CRN 9318

+

9353

DAILY LOG

INSTITUTE OF OCEAN SCIENCES

OCEAN PHYSICS

DATE May 24-30

VESSEL Various.

PROJECT Prince Rupert Harbour Study

Captain: _____ First Officer: _____

Second Officer: _____ Third Officer: _____

Cruise Participants/Agencies: _____

1st Field Trip.
Scientific Personnel: Party Chief: T. Juhász

Name	Watch	Cabin	Name	Watch	Cabin
D. Tuele.					

Field Trip.
Second ~~leg of cruise~~: Party Chief: D. Stucchi
Tom Juhász

Field Trip.
Third ~~leg of cruise~~: Party Chief:

Data logging system: Unit number: Program version:

CTD deck unit make: model: serial no.:

Computer make: model: serial no.:

Monitor make: model: serial no.:

Printer make: model: serial no.:

1st CTD make: Seabird model: SeaCat V30 serial no.: 1030

Temperature sensor model: serial no.: 1030

coefficients: slope: offset:

Conductivity sensor model: serial no.: 1030

coefficients: slope: offset:

Pressure sensor range: 300 psi serial no.: 154898

coefficients: FSP: dB offset:

DO ~~Transmissometer~~ model: "YSI" SBE 23 serial no.: 230326

coefficients: slope: offset:

May 26 to 28 1993

Comments: pumped DO sensor.

2nd CTD make: AML model: STI2 serial no.: 474 July 15 to 17

Temperature sensor model: serial no.:

coefficients: slope: offset: +

Conductivity sensor model: serial no.:

coefficients: slope: offset: Sept. 30 to

Pressure sensor range: psi serial no.:

coefficients: FSP: dB offset: Oct 1.

Transmissometer model: serial no.:

coefficients: slope: serial no.:

+ Royce DO Sensor

WINCHES:

CTD	make:	model:	serial no.:
counter	make:	model:	serial no.:
HYDRO	make:	model:	serial no.:
counter	make:	model:	serial no.:
Spooling	make:	model:	serial no.:
Drag	make:	model:	serial no.:
Other	make:	model:	serial no.:

Salinometer make: model: serial no.:

SAIL System:

Program version: Time zone:

Sampling interval: 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:

ADCP Setup:

Program version: number of depth bins:

Time zone: bin length (2^X):

Sampling interval: sec. pulse length:

Blank beyond transmit: pings per ensemble:

Pulse cycle time:

Percent pings good threshold:

Comments:

Project 9318

Prince Rupert Harbour Study - 1st Field Trip

Date	Time (local)	
May 21	1730	- truck packed and loaded at I.O.S. ready for departure. - using white box van.
May 24	0830	- T. Juhász picks up loaded truck at I.O.S. - final check
	1030	- T. Juhász picks up D Teale at residence - field party commences drive to Port Hardy
	1830	- arrive Port Hardy check into Thunderbird Hotel.
May 25	0630	- check in at B.C. Ferry Terminal in Port Hardy
	0730	- Ferry (Queen of Rupert) sails for Prince Rupert - transit time will be 17 hrs.
	2000	- contacted Ulrich Orr from Queen of North to check if operations on schedule for next day
	2400	- arrive + checkin Crest Hotel

Date	Time	
May 26	0730	- meet Uvial at Crest - head for Fish Habitat warehouse
	0830	- on board Robson Reef at Fisheries base - meet crew Capt - Phil Mate - Dan. - called in to office
	1000	- loaded for 1st day ops - tentatively deployment RUP1-A - stations 3 or 4 to 6 - prep alongside - opened inst runners observed 1115 PDT cycling, tape transport + settings.
	1230	- depart for RUP1 all ready on deck for deployment
	1330	- on station RUP1 ready to deploy
	1357	- launched RUP1 54° 19.57' 130° 19.83' 42.2 m datum depth
	1359	- head for Tuck Inlet station (CTD / Hydro's
File = PRH6.Hex	1450	- on station PRH6 Tuck Inlet. 54° 24.4' 130° 16.72' 46 m
Converted to PRH6.CNV by DJS	1505	- messenger time 54° 24.377' 130° 16.710' depths 0, 2, 5, 10, 15, 20, 25, 30, 40, 45 bottom 46.5 m - 40 + 45 m bottles miscasted. CTD turned off. - repeated cast for 45 + 40 m - CTD turned on for recast

