

CRUISE
NUMBER

#9935

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

Sep. 21 - Oct. 3/4, 99

VESSEL

J. P. Tully

PROJECT

La Perouse / Globec / CRD
Juan de Fuca

Captain: Bill Noon First Officer: Andy Quay
Second Officer: Simon Third Officer: Patty Murphy
Cruise Participants / Agencies: _____
Scientific Personnel: Tom Johnson

Scientific Personnel: Party Chief: Tom Jukasz

Name	Watch	Cabin	Name	Watch	Cabin
Doug Yelland		17			
Doug Moore		G			
Maira Galbraith		D			
Lorne Johansen		B			
Joe Needoba		C			
Dave Spear		F			
John Love		H			
Bernard Minkley		E			

Second leg of cruise: _____ Party Chief: _____

[illegible]

Data logging system: Unit no.:

Program Name:

Program Name: _____

CTD deck unit make: Seabird model: _____

Computer make: _____

Program version: _____

serial no.: 114

serial no.: _____

1st CTD make: Sensbird model: 911+ serial no.: 0443

Temperature sensor model: serial no.: serial no.: offset:

Conductivity sensor model: _____ serial no.: _____ offset: _____

coefficients: slope: _____

Pressure sensor range: _____ psi serial no.: _____

coefficients: FSP: _____ dB offset: _____

Transmissometer model: serial no.: 198 D
coefficients: slope: offset:

Comments:	Co 1729	Fluorometers: Sea Tech after cast
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To 2023

1764

T, ?

2nd CTD make: _____ model: _____ serial no.: _____
Temperature sensor _____ model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
Conductivity sensor _____ model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
Pressure sensor range: _____ psi serial no.: _____
coefficients: FSP: _____ dB offset: _____
Transmissometer _____ model: _____ serial no.: _____
coefficients: slope: _____ offset: _____

Winches:

1. make: _____ model: _____ serial no.: _____ use: _____
2. make: _____ model: _____ serial no.: _____ use: _____
3. make: _____ model: _____ serial no.: _____ use: _____
4. make: _____ model: _____ serial no.: _____ use: _____
5. make: _____ model: _____ serial no.: _____ use: _____
6. make: _____ model: _____ serial no.: _____ use: _____
7. make: _____ model: _____ serial no.: _____ use: _____

Salinometer: make: _____ model: _____ serial no.: _____

SAIL System:

Program version: _____ Time zone: _____
Sampling interval: _____ sec
CTF module no.: _____ serial no.: _____

Remote temperature _____ model: _____ serial no.: _____
Flow sensor _____ model: _____ serial no.: _____

Other sensors: (special for this cruise)

Name: _____ module ID: _____ serial no.: _____
Name: _____ module ID: _____ serial no.: _____
Name: _____ module ID: _____ serial no.: _____

Comments: _____

ADCP Setup:

Program version: 248 DAS number of depth bins: _____
Time zone: UTC bin length (2x): 4 (9 m)
Sampling interval: 2 min sec pulse length: _____
Blank beyond transmit: 1 m pings per ensemble: 1
Pulse cycle time: _____
% pings good threshold: _____

Comments: - Deck unit temp monitored for AGC "calibration"
- occasional communications problems - resets program
Doug Veland

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH			SHIP			CRUISE			PAGE		OF	
1999			Sept.			Tully			9935						
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
22	EFF13	ROS		BE	1	48 56	48	125 10 74	GPS	107	95.7	1 - 8	8		
22	EFF13	ROS		BO	1				GPS						
22	EFF13	ROS	0617	EN	1	48 56	45	125 10 80	GPS						
22	EFF12	ROS	0647	BE	2	48 58	00	125 10 52	GPS	95		9 - 15			
22	EFF12	ROS		BO	2	48 57	99	125 10 47	GPS						
22	EFF12	ROS	0700	EN	2	48 57	98	125 10 49	GPS						
22	EFF11	ROS	0727		3	48 59.10		125 11 04		87		16 - 22	7		Bad data
22	EFF11	ROS													
22	EFF11	ROS	0739			48 59.12		125 11.05							
22	EFF10	ROS	0800		4	48 59.86		125 11.20		97		23 - 29			
			0804		4						97.				
			0812		4	48 59.86		125 11.22							
22	EFF09	ROS	0827	BE	5	49 00.12		125 10.84		61		30 - 35	6		
			0835	EN	5	49 00.12		125 10.83			57				
22	EFF08		0853	BE	6	49 00.69		125 10.21		87		36 - 42	7		
				EN	6										

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

Date. Time PDT

Sep 21 1548 - on station JF2C-C

- sent CDF

- ranges 212 217, 220 = app. 126m dist.
- moving off to release position app 1-1/2 cable off

- range 294, 281, 277, 270 = app 210m

1601 - sent ACDF

- received positive response
238 236 235 231

- sent ACDF

- received positive response

1609
1620

- sighted on surface
- recovered. - no problems
- light slime coat.
- right working.

- head for Effingham Inlet

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22	EFF07	ROS	0927	BE	7.	49 01.26	125 09.38		120		43-50	8.			
				EN	7	49 01.26	125 09.37			114.					
22	EFF06	ROS	0959	BE	8.	49 01.80	125 09.17		135		51-59	9.		Bad date.	
			1018	EN		49 01.80	125 09.18			149.					
22	EFF05	ROS	1033	BE	9.	49 02.56	125 09.15		206.		60-70	11		salinity difference between	
			1055	EN		49 02.54	125 09.15			195				pri + sec of .031	
22	EFF05	NET	1130		10	49 02.56	125 09.17			150				For capture of HIR eggs Mermaid net haul	
22	EFF01	ROS	1613	BO	11	49 05.55	125 11.68		35	30.	71-74	4			
	EFF02	ROS	1654	BE	12	49 05.02	125 10.33		70	65	75-80	6			
			1703	EN		49 05.00	125 10.31								
	EFF03	ROS	1722	BE	13	49 04.28	125 09.50		122	117	81-88	8			
			1732	EN		49 04.26	125 09.47								
	EFF04	ROS	0554	BE	14	49 03.08	125 08.48		55	50	89-93	5			
			0559	EN		49 03.06	125 08.60								

CAST TYPE -

BOT -

bottle cast

ROS -

rosette

USW -

sea water loop

TIME CODE -

BE -

beginning time of cast

DE -

deployment time

POSITION CODE -

RAD -

RADAR

CTD -

ctd

NET -

net haul

BO -

bottom time of cast

MR -

messenger release

GPS -

GLOBAL

MOR -

mooring

DRF -

drifter

EN -

end of cast

RE -

recover mooring

LOR -

LORAN

Date Time (PDT)

Sep. 22 0800 - on station CTC 3 - A.

124, 123 = 34 m horizontal
- moving off to release position

0814 - 218, 217 m ranges

- sent CDEH
- received confirmation

0816 - sighted on surface.

- recovered without difficulty.

- OSU trap is upside down.
- timer badly pitted.
- light slime coating on all components.

- head for EFFF01 for Rasettes.

- completed EFFF01 — EFFF04

Sounder
*

- sounder toggle switch is broken + not
repairable with resources on ship
- lab. is without sounder.

- called I.O.S. Electronics - got Dave Gantly
proposed getting unit off Vector + given Mary

- Dave called back — they can't help Vector
away from I.O.S.

1207 - on station CTC 11-A for recovery

- ranges 82, 81 — directly on top

1213 - moved off to release position
ranges 265, 265, 262.

- sent DEGH
- received positive response

1214 - sighted on surface.

- recovered without incident but OSU
trap timer is flooded, apparently on
deployment caps had not rotated at all

Sounder

- toggle switch fixed in neutral position and
Keypad being used — works but only
barely

Date Time

- Sep 22 1230 - contacted Mary to come and join ship for sediment trap servicing.
- heading into Barkley Sound, Inlet to Port Alberni
- Mary is bringing a few items we need and taking back the ADCP and recovered paired release set from JF2C mooring.
- 1600 - arrived Port Alberni
- 1630 - Mary and Mini arrived and start sediment trap servicing.
- 2300 - Mary & Mini leave ship.
- ship leaves Port Alberni for Alberni Inlet stations.
-

02130

Tried to move feed rollers of CTD which into proper alignment of cable. When gear disengaged, I was unable to move assembly.

