

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: 0075
CALIBRATION DATE: 29-Nov-08

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

GHIJ COEFFICIENTS

g = -1.01031496e+001
h = 1.14537193e+000
i = -1.45617235e-003
j = 2.01499046e-004
CPcor = -9.5700e-008 (nominal)
CTcor = 3.2500e-006 (nominal)

ABCDM COEFFICIENTS

a = 1.51128689e-005
b = 1.14124956e+000
c = -1.00902218e+001
d = -8.46071323e-005
m = 4.8
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	2.97330	0.00000	0.00000
1.0000	34.8855	2.98132	5.90746	2.98132	0.00000
4.5000	34.8661	3.28896	6.13033	3.28896	0.00000
15.0000	34.8239	4.27245	6.79325	4.27243	-0.00001
18.5000	34.8151	4.61823	7.01121	4.61822	-0.00000
24.0000	34.8052	5.17716	7.34960	5.17717	0.00001
29.0000	34.7997	5.69991	7.65224	5.69991	0.00001
32.5000	34.7966	6.07294	7.86090	6.07293	-0.00001

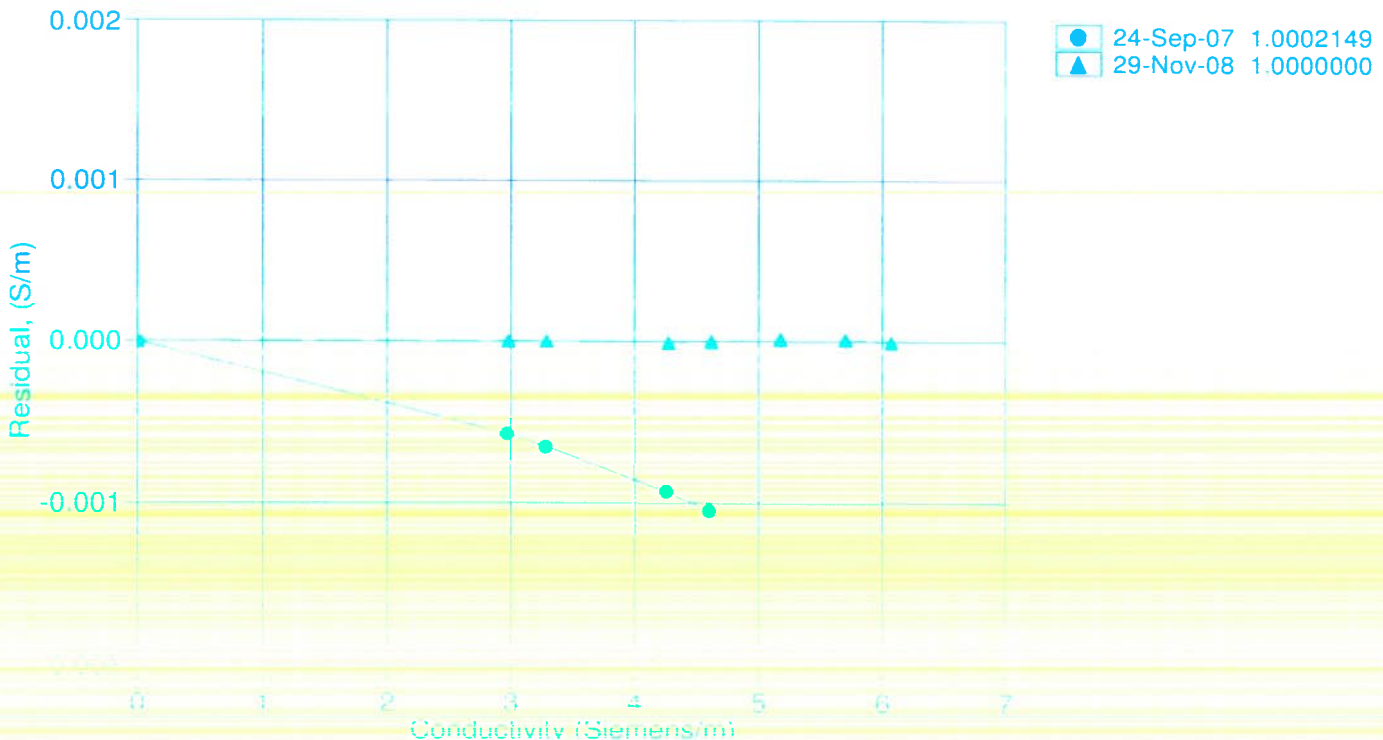
Conductivity = $(g + hf^2 + if^3 + jf^4) / 10(1 + \delta t + \epsilon p)$ Siemens/meter

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

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

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

Date, Slope Correction



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Phone: (425) 343 - 9866 Fax (425) 643 - 9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 7075
 CALIBRATION DATE: 29-Nov-08

GliderAPL TEMPERATURE CALIBRATION DATA ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

g = 4.39881639e-003
 h = 6.41443301e-004
 i = 2.63985750e-005
 j = 2.90438825e-006
 f0 = 1000.0

IPTS-68 COEFFICIENTS

a = 3.64763628e-003
 b = 5.89999341e-004
 c = 1.57560443e-005
 d = 2.90598407e-006
 f0 = 3402.344

BATH TEMP (ITS-90)	INSTRUMENT FREQ (Hz)	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	3402.344	0.9999	-0.00010
4.5000	3678.792	4.5002	0.00018
15.0000	4605.365	14.9998	-0.00016
18.5000	4948.107	18.5000	-0.00001
24.0000	5522.394	24.0000	0.00004
29.0000	6083.419	29.0001	0.00015
32.5000	6498.731	32.4999	-0.00011

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

