

CRUISE
NUMBER

9703

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

Feb. 17 - 21 97

VESSEL

CSS Vector

PROJECT

Georgia Strait

2nd CTD make: Gulldino model: 8715 serial no.: 58,483
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: number of depth bins:

Time zone: bin length (2x):

Sampling interval: sec pulse length:

Blank beyond transmit: pings per ensemble:

Pulse cycle time:

% pings good threshold:

Comments:

Date Time (Local) 1997

Feb. 17 0830 -1200 - continue loading and setup on ship prior to sailing.
- waiting for ship's crew to finish competitions.

1215 - depart 10.15 for D8A

D7A - completed Rosette at D7A without miss-trips or incidents.

- noticed (DT) that some bottles, #2, #3, #5, #6, were leaking to various degrees through a pin-hole where the handle is attached and has been cut off. These seem to be old bottles that still had handles attached which were cut off to mount in the Rosette.

* - Samples were drawn but it should be noted that they are suspect from these bottles (#2, #3, #5, #6).

- the faulty bottles were removed, the leaks identified by pressure testing and the pin holes were drilled out and sealed with 1/4 20 NC nylon screws with teflon tape on threads. Bottle #5 proved not to be leaking.
- the bottles were pressure tested again to ensure leaks were sealed and remounted on Rosette.

- the CTD at D6A was completed while repairs to bottles were in progress.
We collected Sediment Trap filter water for Mary at 230 m depth from D6A.

1600 - we are heading back to mooring GSCM1-C site for recovery.

1620 - on station mooring GSCM1-C for recovery

1623 - sent XPND - no reply.

1624 - sent BCE - received / XPND reply

- sent XPND - range 189m 195m distance of 125m

- ranges 211 m, 220 m, drifting off until we are approx 200m distance for release.

- range 239 - 252 m

- sent ACFG - positive response both times.

1630 - sent ACFG

1632 - on surface.

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
17	D8A	CTD	21:50	BE	1				350					Downcast
	"		21:58	BO	-									
	"			BE	2									upcast
	"		22:04	EN		48 42.10	123 15.21							
17	D7A	ROS	22:39	BE	3	48 44.01	123 8.36		163	155	1-9	9		* Leaving Bottle 2, 3, 5, 6 Downcast
	"		22:42	BO		48 44.05	123 8.38							
	"			BE	4	48 44.05	123 8.38							Program hung
	"			EN		48 44.09	123 8.41							
			22:46	BE	5	48 44.09	123 8.44							Continuation of upcast 4
			22:51			48 44.15	123 8.45							
17	D6A	CTD	23:34	BE	6	48 45.96	123 2.40		232	221				Downcast
	"		23:38	BO		48 45.97	123 2.33							
	"			BE	7									
	"		23:45	EN		48 46.00	123 2.29							

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

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

Date Time Local

Feb. 17. 1700

- mooring recovered without incident
- RCMs # 7996 bio fouling will have interfered with rotor.

- completed SIO3 and salinity from CTD seemed fresh 29.7 29.6
- ran 3 salinities from this station which confirmed CTD salinity is correct. (#53501)

- now-the-less the conductivity readings from #53501 proved to be erratic at station MIO3 the cast was aborted for this reason and due to a number of mis-fired Niskin bottles

- exchanged #53501 for #58483
- re configured CTD Acq prog and returned to station to repeat MIO3 cast

- completed GIO1 successfully

- At GIO2 but CTD would not power up - no current and voltage gradually decreased. We tried 53501 with a check cable to deck unit - it worked. Tried to troubleshoot the problem but after several hours we concluded nothing. We guess that it's a connection in the cabling at the rosette but without spare cables + no wiring diagrams we were unable to find the fault. We will try again in the morning.

DAILY LOG

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1997		FEB		VECTOR		9703								
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
18	ST03*	ROS	2:41:22	BE	8				162					Downcast
			2:45:00	BO										
			2:43:51	BE	9					150	10-18			Upcast
			2:58:45	EN										
18	MT03+	ROS		BE	10				125					
			04:57	BO										
				BE	11					120	19-26			
			05:06	EN										Labels have STN as NIO3 but it should be MT03
* Transmitter changed to #197 because original trans # was noisy.														
+ CTD changed to SN 58,483 after 53,501 cond. signal was unstable														
18	GI01	ROS	5:46:09	BE	12				160		24-25			Downcast
			5:45:06	BO										
			3:45:30	BE	13					150	27-35	9		
			5:56:23	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

Date

Time (local)

Feb 18

0800

- at mooring site GSCM4-C

0805

- sent XPND

- no reply

- sent CDF

- got single XPND reply

- sent XPND

- 414 m range 85.

418 m.

- 443 m 444 m.

= 193 m distance

0811

- range 465 m.

- sent BFGH

- release response positive

- range 451 m 438 m 295 m

0813

- sighted on surface

- recovered mooring without incident serviced on deck + redeployed GSCM4-D at:

1128

49° 15.951'

123° 46.690'

in 417.3 m water depth uncorrected at 1128 PST

- trouble shooting of CTD problem continues throughout day involving calling John L. and Doug Yelland for help.

- we follow John's advice and open sea end main splice but find no problem

- we examined slip ring and found no problem

- eventually the problem was isolated to the connector coming off the cable end into the slip ring

- the armour lead was broken off

- while repairs to the CTD system continue we go to recover service and redeploy GSCM3-C.

- further faults with CTD system

- slip rings were very stiff to rotate

- slip ring hose was loose on slip ring bushing.

- slip rings were nearly without oil

- oil was full of metal flakes

- these slip rings were not serviced for a long time *

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19	W101	ROS	15:54	BE	14	49	123		122	109	42	8		Downcast extra bottle trapped
11	"			BO		49 13.38	123 51.28							
4	"		15:58	BE	15	49 13.38					36-43	8		Upcast
11	"		16:05	EN		49 13.41	123. 51.20							
11	W102	ROS	16:41	BE	16	49 14.72	123. 48.81		322		1-			Downcast
"	"		16:49	BO		49 14.81	123 48.77							
"	"			BE	17					340	44-55	12		Up cast
11	"		17:04	EN		49 14.96	123 48.68							
"	W102	ROS	17:	BE	18	49 14.60	123 48.80				55	1		Picked up surface Bottle since didn't have enough bottles on 17.
"			17:45	EN		49 14.61	123 48.75							
"	W103	ROS	18:02	BE	19	49 15.98	123 46.08		409					Downcast
4	"		18:11	BO		49 16.10	123 46.34							
"	"		18:12	BE	20					391	56-66	11.		Upcast
"	"			EN		49	123							
"	"				21									Continuation of upcast, program hung.
"	"													
"	"		18:28		22									Continuation of upcasts, program hung.
11	"					49 16.48	123 46.73							

Date Time (local)

Feb 18 1309 - on station GSCM3-C
- range 342 343, 344 - directly over sta.
- drifting off station 368, 384, 400
= 193 m distance

1318 - sent ACGH - received positive response
- ranges 402, 395, 381, 377
mooring rising.

1320 - on surface.

- serviced mooring and prepared for redeployment.

1640 - launched mooring GSCM3-D
in 365 m water at $49^{\circ}06.028$
 $123^{\circ}29.513'$

- GSCM3-D was launched app. 1 cable off station.*
- moderate gale force winds, sea state 5.5.
made deployment dangerous - marginal at best.

- expected worsening of weather brought oceanographic operations to a halt. The ship went to shelter overnight to allow for passage of the front. Science crew needed rest after dealing with the CTD faults and mooring operations simultaneously. Watches were disrupted and people needed time to catch up rest after efforts of the last 2 days. We are tied up in Nanaimo until morning.

* the seaman holding the release line misunderstood "one cable to go" as the command to "let go". Consequently the mooring ended up in water 15 m deeper than the design depth of 350 m.

+ Acquisition program is hanging after second Alt-B command. We have 2 or 3 consecutive numbers or fish for the upcast in the last two stations. We noticed a grating sound coming from the computer and thought it might be the ZIP drive (D:) so we did not log to it on the next consecutive number (file). However, the acquisition program crashed again after repowering the CTD probe and we heard the same grating sound coming from the computer. We now suspect the hard drive ("C:"). We sent the acquisition program to log to the ZIP drive only now.

