



# SEA-BIRD ELECTRONICS, INC.

13431 NE 20th St. Bellevue, Washington 98005 USA

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

**Service**

**Report**

**RMA Number**

70506

## Customer Information:

**Company** Atlantic Marine Center

**Date** 10/8/2012

**Contact** Richard Conway

**PO Number** TBD

**Serial Number** 432097

**Model Number** SBE 43

## Services Requested:

1. Evaluate/Repair Instrumentation.
2. Perform Routine Calibration Service.

## Problems Found:

## Services Performed:

1. Performed initial diagnostic evaluation.
2. Performed "Post Cruise" calibration of the oxygen sensor.
3. Performed full diagnostic evaluation.

## Special Notes:

# Sea-Bird Electronics, Inc.

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: 2097  
CALIBRATION DATE: 29-Aug-12

## SBE 43 OXYGEN CALIBRATION DATA

### COEFFICIENTS

Soc = 0.4623

Voffset = -0.4972

Tau20 = 1.53

A = -2.6514e-003

B = 1.2531e-004

C = -2.1310e-006

E nominal = 0.036

### NOMINAL DYNAMIC COEFFICIENTS

D1 = 1.92634e-4 H1 = -3.30000e-2

D2 = -4.64803e-2 H2 = 5.00000e+3

H3 = 1.45000e+3

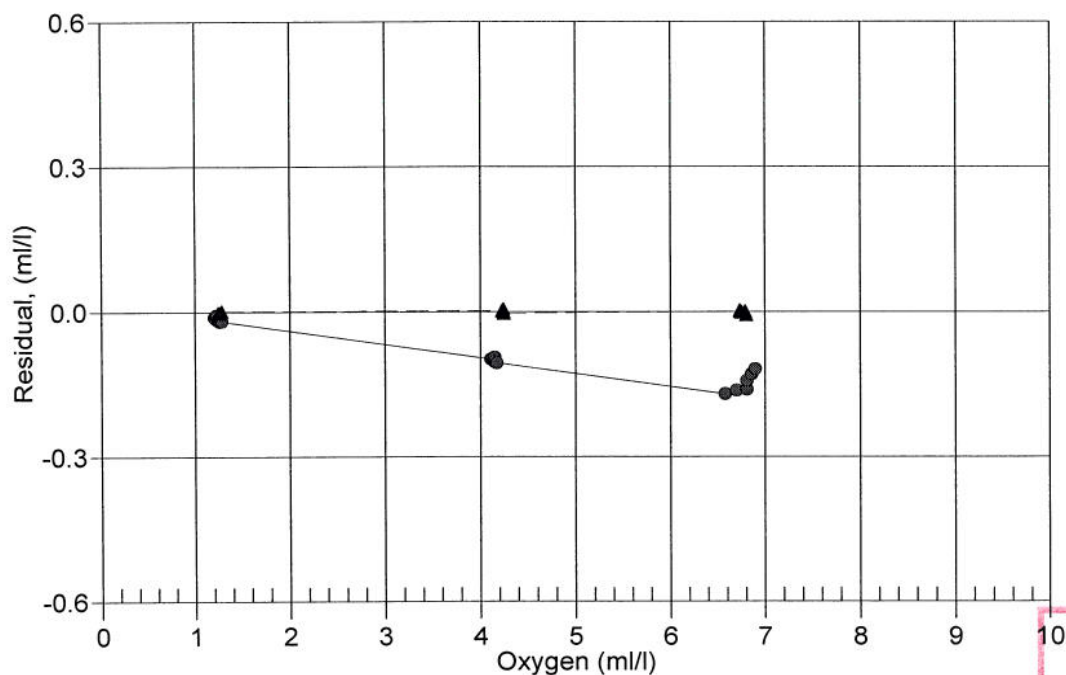
BATH OX (ml/l)	BATH TEMP ITS-90	BATH SAL PSU	INSTRUMENT OUTPUT(VOLTS)	INSTRUMENT OXYGEN(ml/l)	RESIDUAL (ml/l)
1.24	2.00	0.05	0.775	1.24	-0.00
1.25	6.00	0.05	0.812	1.25	-0.00
1.26	12.00	0.04	0.865	1.26	-0.00
1.28	20.00	0.04	0.941	1.28	0.00
1.28	26.00	0.04	0.997	1.28	0.00
1.28	30.00	0.05	1.036	1.28	0.00
4.22	2.00	0.05	1.447	4.23	0.00
4.23	26.00	0.04	2.149	4.24	0.01
4.24	20.00	0.04	1.968	4.24	0.00
4.24	6.00	0.05	1.562	4.24	-0.00
4.24	12.00	0.04	1.736	4.24	0.00
4.24	30.00	0.05	2.275	4.24	-0.00
6.73	2.00	0.05	2.009	6.73	0.00
6.73	30.00	0.05	3.320	6.73	0.00
6.74	6.00	0.05	2.192	6.74	-0.00
6.75	12.00	0.04	2.468	6.75	0.00
6.79	20.00	0.04	2.854	6.79	0.00
6.80	26.00	0.05	3.142	6.79	-0.01

Oxygen (ml/l) = Soc \* (V + Voffset) \* (1.0 + A \* T + B \* T<sup>2</sup> + C \* T<sup>3</sup>) \* OxSol(T,S) \* exp(E \* P / K)

V = voltage output from SBE43, T = temperature [deg C], S = salinity [PSU], K = temperature [Kelvin]

OxSol(T,S) = oxygen saturation [ml/l], P = pressure [dbar], Residual = instrument oxygen - bath oxygen

Date, Delta Ox (ml/l)



POST CRUISE  
CALIBRATION