DAILY LOG BOOK

MISSION NUMBER 2003-19

DATE: From: AUG 29 2003 to: SEP 23 2003

VESSEL: SIR WILFRID LAURIER

PROJECT: 108/GSC/MBARI/USGS -

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

Captain: Mark Taylor First Officer: Scott Doan
Second Officer: Peter Visser Third Officer: Barb Molyneaux

Mission Participants / Agencies: IOS/DFO, GSC/NRCan, MBARI, USGS

Scientific Personnel: Party Chief: Humfrey Melling

Name	Watch	Cabin	Name	Watch	Cabin
Jane Eert		615	Humfrey Melling		539
Ron Lindsay		612	John Hamis		650

Second leg of Mission: Party Chief:

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: Pentium II 333 MHz
Data acquisition program: Sea Save Ver 5.28e
CTD deck unit make: Sea Bird model: 33 serial number: 33-23103-0058

Primary CTD
Make: Sea Bird model: 25 serial number: 0293
Primary temperature serial number: 034115
Primary conductivity serial number: 042607
Secondary temperature serial number:
Secondary conductivity serial number:
Transmissometer: WetLabs Model: 25-cm path s/n: 139
Fluorometer: Model Sea Point Cable gain: 30x0.5µg/l s/n: 2336 P, S or (NO) pump?
Oxygen sensor: Sea Bird Model: 43 s/n: 43 0052 (P), S or NO pump?
PAR sensor: Model: s/n:
Other sensors: Touch-down switch * s/n: **P, S or NO pump?**
Other sensors: s/n: **P, S or NO pump?**
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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: **P, S or NO pump?**
Oxygen sensor: Model: s/n: **P, S or NO pump?**
PAR sensor: Model: s/n:
Other sensors: s/n: **P, S or NO pump?**
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CTD calibration bottle location (height above CTD in metres): 0.75m (bottle centre to TC duct)

* 4.6m from touch weight to C-cell intake.

Rosette Setup:
Number of bottles: 12
Manufacturer: See below (Ocean Test Equip., General Oceanics, IOS)
Volume of bottles (litres): 8 See below for sampling strategy

Winches:
1. Make: Hawbaldt model: _____ serial #: _____ used for: _____
2. Make: _____ model: _____ serial #: _____ used for: _____
3. Make: _____ model: _____ serial #: _____ used for: _____
4. Make: _____ model: _____ serial #: _____ used for: _____
5. Make: _____ model: _____ serial #: _____ used for: _____
6. Make: _____ model: _____ serial #: _____ used for: _____
7. Make: _____ model: _____ serial #: _____ used for: _____

Comments: _____

Salinometer: make: _____ model: _____ serial number: _____
Comments: Samples stored for analysis at IOS

Thermosalinograph System:
Program: _____ Version: _____
Sampling interval (seconds): _____
Fluorometer sensor serial number: _____
Comments: None

ADCP Setup:
Computer time zone: _____
Sampling interval (sec): _____
Bin Length: (2^x): _____
Pulse Length: _____
Buffer (bytes): _____
Gyro Offset: _____
User Exits: Name: _____ Exit points: _____
Name: _____ Exit points: _____
Name: _____ Exit points: _____
Work File: _____
Comments: None

Comments:

Rosette position	Manufacturer
1	Ocean Test Equipment
2	GO
3	OTE
4	OTE
5	OTE
6	OTE
7	OTE
8	OTE
9	OTE
10	GO Niskin
11	OTE
12	General Oceanics Niskin

Bottles closed
On UPCAST
Without stopping

Setup of SBE 25 CTD

Data stored at 8 scans/s

Data output at 8 scans/s

Pressure full scale 1500 psi (1024 db)

Pressure/temperature compensation -264

Pump on when conductivity frequency 3200

Pump delay 45 s

Battery Alkaline

External voltage channels 4

#	
0	DO sensor
1	
2	
3	Touch-down switch
4	Fluorometer
5	Transmissometer
6	

Communications

CTD via data cable (w/o SBE33)	4800 baud
CTD via sea cable (w/ SBE33)	9600 baud
CTD to pylon (SBE32)	4800 baud

