DAILY SCIENCE LOG BOOK

2009-51
2009-53 (DFO)
[2009003 (PGC)]

MISSION NUMBER

DATE: From: July 15, 2009 to: July 22, 2009

VESSEL: CCGS Vector

PROJECT(S): Paleoclimate/paleoseismic mid-coast B.C. (NSERC, NRCAN, DFO) (Royal Roads)

July 22, 2009 - July 24, 2009
Strait of Georgia -
Ambient Monitoring Program

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division
Sidney, BC, Canada

Captain: Steve Kennedy First Officer: _____
Second Officer: _____ Third Officer: _____
Fishing Master: _____

Mission Participants / Agencies: NSERC (Roya / Roads), NRCan (MOC), DFO

Scientific Personnel: Chief Scientist: Audrey Dallimore (CRRU)

Name	Watch	Cabin	Name	Watch	Cabin
Peter Wellands NRCan					
Randy Enlin NRCan					
Greg Middleton NRCan					
Dave Spear DFO					
Simon Molloy UVic					
Danielle Gruet CRRU					
Graham Brandon Oceanic					

Second leg of Mission: Chief Scientist: Sophie Johannessen

Name	Watch	Cabin	Name	Watch	Cabin
David Spear					
Cindy Wright					
Darren Tuele					
Mary O'Brien					
Pamela Dinn					

Data logging computer: _____
Data acquisition program: _____
CTD deck unit make: _____ model: _____ serial number: _____

Leg 1
Primary CTD
Make: SBE model: 9 serial number: 0585
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?
Other sensors: _____ s/n: _____ **P, S or NO** pump?
Other sensors: _____ s/n: _____ **P, S or NO** pump?
Other sensors: _____ s/n: _____ **P, S or NO** pump?

Leg 2
Secondary CTD
Make: SBE model: 9 serial number: 0443
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): _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2009 **Ship** CCGS Vector **Cruise ID** 2009003PGC

Day (JTC)	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
198 July 17	Test	1434		Hunter			51° 28' 00	127° 35' 35	319						Test Run
198	DIO	1454		Gravity Core			51° 29' 02	127° 34' 98	325						Rivers Inlet STN01 gravity core (failure
198	SOL	1748		Hunter			51° 27.94	127° 32' 35	49						Drainey Inlet SOL Hunter
198	EOL 01	2022		Hunter			51° 25.0453	127° 19.6049	54						EOL Hunter
198	STN02	2118		Piston			51° 25.2968	127° 18.6451	68.4						Drainey Inlet piston core STN02
198	STN03	2248		Gravity			51° 26.0811	127° 19.6634	134						gravity core STN03
198	STN04	2330		Gravity			51° 26.4687	127° 27.0807	113						gravity core STN04
198	SOL02	2346		Hunter			51° 26.2850	127° 27.2604	120						Drainey Inlet (Rodney Arm) SOL Hunter
199	EOL 02	0039		Hunter			51° 24.3058	127° 31.1898	65						EOL Hunter
199	STN05	0158		Piston			51° 26.1226	127° 19.6226	134						piston core STN05
199	RA-3	0347		ROS			51° 24.244	127° 31.302	68		1-6	6			CTD had been stored dry
	No data recorded. The Pressure sensor For the CTD appears not to be Functioning.														without water in C-cell
	The oxygen & transmissiometer inputs were reversed but have been corrected in the config file														soaked for ~1/2 hr in
															im. liq & 5 min @ surf.
199	STN06	1529		freeze			51° 26.1425	127° 19.6399	137						freeze core STN06
199	STN07	1725		piston			51° 26.1106	127° 19.7113	133						piston core STN07

Cast Type:
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SET = Fish Set
USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
___ = _____

Bottle Firing Method:
US = Up / Stop
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

July 15, 2009; leave Port Bay at 2100 hrs bound for Drainy Inlet, mid-coast B.C.

- ETA at 0500 July 17.
- equipment testing during transit.

July 17 a.m - entered Drainy Inlet in Rivers Inlet.
- Low fog
- gravity core in Rivers Inlet for Brian Hunt.

July 18 - 50' piston core with good recovery all sands, soft sediment, moderate gas content

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2009 **Ship** Vector **Cruise ID** 2009-53

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
18	DI-6	2013	BE	ROS		001	5125.249	127° 18.613	67	64	1-6	6		✓	start down scan 2270
		2017	BO							Scan 5929					2 mab
		2024	EN												
	DI-7	2044	BE	ROS		002	51° 24.187	127° 18.104	35		7-12	6			Scan 2280
		2051	BO							30					
		2055	EN				51° 24.192	127° 18.109							
	DI-5	2126	BE	ROS		003	5125.990	127° 19.108	126		13-24	12			1.4 mab
			BO							120					
		2145	EN				51 25.990	127° 19.163							
	RA-3	2347	BE	ROS		004	51 24.257	127° 31.277	65		25-31	7			1.9 mab
		2351	BO							61.5					
		2358	EN				51 24.248	127 31.283							
19	RA-2	0055	BE	ROS		005	5124.505	127.29.071	127		32-44	13			Sample 8 empty
		0102	BO							119					1.2 mab
		0115	EN	R			51 24.509	127° 29077	123						
	RA-1	0137	BE	ROS		006	5126.254	127 27.499		119	45-55	11			1.2 mab
		0154	EN												

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Notes:

Saturday July 18- CTD stations to be done generating a profile recording wire out as a proxy for depth and Firing bottles

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
19	DI-4	0216	BE	ROS		007	51 26.452	127° 25.961	144		56-70	15			
		0222	BO				51 26.458	127° 25.957		143					2 mab
		0239	EN				51 26.450	127° 25.938							
19	DI-3	1653	BE	ROS		008	51 27.101	127° 31.568	78		71-79	9			Altimeter read 78 at
		1659	BO				101	583		75					surface
		1710	EN				26.089	31.598							1.9 mab
	DI-2	1720	BE	ROS		009	51°27.718	127°32.260'	50		80-85				alt = 48 at surface
		1732	BO							46					alt = 1.7 mab
		1738	EN				51°27.744	127°32.279							
	DI-1	1802	BE	ROS		010	51°28.378	127°32.598	69		86-92				67 on alt at surface
		1806	BO				51°28.368	127 32.581		67					2 mab
		1813	EN				51°28.355	127 32.579							
	DI-0	2013	BE	ROS		011	51°28.985	127 34.981	325		93-116				start down scan 1513
		2023	BO				51°28.966	127 34.988		318		24			6 mab
		2051	EN				51°28.975	127 34.979			Pressure sensor cut in at ~266 m!				
20	BE1	0248	BE	ROS		012	51° 7.700	127 34.280	225		117-128	12			Pressure Sensor Working!
		0312	EN				51° 7.700	127 34.282							Remote out readings
															different by 2-3 m
															Midwater DO min

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Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

Sunday July 19 1400 PDT

On cast 11 in Rivers Inlet, the Pressure sensor on the CTD (0585) started functioning at ~ 256 m. This was perhaps due to the greater pressure, as this was the deepest cast thus far, dislodging an obstruction in the small capillary tube to the pressure sensor. The sensor appeared to be working correctly the rest of the way down to 322 m and back to the surface. If there was an obstruction, it has now been forced inside the pressure sensor and may cause future problems. It seems to have been fixed for now.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2009 **Ship** **Cruise ID**

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	BE2	0337	BE	ROS		013	51°7.883	127 30.551	196	191	124-134	14			6 mab
		0357	EN				51°7.889	127 30.540							midwater DO min
20	BE3	0439	BE	ROS		014	51°7.855	127° 22.040	280		140-153	14			Remote display Failed
		0450	BO				51°7.860	127 22.054		277					midwater DO min
		0505	EN				7.850	127 22.070							
	BE4	0536	BE	ROS		015	51°7.787	127 15.340	374		154-167	14			4 mab
		0545	BO				51°7.792	127°15.310							
			EN				51°7.769	127°15.242							
	BE7	1400	DE	ROS		016	51°6.334	126°55.871	229		168-179	12			step structure to
		1410	BO				51°6.330	126°55853		237					DO & Temperature & Sal
		1425	EN				51°6.341	126°55.820							4 mab
	BE6	1456	BE	ROS		017	51°6545	127°2.209	329		180-193	14			4 mab
		1508	BO				51°6.580	127°2.240		327					0.5m pressure offset
		1527	EN				51°6.586	127°2.234							out of water
	ML1	1604	BE	CTD		018	51°8.190	127°7.266	59						1.5 mab
		1607								59					
		1608	EN				8.184								