Date	Time (Z+7)	
May 26	1517	- repeat cast for 40+45m bottles started - CTD on for calibration file
	1519	- messenger 3° L 54° 24.37' 130° 16.693'
		- CTD Cal. on repeat cast File = PRH6a ‰ # 001 PRH6 45m .Hex
		#T 577 = 7.932 (converted to PRH6a.CNV) #T 431 = 7.935
	1550	- depart for station PRH5 - displayed data and backed it up in computer. - could plot but not list data.
	1613	- on station PRH5 depth 58.5 m
	1616	- start CTD/Hydro. cast #002 54° 22.114' 130° 15.843' File = PRH5.Hex (converted to PRH5.CNV)
	1625	- messenger time
		- cast to 55m
	1629	- cast on board CTD off.
		- 32768.188 free space - data spiking badly T 577 # 7.904 T 431 # 7.914 ‰ #002

Date	Time	
		- Seabird cast # 5
May 26	1707	- on station PRH4
		- start CTD / Hydro cast 50 m depth
		in water 1708:40
		54° 20.264'
		130° 17.322'
		File = PRH4.hex
		- cast to 45 m (converted to PRH4.CNV)
		- down 1719:05 52 m
	1719	- messenger
		1719:25
	1724:10	- on board CTD off.
		54° 20.31'
		130° 17.26'
	1724	- head for Fisheries base.

‰ # 003

T577 = 8.092

T431 = 8.056

1748 - tied up

2240 - finish O_2 analysis and data handling of CTD casts

NB - the spiking in the data from the CTD proved to be caused by a communications setup problem. Term 19 was setup to communicate at 38400 baud which the Seabird could handle but not the 286 computer, therefore missed and erroneous data communications. This was change to 9600 baud - all data files were again downloaded from the CTD overwriting the bad files. All casts were replotted - with a better set of limits on axis in the plots

Date	Time (local)	
May 27	0700	- meet ship at Fisheries base - load new set of equipment
	0715	- depart for RUP 2 - preparation of equipment enroute.
		- moved RUP 2 position app. 1/4 mi to SE of channel marker buoy into 37 m water (datum).
	0800	- during preparations noted acoustic release failure - #015 electronics responding ok. but not the mechanics ie motor end. - turned XPD ON - sent XPD and felt reply pulse - sent release - electronics OK - shaft not turning - sent repeated release commands without success - sent Rearm / XPD ON / Release - accessed connectors to motor leads and could see (-) and (+) 6.5 volts on commands - when motor reconnected it does not respond - checked cleaned and ensured connection is made at motor leads - no success - removed hook check plates check motor shaft. - corrosion apparent - shaft in proper position. - commanded unit again observed shaft - shaft made partial turn then stuck. (this was more felt than visible.) - called in to Dario + Les. - decided mooring will not be deployed today - groundline not desirable because of lack of adequate vessel to pull up weight

Date | Time

- suggested release be prepare and air couriered up asap

(converted to PRH1.CNV)

* ——→ - Seabird cast #6 | File = PRH1.HEX

May 27 0853 - on station PRH1. depth 41m.

0855 - CTD/Hydro to 35m #004

‰ #004 at 35m

54° 11.9'
130° 21.36'

Note this station is close to mooring RUP2 not at the 1992 position for PRH1

tide = 5.7 - 2.7 = 3.0m

0904 - messenger time ∠ 5°

0910 - all on board off to PRH2

#T577 = 8.705

#T431 = 8.715

0926 - received call from I.O.S. - Dario
- replacement release being shipped out from T+C
- release will arrive same day air freight express, hold for pick up at airport

Cast at PRH1 Called PRH2 CORRECTED

- Dario requested an additional station be completed near the RUP1 mooring consisting of 2 CTD/Hydro casts. This would be a calibration site.

(PRH2.CNV)

* ——→ - Seabird cast #7 | File = PRH2.HEX 59m

0959 - on station PRH2
54° 18.403'
130° 21.754'

1001 - start CTD/Hydro cast #005 to 55m.

1010 - cast down ∠ 0°

1011 - messenger. 54° 18.4' 62.8m
130° 21.7'

Date	Time (PDT)	(Z+7)	
May 27	1017	- depart for PRH3	
	NB *	‰ # 005	- not taken
		T577 = 8.608	sample dumped
		T431 = 8.617	too soon. OOPS.