Pump

SBE 5T operating at 2000 rpm

Measured flow at 14.8 cm^3/s with DO sensor connected

Spec w/o DO sensor is 18 cm^3/s at 2000 rpm

Pressure head 65 mb

Connection between C-cell & DO sensor
10 1/2" of 3/8" ID tygon

615
612

DAILY LOG — Ocean Sciences and Productivity Division — INSTITUTE OF OCEAN SCIENCES

Month AUGUST **Year** 2003 **Ship** SIR WILFRID LAURIER **Cruise ID** 2003-19

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
30	DU01	2027	BE	ROS	UN	001	68 17.95'N	113 29.80'W	88	82	1-5	5	JE/HM	✓✓	No NMEA
31	DU02	0018	BE	ROS	UN	002	68 48.15'N	114 00 20'W	63	62	6-9	4	JE	✓✓	bottom sample. No NMEA
31	DU03	0333	BE	ROS	UN	003	69 06.1'N	115 24.0'W	117	115	10-15	6	HM/JH	✓✓	No NMEA
31	DU04	0658	BE	ROS	UN	004	69° 12.043	117 00.474	232	225	17-26	10	HM/JH	✓✓	No NMEA
31	CP05	1105	BE	ROS	UN	005	69° 39.217	118° 35.425	523	520	27-38	12	JE/RL	✓✓	No NMEA
31	DT05	1518	BE	ROS	UN	006	69° 58.791'	120° 04.641'	485	485	39-48	12→10	HM/RL /JE	✓	No NMEA No touch-down signal
31	DT05	1553	BE	ROS	UN	007	69° 58.814	120 04.675'	485		49-50	2	HM/RL /JE	✓	Two drops to 50m for bottles #11 & #12
31	AGT4	1928	BE	ROS	UN	008	70° 14.95	121° 40.08	432	426	51-62	12	HM/RL /JE/JH	✓	No NMEA
31	AG05	2300	BE	ROS	UN	009	70° 36.63'	122° 55.66'	585*	548	63-74	12	HM/JH	✓✓	No NMEA

Cast type:
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MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
US = up / stop
UN = up / no stop
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Transmissometer to be cleaned for each cast, do not use Ammonia products

28 May 2003
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*Shoaling with ship drift

With mag sw. off

1. Start Seaterm
   Communications - Baud 9600 data bits 7 parity even COMM 1
2. Connect → >> prompt
   type QS
   Turn on mag sw.
3. GL - confirm

Aug 30

— Solution was to replace batteries. Main voltage with cheater cable (not sea cable) was 10.7 V; individual battery voltages were 1.31 - 1.34

Suggest replacing batteries as a matter of course after leaving CTD for a month or more.

Aug 31

Touch-down switch adjusted after Event #007 (note that touch-down did not operate correctly on Event #006)
- eliminate jamming of Impulse connector against CTD housing
- eliminate jamming of counter weight against CTD slide rail.

DAILY LOG

Ocean Sciences and Productivity Division

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Month September **Year** 2003 **Ship** CCGS Sir Wilfrid Laurier **Cruise ID** 2003-19

