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: 07-Sep-11p

SBE 43F OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 3.5684e-004 (DI)
Foffset = -825.36
Tau20 = 1.98

A = -4.2506e-003
B = 1.9387e-004
C = -3.1886e-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)
1.24	2.00	0.04	1186.46	1.24	0.00
1.25	6.00	0.04	1236.05	1.25	0.01
1.25	12.00	0.04	1308.36	1.26	0.01
1.28	20.00	0.04	1410.39	1.28	0.01
1.29	26.00	0.03	1489.14	1.30	0.01
1.29	30.00	0.04	1543.81	1.30	0.01
4.11	2.00	0.04	2017.95	4.09	-0.03
4.16	6.00	0.04	2184.20	4.14	-0.02
4.16	20.00	0.04	2717.06	4.15	-0.01
4.16	12.00	0.04	2412.99	4.15	-0.01
4.18	26.00	0.03	2963.21	4.18	-0.00
4.20	30.00	0.04	3142.43	4.20	-0.00
6.75	30.00	0.04	4544.86	6.74	-0.00
6.79	26.00	0.04	4301.83	6.79	0.00
6.82	20.00	0.04	3933.21	6.82	-0.00
6.86	12.00	0.04	3449.91	6.86	0.00
6.90	6.00	0.04	3094.58	6.92	0.01
6.99	2.00	0.04	2869.42	7.00	0.01

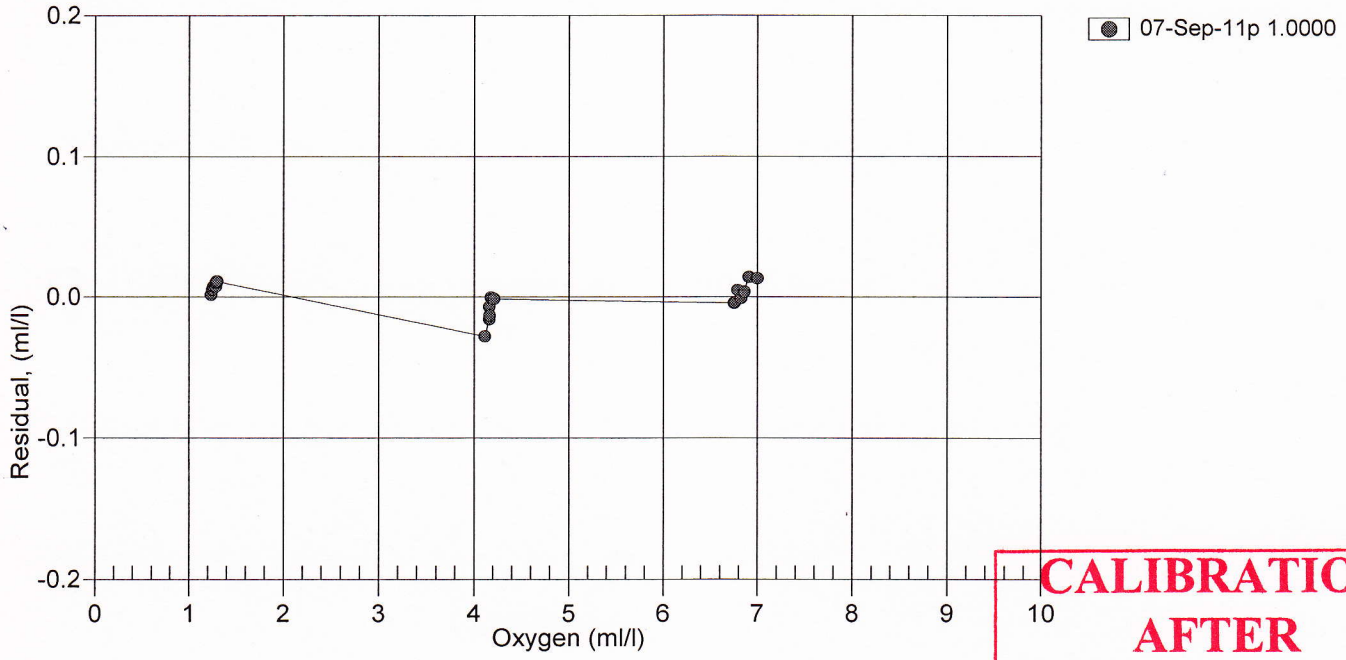
Oxygen (ml/l) = Soc * (F + Foffset) * $(1.0 + A * T + B * T^2 + C * T^3)$ * OxSol(T,S) * exp(E * P / K)

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

Date, Delta Ox (ml/l)



