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: 0171
CALIBRATION DATE: 29-Jan-11p

SBE 43F OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 2.7347e-004 (DI)
Foffset = -811.41
Tau20 = 0.94

A = -2.2671e-003
B = 1.3660e-004
C = -2.3100e-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

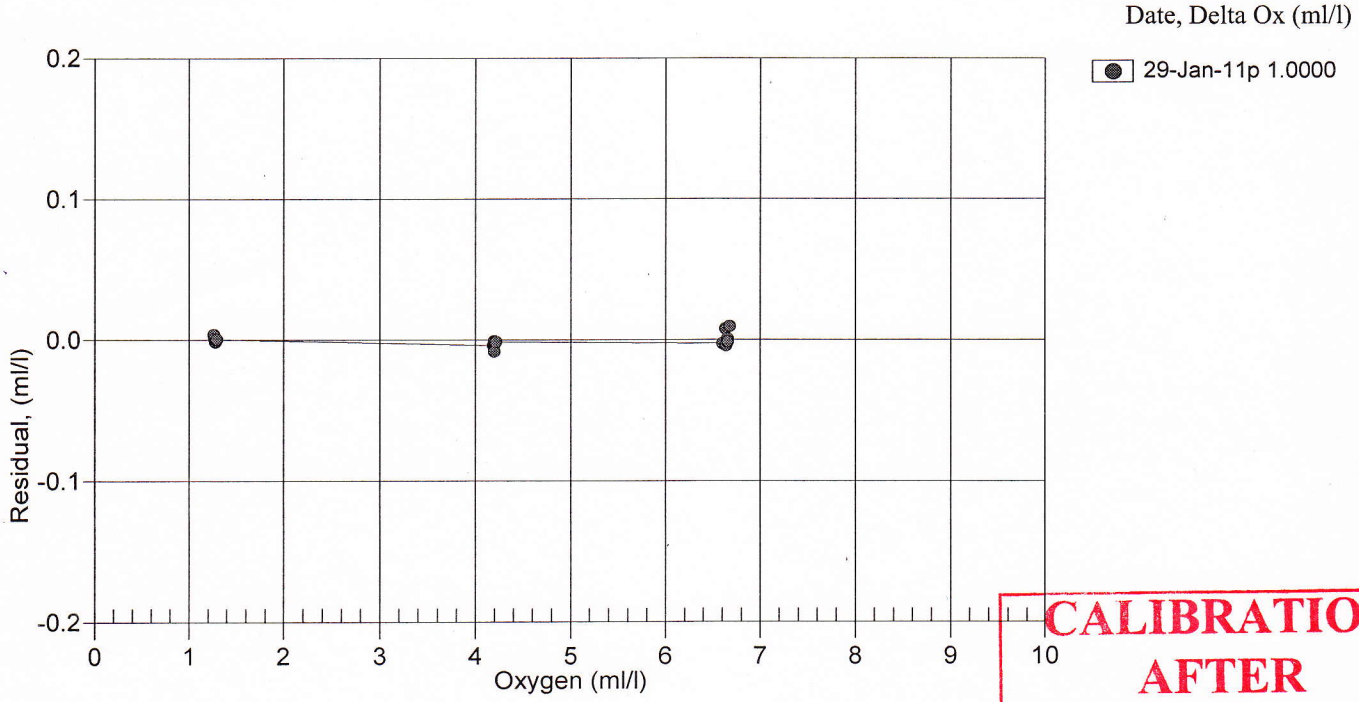
BATH OX (ml/l)	BATH TEMP ITS-90	BATH SAL PSU	INSTRUMENT OUTPUT(Hz)	INSTRUMENT OXYGEN(ml/l)	RESIDUAL (ml/l)
1.26	6.00	0.02	1347.20	1.26	0.00
1.26	2.00	0.01	1291.23	1.26	0.00
1.27	12.00	0.02	1432.75	1.27	0.00
1.28	20.00	0.02	1550.51	1.27	-0.00
1.28	26.00	0.02	1641.05	1.28	-0.00
1.29	30.00	0.02	1707.06	1.29	0.00
4.18	26.00	0.02	3523.52	4.18	-0.00
4.19	6.00	0.02	2585.47	4.19	-0.00
4.19	20.00	0.02	3240.29	4.19	-0.00
4.19	12.00	0.02	2868.28	4.19	-0.00
4.20	2.00	0.01	2400.73	4.19	-0.01
4.21	30.00	0.02	3744.06	4.21	-0.00
6.60	30.00	0.02	5404.74	6.59	-0.00
6.63	6.00	0.02	3623.05	6.64	0.01
6.63	12.00	0.02	4063.11	6.63	-0.00
6.65	2.00	0.01	3333.87	6.65	0.00
6.66	20.00	0.02	4673.14	6.66	-0.00
6.68	26.00	0.02	5149.09	6.69	0.01

Oxygen (ml/l) = Soc * (F + Foffset) * $(1.0 + A * T + B * T^2 + C * T^3)$ * OxSol(T,S) * exp(E * P / K)

F = frequency output from SBE43F, T = temperature [deg C], S = salinity [PSU] K = temperature [deg K]

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

Residual = instrument oxygen - bath oxygen



CALIBRATION AFTER MODIFICATIONS

SEA-BIRD ELECTRONICS, INC.

