

# SEA-BIRD ELECTRONICS, INC.

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SENSOR SERIAL NUMBER: 1652  
CALIBRATION DATE: 31-May-07

SBE3 TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPRATURE SCALE

## ITS-90 COEFFICIENTS

g = 4.83735419e-003  
h = 6.78007835e-004  
i = 2.59035766e-005  
j = 1.97016520e-006  
f0 = 1000.0

## ITS-68 COEFFICIENTS

a = 3.68121179e-003  
b = 6.03639272e-004  
c = 1.52121559e-005  
d = 1.97161469e-006  
f0 = 6132.083

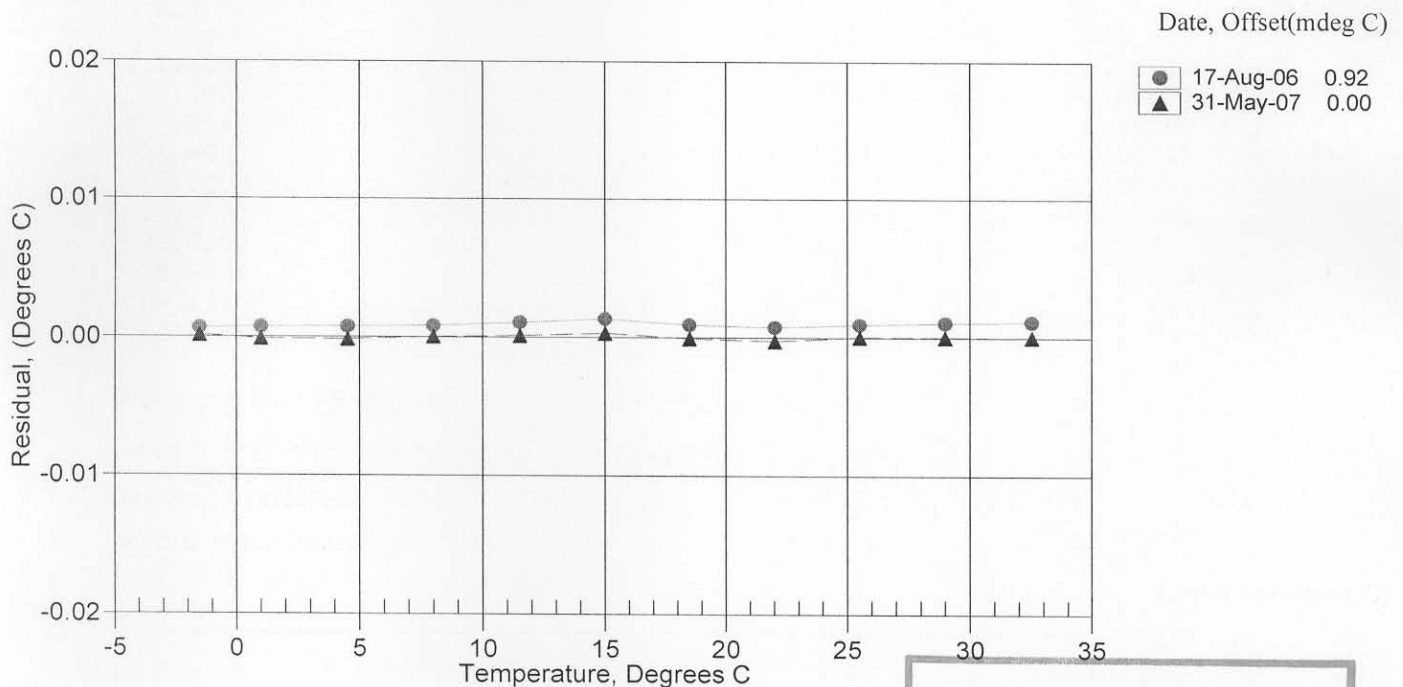
BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
-1.5001	6132.083	-1.5000	0.00014
1.0000	6483.323	0.9999	-0.00013
4.5000	6999.086	4.4998	-0.00017
7.9999	7543.566	7.9999	0.00002
11.5000	8117.511	11.5001	0.00011
15.0000	8721.637	15.0003	0.00029
18.5000	9356.547	18.4999	-0.00009
22.0000	10023.057	21.9997	-0.00027
25.4999	10721.866	25.4999	0.00003
29.0000	11453.515	29.0000	0.00004
32.5000	12218.599	32.5000	0.00002

Temperature ITS-90 =  $1/\{g + h[\ln(f_0/f)] + i[\ln^2(f_0/f)] + j[\ln^3(f_0/f)]\} - 273.15$  (°C)

Temperature ITS-68 =  $1/\{a + b[\ln(f_0/f)] + c[\ln^2(f_0/f)] + d[\ln^3(f_0/f)]\} - 273.15$  (°C)

Following the recommendation of JPOTS:  $T_{68}$  is assumed to be  $1.00024 * T_{90}$  (-2 to 35 °C)

Residual = instrument temperature - bath temperature



**POST CRUISE  
CALIBRATION**