

DAILY LOG BOOK

MISSION
NUMBER

2008-32

DATE:

From: Apr. 22/26 - to: May 2

VESSEL:

CCGS J.P. Tully

PROJECT:

La Perouse, Juan de Fuca, Effingham
Inlet.

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

Date Time PDT

Apr. 22-26, 2008 Major delays to departure of cruise due to refit issues with new aft deck crane and stbd side anchor windlass
See separate letter, for detail

Apr. 25 - loading throughout day in between ship refit operations
- managed to load all gear except one box van load using 3 separate rental cranes and extraordinary effort by all concerned

Apr. 26 1300 - science crew complete loading and setup
1400 - crane ~~off~~ testing and Transport Canada approval starts at 1400 and continues to 1900 app.
- crane passes CSI certification but there are contractual performance issues outstanding = crane not up to some specifications but is safe to use for this trip.
- Transport Canada approval secured to sail with only one anchor.
- stbd side windlass still not working due to an error in the part that was missing and the wrong part shipped from supplier.

NB: - days prior to sailing the planned testing of Arctic (new) equipment was cancelled due to several reasons, one being the delay of the cruise by refit problems.

Cap't McGregor and I agree to write a joint letter to outline problems with refit scheduling.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>APR</u>				Year <u>2008</u>			Ship <u>TULLY</u>				Cruise ID <u>2008-32</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							
28	LG08	0712	BE	CTD	/	001	48 55.27 N	127 13.32	2060		/	/	JE/LP/JE	✓	
		0732	BO				48 55.29	127 13.32		2000					
		0758	EN				48 55.28	127 13.33							Sal Loop #1 @ 0800
28	LG07	0848	BE	ROS	US	002	48 59.47	127 07.12	1753		1-22	22	"	"	Winch operator used wire
		0914	BO				48 59.41	127 07.23		1760					not instead of pressure wire
		0958	EN				48 59.40	127 07.27							Stopping at std depths.
28	LG06	1051	BE	CTD		003	49 03.51	127 01.21	958		/	/	"	✓	Loop #2 @ 1054
		1104	BO				49 03.51	127 01.18		972					
		1117	EN				49 03.48	127 01.20							
28	LG01	2035	BE	CTD		004	49° 20.486	126° 35.039	55		/	/			3 mab
		2040	BO						5	50					
		2041	EN				49° 20.544	126° 35.068							
28	LG02	2120	BE	ROS		005	49 18.702	126° 38.183	100		23-29	7			
		2123	BO				49 18.733	126 38.225		97					3 mab
		2130	EN				49 18.784	126° 38.294							

Cast type:

BOT = bottle cast, no CTD
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bottle firing method:

US = up/stop
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Time Code

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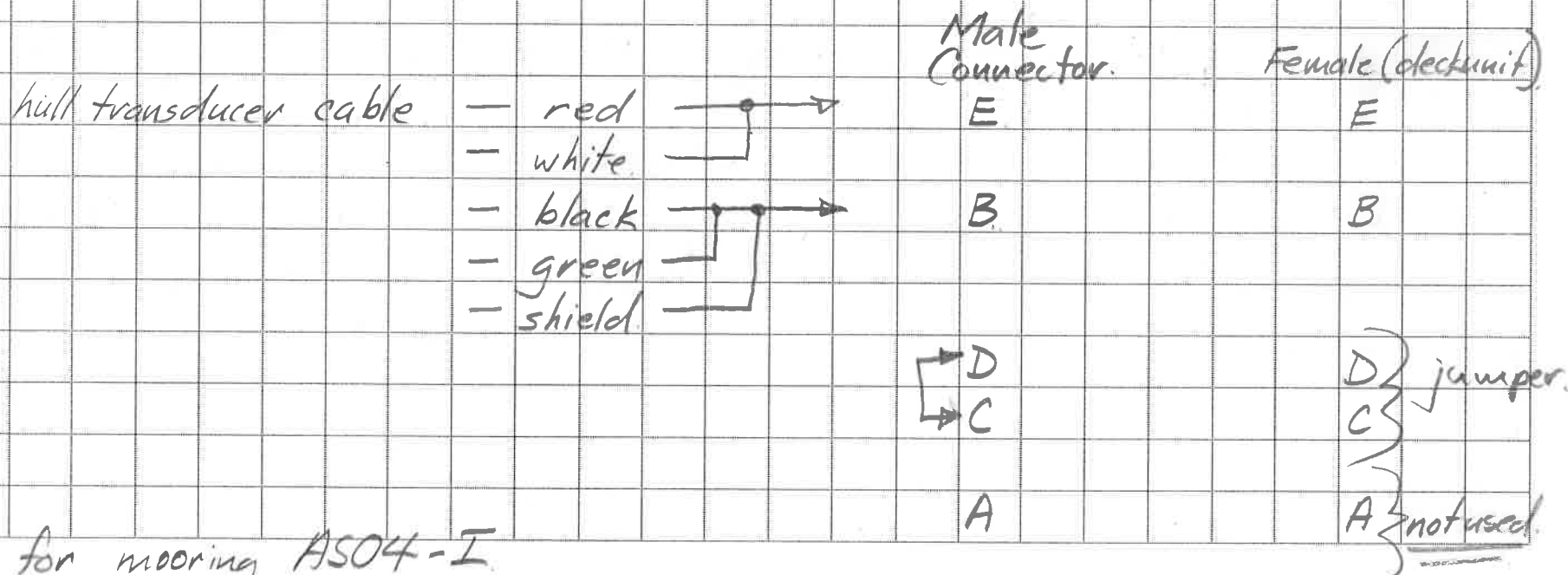
DE = deployment time
 MR = messenger release time
 RE = recover mooring time

Transmissometer to be cleaned for each cast, do not use Ammonia products

Date Time PDT

Apr. 26 2200 - setting up TT801 deck units

- both TT801 were damaged and malfunctioned when connected to hull transducer
- both TT801 worked well with dunking transducer.
- in trouble shooting situation we discovered the connector changed by Institute Electronics was installed incorrectly and destroyed our deck units.
- we reinstalled the old connector and tested - OK it will work.
- end result: - both TT801 will need factory repair.
- we will be operating with TT301 for this cruise.



2300 - we sail for mooring AS04-I

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							Latitude	Longitude							
28	LG03	2220	BE	CTD		006	49 15.017	126 43.750	118	117					3 mab
		2224	BO				49 15.049	126 43.816							
		2225	EW				49 15.055	126 43.824							
28	LG04	2311	BE	ROS		007	49 11.29	126 49.39	144		30-38	9		✓	Loop SW #3 @ 2317
		2314	BO				49 11.30	126 49.40		135					
		2324	EW				49 11.33	126 49.39							
29	LG05	0007	BE	ROS	US	008	49 08.04	126 54.34	222		39-50	12	JE/TJ/SE		Loop SW #4 @ 0014
		0011	BO				49 08.04	126 54.35		215					
		0024	EN				49 08.056	126 54.408							
	LC11	0557	BE	CTD		009	48 18.980	126 26.67	1466				SS et al	✓	
		0621	BO				48 18.974	126 26.695		1462					
		0644	EN				48 19.12	126 26.81							
29	LC10	0732	BE	ROS	US	010	48 22.45	126 20.18	1242		51-68	18	JE/LP/SZ	✓	Loop SW #5 @ 0734
		0751	BO				48 22.42	126 20.14		1240					
		0822	EN				48 22.41	126 20.28							

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Daily_log_book.doc

Date Time PDT

Apr. 27

0720

- approaching ASO4-I for recovery app. 1 cable off.

0725

- directly over mooring range 116 m + 117 m

- drifting off. ranges 133 - 173 m

- moved off to app. 1-1½ cable range 168

- some deck preparations to be done rng = 170 - 183 m

0745

- rngs 239 - 241

- sent Arm 6431 → no response.

again → "rec'd"

sent release 6434 → "rec'd + executed" 277 m rng.

0749

- sighted on surface.

0806

- mooring recovered without difficulty and no apparent damage.

* - we forgot to bring Argos testing equipment
have to test thruout satellite system over internet

- heading for Estevan LG line expecting developing gale in southern waters - so I decided to head farthest north.

≈

1230

- T+S turned on.