* ——→ Seabird cast # 8 (PRH3.CNV) File = PRH3.HEX

1034 - on station PRH3

1039 - start CTD/Hydro #006 43.5m
54 19.505'
130 19.599'

1048 - messenger time ∠5°
54 19.543'
130 19.571'

T577 8.045 ‰ 006
T431 8.056

1058 - manouver into position for repeat station nearer to mooring RUP1
- call station RUP1 app. ~200' off
- CTD mooring site

* ——→ Seabird cast # 9 (RUP1.CNV) File = RUP1.HEX

1105 - on site RUP1 - CTD.
54° 19.516 43.2m
130° 19.809

Canadian Air Freight. 624-6161

1107 - start CTD #007 to 40m.

1115 - Dario called release on way Canadian
018-46020564 1800 Van to 2000 PR.
marked DFO T.J. Hold for Pick Up.

1117 - messenger time ∠0°
54° 19.482' 130° 19.827'

Date	Time	
May 27	1122	- all on board. ‰ = #007 T577 8.060 T431 8.070
	1130	- checked mooring RUPI by ship sonar to √sec. if it is of use during ~~meer~~ dragging or diving ops. - mooring located easily and could be scanned top to bottom - sonar gives a horizontal and vertical distance derived from slant range. -very useful
	1140	- listened to acoustic release to check it. - no response to XPND - sent CDF - sent XPND - good response - sent XPND " - sent CDFG - sent XPND - no response - sent CDFG - sent XPND - no response.
	1215	- alongside fisheries jetty.
	1315	packed + - offloaded unnecessary equipment - " samples to warehouse for analysis

Date	Time	
	1430	- contacted Uriah re- change in program - also to discuss servicing - proceed with analysis of O_2 samples.
	1600	- met with Uriah at Fisheries warehouse. - discussed future ops. - Arrow Post suggested at crew change point for mooring work only - CTD/Hychoz to be completed by Fisheries 18' cabin aluminum cruiser.
	1700	- called Canadian Air Freight + confirmed release is on its way to us. - pick up at downtown office at 2050.
	1830	- O_2 analysis finished + packed up at warehouse.
	2050	- picked up acoustic release at Canadian office downtown.

Date	Time	
May 28	0730	- meet Robson Reef - load and prep equipment
	0745	- depart for mooring RUP2 - assembly of mooring completed - new release checks out O.K.
	0830	- observed tape transport and cycling of instruments - check instrument settings - rescaled. (cleaned sealing surfaces).
	0930	- site selection completed. - app. 1½ cable SSW channel marker buoy - channel buoy at most southern extension of watch circle on running ebb tide app ½ through ebb to low water - crab trap string to E of marker buoy and mooring site by 1-2 cables. - depth at site = 37.5 m. corrected chart datum for tide and draft.
148.708	1004	- launched RUP2-A in - 37.3 m water corrected depth - 54° 11.912' 130° 21.603'
	1010	- return to base - checked with Phil to issue Notices to Mariners. - checked that we contact crab fisherman in area and notify him directly.

Date	Time	
May 28.	1145	- arrive Fisheries base & unload - return key to Uriah - check truck + gas up.
	1230	- depart Prince Rupert - called into office en route.
	2300	- arrive + check in Coast Hotel Prince George.
May 29	0700	- depart Prince George for Victoria.
	1900	- board B.C Ferry. Van. to Vic.
	2100	- arrive I.O.S.
	2130	- offload partially

- Each deployment portion of cruise.
- See "over" for equipment stored at Fisheries warehouse in Rupert.

