

DAILY LOG

CRUISE
NUMBER

2001-²¹
22
23

INSTITUTE OF OCEAN SCIENCES

OCEAN SCIENCES AND PRODUCTIVITY DIVISION

DATE

JULY-OCTOBER 2001

VESSEL

SIR WILFRID LAURIER

PROJECT

ARCTIC - 2001

Captain: NORM THOMAS First Officer: STEVE ALDRICH
Second Officer: BILL MCINDOE Third Officer: STEVE PAYNE
Mission Participants / Agencies: IOS / NSF / JAMSTEC

Scientific Personnel: Party Chief: BON VAN HARTENBERG CRUISE 2001-21

Name	Watch	Cabin	Name	Watch	Cabin
BON VAN HARTENBERG					
KIYOSHI HATAKEYAMA					
MASAYUKI FUJISAKA					
JACKIE GRETELER					
HOLLY KELLY					
REBECCA PRYTIELOV					
LEE COOPER					
JACK DITULLIO					
VINCE KELLY					
ERIK HABERKEN					
EMILY COOPER					
BRYAN KLOSTERMEIER					

Second leg of Mission: Party Chief: HUMPHREY HELLING CRUISE 2001-22

Name	Watch	Cabin	Name	Watch	Cabin
HUMPHREY HELLING			JACKIE RICHTER-HENKE		
MARY O'BRIEN			BRUCE ELDER		
LOUISE TIMMERMANS			SIGRID SALO		
BON VAN HARTENBERG			SIM OVERLAND		
PETER GAMBLE			KOSI SHIMADA		
BON LINDSAY					
SHIGETO NISHINO					
HIROKATSU UNO					
DARREN TUEFE					
DOUG SIEBERG					
DAVID WAGSH					

THIRD LEG 2001-23 - SEE OVER PAGE IN COMMENTS SECTION.

Data logging computer: DEL-200 MHz

Data acquisition program: SEASAVE

CTD deck unit make: SEABIRD model: SBE 33 serial number: _____

Primary CTD

Make: SEABIRD model: SBE-25 serial number: 0293

Primary temperature sensor serial number: 03-4044 Calibration date: 01 JAN 01

Primary conductivity sensor serial number: 04-2232 Calibration date: 22 DEC 00

Secondary temperature sensor serial number: _____ Calibration date: _____

Secondary conductivity sensor serial number: _____ Calibration date: _____

Other sensors: PRESSURE STRAIN GAUGE s/n: 29-0442 MAX (024)

Other sensors: SBE 43 - DISSOLVED OXY s/n: 0071 (FACTORY LOAN)

Other sensors: FLUOROMETER SEAPoint s/n: 2336

Other sensors: TRANSMISSOMETER SEATECH s/n: #139

PRESSURE SENSOR - DEEP CASS: s/n 29-0436 MAX 6800m

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature sensor serial number: _____ Calibration date: _____

Primary conductivity sensor serial number: _____ Calibration date: _____

Secondary temperature sensor serial number: _____ Calibration date: _____

Secondary conductivity sensor serial number: _____ Calibration date: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Comments: _____

Winches:

- 1. Swann model: serial #: use:
- 2. Swann model: serial #: use:
- 3. Swann model: serial #: use:
- 4. Swann model: serial #: use:
- 5. Swann model: serial #: use:
- 6. Swann model: serial #: use:
- 7. Swann model: serial #: use:

Comments:

Salinometer: make: model: serial number:
Comments:

Surface Temperature / Salinity Data Logging System:

- Program:
- Sampling interval (seconds):
- Sensor serial number:
- Comments:

ADCP Setup:

- Program version:
- Time zone:
- Sampling interval (seconds):
- Blank beyond transmit:
- % pings good threshold:
- Comments:

- Number of depth bins:
- Bin length (2X):
- Pulse length:
- Pings per ensemble:

Comments:

THIRD LEG OF MISSION CRUISE 2001-23
PARTY CHIEF BOB VAN HARNBERG
SCIENTIFIC PERSONNEL DOUG SIEBERG (LOS)
BILL FLORIAN (PMEL)
CAROL DE WITT (PMEL)
SARAH THORNTON (ALASKA)
DAVE KACHEL (PMEL)
TRACY SMITH (ALASKA)
DAVE SMITH (PMEL)
DAVE WISEGARVER (PMEL (GOWS DITCH FOR))