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							Latitude	Longitude							
29	LC09	0908	BE	CTD	/	011	48 25.98	126 13.70	600		/	0	JL/LP/JZ	✓	Loop Sol #6 @ 0921
		0920	BO				48 25.94	126 13.70		604					
		0929	EN				48 25.89	126 13.74							
29	LC08	1017	BE	ROS	US	012	48 29.43	126 07.10	199		69-79	11	JL/LP/JZ	✓	
		1020	BO				48 29.43	126 07.10		196					
		1030	EN				48 29.45	126 07.11							
29	LC07	1117	BE	CTD	/	013	48 32.96	126 00.48	129		/	/	JL/LP/JZ	✓	
		1122	EN				48 32.97	126 00.49		121					
29	LD11	2300	BE	CTD	/	014	48 28.75	126 42.96	1578		/	/	TJ/JE/JZ	✓	Loop Sol #7 @ 2305
		2327	BO				48 28.71	126 42.96		1594					
		2352	EN												
30	LD10	0050	BE	ROS	US	015	48 32.21	126 35.58	1465		80-99	20	TJ/JE/JZ	✓	Note 2 bottles tripped at bottom as Dick 1 has been unreliable
		0113	BO				48 32.29	126 36.61		1474					
		0148	EN				48 32.31	126 36.58							

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W

Daily_log_book.doc

Transmissometer to be cleaned for each cast, do not use Ammonia products

Date Time PDT

Apr. 28 0720

- on station EOI-SS for recovery.
- moving to station rng's 301 → 134 → 128

- could not put sounder into passive - mouse locked up.
- we do not get the bridge repeater any more.
- science server computer does not boot - both hard drives not found.
- see more detailed note - separate

0734

- moved directly over ranges 98, 95, 94
- moving off for release - back deck being prepared rng 126

0737

- rng 130, 128

0739

- sent B542 "rec'd + executed"
(release)

0740

- sighted on surface

0845

- all on board + washing down.
- setting up on deck

1254

- launched mooring EOI-TT at $49^{\circ}17.291'$ $126^{\circ}36.143'$
in 100 m depth.

- completed CTDs along LG line. and offshore end of LC Line.

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							Latitude	Longitude							
30	LD09	0238	BE	CTD	/	016	48 35.68	126 29.98	1046		/	/	JE/DS/SZ	/	Loop S/L #8 @ 0241
		0249	BO				48 35.71	126 30.03		1054					
		0300	EN				48 35.74	126 30.01					SS/SR		
	LD08	0352	BE	ROS	US	017	48 39.16	126 23.37	768						Loop #9 @ 0353
		0405	BO				48 39.15	126 23.38		769	100-117	18		✓	Bottle 7 did not fire
		0430	EN				48 39.18	126 23.38							
	LD07	0519	BE	CTD		018	48 42.671	126 16.75	487					✓	Loop #10 @ 0520h
		0526	BO				48 42.66	126 16.78		481					
		0531	EN				48 42.66	126 16.750							
30	LD06	0618	BE	ROS	US	019	48 46.17	126 10.16	137		118-127	10	✓	✓	Loop 11 @ 0620
		0621	BO				48 46.19	126 10.11		132					7+9 BOTTLES
		0632	EN				48 46.169	126 10.110					✓		DID NOT FIRE
30	LD05	0715	BE	CTD	/	020	48 49.67	126 03.60	90				JE/LP/SZ	✓	
		0720	EN				48 49.69	126 03.63		88					
30	LD04	0803	BE	ROS	US	021	48 53.12	125 56.98	63		128-134	7	JE/LP/SZ	✓	
		0806	BO				48 53.15	125 56.98		58					
		0810	EN				48 53.17	125 56.96							

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Date Time PDT

- Apr. 29 0730
- approaching AI-SS for recovery rng - 536
 - moved directly over mooring ranges 512, 513, 514
 - drifting away until we reach safe distance to release
 - 516 - 518 - 522 drifting too slow. -decide to manoeuvre away
 - moving off 1 1/2 cable for release
- 0750 - stopped + ranges = 736 734 - 719
- 0752 - sent B534 "rec'd + exec'd" + rng. 713 m.
- 0752 - sighted on surface
- cleanup on deck service instruments.
- 1307 - launched mooring AI-TT at $48^{\circ} 31.767'$ and $126^{\circ} 12.214'$
in 500m ocean depth.
- head for LD Line CTDs

1500h - bottles are mistripping - especially bottle 1 - the oxygen values are indicative of a reoccurring mistfire either at surface or at some other depth. (S. Swamin)

NB: - bottles #7 + #9 are also misfiring. Observed lanyard from top caps crosses centre point of pivot that supports Rosette latch for problem bottles. There is no mechanical advantage to open latch. We will all watch more carefully when cocking the bottles to see if that eliminates this problem at all.