Equipment Left at Fisheries Warehouse

4 RCM4 boxes
2 AR boxes
3 tires
2 cases salinities + caps
30m x 1/8" SS 7x19 wire.
4 Endeco foam protectors

Calibration Checks

CONS#	RT	Seabird Temp	Temp Diff	Autosal Salinity	Seabird Salinity	Salinity Diff	Depth
001 (PRH6a)	7.932 7.935	7.98	-0.05	30.403	30.40	0.00	45m (41.8)
002 (PRH5)	7.904 7.914	7.91	0.00	31.189	31.17	0.02	55m (57.6)
003 (PRH4)	8.092 8.056	8.05	0.02	31.104	31.08	0.02	45m (47.2)
004 (PRH1) [actually RHP2]	8.705 8.715	8.64	0.07	31.451	31.47	-0.02	35m (37.1)
005 (PRH2)	8.608 8.617			—			?
006 (PRH3)	8.045 8.056	8.06	-0.01	31.091	31.07	0.02	40m (41.5)
007 (RHP1)	8.060 8.070	8.07	0.00	31.084	31.06	0.02	40m (43.6)
			$\mu = 0.01$			$\mu = 0.01$	

July 15, 1993 Thursday

0705 - 0820 - left hotel & met Uriah at DFO boat warf.
- drove to Port Edward in IOS Van and loaded all our recovery and sampling gear aboard the Lewis Reef - capt. Jack Robinson

0830 - - setup STD12 & computers
- air calibration saved to file AIR_JLIS.CAL.

0850 - - left jetty proceeding to mooring RUP-2

0930 - - on mooring site RUP-2
- verified that mooring in place - release replied

0935 Hydro cast / STD12 cast # 008 at RUP-2
- water depth 40m
- messenger at 0946 ⊳ ~ 0-5°
- sal sample & RT's at 35m.

0953 - all bottles onboard
- Salinity sample #1 at 35m * Niskin bottle ~ 2m above STD-12
- Reversing Therms at 35m

T451	8.212
T446	8.215
P20995	35.1 db

1005 - proceeding back to mooring location.
1013 - on mooring site
1018 - X ponding → mooring-up.
1028 - top RCM & 1184 on deck
- blue line tangled around RCM & vane
1038 - bottom RCM & 1184 on deck -
1045 - proceeding to next mooring RUP-1

top RCM - rotor spinning freely
- some growth on top plate
- blue synthetic line tangled around RCM body and vane may have obstructed rotation of vane as we don't know when line got tangled with mooring

top 1184 - looks good only slight growth on sensor

July, 15, 1993 – Thursday

bottom RCM – clean, virtually no growth
– rotor spinning freely

bottom 1181 – clean
– membrane in good condition

– downloaded raw STD12 data to rup2_008.dat } using terminal program
– downloaded cal STD12 data to rup2_008.raw }

– downloaded STD12 data using program STD menu
RUP2.raw and RUP2_008.REI 136 records

1138 – at mooring RUP-1
– passed J.P. TULLY anchored in harbour

1142 – transponded with release – it responded

– began STD12/ Hydro cast #009 at RUP-1
– depth 45m.
1156 – messenger ↓ 150
– salinity & RT sample at 45m next to STD-12

1203 – cast 009 completed
– noticed that STD12 dummy plug was lost

– salinity sample #2 at 45m Note: bottle 1m above STD12
– RT's at 45m

RT451 – 8.410
RT446 – 8.413
PT20995 – 44.0 db

1217 – next to mooring RUP-1
1220 – release code sent – mooring up
1235 – mooring recovered and returning to base

July 15, 1993 — Thursday

top RCM — moderate growth on shield (rotor) and top end plate
— rotor turning freely

top 1184 — some growth, more than at RUP-2, on probe guard + probe
— no growth on membrane
— membrane clean + in good condition

bottom RCM — clean
— rotor turning freely

bottom 1184 — clean
— membrane in good shape.

1330 – 1530: Worked on ENDECO's — downloaded data from EPROMS
— checked old battery voltages
— installed and checked new batteries
— started #1078 + 1079
— cleaned "O" rings + grooves
— produced reports for 1078 + 1079; data looks OK, Temp is sensible + DO is varying.
— checked membrane.

1600 downloading 57012 data from RUP-1 cast 009
rup1_009.raw using terminal commands.

rup1.raw } downloaded using STD.EXE
rup1_009.REL } menu #3.