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							
1	AGT	0342	BE	ROS	UN	010	70° 59.04	125° 10.80'	354	348	75-86	12	HM/JH	✓	No NMEA
1	AGT3	0902	BE	ROS	UN	011	71° 26.53'	126° 20.22'	454	448	87-98	12	JE/RL	✓✓	No NMEA
1	CK5	1759	BE	ROS	UN	012	71° 52.66'	127° 37.43'	419	412	99-110	12	HM/JT	✓✓	NMEA operating
3	ITC03-8	2059	BE	CTD	–	013	72° 34.69	127° 27.45' W	114	109	111	1	JE/JH	✓✓	at mooring site sal cal @ 109m
4	AS01	0127	BE	CTD	–	014	72° 22.78'	127° 48.20' W	87	86	112	1	JE/HM	✓✓	sal cal @ 86 m
4	AS02	0454	BE	CTD	–	015	72° 10.77' N	128° 18.45" W	382	378	113	1	JE/JH	✓✓	Sal cal @ 357
5	AS03	1310	BE	CTD	–	016	71° 59.96' N	128° 43.58' W	412	408	114	1	JE/JH	✓✓	sal cal @ 408
5	B2	2024	BE	ROS	UN	017	72° 09.38' N	129° 39.67' W	366	361	115-126	12	JE/JH	✓✓	
6	SO21	0700	BE	ROS	UN	018	71° 58.06' N	130° 50.85' W	785	786	127-138	12	JE/JH	✓✓	squishing cups
6	AS04	1604	BE	CTD	–	019	71° 49.16' N	129° 07.85' W	335	328	139	1	HM/	✓✓	Rosette rise to 30m!

Air -2°C

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SEP1 - NMEA Problem fixed -
fault was Chase research IOLAN+ box -
replaced box
reconfigured with CTD-Acq2
1. Tell CTD-Acq 2 to get nameservice from itself Control Panel - Network - Names
2. Set static IP mapping to device ethernet using
arp -s 192.168.2.24 aa-bb-cc-dd-ee-ff where aa,bb etc are
device ethernet address from label on outside of IOLAN+ box itself.
3. Connect to IOLAN+ using telnet 192.168.2.24
4. Configure following instructions on IOLAN+ card
server: Name is. CTD-Lab
IP address is 192.168.2.24
ethernet is from outside of IOLAN+ box.
ports Configure ports 1 & 2 exactly the same as IOLAN+ in main Lab
1: 19200-8-N-1 no flow control
dedicated - bridge - 10001 - 10001 (see port screen for full params)
2: 4800-8-N-1 no flow control
dedicated - GPS-#1 - 10003 - 10002

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6	AS05	1859	BE	CTD	–	020	71 38.29	129 32.28	286	279	140	1	JE/JH	✓/–	sal cal @ 279
															sight @ 30m
6	AS06	2112	BE	CTD	–	21	7125.31	130 01.51	78+*	80	141		JE/JH	✓✓	lumpy sea floor in area
7	KUG01	0409	BE	ROS	UN	22	70° 52.80'N	130° 50.39'W	58 *	58	142-147	6	JE/JH	✓✓	
7	KUG02	0651	BE	ROS	UN	23	70° 52.10'N	130 52.04'W	43*	43	148-152	5	JE/JH	✓	mud sample
7	KUG03	0717	BE	ROS	UN	24	70 52.55'N	130 50.43'W	37*	38	153-157	5	JE/JH	✓✓	
8	KUG04	0116	BE	ROS	UN	25	70°52.86'N	130 50.10'W	58*	58	158-163	6	JE/JH	✓✓	
8	KUG06	0518	BE	ROS	UN	26	70° 53.88'N	130° 46.08'W	41 *	41	164-168	5	JE/JH	✓	ease ship up to station
8	KUG05	0604	BE	ROS	UN	27	70° 51.30'N	130° 54.16'W	42*	42	169-173	5	JE/JH	✓	to avoid mixing
8	VC14	2040	BO	VVG	HIT	28	70° 52.69'N	130° 50.48'W	56*	—			JE/HM		Van Veen Grab/BioDiv
8	VC02	2051	BO	VVG	HIT	29	70°52.56'N	130° 50.86'W	41.*	—			JE/HM		Biodiversity

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28 May 2003
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*Simrad operating w/ c = 1500 m/s DT = 0m

