



Sea-Bird Electronics, Inc.

13431 NE 20th St. Bellevue, Washington 98005 USA  
Website: <http://www.seabird.com>

Phone: (425) 643-9866  
FAX: (425) 643-9954  
Email: [seabird@seabird.com](mailto:seabird@seabird.com)

## SBE Pressure Test Certificate

Test Date: 2/17/2011 Description SBE-43 DO Sensor

Job Number: 63036 Customer Name NOAA/PMC

### SBE Sensor Information:

Model Number: 43  
Serial Number: 2097

### Pressure Sensor Information:

Sensor Type: None  
Sensor Serial Number: None  
Sensor Rating: 0

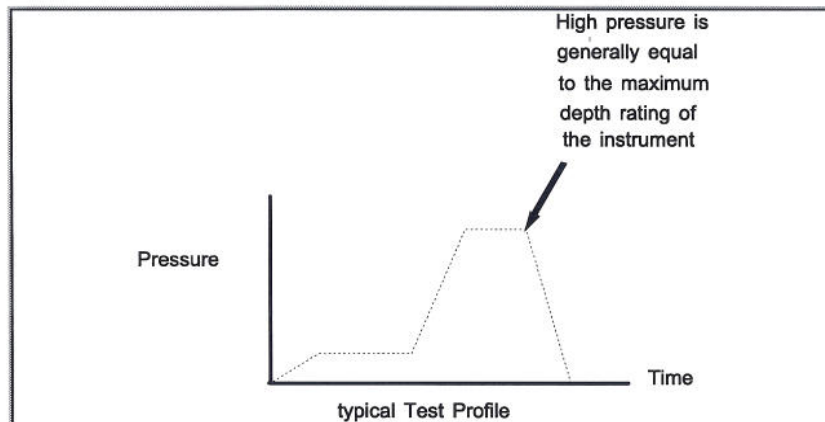
### Pressure Test Protocol:

Low Pressure Test: 50 PSI Held For: 15 Minutes

High Pressure Test: 10000 PSI Held For: 30 Minutes

Passed Test:

Tested By: gw



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SENSOR SERIAL NUMBER: 2097  
CALIBRATION DATE: 31-Mar-11p

SBE 43 OXYGEN CALIBRATION DATA

**COEFFICIENTS**

Soc = 0.4719

Voffset = -0.5000

Tau20 = 1.71

A = -2.4099e-003

B = 1.2588e-004

C = -2.1900e-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)
1.20	6.00	0.00	0.796	1.21	0.00
1.21	12.00	0.00	0.847	1.22	0.01
1.22	2.00	0.00	0.769	1.23	0.01
1.24	20.00	0.00	0.921	1.24	0.01
1.26	26.00	0.00	0.979	1.26	0.01
1.28	30.00	0.00	1.025	1.29	0.01
4.10	2.00	0.00	1.397	4.08	-0.03
4.12	12.00	0.00	1.673	4.11	-0.01
4.14	20.00	0.00	1.898	4.13	-0.01
4.14	6.00	0.00	1.514	4.13	-0.02
4.15	26.00	0.00	2.075	4.15	-0.00
4.17	30.00	0.00	2.201	4.17	-0.00
6.57	30.00	0.00	3.182	6.57	-0.00
6.70	26.00	0.00	3.043	6.71	0.00
6.80	20.00	0.00	2.801	6.80	0.00
6.80	12.00	0.00	2.441	6.81	0.01
6.85	6.00	0.00	2.187	6.86	0.01
6.89	2.00	0.00	2.018	6.90	0.01

$$\text{Oxygen (ml/l)} = \text{Soc} * (\text{V} + \text{Voffset}) * (1.0 + \text{A} * \text{T} + \text{B} * \text{T}^2 + \text{C} * \text{T}^3) * \text{OxSol}(\text{T}, \text{S}) * \exp(\text{E} * \text{P} / \text{K})$$

V = voltage output from SBE43, 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)

● 31-Mar-11p 1.0000

