

DAILY LOG BOOK

MISSION
NUMBER

2006-33

DATE:

From: Oct 10

to: Oct 20

2006

VESSEL:

JP Tully

PROJECT:

Ettingham, La Perouse, ECOHAB,
Aquaculture, Victoria Sill.

INSTITUTE OF OCEAN SCIENCES
OCEAN SCIENCES AND PRODUCTIVITY DIVISION
SIDNEY, BC, CANADA

Captain: Sid Webb
 Second Officer: Peter Visser
 First Officer: Simon Dockery
 Third Officer: Bryan McGuire

Mission Participants / Agencies: 105/UN

Scientific Personnel:

Name	Watch	Cabin	Name
Party Chief:	Tom Jukasz (E)		

[illegible]

Second leg of Mission:
Name
Party Chief:
Watch
Cabin
Name

[illegible]

Data logging computer: Shuttle Case

Data acquisition program: Secure Win32 v 5.37d

CTD deck unit make: Seabird model: Uplus serial number: 0506

Primary CTD

Make: Seabird model: 911plus serial number: 0550

Primary temperature serial number: 2668

Primary conductivity serial number: 2399

Secondary temperature serial number: 2038

Secondary conductivity serial number: 2754

Transmissometer: wetlabs Model: CSTAR s/n: 723 DB

Fluorometer: Model Scapoint Cable gain: 10x s/n: 2228 4230K P S or NO pump?

Oxygen sensor:	Senbird	Model: SBE43	s/n: 0047	PS or NO pump?	PS	NO pump?	NO
----------------	---------	--------------	-----------	----------------	----	----------	----

PAR sensor: _____ Model: _____ s/n: _____
 O₂ _____

Other sensors: Benthos Attimeter s/n: 1252 P, S or ☒ pump?

Other sensors: _____ s/n: _____ P S or NO pump? _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model _____ Cable gain: _____ s/n: _____
 _____ s/n: _____

Oxygen sensor: _____ Model: _____ s/n: _____
 _____ Carburettor: _____ s/n: _____

PAR sensor: _____ Model: _____ s/n: _____

Other sensors: _____ s/n: _____
 _____ s/n: _____
 _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____
 _____ s/n: _____

Other sensors: _____ s/n: _____

CTD calibration bottle location (height above CTD in metres):

Rosette Setup:

Number of bottles: _____
Manufacturer: _____
Volume of Bottles (litres): _____

Winches:

1. Make: _____	Model: _____	Serial #: _____	used for: _____
2. Make: _____	Model: _____	Serial #: _____	used for: _____
3. Make: _____	Model: _____	Serial #: _____	used for: _____

Comments on performance during cruise: _____

Salinometer:

Make: _____ Model: _____ Serial #: _____

Comments on performance during cruise: _____

Oxygen Kit #

Comments on performance of kit and chemicals: _____

Thermosalinograph System:

Program: _____ Version: _____
Sampling interval (seconds): _____
Fluorometer sensor serial number: _____

Comments on performance during cruise: _____

ADCP Setup:

_____ did not use

Computer time zone: _____	User Exits: _____	Name: _____	Exit Points: _____
Sampling interval (seconds): _____		Name: _____	Exit Points: _____
Bin Length (2^x): _____		Name: _____	Exit Points: _____
Pulse Length: _____			
Buffer (bytes): _____	Work File: _____		
Gyro Offset: _____			

Comments: Could not get NMEA feed to work

CTD Test Cast Information

Test Cast at IOS Jetty? (optional) yes ☐ no ☒

Comments: (i.e. how did everything work??) _____

Test cast in Saanich Inlet? (recommended)

yes ☒ no ☐

If no, give reason: _____

Comments: (i.e. how did everything work??) Test cast worked.

CTD pressure reading on deck (db): _____
(Should be 0.0 db ± 0.5)

Pumps working? yes ☐ no ☐

(i.e.. Was the red LED display on the deck unit 0011 and not still 0010?)

Secondary Temp- Primary Temp: _____

(Average from the Mixed Region)

Secondary Salinity- Primary Salinity: _____

(Average from the Mixed Region)

Additional Comments: _____

Date Time PDT

Oct. 10

- 0800 Winch swap
- 1200 ship crew change
- 1230 science loading

- Sue Geier + Tor Bjorklund join ship + load

- Steve Mihaly, Dave Spear, Doug Anderson, Luc Legault
Scott Rose, Tom Lukasz join ship + load

- 1800 - depart I.O.S.

- 1842 - deploy mooring NEP1 in 102 m water @ $48^{\circ}39.4980'$
 $123^{\circ}29.5182'$

- 1855 - deploy mooring NEP2 in 103 m water @ $48^{\circ}39.5872'$
 $123^{\circ}29.5531'$

- 1924 - completed Oxygen Intercomparison cast. in 165 m water @ $48^{\circ}39.57'$
 $123^{\circ}29.80'$

