

WHP Ref. No.: PR6  
Last Updated: 12 April, 1996

A. Cruise Narrative

A.1 Highlights

A.1.a WOCE designation PR06

A.1.b EXPCODE 18DD9601/1

A.1.c Chief Scientist Frank Whitney  
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A.1.d Ship John P. Tully

A.1.e Ports of call None

A.1.f Cruise dates February 19 to March 8, 1996

A.2 Cruise Summary Information

A.2.a Geographic boundaries

Line PR6 starts at the mouth of Juan de Fuca Strait on the west coast of Canada, and heads almost due west for 900 n mi. The terminal station is PRS1, formerly designated Ocean Weather Station Papa (50 N, 145 W).

A.2.b Stations occupied

Table of Stations by type

Sample type:	No. stations:	Max. depth (m):
CTD casts	27	4300 db
Rosette/Hydro casts	4	4200
Loop samples	31	5
Profiling Alace float	1	800
Surface drifters	2	20

A.2.c Floats and drifters deployed

A profiling Alace float was deployed at station PRS1. Surface drifters that collect temperature and barometric pressure data were deployed at stations P20 and PRS1 for the Department of the Environment.

A.2.d Moorings deployed or recovered

A.3 List of Principal Investigators

Principal Investigators

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Howard Freeland    Ocean circulation            IOS  
C.S. Wong        Climate chemistry IOS  
Frank Whitney     WOCE coordinator    IOS  
Philip Boyd JGOFS coordinator UBC  
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A.4    Scientific Programme and Methods

Our repeat hydrography section continues to be a joint program with Canadian JGOFS.

A CTD survey along Line PR6 was completed, except for 2 stations which were omitted due to weather. Salinity, oxygen and nutrients (NO3 & NO2, PO4 and Si) were analyzed onboard ship from rosette casts at 4 stations. DMS was analyzed in sea water, to a depth of 400 m.

A profiling Alace float (T/S/P), ballasted to rest at 800 m, was deployed near station PRS1 (Ocean Station Papa). Near the current location of an Alace float that was launched in September 1995, we took a CTD cast to check for sensor drift.

JGOFS participants collected samples for biomass estimates at 4 stations, and incubated water to measure growth and grazing rates of various groups of plankton. A large volume in situ pumping system (J. Bishop) was successfully deployed only at station PRS1.

Typical winter conditions were encountered along Line PR6. Optical measurements indicate that biomass in the surface was higher at PRS1 than nearer the coast. A current meter positioned deep in the mixed layer at PRS1 recorded the breakdown of the summer thermocline in mid-October. Temperature abruptly increased as heat was mixed into the surface layer.

Goals Achieved:

CTD survey of Line PR6, minus 2 stations .

Successful Rosette casts at 4 stations on Line P. Completion of JGOFS sampling for plankton and productivity measurements. One large volume pump station at PRS1 for particulates. A mooring with an optical package and S4 current meter, both in the mixed layer, was recovered and redeployed.

A.5    Major Problems and Goals not Achieved

Less water sampling and pumping was completed than had been planned, due to poor weather. A ground fault limited the work completed with the pumping system. The optical instrument on the mooring failed. No useful data was recovered from it.

A.6    Other Incidents of Note

A.7    List of Cruise Participants

Cruise Participants & Affiliations

Name	Responsibility	Institution
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Frank Whitney	Nutrients, watch	IOS	
Bernard Minkley	Oxygen, watch		IOS
Nick Hall-Patch	Salts, watch		IOS
Wendy Richardson	DMS, watch	IOS	
Tim Soutar	Watch, pCO2	IOS	
Ron Bellegay	Watch, carbonates		IOS
Philip Boyd	Phytoplankton		UBC
Robert Goldblatt	Zooplankton biomass		UBC
Hugh Maclean	Watch, plankton sampling		UBC
Nelson Sherry	Bacteria		UBC
Maureen Soon	particulate 13C & 15N		UBC
Suzanne Roy	Zooplankton excretion		Rimouski U.
Ken Crocker	Zooplankton grazing		Memorial U.
Jennifer Putland	Micro-zooplankton		Memorial U.
Jim Bishop	pump sampling		U. Victoria
Todd Mudge	pump sampling		U. Victoria
Stacey Cooper	pump sampling		U. Victoria

IOS= Institute of Ocean Sciences, Sidney, B.C., Canada.

UBC=University of British Columbia, Vancouver, B.C., Canada