We solved problem by raising bottles. The real answer is to raise the lanyard guide ring to improve the geometry of the bottle top cap + the lanyard guide ring and the Rosette latch.

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							Latitude	Longitude							
30	LD03	0854	BE	CTD	/	022	48 56.60	125 50.36	47		/	/	JE/LI/JZ	✓	
		0857	EN				48 56.61	125 50.37		44					
30	LD02	0923	BE	ROS	US	023	48 58.33	125 47.08	43		135-140	6	JE/LP/JZ	✓	
		0925	BO				48 58.34	125 47.09		38					
		0929	EN				48 58.35	125 47.10							
30	LD01	0956	BE	CTD	/	024	49 00.10	125 43.82	36		/	/	"	✓	
		0959	EN				49 00.10	125 43.84		30					
30	EF01	1922	BE	ROS		025	49 5.556	125 11.683	34		141-144	4			3 mab
		1924	BO							30					bottle 1 did not close
		1927	EN				49 5.543	125 11.689							although latch had release
30	EF02	1950	BE	ROS		026	49 5.010	125 10.321	69		145-152	8			3 mab
		1954	BO				49 5.008	125 10.318		65					bottle 7 not fired
		2001	EN				49 5.012	125 10.321							power was on pylon & raised bottle
30	EF03	2024	BE	ROS		027	49 4.267	125 9.400	117		153-160	8			3 mab
		2029	BO				49 4.272	125 9.400		115					Bottom 2 bottles H ₂ S
		2036	EN				49 4.285	125 9.408							

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Daily_log_book.doc

Date	Time	PDT	- recovery of mooring EF04 - B
Apr. 30	0700	-	standing off Ettingham entrance waiting for fog to clear.
Apr. 30	0835	-	passed over mooring rings 157 174, 290 m. at speed positioning ship better for recovery ops.
	0855	-	we can not contact with ship hull transducer. - too far off + shallow restricted channel. - moved closer and ready with dunking transducer however we started getting responses at 406 m 404m and then 322 328 m.
	0900	-	sent release code 'B538' got "rec'd + executed" + range 340m - sighted on surface - below and at deeper SBE37 level there is no sign of biological growth and there is a covering of black sulphide (?) and calcium deposit. H_2S smell evident. Expecting low O_2 in basins.
	1127	-	launched EF04-C in 89 m water at $49^{\circ}03.810'$ and $125^{\circ}09.072'$ - flat calm - sun shining - cold. - heading for EFF01 to complete EFF CTDs

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							Latitude	Longitude							
30	EF04	2103	BE	ROS		28	49 3.142	125 8.558	52		161-166	6			3 mab
		2105	Bo				49 3.131	125 8.554		48					
		2109	EN				49° 3.120	125 8.554							
30	EF05	2125	BE	ROS		29	49 2.544	125 9.173	201		167-178	12			2.3 mab
			Bo				49 2.521	125 9.240		200					
		2142	EN				49 2.489	125 9.262							
30	EF06	2158	BE	ROS		30	49 1.784	125 9.185	148		179-188	10			
		2202	Bo				49° 1.778	125° 9.187		151					3 mab
		2209	EN				49° 1.754	125° 9.226							sample #188 not taken
30	EF07	2226	BE	ROS		31	49 1.231	125 9.389	116		189-196	8			
		2229	Bo				49° 1.228	125° 9.372		115					3 mab
		2237	EN				49 1.228	125° 9.368							
30	EF08	2258	BE	ROS	US	32	49 00.68	125 10.21	85		197-203	7	TJ/SE/JZ	✓	5 mab.
		2301	Bo				49 00.69	125 10.22		82					
		2308	EN				49 00.67	125 10.24							
30	EF09	2322	BE	ROS	US	33	49 00.10	125 10.85	62		204-209	6	TJ/SE/JZ		
		2326	Bo				49 00.09	125 10.87		59					3 m.a.b.
		2331	EN				49 00.07	125 10.91							

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Misfire of Odd numbered bottles appears to be due to poor geometry of the lanyards and inconsistent & irregular height (placement) of the bottles.