++ Logging to ZIP drive only did not stop the acquisition program from crashing. We did not log the upcast. We ran the program in "view mode" and noted the depth and salinity at the rosette bottle trip depths. Dong changed CTD Console or Deck Unit to SN 58995. The swapped out CTD deck unit was SN 58610.

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19	NIO4	ROS	18:57	BE	23	49 17.802	123 42.419		298					Downcast
"	"		19:03	BO		49 17.87	123 42.42							
"	"			BE	24					285	67-77	11.		Upcast
"	"			EN										
"	"		19:11	BE	25	49 18.01	123 42.58							continuation of upcast, program hung
"	"		19:13	EN		49 18.03	123 42.62							
"	"			BE	26									continuation of upcast, program hung
"	"			EN										Got overwritten
← + see note														
"	NIO5	ROS	20:27	BE	26	49 19.57	123 38.82		263					Downcast
"	"		20:33	BO		49 19.55	123 38.84							
"	"		20:33	BE	27					250	78-88	11.		Upcast not complete as program hung again
"	"		20:45	EN		49 19.53	123 38.99							
← ++ see note														
19	NIO6	ROS	21:25	BE	28	49 21.32	123 35.14		161					surface 24.74 Downcast
"			21:29	BO		49 21.34	123 35.16							
"			21:29	BE	29					150	89 98	10		Upcast
"			21:39	EN		49 21.32	123 35.17							

CAST TYPE -

BOT -

bottle cast

CTD -

ctd 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

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1997		FEB		VECTOR		9703		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
19	NI07	ROS	22:26	BE	30	49 22.51	123 32 85		50					Sal = 24.56 at surface
"	"		22:27	BO		49 22.52	123 32 84							down cast
"	"			BE	31					41	99-103	5		up
"	"		22:32	EN		49 22.52	123 32 85							up cast
"	GI04	ROS	23:40	BE	32	49 12.66	123 40.34		391					28.22 at surface.
"	"		23:48	BO		49 12.66	123 40.36							down cast
"	"		23:49	BE	33					379.	104-111	11.		
20	"		00:01	EN		49 12.63	123 40.36							up cast
"	GI03		00:35	BE	34	49 10.17	123 33.60		380					28.10 at surface
"	"		00:41	BO		49 10.19	123 33.56							down cast
"	"		00:42	BE	35					370.	115-125	11.		
"	"		00:55	EN		49 10.26	123 33.47				126-132	7		up cast
	VI01		02:08	BE	36	49	123		115					Downcast
			02:10	BO		49	123							
				BE	37						126-132	7		Upcast
				EN		49	123							
</														

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

OCEAN PHYSICS

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YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
1997		FEB		VECTOR		9703								
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
20	V102	ROS	03:10	BE	38				244					Downcast
				Bo										
			03:15	BE	39				237.	133-143	11			Upcast
			03:27	EN										
20	V103	ROS	04:03	BE	40				342					Downcast
				Bo										trans. looks noisy. + erratic jumps.
			04:12	BE	41				333.	144-154	11			Upcast
			04:26	EN										
														trans. connector cleaned + gear taped.
20	V104	ROS	05:04	BE	42				190					Downcast
				Bo										
			05:10	BE	43				181.	155-164	10			Upcast
			05:19	EN										
20	V105	ROS	05:59	BE	44				67					Downcast
			06:02	Bo										
			06:02	BE	45				61.	165-169	5			Upcast
			06:06	EN										

CAST TYPE -

BOT - bottle cast

ROS - rosette

USW - sea water sampler

TIME CODE

BE - bottom event

Bo - bottom only

EN - event net

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

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YEAR		MONTH		SHIP		CRUISE		PAGE		OF				
		Feb				9703								
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
20	GI02	ROS	07:16	BE	046				256					Downcast
			07:22	BO										
			07:22	BE	047					250	170-180	11		Upcast
			07:34	EN										
20	MI07	CTD	08:50	BE	048				52					Downcast CTD only!
			08:52	BO										↓
			08:52	BE	049				49					Upcast
			08:54	EN										
20	MI06	CTD	09:08	BE	050				127					Downcast
			09:12	BO										
			09:12	BE	051									Upcast
			09:14	EN										
20	MI05	CTD	09:27	BE	052				110					Downcast
			09:30	BO										
			09:30	BE	053									Upcast
			09:33	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

