SEA-BIRD ELECTRONICS, INC.

1808 136th Place N.E., Bellevue, Washington, 98005 USA
Phone: (425) 643 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 0076
CALIBRATION DATE: 19-Nov-07

GliderAPL TEMPERATURE CALIBRATION DATA
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.36820909e-003
h = 6.36458379e-004
i = 2.57280253e-005
j = 2.88127784e-006
f0 = 1000.0

IPTS-68 COEFFICIENTS

a = 3.64763536e-003
b = 5.87882154e-004
c = 1.55451205e-005
d = 2.88285299e-006
f0 = 3257.916

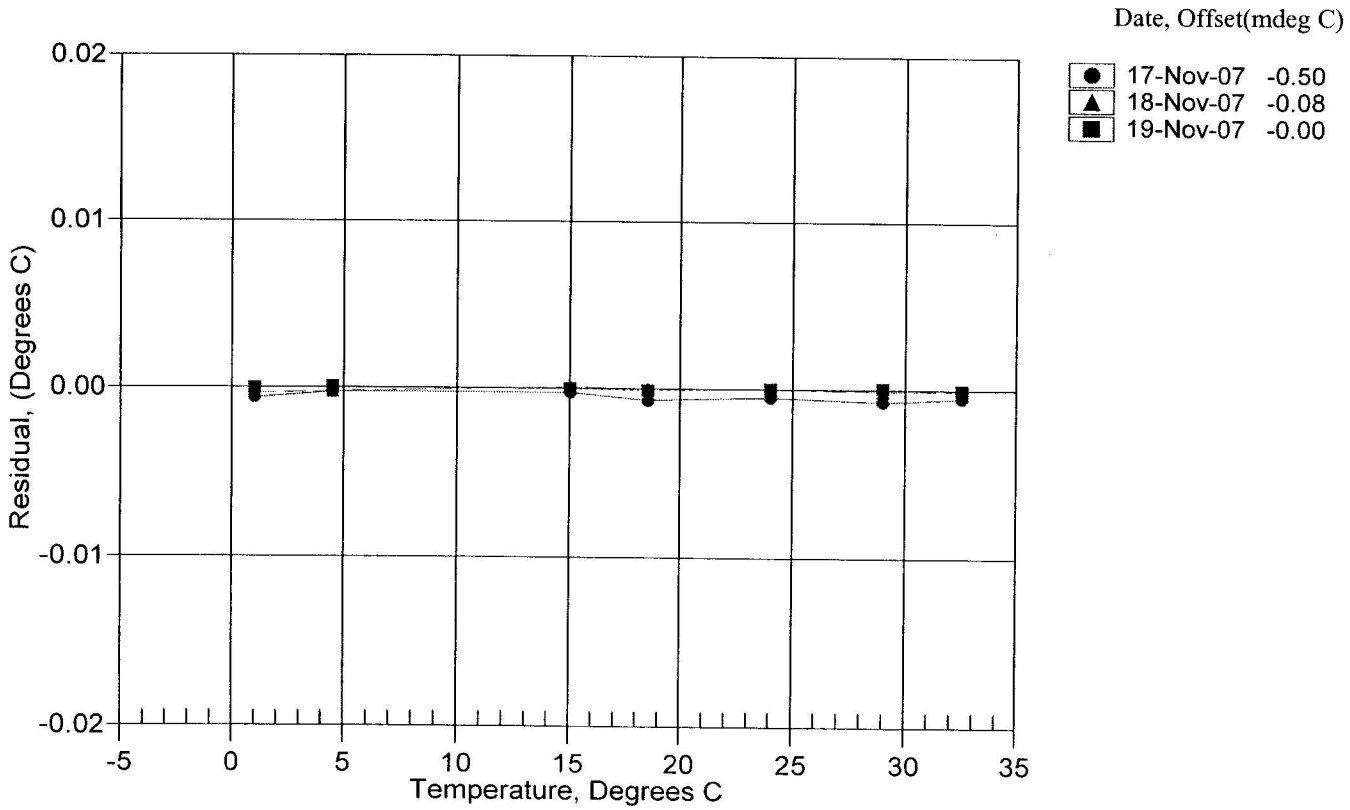
BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	3257.916	1.0000	-0.00003
4.4999	3523.593	4.5000	0.00005
15.0000	4414.617	15.0000	0.00000
18.5000	4744.326	18.4999	-0.00007
24.0000	5296.971	24.0000	0.00003
29.0000	5837.010	29.0001	0.00007
32.5000	6236.904	32.5000	-0.00005

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 IPTS-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



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GliderAPL CONDUCTIVITY CALIBRATION DATA
PSS 1978: C(35,15,0) = 4.2914 Seimens/meter

GHIJ COEFFICIENTS

```
g = -1.01920169e+001
h =  1.15435308e+000
i = -1.71792182e-003
j =  2.19448371e-004
CPcor = -9.5700e-008 (nominal)
CTcor =  3.2500e-006 (nominal)
```