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23	PA1	ROS	0639	BE	15	49 13.96	124 49.08				94-97	4		
23	PA2	ROS												
23	A0	ROS	0715	BE	16	49 12.17	124 49.15		58		99-108	10		
23	A1	ROS	0751	BE	17	49 09.86	124 48.64		112		109-120	12		
23	PA13	ROS	0832	BE	18	49 07.72	124 48.47		134		121-129	9		acid flushed cells, still difference of .030
23	A4	ROS	0930	BE	19	49 02.63	124 51.23		292		130-141	12		
23	A5	ROS	1028	BE	20	48 59.56	124 53.57		354		142-155	14		
23	LD01	ROS	2151		21	49 00.04	125 44.01	✓	34		156-159	4		use poly 0, use poly 1 voltage number 0, 2
23	LD02	ROS	2233		22	48 58.29	125 47.39	✓	40		160-164	5		
		Net	2304		23	48° 58.29	125° 47.39'		41	40				0-40 Bongo
23	LD03	ROS	2335	BE	24	48° 56.55	125° 50.42'		43.6					
			2341	EN		48° 56.50	125° 50.44'			40				

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

Date Time PDT

Sep. 23 -0800 - on station CTC3 for deployment.

-0910 -deployed CTC3-B in 114 m water
on position 49° 04.353'
125° 09.475'

- cup #10 on OSU trap 14
was open to the funnel
overnight Sep. 22
- controller #15 used.

-off to CTC11.

-1055 -deployed CTC11-B in 83 m water.
at position 48° 59.13',
125° 10.86'

- cup #4 on OSU trap 16 was open to
the funnel overnight Sep. 22.
- head out to nearshore end of LD Line.

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99			Sep.			Tully			9935								
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24	LD04	ROS	0040	BE	25	48° 53.23'	125° 56.95'	✓	59	55	165-170	6					
			0051	EN		48° 53.19'	125° 56.96'										
	LD04	Net	0103		26	48° 53.19'	125° 56.86'		57	50				0-50 Bongo			
24	LD05	ROS	0204	BE	27	48° 49.73'	126° 03.33'		87	82							
			0210	EN		48° 49.74'	126° 03.27'										
24	LD06	ROS	0300	BE	28	48 46.33	126 10.16	✓	134	130	171-179	9					
				EN		48 46.50	126 9.80										
24	LD07	CTD	0419	BE	29	48 42.73	126 16.79		530								
			0443	EN		48 42.91	126 16.88										
24	LD08	ROS	0543	BE	30	48 39.19	126 23.58		785		180-196	17					
			0632	EN		48 39.19	126 24.05										
24	LD09	CTD	0727	BE	31	48 35.70	126 30.04		1045								
			0805	EN		48 35.71	126 30.19										
24	LD10	ROS	0856	BE	32	48 32.22	126 36.65		1469		197-216	20					
			1011	EN						1482							
24	LD11		1102	BE	33	48 28.73	126 43.00		1588								
			1132	BO		48 28.56	126 43.05			1616							
				EN													

CAST TYPE -

BOT -

bottle cast

CTD -

ctd
mooring

ROS -

NET -
drift

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

Date Time PDT

Sep 24 0800

- en route to recovery of EOI
- large swell 2-3m swell 5 form warnings new front moving in

- check condition of cable A301592-97
 $\phi =$.3220, .3190, .3210, .3200
.3220, .3210, .3205, .3245,
.3230, .3195, .3185, .3200,
.3185

- range .3185 $\rightarrow$.3245 suggests
cable is oval

ϕ below .3210 is below lowest
limit (tolerance of the AMI sheave)

- rust products accumulating under
spooling sheave

- outer armour has lost enough
material that a wire width gap
has opened up between the wire
lays

- took picture documentation.

* - decide to go back to $\frac{3}{4}$ bright
cable ie still galvanized.

- this may mean a reduction by a
significant length of cable.

- spooled off 500m $\phi =$.3185 - .3210 low
end

- cable still oval + loose outer armour. $\phi =$.3260 - .3280 high
end
- spooled off another 300m (800 in total)

$\phi =$.3270, .3215, .3230, .3215
.3255, .3250, .3240, .3250.

- lower end above .3210 tolerance
and round

- cut here and reterminated.

Date Time PDT

Sep. 24 0952 - on station EOI-CC for recovery

0959 - stopped app. 100 m off

- 146, 140, 146
- drifting off" to release position
- 136, 129, 121, 124, → 134
- 141 → 144
- 167 → 170
- 182

1005 - sent BCFG - received positive response.

1006 - sighted on surface.

1303 - on station Nootka TG - D for recovery by dragging.

- listened with Mesotech command unit app 60 m off station

- no call ping. after repeated attempts

- sent 05 code - no response
repeated commands without success

- listened with both Mesotech + OML pinger receivers - no signal

- drifted directly over mooring site listening with pinger receivers without success

- ship has generator mode off

- dropped marker buoy as we pass over site in preparation to drag.

- launched stbd. boat to drag Dave Spear on board

- boat cooling system failed

- water pump impeller shot

- repair would take too long.

- launching port side boat.

- boat on mooring site + listened with pinger receiver - no signal

- drag line deployed and mooring site circled

3 times app 1 cable diameter

- end of drag in transferred to ship and drag array hoisted on board

- mooring not recovered but marker buoy was - drag reasonably effective.

- no signals, no success with drag assume mooring not on site.

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25	muc1	ROS	0219	BE	34	49°37.51'	126°03.56'	GPS	124	119	217-224	8		bad header
			0231	EN		49°37.56'	126°03.61'							
25	M5km	ROS	0308	BE	35	49 39 03	126 5 60		166	163	225-234	10		
			0325	EN		49 39 00	126 05 53							
25	MUC2	ROS	0403	BE	36	49 40 20	126 09 50		366	360	235-248	14		bad header
			0428	EN		49 40 11	126 09 51							Mac line cancelled
25	CS1B	ROS	2220	BE	37	50 52.89	128 40.16		69		249-254	6		due to SAR call
			2238	EN		50 52.81	128 40 26							
25	CS1B	Bongo	2248		38	50 52.81	128 40.34		69	65				BONGO TO BOTTOM
26	CS08	ROS	0050	BE	39	51°08.52	128°35.93'		139					
			0100	EN		51°08.54	128°35.98'							
		Bongo	0124		40	51 08.32	128 36.22		139	0-50				
		Bongo	0132		41	51 08.52	128 35.93		139	0-135				
			1332											
26	CS07	ROS	0227	BE	42	51°04.53'	128°44.06'				255-260	6		
			0235	EN		51°04.54'	128°44.15'							

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

Date Time PDT

Sep 24 2130 - work along Mucelat stations interrupted after station MUC3

*SAR

- ship is tasked with SAR duty to locate 2 fishermen in life raft around Cape Scot
- 40 ft trawler in trouble + crew abandoned it
- Port Hardy lifeboat, CCGS Gordon Reid and DND vessel in Ucluelet all tasked to respond
- we are the farthest away (12 hours) but still going.
- oceanographic work suspended.

= 2400

- ship "stood down" from SAR duty.

- we decide to continue steaming for near shore end of CS line as weather and sea-state allows
- present conditions storm warning 4-5 m seas

Sep 25 0800

- 4 m seas subsiding
- we continue to near shore end of CS line.

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26	CS07	Bongo	0250		43	51 04.53	128 44.15		58	50					
		Oblq. Bongo	0306		44	*			58	32					
26	CS06	CTD	0407	BE	45	51 00 05	128 52 17		60					CTD	
		CTD	0412	EN		51 00 08	128 52 19								
	CS06	Bongo			46				65	60					
26	CS05	ROS	0520	BE	47	50 56 08	129 00 04		59	56	261-266	6			
			0536	EN		50 56 04	129 00 01								
	CS05	Bongo			48	50 56 02	129 00 02							Bongo to 60'	
26	CS3B	ROS	0816	BE	49	50 59.98	129 26.98	✓	216	210	267-278	12		CHLOR, NUTS	
	CS3B	net	0903		50	51 01.05	129 27.05		220	50				Bongo to 50	
	CS3B	net	0923		51	51 00.06	129 27.16		220	210				Bongo to 210.	
26	CS2	CTD	1129	BE	52	50 41.23	129 27.96		1897	502				Trans line cleared	
		net	1200	BO	53	50 41 17	129 28 05							Bongo to 50	
		net	1214	BO	54	50 41.14	129 28.15							Bongo to 250m	
26	JI22	ROS	13:32	BE	55	50°39.53'	129°16.95'	✓	1498	50	279-293	15			
				EN		50°39.45'	129°16.62'								

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

DAILY LOG

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26	J122	VNH	1425		56	50°39.703	129°17.842		1472	50m				Bongo 0-50	
26	J122	VNH	1434		57	50°39.703	129°17.842		1505	250 m				0-250	
26	CS3	Ros	1541	BE	58	50°45.62'	129°20.01'	✓	225	220	294-305	12			
			1558	EN		50°45.72'	129°20.15'								
		Bongo	1613		59	50°45.900'	129°20.370'		222	0-50	1 m/sec				
			1624		60	50°45.920'	129°20.473'		225	0-200	1 m/sec				
			1639		61	50°46.128'	129°20.667'		211	Oblique Tow	206 m wire out			tow speed .5 knots hauling .5 m/sec 22-35° 1639-1649	
26	CS4	CTD	1742	BE	62	50°49.33	129°12.97'		91	86.6				Bongo 0-50 and	
			1747	EN		50°49.30'	129°13.00'							0-250 cancelled.	
														SAR call received mid station. - off	
26	LQ03	Ros	1958	BE	63	50 39 96	129 01 14	✓	1430	500	294-310	17		we go again.	
			2030	EN		50 40 20	129 00.99								
	LQ03	Net	2040		64	50 40.18	129 0 99		1430	50				0-50 Bongo	
	LQ03	Net	2055		65					250				0-250 Bongo	
	CPE2	Ros	2231	BE	66	50 43 03	128 40.00				311-319	9		Bad header	
		Ros	2243	EN		50 42 89	128 40 30		122	121					

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
ctd
mooringROS -
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USW -

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LOR -RADAR
GLOBAL
LORAN

Date Time PDT

Sep 26 1100

- we are completing CS stations
- at CS4 completed CTD and starting Bongo 0-50m work interrupted by SAR call-up. There is a fishing boat on fire at Kains Island. There are no other vessel standing by. This will be app 5 hr stream south
- we also have to service a navigation buoy light battery in Quatsino Sound.

1230

- stood down from SAR duty, we are passing app. 5 nm from LQ03.
- resumed program at this point (LQ03)

- completed rest of CS and Capra stations - heading for Quatsno to service light.

- encountered over turned zodiac en route, belonging to the sunken fishing boat involved in the SAR 2 days ago
- recovered boat.

1910 - arrive Quatsino

- rubber boat dispatched to service light.
- stbd. side launch lowered to try to repair water pump - found to be faulty in Nootka Sound

2120 - heading for BP Line.

Date. Time PDT

Sep. 27 - 0710

- on station BPI-CC for recovery
- ranges 104, 104, 105, 105

- moving off to release position.

- 0716 - ranges = 117, 117 = 74 horizontal

- 0726 - moved too far ranges = 349, 345
too far moving closer.

- 0729 - closer ranges = 245, 227, 222

- 0731 - sending BCEH - received positive response

- 0732 - insight on surface

- preparing BPI-DD on deck

- 1011 - deployed BPI-DD in 99 m water
at position: 50° 03.651',
127° 53.460'

- 1025 - head to LBP6 to complete BP Line
* - intended to hand lubricate CTD line
at LBP7 (deep cast) but could
not because this is an incubation station
and the fresh oil would contaminate
samples.

- cable check - only a very small amount of
rust has accumulated
at sea end ϕ = 3220", 3250", 3235", 3240",
3225", 3245", 3240", 3215",
3240", 3230" * lowest reading is above
tolerance

- seems like cable deterioration is
slowed at this point.

- hand lubricated sea end to 2000 m
depth cable using Pre-Lub + brush
during recovery of deep cast at
LBP7.

- cable good 2000+ → 1000 m
- rusting starts 1000 → 800 m
- app. 1/2 rust cover 800-600 m
- all rusty 600 → sea end.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE					PAGE		OF	
1999		October		Tully		9935								
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
26	CPE2	NET	22:52	BOT	67	50 42.83	128 40.53		140	50				0-50 Bongo
	CPE2	NET	23:07	BOT	68	50 42.78	128 40.71		123	115				0-115 bongo
27	BP1	ROS	0719		69	50 04.63	127 52.87	✓	50		320-324	5		not on station
27	LBP2	ROS	0751		70	50 04.01	127 54.21	✓	93		325-336	12		
		net	0838		71	50 03.98	127 54.26		94					Bongo to 88
27	LBP3	CTD	0901		72	50 03.21	127 55.31		164	163				
		NET	0924		73	50 03.29	127 55.42		160	150				Bongo to 140
27	LBP4	CTD	0958	BE	74	50 01.42	127 58.12		973					
		net	1018	BO	75	50 01.43	127 58.20			1060				
			1033	EN		50 01.44	127 58.24							
27	LBP5	ROS	1059	BE	75	50 01.97	128 00.11	✓	1280		337-356	20		
			1122	BO		49 59.97	128 00.35							
				EN										
		net	1158		76				1270	250				Bongo to 250.

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

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH			SHIP		CRUISE					PAGE		OF	
99		Sep			Tully		9935								
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	
27	LBP6	CTD	1829	BE	77	49°56.24'	128°05.39'		772	816					
			1842	BO		49°56.29'	128°05.30'								
			1854	EN		49°56.33'	128°05.33'								
	LBP7	ROS	19:44	BE	78	49 52 50	128 11 08	✓	2187	2000	357-378	21		no	
		ROS	21:18	EN		49 52 35	128 09 90								
	LBP7	NET	21:49		79	49 52 39	128 11 20		2200	250				Bongo - 0-250m	
28	LJ09	CTD	0140	BE	80	49°16.17'	127°47.44'	✓	2478	2501.9	379-381	3		Salinity Cal bottles	
			0229	BO	80	49°16.39'	127°47.24'		drifted into deeper water.						
			0306	EN	80	49 16 54	127 47 13								
28	LJ08	ROS	0348	BE	81	49 20 26	127 40 81	✓	1709	1676	382-401	20		* approx 10m off bottom	
			0504	EN		49 20 92	127 41 21								
	LJ08	NET	0532		82	49 20.12	127 40.89		1700	250				Bongo to 250m	
28	LJ07	CTD	0624	BE	83	49 24 13	127 34 40		1800						
			0728	EN											

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mooringROS -
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net haul
drifter

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sea water loop

TIME CODE -

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bottom time of cast
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recover mooring

POSITION CODE -

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LOR -RADAR
GLOBAL
LORAN

Date Time PDI

Sep. 28 0720 - on station E03-CC for recovery

- ranges 525 526 525 524 523
horiz dist = 336 m but we are on position
- 507 499 495 499 497 496 492
491 490 489 481 474 473
drifting closer, 468
dist = 273 m

- 458, 454, 450 = 24/m dist.

- stopping drift range = 425 m
dist = 190 m

0735 - range 424

- sending ABCD - received positive response.

0737 - sighted on surface.

- preparing mooring on deck on site

1047 - deployed mooring E03-DD in 400 m
water at position $49^{\circ}05.546'$
 $126^{\circ}55.936'$

1100 - proceeding to deploy mooring E01
setting up en route.

1314 - deployed mooring E01-DD in 99.6 m
at position $49^{\circ}17.477'$
 $126^{\circ}35.737'$

1330 - depart for LG00 to complete LG line.

- cable check - $\emptyset$ immediately above Rosette
to winch

.3225, 3220, 3235, 3240 above Rosette

.3225, 3220, 3235, 3245, 3240, 3225
.3215 at winch.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH		SHIP		CRUISE					PAGE		OF	
1999			Sept		Tully		9935								
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	LJ06	ROS	0806	BE	84	49 27.95	127 28.40		1010		402-420	19			
			0826	BO		49 27.97	127 28.11			1099					
			0902	EN		49 28.00	127 27.87								
	LJ06	NET	0938	BO	85	49 27.97	127 28.16							Bongo 1/2 250m	
28	LJ05	CTD	1028	BE	86	49 31.66	127 22.53		1066						
			1046	BO		49 31.51	127 22.45			1080					
				EN											
28	LG00	CTD		BE	87	49 21 50	126 34 60								
			2056	EN	87	49 21 50	126 34 75		37	33					
28	LG01	ROS	21:17	BE	88										
			2128	EN		49 20 44	126 34 99		56	53	421-426				
	LG01A		21:50	BE	89	49 19 51	126 36 46		80						
			21:54	EN		49 19 52	126 36 41								
28	LG02		22:26	BE	90										
			22:30	EN		49 18 58	126 37 94		103	100					
	LG2A	CTD	2257	BE	91	49°16.81'	126°40.71		116	110					
			2302	EN		49°16.75'	126°40.67'								

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

Time PDT

Sep. 29

0802 - on station AI-CC for recovery + redeployment

$$-508, 520 \quad \text{distance} = 174.0$$

- 520, 520 distance = 174

- moving directly on top of moving GPS is ~~not~~ stable

$$-534, 534 = 212 \text{ m distance}$$

0814 - sent AB EG - received positive response

0815 - sighted on surface

- recovered back wards requiring to be separated from live T-chain

2520 T-chain damaged in process - jacket cut in at least one place.

- preparing mooring on deck.