CALIBRATION AFTER MODIFICATIONS

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

SENSOR SERIAL NUMBER: 0171
CALIBRATION DATE: 16-Aug-11p

SBE 43F OXYGEN CALIBRATION DATA

COEFFICIENTS

Soc = 2.8135e-004 (DI)
Foffset = -821.09
Tau20 = 0.84

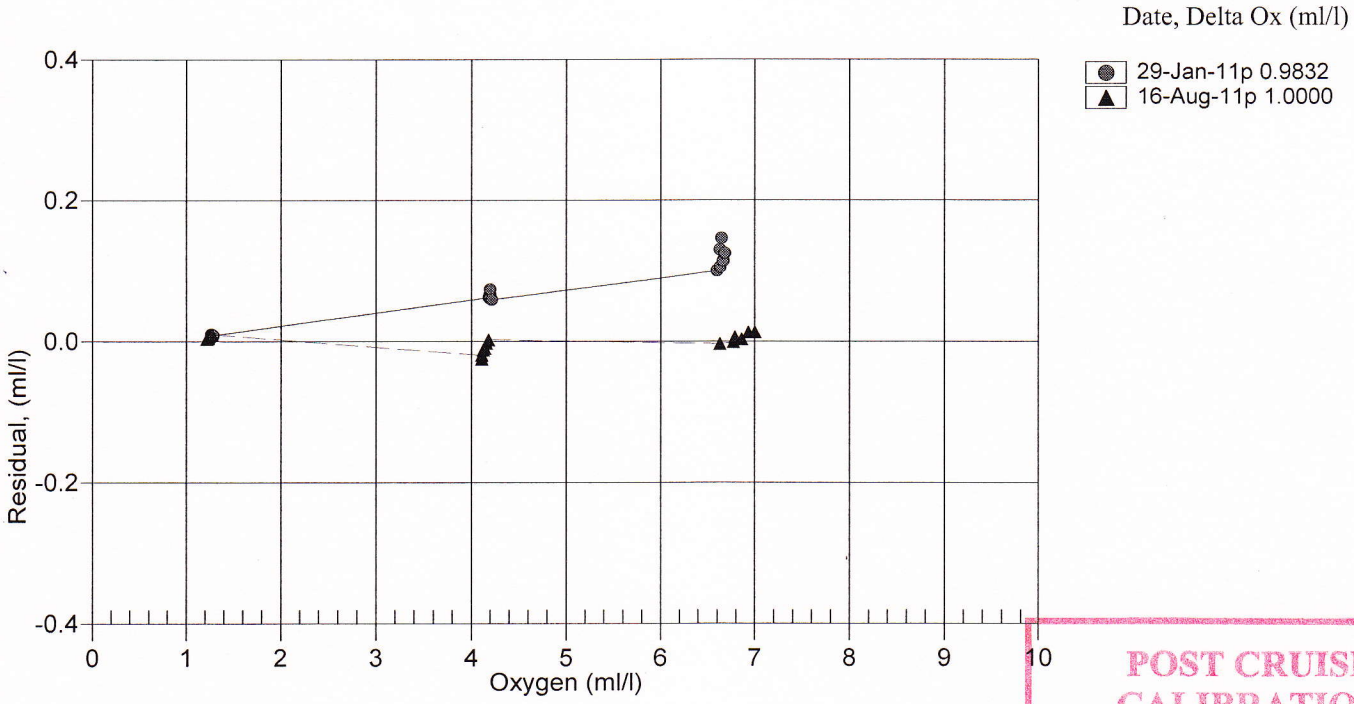
A = -3.8692e-003
B = 2.2935e-004
C = -4.0157e-006
E nominal = 0.036

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)
1.22	2.00	0.04	1272.22	1.22	0.00
1.23	12.00	0.04	1414.01	1.23	0.01
1.23	6.00	0.04	1333.14	1.23	0.00
1.24	20.00	0.04	1534.67	1.25	0.01
1.25	26.00	0.04	1624.94	1.26	0.01
1.27	30.00	0.04	1698.56	1.28	0.01
4.10	6.00	0.04	2515.05	4.08	-0.02
4.11	2.00	0.04	2330.94	4.08	-0.02
4.12	12.00	0.04	2796.49	4.10	-0.01
4.14	20.00	0.04	3168.68	4.13	-0.01
4.16	26.00	0.04	3465.14	4.15	-0.00
4.18	30.00	0.04	3684.65	4.18	0.00
6.63	30.00	0.04	5355.05	6.62	-0.00
6.77	26.00	0.04	5127.01	6.77	-0.00
6.79	20.00	0.04	4686.22	6.79	0.01
6.85	12.00	0.04	4120.58	6.86	0.00
6.93	6.00	0.04	3700.55	6.94	0.01
6.99	2.00	0.04	3412.56	7.01	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

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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 65605

Customer Information:

Company	SEAGLIDER FABRICATION CENTER	**Date**	9/20/2011
Contact	Karl Kunkle		
PO Number	TBD		

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: