

CRN

92-01

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

3 Feb - 14 Feb.

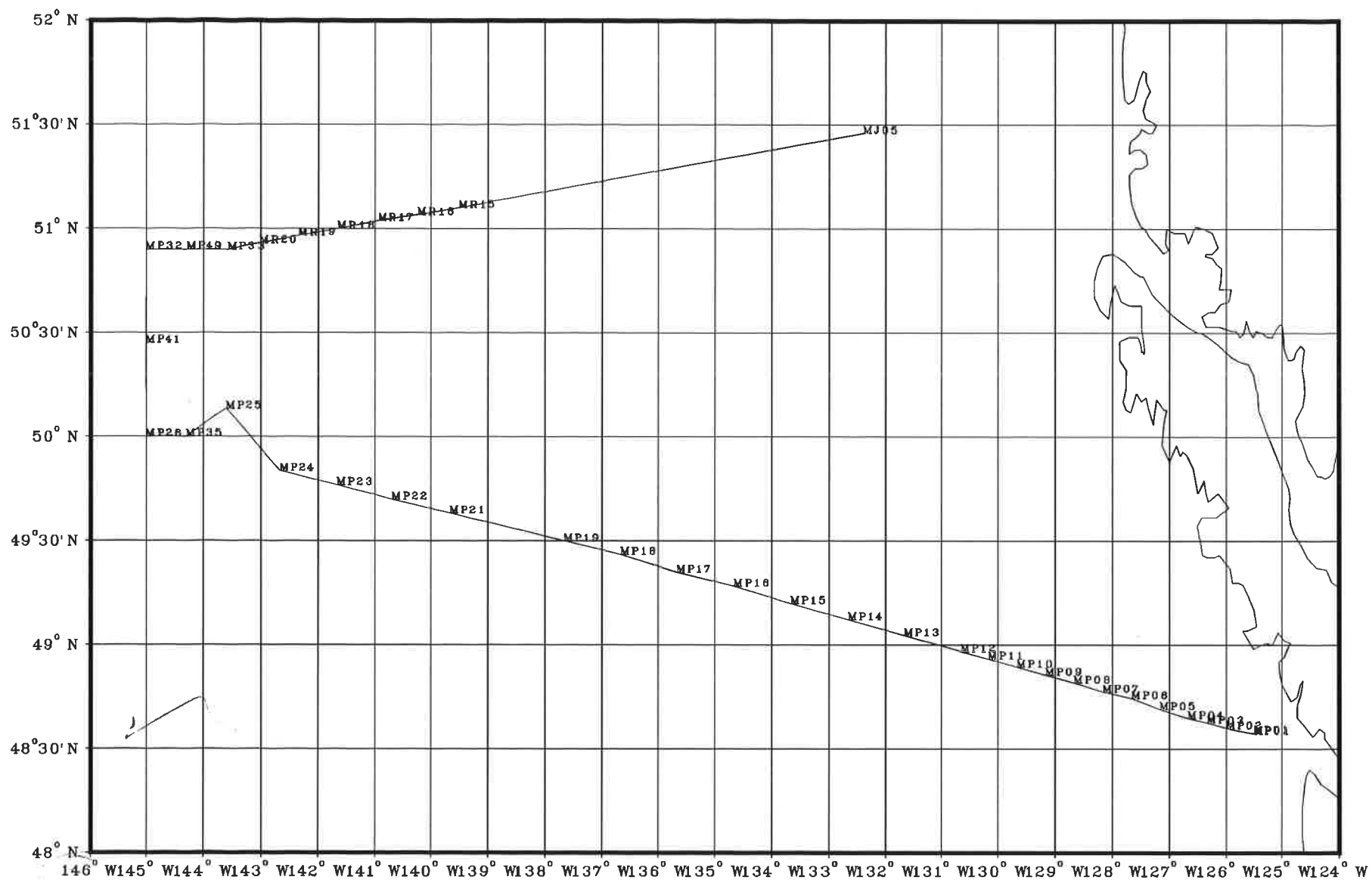
VESSEL

CSS JOHN P. TULLY

PROJECT

Cruise 92-1

new



CSS JOHN P. TULLY

92-01

Captain: JOHN ANDERSON

~~1200-1600~~

First Officer: DAVE PARFITT

0400-1200

1600-2000

Second Officer: JOHN PURDY

1200-1600

2000-0400

Third Officer: NONE

Cruise Participants/Agencies: IOS (OP, O.Chem.), GUILDLINE INSTR.