1134 - deployed AI-DD in 497 m water
at position $48^{\circ} 31.966'$,
 $126^{\circ} 12.297'$

-head for offshore end of LC Line

14/4 - cable check

ϕ above termination .3250" .3240"
.3235"

ϕ at winch, 3225", 3240", 3220",
3240", 3230"

- hand lubricated cable to 2500m depth using Pre-Lub during down cast at LC12

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
99		Sep		Tully		9935								
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	LG03	ROS	2338	BE	92	49° 14.95'	126° 43.62'		126	123.7	427-439	13		
			2351	EN		49° 14.87'	126° 43.47'							
	LG03	NET	2407		93	49° 14.81'	126° 43.21'		121	115				BONGO TO 115 m.
29	LG04	CTD	0053	BE	94	49° 11.31'	126° 49.36'		145	146				
				EN		49° 11.31'	126° 49.32'							
	LG04	Net	0115		95	49° 11.39'	126° 49.13'		143	137				BONGO TO 137 m.
29	LG05	CTD	0206	BE	96	49° 07.40'	126° 55.05'		266	258	large wire angle - lost pinger trace, so played it safe.			
			0216	EN		49° 07.42'	126° 54.67'							
29	LG06	CTD	0316	BE	97	49 03 47	127 00 93		912					
			0344	EN		49 03 33	127 00 40							
29	LG07	ROS	0444	BE	98	48 59 24	127 07 19		1777		440-463	24		
			0601	EN		48 59 09	127 06 79							
	LG07	NET	0623		99	48 59.28	127 7.25		1000	250				Bongo to 250

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 -

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GPS -
LOR -RADAR
GLOBAL
LORAN

Measurement of noise level at wind station 84 db.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1999			MONTH Sept			SHIP Tully			CRUISE 99-35				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
29	LG08	CTD	0716	BE	100	48 55.23	127 13.27		2064		/			cleaned trans lens
			0748	BO		48 55.23	127 13.25		2072					
			0818	EN		48 55.35	127 13.33							
	LG09		0904	BE	101	48 51.17	127 19.48		2060					wind speed 1.2 m/s.
			0936	BO		48 51.44	127 19.69		2072					
			1003	EN		48 51.73	127 19.78							
	LC12	ROS	2145	BE	102	48°14.92'	126 39.93		2525	2500	464-467	4		sal Cal Samples
			2240	EN		48°14.60'	126° 39.99'							
	LC12	NET	2332	BOT	103	48°14.51'	126°40.04'		2525	234				BONGO TO 250 m E 20°L
30	LC11	ROS	0054	BE	104	48°18.92'	126°26.73'		1455	1540	468-487	20		drifted into deeper water
			0200	EN		48°19.17'	126°27.73'							
30	LC10	CTD	0246	BE	105	48°22.45'	126°20.26'		1243		/			
			0322	EN		48 22 66	126 20 63							
30	LC09	ROS	0407	BE	106	48 26 02	126 13 81		610		488-509	22		
			0444	EN		48 26 28	126 13 99							

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
ctd
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NET -
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recover mooring

POSITION CODE -

RAD -
GPS -
LOR -RADAR
GLOBAL
LORAN

Date Time PDT

Sep. 30 0730 - on station CIWASP for recovery
- dense fog
- decide to complete bouge stations
C1, C2, C3 to let fog dissipate.

1209 - on station CIWASP for recovery
still foggy - will rely on VHF DF
+ Argos Gonio.
- range is 176, 176, 176, 175
- directly over mooring.
- moving off to a release position that
will keep mooring site within visibility in
this fog, app. 200-250 m

1220 - moved off app 170 m
- range 272, 271 = dist. = 203 m

1221 - range 276
- sent ADFH

- range 238, 228, 214, 208

1224 - sighted on surface. - VHF DF working
- Argos DF working.

- used mooring to set up Gonio antenna.

- headed for LB Line

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH				SHIP				CRUISE				PAGE		OF
99		Sep				Tully				9935						
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	LC09	Net	0455		107	48 26.34	126 14.06		610	250				Bongo to 250		
30	LC08	ROS	0544	BE	108	48 29 54	126 07 16		198	188	510-520	11				
		ROS	0604	EN		48 29 71	126 07 23									
30	LC08	NET	0652		109	48 29.79	126 7.28		196	190				Bongo to 190 m		
30	LC07	ROS	0717	BE	110	48 33.03	126 00.43		135		521-529	9		cleaned trans lens.		
		ROS	0732	EN						121						
30	LC06	CTD	0817	BE	111	48 36.54	125 53.93		92.				BM			
			0823	EN		48 36.60	125 53.93			85						
30	LC06	net	0837	BOT	112	48 36.59	125 53.92						BM	Bongo to 90.		
30	LC05	CTD	0934		113	48 39.96	125 47.39		65					restarted computer		
										62						
30	LC05	NET.	0948	BOT	114	48°39.96	125°47.39'		65	60				Bongo to 60		
30	LC04	ROS	1034	BE	115	48 43.47	125 40.80		167		530-541	12.				
										161						
30	LC03	CTD	1136	BE	116	48 47.05	125 34.25		136.							
			1139	BO						129						
				EN												

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

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	C3	CTD	1525	BE	117	48°23.48	126°20.73		122.8	117.5					
			1531	EN		48°23.46	125°20.71								
		Net	0846	PDT	118	48°23.475	125°20.750			117					0°L
30	C1	Ros	1640	BE	119	48°23.94'	125°15.21'		151		542-555	14		Incubation Station.	
			1654	EN		48°28.92'	125°15.27'								
		Net	1006	PDT	120	48°28.885'	125°15.358'		152	147					
30	C2	CTD	1801	BE	121	48°25.34'	125°07.73'		112	106.7					
			1807	EN		48°25.31'	125°07.71'								
		Net	1117	PDT	122	48°25.305'	125°07.711'		112	107					
30	LB08	RDS	21:00	BE	123	48 25 16	125 28 85		150	140	556-564			changed con file: new fl coeff UserPoly 0: 2.24, UserPoly 1: 10.0	
30	LB10	CTD	2235	BE	124	48 18.67	125 41.26		153	150					
30	LB12	CTD	2347	BE	125	48°12.91'	125°51.97'		513	512	565-579			drifted deeper.	
Oct 1			0016	EN		48°13.18'	125°52.17'								
		Net			126	48°13.20'	125°52.16'		513	250				Scor To 250	
1	LB11	CTD	0116	BE	127	48°15.25'	125°47.84'		205	200					
			0124	EN		48°15.33'	125°47.78'								

CAST TYPE -

BOT - bottle cast
CTD - ctd
MOR - mooringROS - 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 castDE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE -

RAD -
GPS -
LOR -
RADAR
GLOBAL
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DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH			SHIP			CRUISE			PAGE		OF	
1999			10			TULLY			9935						
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	LB09	CTD	0243	BE	128	48°22.04'	125°34.90'		151	147.8	—				
			0248	EN		48°22.10'	125°34.80'								
1	LB07	CTD	0409	BE	129	48 28 69	125 22 09		156	145					
			0415	EN		48 28 73	125 21 93								
1	LB06	ROS	0500	BE	130	48 32 17	125 15 46				580-587	8		used 0443new7.com (all 3 fluorometers)	
			0512	EN		48 32 18	125 15 30								
1	LB05	CTD	0551	BE	131	48 34 04	125 11 89		100	92				wt labs removed - back to 0443new.com	
			0555	EN		48 34 09	125 11 86								
1	LB04	ROS	0636	BE	132	48 35 68	125 08 71		111	105	588-594	7			
			0644	EN		48 35 66	125 08 65								
1	LB03	CTD	0716	BE	133	48 37.31	125 05.59		93		—				
			0722	EN		48 37.32	125 05.57			86					
1	LB02	ROS	0755	BE	134	48 38 97	125 02.43		56.	50	595-599	4			
			0801	EN											
1	LB01	ROS	0831	BE	135	48 40.34	124 59.48		36.	30	600-603				
1	E01	CTD	0947	BE	136	48 31.75	125 03.76		116.		604-606			sal cal samples	
				EN						110					

CAST TYPE -

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

USW -

sea water loop

TIME CODE -

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POSITION CODE -

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LOR -RADAR
GLOBAL
LORAN

Date Time PDT

Oct 1. 0743 - on station JF1A-C for recovery.
- foggy but workable app 300-400 m visibility.