- REPLACED SBE43-0052 (D.O.) WITH "LOANER" SBE43-0071 & ENTERED COEFFICIENTS IN CON
FILE 0293-D436 FT-PIK. CON IN DUTCH HARBOR (ALASKA)
RETURNED DEFECTIVE UNIT BY AIRMAIL TO SEABIRD FACTORY (US\$5.20 MAIL + \$46 INSURANCE)

AFTER CAST 006 STN BCS-5 DOWNLOADED ALL INTERNAL DATA
INT. BATTERIES @ 12.8 V LITHIUM @ 5.2 V (SEE HEADERS) - THEN INTLOG TO RESET MEM & CHECKED
THAT IT ACTUALLY DID - REMOVED DOWNLOAD CABLE & ATTACHED 4 PIN SBE25 TO PYLON.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year <u>2001</u>					Month <u>JULY</u>			Ship <u>LAURIER</u>			Cruise I.D. <u>2001-20</u>			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude <u>N</u>	Longitude <u>W</u>	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
15	UT-250	ROS	0529	BE	001	54° 15.062	166° 09.843		SOUNDING 319	251	—	5	Jm	WINCH IN 'MANUAL' MODE (AUTO NOT WORKING)
														ALL AT BOTTOM, FOR J.G.
15	BCS-1		0735	BE	002	54 18.840	165 27.742		55.6	50		11	Bm	BST C/SFC, 5, 10, ... 50 — USED 'AUTO' MODE TO DEPLOY CORRECTED SCANTROL WIRE SETTINGS (ZERO & MAX)
15	BCS-2		2059	BE	003	56 18.110	167 30.259		124	125		11	Jm	SCANTROL WIRE COUNTER BAD, SLIPPED ~ 27m
16	BCS-3		0724	BE	004	57 49.763	168 59.912		64	65		12	Jm	COUNTER PICKUP SHIMMED OUT SEEMED OK THIS CAST
16	BCS-4		1908	BE	005	59 18.688	170 53.844		67	65		12	Rm	ROUGH SEAS, WINDS ~ 30 CABLE SLACK IN SEC. WAVE THEN OK IN AUTO MODE
17	BCS-5		0522	BE	006	60 48.937	172 14.766 20.307		58	60		12	Jm	bottles @ 5m intervals
17	SLIP-1		1703	BE	007	62 00.792	175 03.346		76	75		12	Rm	BOTTLES DID NOT CLOSE AT DESIRED DEPTHS, SUSPECT SCREEN UPDATE OF DATA FOR P —
17	SLIP-2		1839	BE	008	62 03.039	175 12.428		77	75		12	Jm	BOTTLES FIRED ON WAY UP BASED ON WIRE-OUT
17	SLIP-3		2221	BE	009	62 23.458 ⁶⁴⁶	174 34.038 ⁰³⁸ 165		67.3	7	#001 (SAL)	12		SIMRAD = 69° 6 WHEN SOUNDER = 67° 5 ? SAL SAMPLE FROM BOT 1

Cast type:

BOT = otter 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 time

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

DEPTH = SOUNDING + 6m
FROM SURFACE

at surface

DAILY LOG

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Year <u>2001</u>					Month <u>JULY</u>			Ship <u>LAURIER SOUNDER</u>			Cruise I.D. <u>2001-21</u>			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude <u>N</u>	Longitude <u>W</u>	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
18	SLIP-5	ROS	0203	BE	010	62 33.765	173 33.316		62	60	#002 ^(SAL)	12	Bm	SAL SAMPLE FROM BOT- LAST BOTTLE PARTLY OUT WHEN FIRED
18	SLIP-4	ROS	0552	BE	011	63 01.478	173 27.739		67.7 (SILRAD = 70.4)	65	#003 ^(SAL)	12	R	(PSK = -1 @ Start) BOTTLES DURING UPCAST
18	UT-BS5	ROS	1926	BE	012	64 39.990	169 55.653		43.1	40	-	10	R	(SILRAD @ 46 m) BOTT 4X2, 35-30...10-5-2
18	UT-BS2	ROS	2224	BE	013	64 40.938	169 06.192		41.3	41	-	10	R	REPLACED SB25 BATT- BEFORE CAST (SWITCH WAS LEFT ON, NO DATA @ STARTUP.)
19	UT-BS4	ROS	0135	BE	014	64 57.442	169 53.227		44.3	46	-	10	R	45X2, 40, 35, 30, 10, 2 RIPPLE, SEAS < 1m
19	UT-BS1	ROS	08103	BE	015	64 59.347	169 08.460		44.7	45	-	10	R	SAME AS PREVIOUS,
19	BRS-1	ROS	1130	BE	016	65 39.148	168 13.317		35.8	35	#004-009	5	Bm	last bot ^{at} same depth - ONLY SAMPLED 1-5 (not 6)
19	BRS-2	ROS	1208	BE	017	65 40.226	168 24.104		47.7	45	#010-015	6	R	MANUAL LOWERED UP FIRED ON WAY DOWN MANUAL LOWERED TRIP ON WAY DOWN
19	BRS-3	ROS	1244	BE	018	65 40.831	168 34.136		47.4	45	#016-021	6	R	FIRED BOT 4 @ 15m - NOT USED SAMPLES MARKED BOT 4, 5, 6 ARE FROM BOT 5, 6, 7