Scientific Personnel: Party Chief:

Name

FRANK WHITNEY

Watch Cabin

(O.C.C.) (CABIN A)

Name

Watch Cabin

RON BELLEGAY

8-12 F

OCEAN CLIMATE CHEMISTRY (O.C.C.)

BERNARD MINKLEY

4-8 G

OCEAN PHYSICS (O.P.)

KEITH JOHNSON

— H↑

O.C.C.

LES SPEARING

12-4 E

O.P.

CLAYTON STARK

12-4 D↑

} CAMUSON MECHANICAL ENGINEERING
TECHNOLOGY CO-OP STUDENTS
WITH O.P.

ROBERT MILLAR

4-8 D↓

Second leg of cruise: Party Chief:

TOM MOORE

8-12 C

GUILDLINE INSTRUMENTS LTD.

SHU LUN WANG

— H↓

SUN YAT SEN UNIVERSITY,
TAIWAN, WITH O.C.C.

WENDY RICHARDSON

— B

CONTRACTOR WITH O.C.C.

Third leg of cruise: Party Chief:

Data logging system: Unit number: 2

Program version: 1.18

CTD deck unit make: GUILDLINE

model: 87107

serial no.: 57,160

Computer make: HEWLETT PACKARD

model: D1430A

serial no.: 2938A05390

Monitor make: NEC

model: MULTISYNC 2A

serial no.: 009633A

Printer make: STAR

model: RADIX-10 PLUS

serial no.: CL5004000266

1st CTD make: GUILDLINE

model: 8706

serial no.: 43,571

Temperature sensor

model: 87401

serial no.: 46,707

coefficients: slope:

offset:

Conductivity sensor

model: 87410

serial no.: 43,591

coefficients: slope:

offset:

Pressure sensor range:

psi

serial no.:

coefficients: FSP:

1500 dB

offset:

Transmissometer

model:

serial no.:

coefficients: slope:

offset:

Comments:

2nd CTD make: GUILDLINE model: 8715 serial no.: 58,483
 Temperature sensor model: 87401 serial no.: 57,915
 coefficients: slope: _____ offset: _____
 Conductivity sensor model: 87410 serial no.: 58,814
 coefficients: slope: _____ offset: _____
 Pressure sensor range: _____ psi serial no.: _____
 coefficients: FSP: 3000 dB offset: _____
~~Transmissometer~~ model: _____ serial no.: _____
 coefficients: slope: _____ serial no.: _____

WINCHES:

CTD make: SWANN model: 329 serial no.: 1482
 counter make: REVLIS model: 8750 serial no.: 9296A
 HYDRO make: SWANN model: 410 serial no.: 1434
 counter make: REVLIS model: 8750 serial no.: 9294A
 SPARE CTD Spooling make: SWANN model: 410 serial no.: 1433
 Drag make: _____ model: _____ serial no.: _____
 Other make: _____ model: _____ serial no.: _____

Salinometer make: GUILDLINE model: 8410 serial no.: 58,879

SAIL System:

Program version: _____ Time zone: GMT
 Sampling interval: 120 sec.
 CTF module no.: _____ serial no.: _____
 Remote temperature model: _____ serial no.: _____
 Flow sensor model: _____ serial no.: _____
 Other sensors: (special for this cruise)
 Name: _____ module I.D.: _____ serial no.: _____
 Name: _____ module I.D.: _____ serial no.: _____

Comments:

RAYTHEON LSR PORT 12kHz EDO TRANSDUCER
PDD
PTR

ADCP Setup:

Program version: _____ number of depth bins: _____
 Time zone: _____ bin length (2'): _____
 Sampling interval: _____ sec. pulse length: _____
 Blank beyond transmit: _____ pings per ensemble: _____
 Pulse cycle time: _____
 Percent pings good threshold: _____

Comments:

NOTES:

- PRIMARY CTD PROBE IS FERG. PROBE WITH ALL THE BELLS AND WHISTLES (THERMISTORS, BOTTLE TRIP, ?).
- SPARE CTD PROBE IS O.P. 3000 M. PLAIN JANE UNIT.
- TOM THE GUILDLINE DUDE HAS A NEW CTD OUT WHICH HE WILL COMPARE WITH THE FERG. UNIT.
- PRIMARY CTD WINCH IS FILLED WITH 3-CONDUCTOR TOWED PACKAGE CABLE. SLIP RING CABLE GOES TO A JUNCTION BOX. - SHIELD IS CONNECTED TO BOX, BOX TO SHIP'S GROUND. CABLE CONNECTS JUNCTION BOX TO FERG "3 BOTTLE SIGNALLING" BOX, WHICH HAS A CABLE LEADING TO THE CTD DECK UNIT.
- TRIMBLE NAVIGATION TRANSPAK GPS INSTALLED ON BRIDGE/WHEELHOUSE, USED FOR MOST BRIDGE LOG POSITIONS.
- STATION POSITIONS IN DAILY LOG ARE LORAN POSITIONS FROM JRC SCREEN DISPLAY IN LAB.

1992 PST

92/2/3

1320 - lv. IOS

CSAIL recording on "TULLY CSAIL DISK #5". (5 1/2" 20M hard disk)

92/2/4 - note: FSRG PROBE SN 43571 IS INCORRECTLY SHOWN ON CTD SETUP AS 43511.

- changed computer date from 92/2/3 to 92/2/4 GMT.

0020 - an MPOI.

- CTD Cast #1 ended prematurely at ~ 40m. Screen locked up displaying message:

"Device I/O error in line 0 of module CTD at address 0706:73EF. Hit any key to return to system."

- tried several times to repeat cast: Error occurs without logging.

- detached ground wire from junction box on deck lead
- eliminated FSRG "3 bottle signalling" box.

- brought probe into lab. Tried to operate CTD with just short cable between deck unit and probe. DATA ERROR light ON continuously.

- changed deck unit from 57160 to 58995.

System operates with short cable.

- reconnected long cable. System operates with FSRG box.

- ship returned to station. Cast #7 successful to 112 m, but Screen locked up during first part of upcast and showed same error message.

- reconnected ground to deck cable junction box.

- ran system without logging ~ 30 min. without any errors.

- changed CTD config # on CTD setup from 43511 to 43571.

- ran system another 45 min. without any errors.

MP02 CTD# 7 program crashed
8 program crashed at 72.8 Jb
I/O error
9 3rd attempt. Removed mini rosette
typ box. Program crashed again.

1233 loop sample taken

Brought fish into lab, connected short test cable,
everything works well.

runs #12 probe 58483 (Phycor) used. Good cast
and coefficient entered as .0002, should have
been -.0002

DAILY LOG

OCEAN PHYSICS

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YEAR	MONTH	TIME ZONE	SHIP	CRUISE	PAGE	OF							
92	2	UTC (+8)	Tully	92-01	1	OF							
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
4	JF01	0142									1		
4	JF02	03/5	48 18.17								2		5915 sal, chlor. water.
			124 00.06										
4	JF03	0454	48 27.17								3		
			124 30.53										
4	JF04	06:30	48 32.32								4		
			124 59.60										
4	MP01	115	0820	48 34.59	1	0848					5		Computer locked up with error message.
				125 30.17									
				48 34.73	2	0856							Consec #'s 3,4,5 all ended with computer error message.
				125 30.55									
					6	0908							CHANGED TO DECK UNIT 58995 FOR NEXT ATTEMPT.
4	MP01	115	1002	48 34.51	7	1008				9.277			
			1018	125 29.95						31.404			
4	MP02	118	1206		8/9	1222					6		-1600E-3 .00016
					10	1226							
					11	1307							
4	MP02	118		48 36.23	12	1322				9.923			loran.
			1328	126 00.19						32.394			Probe 58483

4 Feb 92

MP03 CTD #13. no problems. therm sounded for length
of cast.

MP04 CTD #14 probe 58483
CTD with new buildline
hydro #1 to 1200 m Samples 1-18.

MP05 : Caster 1475.3 CTD 1503.3
30.0 41.

1635 read thermometers once.

Salinometer (8410, s/n 58879) cooling module
failed.

2120 completed analyzing oxygen sample of MP04.
no 800 m sample.

92/2/5 PST.

MP09:

0055 - when alt S to start CTD cast, get "file
creation error". Went to DOS, then back
into CTD. File created OK.

0332 - MP10

- same problem starting CTD cast.
- numerous jellyfish this sta.