— re-programmed data logging

1650 — left marine base for RUP2
1 — setting up mooring RUP2
1810 — at mooring site + beginning deployment
1833 — mooring on bottom in 37m (bridge sounder)
54° 11.85'N 130° 21.57'W

July 15, 1993 — Thursday

1841 — STD12/Hydrocast #010 at RUP2
1852 — messenger @ 10°
1858 — all bottles up and heading back to base

Salinity sample #7 at 40m [Niskin bottle close to STD12 < 1m]
RT's at 40m.
RT 451 — 7.928 °C
RT 446 — 7.931 °C
FT 20995 — 41.4 db

2013 — tied up at marine base

Downloading data from cast #010
RUP1_010.RAW Terminal program "O" command
RUP2B.RAW ✓ } using STD.EXE + download option
RUP2_010.RE2

July 16, 1993 — Friday

0900-1230: — setup mooring RUP1
— assembled components, checked RCM's, cleaned 1184's probe and guards
— did air calibration on STD12 saved to F:\
AIR_JL16.CAL
— programmed STD12 to log on ΔP = 0.5 m

1300 — left the jetty board for mooring location RUP1

1341 — begin mooring deployment (looking for 45-46m under keel)

1346 — buoy released, RCM in water
1351 — glass floats in + 2nd RCM in water
1353 — anchor in water towing to mooring location
1407 — anchor released in 45.8m keel depth 46.8 water
position same as original 54° 19.57'N, 130° 19.83'W
1410 — STD12/Hydrocast #011 at RUP1

July 16, 1993 Friday

1414 - started Hydrocast

1421 - messenger released @ 0°

Salinity sample #4 at ~~45~~ m 40m.
RT's at 40m.

- missed cal sample reading at 40m.

1432 - messenger for cal sample at 40m
- conductivity sensor clogged with mud must redo cal sample again

Salinity sample #4
RT451 - 8.597°C
RT446 - 8.602°C
P20995 - 38.8 db

1449 - reading cast for salinity cal sample at
1451 - messenger at 54° 19.71'N 130° 19.24'W

Salinity sample #5 at 40m
RT's at 40m.
RT 451 - 8.487°C
RT 446 - 8.491°C
P20995 - 39.2

downloading STD12 data to RUPT_OIL.RAW - Terminal mode.

RUPT_OIL.RAW
RUPT_OIL.REL } using STD.EXE menu.

1530 - tied up to jetty at marine base
- unloaded boat and loaded van.

July 17, 1993 - Saturday

1230 - launched "The Habitat" at Hospital Beach
- strong inflow winds in main fjord

1248 - arrived Minette Bay, after lumpy crossing of inlet

STD12/Hydrocast #012 in Minette Bay

1313 - messenger ▷ 30°
Sal sample at 35m? #6
RT's at 35m?
RT 451 - 6.211
RT 446 - 6.214
P20995 - 3916

* Note strong wind blowing
~ 20-30 knots
- drifting quickly because of wind

1324 - completed cast
- proceeding back to do second cast

1344 - back on station
- shallow STD12/Hydrocast to complete station

1349 - messenger ▷ 20°

1405 - tied up to float near boat launch ramp
- Ulrich downloaded STD12 cast using STD.EXE

MINBAY1.RAW

Ulrich caught taxi to Hospital Beach boat launch and drove back with his truck + trailer. He did this because there was a strong upinlet wind and the crossing by boat would have been to bumpy.

1303 Stn Minette Bay

1314 Messenger

STD12 data file index July 15 to 17, 1993

	Station	CONS#	filename	
15/7/93	RUP2	008	rup2_008.dat rup2_008.raw rup2.raw rup2_008.rel	Terminal option STD.EXE download
16/7/93	RUP1	009	rup1_009.raw rup1.raw rup1_009.rel	STD.EXE download
16/7/93	RUP2	010	rup2_010.raw rup2B.raw rup2_010.rel	STD.EXE download
16/7/93	RUP1	011	rup1_011.raw rup1_b11.raw rup1_011.rel	STD.EXE download
17/7/93	Minette Bay	012	MINBAY1.RAW	STD.EXE download

Air Calibration Values for DO sensor

15 July, 1993; Thursday: air_JL15.CAL
rawtemp = 18,881 : rawDO = 31,435

16 July, 1993: Friday: air_JL16.CAL
rawtemp = 18,673 : rawDO = 31,718

17 July, 1993; Saturday: air_JL17.RAW
rawtemp = 18,884 : rawDO = 31,191

Calibration Checks

CONS#	RT	STD12	DIFF	AutoSal	STD12	DIFF	PRES
008	8.212 8.215	8.23	-0.02	31.599	31.64	-0.04	35.1
009	8.410 8.413	8.44	-0.03	31.354	31.39	-0.04	44.0
010	7.928 7.931	/		31.757	31.74	+0.02	41.4
011-a	8.597 8.602	8.62	-0.02	31.251	31.21 *	+0.04	38.8
011-b	8.487 8.491	/		31.328	31.22 *	+0.11	39.2
012	6.211 6.214	6.20	+0.01	29.710	29.94	-0.23	30.6

* STD12 salinity data not taken at same time used previous profile at this same station

Prince Rupert Trips + Data 1993

Cruise #	Dates	Cons#	Station	CTD file	Comments
9318	May 26		PRH6	PRH6.CNV	Seabird CTD +
	to	001		PRH6a.CNV	DO sensor
	28	002	PRH5	PRH5.CNV	
		003	PRH4	PRH4.CNV	Darren T. + Tom J.
		004	RuP2	PRH1.CNV	
		005	PRH2	PRH2.CNV	
		006	PRH3	PRH3.CNV	
		007	RuP1	RuP1.CNV	
	July 15 to 17	008	RuP2	RuP2_008.CAL	DJS + Tom Jake
		009	RuP1	RuP1_009.CAL	STD 12 #474
		010	RuP2	RuP2_010.CAL	# Royce DO sensor
		011	RuP1	RuP1_011.CAL	
		012	Minnette Bay	MBAY_012.CAL	
	Sept 30	013	RuP2	no prof.'s obtained	DJS + Reg B
	to	014	PRH1	PRH1_014.CAL	STD 12 #474
	Oct 1	015	PRH2	PRH2_015.CAL	
		016	PRH3	PRH3_016.CAL	
		017	PRH4	PRH4_017.CAL	
		018	PRH5	PRH5_018.CAL	
		019	RuP1	RuP1_019.CAL	

Sept 30 - Thursday

D. Stucchi
Reg Bigham

Vessel: Lewis Reef
; John Hertz captain (Dana + Ponti)

Air calibration of STOR in warehouse
saved to file AIR-SP30.CAL

0930 left marine base

STD/Hydro cons # 013
- on station RUP2 at 1100
- listened to mooring with pinger receiver
- wire @ 170°
- messenger at 1135
- salinity sample at 30 m
- RT's T451 8.566
T446 8.570
P2099 26.8 dbar -0.6 at surface

Mooring RUP2
- release code set at 1203 - on surface
- heavy growth on buoys + instruments
- RCM9 rotor both turning freely
- filamentous growth on rotor + paddle wheel, handle + top end plate

- ENDECO's
top { - heavy filamentous growth on top 1184
- growth on guard cage + on probe shank + less on membrane

bottom - less filamentous growth on guard cage but growth on probe shank + membrane is heavy and comparable to shallower 1184

STOR - downloaded data
raw data to file RUP2-013.RAW
Engineering units to file RUP2-013.REL
Note did not get profile because STOR logged by time and not depth!
We got file with all 384 records at the surface.

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1993 | MONTH 9 | TIME ZONE local | SHIP Lewis Reef | CRUISE 9318-3 | PAGE 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
30	RUP2													

Station PRH1

PRH1 STD12/Hydrocast cons # 014 on station 1320
- messenger at 1328
- wire ↗ 0
downloading to file raw data - PRH1_014.RAW
177 records cal data - PRH1_014.REL
file looks OK

Salinity sample at 45m bottle tripped at surface.
RT T451 9.818
T446 9.816
P2099 2.5

PRH2 - STD12/Hydrocast cons # 015 on station at 1420
- wire angle 0°
- messenger time 1432

downloading STD12 data - raw data PRH2_015.RAW
- cal data PRH2_015.REL

Salinity sample at 40m
RT: T451 8.780
T446 8.783
P2099 40.4

PRH3 - STD12/Hydrocast Cons # 016 on station at 1456
wire angle 0°
messenger time 1504

RT T451 8.185
T446 8.187
P2099 40.3

Downloading STD12 data - raw data PRH3_016.RAW
155 records - cal data PRH3_016.REL

1515 - tied up to fueling dock

PRH4 – STD2/Hydrocast Cons #017 on station # 1604
- messenger time 16:16
- wire @ 13°

- missed 40m bottle but messenger tripped bottom bottle at 45m - lanyard jammed
- recasting for 40m sample.
- messenger at 16:23