Raising the bottles helps. Raising the ring over which the lanyards run would probably help further.

Some of the Niskins + lanyards were adjusted to try to rectify the above problem + it seems to have helped with some bottles but not all. This rosette needs more attention. Even though Bottles are coming up tripped, oxygen values indicate they actually closed at some other depth.

(S. Sloram)

Altimeter - The altimeter mount was angled outwards $\sim 5^\circ$ using a 1.25" spacer on the upper end. This helps get the rosette weight out of the acoustic beam. JF1-2 had clear returns from 80 m and closer.



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							Latitude	Longitude								
30	EF10	2343	BE	ROS	US	34	48 59.84	125 11.20	100		210-216	7	TJ..			
		2345	BO				48 59.82	125 11.22		96						3 m.a.b.
		2353	EN				48 59.76	125 11.27								
1	EF11	0032	BE	ROS	US	35	48 59.11	125 11.04	83							5 m.a.b.
		0034	BO				48 59.10	125 11.02		79	217-222	6	TJ/JE/JZ			
		0040	EN				48 59.09	125 11.01								
1	EF12	0117	BE	ROS	US	36	48 57.98	125 10.52	93		223-229	7	DS/JE/JZ			4 m.a.b.
		0120	BO				48 57.99	125 10.59		88						
		0126	EN				48 58.00	125 10.57								
1	EF13	0145	BE	ROS	US	37	48 56.49	125 10.68	102		230-236	7	DS/JE/JZ	✓		7 m.a.b.
		0149	BO				48 56.45	125 10.62		97						
		0156	EN				48 56.39	125 10.51								
1	LCO1	0346	BE	RDS		38	48' 50.39	125' 27.76	97				SS/SR/RF			Loop 12 @ 0347
		0348	BO				48' 50.37	125' 27.76		94	237-244	8				
		0349	EN				48' 50.37	125' 27.75								
	LCO2	0421	BE	RDS		39	48' 48.71	125' 30.89	111							
		0424	BO				48' 48.75	125' 30.91		110	237-244	8				Bottle 7 didn't
		0431	EN				48.70	30.91								trip

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							Latitude	Longitude							
01	LC03	0503	BE	ROS		40	48°46.90	125°34.28	139						
		0507	BO				48°46.91	125°34.27		138			SR/SS/RF	✓	
		0509	EN				48°46.94	125°34.27							
	LC04	0559	BE	ROS		41	48°43.43	125°40.77	167						
		0604	BO				48°43.45	125°40.76		164	245-254	10			
		0614	EN				48°43.52	125°40.72							Loop 13 @ 0601
01	LC05	0703	BE	CTD	/	42	48°39.90	125°47.43	65		/	/	JE/LP/JE	✓	
		0707	EN				48°39.89	125°47.45		60					6 m.a.b.
01	LC06	0751	BE	ROS		43	48°36.44	125°54.09	93		255-261	7	JE/LP/JE	✓	
		0754	BO				48°36.46	125°54.11		87					7 m.a.b.
		0759	EN				48°36.49	125°54.12							
01	JF1-1	1909	BE	CTD		44	48°29.966	124°24.988	97			/		✓	5 mab
		1913	BO				48°29.933	124°25.004		95					1.3 db pressure offset
		1915	EN				48°29.918	124°25.001							
	JF1-2	1937	BE			45	48°28.490	124°25.865	173					✓	incorrectly listed as JF1-7 in data header
		1941	BO				48°28.4	124°25.		170					5 mab
		1944	EN				48°28.441	124°25.895							clear altimeter from 80m and obs

