

CRN

9114

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

Oct. 5 - 15, 1991

VESSEL

Parizeau.

PROJECT

La Perouse / MASS / Mid Ocean Ridge / CRD

Captain: P. Frost
Second Officer: Howie

First Officer: Siraj
Third Officer: _____

Cruise Participants/Agencies: O. Physics, O. Ecology
Arctic Sciences Ltd

Scientific Personnel: Party Chief: Tom Lukasz A
name watch cabin name watch cabin

name	watch	cabin	name	watch	cabin
<u>J. Love</u>		<u>G</u>			
<u>D. Tuck</u>		<u>D</u>			
<u>G. Quinn</u>		<u>C</u>			
<u>D. Moore</u>		<u>B</u>			
<u>D. Spear</u>		<u>E</u>			
<u>D. Lemon</u>		<u>F</u>			

second leg of cruise: Party Chief: CAMP
L. Dorosh F

third leg of cruise: Party Chief: N/A
N/A

DATA LOGGING SYSTEM: Unit number: #2 program ver. _____
CTD deck unit make: Guildline model: 87107 serial no.: 57160
Computer make: HP model: Vectra serial no.: 2433A05390
monitor make: NEC model: Multisync 2A serial no.: _____
printer make: Star model: Prolix-10 serial no.: _____

1st CTD make: Guildline model: 8715 serial no.: 53501
temperature sensor model: 87401 serial no.: 53237
coefficients: slope: _____ offset: _____
conductivity sensor model: 87410 serial no.: 52474
coefficients: slope: _____ offset: _____
pressure sensor range: _____ psi serial no.: _____
coefficients: FSP: _____ dB offset: _____
transmissometer model: SeaTech serial no.: 197
coefficients: slope: _____ offset: _____
Comments: _____

2nd CTD make: Guildline model: 8705 serial no.: 41226
 temperature sensor model: 87401 serial no.: 56 213
 coefficients: slope: _____ offset: _____
 conductivity sensor model: 87410 serial no.: 41664
 coefficients: slope: _____ offset: _____
 pressure sensor range: _____ psi serial no.: _____
 coefficients: FSP: _____ dB offset: _____
 transmissometer model: _____ serial no.: _____
 coefficients: slope: _____ offset: _____
 Comments: _____

WINCHES:

CTD make: Swann model: 310 serial no.: 1082
 counter make: SyTech model: _____ serial no.: _____
 HYDRO make: Swann model: 305 serial no.: 1084
 counter make: Reulis model: _____ serial no.: _____
 Work/ Spooling make: Swann model: 329 serial no.: 1306
 Drag make: Swann model: 331 serial no.: 1231
 (other CTD spare) make: Swann model: 329 serial no.: 1307

Salinometer make: N/A model: _____ serial no.: _____

SAIL System:

program version: Parizeau C-Sail time zone: GMT ^{started app.} 1600 GMT Oct. 5, 91
 sampling interval: 120 sec.
 CTF module no.: 104 serial no.: 43
 remote temperature model: _____ serial no.: N/A
 flow sensor model: _____ serial no.: N/A
 Other sensors: (special for this cruise)
 name: Barometric Pressure module I.D.: _____ serial no.: _____
 name: Wind Speed + Direction module I.D.: _____ serial no.: _____
 Comments: Loran Navigation

ADCP Setup:

Program version: 2.38 number of depth bins: 60
 time zone: GMT bin length (2^x): 3
 sampling interval: 240 sec. pulse length: 8
 blank beyond transmit: 1.0 pings per ensemble: 1
 pulse cycle time: 1.0
 percent pings good threshold: 50
 Comments: _____

- started at Jetty (10s) 1610 (GMT) Oct. 5, 91
 - positions from GPS

Cruise 9114

Date/Time GMT.

Oct. 5 1620

- depart L.O.S. jetty
- ADCP started 1610
- Sail started 1600
- GPS up + running
- CTD system checked
- EPC had to be repaired (fuse blown)
- seawater loop running

2015 Oct 5

2030

2048

2050

2122

2140

2157

- on station CRD1A mooring
- release and sighted on surface
- all on board
- CTD 001 CRD1
- CTD 002 CRD2
- CTD 003 CRD3
- CTD 004 CRD4
- .225' EM cable suspect - occasional data error lights
- numerous operator errors typical of starting up system
- launched CRD1-B

48° 23.92' 123° 24.16' GPS in 59m water.