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

SENSOR SERIAL NUMBER: 0171
CALIBRATION DATE: 11-Jan-11p

SBE 43F OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 2.9633e-004 (DI)
Foffset = -811.39
Tau20 = 1.05

A = -2.2469e-003
B = 1.6049e-004
C = -2.5047e-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

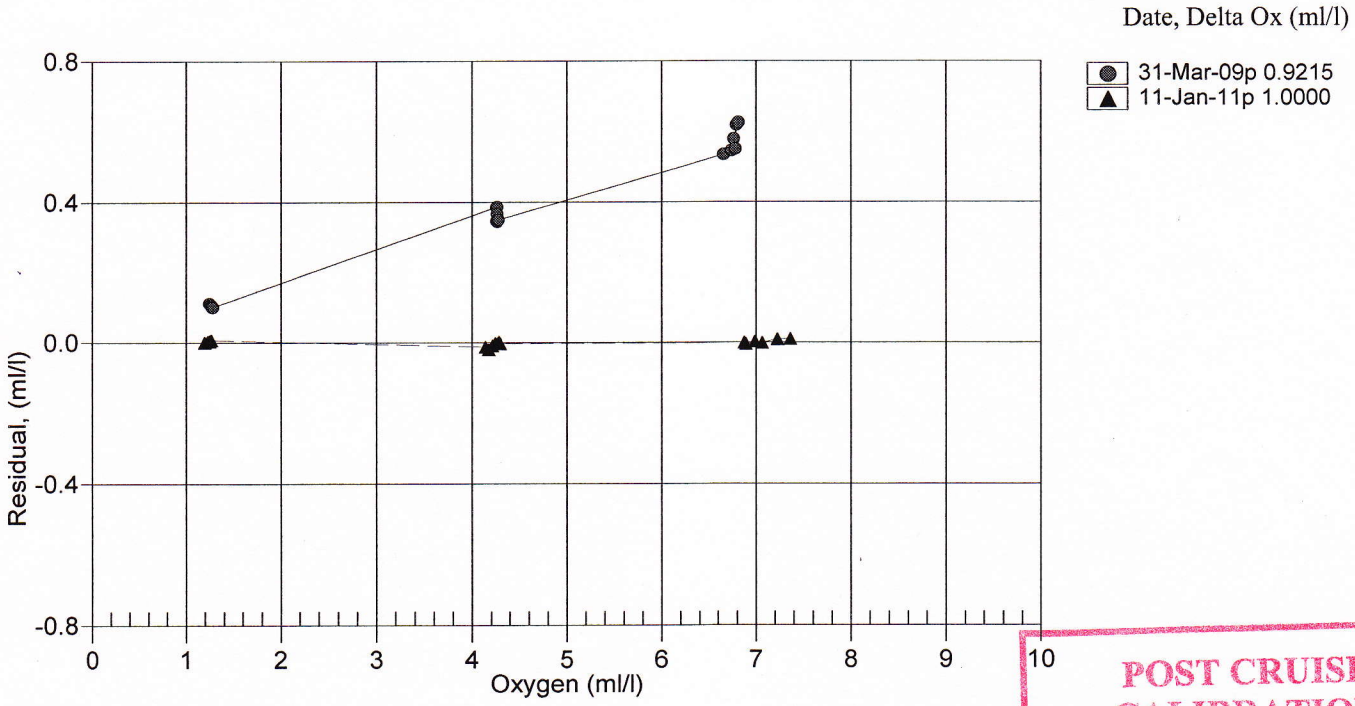
BATH OX (ml/l)	BATH TEMP ITS-90	BATH SAL PSU	INSTRUMENT OUTPUT(Hz)	INSTRUMENT OXYGEN(ml/l)	RESIDUAL (ml/l)
1.19	6.00	0.00	1275.78	1.19	0.00
1.22	12.00	0.00	1364.70	1.23	0.00
1.24	2.00	0.00	1246.60	1.24	0.00
1.25	20.00	0.00	1476.08	1.25	0.01
1.26	26.00	0.00	1561.10	1.27	0.01
1.27	30.00	0.00	1617.53	1.28	0.01
4.14	6.00	0.00	2422.59	4.12	-0.01
4.17	2.00	0.00	2263.74	4.15	-0.02
4.21	12.00	0.00	2707.63	4.20	-0.01
4.24	30.00	0.00	3490.19	4.24	-0.00
4.27	20.00	0.00	3081.69	4.28	0.00
4.29	26.00	0.00	3344.38	4.29	-0.00
6.87	30.00	0.00	5156.58	6.87	0.00
6.89	26.00	0.00	4880.41	6.89	-0.00
6.98	20.00	0.00	4518.67	6.98	0.00
7.06	12.00	0.00	3995.81	7.06	-0.00
7.22	2.00	0.00	3341.13	7.23	0.01
7.35	6.00	0.00	3688.44	7.36	0.01

Oxygen (ml/l) = Soc * (F + Foffset) * (1.0 + A * T + B * T^2 + C * T^3) * OxSol(T,S) * exp(E * P / K)

F = frequency output from SBE43F, T = temperature [deg C], S = salinity [PSU] K = temperature [deg K]

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

Residual = instrument oxygen - bath oxygen



POST CRUISE CALIBRATION

SBE
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 62442

Customer Information:

Company	SEAGLIDER FABRICATION CENTER	**Date**	2/2/2011
Contact	Karl Kunkle		
PO Number	100760		

Serial Number	43F0171
Model Number	SBE 43F

Services Requested:

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

Problems Found:

1. The membrane was punctured or torn.

Services Performed:

1. Performed initial diagnostic evaluation.
2. Performed "Post Cruise" calibration of the oxygen sensor.
3. Replaced the lid and membrane assembly (0.5 mil). *
4. Replaced the electrolyte with new fluid. *
5. Performed "Final" calibration of the oxygen sensor.
6. Performed full diagnostic evaluation.

Special Notes:

* These services have been performed at no charge.