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Notes: _____

19/07/2009 The Remote read-out Failed, perhaps due to previous days heavy rain

20/07/2009 BE7 - Step structure to DO & temperature with near 0 DO at ~50m

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20	ML2	1625	BE	CTD		019	51° 8.746	127 6.642	56						5 mab
		1627								51					
		1628					51° 8.743	127 6.660							
	ML3	1639	BE	CTD		020	51 9.817	127 6.578	96						1.3 mab
		1643	BO							95					
		1645	EN				51° 9.800	127° 6.581							
	ALS1	1653	BE	ROS		021	51° 10.112	127 5.845	150		194-202	9			3.5 mab
		1658	BO				51° 10.114	127° 5.842		148					
		1709	EN				51° 10.112	127° 5.851							
	BE5	1743	BE	ROS		022	51° 7.193	127° 8.795	280		203-215	13			2 mab
		1752	BO				51° 7.217	127 8.783		276					
		1809	EN				51° 7.226	127° 8.798							
	MES2	1946	BE	CTD		023	519.934	129 25.162	89						
		1949	BO				51° 9.928	127° 25.174		87					3 mab
20	SOL	0141		Huntec			50° 45.265'	127° 28.63							LINE 03 - SOL
	EOL	0145		"			50° 45.25	127° 29.04					Port Hardy Harbour		- EOL
	SOL	0151		"			50° 45.38	127° 29.08							LINE 04 - SOL
	EOL	0215		"			50° 45.22	127° 29.04							- EOL
	SOL	0232		"			50° 45.23	127° 28.54							LINE 05 - SOL

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Notes: _____

July 20 - CTD stations over the sill in Mison Sound, MES02
- Evening doing Hunter lines and core site in Pat Hardy Harbour
- Rosion cast Pat Hardy Harbour.
- Hunter lines in Malcolm Island area.

July 21 - Raise anchor at 7a.m ; transit to IQ ETA July 22 at 7a.m.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month | **Year** | **Ship** | **Cruise ID**

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	EOL	0238		XbtNet			50°45.25	127°29.09							LINE05-EOL.
29	STN08	0355		PistonCore			50°45.22	127°27.04	325						Piston-Byrons.
20	SOL	0553		XbtNet			50°43.24	127°02.05				Malcolm			LINE06-SOL
	EOL	0613		"			50°42.03	127°01.15				Leland.			-EOL.
	SOL	0630		"			50°42.37	127°01.96					"		LINE07-SOL.
	EOL	0742		"			50°41.49	126°54.54					"		-EOL

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Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

PDT

SOGS-D Recovery July 22 2009

This page is for any notes or observations

0325 UTC ~1.7 cables off station send B529 - no response
- transducer leading ~~u~~ ship

0330 - move right on station send B529 - 307m 308m

move off abt 302 - 299 - 310 299 - Move off Further

0340 - 349 350

Send B530 - 352 Received & Executed

0344 - all on surface

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month July **Year** 2009 **Ship** Vector **Cruise ID** 2009-51

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	SOGS	0450	BE	ROS		001	49 01.255	123 25.734	309		1 – 14	14			5 mab
		0459	BO				49 01.116	123° 25.040		301					salinities looking
		0517	EN				49° 0.721	123° 24.780							Pearly ~0.010 diff
23	SOGS	0542	BE	CTD		002	49 1.501	123° 25.373	309						1-2 mab
		0550	BO				49° 1.456	123 25.291		309					
		0556	EN				49° 1.441	123 25.201							
23	SOGN	1942	BE	ROS		003	49 49.980	124.52.153	334						4 mab
			BO				49 49.999	124 52.109		331	15-28	14			
		2008	EN				49 50.069	12452.102							
24	SOGS	1740	BE	CTD		004	49 1.470	123 25.430	314						Salinities differ by
		1751	BO				49 1.391	123 25.339		310					1 mab 0.020
		1756	EN				49 1.331	123 25.276							

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Version: 06 March 2008

SOGN-0 Recovery 23/07/2009

This page is for any notes or observations

On Station 934 PDT

Sent B539 499 500 501 . .

0936 B540 Range 507
0937 On Surface
10:07 On Board

The bottom sediment trap was deployed right-side up rather than up-side-down as intended

Both RCM4s had been attached to the vanes without using the orientation pin. The directon date will require a direction offset. Photos have been taken. RCM4 # 7463 was on vane 430 and 8819 was on vane 401 as recorded in the deployment log

The Large shackle to the acoustic release had no cotter pin.

RCM4 # 7463 was rotated 16.5cm counterclockise From the orientation pin (measured on outside of pressure case)
8819 was rotated 16.6 cm clockwise.

given a pressure case diameter of 12.9cm, these angles ar
146.6° counter-clockwise For 7463
147.5° clock wise For 8819