2322

0025 Oct. 6

- CTD 005 at D11A
- frequent data error light flashes
- pressure spikes observed
- switched CTD to #41226 and made necessary changes to default file
- will try cast with this probe, to eliminate possibility of a faulty probe. EM cable (.225") is still suspect.

0128 Oct 6

- CTD 006 at D12A
- continued data errors indicated probes are not the problem and the cable is likely at fault.
- switch back to CTD probe 53501 and using 329 winch #1307 with unknown length.

Cruise 9114

Watch Assignments

	0800	1200	1600	2000	0000	0400	Additional Responsibilities
	1200	1600	2000	2400	0400	0800	
Tom	////						Chief Scientist stuff, moorings, oxygens
John				////			Instruments, systems trouble shooting, moorings
Darren		////			////		Moorings, oxygen
Doug			////			////	O. Ecology work (quality control of bio sampling)
Gracie	////			////			as requested for moorings
Dave S.			////			////	as requested for moorings
Dave L./Larry		////			////		Arctic Sciences mooring (Dave) Tides + Currents mooring (Larry)

YEAR	MONTH	DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE LONGITUDE	STD CONSEC.	STD TIME	HYDRO CONSEC.	MESSENGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE / SALINITY	FLOOR SALINITY #	NOTES
1991	Oct														
Oct 5			CRD1	58	2050	48°23'N 123°24'W	001	2107	/	/	/	/	/	/	CTD 53501
✓			CRD2	62	2122	48°24'N 123°23'W	002	2124	/	/	/	/	/	/	
✓			CRD3	63	2140	48°23'N 123°24'W	003	2142	/	/	/	/	/	/	
✓			CRD4	55	2157	48°24'N 123°24'W	004	2158	/	/	/	/	/	/	
Oct 6			D11A	165	0025	48°14'N 123°30'W	005	0027	/	/	/	/	/	/	
"			D12A	175	0128	48°15'N 123°45'W	006	0130	006	0222	2020 2034	/	/	/	CTD 41226
"			D13A	185	0325	48°18'N 124°00'W	007	0324	/	/	/	/	/	/	CTD 53501 + 197 Trans
"			D14A	180	0430	48°22'N 124°14'W	008	0433	008	0458	2035 2045	/	/	/	Trans noisy will try other unit.
"			D15A	225	0603	48°26'N 124°29'W	009	0605	/	/	/	/	/	/	Trans #78 installed on CTD. Looks much better.
"			LAO1	235	0718	48°29'N 124°43'W	010	0720	010	0754	2046 2081	/	010	/	Loop & Hydro
✓			LAO2	315	0848	48°26'N 124°50'W	011	0849	011	0935	2054 2066	/	011	/	Loop & Hydro
"			LAO3	115	1026	48°22'N 124°57'W	012	1027	/	/	/	/	012	/	CTD 117m

Date Time GMT

Oct. 6

sta D12A cont'd

- of .306 8 conductor cable (which normally used by UBC on Vector)

0222 Oct 6 - Hydro 006 at D12A to 165m.

- wire out meter by Sytech is only counting up not up and down. Probably a broken lead.
- the Sytech counter does not mount onto the 329 winch. We will get the necessary parts up with Larry Dorosh or make another attempt at repairing situation from what we can find on the ship. I have informed all scientific watch keepers that extra care and attention has to be kept regarding recovery of probe to avoid "to-blocking" it, until the situation is remedied.
- the Handan Argos receiver has failed and will be repaired.

0508 Oct 6

Transmissometer #197 giving a very noisy trace. Replaced with unit #78 changed the coefficients in calibration screen. Greased the connectors on CTD probe and Transmissometer.

After changing over to the 329 winch no further data error indications have been seen.

Nine on the small winch should be junked.

Transmissometer #78 is giving clean data indicating that there is something wrong with Transmissometer #197. This instrument will require repair.

Date Time GMT

1356 Oct 6

- CTD # 015 + Hydro # 015
- it was necessary to redo underwater splice on the .306" cable. flexing of the splice introduced data spikes.

Oct 6

- Haudar Argos tester checked over and found not repairable at sea.