- proceed to JF2C-I for recovery morning Oct. 11

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month Oct				Year 2006			Ship Tully				Cruise ID 2006-33				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
11	SI-Test	0224	BE	ROS		1	48 39.57	123 29 80	165						
		0229	BO				48 39 56	123 29.83		155	1-20	10			Oxy duplicate & CTD test cast.
		0241	EN				48 39 59	123 29.84							10 duplicates given unique sample no's.
12	LB10	0158	BE	ROS		2	48 18 59	125 41 30	153						
		0201	BO				48 18 57	125 41 20		145					
		0203	EN				48 18 53	125 41 13			0	0	PA LL	-	
12	LB09	0254	BE	ROS		3	48 22.06	125 34.87	149						
		0256	BO				48 22.07	125 34 92		140	21-30	10	DA LL	✓	
		0310	EN				48 22.07	125 35.10							
	LB06	0510	RE	CTD		4	48 32.29	125 15.46	112	110	2mab				
		0514	BO				48 32.30	125 15.40							
		0516	EN				48 32.36	125 15.36							
	LB05	0550	BE	CTD		5	48 33.99	125 12.18	100	99	2mab				
		0552	BO				48 34.00	125 12.25							
		0554	EN				48 34.00	125 12.25							
	LB04	0625	BE	CTD		6	48 35.74	125 8.87	111		2mab				
		0628	BO				48 35.74	125 8.91							
		0632	EN				48 35.75	125 8.98							

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bottle firing method:
US = up/stop
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Daily_log_book.doc

Date Time

Oct. 11 0730 - on site SF2C-I for recovery.

0753 - ranges 235, 237, 243, 262

- range 276 sent ACDE received positive response
again sent ACDE " " "

- ranges 326, 322 - we are drifting away - and it may be rising.

0812 - still not on surface - moving close for another try.

0817 - back near station app 1 cable off.

- range 273, 270

0818 - sent ACDE + sent ACDE

- range 259, 257, 256, 253, 253, 252, 251, 250, 249, 248.
246 m. and we are not drifting toward it. 245

0824 - sent ABFEF. x 3 no response - or partial + very faint

- ranges 249

0827 - sent ACDE

- range 249 - 252 - 255

0831 - sent CDFG x sent ACDE repeatedly in combination.

- sighted on surface.

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							Latitude	Longitude							
12	LG01	1513	BE	CTD		7	49°20.515	126°35.040	52						
		1517	BO							48					5 mab
		1518	EN				49°20.525	126°35.071							
	LG02	1543	BE	CTD		8	49°18.667	126°38.176	100						
		1548	BO				49°18.648	126°38.268		97					5 mab
		1550	EN				49°18.647	126°38.290							
	LG03	1631	BE	CTD		9	49°15.013	126°43.778	120						
		1637	BO				49°14.989	126°43.802		116					5.5 mab
		1639	EN				49°14.984	126°43.801							
13	LC10	0349	BE	CTD		10	48°22.357	126°20.207	1247						
		0407	BO				48°22.384	126°20.328		1240					13 mab
		0424	EN				48°22.540	126°20.423							
13	LC09	0516	BE	CTD		11	48°25.898	126°13.612	603	606			2 mab		note: charger header
		0523	BO				48°25.942	126°13.369							prompt to
		0529	EN				48°25.934	126°13.676							2006-33
13	LC08	0612	BE			12	48°29.450	126°7.138	}		31-41				* see next page
		0614	BO						}						for explanation
			EN						}						of this casts

Cast type:

BOT = bottle cast, no CTD
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ROS = Rosette plus CTD

USW = sea water loop
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NET = net haul
DRF = drifter

bottle firing method:
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Daily_log_book.doc

Date Time PDT

Oct. 11

1200

- approaching EH1-D for recovery

1214

- tried ranging on mooring - no success with range but got
rec'd + exec'd on FR1-8 FR2-12
deck unit.

1216

- sent 6A92 got rec'd + exec'd range of 1611 m (not correct)
- repeated 2 more times same positive response but ranges that make
no sense.
- mooring monitored to see if it was released
- current wake around it stopped + it was seen to be moving by
radar.

1320

- all onboard disassembled buoy in cradle light + Argos
disabled - instrument wash down in progress

1628

- heading for EH3-D for recovery

- on station EH3-D for recovery

1634

- sent 6A94 x2 received + executed both times

= 1715

- all onboard without incident stop for supper + clean up after.

- head for CTD's LB10 - LB4

Hake Fleet sitting over
LB8-LB7 forcing
these stations cancelled.

- added on stations LB3 + LB2 if possible.

Date Time PDT

Oct. 12

0730

- on station EOI for recovery
- very thick fog - decide to hold off mooring ops
- proceed with CTDs on LG line until fog thins

- completed. LG 01-02-03

- head back to mooring fog is the same = less than 1 cable

1038

- back at EOI for recovery

- 84, 84, 85, 86, 86, 87
86, 85, 84

- drifting slowly away

- small boat being launched

- we drifted a circle around it - we have defined position

- small boat is positioned over this site by ship

- ship moved off. short distance - less than cable

1052

- sent BEFH received positive response

- sighted on surface 1/2 cable ahead of bow near small boat.

1350ish.

- recovered serviced and ready for redeployment

1357

- launched. EOI-QQ in 100m water @ $49^{\circ}17.543'$ $126^{\circ}35.861'$

- head for AI deployment.

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Month				Year				Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments	
13	LC7	0729	BE	ROS		13	48 32 95	126 00 35	127							
		0733	BO				48 32 96	126 00 35		120			DA/LL	✓		
		0735	EN				48 32 98	126 00 37								
13	LCOP1	0800	BE	USW			48 35 02	126 36 49								
13	LC06	0821	BE	ROS		14	48 36 51	125 53 88	91							
		0825	BO				48 36 33	125 53 90		82	42-49	8				
		0836	EN				48 36 59	125 53 91					DA/LL	✓		
13	LC05	0920	BE			15	48 39 99	125 47 42	64							
		0923	BO				48 40 03	125 47 41		55			DA/LL	✓		
		0924	EN				48 40 01	125 47 40								
13	LC04	1008	BE			16	48 43 47	125 40 81	165							
		1013	BO				48 43 49	125 40 75		156	50-60	11	DA/LL	✓		
		1027	EN				48 43 50	125 40 56								
13	EF01	1911		ROS		17	49 5.56	125 11.69								
		1915					49 5.55	125 11.68								spigots on 1+3
		1918					49 5.54	125 11.66	32	32	61-64	4				definitely open
13	EF02	2003	BE	ROS		18	49.4.994	125 10.306	70	65	65-70	6				2+4 probably open
			BO													Although zero O ₂
		2012	EN				49.4.998	125 10.270								on profile; no
													4 mab			H ₂ S smell in bot 1

Cast type:

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Daily_log_book.doc

Side note: Science deck heads are not working - all plugged.

Cast 12 at LCØ8: A myriad of events conspired here. In order to prepare labels for this casts, the CTD operator did not notice his attempt to turn on the pumps did not succeed. Only noticed at 75m on the upcast. In the confusion 2 bottles were trapped at 20m, one was not considered an event in the log and rosette log i.e. the event # was not incremented. However, the CTD files will show an extra bottle. I couldn't think of a reasonable solution to redo the cast, mea culpa, Steve
p.s. at least I know what a pump off cast looks like.

<u>Date</u>	<u>Time</u>	<u>PDT</u>
-------------	-------------	------------

Oct. 12	1914	PDT
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- launched A1-QQ in 499m water @ position.
48° 31.773' 126° 12.155'

- proceed to LC Line for CTDs
- completed LC10 - LC4 over night

Oct. 13	0730	
	≈ 1015	
	1052	

- in Imperial Eagle Channel - preparing mooring
- entered Eftingham Inlet
- launched EF04-A in 85m water @ 49° 03.793' 125° 09.088'
- intended to deploy in 90m water (selected position) but we lost bow thruster during approach
- the mooring will be in deeper than 85m. - the stern was over deeper water.

DAILY LOG

Ocean Sciences and Productivity Division

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Month <i>October</i>				Year <i>2006</i>			Ship <i>Tully</i>				Cruise ID <i>2006-33</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
13	EF03	2116	BE	ROS		19	49 4.232	125 9.370	120	115	71-78	8			5 mab
		2120	BO				49 4.250	125 9.382	bottles 1-3 strong smell of <i>H₂S</i>						
		2126	EN				49 4.261	125 9.393							<i>just below the auxie border ~ 60m</i>
13	EF04		BE			20			* pump not used on up cast for bottom check - see Steven Tom				1.9 mab		
		2202	BO				49 3.110	125 8.625							
		2212	EN				49 3.106	125 8.606							
13	EF05	2229	BE			21	49 2.514	125 9.157	202	199	84-94	11	3.5 mab		wrong date on NMEA readout
		2234	BO				49 2.509	125 9.158							in case we
		2243	EN				49 2.494	125 9.176							
13	EF06	2319	BE			22	49 01.78	125 09.19	150						
		2323	BO				49 01.78	125 09.16		141	95-103	9			- 1.2 sal diff.
		2338	EN				49 01.75	125 09.13							Sal corrected
14	EF07	0006	BE			23	49 01.24	125 09.37	118						NMEA data correct
		0009	BO				49 01.24	125 09.39							after restart Seawave
		0018	EN				49 01.22	125 09.40			104-111	8			
14	EF08	0044	BE			24	49 0.662	125 10.261	87						
		0053	EN				49 0.665	125 10.283		86	112-118				1 mab
14	EF09	0108	BE			25	49 00.09	125 10.86	61						
		0110	BO				49 00.08	125 10.87	55						

Cast type:

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bottle firing method:

US = up/stop
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Time Code

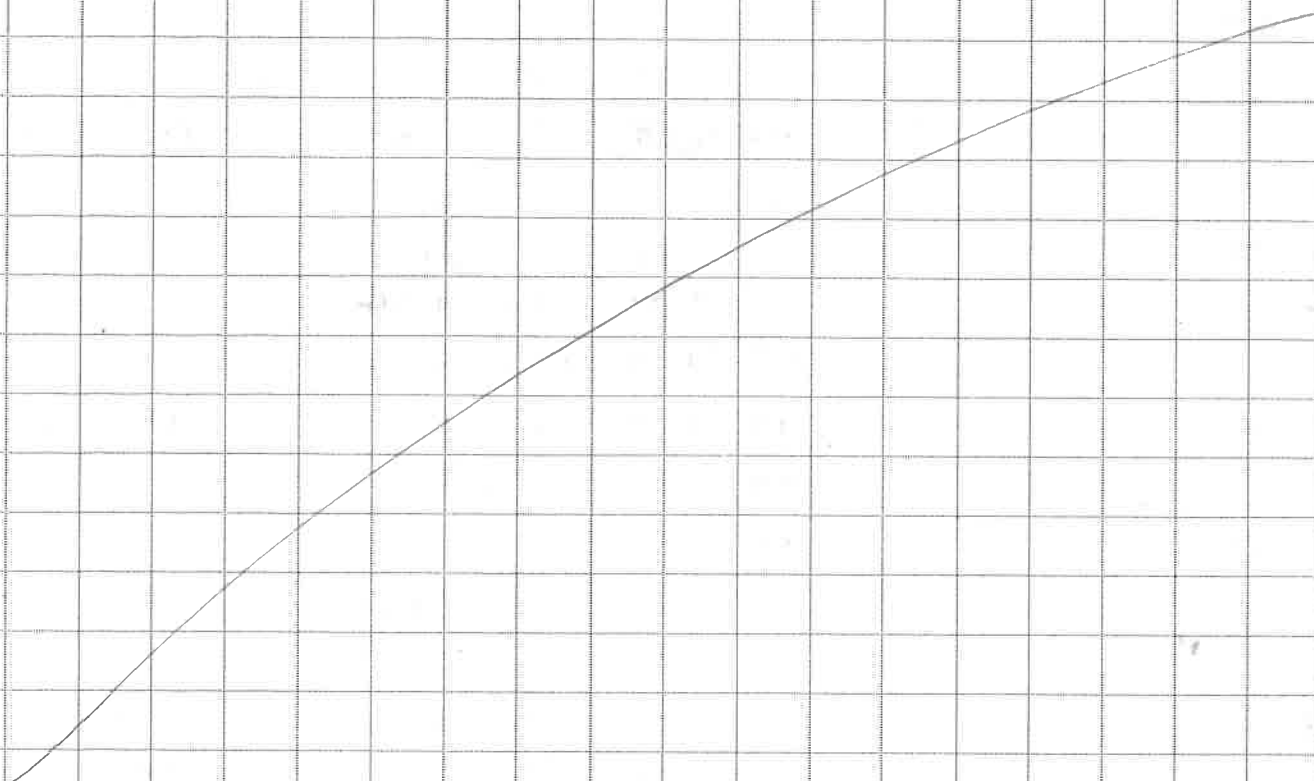
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Daily_log_book.doc

Date Time PDT

Oct. 13 ≈ 1100 - head for EFF 01 station to complete EFF CTDs.



DAILY LOG

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Month OCT				Year 2006			Ship Tully				Cruise ID 2006				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments
14	EFF09	0120	EN	ROS			49 00 07	125 10 93							
14	IEFF10	0137	BE	ROS		26	48 59 84	125 11.24	102						
		0140	BO				48 59 84	125 11.25		70	125-131	7	DB/L		
		0150	EN				48 59 83	125 11.25							
14	EFF11	0213	BE	ROS		27	48 59.09	125 11.05	84						
		0217	BO				48 59 08	125 11.08		75	132-138	7	DB/L		
		0224	EN				48 59 10	125 11.09							
14	EFF12	0249	BE	ROS		28	48 58 00	125 10 53	93						
		0254	BO				48 57.99	125 10.54			139-145	7			
		0300	EN				48 57.99	125 10.55			5 mab				
14	EFF13	0319	BE	ROS		29	48 56.49	125 10.71	103	97	146-152	7			
		0322	BO				48 56.49	125 10.71							
		0326	EN				48 56.50	125 10.70							
14	LCØ1	0516	BE	CTD		30	48 50.49	125 27.80		92					3 mab
		0519	BO				48 50.49	125 27.79							
		0521	EN				48 50.50	125 27.80							
14	LCØ2	0552	BE	ROS		31	48 48.67	125 30.98	109	104	153-160	8			5 mab
		0555	BO				48 48.66	125 30.98							*1. bottle n der
		0603	EN				48 48.65	125 31.03							reversed, see rosette log

Daily_log_book.doc

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Date Time PDT

Oct. 14 0800 - on station EH2-D for recovery

0808 - sent ARM + 0455 command x2 rec'd positive response x2
Rcd + Exec'd returned both times range was 164

- seems to be riding high = released

- bridge monitoring its position

- buoy not moving but conditions are flat calm - we hook on to tow it see if it is free - buoy still attached - released tension

0850 - sent Arm + release command again - positive responses but
buoy came free and towed after ship without tension.
- completed recovery without problem except loss of PAR sensor on the mast.

0925 - at EH04 for recovery.

- trouble getting consistent ranges

- ranges 166 - 157 as we approach. 144, 142

- lost contact with hull transducer - shallow water.

- moved back on to mooring location app. 1/2 cable off. used deck transducer.
144, 143, ranges again.

- decided to move off and release. app. 1 cable off.

1000 - ranges 340-350

1001 - sent 5A68 for release x2 rec'd + exec'd both times range 370-380 m.
- sighted on surface. - recovery completed without incident.