0613 MP11 CTD #22.

Wind 11 knts, nice morning.

1005 MP12 loop samples

92/2/4 01:42

92/2/12 19:17

1	Julian-day	1	F8.4	1
2	GPS-lat	9	F9.4	
3	GPS-long	18	F10.4	
4	Salinity	28	F8.3	
5	year	36	F5.0	
6	month	41	F5.0	
7	day	46	F5.0	
8	hour	51	F5.0	
9	min	56	F5.0	
10	lat-deg	61	F5.0	
11	lat-min	66	F7.2	
12	long-deg	73	F6.0	
13	long-min	79	F7.2	

4692
4693

DAILY LOG

OCEAN PHYSICS

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YEAR		MONTH		TIME ZONE		SHIP		CRUISE		PAGE		OF	
92		2		UTC		Tully		92-01		2		OF	
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
	MP03	1448	4837.57	13	1453					7.852	7.		744.46
			12620.4							32.384			
	MP03	1510	4837.84										<10 depth.
		1519	12620.28										
	MP04	1330	1630	48 38.84	14	1638				9.300	8		
				12640.20						32.246			
	MP04			48 39.0	15	1752	1	1941	1	1045			Bottle #1 250-260 dBar
		2017	126 40.0					19	1065				#2 750-760
													#3 1250-1260
04	MP05	2065	2218	48 41.42	16	2224				7.085	9		#15 didn't start properly.
			2314	127 10.14						32.228			
5	MP06	2550	0116	48 44.48	17	0121				9.562	10		1503 db
			0157	127 40.18						32.238			
			0400	48 46.43						8.865			
05	MP07	2535	0441	128.09.94	18	0408				32.219	11		1503 dBar
			0630	48 49.03						9.150			
05	MP08	2540	0705	128 40.37	19	0633				32.344	12		1503 dBar
			0850	48 51.33						9.287			1503
05	MP09	2340	0944	129 10.14	20	0856				32.321	13		
			1128	48 53.60						9.491			
05	MP10	2657	1211	129 40.02	21	1133				32.291	14	KKX	1500
5	MP11	2758	1408	4856.12	22	1413				9.618	15		1508 db
			1455	13010.26						32.353			4856.39 13009.72
5	MP12		1659	4852.14	23	1704	2	2118	20	1085	9.622	16	1504 dBar
			2352	130 39.13				2240	42	2020	32.346		

92/02/05 PST

10:06 MP12 prototype CTD cast
rosette bottle trip #1 500 m
#2 1000 m
#3 2000 m

1955 MP13
end of cast position 49 03.11 131 40.32
Computer time is incorrect.

2013 corrected computer time.

2122 completed reading thermometers.

23:57 MP14 max depth 1499 dBar
position at end of up cast 49 07.42 N 132 38.81 W
cell was not well flushed initially up cast
showed near constant salinity above thermoclyne

92/02/06

8:27 MP16 max depth 1499 dBar
position end cast 49 17.60 134 40.50

9:30 MP16 prototype CTD
rosette bottle trip #1 @ 1000 m
#2 @ 2000 m
#3 @ 2500 m

surface pressure $\approx$ 4 dBar
Last data transmission 2500m - 2700m downcast
end position 49 18.6 134 40.4

10:43 END CTD-CAST.

92/2/7
0320

stn MP19.
same "file creation error" as MP09.

11:00 MP18

11:45 thermometer "stepped" at 125 m (may be real)
surfaced at 49 26.39 136 49.42

08:16 MP20 (MP19 on header)
returned to surface 49 34.18 138 39.22

0820 changed 4 reversing thermometer, malfunctioned.

08:45 MP20 prototype CTD
rosette bottle tripped @ #1 500 m (didn't close)
increased speed from 1 m/s to #2 1000 m
@ 1000 m 1.5 m/s #3 3000 m
10:15 surfaced at $\approx$ 49 40 138 38

92/2/7 PST

1325 - Plankton haul 200-0 m @ 0.8 m/s.