0106 Oct 7

- CTD/Hydro operations suspended.
- steering to Hot Vent mooring site's for recoveries 0800 Oct, 7 (local)

INSTITUTE OF OCEAN SCIENCES																
YEAR	1991	MONTH	Oct.	TIME ZONE	UZT	SHIP	Parizeau			CRUISE	9114		PAGE 2 OF			
DAY	STATION IDENTIFICATION	DEPTH (m)	SHIP STOP/START TIME	LATITUDE	LONGITUDE	STD CONSEC	STD TIME	HYDRO CONSEC	MESSANGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE	SALINITY	LOOP SALINITY	NOTES	
6	LA04	190	1118 1220	48 19.45 125 03.58	013	1125	013	1200	/	2067 2076	/	04			winds up to 30 kts CTD, HYDRO, Loop	
6	LA05	118	1240 1304	48 15.6 125 10.0	014 015	1133 1253									10 Error on CTD restarted cast.	
6	LA06	115	1356 1522	48 12.98 125 16.10	016	1450	016	1515	/	1085 1095	/	05			Problems with CTD Respire Terminated run	
6	LA07	110	1618 1629	48 09.28 125 23.65	017	1620	/									
6	LA08	138	1715 1747	48 05.90 125 30.30	018	1716	018	1738	/	1096 2007	/	06				
6	LA09	370	1831 1850	48 02.54 125 36.83	019	1832	/		/	/	/					
6	LA10	910	1927	47 59.15 125 43.29	020	1928	/	/	/	/	/	/			CTD - 917m	
6	LB15	1515	2155 2306	48 04.33 126 08.46	021	2158	/	/	/	/	/	/			CTD 1580 m 2 1/2 wraps left on drum	
6	LB16	1815	2346 0106	48 00.55 126 16.86	022	2331	/	/	/	/	/	/			CTD to 1800.3 m Suspended CTD/Hydro gas for mooring work at Hot vents	
7																
Oct 8	LB14	1150	0930 1145	48 08.48 126 00.10	023	0933	023	1046 1133	/	2020 18 2041	/	07			CTD - 1157m Hydro 1130m	
8	LB13	915	1205 1254	48 10.65 125 56.13	024	1209	024	1232	19	/	/	/			CTD Cal Bottle. Logged CTD to 888 m Up Also	

Date Time GMT

1400 Oct. 7

- on station Hot Vent RCM mooring
- communicated with Atlantis II
 - they were about to dive app. 1/2 nm from this site and requested clearance for putting Alvin in water
- we moved off to our southern locations i.e. acoustic scintillation moorings
- GPS + Loran were reconciled by ship's officer prior to this and a correction factor for the Loran was applied.

1502 Oct. 7

- conditions are ideal flat calm, low swell, clear
- on station mooring TX
 - enable sent
 - ranges confused by other transponders in the water

1521

- release sent. confirmation received.
- ship moved off 2 cables by drifting.
- listening to chan. 67. VHF beacon

1554

- sighted on surface app. 2 cables abeam portside.
- no signal from VHF beacon.

1611

- on board
- in position to release mooring RX
 - enable sent

1615

- released sent confirmation not definite
- VHF from TX mooring started to work on deck - turned off.

1708

- not surfaced or at least not sighted on surface no VHF signal
- moved back on top of position to attempt release again.

1714

1722

- on position transducer in.
- release sent confirmation not definite
- ranges 2216, 2218, 2215
- the good guess is that RX is still on bottom

Date Time GMT

- 1727
- repeated release sent with questionable or no confirmation
 - range 2214
 - sent disable + enable commands
- 1745
- moved $\frac{1}{4}$ nm to SE
 - sent range 2243, 2243, 2247, 2247, 2250
 - sent release dubious confirmation received - very noisy env.
- 1751
- sent release again.
- 1827
- not on surface after appropriate time
- 1831
- ranges 2315, 2317, 2318
 - conclusion - mooring has not released.
- $47^{\circ}57.160'$ $129^{\circ}05.170'$
@ 1490 m/sec.
- 1835
- due to better acoustic conditions attempt one more release
- 1837
- release sent. - better quality release confirmation
- 1919
- sighted on surface
 - VHF beacon giving signal
- 1930
- RX on board
- 2011
- on station mooring CM - 16t Vent Current meter.
- 2013
- enable sent
 - ranges 2147, 2148, 2148
- 2015
- release sent - confirmation questionable
 - release sent - very good confirmation.
- 2041
- ranged on it during rise
 - 609 $\rightarrow$ 558 m ranges
 - mooring rising
- 2046
- sighted on surface.
 - no signal from VHF
 - (log marked as Navtech Ch. 68, in fact OAR transmitter is mounted on buoy)
 - flashing light working.