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							Latitude	Longitude							
14	LC03	0630	BE	CTD		32	48 46.92	125 34.34	137	132					
		0634	BO				48 46.90	125 34.37							3 mab
			EN				48	125							
14	LC0P2	0916		USW		LOOP 2	48 25.37	125 15.77							
15	LB15	0016	BE	ROS		33	48 04.40	126 08.58	1556						SAL ONLY
		00?	BO							1571			DA/		5 mab
		0055	EN				48 04.66	126 08.76							
15	LB14	0153	BE	ROS		34	48 08.46	125 59.96	1172						
		0209	BO				48 08.53	125 00.13		1185			DA/		
		0224	EN				48 08.66	126 00.29							
15	LB13	0253	BE	ROS		35	48 10.63	125 56.04	915	917	161-178	18			lost altitude,
		0314	BO				48 10.69	125 56.09							somewhere around
		0339	EN				48 10.90	125 56.13							5 mab, calm, warm
15	LB12	0433	BE	ROS		36	48 12.86	125 51.91	514	514					4 mab
		0440	BO				48 12.89	125 51.91							
		0445	EN				48 12.88	125 51.91							
15	LB11	0522	BE			37	48 15.19	125 47.68	206	203	179-190	12			
		0529	BO				48 15.18	125 47.68							
		0539	EN				48 15.18	125 47.70					4 mab		