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Daily_log_book.doc

Date Time PDT

- | Date | Time PDT | Notes |
|-------|-----------------------------|---|
| May 1 | 0820 | - approaching JF2E-K for recovery |
| | 0826 | - ranges 576, 520, 428, 410 → sent 6442 to enable to be over mooring. |
| | 0833 | - nearby directly over 148 m, 151 m.
- moving off to position to release |
| | 0840 | - stopped app. 1 cable off (347 m) + maneuvering (335 m) |
| | 0841 | - sent release code. "rec'd + executed" + rng of 283 m. |
| | 0843 | - sighted on surface. |
| | | - recovered in good order + we head for JF2C for recovery |
| | 0956 | - arrived and stopped over JF2C-K rngs 194 - 189
- move off app. 1 cable for release |
| | 1002 | - rng 415 m. sent arm code did not get rec'd.
- sent FRI/FR2 off then on several times sent arm code still no rec'd response. |
| | 1016
(1018 - on surface) | - sent FRI/FR2 "on", sent arm "on", sent release got rec'd + executed +
- some problems getting release to work. range 221 m.
ranged well in all cases had trouble with opening window, but then released on first attempt and could be tracked as it rose to surface |

* NB: #153 may have some receiver problem.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>May</i>				Year <i>2008</i>				Ship <i>Tully</i>				Cruise ID <i>2008-32</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
1	JF1-3	2006	BE	CTD		46	4827.008	124 26.772	197			/		✓	1.2m pressure offset
		2012	BO							199					2 mab (oops)
		2015	EN				4827.120	124 26.785							↑
1	JF1-4	2041	BE	CTD		47	4825.511	124 27.572	228						tut, tul
		2046	BO				4825.536	124 27.676		225					6 mab
		2048	EN				4825.572	124 27.712							
	JF1-5	2205	BE	CTD		48	4823.999	124 28.382	211						5 mab
		2210	BO				4824.029	124 28.316		206					
		2212	EN				4824.042	124 28.315							
	JF1-6	2231	BE	CTD		49	4822.492	124 29.164	117						
		2233	BO				4822.500	124 29.158		112					
		2235	EN				4822.501	124 29.158							Altimeter stuck at 6m
1	JF1-7	2253	BE	CTD		50	4821.02	124 29.99	29						← TJ/IE/DJ no heave comp, weight
		2257	EN				4821.00	124 30.00		25					
2	JF2-7	0036	BE	CTD		51	4816.72	124 17.42	68						
		0040	EN				4816.76	124 17.43		64					TJ/IE/DJ
2	JF2-6	0057	BE	CTD		52	4818.28	124 16.65	169						
		0105	EN				4818.30	124 16.71		163				✓	Loopsal #14c 0054
															1.2 db press. offset.

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Date Time PDT

May 1 1200

-start Juan de Fuca CTD Lines at JFL1

Notes: on moorings.

* -ADCP 8746 75 kHz returned with deep pits in the aluminum cup holding transducer and transducer potting compound. This is the first time we have seen this and it only happened to our transducer on this instrument. Check for warranty repair if possible. Check for instrument history. Probably first deployment of this instrument.

- pressure case of RCMu #39 was significantly corroded to the point it is no longer usable. Warranty expired years ago. There is no evident reason why this happened to the instrument at this time. #39 has been used frequently for the past app. 5 years.

DAILY LOG

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Month MAY				Year 2008				Ship TULLY				Cruise ID 2008-32			
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							
2	JF2-5	0123	BE	CTD	/	53	48 19.81	124 15.88	206		/	/	DS/SE/JZ	✓	
		0128	BO				48 19.77	124 15.88		202					6 m.a.b.
		0131	EN				48 19.75	124 15.86							
	JF2-4	0148	BE	CTD	/	54	48 21.25	124 15.03	225	21			DS/SE/JZ	✓	
		0153	BO				48 21.23	124 15.08		220					8 m.a.b.
		0155	EN				48 21.23	124 15.12							
	JF2-3	0219	BE	CTD	/	55	48 22.77	124 14.23	186		/	/	"	✓	10 m.a.b.
		0226	EN				48 22.73	124 14.22		180					
	JF2-2	0247	BE	CTD	/	56	48 24.24	124 13.41	169						
		0251	EN				48 24.20	124 13.49		165			SS/SR/RF	✓	
		0253					48 24.20	124 13.53							
	JF2-1	0315	BE	CTD		57	48 25.00	124 12.06	114						(named JF 2-3 in computer)
		0319	BO				48 25.00	124 12.12		110					
		0321	EN				48 25.00	124 12.17							
	JF3-1	0440	BE	CTD		58	48 21.57	123 57.52	118				✓		
		0444	BO				48 21.58	123 57.51		115					
		0446	EN				48 21.60	123 57.49							