Date Time GMT

- Oct 7
- Notes on recovery of CM mooring
- Top instrument slight flooding and had top rotor fouled with tissue paper
NB this does not dissolve out! (may try candy chum)
- heading for LB14 to resume CTD/Hydro work

2140 Oct 7

- Oct 7
- Notes called to I.O.S. Larry Dorosh and arranged for crew change in Banfield 1800 (local) Oct. 8, 91
- asked him to bring mounting block for winch rotor counter for 327 winch
- asked him to bring VHF radio to communicate with ship on Chan. 16

1616

Oct 8

- completed LB10 and informed that we have to divert from LB line to avoid gunnery practice by Canadian navy. (LB 8 and 9 were omitted for this reason)

Notes Oct 8

- we got the Autotel system operating and were sending + receiving calls app. 40 miles offshore i.e. LB 7 str.
Seems like a very useful system.

2048 - 2238

- conducted acoustic transect at lower (LB4-LB1) end of LB line for O. Ecology but did not find the required layer of zooplankton converging with bottom.
- call Dave Mackay for some clarification of their work.

YEAR	1991	MONTH	OCT	TIME ZONE	U Z T	SHIP	PARIZHAN	CRUISE	9114	PAGE	3 OF				
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE	LONGITUDE	STD CONSEC	STD TIME	HYDRO CONSEC	MESSNGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE	SALINITY	LOOP SALINITY	NOTES
OCT 8	LB12	500	1318 4813.03 1435 125 51.92	025 1323	025 1406 1424					2042 2056					CTD To 480m Windspeed = 0.8 kts CTD To 205m Wire $\angle \approx 15^\circ$
8	LB11	205	1459 4815.175 1542 125 47.772	026 1501	026 1531					2057 2067			8		
8	LB10	151	1608 4818.48 1616 125 41.516	027 1610	/								/		
			LB9 LB8 missed due to gunnery practice by the navy. consec #28 + #29 lost when Autotel crashed computer												#28 + #29 garbage
8	LB7	155	1828 4828.61 1833 125 22.12	030 1828	/								/		
8	LB06	113	1918 4832.17 1946 125 15.49	031 1920	31 1938					2068 2075			9		CTD 115m Hydro 110m
8	LB05	100	2015 4833.00 2027 125 12.04	032 2021	/										CTD 100.7m
8	LB04	110	2048 4835.72 2109 125 08.67	033 2049	33 2105					2076 2083			10		CTD 110m Hydro 110m
8	LB03	90	2126 4837.42 125 05.56	034 2129	/								/		CTD 90m
8	LB02	53	2154 4839.08 2211 125 02.56	035 2156	35 2207					1085 1089			11		CTD 52m Hydro 50m
8	LB01	27	2227 4840.43 2238 125 00.04	036 2228	36 2236					1090 1096			12		CTD 27m Hydro 25m
9	LC01	95	0552 4850.44 0618 125 27.3	037 0557	37 0611					1097 2006			13		Hydro to 90m

Date Time GMT

app 0054 Oct. 9

- recovered Baeria Rk Met. Buoy with some difficulty since the capstan could not pick up the anchor weight.

Notes.

Capstan should have a large deck cleat to support the man tending the line.

Capstan brake dog is not reliable. i.e. spring does not keep it engaged.