- range - no reply
- sent BDH to enable
- range 212, 213

- moved to release position 200-250 m off

0755 - range 342, 343 dist = 282 m

0757 - range 341, sending BCDH

0758 - sighted on surface. - fog not a problem - lifting as we were on station.

- gill net tightly wrapped around upper 2 instruments

- S4 was completely covered
- RCM8 was only lightly fouled by a tail of netting loosely around it - perhaps in water the net may have floated clear of the RCM8

- bio fouling was heavy on top buoy but stopped on the upper surface of 2nd buoy down

- head off for JF2E-C-2 for recovery anticipating reduced fog.

0940 - on station JF2E-C-2 for recovery

- range 363, 362 = distance = 330

- range 361 - clear visibility.

0946 - sending ABETH

0947 - sighted on surface

1010 - all on board. - cleaning up
- no fish gear marks
- light bio fouling - not enough to affect instrs

- head for JF3A-C

Date Time PDT

Oct 1 1050 - on station JF3A-C for recovery

- ranges 171, 171, 171
- moved to a 'release' position 200m away.

1103 - on station to release
252 253 256 = 173 distance

- 235

1104 - sending ACGH.

1105 - sighted on surface

- cleaning up. - RCM_{7/8} + S44 were
both fouled

- RCM₇ performance is
likely affected.

- head for JF2A to take advantage of
weather and clear conditions

1234 - on station JF2A-C for recovery

- ranges 138, 139, 140, 140.

- moved to release position
range 295, 289

= 270 m
dist.

1246 - sent ACGH - received positive
response.

- sighted on surface.

RCM-7 10321

Lower Beasing on rotor extremely worn

- cleaning up on deck

1300 - heading in to Victoria.

- called David + Steve Romaine

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH			SHIP			CRUISE			PAGE		OF	
1999			OCTOBER			TULLY			9935						
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	E01	NET	1009		137	48 31.77	125 03.70		112.	109				BONGO TO 109	
2			0230	opp		start Leg II	depart Huron St.			CCG Base.					
	JFD7	CTD	0103		138	48 11.87	124 0.05		53	47		-			
	JFD6	CTD	0135	BE	139	48 13.81	124 59.93		126						
			0139	BO		48 13.80	124 59.86								
			0143	EN		48 13.3	124 59.9								
	JFD6	CTD	0210	BE	140	48 15.83	123 59.73		182						
				EN											
	JFD2	CTD	0307	BE	141	48 21.84	123 59.98		121	116					
			0309	EN		48 21.83	123 59.97								
	JFD1	CTD	0346	BE	142	48 23.03	124 0.09		69	66					
	JFD3	CTD	0433	BE	143	48 19.67	124 0.09		166	163					
			0439	EN		48 19.65	124 0.18								
3	JFD4	CTD	0511	BE	144				189	183					
			0518	EN		48° 17.65	124° 0.32								
	JFE1		0706		145	48 27.23	124 14.98		28	23					
			0708		145	27.23	14.94								

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

Date Time PDT

- Oct. 1 1630 - arrived Anou St. Base
- Moira, Joe, Lorne, Doug M leave
- Dario, Steve join along with 54's ADCP, and releases and drifting buoys.
- new cabin assignments, new watches.
- check orientation of Gonio DF alongside jetty app 10° to starboard.
- started Drifting Buoys 20304, 20308, 20311
1930 - departed Victoria for drifting buoy deployments at JFC3, JFC4, and JFC5.

- over evening and night Oct. 1 we deployed 3 drifting buoys - see drifter log and completed an ADCP transect over the mooring stations

- Oct. 2 0856 - deployed mooring JF2A-D in 105 m water at position 48° 24' 794" 124° 09.943
1018 - deployed mooring JF2B-D in 164 m water at position 48° 22.969' 124° 11.053'
1331 - deployed mooring JF2C-D in 188 m water at position 48° 21.235' 124° 12.290'
1514 - deployed mooring JF2D-D in 216 m water at position 48° 19.100' 124° 12.935'
1648 - deployed mooring JF2E-D in 149.6 m water at position 48° 15.090' 124° 09.801'

- head for CTD's on JFD and JFE lines and drifting buoy recoveries overnight.

Date Time PDT

Oct 2 1839 - cable check #A301592

Ø at winch = ,3225", ,3215", ,3230"
 ,3210", ,3215"

Ø immediately above Rosette =
 ,3225", ,3230", ,3240", ,3225"
 ,3230"

-rust flaking has stopped

-both previous hand fabrications
are no longer evident -cable
looks rusty for lower app.
800m.

DAILY LOG

OCEAN PHYSICS

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[illegible]

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

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

Date Time PDT

Oct 3 - 0730 - tracking down 3rd of 3 drifting buoys within app 4 miles of JF1A mooring site
- preparing mooring on deck at the same time

- 0807 - recovered drifter and ship headed to find deployment location for JF1A
- the mooring will be relocated deeper into separation zone by app 1/8 nm.

- 0933 - deployed JF1A-D in 205 m water at position $48^{\circ} 23' 07.6''$ $124^{\circ} 20.347'$ in clear calmer conditions

- 0945 - heading for position of bottom end of JF2E-B deployed last year Oct./98 to attempt recovery by acoustic release again

John's summary of data return

	DAMAGE LOG	POOR DATA	
7893	JF2A-C	90m	TAPE WOUNDS ON CAPTAN
7996	JF2E-C	30m	SMART DATA TAPE *clutch + pinch roller tension problem
6653	WASP		CANNOT READ DATA TAPE
8831	A1-C	100m	POOR SYNE CANNOT DECODE DATA
11	JF3AC	100	NO SPEED
10321	JF2A-C	30m	lower bearing cracked

- NB - no flooded instruments or tight rotors anymore

- all seem to be electronic / internal parts tape drive + channel selector problems.

Date Time PDT

- Oct. 3 1025 - on station JF2E-B bottom part for recovery.
- hooked up to ship's transducer.
- sent 9000 KPND for 151
- sent 6432 - responded received.
- sent 9000 - 354, 356, 361, 362

- sent 6431, 6434 - received executed
- range 361

- ranges 356, 357, 360

48° 19.523' 124° 18.925'

- sent 6435 received "executed" and
time = 4939
7.3 sec.s timed

 $(\text{msec} - 1000) \times 4.1 = 16.2 \text{ volts app}$
- response was not over 15 sec $\therefore$ release is
upright - should drag.
1039 - sent 6431 and 6434 again received "executed"
- range was 390 on release
- range after release 389 - not rising.
- range 407

- listening with pinger - heard signal - pinger
still good.
- range 353, 351

48° 19.510' 124° 18.875'

- sent 6433 FR1-Z OFF - "received"

- sent transpond 4-5 times - no range.

- leave mooring until later. - not enough time
to drag on this cruise
- perhaps Effingham cruise
- Feb. 5th. P
- Mar. Juan de Fuca ?

- talked with Rick - he will try to drag
for it Oct. 14-8 if possible.

- head for JF3A for deployment.

Date Time PDT

Oct. 3 1239 - deployed mooring VFBA-D in 188 m water at position $48^{\circ} 17.087'$ $123^{\circ} 58.692'$

- heading to JFB Line to deploy drifters at JFB4 JFB3 JFB2
 - check strobe light batteries.
 - noted use. - flashing lights are good for est'd 3-4 days
 - continuous on lights may only last 2 days

- heading for mooring CRD10 for recovery, service and redeployment.

1850 - on station CRD10-B for recovery

- listened with ship transducer - one contact 470 m away

- switched to dunking transducer.

- in consistent ranges

- out of gen mode

- ranges 607, 607, 605, 502, 583
579

- moving ahead to get closer

- range 416, 418 m, 396 m.

1910 - sending BDFG

- sighted on surface.

1937 - deployed mooring CRD10-C in 26.50 m water in position $48^{\circ} 37.878'$, $123^{\circ} 23.431'$

- cruise over heading for I.O.S.,

CRUISE
NUMBER

#99-35(2)

DAILY LOG
INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

OCT. 4 - 8, 1999

VESSEL

J.P. Tully

PROJECT

Juan de Fuca Strait

ANDY GUNY
PATTY MURPHY

Rich Thomson

Watch	Cabin	Name	Watch	Cabin
1	A			
	G			
	15			
	B			
	C			
	A			
	W			
	H			

Watch	Cabin	Name	Watch	Cabin
-------	-------	------	-------	-------

Program Name: _____

Program version: _____

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

serial no.: _____

model: _____ serial no.: _____
offset: _____

model: _____ serial no.: _____
offset: _____

psi serial no.: _____

dB offset: _____

```
model: _____ serial no.: _____
offset: _____
```

Oct 4/99

0800 Offload Leg 1 hardware/people -
LORD PARTICULATE LAB FROM UTM 189

0900 - 1530: Problems with Shipboard ADCP, No gyro (i.e. no ship heading). Problems on last day.

Phoned Mark Taylor. Get tech support to link up Synco or step voltage (70V) from repeaters. Also to try to get anemometer working.

Doug Velland/Steve Mihaly dealing with Coast Guard techs. Finally took US party gyro step voltage into distribution box in Hydro lab. Use output in lab distribution box to ADCP. Remove "chirp" to convert from Synco to step voltage.

Sal cal data
158
170
194
195

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		October		J. P. Tuttle		9935(2)		1						
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
04	JOS		2230											Report IOS 1530 Post
05	JFB4	DRF	0325	DE		48° 11.800	123° 35.231		134.5					Drift 20310 lights
✓	JFB3	DRF	0344	DE		48° 13.877	123° 35.468		158.0					Drift 20305 lights
✓	JFB2	DRF	0402	DE		48° 15.882	123° 35.310		194.0					Drift 20309 no light
✓	JFB1	DRF	0420	DE		48° 17.647	123° 35.280		160.4					Drift 20307 no light
RECOVER Drifter #20304.														
DO LIVE JFB from JFE1, E1A, E1B, ... See LOCATIONS ON "FRIP65".														
05	JFE1	CTD	0939	BE	153				27					
05	JFE1	CTD	0940	BO	153	48 27 22	124 14.94			24				
05	JFE1	CTD	0941	EN	153	48 27 22	124 14.94							
05	JFE1a	CTD	0949	BE	154	48 26.52	124 14.95		28					
05	JFE1a	CTD	1000	BO	154	48 26.53	124 14.95			25				
05	JFE1a	CTD	1001	EN	154	48 26 53	124 14.95							
05	JFE1B	CTD	1019	BE	155	48 26 00	124 15.01		139					
05	JFE1B	CT	1022	BO	155	48 26 00	124 15.02			132				

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
075 99

-20310

0325 - First drifter over, lots of ship traffic on this line - light on

0344 - 2nd one away - light on #20305

0402 - 3rd drifter away - no light #20309 W=260° F=28km

0420 - Last drifter away - no light #20307 W=260° F=28km

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1999			MONTH Oct			SHIP Tully			CRUISE 9935				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
05	JFE1B	CTD	1024	EN	155	48 26.00	124 15.02							U/CTD/9935
05	JFE2	CTD	10:44	BE	156	48 25.18	124 15.11		140					
05	JFE2	CTD	10:47	BO	156	48 25.22	124 15.15			132				
05	JFE2	CTD	10:50	EN	156	48 25.23	124 15.17							
05	JFE3	CTD	1115	BE	157	48° 23.25'	124° 15.01'		182					calm; no wind, no sea
05	JFE3	CTD	1119	BO	157	48° 23.25'	124° 15.02'			178				no direct signal on sonar
05	JFE3	CTD	1123	EN	157	48° 23.25'	124° 15.04'							
05	JFE4	ROS	1155	BE	158	48° 21.28'	124° 15.05'	✓	224		611-613	3		sal. samples in well mixed water
05	JFE4	ROS	1159	BO	158	48° 21.29	124° 15.11			222				bottles 2 & 3 didn't seal well
05	JFE4	ROS	1207	EN	158	48° 21.32	124° 15.11'							at bottom - leaky.
05	JFE6	CTD	1256	BE	159	48° 17.75	124° 15.01'		174					traffic, skip 5 until later.
05	JFE6	CTD	1300	BO	159	48° 17.78	124° 15.03'			172				
05	JFE6	CTD	1302	EN	159	48° 17.79'	124° 15.04'							
05	JFE7	CTD	1329	BE	160	48° 16.46'	124° 15.18'		95					drizzle, calm
05	JFE7	CTD	1331	BO	160	48° 16.44'	124° 15.21			75				bottom coming up.
05	JFE7	CTD	1333	EN	160	48° 16.43'	124° 15.23'							
05	JFE5	CTD	1409	BE	161	48° 19.24'	124° 15.16'		210					10kt wind, 1' chop.
05	JFE5	CTD	1414	BO	161	48° 19.25'	124° 15.13			205				

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 5/99 PDT

0807 - sent 6432 (415)
9000 (1464)
6431 (514)
6434 (1850)
9000 1745
6431 1569

0815 ^ Range 6431 game range 323
0815 319
0816 318
309

Moving 1 cable

0820 Set 6431 range 196, 198
moving 1 cable
pingr own side, clearly heard

Turned off 6433 0828
Turned on 6432
0830 6431 160, 159, 158
moving 1 cable

0834
6432 = 199
6432 = 201
6432 = 203
6432 = 206
6432 = 207

0835

moving to set up for drag using this posn
for measuring

0845 too much noise, commence dragging $\approx$ 2 cables off

0850 drag on bottom
0905 $\frac{1}{3}$ of way thro circle 184m
0920 $\frac{2}{3}$ — 184m
0930 finished payout, coming in on cable
6432, 9000 450
6434

DAILY LOG

OCEAN PHYSICS

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YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		OCT		TULLY		9935(2)								
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
05	JFE5	CTD	1418	EN	161	48° 19.28'	124° 15.17'	GPS						
05	JF2E-B		1730											
	MOORING RECOVERY													
	RCON 4 #8820. DID NOT OPERATE WHEN OPENED. TAPE 3/4 FULL													
05	JF66	ROS	2012	BE	162	48° 24.39	124° 40.21		85	87	614	1		DMS surface sample
			2018	EN		24.40	40.28							
05	JFG5	CTD	2052	BE	163	48° 26.24	124° 32.89		201					
			2100	EN										
05	JFG4	ROS	2134	BE	164	48° 28.52	124° 40.20		254		615	1		DMS surface sample
			2142	BO		28.70	40.38							
			2148	EN		48° 28.76	124° 40.47							
	JFG3	ROS	2212	BE	165	48° 30.40	124° 40.00		235		616	1		DMS surface sample
			2217	BO		30.40	39.86							
			2221	EN		30.41	39.94							

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

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH		SHIP			CRUISE					PAGE		OF	
1999			OCT		TULLY			9935 (2)								
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		
5	JFG2	ROS	2248	BE	166	48° 32.35	124° 37.95		146		617	1.		DMS sampling.		
			2252	BO		32.33	39.92									
			2255	EN		32.31	39.90									
5	JFG1	ROS	2320	BE	167	48° 34.08'	124° 39.97		45		618	1		DMS.		
			2321	BO		34.07'	39.97		44							
			2323	EN		34.06'	39.96'									
6	JFF1	ROS	0020	BE	168	48° 31.77'	124° 29.80'		60		619	1		DMS		
			0022	BO		31.74'	29.76		55							
			0024	EN		31.73'	29.73'									
06	JFF2	ROS	0047	BE	169	48° 30.49'	124° 30.03'		141		620	1		DMS		
			0051	BO		30.49'	29.99'		139							
			0056	EN		30.49'	29.96'									
06	JFF3	ROS	0122	BE	170	48° 28.49'	124° 30.03'	✓	213		621-624	4		DMS sampling of Sal Gel		
			0125	BO		28.46	29.93			211				rain all about		
			0132	EN		28.45'	29.91'									
06	JFF4	ROS	0200	BE	171	48° 26.50'	124° 29.98'		232		625	1		DMS samplg.		
			0205	BO		26.48'	29.91'			230						
			0210	EN		26.47'	29.86'									

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 6 (UTC)

ADCP lines:

	Time	Gyro	Surf	Spd
JFAD1 start	04:52	26.4	18.9	11.1
	05:00	29.2	21.8	11.1
	05:05	27.9	22.7	11.1
changed GPS? →	05:10	26.1	26.8	11.5
	05:15	26.5	20.8	11.4
	05:20	28.3	22.6	11.1
	05:25	27.2	19.7	10.9
	05:30	25.9	20.5	10.9
	05:35	23.3	19.8	10.9
	05:40	24.2	23.4	10.9
slowing	05:43	18.5	20.8	10.7
	05:46	19.3	17.8	7.5
	05:48	25.7	19.6	5.4
end of line	05:50	(turn)		

JFAD2 start 06:29
Ship Traffic new by

06:35	203.2	204.5	7.4
06:40	202.0	201.4	7.5
06:45	200.5	200.4	9.9
06:50	201.2	200.8	9.9
06:55	198.8	201.0	10.3
07:00	200.7	202.5	10.5
07:05	198.4	200.8	10.2

~~ADCP 7 06:30:53~~
~~red 7 06:38:13~~

— ship to log remaining data —

JFAD3 start	08:14	19.2	21.2	11.4
	08:20	17.9	20.2	11.1
	08:25	17.6	19.3	10.9
	08:30	25.9	24.3	10.4
	08:35	22.7	20.4	10.6
	08:40	21.4	21.3	10.8
	08:45	24.3	19.5	10.5
	08:50	23.5	20.8	10.4
	08:55	23.5	20.8	10.5
	09:00	21.6	19.9	10.7
	09:05	21.5	23.0	9.9
	09:10	17.7	14.0	4.7
	09:15	15.3	17.8	3.8
	09:20	14.5	23.0	3.1
	09:25	13.5	24.0	2.8
EOL				

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		OCT		TULLY		9935 (2)								
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
06	JFF5	ROS	0241	BE	172	48° 24.54	124° 29.98	GPS	214		626	1		DMS SAMPLING
			0246	BO		24.53	29.94							Calm conditions/overcast
			0249	EN		24.53	29.93							drizzle
06	JFF6	ROS	0322	BE	173	48° 22.50	124° 29.91		110	106	627	1		DMS Sample
			0327	BO		48 22.49	124 29.89							hope it's raining!
			0330	EN		48 22.48	124 29.87							(Darren's outside)
06	JFF7	ROS	0400	BE	174	48 22.02	124 29.91		30	27	628	1		
			0402	BO		48 21.97	124 29.81							
			0402	DE		48 21.97	124 29.77							
			0403	MR		48 21.97	124 29.76							
			0403	EN		48 21.95	124 29.79							
06	JFD1	CTD	0942	BE	175	48 23.08	123 59.99		54					
	JFD1		0944	BO		48 23.09	124 01.00			51				
	JFD1		0946	EN		48 23.09	124 01.03							
06	JFD2	CTD	1008	BE	176	48 21.86	124 00.05		121					
	JFD2		1011	BO		48 21.85	124 00.08			118				
	JFD2		1012	EN		48 21.84	124 00.09							
06	JFD0	CTD	1040	BE	177	48 23.87	124 00.03	✓	14					10 m cast → @

CAST TYPE -

BOT -

bottle cast

CTD -

ctd
mooring

MOR -

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

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1999				MONTH Oct		SHIP TULLY			CRUISE 9935				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
06	JF00	CTD		80	177			CD5		11				
06	JF00	CTD	10 42	EN	177	48 23.87	124 00.04							
06	JF03	CTD	1110	BE	178	48 19 72	124 00 08							
06	JF03	CTD		BO	178									Touched Bottom
06	JF03	CTD	1126	EN	178	48 19 69	124 00 13							
06	JF04	CTD	1149	BE	179	48 17 72	124 00 08							
06	JF04	CTD	1151	BO	179	48 17 71	124 00 11		187					
06	JF04	CTD	1154	EN	179	48 17 68	124 00 08							
06	JF05	CTD	1220	BE	180	48 15 80	124 00 03							
06	JF05	CTD	1225	BO	180	48 15 78	124 00 10		181					
06	JF05	CTD	1228	EN	180	48 15 78	124 00 13							
06	JF07	CTD	1308	BE	181	48 11 33	124 00 03							
06	JF07	CTD	1310	BO	181	48 11 32	124 00 04		50					
06	JF07	CTD	1311	EN	181	48 11 30	124 00 05							
06	JF06	CTD	1353	BE	182	48 13 35	124 00 40							
06	JF06	CTD	1356	BO	182	48 13 39	124 00 50		122					HAD TO REBOOT SYSTEM
06	JF06	CTD	1358	EN	182	48 13 41	124 00 56							
Proceed to TWIN to recover #20311														

CAST TYPE -

BOT -

bottle cast

ROS -

rosette

USW -

sea water loop

TIME CODE -

BE -

beginning time of cast

DE -

deployment time

POSITION CODE -

RAD -

RADAR

CTD -

ctd

NET -

net haul

BO -

bottom time of cast

MR -

messenger release

GPS -

GLOBAL

MOR -

mooring

DRF -

drifter

EN -

end of cast

RE -

recover mooring

LOR -

LORAN

Wed Oct 6 99

0730 Picking up diffen 20311 Twin Pt

0800 Received

0815 - Reballanced SN 20311

* 6-Oct-99 PM local time
Switched software for acquisition back to the DOS version
of Seasmu (V4.236). Com 1 set to high speed &
Com 2 set to half speed. We want to run with this
setup to determine if spikes will occur.
Com's file name is "0443NEW.CON".

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR			MONTH			SHIP			CRUISE			PAGE		OF	
1999			10			Tully			9935						
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	
06	#20311	DRIF	1430			Recover grounded (inkelp) #20311.			< 5m					FLAT CALM	
06	#20311	DRIF	Deploy			48° 13.0	124° 54.0								
06	#20308	DRIF	Deploy			at Stn JFC5									
			Proceed to entrance to recover #20305.												
06	#20305	DRIF	2206			48° 28.680	124° 36.630							Recovery, calm + flat	
06	#20309	DRIF	2351			48° 25.40	124° 13.235							Recovery, calm + flat	
07	#20307	DRIF	00:11			48° 24.835	124° 12.263							Recovery, calm + flat	
07	#20310	DRIF	?			?	?							Recovery	
07	JFE1A	ROS	0135	BE	183	48° 26.44	124° 14.90		2823		629	1		DMS sample	
			0136	BO		26.44	14.89		23					hit bottom	
			0138	EN		26.44	14.87								
07	JFE1	ROS	0158	BE	184	48° 27.21'	124° 15.00'		28		630	1		touched bottom	
			0200	BO		27.21'	14.98'		28					bottle data in 0184A.DAT	
			0202	EN		27.21	14.98								
07	JFE1B	ROS	0224	BE	185	48° 25.88'	124° 14.88'		130		631	1		Very turbid layer 100'-200m	
			0227	BO		25.88'	14.84'		127						
			0230	EN		25.87'	14.81'								

CAST TYPE -

BOT -
CTD -
MOR -bottle cast
cld
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

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		OCT		TULLY		9935(2)								
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
07	JFE2	ROS	0250	BE	186A	48° 25.26'	124° 14.97'	GPS	136		632	1		DMS sampling
			0253	BO		25.19'	14.93'			135				Spikes @ 20m in 0186.DAT
			0257	EN		25.18	14.92							
07	JFE3	ROS	0322	BE	187	48 23.30	124 15.00		184	182	633	1		
				EN		48 23.29	124 14.87							
7	JFE4	ROS	0400	BE	188	48 21.29	124 14.94		224	222	634	1		DMS (Station name in file is wrong)
			0408	EN		48 21.27	124 14.73							
7	JFE5	ROS	0432	BE	189	48 19.26	124 15.06		212	211	635	1		(Station name in file is wrong)
			0443	EN		48 19.25	124 14.94							DMS
7	JFE6	ROS	0512	BE	190	48 17.77	124 14.91		176	174	636	1		DMS Spiked - restart
			0520	EN		48 17.76	124 14.85							at tideline, large sal drifts at surface
7	JFE7	ROS	0547	BE	191	48 16.38	124 14.83		103	110	637	1		DMS - drifting into deeper water
			0554	EN		48 16.38	124 14.52							
7	JFC6	CTD	0806	BE	192	48° 10.40	123° 45.04		50	41				Using DOS software
			0809	EN		48° 10.39	123° 45.03							

CAST TYPE -

BOT - bottle cast
CTD - ctd
MOR - mooringROS - 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 castDE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE -

RAD - RADAR
GPS - GLOBAL
LOR - LORAN

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		OCTOBER				9935								
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
7	20305	DRF	08:18			48° 10.41	123° 45.06							Deployment, (with hold) calm + flat
7	20307	DRF	08:24			10.506	44.975							Deployment, " "
7	20309	DRF	08:27			10.568	44.975							Deployment, " "
7	20310	DRF	08:29			10.651	45.000							Deployment, " "
7	JFC5	CTD	08:45	BE	193	48° 12.44	123° 45.05		140					
			08:51	EN		48° 12.47	123° 45.14							
7	JFC4	ROS	09:14	BE	194	48° 14.42	123° 45.01	✓	168		638-640	3		Salinity samples
			09:25	EN		48° 14.38	123° 45.15							in mixed layer
7	JFC3	ROS	09:35	BE	195	48° 16.63	123° 45.06	✓	184		641-643	3		data overflow, restart
			10:02	EN		48° 16.67	123° 45.18							and crashed, started again spike at 152 upcast
7	JFC2	CTD	10:30	BE	196	48° 18.46	123° 45.07		172					
			10:38	EN		48° 18.46	123° 45.09							
07	JFC1	CTD	11:01	BE	197	48 20 20	123 45 04		60					
			11:04	EN		48 20 20	123 45 08							
07	JFC1	ROS	12:00	BE	199	48° 17 60'	123° 35 45'		165		644	1		DMS sampling
			12:03	BO		17 60'	35 47'			156				locked up, record 0198 DAY
			12:06	EN		17 61'	35 46'							calm, flat rain