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AFTER CAST 22, UPLOADED INTERNAL DATA W/SEATERM AS "UPL2-..." ALL FILES SEPARATED BY CAST - CTD HAS 17 CAST FILES (0,1,...16) → MEMORY FULL AFTER CAST #5 !!
→ SHOULD DOWNLOAD MORE OFTEN (3-4 CASTS)
(REMEMBER SBE25 RUNS @ 8 Hz, ALSO HAS 3 ADDED INSTRUM (UNLIKE SBE-19)
MAIN BATTERY = 13.3 V (WE DID NOT DETERMINE POWER CONSUMPTION W/ EXTRA SENSORS!)

- PROCEDURE:
- CLOSE 'SEASAVE' TO RELEASE COM PORT
 - CONNECT CABLE TO SBE25 BY DISCONNECTING JOINT IN CABLE FROM PYLON ON CAROUSEL
 - PROTECT PYLON FITTING W/ 4-PIN MALE DUMMY
 - ATTACH CABLE (COILED ON COATHOOK IN CTD-LAB): 4 PIN TO SBE25
25 PIN TO CONNECTOR HANGING @ SIDEWALL (DATA FROM DECK TO PC - COM1)
 - RUN 'SEATERM' (ALREADY SETUP TO 4800 BAUD, DOWNL ALL CAST NO HEADER FORM)
 - NOTE MAIN BATTERY VOLTAGE (9 D-CELLS @ 1.6V = 14.4V WILL DROP FROM USE)
 - PRESS "CONNECT" - (COMPORT SETUP = COM1, 4800 BD, 7, 1, EVEN
SHOWS ON STATUSBAR DATA STOP PARITY)

CASE 26

BOTTLE FILE SHOWS BOT 1,2, --- 9, 11 MISSING #10 ?! WE DID GET 11 BOTTLES -

AFTER CAST 28 (3IN CKS1) : FOUND UPGRADE DATA STOPPED AT 28.1 hour, IBL-FILE ONLY HAS BOT 1,2,3 !!
DOWNLOADED INTERNAL DATA → COMPLETE CAST OK - 8 BOTTLES 'WERE CLOSED USING GREEN'
BUTTON ON WIRE-OUT READINGS ! → INTERNAL BATT. VOLTAGE: 12.9
ALSO NOTICED MANY 'ZERO READINGS' SCATTERED THROUGH SBE43 OUTPUT !!