0343 Oct. 9.

- in Bamfield for crew change

D. Lemon leaves ship. L. Dorosh joins

0552 CTD + Hydro cast O₂ samples.

LC #1

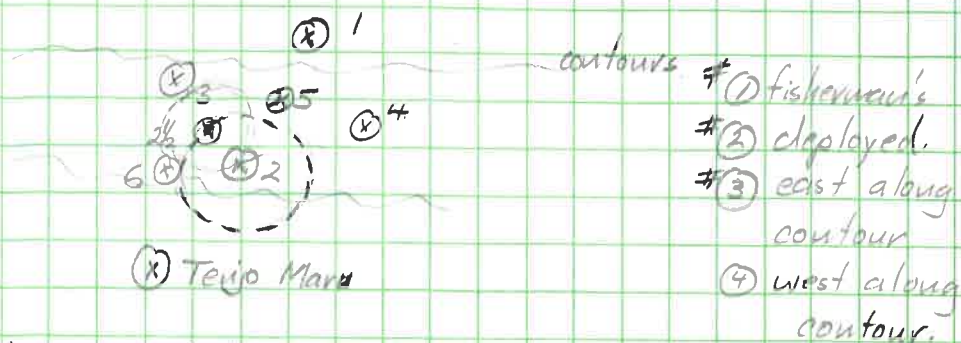
Last bottle at 90m

Depart Stn at 0618 UTC

YEAR	1991	MONTH	10	TIME ZONE	UTC	SHIP	Parizeau	CRUISE	91-14	PAGE	4 OF				
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE	LONGITUDE	STD CONSEC.	STD TIME	HYDRO CONSEC.	MESSANGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE	SALINITY	LOOP SALINITY	NOTES
9	LC02	110	0636 48 48.69 0637 125 30.95	038	0637	38	0650	2007 2014		14					HYDRO to 100m
9	LC03	130	0711 48 47.04 0722 125 34.33	039	0714										CTD 132.6m 125m ^{start} up 0859 BONGO $\angle 10^\circ$
9	LCB3 B8		0843 48 34.50 0908 125 30.00												70m start up 0940 BONGO $\angle 10^\circ$
9	LCB4 B7		0935 48 32.00 0950 125 35.50												
9	LB09	150	1043 48 21.88 1121 125 34.76	040	1046	40	1109	2015 2025		15					CTD - 150m Hydro - 145m
9	LB08	132	1148 48 25.18 1223 125 28.40	041	1154	41	1212	2026 2036		16					CTD = 132m HYDRO = 125m
9	LBA3	118	1250 48 23.5 1312 125 20.8												115m START up 1301 BONGO $\angle 30^\circ$
9	LBA2	127	1408 48 25.59 1428 125 07.77												120 m START up 1416 BONGO $\angle 5^\circ$
9	LBA1 E1	104	1908 48 32.05 1920 125 03.77												Bongo 100m $\angle = 10^\circ$ startup = 1918
9	PC01 C1	149	2016 48 29.100 2035 125 15.25												Bongo 145m $\angle = 7\frac{1}{2}^\circ$ startup = 2027
Acoustic Transects for O. Ecology and Epi-Benthic trawls.															
10	LC04	163	0205 48 43.51 0315 125 40.80	042	0307	42	0255	2037 2046		17					CTD to 158m on bottom

Date Time GMT

- 1506 Oct. 9 #1 - on station mooring C1
position given by fisherman
NB. position given by fisherman and
deployed position are very close
- no response to transpond.
- no pinger signal.
- established search pattern



- #2 - on station deployed position
- got no pinger response
- received strong transpond signal however,
the deck unit did not give ranges
ranging was accomplished by stopwatch
2.2 sec. @ ≈ 1498 m/sec
= 1650 m slant range

1608

- #2 1/2 - on station 1/2 mile NW between 3 and 2
- range 599, 751, 750, 745, 747.
- moved to #5

- #5 - app 1/2 - 3/4 mile NNE of deployed position
- several ranges only 1 faint signal
- we have gone the wrong way.

1638

- #6 - on station
- range 467, 469, 478, 505
- moving 1 cable to east (reverse of drift)
- range 408, 413
- release sent confirmed release

1649

(0949)

1650

- sighted on surface
recovery position : $48^{\circ} 29.60'$ 41737.3
 $125^{\circ} 15.94'$ 28945.5

1803 Oct. 9

- launched mooring C1-N
 $48^{\circ} 29.34'$ $125^{\circ} 14.98'$

Date Time GMT

Oct 9/01

- 100 Start Acoustic transect B' at LCB7
115 Good scattering layer on bottom; stop transect; return to beginning for sled tow
140 Start trawl 50m int. 4828 93 125 26.99
220 Leave trawl str 3:20 - good catch. Head to next spot.
317 Start transect C' at Stn LCB3 → very little scattering layer → too shallow
336 (Oct 10) Start transect D'; little scattering layer; change course for deeper water
200 End transect D', very little layer on bottom → go to LCB4

0205

Oct. 10 - LCB4

- problems with CTD - jogs in temperature case, problem solved by cleaning and regreasing underwater connectors

0501

Changed Sounding paper

CTD → Bragor at LCB6
No wind calm sea

90 M

DAILY LOG

OCEAN PHYSICS

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YEAR	MONTH	DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE	LONGITUDE	STD CONSEC	STD TIME	HYDRO CONSEC	MESSANGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE	SALINITY	LOOP SALINITY	NOTES
1991	Oct																
		10	LC05 60	0357 48°40'	0425 125°47'	43	0402	/	/	/	/	/	/	/	/	/	Bongos To 60m COUNTER 360
		10	LC06 90	0455 48°36'50"	0530 125°53'96"	44	0507	/	/	/	/	/	/	/	/	/	Bongos To 80m COUNTER 550
		10	LC07 135	0605 48°32'83"	0637 126°00'35"	45	0609	045	0629	/	/	2054 2061	/	18	/	/	Hydro to 125m
		10	LC08 195	0711 48°29'50"	0807 126°07'01"	46	0713	046	0750	/	/	2062 2072	/	19	/	/	CTD - 197m Hydro - 190m BONGO - 190m ^{start} up 756 5 ^{am}
		10	LC09 615	0833 48°25'90"	1053 126°13'62"	47	0834	047	1020 1043	/	/	1085 2007	/	20	/	/	CTD - 624m Hydro - 600m ^{mass's 1020/1043} BONGO - 40° ^{start} up 0935 ^{615m}
		10	LC10 1252	1125 48°22'21"	1216 126°20'20"	48	1129	/	/	/	/	/	/	/	/	/	CTD - 1245m
		10	LC11 1525	1249 48°18'95"	1339 126°26'76"	49	1258	/	/	/	/	/	/	/	/	/	CTD - 1553m
		10	LC11 1525	1800 48°18'925"	1804 126°26'738"	50	1804	/	/	/	/	/	/	/	/	/	short cast to 990/150m (examine odd record)
		10	LC11 1760	0854 48°18'498"	26 27.461	51	1816	51	1939 2018	20	2006 2050	/	21	/	/	/	CTD Cal Cast (CTD depth 1545) Tag 2 = 7 1/2 min mass travel time
		10	LCB6 310 A2	2242 48°22'70"	2310 126°03'80"	/	/	/	/	/	/	/	/	/	/	/	Flow 2305
		11	LD11 1590	0355 48°28'91"	126 42 92	52	0356	52	Tag 1 calib.	21	/	/	/	/	/	/	Bongo 43° startup 2257 250m CTD cal Cast depth 1560 Tag # 1 Tag # 2
		11	LD10 1480	0551 48°32'15"	0825 126°36'42"	53	0553	53	0723 0756	22 40	2023 2045	/	/	/	/	/	Hydro 1400m

See
Log
Notes

Date Time GMT

1547 Oct. 10

- on station A1
- range 533, 537 we are right on top.
- moved
- ranges 757, 768, 782
- release sent - confirmed
- sighted on surface.
- (popped up further away than ranges would indicate)

1558

1600

0137 Oct. 11 GMT - launched mooring A1-N
(1737 Oct. 10 PST) in 500 m water
at $48^{\circ}31.836'N$
 $126^{\circ}12.139'W$.

LD 11 calibration Sn

Pause at 0930 PDT sent messenger

Probe stopped 30 metres off bottom at 1560 m
Temperature very stable at $2.532^{\circ}C$ Ratio 0.73530

Probe depth @ 1560 m. (Alt B to Pause data)

Start cast again using Alt B. then tag data
for bottle trip at Messenger + 8 min

After resuming data collection
Temp 2.522 Ratio 0.73520

Tag #1 at messenger + 9.5 min Temp 2.518

Tag #2 @ messenger + 10.5 min Temp 2.514

Probe start up cast at messenger + 11 min

Alt S to Stop data collection at messenger + 12 min
See J Love about header Edit on return to
I.O.S. ALL OK Header changed on
both D & E Drives 5.4

Date Time GMT

Oct. 11 2241

- on station EO1 sent Enable
- ranges 1 acoustic signal no range then no response to multiple ranges
- strong pinger signals from both pingers
- try over-the-side Tx1 sent Enable
- range 698 + several more acoustic signals

2305

- moving right on top of mooring, sent Enable
- range 110 m, 108 m, 106, 107
- moving off but staying within visibility (very foggy day visibility is app 1/4 - 1/2 m.)
- range 237 m, 268 m, 314 m, 328 m

2315

- release sent & confirmed hook away double ping received
- range 357, 377, 369, 368, 334, 328, 323, 314, 311, 302, 290

2317

- sighted on surface

Oct. 12 0130

- on station EO3-M1
- good audio signals not stopping counter
- range 535 m, 539, 542 - on top
- moving farther away app. 2 cables 561, 564, 568, 594, 601, 612, 622

.8.9 sec

0143

- release sent, confirmation not heard due to noise in water
- sent repeated release codes and moved closer

- 646 m 625 m

- sent release confirmed

- 490 m range

- sighted on surface

453 m 442 m

0150

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[illegible]

Sail loop malfunction Over range on remote
temperature sensor noticed at 0350 UTC
Cleaned plug contacts in engine room sensor
box Sail looks good at 0403 UTC 9/10/12

Sta LG02

Messenger sent at 0422

ALT B pressed to pause TLO data 0422

1736.85 Jb

ALT B to restart data at 0429 Temp 2131

1742.35

Probe 10m off bottom

Alt S to end cast at Messenger + 11 min.