1712 Sh MP21 CTD #32 Bad salinity, cast aborted
1715 CTD #33 OK.

92/2/8 PST

Loop pump failed during night
1000 pump shutdown for repairs

YEAR	92	MONTH	2	TIME ZONE	UT	SHIP	Tully	CRUISE	92-01	PAGE	3 OF			
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	CTD depth	NOTES
5	MP12		48 58.17	123						9.620				prototype CTD
			130 40.03		1806					32.309				
6	MP13	3030	0327	49 02.76						8.967				Computer time is incorrect. 0335 is correct.
		04/2	131 40.02	24	0335					32.303	17	15/5		
6	MP14	3340	0755	49 07.34						8.682				
		0839	132 39.85	25	0757					32.278	18			
6	MP15	3379	1218	49 11.90						8.069				and posn.
		1302	133 40.02	26	1226					32.379	19	15/4		49 11.96 133 40.16
6	MP16	3658	1627	49 16.99			3	2010	43	2023	8.173			
		1730	134 40.08	27	1631			2125	65	1004	32.392	20		
6	MP16	3658	1730	49 17.15										prototype CTD
		3658	1730	134 40.09	127	1730								
7	MP17	3577	0234	49 20.98	28	0245				8.307				1511.16 49 20.95
			0324	135 40.29						32.408	21			2000 135 39.90
7	MP18	3720	0656	49 26.15						7.948				
		0745	136 39.72	29	0700					32.381	22			
7	MP19	3935	1116	49 29.95						7.742				
		1155	137 39.98	30	1120					32.400	23			
7	MP20	3985	1535	49 33.94	31	1541	4	1702	66	1085	7.564			posn. at 49 34.00
		1620	138 39.91					2014	70	2018	32.407	24	1507	1500 dB 138 39.60
7	MP20	3985	1641	49 33.88	131	1641								prototype CTD.
		2132	138 39.63									3019		
8	MP21	3968	0104	49 38.24	32	0112				7.475				#32 Bad sal.
			139 40.13	33	0115					32.413	25	15/8		

92/02/07

09:32 MP 22 sounding recorded as 4959
should be 3959

10:07 returned to surface at 49 41.75 140 40.55

92/02/08

10:50 MP 25

11:24 returned to surface @ 50 00.37 143 34.93

20:10 MP 26

20:40 returned 4959.59 145 01.97

20:54 MP 26 with prototype
rosette bottle tripped at #1 500 m

#2 1000 m

3000 m cable reads 3054 dB #3 3000 m

21:31 posn at bottom 49:59.88 145:02.17

22:00 surfaced at 49:59.58 145:02.12

92/2/9 PST

~ 0200 - Coming up with deep half of hydro
cast, 1500 m. bottle slid down
wire, causing other bottles to slide
down wire. Winch surging extremely.

Used pike pole to get 2000, 2500, 3000 on
board.

Last 3 (3500, 4190, 4200) came up on
weight.

LOST: 1500 m # 7688

4000 m # 8583

4100 m # 7689

DAMAGED: 2500 m # 7687

3500 m # 8574.

- repeated samples at these depths.

9/2/2/9 PST

- 1256 - Cast with 10.1 bottles at
1300, 1290, 1280, 1270, 1260, 1250, 1240, 1230 m.
- which surging badly on upcast.
Had engineer look at problem. He reduced
flow rate $\rightarrow$ much softer surge on
start up.
- this surging was bad enough that
samples may be contaminated.

1408 - disturbed prin prod. free floating buoy.

1445 MP26 with prototyp
rosette tripped at #1 80 m
#2 1800 m
#3

1623 CTD #40, alerted at 1190 db. Program restarted
at 1150 db. CTD #41.

1642 surfaced

9/2/2/10 PST

0140 - Stn P41 CTD.
Program stopped at 205.9 m
"Device I/O error in line 0 of
module CTD at address 0860:73EF.
Hit any key to return to system!"

0153 - Program stopped at 861.2 m
w. same error message.