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year <u>2001</u>					Month <u>JULY</u>			Ship <u>CGC Cape Mudge</u>			Cruise I.D. <u>2001-21</u>			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude <u>N</u>	Longitude <u>W</u>	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
19	BRS-4	ROS	1321	BE	019	65 41.912	168 43.079		46.3	45	#022-027	6	Bm	TRIP ON WAY DOWN WINCH IN MANUAL FLAT CALM, FOG
19	BRS-5	ROS	1400	BE	020	65 42.966	168 54.034		43.7 43.1	44	#028-033	6	Bm	SAME AS ABOVE
20	UTN-1	ROS	0126	BE	021	66 42.616	168 24.047		30.1	30	—	8	Bm	2x30, 25, 20, ... 5, 0 TRIP ON UPGAST 2@BOTTOM
20	UTN-2	ROS	0418	BE	022	67 03.021	168 43.748		41.2	40	—	10	B	2x40, 35, 30, ...
20	UTN-3	ROS	0653	BE	023	67 19.836	168 59.716		45.3	45	—	11	B	2x45, 40, 35, ... 0 TRIP IN UPGAST
20	UTN-4	ROS	1402 0702	BE	024	67 29.746	168 54.848		45.6	46	—	11	Bm	AS ABOVE SPEC T=52 LIGHT WIND, RIPPLED SEAS 1m
20	UTN-5	ROS	1601	BE	025	67 40.095	168 57.195		45.9	46	—	11	Bm	AS ABOVE
20	UTN-6	ROS	1757	BE	026	67 44.135	168 26.240		45.1	46	—	11	B	AND AGAIN TSF=4.9 BOTTLE FILL PROBLEM - SEE OPPOSITE PAGE
20	UTN-7	ROS	2140	BE	027	67 59.697	168 56.123		52.7	53	#034 (SAL)	12	B.	LAST MUD STN. T=38 TSAL SAMPLE @BOTTOM
22	CK-1	ROS	0332	BE	028	70 37.164	161 05.258		30.0	30	#035 (SAL) BOT#1	8	B	NEAR ICE EDGE OFF WAINWRIGHT (31x2, 25, 20, 15, 10, 5, 1 m) DATA PROBLEM SEE NOTE OPPOSITE

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← SEE NOTE OPPOSITE

CAST 30
(NS-1) [DOWN CAST ~ 20 kg
UPCAST ~ 350 kg] LIVE TENSION
WATER SFC TEMP = 4.7 °C

WIRE-OUT @ 642 m WAS 629,
ON RETURN TO SFC → CORRECT

CAST 31
(NS-2) "A 'LEARNING' EXPERIENCE - SAT AT SFC 2 MIN, BUT PUMP DID NOT START!
SAL STAYED LOW, NO OTHER SENSORS CAME ON → BACK ON DECK,
TURN ALL OFF, RESTART PROGRAMS, DOWN TO SFC AGAIN → SAME RESULTS

- REPLACED D-CELLS, RESTART OK IN AIR, AGAIN FAILED TO TURN ON -
- USED DIRECT CABLE TO ACCESS CTD

⇒ SET DOWN PUMP CONDUCTIVITY DELAY FREQ. FROM 3500 TO 1000, TIME DELAY TO 20 SEC

- REPLACED SEA CABLE; RESTART PROGRAM, DID CAST: ALL WORKED !!

NOTE THAT COUNTERS ARE NOT CORRECT - SEE NOTES ON PRESS VS SCANTROL!

UPLOAD UP15- AFTER CAST 31, UPLOADED INTERNAL DATA FROM SBE-25 AND BACKUP TO LAB & NETW.

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Year 2001					Month JULY			Ship LAURIER			Cruise I.D. 2001-21			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
25	BCC-1	CTD/R	0216	BE	029	71 33.856	155 27.824		73.5	70	#036 SAL	12	Bu	TEST CAST-BARROW CANYON BOTTLE TRIPFILE OK!
28	NS-1	CTD/R	2120	BE	030	70 36.982	142 21.142		644 653	628 Counter (3/overhead) 612 Pmax #37		1	Bu	Pressure differs from tower-out Flat calm, ripple, fog lifted
29	NS-2	CTD/R	0221	BE	031	70 37.122	140 41.160		969					
			0229		031a									
			0249	BE	032				1022					
			0312	BE	031B									
29	NS-2	CTD/R	0320	BE	031	70 37.112	70 40 40.447		978	932 OTHER COUNTER!! 920 (scantrol) 950 (F) #38	SAL	1	B.	SEE COMMENT FACING PAGE

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

Deployments from "Mark-V" (1 thru 6) and "733" (7-10)