Oct 12 91

0700 GMT - LG06 only top cast done 30+ NW

1644 Oct 12

- deployed mooring E01-N at
49° 19.168' 126° 36.960' in 90m.

2146 Oct. 12

- deployed mooring E03-N at
49° 04.468' 126° 56.783' in 500m

LBP8

71

0525 Messenger away CTD @ 1500 m

Temp CTD 2.522
Ratio CTD 0.73461 (8.3 MIN
@ 180M per MIN)

Wire L 5°

ALTB TO PAUSE DATA

ALTB TO START DATA COLLECTION AT
MESSANGER + 8 MIN

Temp CTD 2.531
RATIO 0.73458

ALT S TO HALT DATA AT
Messenger + 10 MIN

Start to bring CTD up.

No tags just pause.

Note No Salinity at depth
bottle spigot was leaking.

Temperature o/k

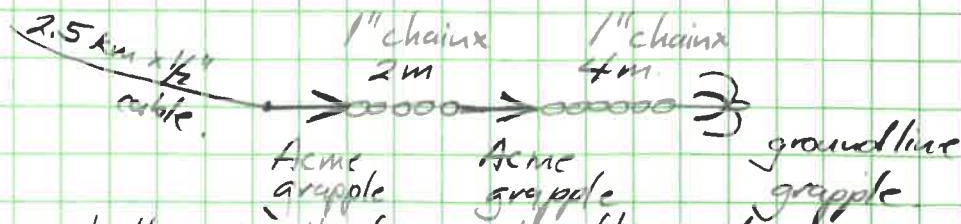
INSTITUTE OF OCEAN SCIENCES					
YEAR	MONTH	TIME ZONE	SHIP	CRUISE	PAGE
1991	OCT	UTZ	Rauzan	9114	7 OF
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP START TIME	LATITUDE	LONGITUDE
			STD CONSEC.	STD TIME	HYDRO CONSEC.
			MESSENGER TIME	HYDRO SALINITY	OXYGEN
			SURFACE TEMPERATURE	SALINITY	LOOP SALINITY
					NOTES
12	LG04	146	0858 49 11 33 0930 126 49 25	66	0900 66
			0921	2040 2048	29
					wind 28+ NW Hydro 140m 143.8
12	LG03	120	1011 49 14 96 126 43 94	67	1012
12	LG02	97	1100 49 18.70 1129 126 38.20	68	1105 68
			1122	2049 2055	30
					Wind 27km CTD 98m HYDRO 95m
12	LG01	47	1143 49 20.52 1210 126 35 17	69	1155 69
			1205	2056 2060	31
					CTD 452m HYDRO
12	LG00	23-30 Swells	1221 49 21.80 1229 126 34.00	70	1225
					CTD = 23m
13	LBP8	2100	0456 49 48.25 128 16.68	71	0454 / 0525
					CTD + CALIBRATION BOTTLE + LOOP
13	LBP7	2200	0643 49 52.25 128 10.94	72	0645 /
					CTD 1500m
13	LBP6	770	0817 49 56.04 0902 128 05.42	73	0821 /
					CTD - 863.7 change depth in cast - see Sounder
13	LBP5	1290	0938 50.00 04 1030 128 00 09	74	0939 /
					CTD 1277.7m
13	LBP4	940	1046 50 01.42 1223 127 58.21	75	1048 75
				1141 1209	2057 2073
					33
					CTD 1009m HYDRO 1000m
13	LBP3	160	1253 50 03.22 1325 127 55.30	76	1256 76
				1317	2074 1085
					34
					CTD 164.2m HYDRO 160.0m < 10°
13	LBP2	95	1337 50 04.00 127 54.20	77	1339 /
					CTD 99m

Date Time GMT

- Oct. 12 1503 - on station BP1-M.
 - range 258 m 272 255 256
 276 279 280 259 266
 - moving off 1 cable for recovery.
 - range 444 m 449
 1515 - release sent confirmation good.
 1516 - sighted on surface.
 1750 - launched mooring BP1-N
 50° 03.73' 127° 53.69'
 in 102 m water.