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
20	M104	CTD	09:46	BE	054				118					DOWNCAST
			09:50	BO										
			09:50	BE	055									UPCAST
			09:52	EN										
20	M103	CTD	10:07	BE	056				126					DOWNCAST
			10:10	BO										
			10:10	BE	057									UPCAST
			10:13	EN										
20	M102	CTD	10:31	BE	058				145					DOWNCAST
			10:35	BO										
			10:35	BE	059									UPCAST
			10:38	EN										
20	M101	CTD	10:54	BE	060				152					DOWNCAST
			10:57	BO										
			10:57	BE	061									UPCAST
			10:59	EN										

CAST TYPE -

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 (local)

Feb. 20

0800

- on station GSCM2-C

- manoeuvring

0810

- sent XPM2

- range 300 m, 315 m
= 200 m distance

0812

- sent ABDH:

- received positive response.

- range 340

-

- ranges 324, 322, 141
rising

mooring

0814 - sighted on surface

- recovered mooring, serviced it on site
and redeployed. GSCM2-D

1130

- deployed mooring GSCM2-D
in 215 m water at position
48°50.803 and 123°07.283

- after lunch we proceeded to CTID
line ST and completed ST01-ST08
between app. 1300 - 1500 hours

- we head in to Boundary Passage
and prepared mooring GSCM1-D
for deployment on deck

- on the way we also pack up for offloading
Fri. morning

1631

- deployed mooring GSCM1-D in 157.9 m
water at 48° 44.425',
123° 08.591'

- the mooring was deployed in deeper water
due to a tangle with the release hook
trigger line spinning around the hook itself.

1645

- head in to 1.0.5 packing for
offloading continues.

DAILY LOG

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YEAR			MONTH			SHIP					CRUISE				PAGE		OF	
1997			February			Vector					97-03							
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		
20	SI01	CTD	20:29	BE	62	48	49.17	123	8.88		115	110				Sal = 29.40 at surface downcast		
"	"		20:32	BO		48	49.17	123	8.80									
"	"		20:35	EN	63	48	49.17	123	8.79							upcast		
"	SI02	CTD	20:50	BE	64	48	50.45	123	7.01		222	220				Sal = 29.07 downcast		
"	"		20:55	BO		48	50.38	123	7.04									
"	"		20:59	EN	65	48	50.34	123	7.08							upcast		
"	SI03	CTD	21:22	BE	66	48	51.82	123	5.20		159	155				Sal = 29.36 downcast		
"	"		21:26	BO		48	51.78	123	5.21									
"	"		21:29	EN	67	48	51.77	123	5.21							upcast		
"	SI04	CTD	21:44	BE	68	48	52.77	123	3.90		156	154				Sal = 29.32 downcast		
"	"		21:46	BO		48	52.77	123	3.95									
"	"		21:49	EN	69	48	52.77	123	3.98							upcast		
"	SI05	CTD	22:02	BE	70	48	53.66	123	2.71		160	155				Sal = 29.12 downcast		
"	"		22:05	BO		48	53.65	123	2.71									
"	"		22:08	EN	71	48	53.63	123	2.70							upcast		
"	SI06	CTD	22:18	BE	72	48	54.50	123	1.43		152	150				Sal = 29.36 downcast		
"	"		22:22	BO		48	54.46	123	1.48									
"	"		22:24	EN	73	48	54.45	123	1.50							upcast		

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

Notes on Cruise

The CTD/Rosette system was in total dis-repair.
requiring many fixes and troubleshooting:

- ① we replace the CTD probe with the spare
- ② " the transmissometer "
- ③ " the deck unit "
- ④ " Rosette pylon "
- ⑤ we had to repair leaking bottles (4)
- ⑥ we had to redo the cable → slip ring connector
due to a break in the ground (armour) lead.
- ⑦ we have to strip-down and service the slip rings
- ⑧ we opened up the sea-end cable splice to
check for leak or broken leads

- ⑨ near the end of the Rosette stations the
bottom finding pinger could not be picked up
in deeper water

perhaps it has weak batteries causing
a loss in output strength or shift in
timing.

DAILY LOG

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[illegible]