Deploy
Sequence

7

8

9

10

1

1

2

3

4

5

Minilog Temperature Probes:			DEPLOYMENT				programmed: 29 July 2001					
T5 - T10: 1&2 August 2001			deployment during Arctic-2001 from the "Laurier"				STUDY ID = GSC Arctic2001					
			in two transects off Tuktoyaktuk (see map)				SAMPLE PERIOD= 01:30:00					
							START = 01-08-01 00:00:00 UTC					
Station	Time(UTC)	depth (ft)	T-probe 1 High-res	V	T-probe 2 Low-res	V	position	Lat(N)		Long(W)		Description
								degr	min	degr	min	bottom, waves, weather, ice
T-1	2-Aug-01		5537A		7881A		PLANNED:	69	51.42	134	53.76	
	1421	37					START:		51.475		53.472	wind 25 knot, waves 3-4 ft
	1425						END:		51.534		53.315	using 733 SAR boat
T-2	2-Aug-01		5538A		7885		PLANNED:	69	44.16	134	47.76	
	1529	18					START:		44.196		47.678	windy, short chop in shallows
	1532	18					END:		44.245		47.561	not cold, drift NW
T-3	2-Aug-01		5539A		7889		PLANNED:	69	36.30	134	42.66	
	1641	6.7					START:		36.295		42.540	wind freshening & shifting
	1645	6.7					END:		36.337		42.393	
T-4	2-Aug-01		5540A		7920		PLANNED:	69	30.72	134	37.56	
	1715	4.5					START:		32.024		38.961	too shallow, deployed in outer bay
	1719	4.6					END:		31.993		38.706	returning to ship: winds 45, waves 15 ft
T-5	1-Aug-01		5541A		7926		PLANNED:	70	4.20	133	36.24	
	2228	108					START:		4.297		36.935	cold wind freshening, broken ice,
	2231	111					END:		4.395		36.968	waves 1-1.5 m, sunny
T-6	1-Aug-01		5542A		7929		PLANNED:	69	49.38	133	27.06	
	1446	36					START:		49.390		26.950	drift westward, wind light, ripples
	1451						END:		49.426		26.897	cold, low dark clouds
T-7	1-Aug-01		5543A		7932		PLANNED:	69	39.24	133	20.52	
	1534	18					START:		39.213		20.505	drift westward, wind light, chop
	1543						END:		39.259		20.602	
T-8	1-Aug-01		5544A		7935		PLANNED:	69	28.56	133	13.98	
	1629	11.3					START:		29.162		13.889	drift west, clearing, warmer
	1638						END:		29.205		13.938	
T-9	1-Aug-01		5545A		7945		PLANNED:	69	26.88	133	24.48	
	1659	7					START:		26.908		24.470	drift west, clear, sunny
	1706	7					END:		26.947		24.563	
T-10	1-Aug-01		5546A		7950		PLANNED:	69	25.20	133	37.98	
	1736	5.8					START:		25.217		38.042	drift west, warm, sunny
	0:00	6					END:		25.258		38.058	wind rising, some chop
control:					7961		(return to IOS)	program same set-up as others to verify delay operation				

Sept 8 / 2001

Cast 0001

SCANTROL display showed 6145 on top line. This prevented the use of AUTOMODE because it exceeds the max. wire on the drum. Cast done in Manual mode.

To fix: E, RESET WIRELENGTH, DRUM 1, (was 6145, reset to 0)

UPLOAD from SBE

upl1
upl2

Cast
Cast

0 ~~→ 3~~
1 ~~→ 1~~

Batt 13.0 V

(upload settings Configure SBE 25
↓ (Com 1 @ 4800 bps) → Com setting
upload Band rate 19200 bps)

OPERATING WINCH:

AUTOMATIC then F2 then "HOLD" will appear
DEPLOY → HOLD → RETRIEVE

F5 to Stop Alarm (Shallow P < 0)

Also corrected P-sensor range setting inside SBE25 using "CC" command (← from 10000 psia to 15000 psia)

end

Wait til alarm (winch)

F5
Realtime → Stop acquisition
Turn off Carousel
On Board
turn off CTD (s)
Syringe

After Cast AGT4, upload data from SBE25; Voltage = 12.6
(UPL3-000.HEX) CASTSC00 → 003 THEN RESTART & RECONNECT!
FOR CAST 003 → 008 - Voltage @ end upload = 12.2

Cast 8 at AGT5: display stopped/froze → PC was still logged on network
- solved by logging off, restart, please save then storing to 0122-008
after bumping CTD back to surface.
- BOTTLE 2 MAY HAVE BEEN light on Deck unit went on during logging to 008.hex.

9/9 - 1415 Local (=2015 UTC)

10 Sep 11AM (local): New batteries in MCTD (6-C-cells)