

QC  
121  
ACC

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0026  
CALIBRATION DATE: 24-Apr-11

SBE GLIDER PAYLOAD CTD  
CONDUCTIVITY CALIBRATION DATA  
PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -1.044841e+000  
h = 1.702939e-001  
i = -4.603672e-004  
j = 6.332058e-005

CPcor = -9.5700e-008  
CTcor = 3.2500e-006  
WBOTC = 8.3917e-007

BATH TEMP (ITS-90)	BATH SAL (PSU)	BATH COND (Siemens/m)	INST FREQ (Hz)	INST COND (Siemens/m)	RESIDUAL (Siemens/m)
22.0000	0.0000	0.00000	2482.47	0.00000	0.00000
1.0000	34.7031	2.96721	4864.42	2.96720	-0.00000
4.5000	34.6830	3.27338	5046.18	3.27339	0.00000
15.0000	34.6400	4.25227	5587.10	4.25228	0.00001
18.5000	34.6307	4.59640	5764.97	4.59640	0.00000
24.0000	34.6203	5.15268	6041.15	5.15268	-0.00001
29.0000	34.6145	5.67297	6288.19	5.67297	-0.00001
32.5000	34.6111	6.04424	6458.52	6.04425	0.00001

$$f = \text{INST FREQ} * \text{sqrt}(1.0 + \text{WBOTC} * t) / 1000.0$$

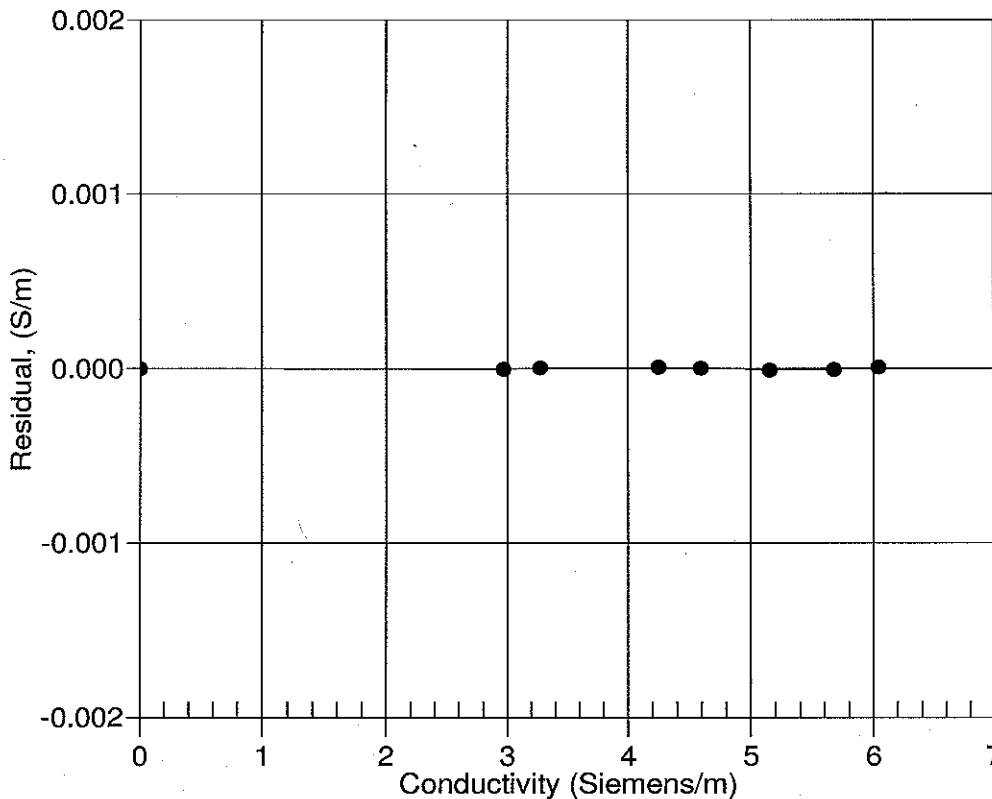
$$\text{Conductivity} = (g + hf^2 + if^3 + jf^4) / (1 + \delta t + \epsilon p) \text{ Siemens/meter}$$

t = temperature[°C]; p = pressure[decibars];  $\delta$  = CTcor;  $\epsilon$  = CPcor;

Residual = instrument conductivity - bath conductivity

Date, Slope Correction

● 24-Apr-11 1.0000000



OC  
121  
ACC

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0026  
CALIBRATION DATE: 20-Apr-11

SBE GLIDER PAYLOAD CTD  
PRESSURE CALIBRATION DATA  
2900 psia S/N 2085959

**COEFFICIENTS:**

PA0 = -1.539186e+000  
PA1 = 9.807427e-003  
PA2 = 9.300105e-011  
PTEMPA0 = -9.775895e+001  
PTEMPA1 = 4.023132e-002  
PTEMPA2 = 1.196381e-006

PTCA0 = 5.235411e+005  
PTCA1 = -1.287950e+001  
PTCA2 = 2.470254e-001  
PTCB0 = 1.047710e+002  
PTCB1 = -5.062501e-003  
PTCB2 = 0.000000e+000