Salinity sample at 45m #17

RT	T451	8.800
	T446	8.803
	P2099	45.6

downloading STD2 data - raw file PRH4_017.RAW
- cal file PRH4_017.REL

PRH5 – STD2/Hydrocast Cons #018 on station #1645
- messenger time 16.58
- wire angle 0

Salinity sample #18 at 50m

RT	T451	8.819
	T446	8.821
	P2099	50.4

Downloading of STD2 - raw file PRH5_018.RAW
192 records - cal file PRH5_018.REL

Sept 30, 1993

STD-12 air calibration for DO sonsor.
S/N #474

Time	S/N	Time	Pres	Temp	Cond	DO
0745	-	00474,	00149,	19684,	20366,	19997, 29504
0749	-	00474,	00235,	19685,	20350,	19997, 29521
0751	-	00474,	00347,	19684,	20313,	19996, 29539
0753	-	00474,	00461,	19683,	20279,	19997, 29561
0756	-	00474,	00636,	19683,	20099,	19997, 29572
0801	-	00474,	00686,	19683,	20068,	, 29590
0804			00739,		19993,	, 29611
0808	-		00860,		19966,	, 29631
0814	-	00474,	00976,	19681,	19849,	, 29662
0818			01074,		19874,	, 29685
0824		00474,	01176,		19775,	, 29712.

Oct 1, 1993 - Lewis Reef

0830 - loaded gear aboard boat and unloaded RUP2 mooring components

air calibrating of STD12 DO sensor

Time	SN	Time	Pres	Temp	Cond	DO
0905	00474	00030	19691	23022	19996	28636
0908	00474	00134	19691	22474	19996	28688
0910	00474	00247	19691	22495	19995	28710
0913		00295	19691	22480		28732
0916		00339		22418		28746
0919		00391		22547		28759
0920		00451		22614		28758

- reprogrammed STD12 to sample on depth change of 50cm.

air calibration file is AIR_OCT1.CAL

RUP1 STD12/Hydrocast cons # 019 onstation 1000

messenger time 10:12

wire out 0

Salinity sample #19 at 40m

RT	T451	8.862
	T446	8.865
	P2099	40.5

10:58 - popped up RUP1 after several abortive attempts to release the mooring. Changing deck units and moving closer made the difference.

- this mooring was heavily fouled with fibrous or filamentous growth all the way down to the acoustic release.

RUP1 – mooring (cont.)

- RCM4 5391
  - 3" long filaments on rotor
  - rotor turns but threshold is probably higher
  - Filaments all over handle, top and plate of rotor.
- RCM4 6462
  - not as much growth as on 5391
  - Filaments about 1-2 cm long on rotor magnets
  - growth on handle, rotor & top and plate
  - rotor spinning freely

ENDECO #1061 – lots of filamentous growth on protective cage and probe guard; filaments about 3cm long
– no growth on probe shank or membrane

ENDECO 1007 – heavier growth on probe guard and attachment bracket
– minor growth on probe shank and soil on membrane

Downloading 57012 data to – raw RUP1_019.RAW
RUP1_019.RSL

STD12 Data File Index

Date	Station	Cons#	Filename	Comments
30/9/93	RUP2	013	RUP2_013.RAW RUP2_013.REL	Did not get profile only at surface.
	PRH1	014	PRH1_014.RAW PRH1_014.REL	Calibration bottle tripped at surface.
	PRH2	015	PRH2_015.RAW PRH2_015.REL	
	PRH3	016	PRH3_016.RAW PRH3_016.REL	
	PRH4	017	PRH4_017.RAW PRH4_017.REL	
	PRH5	018	PRH5_018.RAW PRH5_018.REL	
1/10/93	RUP1	019	RUP1_019.RAW RUP1_019.REL	

Air Calibration Values for DO Sensor

30/9/93 in file AIR_SP30.CAL

1/10/93 in file AIR_OCT1.CAL

Calibration Checks

Cons #	Temp RT	Temp STD12	Temp Diff	Salinity Autosal	Salinity STD12	Salinity Diff	P res
013	8.566	/	/	32.013	/	/	26.8
	8.570						
014	9.818	/	/	29.142	/	/	
	9.810						2.5
015	8.780	8.78	0.00	31.516	31.54	-0.02	
	8.783						40.4
016	8.185	8.79	-0.61	31.607	31.64	-0.03	
	8.187						40.3
017	8.800	8.80	0.00	31.634	31.67	-0.04	
	8.803						45.6
018	8.819	8.82	0.00	31.672	31.70	-0.03	
	8.821						50.4
019	8.862	8.86	0.00	31.600	31.63	-0.03	
	8.865						40.5