YEAR	92	MONTH	2	TIME ZONE	UTC	SHIP	JOHN P TULLY	CRUISE	9201	PAGE	4	OF	
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
8	22 MP24	3959	0532 49 41.95 0607 140 40.29	34	0535					7064 32.398	26		posn at max depth 1510.8 49 41.85 140 40.44
8	MP23	4073	0958 49 46.16 1040 141 39.77	35	1001					7097 32.452	27		
8	MP24	4009	1432 49 50.16 1516 142 39.95	36	1440					6.654 32.424	28	1514	49 50.19 pos. at depth 142 40.22
8	MP25	4021	1845 50 00.10 1925 143 36.38	37	1850					6.227 32.485	29		posn @ max depth 1512 50 00.22 143 36.22
8	MP35	4170	2152 50 00.11 2238 144 18.02	38	2159					6.362 32.476	30		
9	MP26					5	0325 0742 1151	91 1085 128 1017					0-500 600.-4200 1500-4100
9	MP26	4258	04:05 50:00.10 145:00.23	39	0410					6.351 32.476	31	1517	posn @ max depth 50 00.24 144 59.97
9	MP26		49:59.61 145:02.05	139	0454					6.335 32.474			prototype
9	MP26		22:30 49 59.86 145 00.33		22:45								prototype
10	MP26		0000/ 50 00.00 145 00.00	40	0001	6		137 1045 163 1088	6.288 32.470				06800 1000 64200
10	MP26	4245	50 145	41	0018			second part of 40.				1508	start at 1190m
10	MP41	4218	0923 50 27.15 145 00.12	42	0936					6.235 32.464	32		PROGRAM GUIT. AT 205 m.

10 Feb.

0521 Stn MP 32 wind 27 knots, cold.

0948 Stn MP 49 returned to surface 50 54.39 144 18.26

1825 MR 19 CTD # 49.
large wave angle first 700 metres of cast.
Program crashed at 988 m
restarted as CTD # 50.

Program crashed at 30m, when not logging.

2221 MR 18
spon at max depth 51 00.34 141 38.98
2234 surfaced at 50 00.50 141 38.94
bottom of probe hit railing on retrieval

92/02/11

0912 MR 15 surfaced at 51 06.53 139 30.28

1200 — due to shortage of time, CTD casts discontinued.
Still steaming along line R to accommodate collection of Loop samples.

YEAR	1992	MONTH	2	TIME ZONE	UTC	SHIP	JOHN P. TULLY	CRUISE	9201	PAGE	5 OF		
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
10	MP41	11			43	0945							START AT 200 m. PROGRAM QUIT AT 861m
10	MP41	1017			44	0955							START AT 855 m. Completed cast to 1503 m
10	MP32	1310								6.124			pos. at depth
		1357	5		45	1321				32.488	33	1502	5054.15 14500.54
10	MP49	4270	1640	50 54.09						6.145			posn @ depth
		1722	144	17.18	46	1644				32.487	34	1510	50 54.19 144 17.86
10	MP33	4167	2015	50 53.94	47	2019				6.312			
		2656	143	34.33						32.464	35		
10	MR20	4360	2305	50 55.84	48	2311				6.266			
		2342	143	01.04						32.450	36		
11	MR19	3942	0222	50 58.09	49	0225				6.303			06 988
			142	2003						32.451	37		
11	MR19				50	0242							
		0311											
11	MR18	3904	0600	51 00.24	52	0600				6.436			51 aborted <100m
		0635	141	38.92						32.437	38	1512	restarted from surface
11	MR17	3875	0919	51 02.33	53	0924				6.913			
		1004	140	55.85						32.418	39		
11	MR16	3800	1250		54	1259				7.039			5104.29 14014.05
		1331								32.424	40	1508	at depth.
11	MR15	3790	1630	51 06.00	55	1634				7.114			max depth posn:
		1715	134	30.47						32.415	41	1507	51 06 56 139 30.89

92/02/12

11:55

posn at surface 51 22.26 132 23.90

12:02

prototype CTD
rosette tripped #1 50m, #2 1000m, #3 2000m
posn @ 2500m ?

12:57

posn @ surface 51 26.83 132 23.75

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OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR	1992	MONTH	2	TIME ZONE	UTC	SHIP	CSS JOHN P. TULLY	CRUISE	9102	PAGE	6 OF		
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC #	STD TIME	HYDRO CONSEC #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/SALINITY	LOOP SALINITY #	NOTES
11	MR14	1948										42	loop sample only
11	MR13	2223	51 11:20									43	
12	MR12	138	04:07									44	LOOP ONLY
12	MR11	0335	51°14' 136°36'									45	LOOP ONLY
12	MR10	0600	51 16:45									46	LOOP ONLY
12	MR09	0840	51 19:00									47	
12	MR06	1625	51 25:32									48	
12	MJ05	2766	51 27:37	56 1917	7	2150	164	7.960				49	1509 129 pin at bottom
12	MJ05	2215	132 24:34	156 2002			167	32.303					182 51 27:28 132 24:15 prototype FRENCH CAST: 45, 50, 55