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 82935

Customer Information:

Company	The University of Hawaii	**Date**	2/3/2015
Contact	Sarah Searson		
PO Number	Z10087052		

Serial Number	43F0086
Model Number	SBE 43F

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: 0086
CALIBRATION DATE: 16-Jan-15

SBE 43F OXYGEN CALIBRATION DATA

COEFFICIENTS:
Soc = 2.6404e-004
Foffset = -797.30
Tau20 = 1.48

A = -3.5973e-003
B = 2.0399e-004
C = -2.0090e-006
E nominal = 0.036

NOMINAL DYNAMIC COEFFICIENTS
D1 = 1.92634e-4
D2 = -4.64803e-2
H1 = -3.300000e-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)
1.28	6.00	0.00	1361.002	1.28	0.00
1.29	2.00	0.00	1304.187	1.29	-0.00
1.29	12.00	0.00	1455.765	1.29	-0.00
1.31	20.00	0.00	1577.956	1.30	-0.00
1.33	26.00	0.00	1672.040	1.32	-0.00
1.34	30.00	0.00	1737.234	1.34	0.00
4.07	6.00	0.00	2596.320	4.08	0.01
4.09	12.00	0.00	2885.261	4.09	0.00
4.09	2.00	0.00	2411.305	4.10	0.01
4.11	20.00	0.00	3261.827	4.11	0.00
4.15	26.00	0.00	3536.695	4.14	-0.01
4.18	30.00	0.00	3730.672	4.18	0.00
6.86	12.00	0.00	4299.290	6.85	-0.00
6.86	6.00	0.00	3823.099	6.86	-0.00
6.89	20.00	0.00	4927.594	6.89	0.00
6.90	2.00	0.00	3513.768	6.90	-0.00
6.98	26.00	0.00	5411.414	6.98	-0.00
7.01	30.00	0.00	5713.441	7.01	-0.00

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