	0753	337				CALLED CONSEC AT AS PROGRAM SAYS 46 EXISTS. IN RETROSPECT SEE LAST CAST SHOULD HAVE BEEN LABELLED 767 WHO 300/18 KNOTS	
				126 26.40	1053		600		463					
19	LB15	1562	1030	48 04.26	48	1147	/						WIND 310/16 KTS	
			1227	126 08.26	1052									
19	LB14	1155	1318	48 08.45	49	1325	49		1001				WIND 320° 16 KT	
			↓	125 59.80		1000			1027				(detd in swells)	
19	LB14	885	1600	48 08.38	49	1401							(Detd in Caps.)	
				125 59.80										
19	LB13	900		48 10.68	50	1628							Locked up 330° 20-25	
				125 56.14										
19	LB13	920		"	51	1642							UPCAST / start at 5m above bottom	
				"										
19	LB12	530	1720	48 12.87	52	1725							Short 60 m segment to test program / OK.	
			↓	125 52.04	60									
19	LB12	530	1720	48 12.89	53	1731	53	1759	0 #11	1028			325° / 20-25 kts	
				125 51.99			50		10 #12					
									20 #13	1075				
									30 #14					

19 August.

Station LC9 0202 Z - WIND 320° 16 kts
- CTD wire jumped out of metering sheave on winch. Re-placed - no damage visible on cable.

NOTE - cast consec 034 was mis-numbered 043. JL fixed this on D: DRIVE but there's probably 2 8912013.CTD files on the DIC-600 tape.
Will be ok on volume backup at end of the cruise.

LC10 Conductivity cell giving a zero reading near the surface will check cell for air or contamination after cast looks OK after about 20 metre.

Wire jammed in meter block on winch at 638 metre it took 20 min to free the wire. Did not abort the cast so there will be a large block of data at this depth.

Computer crash again. Looked at C drive and found that there was only 2k left on the disk. Recovered 3 meg + by deleting program files not in use.
This may be the cause of the crash.

SL

89/8/19 PDT

0400 - program locked up when <CR><S> pushed to end logging.

Situation at lock-up: BUF=106 MODE:LOGGING

- Cold re-boot.

0447 - after ~ 6 hrs at locking the system up, re-did LB15 cast.

89/8/19 PDT

0534 - SWL on B:8912_2.t4, 1377 mc. written
RDT on D:PINGDATA.012 and 1654, 4.69 Mb. lgt.
RDT velocity components look high. Lack of
bottom tracking may be offsetting the profiles.

0553 - between stns, put CTD in logging mode.
Twice, got program to lock up by
pressing S key and holding.
- after cold reboot, started logging,
pressed (S), got bottom half of screen
full of hieroglyphics.
- Couldn't get further lock-ups.
- went to DOS and restarted DCTD.
- got lock-up by pressing (S).
- same again.
- when logging begins, NREC/S goes from
0 to 6 to 12. when I got a lockup,
it also went from 12 to some other
value: 15, 18, ?.

0626 - stn LB14 - wind 320° 16 kt.

0640 - Control S → lock-up.

0643 - wind 320° 20 kt.

- other notes:

- when C:\DCTD> prompt sometimes
entering DCTD it's in caps, sometimes
small's. (even though CAPS LOCK is ON)
- last cast it was small's and locked up.
- this cast it was in CAPS.
- Rob noticed B: red light on N 10 sec
when I pressed control S and program
locked up on last cast.

0946: DAS locked-up at 800 m during LB13
downcast (water depth = 900 m)
Problem is becoming more frequent. This is the
first time it stopped logging during downcast
Tried UP-CAST at LB13, starting <5m above
bottom.

Phone Victoria: Get Tom to bring other AT,
Phone Andrew re problem

1030 POT STN LB12:

Conductivity sensor failed from 0-20 m
possibly due to air in cell when ship kicked
ahead. Take water bottle samples from
hydro.

Have loaded DCTD20.EXE AND RENAMED
FILE DCTD EXE
THE OLD FILE DCTD.EXE IS DCTD1.EXE
IF ANY PROBLEMS SURFACE USING THIS PROGRAM
USE DCTD1.EXE TO RUN THE ORIGINAL.

YEAR	MONTH	TIME	ZONE	SHIP	CRUISE	PAGE	OF						
89	08	UTC		PARIZEAU	89-12	6							
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSANGER TIME	SALINITY #/CALIBRATION	LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	NOTES
19	LB11	210	1840	48 15.22	54	1843	54	1900	1077				Installed DCTD-VZO (NOV. 88 program) Wind speed 320.20 kt
			12548.04			200			1087				
19	LB10	155	1916	48 18.77	55		/		2nd attempt after depth error 68 encountered				
			12542.13										
19	LB10	155		48 18.65	55		/		3rd attempt				Wind 325/12 kts
		2010	12541.41	156	2002								
19	LB09	150	2050	48 21.67	56	2051	56	2106	1088				Wind 300/10 kts
			12534.70	152			140		376				2nd attempt successful
19	LB08	135		48 25.13	57	2157	57	2207	1040				3rd attempt successful (depth) - bottom 5m off bottom
			12528.71			125			1047				
19	LB07	157	2307	48 28.51	58	2313	/		IT WORKED! (1st time)				FOG WIND CALM.
			2316	12522.11	159								
19	LB06	112	2355	48 32.22	59	0002	59	0017	1048				WIND Light + Var.
			0023	12515.33	118		100		1054				
20	LB05	104	0043	48 34.06	60	0045	/						WIND 310° 3 kts
			0049	12512.34	105								
20	LB04	110	0113	48 35.53	61	0117	61	0130	1055				WIND 270° 3 kts
			0136	12508.85	113		100		1062				
20	LB03	92	0159	48 37.13	62	0202	/						WIND LIGHT + VARIABLE
			0208	12505.71	96								
20	LB02	52	0229	48 39.04	63	0236	63	0248	1063				WIND Light + Variable.
			0252	12502.48	55		50		1067				
20	LB01	32	0313	48 40.06	64	0315	/						WIND 145° SK
			0318	12459.52	37.3								

LB 10

Program DCTDI

- Program crashes on starting to log with error 68
- System rebooted
- Program crashes again at bottom of cast
- System rebooted
- 2nd attempt

LB09

- DCTDI giving obscure values for cord + sal.
- program quit using Q option
- DCTDI re-entered + 2nd attempt made successfully

LB07

- WIND CALM, FOG.
- WORKED FIRST ATTEMPT.

89/8/19 PDT

- 1625 - SAIL on B:8912_2.D4, 4071 rec. written
- RDI on D:PINGDATA.013 end 1872, 4.46 Mb free

1700 - Stn LB06 - wind light + variable

1745 - Stn LB05 - wind 310° @ 3 kts.

1905 - Stn LB03 - wind light + variable.

89/8/20 PDT

0403 - Stn LAG - wind 290°, 10 kt.

0500 - Stn LA7 - wind 320°, 15 kt.

0507 - SAIL on B:8912_2.D5, 1267 records written.
RDI on D:PINGDATA.014 end 2126, 4.2 Mb left.

0515 - SAIL clock is 3 min 14 sec slower
- RDI clock is 1 min 35 sec fast

SAIL PZVB.BAS

89/8/20 PDT.

0528 SAIL twin - Sail crashed due to time-out in polling new device.

0614 re-booted SAIL with SAIL 5 disc in B:

0616 SAIL is up and running.
RDI D:\PINGDATA.014 ens 2136
2137 look like garbage.
SAIL is not logging.

0634
SAIL will not allow a new data file to be opened on B: disc SAIL 5.
Re-formatted disc SAIL 5.

0635 SAIL on B: 8912_3.D1
RDI on D:\PINGDATA.014 ens 2142
and operating normally again.
SAIL is 22 sec fast after re-boot.

0653 Stn LA9 - wind 320° 14 kt.

0702 Lr LA9, steaming for BANFIELD

0830 - installed SAIL 8912 #6 formatted disc in A:

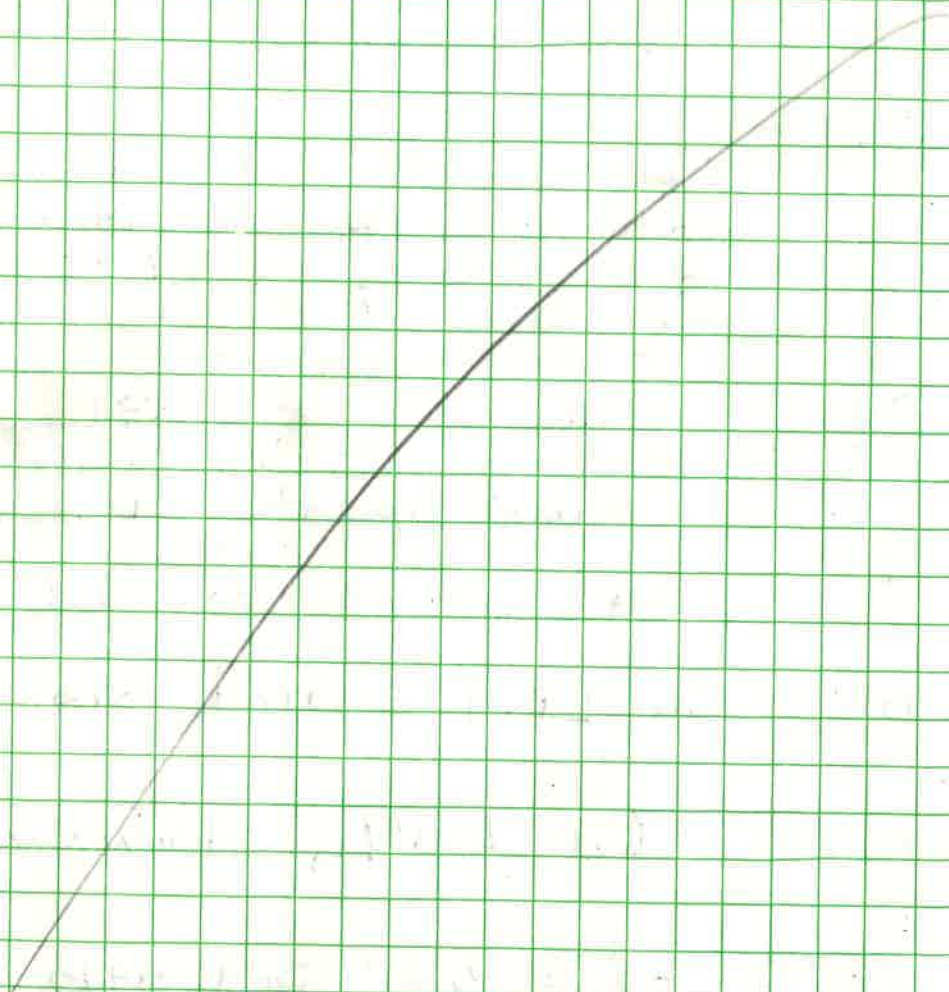
Calm but heavy fog off coast. NW swell.

ARRIVE BANFIELD @ 1200 PDT
RICK THOMSON, ROB ZELLERER LV SHIP.
TOM JUHASZ ARR SHIP.
LV Banfield 1325 PDT

13:22 PDT

890820

SYSTEM 1 Computer arrived
Made ready to run CT3 Drive



YEAR	89	MONTH	08	TIME	ZONE	UTC	SHIP	Parrizcan	CRUISE	89-12	PAGE	7 OF
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSENGER TIME	SALINITY #/CALIBRATION LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/SALINITY	NOTES
20	LA2	300	0650	48 26.29 65 124 51.54 290	0652	65 122	0715		1001 1008			WIND light variable
20	LA3A	245	0800	48 23.52 66 124 57.59 247	0801	/						WIND CALM, FOGGY SIG SW FLW
20	LA4	200	0900	48 19.20 67 125 04.06 199	0901	67 175			1009 1023			FOGGY, WIND L/V LGT-MDT S.W.ELL.
20	LA5	120	1005	48 16.33 68 125 10.91 121	1009	/						FOGGY, WIND L/V
20	LA6	112	1055	48 12.97 69 1114 125 17.73 115	1057	69 100	1110		1025 1031		Fog	290° 10 kt
20	LA7	111	1154	48 09.20 70 1204 125 23.69 115	1159	/					Fog	320° 15 kt
20	LA8	138	1246	48 05.72 71 1311 125 30.32 140	1251	71 125	1306		1032 1072			WIND: 320° 15 kts
20	LA9	328	1348	48 02.33 72 1402 125 36.78 327	1352	/						WIND 320° 14 kt
21	LS6	1398	0432	48 15.74 73 0507 126 07.83 43.8%	0434	/						NOTE - WRONG CRUISE. ANS THIS STN. SEE NOTES.
21	LS15	100	0717	48 29.39 74 125 43.16 102	0719	/						ADJUSTED CRUISE. ANS 240/10 kts Drizzle
21	B005	63	0843	48 40.32 75 125 46.23 67	0845	/						Foggy, Drizzle Wind 280/10 kts
21	B001	148	1010	48 44.94 76 125 34.16	1011	/						Foggy, Drizzle Wind 280/12 kts

