



SEA-BIRD ELECTRONICS, INC.

13431 NE 20th Street Bellevue, Washington 98005 USA

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

Conductivity Calibration Report

Customer:	National Park Service - ALASKA		
Job Number:	71943	Date of Report:	12/12/2012
Model Number:	SBE 19Plus	Serial Number:	19P55083-6353

Conductivity sensors are normally calibrated 'as received', without cleaning or adjustments, allowing a determination of sensor drift. If the calibration identifies a problem or indicates cell cleaning is necessary, then a second calibration is performed after work is completed. The 'as received' calibration is not performed if the sensor is damaged or non-functional, or by customer request.

An 'as received' calibration certificate is provided, listing the coefficients used to convert sensor frequency to conductivity. Users must choose whether the 'as received' calibration or the previous calibration better represents the sensor condition during deployment. In SEASOFT enter the chosen coefficients. The coefficient 'slope' allows small corrections for drift between calibrations (consult the SEASOFT manual). Calibration coefficients obtained after a repair or cleaning apply only to subsequent data.

'AS RECEIVED CALIBRATION'

Performed Not Performed

Date: 12/12/2012

Drift since last cal: -0.00020 PSU/month*

Comments:

'CALIBRATION AFTER CLEANING & REPLATINIZING'

Performed Not Performed

Date:

Drift since Last cal: PSU/month*

Comments:

*Measured at 3.0 S/m

Cell cleaning and electrode replatinizing tend to 'reset' the conductivity sensor to its original condition. Lack of drift in post-cleaning-calibration indicates geometric stability of the cell and electrical stability of the sensor circuit.

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13431 NE 20th Street, Bellevue, WA 98005-2010 USA
 Phone: (+1) 425-643-9866 Fax (+1) 425-643-9954 Email: seabird@seabird.com

SENSOR SERIAL NUMBER: 6353
 CALIBRATION DATE: 12-Dec-12

SBE19plusV2 CONDUCTIVITY CALIBRATION DATA
 PSS 1978: C(35,15,0) = 4.2914 Siemens/meter

COEFFICIENTS:

g = -1.010744e+000 CPcor = -9.5700e-008
 h = 1.498742e-001 CTcor = 3.2500e-006
 i = -6.977819e-005
 j = 2.745591e-005

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	2596.88	0.0000	0.00000
1.0000	34.9742	2.98817	5159.09	2.9882	0.00003
4.5000	34.9548	3.29650	5353.51	3.2965	-0.00003
15.0000	34.9116	4.28206	5931.84	4.2821	-0.00001
18.5000	34.9009	4.62838	6121.86	4.6284	0.00002
23.9999	34.8882	5.18813	6416.82	5.1881	-0.00000
29.0000	34.8772	5.71117	6680.41	5.7112	-0.00001
32.5000	34.8663	6.08372	6861.83	6.0837	0.00000

f = INST FREQ / 1000.0

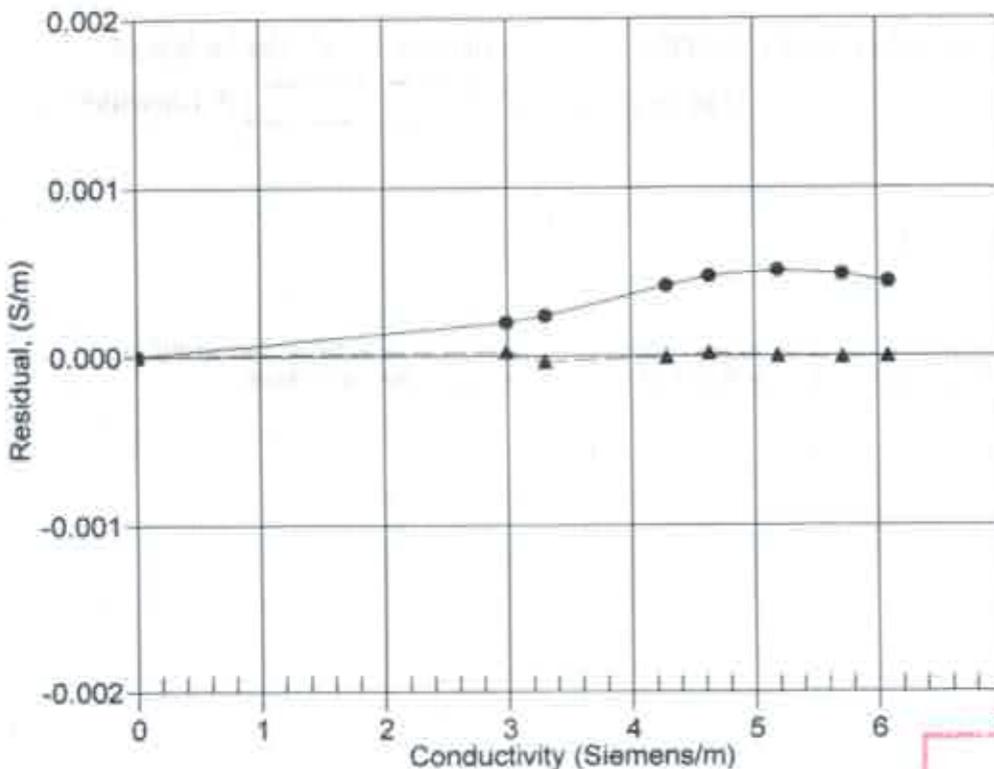
Conductivity = (g + hf² + if³ + jf⁴) / (1 + δt + εp) Siemens/meter

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

Residual = instrument conductivity - bath conductivity

Date, Slope Correction

● 07-Dec-11 0.9999142
 ▲ 12-Dec-12 1.0000000



POST CRUISE CALIBRATION