**REVISION NOTICE TABLE**

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| **DATE** | **DESCRIPTION OF REVISION** |
| 25 May 2022 | Corrected bottle numbers that had been padded. G.G. |
| 27-Sep-2017 | Corrected MISSION metadata field in header. R.H. |

**PROCESSING NOTES**

Cruise: 97-13

Date: July 16 - 27, 1997

Location: Laperouse, Endeavour Ridge and Barkley Canyon

Project: Laperouse/GLOBEC

Chief Scientist: Rick Thomson

Platform: J.P. Tully

Processed by: Joseph Linguanti

Date of Processing : 17 September 1997 - 27 September 1997

Number of original casts: 249

Number of casts processed: 124

**INSTRUMENT SUMMARY**

The SeaBird Model SBE 911+ CTD # 0437 was used. It was used in conjunction with the 24 bottle rosette.

**SUMMARY OF QUALITY AND CONCERNS**

Most CTD files were in good order. Both primary and secondary conductivity and temperature sensors tracked very well. Transmissivity and PAR data had to be removed in some files since the instruments didn’t work properly. Comparison with bottle data showed that salinity was approximately 0.0228 PSU too low which is consistent with what Germain Gatien found for the June Line-P cruise (97-11).

**PROCESSING SUMMARY**

**1**. **Seasave** - This step was completed at sea; the raw data files are \*.dat.

**2. Preliminary Steps**

The Log Book was obtained and note was made of problems that occurred during the cruise.

The salinity bottle data sheets were found.

The cruise summary sheet was completed.

**3. Conversion of Raw Data**

This step was completed by Bernard Minkley.

**4. Preparing a set of data for further processing**

Files \*.cnv were copied into \*.org; this set of files was left unprocessed.

**5. Test Plots**

To check the agreement of the pairs of temperature and conductivity sensors, plots were made of a selection of casts. Casts 11,49,99,149,199 and 249 were checked . Both sensors tracked closely and were very consistent.

**6. WILDEDIT**

Program WILDEDIT was used to remove spikes in T, C, S and Tr. This stage of processing is to flag very bad points. Parameters used were: Pass 1 Std Dev = 2

Pass 2 Std Dev = 5

Points per block = 50

**7. CELLTM**

The conductivity cell thermal mass correction was done using alpha = 0.03 and 1/beta = 7.0.

**8. FILTER**

The pressure was low-pass filtered with a time constant of 0.15 seconds.

**9. Conversion to IOS Headers**

The IOSSHELL routine was used to convert SEA-Bird 911+ data to IOS Headers.

**10. Checking Headers**

Most casts were OK. The first 18 casts had no station names so they were inserted into the header. Also some of these casts had no position data, so lat and long values from the log book were inserted into the header.

**11. DELETE**

The following DELETE parameters were used:

Surface Record Removal: Low Salinity and Last Press Min

Maximum Surface Pressure (relative): 20.00

Minimum Surface salinity: 0.0

Surface Swell Pressure Tolerance: .50

Pressure filtered over width: 11

Swells deleted. Warning message if pressure difference of 2.00

Drop rates< .2m/s (calculated over 11 points) will be deleted

Sample interval = .04 seconds.

**12. BIN AVERAGE**

The following Bin Average values were used:

Bin channel = pressure

Averaging interval = 1.000

Minimum bin value = .000

Average value will be used

Interpolated values are NOT used for empty bins

**13. Test Plots**

Page plots were produced for all casts from the meter averaged files. Data appeared to be very clean with the exception of cast 60 which showed unstable water in the upper 20 db. Plots of the secondary channels did not show the instability therefore the secondary channels were used for this cast.

**14. CTDEDIT**

Most casts were OK. Minor editing was done to 13 files.

**15. Preparing files for intercomparison**

The \*.ros files were converted to IOS header files and renamed as \*.bot. A cast number pairs file and a pairs list were prepared and used to add bottle sample numbers to the \*.bot files producing the \*.sam files.

**16. COMPARE**

The COMPARE routine was used to produce a file 0437.CSV which was imported into EXCEL using the COMPARE macros. The salinity differences were plotted against pressure excluding shallow data. The CTD salinity data was about 0.0228 PSU lower than the bottle values. The following correction was applied to salinity for casts 1 to 250,

new\_salinity = old\_salinity + 0.02276

**17. Final Plots**

Page plots were prepared using the corrected data.

**18. REMOVE**

The following channels were removed from all casts: Scan\_Number, Conductivity:Primary, Conductivity:Secondary, Temperature:Secondary, Salinity:T1:C1. and Flag.

Transmissivity was removed from casts 1,3,4,5 and 9 since data was bad.

PAR data was removed from casts 165,173,175,233 and 235 since the whole profile consisted of one value.

**19. Producing final files**

a.) The final files were renamed \*.ctd.

**20. Particulars**

Cast 3 - Also processed upcast, cast 4, because I wasn’t sure of instability in upper 20 dbars.

Casts 13 and 14 - were deleted since CTD malfunctioned.

Cast 179 - deleted since it had no records.

Cast 180 - missing.

Data archived on tapes DLT023 and DLT024 in savesets 9713\_1.bak and 9713\_2.bak.