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Daily_log_book.doc

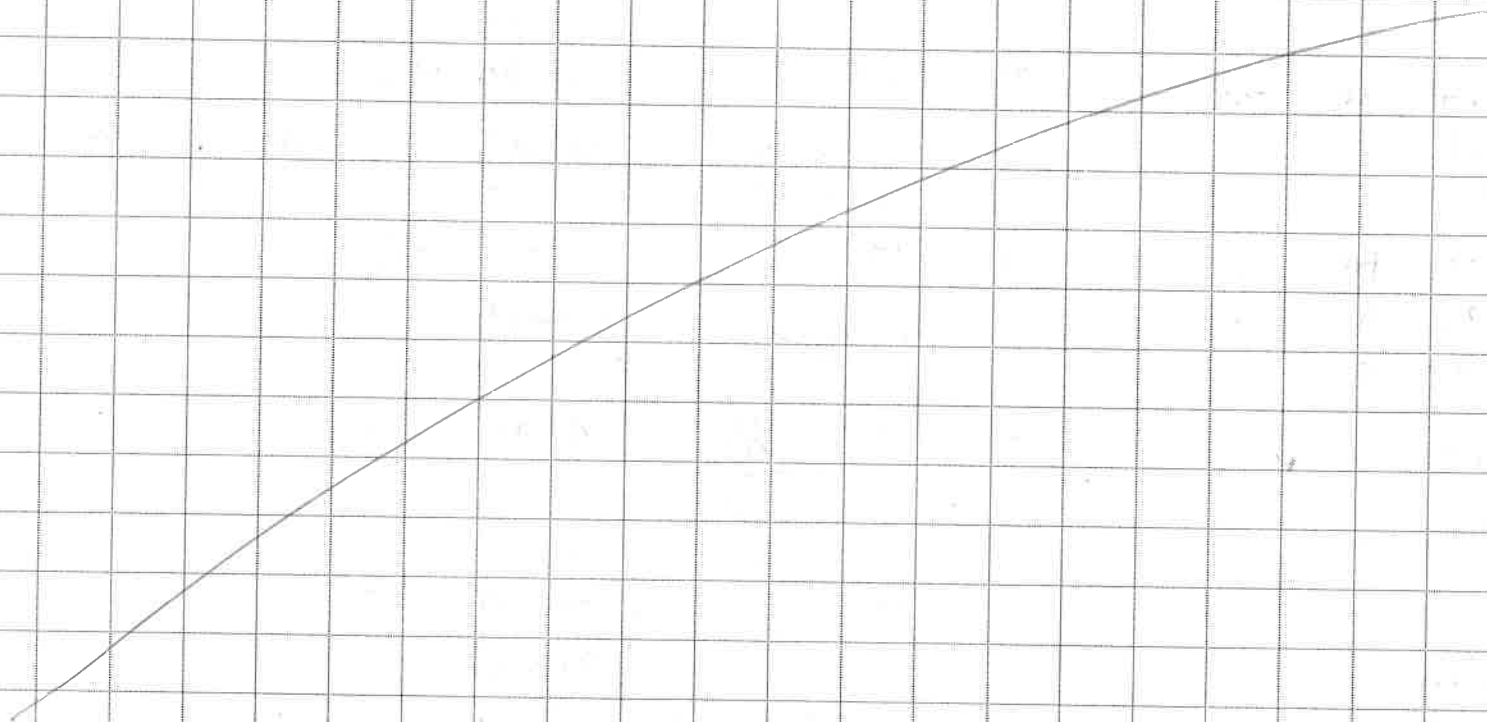
Date Time PDT

Oct. 14

± 1030

- head for LB Line CTDs

- intend to finish LB Line LA Line and Juan de Fuca lines



DAILY LOG

Ocean Sciences and Productivity Division

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							Latitude	Longitude							
15	L308	0728	BE	ROS		38	48 25 33	125 28 55	134						
		0734	BO				48 25 42	125 28 51		145	191-199	9	DA/L	✓	
		0744	EN				48 25 41	125 28 51							
15	LOOP3	0930		USW			48 13 92	125 29 77							LA7 cancelled due to fish boat. SAL
15	LBA4	0943	BE	ROS		39	48 12 94	125 29 92	146						Raining
		0947	BO				48 12 96	125 29 89		135	⊖	-	DA/L	✓	
		0949	EN				48 12 96	125 29 87							
15	LA10	1440	BE	ROS		40	47 59.057	125 43.378	920						
		1457	BO				59.120	43.280		900	200-218	19			20 mab
		1528	EN				47 59.080	125 43.178							
15	LA09	1612	BE	ROS		41	48°2.344	125 36.810	350						
		1621	BO				2.369	36.763		345					
		1626	EN				2.360	36.793							10 mab
15	LA08	1711	BE	ROS		42	48.5.767	125 30.278	141						
		1715	BO				48 5.776	125 30.248		136	219-227	9			5 mab
		1723	EN				48 5.765	125 30.282							
15	LA07	1810	BE	ROS		43	48 9.204	125 23.839	115						
		1814	BO				9.192	125 23.890		111					
		1816	EN				48 9.197	125 23.894							25 mab

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Daily_log_book.doc

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Oct</i>				Year <i>2006</i>			Ship <i>Tully</i>					Cruise ID <i>2006-33</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments	
<i>15</i>	<i>LA06</i>	<i>1914</i>		<i>ROS</i>		<i>44</i>	<i>48° 12.652</i>	<i>125° 17.168</i>	<i>112</i>							
		<i>1918</i>					<i>48° 12.664</i>	<i>125° 17.161</i>		<i>108</i>					<i>6 mab</i>	
		<i>1919</i>					<i>48° 12.666</i>	<i>125° 17.154</i>								
	<i>LA05</i>	<i>2003</i>		<i>ROS</i>		<i>45</i>	<i>48 16.102</i>	<i>125° 10.529</i>	<i>121</i>						<i>6 mab</i>	
		<i>2007</i>					<i>48° 16.110</i>	<i>125° 10.488</i>		<i>115</i>						
		<i>2009</i>					<i>16.111</i>	<i>10.472</i>								
	<i>LA04</i>			<i>ROS</i>		<i>46</i>			<i>192</i>	<i>190</i>			<i>3 mab</i>		<i>3 mab</i>	
		<i>2101</i>					<i>48 19.37</i>	<i>125 4.10</i>			<i>228-237</i>	<i>10</i>				
		<i>2110</i>					<i>48 19.38</i>	<i>125 4.16</i>								
	<i>LA03</i>	<i>2154</i>		<i>ROS</i>		<i>47</i>	<i>48° 22.841</i>	<i>124 57.649</i>	<i>113</i>							
		<i>2157</i>					<i>48 22.835</i>	<i>124 57.609</i>		<i>107</i>					<i>5 mab</i>	
		<i>2200</i>					<i>48 22.820</i>	<i>124 57.593</i>								
<i>15</i>	<i>LA02</i>	<i>2246</i>		<i>ROS</i>		<i>48</i>	<i>48 26.287</i>	<i>124 51.403</i>	<i>305</i>							
		<i>2253</i>					<i>48 26.350</i>	<i>124 51.576</i>		<i>300</i>	<i>238-250</i>	<i>13</i>				
		<i>2312</i>					<i>48 26 37</i>	<i>124 51 85</i>								
<i>15</i>	<i>LA01</i>	<i>0001</i>		<i>ROS</i>		<i>49</i>	<i>48 29.24</i>	<i>124 43.68</i>	<i>265</i>							
		<i>0007</i>					<i>48 29 26</i>	<i>124 43 64</i>		<i>255</i>			<i>PH₂L</i>	<i>✓</i>		
		<i>0010</i>					<i>48 29 28</i>	<i>124 43 61</i>								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>October</i>				Year <i>2006</i>				Ship <i>Tully</i>				Cruise ID <i>2006-33</i>			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments
16	JFG-1	0056	BE	ROS		50	48 34 09	124 40 03	46						
		0058	BO				48 34 09	124 40 03		40	—	—	DA/L	—	
		0059	EN				48 34 08	124 40 03							
16	JFG-2	0121	BE	ROS		51	48 32 34	124 39 92	139						
		0125	BO				48 32 33	124 39 89		130	—	—	DA/L	—	
		0127	EN				48 32 33	124 39 87							
16	JFG-3	0151	BE	ROS		52	48 30 46	124 40 01	236						
		0156	BO				48 30 46	124 39 97		227	—	—	DA/L	—	
		0200	EN				48 30 45	124 39 94							
16	JFG-4	0228	BE	ROS		53	48 28 39	124 40 08	255						
		0233	BO				48 28 42	124 40 13		247	—	—	DA/L	✓	
		0236	EN				48 28 43	124 40 16							
16	JFG-5	0302	BE	ROS		54	48 26 14	124 39 92	193	182	4 mab			✓	Flat calm, fine
		0309	BO				48 26 26	124 39 82							ocean weather
		0312	EN				48 26 31	124 39 80							
16	JFG-6	0336	BE	ROS		55	48 24 40	124 39 91	75	70	—				
		0338	BO				48 24 41	124 39 91			Swab				
		0339	EN				48 24 41	124 39 90							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month Oct				Year 2006				Ship Tully				Cruise ID 2006-33				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments	
16	JF2-7	0536	BE	ROS		56	48 16.71	124 17.37	68	66					3 mab	
		0538	BO				48 16.71	124 17.37								
		0539	EN				48 16.70	124 17.36								
16	JF2-6	0600	BE			57	48 18.25	124 16.70	171	168					3 mab	
		0603	BO				48 18.25	124 16.70								
		0606	EN				48 18.26	124 16.71							Flat Calm	
16	JF2-5	0625	BE			58	48 19.62	124 15.94	207	204					3 mab	
		0629	BO				48 19.61	124 15.97								
		0633	EN				48 19.61	124 15.99								
16	JF2-4	0709	BE			59	48 21 25	124 15 01	225		-				Flat, still flat	
		0714	BO				48 21 23	124 15 00		220		-	LL DA	✓	6 MAB	
		0718	EN				48 21 21	124 15 03							A little extra data after cast	
16	JF2-3	0742	BE			60	48 22 71	124 14 15	190							
		0746	BO				48 22 70	124 14 17		185	-	-	LL DA	✓		
		0750	EN				48 22 69	124 14 18							5 MAB	
16	JF2-2	0814	BE			61	48 24 31	124 13.38	166							
		0817	BO				48 24.31	124 13.38		160	-	-	LL DA	-	4 MAB	
		0821	EN				48 24 31	124 13 37								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>Oct</u>				Year <u>2006</u>			Ship <u>Tully</u>				Cruise ID <u>2006-33</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments	
16	JF2.1	0903	BE	ROS		62	48 25.75	124 12.58								
		0906	BO				48 25.76	124 12.60	74	90	-	-	DA/L	✓	5 MAB	
		0907	EN				48 25.76	124 12.61								
17	LOOP4	0710		USW		LOOP4	49 11.55	123 40.96	-	-	-	1	DA		Brushed TSG Fluor 0313 17/10	
17	QCSI	2139	BE	ROS		63	50 39.952	126 46.217	151							
		2153	EN				50.39.990	126 46.158		145	251-259	9	LR		6 mab	
17	KNO	2305	BE			64	50 38.34	126 34.99	58							
		2308	BO				50 38.34	126.34.99	58	52			SR		6.2 MAB	
		2312	EN				50 38.33	126 34.99	59							
18	KN1	0001	BE			65	50 38.07	126 25.32		256	260-271					
		0006	BO				50 38.07	126 25.31	250			12	DA	✓	4.5 MAB	
		0024	EN				50 38.07	126 25.29								
18	CC2	0138	BE			66	50 34.22	126 29.22	66							
		0140	BO				50 34.22	126 29.22		60	-	-	DA/L	✓		
		0142	EN				50 34.22	126 29.22								
18	CC1	0225	BE			67	50 36.32	126 21.37	114							
		0228	BO				50 36.33	126 21.40		110	-	-	DA/L	✓	4 MAB	
		0231	EN				50 36.33	126 21.41								