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8	VC07	2125	BO	VVG	HIT	30	70° 52.93'N	130° 48.97'W	51 *	–	–	–	JE/HM		Biodiversity
9	BG01	0243	BE	ROS	UN	31	70° 48.02'N	131° 47.74'W	48 *	48	174-184	11	JE/JH	✓✓	
9	VC19	1652	BE	ROS	UN	32	70° 40.76'N	132° 37.99'W	35*	34	185-189	5	JE/JH	✓	Salinity on all bottles. lumpy seas
9	VC18	1715	BE	ROS	UN	33	70° 40.78'N	132° 39.26'W	40 *	40	190-194	5	JE/JH	✓✓	
10	VC20	0151	BO	VVG	HIT	34	70° 40.788'N	132° 38.612'W	23*	–	–	–	JE/HM		Biodiversity
10	VC16	0202	BO	VVG	HIT	35	70° 40.795'N	132° 38.509'W	23*	–	–	–	JE/HM		Biodiversity
10	VC18	0225	BO	VVG	HIT	36	70° 40.779'N	132° 39.318'W	46*	–	–	–	JE/HM		Biodiversity ← Sounder reset w/ Transducer depth
10	AF02	0306	BE	ROS	UN	37	70° 40.78'N	132° 38.48'W	22	18	195-197	3	JE/JH	✓	
10	AF01	0324	BE	ROS	UN	38	70° 41.07'N	132° 38.58'W	46	42	198-201	4	JE/JH	✓	
10	AF3	0348	BE	ROS	UN	39	70° 40.47'N	132° 38.53'W	38	35	202-205	4	JE/JH	✓✓	

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* Simrad operating with C=1500m/s DT=0m

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
10	PM01	1509	BE	ROS	UN	40	69° 45.00'N	133° 21.77'W	14	10	206-209	4	JE/HM	✓	Serious mud sample on one side of rosette.
10	PM01a	1529	BE	ROS	UN	41	69° 44.99'N	133° 21.81'W	16	15	210-213	4	~~JE~~/JH/HM	✓✓	
10	PM02	1626	BE	ROS	UN	42	69° 45.00'N	133° 21.80'W	13	13	214-217	4	JE/HM	✓	
10	PMBG	2115	BO	VVG	HIT	43	69° 46.5707N	133 21.7686W	11	11	—	—	JE		
10	PM01	2146	BO	VVG	HIT	44	69° 44.9961N	133 21.8240W	18	18	—	—	JE		2 grabs (G1, G2)
10	PM02	2159	BO	VVG	HIT	45	69° 45.0081N	133° 21.8236W	12	12	—	—	JE		2 grabs (G3, G4) combined to one sample
10	PM03	2218	BE	ROS	UN	46	69° 45.00	133° 21.68'W	13	10	218-219	2	JE/JH	✓	4 bottles fired
10	PM03	2228	BO	VVG	HIT	47	69° 45.0078'N	133° 21.6954'W	13	13	—	—	JE		(G5)
10	PM05	2243	BO	VVG	HIT	48	69° 45.2139'N	133° 22.2126'W	10	10	—	—	JE		(G6)
10	PM07	2250	BO	VVG	HIT	49	69° 45.2122'N	133° 22.1981'W	10	10	—	—	JE		(G7)

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10	PM06	2258	BO	VVG	HIT	50	69° 45.2010'N	133° 22.2108'W	10m	10	–	–	JE		(G8)
10	PM11	2305	BO	VVG	HIT	51	69° 45.2105'N	133° 22.1767'W	10	10	–	–	JE		(G9)
10	PM09	2310	BO	VVG	HIT	52	69° 45.1993'N	133° 22.1680'W	10	10	–	–	JE		(G10)
11	BMH02-9	0235	BE	CTD	–	53	70° 04.98'N	133° 29.82'W	37	31.5	–	0	HM/JH	✓	→
11	BG02	2011	BE	ROS	UN	54	70° 39.93'N	133° 25.58'W	63	61	220-225	6	JE/JH	✓	
11	BG02	2030	BO	VVG	HIT	55	70° 39.96'N	133° 25.68'W	65	65	–	–	JE/HM		3 grabs - biodiversity
12	KC01	1422	BE	ROS	UN	56	70° 23.39'N	135° 25.10'W	38	35	226-230	5	JE/JH	✓✓	pingo crest → VC 97 for NBARI
12	KC04	1546	BE	ROS	UN	57	70° 23.00'N	135° 26.41'W	61		231-235	5	JE/JH	✓✓	dimples in sea floor an run into stn.
12	KC01	1809	BO	VVG	HIT	58	70° 23.3827N	135° 25.0470W	41	41	–	–	JE/HM		
12	KC07	1820	BO	VVG	HIT	59	70° 23.3311N	135° 25.2554W	61	61	–	–	JE/HM		