$\overline{\Delta T} = \overline{0.00}\ ^{\circ}C$

$\overline{\Delta Sal} = \overline{-0.03}$ psu

CRUISE 9353

NORTH COAST DIVISION SURVEYS

① Friday September 17, 1993
Vessel:
Technician: Roberta Paterson

CONS#	Station	Time	filename	Calibrated file	Psurf	Salinity Sample
001	RUP1	09:14	RUP1.RAW	RUP1.CAL	-3.17	40
002	RUP2	10:51	RUP2.RAW	RUP2.CAL	-2.93	33
003	PRH1	11:25	PRH1.RAW	PRH1.CAL	-2.88	40
004	PRH2	12:04	PRH2.RAW	PRH2.CAL	-2.83	65
005	PRH3	12:21	PRH3.RAW	PRH3.CAL	-2.91	46
006	PRH4	13:12	PRH4.RAW	PRH4.CAL	-2.96	47
007	PRH5	13:35	PRH5.RAW	PRH5.CAL	-2.81	50
008	PRH6	14:11	PRH6.RAW	PRH6.CAL	-2.83	52

* Calibrated data file produced by STD12OXY.BAS S220 = 1578.16

Note: The STD12 DO sensor was not calibrated in air before the survey. Consequently the air calibration values for the survey of Sept. 24th were used.

CRUISE 9353

NORTH COAST DIVISION SURVEYS

(2) Friday September 24, 1993
Vessel:
Technician: Roberta Polarsa

Cons#	Station	Time	Filename	Cal f.G	Psurf	Salinity Sample
009	RUP1	10:30	RUP11.RAW	RUP11.CAL	-3.13	45
010	RUP2	1145	RUP22.RAW	RUP22.CAL	-2.88	39
011	PRH1	12:30	PRH11.RAW	PRH11.CAL	-2.71	50
012	PRH2	1320	PRH22.RAW ①	PRH22.CAL	-3.03	60
013	PRH3	1405	PRH33.RAW	PRH33.CAL	-2.81	40
014	PRH4	1430	PRH44.RAW	PRH44.CAL	-2.96	48
015	PRH5	1500	PRH55.RAW	PRH55.CAL	-2.76	55

0730 STD12 ON
0830 STD12 air calibration values:
00474, 00373, 19671, 20119, 19997, 29285

① 2 casts in this file use second cast.

CRUISE 93/5B

Calibration Checks for the surveys of 17 + 24 / 9 / 93

Filename	Station	AutoSal	STOR	Diff	Sample Depth	
RUP1.CAL	RUP1	31.522	31.56	−0.04	40 (37.5)	17/9/93
RUP2.CAL	RUP2	32.209	32.27	−0.06	33 (30)	↓
PRH1.CAL	PRH1	31.944	31.97	−0.03	40	
PRH2.CAL	PRH2	31.476	31.50	−0.02	65	
PRH3.CAL	PRH3	31.505	31.57	−0.07	46	
PRH4.CAL	PRH4	31.566	31.60	−0.03	47	
PRH5.CAL	PRH5	31.637	31.67	−0.03	50	
PRH6.CAL	PRH6	30.722	30.74	−0.02	52	
RUP11.CAL	RUP1	31.648	31.64	0.01	45 (44)	24/9/93
RUP22.CAL	RUP2	32.265	32.29	−0.03	39 (40)	↓
PRH11.CAL	PRH1	31.852	32.09	−0.24 ?	40 (46.5m)	
PRH22.CAL	PRH2	31.818	31.83	−0.01	60	
PRH33.CAL	PRH3	31.490	31.70	−0.21 ?	40 (46	
PRH44.CAL	PRH4	31.495	31.51	−0.02	48	
PRH55.CAL	PRH5	31.422	31.49	−0.07	55	
			$\bar{\mu}_{SAL}$	−0.03 ±0.02		