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DAILY LOG

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2	JF3-2	0513	BE	CTD		59	48° 20.74	123° 58.35	137				SS/BR/AF		
		0515	BO				48° 20.76	123° 58.33		135					
		0517	EN				48° 20.77	123° 58.30							
	JF3-3	0542	BE	CTD		60	48° 19.14	123° 59.15	175						
		0544	BO				48° 19.16	123° 59.10		170					
		0546	EN				48° 19.17	123° 59.04							
	JF3-4	0614	BE	CTD		61	48° 17.71	123° 59.95	188						
		0617	BO				48° 17.73	123° 59.91		182					
		0619	EN				48° 17.74	123° 59.88							
	JF3-5	0646	BE	CTD		62	48° 16.27	124° 0.80	182						
		0650	BO				48° 16.32	124° 0.70		180					
		0654	EN				48° 16.34	124° 0.60							
	JF3-6	0716	BE	CTD		63	48 14.22	124 01.57	140				JE/LP/JZ	✓	
		0725	EN				48 14.25	124 01.56		135					
	JF3-7	0749	BE	CTD		64	48 12.20	124 02.41	79				"	✓	
		0754	EN				48 12.19	124 02.36		73					
	JFC6	0907	BE	CTD		65	48 10.40	123 44.99	51				"	✓	
		0911	EN				48 10.39	123 44.97		47					

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							Latitude	Longitude							
2	JFC5	0932	BE	CTD	/	66	48 12.46	123° 45.00	140				JE/LP/JZ	✓	
		0938	EN				48 12.48	123° 45.01		136					6 m.a.b.
	JFC4	0957	BE	CTD	/	67	48 14.41	123° 45.03	168				JE/LP/JZ	✓	
		1005	EN				48 14.38	123° 45.10		164					5 m.a.b.
	JFC3	1027	BE	CTD	/	68	48 16.53	123° 45.01	181				JE/LP/JZ	✓	
		1033	EN				48 16.53	123° 44.97		176					7 m.a.b.
	JFC2	1053	BE	CTD	/	69	48 18.53	123° 44.96	172				JE/LP/JZ	✓	
		1100	EN				48 18.49	123° 45.02		167					7 m.a.b.
	JFC1	1119	BE	CTD	/	70	48 20.21	123° 45.03	60				"	✓	
		1122	EN				48 20.18	123° 45.05		55					6 m.a.b.

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Date Time PDT.

May 2 0700 - on station JF2C-L for deployment

0730 - setting up on deck

0947 - launched JF2C-L at $48^{\circ}21.476'$ $124^{\circ}12.752'$
in 185 m water.

- head for JF2E-L

NB: - the 300 kHz ADCP coming from EF04 destined for AS04 is displaying suspect data.

- we will test it downward looking at JF2E site in shallow water to see bottom.

- we may not deploy this instrument and do it at a later time.

≈ 1000 - completed $\approx 1/2$ hr downward looking test of questionable 300 kHz ADCP

- data looked good

- concluded that perhaps the problem in Ettingham was a lack of scatterers

1800 UTC $\rightarrow$ 1830 UTC $48^{\circ}15.518'$ $124^{\circ}09.586'$ 110 m

$\rightarrow$ $48^{\circ}16.215'$ $124^{\circ}09.496'$ 109 m

- contacted I.O.S. Steve Romaine re. equipment for next cruise

- discussed problems including crane, sounders, nav. repeaters etc.

Date Time PDT

May 2

1047

- launched mooring JF2E-L
at $48^{\circ} 15.162'$ $124^{\circ} 09.717'$ in 151m water.
- head for AS04 preparing mooring en route.

1421

- launched mooring AS04-J
at $48^{\circ} 18.036'$ $123^{\circ} 22.515'$ in 115m water.

± 1900

- head for I.O.S.
- arriving at I.O.S.
- packed gear on the way home.
- could not unload - unloading at 0800 next day