CAST TYPE -

BOT - bottle cast
CTD - ctd
MOR - mooringROS - 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 castDE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE -

RAD - RADAR
GPS - GLOBAL
LOR - LORAN

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1999			MONTH OCT			SHIP TULLY			CRUISE 9935 (2)			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
07	JFB2	ROS	1228	BE	200	48° 15.85	123° 35.32'	GPS	193		645	1		DMS Sampling
			1231	BO	200	15.87	35.30'			192				
			1235	EN	200	15.90'	35.31'							RAIN/CALM
07	JFB3	ROS	1258	BE	201	48° 13.82'	123° 35.37'		157		646	1		DMS Sampling
			1301	BO		13.81'	35.38'			155				back to Win Seavare
			1304	EN		13.79'	35.37'							pi-sec sal diff down vs up
07	JFB4	ROS	1335	BE	202	48° 11.71'	123° 35.41'		136		647	1		
			1336	BO		11.67'	35.48'			136				
			1339	EN		11.64'	35.58'							
07	JFB5	ROS	1400	BE	203	48° 09.80'	123° 35.33'		52		648	1		Rain/Calm
			1401	BO		09.80	35.31'			51				
			1403	EN		09.80'	35.29'							
7	JFE1	CTD	1715	BE	204	48° 27.23	124° 15.01		28	24	—			CTD
			1716	BO		48° 27.22	124° 15.0							
			1717	EN		48° 27.18	124° 15.00							
7	JFE1A	CTD	1727	BE	205	48° 26.50	124° 15.00		30		—			CTD
			1730	BO		48° 26.50	124° 15.10			24.5				
			1732	EN		48° 26.50	124° 15.10	✓						

CAST TYPE -

BOT - bottle cast
CTD - ctd
MOR - mooringROS - 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 castDE - deployment time
MR - messenger release
RE - recover mooring

POSITION CODE -

RAD - RADAR
GPS - GLOBAL
LOR - LORAN

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
99		Oct		Tully		9935								
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
07	JFE18	CTD	1744	BE	206	48° 25.89	124° 14.99		130		—			CTD
			1751	BO		48° 25.95	124° 14.80			129				
			1755	EN		48° 25.97	124° 14.70							
07	JFE2	CTD	1808	BE	207	48° 25.24	124° 14.98		134		—		*	CTD
			1813	BO		48° 25.22	124° 14.96			129				check all dates & times
			1816	EN		48° 25.21	124° 14.93							in files - seem wrong
07	JFE3	CTD	1839	BE	208	48° 23.26	124° 15.02		185		—			CTD
			1843	BO		48° 23.27	124° 15.02			185				
			1847	EN		48° 23.26	124° 15.04							
07	JFE4	CTD	1909	BE	209	48 21.23	124 15.03		226		—			CTD
			1914	BO		48 21.21	124 15.04			222				
			1918	EN		48 21.19	124 15.02							
07	JFE5	CTD	1949	BO	210	48 19 19	124 14 98		211		—			CTD
			1954	BO		48 19 17	124 14 95			208				
			1957	EN		48 19 17	124 14 93							
07	JFE6	CTD	2021	BE	211	48 17 73	124 15 00		174		—			CTD
				BO		48 17 73	124 14 98			175				
				EN		48 17 73	124 1 97							

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

DATE	STATION	(UTC) TIME	CODE	CONSEC	LAT	LONG	BOTTOM	NAK SAMPLE	SAMPLE #
8 10 99	JFA5	19 54	BE	231	48 11.93	123 19.98	93	89	650
			EN		48 11.98	123 19.85			
8 10 99	JFAH	20 26	BE	232	48 14.28	123 19.97	54	49	651
		20 30	EN		48 14.26	123 19.93			
8 10 99	JFA3	21 00	BE	233	48 17.30	123 19.98	95	90	652
		21 06	EN		48 17.27	123 19.77			

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1999		MONTH Oct		SHIP Twilly		CRUISE 9935		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
07	JFE7	CTD	2054	BE	212	48 16 49	124 14 78	GPS	118		/			CTD
			2057	BO		48 16 54	124 14 69			124				
			2059	EN		48 16 57	124 14 21							
07	JFE1	CTD	22 22	BE	213	48 27 21	124 15 06		28		/			Station is on inshore side of extensive tide line.
			22 28	BO		48 27 20	124 15 09			25				
			22 29	EN		48 27 20	124 15 09							
07	JFE1A	CTD	22 52	BE	214	48 26 46	124 14 97		28		/			Station is on deep side of an extensive tide line 11 to shore.
				BO		48 26 46	124 14 99			25				
				EN		48 26 4	124 15 00							
07	JFE1B	CTD	2315	BE	215	48 25 97'	124° 14.93'		140		/			40m of turbid water at bottom.
			2320	BO		25.96'	14.95'			135				
			2322	EN		25.97'	14.98'							
07	JFE2	CTD	2342	BE	216	48° 25 18'	124° 14.95'		138		/			
			2345	BO		25.19'	14.96'			136				
			2347	EN		25.20'	14.97'							
08	JFE3	CTD	00 36	BE	217	48 23 23	124 15 02		183		/			calm, flatish, long swell
			0039	BO		23 31'	14.99'			181				
			0042	EN		23 33'	14.97'	✓						

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

Date	Station	Time	CODE	CONSEC	Lat	Long	Bottom	Max Sampling Depth	SAMPLE #
8-10-99	JFD 7	0956 0959	BE EN	222	48° 11.82 11.81	123° 59.92 59.91	54m	47	
8-10-99	JFD 6	10:23 10 29	BE EN	223	48° 13.79 13.79	124° 0.12 0.16	121m		
8-10-99	JFD 5	10:54 1102	BE EN	224	48° 15.81 15.81	123° 59.99 59.98	183	183	
8-10-99	JFD 4	11:23 11:31	BE EN	225	48° 17.74 17.69	123° 59.97 59.94	187	186	
8-10-99	JFD 3	11:53 12:00	BE EN	226	48° 19.70 19.64	123° 59.99 59.94	166	166	
8-10-99	JFD 2	12:23 12:28	BE EN	227	48° 21.86 21.84	123° 59.96 59.89	120	118	
8-10-99	JFD 1	12:47 12:50	BE EN	228	48° 23.09 23.08	124° 00.01 59.99	50	47	
8-10-99	JFD 0	1307 1308	BE EN	229	48° 23.13 23.12	124° 00 12 00 11	15	13	
8-10-99	DRIETER 20310	1450			48 15.822	124 08.834			RECOVERY OFF Pinnar Pt.
8-10-99	REFLW 307	16:26			48 13.23	123 53.98	154m		
8-10-99	JFAG	19:22 19:26	BE EN	230	48 09.20 09.23	123 19.80 123 19.69	54m	50	649

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1999		OCT		TULLY		9935(2)								
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
08	JFE 4	CTD	0111	BE	218	48° 21.26'	124° 14.97'	GPS	225				Surf?	
			0117	BO		21.27'	14.89'			220				
			0119	EN		21.28'	14.87'							
08	20311	DRIF	0257		—	48° 26.06	124° 28.87							
8	304	DRIF	0415			48° 21.65	124° 20.18		221					hard to see, blink
8	JFE 5	CTD	0520	BE	219	48° 19.23	124° 14.94		211.2					CTD
			0530	BO		48° 19.20	124° 14.75			208				
			0540	EN		48° 19.19	124° 14.74							
8	JFE 6	CTD	0557	BE	220	48° 17.75	124° 14.91		175.28				9.65	CTD
			0603	BO		48° 17.72	124° 14.77			175.8				
			0606	EN		48° 17.70	124° 14.72							
8	JFE 7		0629	BE	221	48° 16.40	124° 14.84		96.8					CTD
			0633	BO		48° 16.39	124° 14.70			98.8				
			0635	EN		48° 16.38	124° 14.65							
8	20308	DRF	0735	RE		48° 20.22	124° 05.07							Recovery, Cal + flt + tra
8	20305	DRF	0917	RE		48° 12.76	123° 53.17							Recovery, Cal + flt + tra

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
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recover mooring

POSITION CODE -

RAD -
GPS -
LOR -RADAR
GLOBAL
LORAN