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Daily_log_book.doc

Date Time PDT

Oct. 16

0720

- on station AS04-F for recovery
- ranges 154, 137, 134 as we approach
- turned both 782 and 847 on - both ranged
- turned 847 off.
- working 782

0737

- stopped right over mooring - range 128, 123
- moved off to recover.

0741

- stopped range 305

0743

- sent CA15. rang 317 - rec'd + exc'd

- sighted on surface

- clean up + set up mooring for redeployment.

1037

- launched AS04-G in 117 m depth

@ $48^{\circ} 18.011'$ $123^{\circ} 22.563'$

- upward looking

- internal battery

- no compass swing due to cruise schedule pressure

- head for I.O.S to land Sue Tor, and equipment.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>Oct</u>				Year <u>2006</u>				Ship <u>Tully</u>				Cruise ID <u>2006-33</u>			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	KNZ		BE	CTD		68	50 39.31	126 11.06	184	175	—	—	CR		
		0338	BO				50 39.	126							b mab
		0343	EN				50 39.36	126 11.189							Sorry for holes
18	TRC 0.5	0411	BE	CTD _{ROS}		69	50 40.86	126 14.59	157		—	—			
		0416	BO				50 40.88	126 14.57	158	153			SR		5 mab
		0420	EN				50 40.91	126 14.57	160						
18	TRC 1.0	0512	BE	ROS		70	50 43.62	126 10.86	285		—	—			
		0517	BO				50 43.59	126 10.89	290	285			CR		5 mab
		0522	EN				50 43.58	126 10.894	296						
18	TRC 1.5	0604	BE	ROS		71	50 45.60	126 9.09	224		—	—			
		0608	BO				50 45.59	126 9.10	225	220					
		0621	EN				50 45.554	126 9.128	225						
18	TRC 2.0	0723	BE	ROS		72	50 49.22	126 12.81	208						
		0728	BO				50 49.23	126 12.80		201	—	—	DR, LL	✓	2 MAB
		0732	EN				50 49.24	126 12.80							
18	TRC 2.5	0829	BE	ROS		73	50 50.40	126 19.72	272						
		0834	BO				50 50.40	126 19.78		275	—	—	DR, LL	—	7 MAB
		0839	EN				50 50.39	126 19.82							

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Date Time PDT

Oct. 16

1345

- on station NEP2 for recovery.
- range 141 - 105 as we approach
- moved away for release.
- sent B532 - rec'd + exec'd range 333 m - nothing coming up.
- sent B531 for range - no connection
- moved closer - came out of gen. mode.
- ranges 225, 221 - sent B532 "rec'd + exec'd." range 221.
- sighted on surface

1414

- all on board.