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1022 UTC – CTD was left on after last cast – pump was running & making loud squeaking noises. Turned CTD off replaced water in plumbing. Turned CTD on & pump did not come on.

1406 Swapped in new ST pump ser # 90|60.3 053373. New pump runs at 2000 rpm

Sept 2 1427 Over pingo crest, simrad shows clouds of reflectors – fish? bubbles?

Bottle 3 still sticking – remove carousel & clean. Hook for bottle 3 was bent – straightened.

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12	KC05	1912	BO	VVG	HIT	60	70° 23.1604'N	135° 25.8042'W	62	62	—	—	HM/JE		
12	KC22	1933	BE	ROS	UN	61	70°23.39'N	135°25.33'W	64	57	236-241	6	HM/JH	✓	CH4+salt
12	KC21	2106	BE	ROS	UN	62	70° 23.52'N	135° 25.01'W	73	69	242-247	6	HM/JH/JE	✓✓	
12	KC23	2339	BE	ROS	UN	63	70° 23.37'N	135° 24.61'W	67	65	248-253	6	JE/JH	✓✓	
13	KC20	0318	BE	ROS	UN	64	70° 23.31'N	135° 25.08'W	47		254-259	6	JE/JH	✓✓	water depth in file is too deep.
13	IPS(optest)	0401	BE	CTD	—	65	70° 24.80'N	135° 23.35'W	62	56	—	—	HM		IPS test: 3 min stops at 10, 20, 30, 40, 50m
13	ITC01-2	1506	BE	ROS	UN	66	70° 59.23'N	133° 44.15'W	106		260-266	7	JE/HM	✓	
13	KC0400	1909	BE	ROS	UN	67	71° 07.37'N	133° 58.92'W	443	440	267-278	12	HM/JE/JH	✓	
13	KC1800	2330	BE	ROS	UN	68	71° 41.41'N	134° 39.54'W	1523	1000	279-290	12	JE/JH	✓	6mi S of KC1800 left syringe on — brought it up & fixed.

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14	KC1500	0135	BE	ROS	UN	69	71° 30.89'N	134° 32.54'W	1483	1000	291-302	12	JH/JE	✓	
14	KC1200	0348	BE	ROS	UN	70	71° 21.83'N	134° 18.41'W	1140	1000	303-314	12	JE/JH	✓	
14	KC800	0550	BE	ROS	UN	71	71° 14.34'N	134° 08.26'W	833	832	315-326	12	JE/JH	✓✓	
15	AFZ1	1948	BE	ROS	UN	72	70° 46.07'N	132° 51.96'W	32	29	327-328	2	JE/JH	✓✓	Pingo crest
15	AFZ2	2109	BE	ROS	UN	73	70° 45.88'N	132° 51.22'W	42	42	329-334	5	JE/JH	✓	120°T from crest (strong W wind)
15	AFZ3	2144	BE	ROS	UN	74	70° 46.19'N	132° 51.03'W	56	53	335-339	5	JE/JH	✓✓	060° T from crest (strong W wind)
16	ITCO2-1	0217	BE	CTD	—	75	70° 19.99'N	133° 44.48'W	56	52	—	—	JE/JH	✓✓	1 bottle closed at bottom for MOAR1 sample
16	BG08	1418	BE	ROS	UN	76	70° 09.97'N	133° 44.88'W	42	39	340-344	5	JE/JH	✓	
16	BG07	1559	BE	CTD	—	77	70° 19.99'N	133° 44.86'W	56	50	—	—	JE/JH	✓✓	bottom water for coring