- Oct. 12 2236 - on station SP04 - right on top
 - bridge can see mooring on sonar.
 - ranging. 69 m? 843 m?
 - inconclusive.
 - pinger signal strong.
 - stopped props to reduce noise
 - ranging inconclusive
 - drifting 1 cable off.
 2249 - release sent. - no confirmation
 - no response to tryd.
 2250 " " - no confirmation

- 2321 - set up for dragging
 - commence dragging ops



- on bottom - will steam 1 cable radius
 - begin laying cable to south
 2330 - turning west
 2348 - completed circle 1 cable radius
 begin to pull in line.
 Oct. 13 0037 - sighted clamshell buoy 1/2 min. later
 sighted torpedo buoy
 0126 - on board complete mooring.

Noticed sail output ocean sensors are out of range again at 0137

Checked cable to Remoto sensor working OK now but cable should be remade and shortened.

LC36 Calibration Sample 79. CTD

Depth 1500 Messenger 0558 ALT B to Pause

Messenger +8 min ALT B to resume data.
Probe Temp 2.499 Rate 0.73375

Messenger +10 min ALT S Bring CTD to surface
Depth 1486.6

OCT 14/91

- 0814 - D. Moore started looking on his sounder for euphausiids on the bottom to drag the spi-benthic sled through to sample the kinds present there. (leaving QCS3 towards QCS2)
- 0902 - on stn QCS2 - few euphausiids near bottom
- lead for D. Mack's sled tow coordinates further south west.
- 0933 - layer of euphausiids on and above bottom (for 15m) dense & thick
- asked ship to turn back to that area
- 0955 - approaching area of thick bottom layer of euphausiids
- changes made to sled = box raised, tow point moved forward, safety strap lengthened with some chain (the short safety cable may have been reason sled had previously sampled poorly)
- 1044 - sled down - towing at 1.6 kts S.E.
- 1055 - sled up - good sample
- 1117 - heading for Queen Charlotte Str.

YEAR	1991	MONTH	OCT	TIME ZONE	UET	SHIP	PARIZOU	CRUISE	9114	PAGE	8 OF 8		
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP START TIME	LATITUDE LONGITUDE	STD CONSEC	STD TIME	HYDRO CONSEC	MESSENGER TIME	HYDRO SALINITY	OXYGEN	SURFACE TEMPERATURE SALINITY	LOOP SALINITY	NOTES
13	LBP1	50	1357	50 04.76	78	1358	78	1408	/	1089	/	35	CTD-48.7m HYDRO-45m
			1415	127 52.92	78	1358	78	1408	/	1096	/	35	
14	LCS6	2050	0520	50 24.65 129 11.30	79	0527	/	0558	24 CALIB	/	/	36	CTD CALIB BOTTAE CALIB SALINITY
14	LCS5	R56	0750	50 33.80	80	0734	/	/	/	/	/	37	CTD -1500m Loop
			0855	129 03.66	80	0734	/	/	/	/	/	37	
14	LCS4	1715	0930	50 34.03	81	0932	/	/	/	/	/	38	CTD -1500m Loop
			1030	128 54.13	81	0932	/	/	/	/	/	38	
14	LCS3	205	1117	50 39.53	82	1121	/	/	/	/	/	/	CTD 205.4m
			1131	128 47.00	82	1121	/	/	/	/	/	/	
14	LCS2	102	1227	50 43.12	83	1230	/	/	/	/	/	39	CTD=95m
			1235	128 33.30	83	1230	/	/	/	/	/	39	
14	LCS1	74m	1313	50 47.77	84	1316	/	/	/	/	/	40	CTD = 76m
			1322	128 29.92	84	1316	/	/	/	/	/	40	
14	QCS3	97m	1500	51 00.26	85	1501	/	/	/	/	/	41	
			1505	128 14.70	85	1501	/	/	/	/	/	41	
14	QCS2	165	1603	51 04.744	86	1604	/	/	/	/	/	42	
			1613	128 03.548	86	1604	/	/	/	/	/	42	
14	QCS1	60	2008	50 54.32	87	2008	/	/	/	/	/	43	CTD 60m-HOME→
			2013	127 39.45	87	2008	/	/	/	/	/	43	
TURN TAIL AND RDI AT 20:45 UTC													