1416

- range on NEP11 = 124, 125 m
- moving short distance off
- range 145
- sent B530 "rec'd + exec'd" range 140
- sighted on surface

- head for I.O.S. jetty.

- land Sue + Tor + equipment
- pick up 2x RCM + buoys for Aquaculture.

2000

- depart I.O.S.

DAILY LOG

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	#of Bottles	Watch Keepers	Trans. Cleaned	Comments	
18	TR3.0	0927	BE	ROS		74	50 48 96	126 25 42	230							
		0931	BO				50 48 95	126 25 45		225	284-295	12	DA/L	✓	6 MAB	
		0945	EN				50 48 83	126 25 74								
18	PP1	0930	BE	ROS		75	50 48 85	126 31 60	141							
		1034	BO				50 48 87	126 31 61		135	-		DA/L	✓		
		1036	EN				50 48 87	126 31 62								
18	SC	2312	BE	ROS		76	50 53 37	126 45 71	236							
		2316	BO				50 53 35	126 45 71		230	-	-	DA/L	✓	6 MAB	
		2322	EN				50 53 34	126 45 72								
19	KIN1	0024	BE	ROS		77	50 53 68	126 34 34	474							
		0029	BO				50 53 65	126 34 43		468	-	-	DA/L		8 MAB	
		0035	EN				50 53 63	126 34 51								
19	KINO	0100	BE	ROS		78	50 51 68	126 37 20								
		0106	BO				50 51 64	126 37 20	388		296-309	14	DA/L	✓	7 MAB	
		0128	EN				50 51 52	126 37 10								
19	RaP	0224	BE	ROS		79	50 46 49	126 30 60	237							
		0229	BO				50 46 51	126 30 62		232	-	-	DA/L	✓	6 MAB	
		0234	EN				50 46 51	126 30 64								

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Date Time PDT

Oct. 17

0730

- transit Seymour Narrows - fog + gill net fisheries slow progress.

± 1430

- arrive Broughton area and commence Aquaculture CTD's
 - appeared to have more time - contacted I.O.S. for more stations
 - got info to pick up met. station from local fish farm Humphrey Rock Farm

Oct. 18

0730

- on station TCS-03 for recovery.

- range 209, 211, 213 - moving off to release.

- just getting light.

0747

- range 264, 265

- sent B542' - release got "rec'd + exc'd"

0748

- sighted on surface

= 0800

- received equipment from Humphrey Rk. Farm - small boat

- prep + cleanup + break for lunch

1319

- launched PenPass-01 in 157m depth (tide not included)
 at position 50° 50.214 126° 34.763'

- head for SutChan-01.

1549

- launched SutChan-01 in 205 m depth (tide not included)
 at 50° 52.766 126° 44.701

- start Broughton Island CTD's again.

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19	FIS	0312	BE	ROS		80	50 47.00	126 36.74		328	—	—			
		0315	BO				50 46.99	126 36.74							
		0319	EN				50 46.99	126 36.76							2.6 mab
19	FISO	0354	BE			81	50 45.65	126 44.23	227		—	—	SR		4 mab
		0358	BO				50 45.65	126 44.25	227	223					
		0401	EN				50 45.65	126 44.29	205						
19	WP	1443	BE	ROS		82	50° 50.79	126 56.42	179	170					
		1452	EN				50.80	56.44		175					4 mab
19	QCSZ	1533	BE	ROS		83	50° 46.561	127° 2.328	222		310-321	12			
		1539	BO				46.602	2.328		219					3 mab
		1552	EN				50° 46.708	127° 2.412	14						
	QCS	1637	BE	ROS		84	50° 42.824	126° 55.615	143		—				
		1641	BO				50° 42.835	126° 55.619		140					3 mab
		1643	EN				50 42.838	126° 55.610							
	RPI	1753	BE			85	50 40.376	126 39.644	80						2.7 mab
		1756	BO							76					
		1757	EN				50 40.398	126° 39.600							
	RP3	1831	BE			86	50 43.429	126° 34.709	67						1 mab
			EN				50° 43.448	126° 34.603		66					

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Date Time PDT.

Oct. 20 0843 - on station NEP for deployment.
- launched NEP2-A in 102.5 m water @ $48^{\circ}39.594'$
 $123^{\circ}29.556'$

0849 - launched NEP1-A in 104 m water @ $48^{\circ}39.498'$
 $123^{\circ}29.518'$

- head for I.O.S. - and off loading.
- tie up app. 0930.

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Cast type:	USW = sea water loop	bottle firing method:						
BOT = bottle cast, no CTD	MOR = mooring	US = up/stop	Time Code					
CTD = CTD without Rosette	NET = net haul	UN = up/no stop	BE = beginning time of cast	DE = deployment time				
ROS = Rosette plus CTD	DRF = drifter	DN = down/no stop	BO = bottom time of cast	MR = messenger release time				Daily_log_book.doc
			EN = end time of cast	RE = recover mooring time	Transmissometer to be cleaned for each cast, do not use Ammonia products			