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bottle firing method:
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Time Code
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Transmissometer to be cleaned for each cast, do not use Ammonia products

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month Sept **Year** 2003 **Ship** SIR WILFRID LAURIER **Cruise ID** 2003-19

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
16	ITC03-1	1633	BE	CTD	–	78	70° 19.98'N	133° 44.45'W	56	52	–	0	JE/JH	✓✓	bottom water for B:11
16	BG6	1848	BE	ROS	UN	79	70° 29.99'N	133° 44.92'W	66	60	345-349	5	JE/JH	✓✓	CH4
16	BG5	2124	BE	CTD	–	80	70° 43.04'N	133° 30.52'W	65	60	–	–	JE/JH	✓✓	1 bottom sample for B:11
16	BG4	2308	BE	CTD	–	81	70° 50.63'N	133° 02.30'W	65	61	–	–	JE/JH	✓✓	"
17	BG3	0053	BE	CTD	–	82	70° 58.75'N	133° 11.61'W	75	71	–	–	JE/JH	✓✓	"
17	ITC03-2	0245	BE	ROS	UN	83	71° 02.37'N	133° 24.32'W	125	121	350-356	7	JE/JH	✓✓	fired 7 bottles to check leaks
18	PV1	1642	BE	ROS	UN	84	69° 37.90'N	136° 18.13'W	11	9	~~357-359~~	0	~~JE/JH~~	✓	Paktoa Vent Field
18	PV1	1655	BE	ROS	UN	85	69° 37.90'N	136° 18.09'W	11		357-359	3	No bottle 1 JE/JH		pressure sensor high at surface.
18	PP07	1959	BO	VVG	HIT	86	69° 37.8376	136° 17.6542 W	10	10	–	–	JE		
18	PP07	2005	BO	VVG	HIT	87	69° 37.838N	136° 17.654'W	10	10	–	–	JE		

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2003-09-16 2100 Swap out rosette bottles 2, 6, 7, 11. Replaced 8l bottles with spare 5l. Bottles were chipped around lower O-ring groove - possibly from crimp catching when bottles are cocked. Out of the 5l bottles, the one at position 7 leaked badly around upper cap - switched 8l bottle 12 into its place & created an 11 bottle rosette.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month September **Year** 2003 **Ship** Sir Wilfrid Laurier **Cruise ID** 2003-19

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	PP01	2013	BO	VVG	HIT	88	69° 37.9090'N	136° 18.1269'W	10	10	–	–	JE		
19	IPS(Op2)	0415	BE	CTD	–	89	70° 05.90'N	134° 55.17'W	35	30	–	–	HM	✓✓	Wave Sonar test
															At 28.4m at 0420 Hold 0437 Left
19	AFZ4	1809	BE	ROS	UN	90	70° 46.02'N	132° 51.94'W	26	23	360-365	6	JE/JH	✓✓	over seafloor bubbles
20	AFZ5	0102	BE	ROS	UN	91	70° 46.08'N	132° 51.93'W	39	36	366-369	4	JE/JH	✓✓	downstream(?) of bubbles
20	AFZ6	0127	BE	ROS	UN	92	70° 45.99'N	132° 52.09'W	38	36	370-373	4	JE/JH	✓	120° around.
20	AFZ7	0148	BE	ROS	UN	93	70° 45.99'W	132° 51.90'W	37	34	374-377	4	JE/JH	✓✓	120° around
20	IPS(Op3)	0511	BE	CTD	–	94	70° 47.73'N	132° 21.11'W	56	51	–	–	HM	✓	Wave Sonar Test
20	BMH-03-10	2130	BE	CTD	–	95	70° 53.75'N	129° 45.57'W	33	29	–	–	JE/HM	✓	BW for MSAR1

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