Aug 20/89

Tom: "Welcome aboard the motor vessel"

As you already appreciate, the overtime ban is going to hamper your mooring operations. The Captain is willing to allow a few hours where needed but basically we're stuck with 0800-1600. Fortunately, there is plenty of good data to be collected using the ADCP and the highly efficient CTD teams! In the off-mooring periods could you please perform the following:

- (1) Pick up vertical net tows at zooplankton stations B1, B5 and S1.

Mike Demsey has this down to a fine art.

Please take a CTD at each of those stations following completion of the station. (See attached map).

- (2) Conduct ADCP multiple repeat lines (steam back & forth over the same track at 9 to 10 kts) at interesting sites;

(a) Shelf-break from 100 m to 1200 m depth

This can be along one of the established lines (e.g. Line A, B, C, D) or along any convenient line parallel to the La Prouse lines.

(b) Repeat lines that cross on-offshore through the Canyons might prove very interesting (e.g. Barkley Canyon between Lines B & C).

NW-SE

(c) A zig-zag repeat lines across Finger Bank from 150 m on south side to 120+ m on north side (see chart)

[Fog will worry the ship, so you be the judge]

(3) Fill-in CTD stations between the La Perouse grid lines. Anywhere will DO! Give them names like LS__ (for LAP Supplement or something to that effect).

(4) Do station LAI inbound. It was too dark and foggy and busy for us so I left it.

(5) Ulrich Seusser has proven to be an excellent man. I have him and Mike together and have complete confidence in their ability to run CTD/hydro stations. Needless to say, I was delighted with this. Ulrich picks things up very quickly and is a great worker.

(6) Do not, under any circumstances, eat any of John Love's dried prunes!! You will be eternally sorry -- and so will everyone around you.

(7) Good Luck.

Many thanks, & see you FRIDAY

Rick

Established New watches to accommodate mooring ops.

Reg.	8-12
Les	
Tom	
Ulrich	12-4
Mike	
Tom	
ADCP	4-8
work.	

John floats to look after SAIL, ADCP, and mooring instrumentation

89/8/20 PDT

1402 - JL. has hooked up wind speed SAIL module that Tom brought aboard.
Looks OK - speed agrees with bridge read-out

1410 - O.S. BSS2 - calling good
- ranges received at 434m 460m
- release @ 1413
- sighted @ 1415

- Hydraulics burst on capstan within 1 min of use this resulted in a difficult recovery using a winch to pull up the mooring.
- ADCP line LS over repeat line. LS5-LS6

LS 1	48 45.4	125 13.4
LS 2	48 42.55	125 19.6
LS 3	48 38.6	125 25.9
LS 4	48 34.1	125 34.1
LS 5	48 29.2	125 43.2
LS 6	48 15.6	126 07.9

Oceanographic Work Night Aug. 20-21

600 Steam ADCP Line "LS" from LS1 → LS6.

00 arrive LS6 - 48 15.6 126 07.9 Do CTD

- depth (chart) 1388 m.

- proceed to LS5

? arrive LS5 - 48 29.2 125 43.2 Do CTD

- depth 100 m.

- proceed B5

? arrive B5 - 48 40.3' 125 46.2' Do CTD

- depth 80 m

Do Net Tow

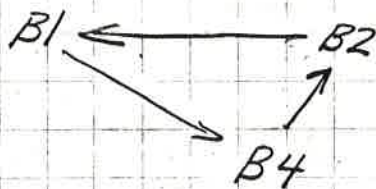
- proceed B1

? arrive B1 - 48° 45.2 125 34.0 Do CTD

- depth 145 m.

Do Net Tow

steam ADCP triangle.



0800 arrive B1 mooring site. 48° 45.26 125 34.29

- mooring operations by Reg, Les, Tom. 8-12
Mike, Ulrich, Tom. 12-4

Note to Bridge

There will be no oceanographic watch during 4-8. This time will be used for ADCP operations.