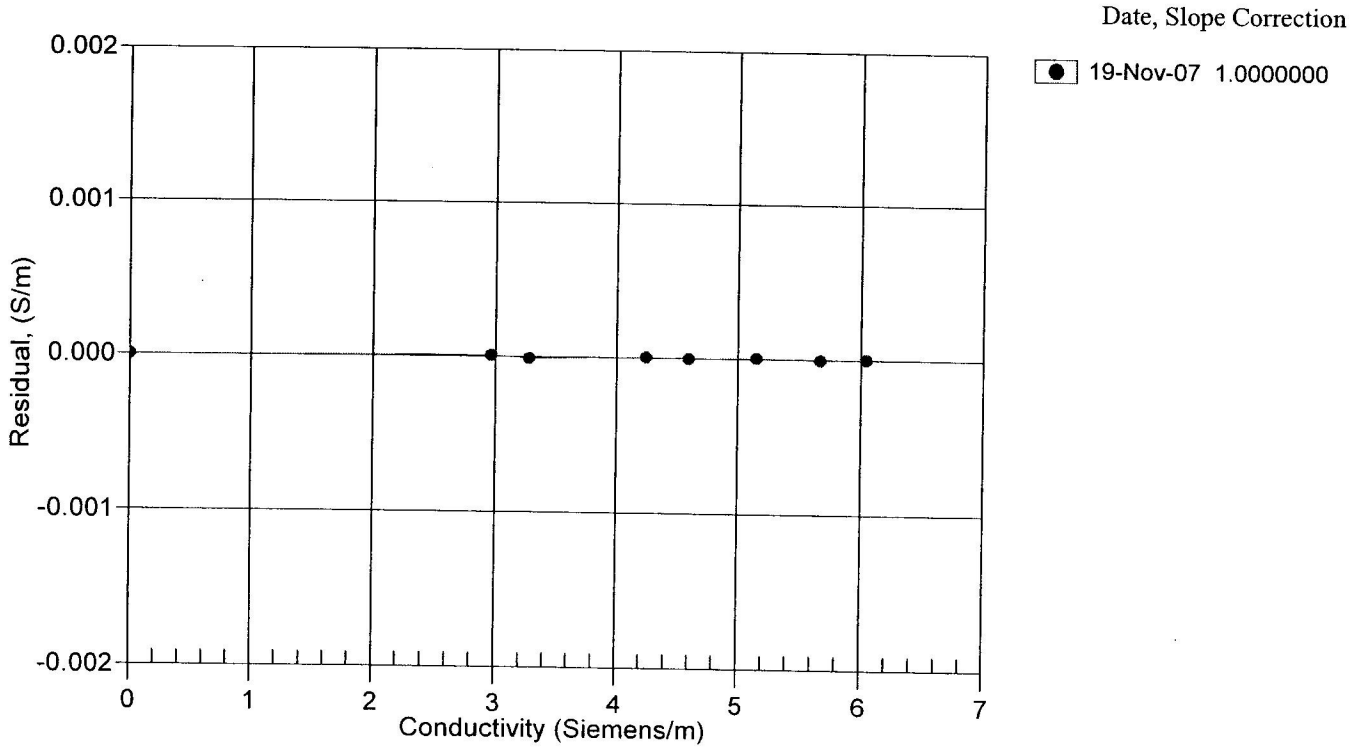
ABCDM COEFFICIENTS

```
a =  9.54945836e-006
b =  1.14947616e+000
c = -1.01773046e+001
d = -8.55359722e-005
m =  5.0
CPcor = -9.5700e-008 (nominal)
```

BATH TEMP (ITS-90)	BATH SAL (PSU)	BATH COND (Siemens/m)	INST FREQ (kHz)	INST COND (Siemens/m)	RESIDUAL (Siemens/m)
22.0000	0.0000	0.00000	2.97548	0.00000	0.00000
1.0000	34.6384	2.96220	5.87927	2.96221	0.00001
4.4999	34.6202	3.26803	6.10038	3.26802	-0.00001
15.0000	34.5783	4.24549	6.75810	4.24550	0.00000
18.5000	34.5693	4.58912	6.97435	4.58912	-0.00000
24.0000	34.5593	5.14461	7.31014	5.14461	0.00001
29.0000	34.5534	5.66408	7.61047	5.66408	-0.00000
32.5000	34.5491	6.03464	7.81748	6.03464	0.00000

Conductivity = $(g + hf^2 + if^3 + jf^4) /10(1 + \delta t + \varepsilon p)$ Siemens/meter

Conductivity = $(af^m + bf^2 + c + dt) / [10 (1 + \varepsilon p)$ Siemens/meter

t = temperature[°C)]; p = pressure[decibars]; δ = CTcor; ε = CPcor;

Residual = (instrument conductivity - bath conductivity) using g, h, i, j coefficients