**PRESSURE SPAN CALIBRATION**

PRESSURE PSIA	INST OUTPUT	THERMISTOR OUTPUT	COMPUTED PRESSURE	ERROR %FSR
14.57	525025.0	2728.0	14.61	0.00
614.85	586119.0	2731.0	614.77	-0.00
1214.89	647128.0	2732.0	1214.78	-0.00
1814.93	708081.0	2732.0	1814.94	0.00
2414.91	768950.0	2734.0	2414.97	0.00
3014.95	829732.0	2734.0	3014.82	-0.00
2414.87	768957.0	2733.0	2415.03	0.01
1814.92	708081.0	2734.0	1814.95	0.00
1214.82	647133.0	2734.0	1214.84	0.00
614.85	586121.0	2735.0	614.80	-0.00
14.57	525027.0	2735.0	14.64	0.00

**THERMAL CORRECTION**

TEMP ITS90	THERMISTOR OUTPUT	INST OUTPUT
32.50	2975	525104.20
29.00	2901	525097.00
24.00	2794	525095.20
18.50	2676	525108.00
15.00	2602	525124.80
4.50	2374	525209.40
1.00	2298	525249.40

TEMP (ITS90)	SPAN (mV)
-5.75	104.80
37.53	104.58

$$y = \text{thermistor output}; t = PTEMPA0 + PTEMPA1 * y + PTEMPA2 * y^2$$

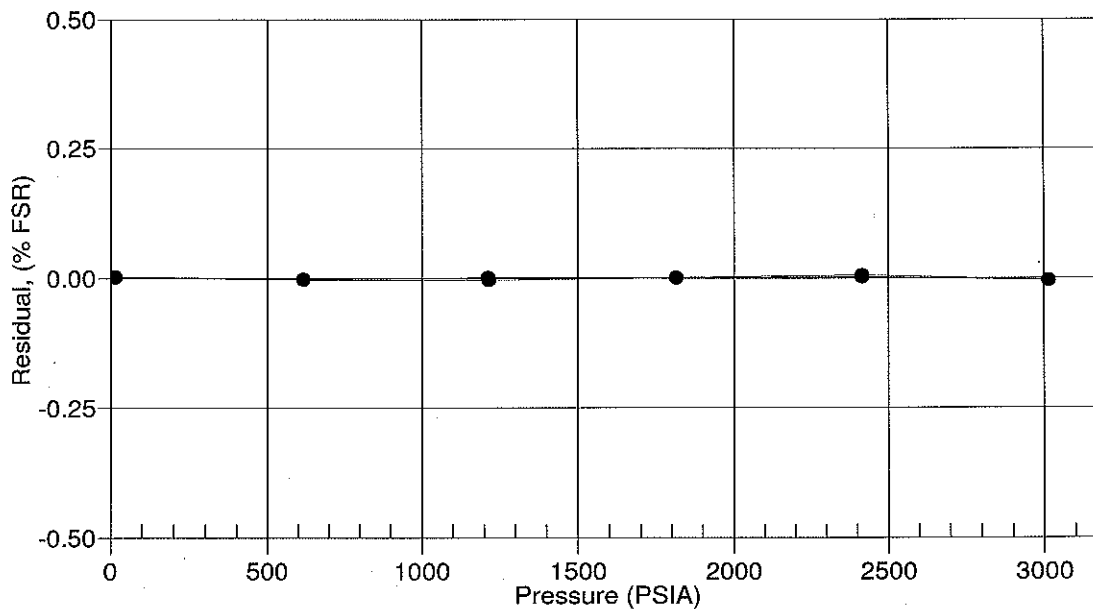
$$x = \text{pressure output} - PTCA0 - PTCA1 * t - PTCA2 * t^2$$

$$n = x * PTCB0 / (PTCB0 + PTCB1 * t + PTCB2 * t^2)$$

$$\text{pressure (psia)} = PA0 + PA1 * n + PA2 * n^2$$

Date, Avg Delta P %FS

● 20-Apr-11 -0.00



QC  
121  
ACC

# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street, Bellevue, Washington, 98005-2010 USA

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

SENSOR SERIAL NUMBER: 0026  
CALIBRATION DATE: 24-Apr-11

SBE GLIDER PAYLOAD CTD  
TEMPERATURE CALIBRATION DATA  
ITS-90 TEMPERATURE SCALE

ITS-90 COEFFICIENTS

a0 = -1.231100e-004  
a1 = 3.096999e-004  
a2 = -4.642782e-006  
a3 = 2.046372e-007

BATH TEMP (ITS-90)	INSTRUMENT OUTPUT	INST TEMP (ITS-90)	RESIDUAL (ITS-90)
1.0000	580343.0	1.0000	0.0000
4.5000	496334.0	4.5000	-0.0000
15.0000	316658.0	15.0001	0.0001
18.5000	274316.2	18.4999	-0.0001
24.0000	220237.4	23.9999	-0.0001
29.0000	181492.6	29.0001	0.0001
32.5000	159036.2	32.4999	-0.0001

$$\text{Temperature ITS-90} = 1 / \{ a_0 + a_1[\ln(n)] + a_2[\ln^2(n)] + a_3[\ln^3(n)] \} - 273.15 \text{ (}^\circ\text{C)}$$

Residual = instrument temperature - bath temperature

Date, Delta T (mdeg C)

● 24-Apr-11 -0.00