89/8/20 PDT

1957 - briefly interrupted RTDI to change selected graphics variables: V_i on
 V_e on
AVE AGC off.

2000 - SAIL on B: 8912_3.D1, 3332 sec written
- SAIL in 8 sec. fast.
- RTDI on D: PINGDATA.000 end. 1., 3.9 Mb left.
- RTDI in 1 min 29 sec. fast.

2144 - STN LSG -

note - IBM AT was changed prior to this station. This station was done with:

TRANS#197,	Guideline Control unit	s.n. 44.535
CRUISE 8912	IBM AT #1	s.n. 5615965170
	Guideline probe	s.n. 41226

this is incorrect in the CRUISE.ANS FILE.

CRUISE.ANS changed: pressure max. converted, to
temp. coeff. 0, 1
Probe SN. 41226 25,

NOTE: - data file D: 8912073.CTD has been edited to the above values. but it is 8 k short of 8911073.CTD. is the header of 8912073.CTD is the corrected one for 8911073.CTD, but 8912073.CTD is incomplete.

2350 - LORAN C QUESTIONABLE (PROBABLY JUMPED A LAKE)

89/8/21 PDT

0008 - LORAN C back to agreement with SATNAV.

0010 - JUMPED A LAKE AGAIN, AND JUMPED BACK.

0030 - Word from bridge is that Loran-C is acting up again.

0235 - looks like Loran-C output has settled down again.

89/8/21 PDT

0750 - AM vicinity B1.

0753 - SAIL on B: 8912_3.D2, 1984 rec. written
RDI on D: PINGDATA.001 ens 238, 3.66 Mb left

0800 - foreign draggers in area.

0810 - using ship's transducer, getting release xprnd
at ~ 560 m. Bottom return from
interrogate pulse is so strong it trips
counter, even on 1 ms pulsewidth.

- steamed right over it - good ranges
220 m ↓ 215 m ↑ 220 m.

0825 - transmitted rel. code ABEF.
High ping rate response.

0828 - busy spotted Mcmurt.

0840 - system on board.

En route C1.

0945 - RDI SAIL, LORAN C all look OK.

1110 - at location given by fisherman
who fouled C1. 5 draggers nearby.

- tried ranging - no consistent response.

- no ping or signal audible.

- tried right over position:

eventually got consistent ranges of
1126 m. on 10 kHz.

- changed position: no response.

- changed position: 1290 m and increasing.

1231 - trans. rel. code ABEF.

High ping rate response. Range ↓ $\frac{3}{4}$ m/s

- continued ranging: range min. of 158 m,
then increasing.

1242 - range 202 m.

- transmit rel. code - low rate resp.

Beam code, rel code - high rate resp.

- repeated beam release sequence 8 times.

- commence dragging for CI 1330 PDT.

- Ranging - range increased until turn made, range decreased from 420 m. down to 347 m at which time started to increase as ship passed site.

1410 - at 363 m. range it appeared to follow ship, i.e. range stayed constant as ship moved. The range slowly opened up after $3/4$ min as if moving slipping along wire.

1417 - Range 385 for 3 min then increases to 394 probably slipping down wire.

1420:00 422 m.

1421:00 433 m.

1422:00 444

1423:00 454 m.

1424:00 466 m.

1425:00 485 m

1426:00 498 m

1427:00 516

1428:00 524

1429:00 523

1430:00 526

1431:00 531

1432:00 527

33:00 533

34:00 543

14:37:00 561

1440:00 589

1442:00 595'

1443:00 592

1444:00 591

1447:00 584

loope closed - steaming on a tangent

- on surface 1451 PDT

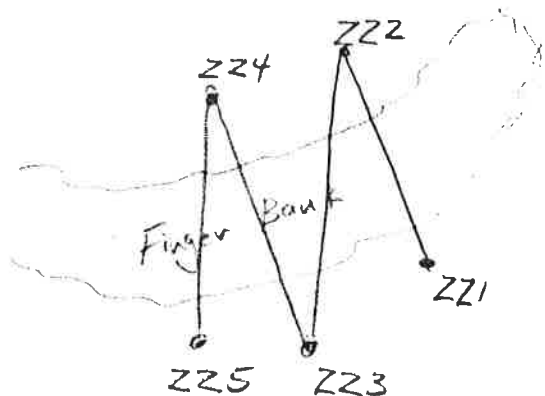
- recovered SS 28 #207, pinger, release #466

Oceanographic Work Evening Aug 21-22

During 4-8 watch

- steam ADCP "Zig Zag" lines over Finger Bank

ZZ 1	48	26.60'	125	22.16'	160-165
ZZ 2	48	34.20'	125	27.17'	100-105
ZZ 3	48	24.80'	125	27.70'	125-130
ZZ 4	48	32.10'	125	32.60'	125-130
ZZ 5	48	24.08'	125	33.00'	125-130



- sequence ZZ1 ↔ ZZ5 ↔ ZZ1

During 8-12 and 12-4 watches

Do CTD's at each ZZ stn.

89/8/21 PDT

Put new formatted disc #7 SAIL 89-12 in B:
of sail.

2012 - SAIL on A: 8912_3.D2, 1173 sec. written.
RDI on D: PINGDATA.002, ens 485, 3.4 Mb left.

2020 - Stn 223 - start ADCP 216ZAG
lines over Finger Bank.

89/8/22 PDT

0803 - SAIL on A: 8912_3.D3, 2035 sec. written.
- RDI on D: PINGDATA.002, ens 722, 3.16 Mb left.

0800 - 0900 recovered + serviced guard buoy "H"
(eastern) $48^{\circ}28.15'$ $125^{\circ}15.01'$
- had to replace radar reflector, light, pick-up harness

0900 - moved to northern guard buoy
- recovered buoy "K" + serviced
- replaced light, radar, + harness all of which was
missing
- moved buoy 4 cables closer to position $48^{\circ}28.90'$
- buoy was found off position. $125^{\circ}15.53'$

1042 - deployed mooring C1-V LAP10

1330 - deployed new guard buoy "B" to replace missing
guard buoy "F"
 $48^{\circ}28.68'$ $125^{\circ}15.43'$

1605 - deployed mooring B1-V LAP10

2001 - SAIL on A: 8912_3.D3, 5039 sec. written (12.7%
- RDI on D: PINGDATA.003, ens 962, 2.9 Mb left. (3sec)
- SAIL is 7 sec. slow;
RDI is 2 min. 26 sec. fast.
CTD AT is 21 sec. slow.

Oceanographic Work

Aug. 22-23 Night

4 - 8 watch.

Repeatedly steam over ADCP Line.
LS5 to LS6

8-12 and 12-4 watches

- continue along LS Line and start to pick up CTD's along stations.

LS1	48	45.4	125	13.4	40 m.
LS2	48	42.55	125	19.6	55 m
LS3	48	38.60	125	25.9	75 m
LS4	48	34.1	125	34.1	90 m.
LS5	48	29.2	125	43.2	100 m
LS06 LS5A	48	21.8	125	56.6	650 m
LS07 LS6	48	15.6	126	07.9	1388 m

- if fishing fleet prevents taking CTD at LS1 then disregard this station.

Mooring Ops at A1

- break off from LS Line such that the ship will be on station A1 at 0700
- notify Reg, Les, Tom for acoustic search for A1.

YEAR	89	MONTH	08	TIME ZONE	UTC	SHIP	PARIZEAU	CRUISE	89-12	PAGE	8	OF	
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSANGER TIME	SALINITY #/CALIBRATION	LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	NOTES
22	ZZ3	127	0320	48 24.84	77	0326	/						
			0333	125 27.82	130		/						
22	ZZ4	125	0441	48 31.98	78	0443	/						
			0449	125 32.62	128		/						
22	ZZ5	128	0604	48 24.17	79	0606	/						
			0614	125 33.08	132		/						
22	ZZ4	125	0721	48 31.84	80	0724	/						WIND 190/06 KTS
			0728	125 32.56	125		/						
22	ZZ3	127	0825	48 24.57	81	0830	/						WIND CALM
			0837	125 27.75	130		/						
22	ZZ2	103	0936	48 33.91	92	0939	/						WIND 200/08 KTS
			0945	125 27.19	106		/						
22	ZZ1	163	1043	48 26.75	93	1044	/						WIND L/V
			1050	125 22.18	163		/						
23	LS6	1390	0333	48 15.72	84	0335	/						(plotted)
			0416	126 07.84	1380		/						
23	LS5A	657	0526	48 21.77	85	0531	/						(plotted)
			0556	125 56.76	652		/						
23	LS05	90	0717	48 28.99	86	0721	/						WIND L/V
			0726	125 43.38	101		/						
23	LS4	90	0820	48 33.21	87	0825	/						WIND 260/05 KTS
			0930	125 33.78	92		/						
23	LS3	74	0920	48 38.38	98	0923	/						WIND L/V
			0927	125 26.43	77		/						

SRDI
ADCP drive switched to drive B @ N 045 Z
23 Aug 99

Aug. 23

- 0730 ① - on original sta. A1-I for acoustic search and recovery.
- all 3 guard buoys on sta. with lights however
 not have radar reflectors.
- no response from release on ranging
- heard faint pinger signal.
- ② - moved to position where 543m range was
 heard.
 - no release response, no pinger signal.
- ③ - moved to position having southern guard buoy 1 cable
 abeam starboard.
- 4 - moved to original mooring location.
 - heard pinger not release.
- 0840 ⑤ - within guard buoy triangle
 1st release attempt. no response but may release.
 - repeated release code ~ 10 times.
 - drifted west out of guard buoy net
 - pinger signal strongest toward western guard buoy
- ⑥ - moved to western guard buoy listening with pinger
 from big ship
 pinger signal strongest toward western guard buoy
- ⑦ - moved putting western guard on port beam
 heard pinger strongest past this guard buoy
 - launched small boat + hand held pinger
 receiver.

located mooring at $48^{\circ}26.83$
 $126^{\circ}11.20$

- decided to service guard buoy lights first because
 wind is beginning to rise.

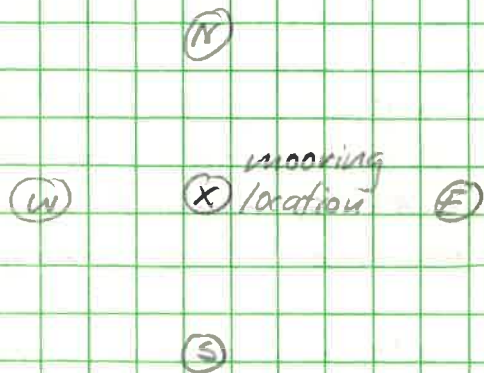
1230 - serviced all three guard buoys by 1230

1245 - commence dragging at A1 1245.

1530 - drag unsuccessful completed.

- move over position and listen with pinger receiver

- conduct acoustic search



- pick 4 listening stations using directional receiver radius 1 cable.

- bearings were taken at each station

- after 8 sounding stations a cocked hat was generated placing mooring at 29027.2

41524.6
app. $\frac{1}{2}$ cable to east + north of position located by small boat.

- proceed with ADCP + CTD for the night.

89/8/23 PDT

2000 SAIL on B=8912_3.D4 4957 rec. written.

RDI on D: PINGDATA.D05 end 1441, 2.4 Mb free.

89/8/24 PDT

0740 - SAIL on B=8912_3.D5 1921 rec. written

- RDI on D: PINGDATA.D05 end 1675, 2.18 Mb left

1600 - 2000

- listening stations for mooring A1-I
- proceed to ADCP Line BS starting at BS4

2000 - 2400 - 0400

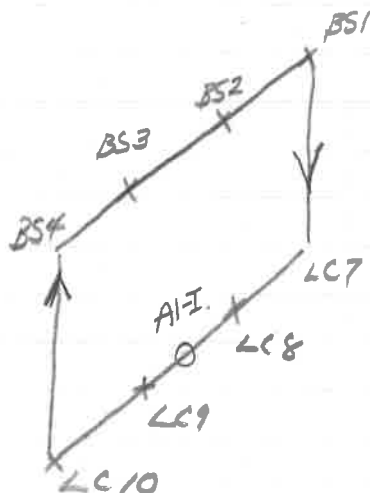
- steam BS Line (BS4 - BS1) + LC Line (LC7-LC10) in box pattern doing CTD's at these stations.

