

CRUISE
NUMBER

9530

DAILY LOG
INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

SEPT / OCT

VESSEL

J.P. TULLY

PROJECT

LAPERDUSE / JGOFs

Captain: ANDERSON First Officer: _____
 Second Officer: _____ Third Officer: _____

Cruise Participants / Agencies:

Scientific Personnel: Party Chief: DAVE HACKAS

[illegible]

Second leg of cruise: Party Chief: KE2 DENMAN

[illegible]

Data logging system: Unit no.: _____

Program Name: LAPERouse / JGofS

Program version:

CTD deck unit make: _____ model: _____ serial no.: _____

serial no.:

Computer make: _____ model: _____ serial no.: _____

serial no.:

1st CTD make: _____ model: W0CE serial no.: 59901

model: WOC E

serial no.: 59901

Temperature sensor
model: _____ serial no.: _____

model:

serial no.:

coefficients: slope: _____ offset: _____

offset:

Conductivity sensor
model: _____ serial no.: _____

serial no.:

coefficients: slope: _____ offset: _____

offset:

Pressure sensor range: _____ psi serial no.: _____

psi

serial no.:

coefficients: FSP: _____ dB offset: _____

coefficients: FSP: _____ dB

offset:

Transmissometer

model:

serial no.:

coefficients: slope: _____ offset: _____

offset:

Comments:

Comments:

Comments:

Comments:

28 Sept.

08:30 Transducer Ram put down, lab sounder switched over to Ram.

0900 Fixed bubble trap on Fluorometer

1544 Fluorometer (SAIL) shut down - too much air in system, serious jumping about
(even have to)

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1995		Sept.				95-30								
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
28	LBP1	CTD	2133	BE	76	50 04 876	127 53 124	GPS	50	47				Downcast only.
28	LBP2	CTD	2153	BE	77	50 04 .11	127 54 40	GPS	100	98				Bongat
28	LBP3	CTD	2254	BE	78	50 03 24	127 55 31	GPS	168	164				downcast only
28	LBP4	CTD	2329	BE	79	50 01.04	127 58.13	GPS	998	1012				down only
28	LBP4	CTD	2344	Bo	79/80	50 01.59	127 58.01	GPS		1012				up only.
29	LBP5	CTD	0025	BE	81	50 00.11	127 59.93	GPS	1280	1294				down
29	LBP5	CTD	0043	Bo	81/82	50.00.39	127 59.96	GPS		1295				up
29	LBP6	CTD	0149	BE	83	49 56.26	128 05.25	GPS	700.	770				down
29	LBP6	CTD	0201	Bo	83/84	49 56.78	128 05.01	GPS		772				up
29	LBP7	CTD	0312	BE	85	49 52.43	128 11.43	GPS	2064	2000				down
29	LBP7	CTD	0355	Bo	85/86	49 53.14	128 11.72	GPS	2212	2000	DO# 1-10	DO# 1232-1241		up by Niskin bottles 0-500
29	LJ10	ROS	2316	BE	87	49 11.43	127 54.66		2487	2400.				
30	LJ10	ROS	0001	Bo	87/88						1-13	13		
30	LJ10	ROS	0047	EN		49 11.12	127 54.93							
30	LJ09	ROS	0144	BE	89	49 16.02	127 47.27		2487					
	LJ09	ROS	0155	Bo	89/90					500	14-23	13		
	LJ09		0216		90	49 15.77	127 47.39							