BS4	48° 31.5'	126 24.6'	± 1200m	Do CTD
BS3	48° 34.8'	126 18.4'	± 950m	Do CTD
BS2	48° 39.0'	126 10.6'	± 165m	Do CTD
BS1	48° 43.6'	126 02.0'	± 100m	Do CTD

LC7	48° 32.96	126 00.5	125	Do CTD
LC8	48° 29.45	126 07.1	197	Do CTD
LC9	48° 25.94	126 13.7	660	Do CTD
LC10	48° 22.40	126 20.2	1150	Do CTD

0400 - 0800

- continue steaming along box pattern
- break off box pattern to be at A1 location 0730 Aug. 24 to commence dragging.



Aug 24

0830 - commence 2nd drag attempt at A1 I
based on position located acoustically Aug 24
evening.

1100 - finished drag without success

1130 - confirmed by pinger that mooring still in
place, (strong signal)

* NB. - acoustic release had been given
release command many times.
- this mooring may be here for future
dragging or it may popup on its
own.

1410 - arrive eastern guard buoy @ B1

1433 Leave eastern buoy after changing Lamp and batteries
Buoy "1"

1500 arrive 2nd buoy changed Lamp and batteries
moved buoy to new position
Buoy "JH"

1604 Depart Station Total Time 1 Hr 56 min

1720 on station - ~~near~~ B8 scattering layer ~ 75m - weak

1726 start horizontal net tow @ 1.5 kts
- wire out to 140m $\theta = 45$ $z = 115$

1728 wire in to 120 $\theta = 45$

1729 wire into 100 $\theta = 50$

1730 wire out to 120 $\theta = 60$

1731 bring net in @ 0.75 m s^{-1}

1733 ~~at~~ net to surface

1736 leave station for S1

YEAR	89	MONTH	08	TIME ZONE	UTC	SHIP	PACIFIC	CRUISE	89-12	PAGE	9	OF	
DAY	STATION NUMBER	DEPTH SOUNDING (M)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC. #/DEPTH	STD TIME	HYDRO CONSEC. #/DEPTH	MESSENGER TIME	SALINITY #/CALIBRATION LOOP OR DEPTH	OXYGEN #	SURFACE TEMPERATURE/SALINITY		NOTES
23	LS2	00	1007	48 42.33	89	1010	/						WWD L/V
			1015	125 20.13	82		/						
23	LS1	35	1048	48 45.19	90	1050	/						WWD L/V
			1055	125 13.92	36		/						
24	BS4	1218	0303	48 31.48	91	0306	/						plotted.
			0342	126 24.54	1203		/						
24	BS3	1014	0426	48 34.75	92	0431	/						plotted.
			0500	126 18.61	1012		/						
24	BS2	169	0556	48 38.97	93	0558	/						
				126 10.81	172		/						
24	BS1	98	0658	48 43.63	94	0700	/						WWD 330/12
			0706	126 01.70	99		/						
24	LC7	125	0827	48 33.04	95	0827	/						WWD 320/13
			0833	126 00.57	129		/						
24	LC8	197	0915	48 29.49	96	0914	/						LGT-MDT SWELL WWD 330/17
			0924	126 07.38	202		/						
24	LC9	630	1005	48 26.24	97	1009	/						LGT-MDT SWELL WWD 320/14
			1028	126 14.45	632		/						
25	LA1	265	0436	48 28.95	98	0441	/						
			0450	124 43.72	265		/						
							/						
							/						
							/						
							/						

AUG 25 1989 PDT

- 0755 - SAIL on A: 8912_3.DG
- SHIP TIED TO JETTY AT 103.
- file closed.

JK. has put the RDI files from the second week of ADCP data into a directory 2ND WEEK.

WELLSAN DE MRSBY

TO MASTER 25 AUG 89 1540PDT

ALLEN R THOMPSON/AM DEMPSEY

BT

CAN YOU OBTAIN ONE OR TWO EUPHAUSIID/COPEPOD SAMPLES FROM
DEEP WATER NEAR 40 MILE BANK (AREA 48.35 12530) AND SWIFTSURE BANK?
THESE ARE FOR BIOCHEMICAL ANALYSIS BY IAN WHYTE/DAN WARE AT PBS,
BEST SAMPLING METHOD WOULD BE 5 MINUTE OBLIQUE BONGO TOWS 70-100M
(DAY) OR 0-20M (NIGHT). SAMPLES SHOULD BE FROZEN.

BT

SIGNED DAVE MACKES

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