CAST TYPE -

BOT -

bottle cast

ROS -

rosette

USW -

sea water loop

TIME CODE -

BE

backscatter

DO#

DO#

CAST TYPE -

BOT -

CTD -

MOR -

bottle cast

ctd

mooring

ROS -

NET -

DRF -

rosette

net haul

drifter

USW -

sea water loop

TIME CODE -

BE -

BO -

EN -

beginning time of cast

bottom time of cast

end of cast

DE -

MR -

RE -

deployment time

messenger release

recover mooring

POSITION CODE -

RAD -

GPS -

LOR -

RADAR

GLOBAL

LORAN

- Sep. 28, 95 1253 PST launched mooring BP1-V at $50^{\circ}03.639'$ $127^{\circ}53.543'$ in 107 m.
- Sep 29, 95 0800 PDT - on station S-U for recovery.
 - sent XPND no reply. - XPND still off.
 - sent CDE XPND 2511, 2535, 2532
 - mooring on station.
 - 0810 - moved off to a release position.
 - sent release code ABFG 1356? 1369? 2529 release confirmed
 - 0815 - sent release again. release confirmed.
 - sighted on surface app 1 cable to stbd.
 - ship moving away from mooring.
 - 1016 - all on board + cleaned up - heading for mooring "O"
- 1227 - on station O-U for recovery
 - range 2490, 2493, 2517, 2517
 - moving off release position. 2495, 2497 } we are right on top.
 - 1248 - 2534 m range = 414 m distance.
 - sent release code BEG11 2540 m release confirmed.
 - ranges 2568 2571
 - sent release code again release confirmed.
 - 1251 - sighted on surface.
 - 1326 - botbu on surface. 34 min rise time.
 - 1508 - all on board heading for CTD/Rosettes on LJ line.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH			SHIP			CRUISE			PAGE		OF	
95			Sep.			Tully			9530						
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS	
30	LJ08	ROS	0326	BE	91	49 20.03	127 41.11		1754	1735				Downcast	
30	LJ08	ROS	0353	BE	92	49 20.20	127 41.03		1710	1735	24-33	12		Upcast Bottle #10 dribbles	
30	LJ07	ROS	0532	BE	93	49 24.06	127 34.79		1802	1797		0		Downcast	
30	LJ06	ROS	0732	BE	94	49 28.10	127 28.59							Downcast	
30	LJ06	ROS	0742	BO	94/95	49 28.14	127 28.53		991	500					
30	LJ06	ROS	0803	EN	95	49 28.18	127 28.37				50m 34-43			upcast.	
30	LJ05	CTD	0856	BE	96	49 31.68	127 22.32		1001	1000				DOWNCAST	
30	LJ04	ROS	1023	BE	97	49 35.42	127 16.56		160					Downcast	
30	LJ04	ROS	1026	BO	97/98	49 35.42	127 16.57			150					
30	LJ04	ROS	1041	EN	98	49 35.50	127 16.43				44-50	9		UPCAST	
30	LJ03	ROS	1131	BE	99	49 39.12	127 11.38								
30	LJ03	ROS	1135	BO	99/100	49 39.09	127 11.48		127	123					
30	LJ03	ROS	1138	EN	100	49 39.10	127 11.51		8						
30	"G"-U	ROS	1756	BE	101	49 39.08	127 39.12		520	517				Downcast	
30	"	"	1807	BE	102	49 39.06	127 39.44		520	500	51-60	10		Upcast	
30	SEDG	ROS	1909	B	103	49 38.83	127 38.09			200	61	2.		to 200m to get missed bottle	
30	LJ02	ROS	2158	BE	105	49 42.57	127 05.16		82.						
30	LJ02	ROS	22:00	BO	105	49 42.56	127 04.95				62-66			Down Cast	

CAST TYPE -

BOT -

bottle cast
ctd
mooring

ROS -

rosette
net haul
drifter

USW -

sea water loop

TIME CODE -

BE -

beginning time of cast
BO -
bottom time of cast
EN -
end of cast

DE -

deployment time
MR -
messenger release
RE -
recover mooring

POSITION CODE -

RAD -

GPS -
LOR -
RADAR
GLOBAL
LORAN

LJ04
LJ03

0340
1130

Sept 30/95

Sep. 30

0800

- on station mooring G-U for recovery
- crew clearing deck for mooring ops.

0842

- on station. 578 m, 581 m, 511 m. = 289 m away.

- moving off station to release position

0846

- ranged from release position 622 m 641 m = 401 m away

- sent release code ABEF release confirmed

- sent release again release confirmed

- no ranges

0849

- sighted on surface.

0853

- all floating on surface.

1014

- all onboard

- the 50 m kevlar line above the sediment trap was tangled and cut app. 3 ft. above the trap top bridle necessitating re-trapping of the mooring starting with the sediment trap.
- this op. worked well considering 20-25 knot winds we were working in.

13513

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR	MONTH				SHIP		CRUISE						PAGE		OF	
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS		
30	LJ02	ROS	2200	BE	106	49 42.56	127 04.96	GPS	82	75	62-66	5		Upcast		
30	LJ02	ROS	2207	EN	106	49 42.58	127 04.87	GPS								
30	LJ01	CTD	2259	BE	107	49 44.30	127 02.74	GPS	63	58						
30	LJ01	"	2301	BO	107/108	49 44.26	127 02.73	GPS				0				
30	LJ01	"	2302	EN	108	49 44.27	127 02.72	GPS								
01	LH02	ROS	0047	BE	109	49 32.23	126 47.24		56							
1	LH02	ROS	0049	BO	109/110	49 32.20	126 47.18			52	67-70	4				
1	LH02	ROS	0055	EN	110	49 32.19	126 47.09									
1	LH03	CTD	0148	BE	111	49 28.63	126 52.70		102	87				down		
1	LH03	"	0151	BO	111/112	49 28.61	126 52.73			86		0		up		
1	LH03		0153	EN	112	49 28.59	126 52.76									
1	LH04	ROS	0255	BE	113	49 24.94	126 58.64	GPS	130	124						
1	LH04		0259	BO	113/114	49 24.89	126 58.57	"			71-76	6				
1	LH04	ROS	0309	EN	114	49 24.86	126 58.39	"								
1	LH05	CTD	0403	BE	115	49 21.35	127 04.52	GPS	126	120						
1	LH05	CTD	0409	BO	115	49 21.25	127 04.49	"								
1	LH06	ROS	0458	BE	116	49 17.53	127 10.48	GPS	492	475	77-81	10				
1	LH06	POS	0509	BO	116	49 17.59	127 10.40	"								
			0539	EN	117	49 17.57	127 9.45	"								

CAST TYPE -

BOT -

CTD -

MOR -

bottle cast

ctd

mooring

ROS -

NET -

DRF -

rosette

net haul

drifter

USW -

sea water loop

TIME CODE -

BE -

BO -

EN -

beginning time of cast

bottom time of cast

end of cast

DE -

MR -

RE -

deployment time

messenger release

recover mooring

POSITION CODE -

RAD -

GPS -

LOR -

RADAR

GLOBAL

LORAN

30 Sept

LH02 1500h CTD / Rosette Bengo New

LH01 1559h CTD
1615 depart for LH02 → LH11

LH02-LH06 - completed by 2248 PDT 30 Sept

Oct 1, 95
1321 PST

- deployed mooring "OII-V" in 2500 m (corrected) depth.
at site of usual "O" mooring.

anchor launch = $49^{\circ} 07.559'$ } Sci. GPS
 $127^{\circ} 44.119'$

= $49^{\circ} 07.541'$ } Bridge GPS
 $127^{\circ} 44.135'$

- turned on descending mooring and watched top buoys submerge.
sink position = $49^{\circ} 08.150'$ } Bridge log.
 $127^{\circ} 43.926'$

- sink time 1341 PST 20 min descent time 2.1 m/sec $\approx$ 4 knts

- stayed on site app 1/2 hour visual search of surface for rising buoys
if mooring broke after launch.

- surface search was accompanied by search using Argos locator app 1/2 mi range.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH				SHIP				CRUISE				PAGE		OF	
95		Oct				Tully				9530							
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS			
1	LH07	ROS	0632	BE	118	49 13 73	127 15 02	GPS	1430	1425				water forced traps 2 @ 200m			
1	LH07	sin	0714	BE	119	49 13 73	127 15 02	{		1203		6		3 @ 1200m 3 @ 200m			
1	LH08	ROS	0840	BE	120	49.09 68	127 22 55										
1	LH08	ROS	0922	Bo	120	49.09 61	127 22 31				1434						
1	LH08	ROS	0924	BE	121	49 09 587	127 22 303				498	87-96	10		upcast from 500 m		
1	LH08	ROS	0944	EN	121	49 09 61	127 22 18	{									
1	LH09	ROS	1034	BE	122	49 05 59	127 28.69			2000.							
1	LH09	ROS	1106	Bo	122/23	49 05:46	127 28.52				2041.	97-106	10		upcast		
1	LH09	ROS	1148	EN	123	49 05.33	127 28.16										
1	LH10	ROS	1257	BE	124.	49 00.50	127 36.51	GPS	2386								
1	LH10	ROS	1330	Bo	124/25	49 00.46	127 36.21	{		2382	107-118	12		20 m above bottom (mud on weight)			
1	LH10	ROS	1416	EN	125	49 00.69	127 35.55										
2	SEDO	ROS	0232	BE	126	49 06 87	127 44.29			2507.		119-141	23.				
	↓	↓	0305	Bo	126/27	49 07.13	127 44.73				2003.						
	↓	↓	0353	EN	127	49 07.86	127 45.02	{									
2	SEDO	ROS	1406	BE	128	49 07.51	127 45.21			2504.		142-159	18		repeat 1900 + 1500 for POC/N		
	↓	↓	1437	Bo	128/29	49 07.67	127 45.52				1900.				actually 18 were tripped		
	↓	↓	1521	EN	129	49.08.15	127 45.89								doing S ₂ O ₂ to 1d the bottles		

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
ctd
mooringROS -
NET -
DRF -rosette
net haul
drifter

USW - sea water loop

TIME CODE -

BE -
BO -
EN -beginning time of cast
bottom time of cast
end of castDE -
MR -
RE -deployment time
messenger release
recover mooring

POSITION CODE -

RAD -
GPS -
LOR -RADAR
GLOBAL
LORAN

1 Oct 95 Finished LH 2 → 10
missed LH 11 & Bongo at LH 09

~1400 PDT Deployed Sed trap OII-V traps at 1900, 500, 200 m

1932 PDT SEDO Cast 23 bottles @ 1900, 1500, 1000, 500, 300, 200
4 4 4 4 4 3

2 Oct 0705 PDT SEDO cast 2 1900, 1500, 250, 150, 125, 100
1 1 4 3 3 3

- Oct 2, 95 1107 PST
- launched mooring OI-V app 1/2 mile to south of OII-V
at position = $\begin{matrix} 49^{\circ} 07.056' \\ 127^{\circ} 44.101' \end{matrix}$ } Sci. GPS
 $\begin{matrix} 49^{\circ} 07.088' \\ 127^{\circ} 44.130' \end{matrix}$ } Bridge GPS
 - depth (corrected) = 2504 m.
 - followed top components of mooring to observe submergence.
at position = $\begin{matrix} 49^{\circ} 06.996' \\ 127^{\circ} 42.332' \end{matrix}$ } app 800 m off. anchor launch position.
 - submerge time 1122 = 15 min. = 2.78 m/sec app 5 knots.
 - stayed on site app. 1/2 hr. for surface search assisted by Argos receiver to listen for Argos beacons.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1995		Oct		Tully		9530								
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
2	SEDO	ROS	2018	BE	130	49 06.62	127 44.07	GPS						2 extra bottles tripped
2	SEDO	ROS	2041	BO	130/131	49 06 533	127 44 026	GPS	2511	1500m	162-182	21		should have been 19
2	SEDO	ROS	2117	EN	131	49 06 45	127 44.09	GPS						Bongo SW 61 to 250m
2	SEDO	ROS	2307	BE	132	49 6.51	127 44.12	GPS	2509		183-194	12		To 40m → 12 bottles
2	SEDO		2309	BO	132/133	49 6.48	127 44.13	GPS		40.				all worked, brought
2	SEDO	✓	2324	EN	133	49 6.46	127 44.15	GPS						to surf every 2 to check
3	LG08	ROS	0236	BE	134	48 55.22	127 13.20		2066					250m plankton haul.
3	LG08	ROS	0307	BO	135	48 55.59	127 13.08	GPS		2061	195-204	10		upcast, bottles @ 500-0 (195-204)
3	LG07	CTD	0436	BE	136	48 59.54	127 07.51	GPS	1744	1735				CTD only
3	LG06	ROS	0615	BE	137	49 03.51	127 00 84	GPS	980	856				downcast (205-214)
3	LG06	ROS	0632	BO	138	49 03.90	127 00.49		828	856	205-214	10		upcast 205-214 bottles 500-0
3	LG05	CTD	0745	BE	139	49 7 43	126 55.31	GPS	272	271		✓		CTD
3	LG04	CTD	0845		140	49 11	126 49	GPS	142					CTD down
3	LG04	ROS	0849	BO	141	49 11.33	126 49.21	GPS		136	215-221	7.		Rose up
3	LG03	CTD	0952		142	49 15.02	126 43.69		123	120				
3	LG02	ROS	1057	BE	143	48 18.59	126 38.11		105	75				CTD down

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
ctd
mooringROS -
NET -
DRF -rosette
net haul
drifter

USW - sea water loop

TIME CODE -

BE -
BO -
EN -beginning time of cast
bottom time of cast
end of castDE -
MR -
RE -deployment time
messenger release
recover mooring

POSITION CODE -

RAD -
GPS -
LOR -RADAR
GLOBAL
LORAN

Oct. 3, 95

- on station 0843 PDT. F01-U.
- 30 knot winds - marginal conditions.
- sent XPN D no response.

0848

- sent XPN D ON CDF

- sent XPN = 301 m, 240 m, 320 m, 258 m, 263 m = 243 m distance
drifting away 307 m, 283 m

0851

- sent release ABCE 366 m, 312 m = 295 m.
no response. 345 m.

- moved on station again.

0859

- sent XPN D 104 m right on top 106 m $49^{\circ} 16.953'$
 $126^{\circ} 35.542'$

- 130 m drifting away = 83 m away.

- 143 m = 102 m

- 168 m = 134 m

- 179 m = 148 m

- 276 m = 257 m

0904

- sent ABCE release positive response

0905

- sighted on surface

0921

- first CM on board

0933

- release on board

0937

- all on board

1349

- call Long Beach Park Warden Doug Clark. 726-7165 to confirm serial number of glass ball they found in Jul/Aug. #3610.

- there is a glass ball #36103 on RW1-T

- warden confirmed there is a 5th digit which looks like a "3" or a "7" - faded. - looks bad for RW1-T

- we will go there tonight, to acoustically confirm whether mooring is there or not.

Oct. 3 - 95

- launched mooring EOI-V 1345 PST
in 101 m water (corrected depth) at $49^{\circ}17.000'$
 $126^{\circ}35.618'$
- left out the 35 m instrument due to lack of spare
instruments on board and failure of one of the
recovered EOI-U instruments.
- depart for RWI-T immediately after launch.

Oct 3, 95

1805

- on station RWI-T for recovery.
- sent XPND - no response.
- sent XPND-ON CDF - range 109 m, 63, 80 ??
- on top of mooring - heard pinger signal only one pinger.
- tried omni-directional transducer - no responses.
- back to ship's transducer on ram.
- sent CDF - no responses 300 m away
- drifting fast in gale
force condition.

1832

- back on station range at 410 m 300 282 m. sent release code. no response
- 398 m 275 m. " " again " "
- pinger signal heard 393 m 259 m 227 m range - sent release no response
- 337 m 220 m again.
- 272 m. " no response.
- 244 m. } not rising.
- 234 m. }

1841

- sighted on surface.
- recovered all

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1995		October		Jully		9530								
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
3	LG02	ROS			144									Route up
					145									
3	LG02		1101	BO	146	49 18.57	126 38.05				222-226	5		
	LG02		1114	EN	146	49 18.54	126 38.09							
3	LG01	ROS	1204	BE	147	49 20.56	126 35.10		55	42				
	LG01	ROS	1206	BO	148	49 20.50	126 35.08				227-230	4		
4	LD01	ROS	0249		149	49 02	125 43.76		39	26.7	—	—		
4	LD02	ROS	0321	BE	150	48 58.34	125 46.92		44					downcast
4	LD02	ROS	0323	BO	150/151	48 58.29	125 46.83			38	230-235			upcast
4	LD03	CTD	0400	BE	152	48 56.54	125 50.36		50	48				CTD
4	LD04	CTD	0513	BE	153	48 35.05	125 57.30		65	63				Switched to 58483 (CTD)
4	LD05	CTD	0559	BE	154	48 49.63	126 03.77		92	90				CTD
4	LD06	CTD	0651	BE	155	48 46.00	126 10.32		136	125				CTD
4	LD07	CTD	0743	BE	156	48 42.59	126 16.84		455	460				CTD ONLY
4	LD08	CTD	0847	BE	157	48 39.11	126 23.39		776	752				CTD ONLY
4	LD09	CTD	0958	BE	158	48 35.67	126 29.95		1050	1001				CTD ONLY 3A.M.
4	LD10	CTD	1110	BE	159	48 32.14	126 36.55		1468	1470				CTD ONLY

CAST TYPE -

BOT -

bottle cast

ROS -

rosette

USW -

sea water loop

TIME CODE

BE

bottom echosounder

CAST TYPE - BOT - bottle cast
 CTD - ctd
 MOR - mooring
 ROS - rosette
 NET - net haul
 DRF - drifter
 USW - sea water loop

TIME CODE - BE - beginning time of cast
 BO - bottom time of cast
 EN - end of cast
 DE - deployment time
 MR - messenger release
 RE - recover mooring

POSITION CODE - RAD - RADAR
 GPS - GLOBAL
 LOR - LORAN

UTC: PST + 7hrs

Oct. 4, 95

- 0820
 - on station A1-U-3
 - sent XPNL command 534 m 532 m, 539 m = 187 m distance.
 - moved off station ranges 787, 791 m = 600 m distance.
 - too far moving closer
- 0839
 - stopped again too close i.e. 535 m range. = 190 m distance.
 - decided to stop and drift off then release.
ranges 520, 519, 517, 518, 520, 534 = 234 m distance.
 - beginning to drift away
 - 536, 537, 532, 518 getting closer??
 - moved ship.
- 0852
 - range 582 m. = 330 m distance.
 - sent release ABEH got positive response.
 - sent release again got positive response.
 - range 690 m.
- 0854
 - sighted on surface app 2 cables off starboard quarter.
- 0945
 - all on board. small tangle.
 - servicing instruments & mooring on site.
- 1300
 - 1200 PST Oct. 4, 95 launched mooring A1-V in 500 m (corrected)
 - depth @ 48° 32.019' 126° 12.484

key way!

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1995		Oct.		TULLY		95-30								
DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
4	LD10	CTD	1146	END	160	48 32 01	126 36.52	GPS	1468	1470				upcast.
4	LD11	CTD	1225	BE	161	48 28 59	126 43 05	GPS	1580	1586				down.
4	LD11	CTD	1303	END	162	48 28 69	126 43 34	GPS		1586				upcast.
4	NEWS	ROS	2033	BE	163	48 31 493	126 12 619	GPS	615					
4	NEWS	ROS	2044	BO/BE	163/164	48 31 445	126 12 617	GPS	615	606.	235-245	11.		A1 mooring site
4	NEWS	RO	2107	EN	164	48 31 420	126 12 696	GPS	115					end of upcast
5	D15A	ROS	0442	BE	165	48 26.10	124 30.05	GPS	237					downcast.
5	D15A	ROS	0447	BO	166	48 26.14	124 29.79	GPS	236	226.	246-253	8		upcast
5	D14A	ROS	0627	BE	167	48 21.84	124 15.03	GPS	202					downcast
5	D14A	ROS	0632	BO	168	48 21.80	124 15.03	GPS	200	192	254-261	8		upcast
	D13A	ROS	0815	BE	169	48 17.74	124 00.07		189					downcast
	D13A	ROS	0819	BO	169	48 17.74	123 59.98	GPS	189	174	262-269	8		downcast upcast
	D12A	ROS	0953	BE	170	48 15.28	123 44.97		173	170				Downcast
	D12A	ROS	0957	BO	171	48 15.34	123 44.97			170	270-277	8		up cast Rosette Dc
5	D11A	ROS	1154	BE	172	48 13 96	123 30 06		172.	160				down.
5	D11A	ROS	1158	BO	173	48 13 94	123 30 07			160	278-285	8		up + bottles.

CAST TYPE - BOT - bottle cast
CTD - ctd
MOR - mooring

ROS - rosette
NET - net haul
DRF - drifter

USW - sea water loop

TIME CODE - BE - beginning time of cast
BO - bottom time of cast
EN - end of cast

DE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE - RAD - RADAR
GPS - GLOBAL
LOR - LORAN

Oct. 5, 95

- on station CRD1-H. 0810 PDT.

- sent range - no reply.

- sent XPND-ON - sent range - no reply - too far

0825

- moving closer - on station - range had to be lowered

- sent repeated CDF commands + range commands without success.

- changed to chunking transducer

- sent CDF sent range.

= 81 m 88 m distance = 67 m.

= 86 m 94 m 75 m

= 87 m 97 m

103 m 117 m

105 m 121 m = 106 m

0836

- sent release code - got positive response

- on surface. app. 100 - 120 m on stbd side.

0845

- all on deck

0912

- on station CRD5-H.

- XPND already enabled from CRD1-H (same XPND ON code)

- range 57 m 70 m 64 m 64 m 65 m.

0920

- on top of mooring - moved off

- 161 m 160 m

- sent ADEH. positive response.

- on surface.

- prepare moorings (CRD1-I, CRD5-I) for redeployment.

- complete CRD CTD station grid.

Oct. 5, 95

- deployed CRD 1-I mooring in 63.9 m water at
position $48^{\circ} 23.912'$ $123^{\circ} 24.143'$ at 1145 PST

- deployed CRD 5-I mooring in 59.4 m water at
position $48^{\circ} 23.749'$ $123^{\circ} 20.888'$ at 1319 PST.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

[illegible]

CAST TYPE -	BOT -	bottle cast	ROS -	rosette	USW -	sea water loop
	CTD -	ctd	NET -	net haul		
	MOR -	mooring	DRF -	dritter		

TIME CODE -	BE -	beginning time of cast
	BO -	bottom time of cast
	EN -	end of cast

DE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE -	RAD -	RADAR
	GPS -	GLOBAL
	LOR -	LORAN