



CDOM WETStar Characterization

Date: July 14, 2009

S/N: WSCD-859

CDOM (Quinine Sulfate Dihydrate Equivalent) concentration expressed in ppb can be derived using the equation:

$$\text{CDOM (QSDE) (ppb)} = \text{Scale Factor} \times (\text{Output} - \text{Clean Water Offset})$$

	Analog output
Clean Water Offset (CWO)	0.070 V @
Scale Factor (SF)	25.7 ppb/V @
Maximum Output	5.46 V @
Resolution	1.20 mV
Ambient Characterization Temperature	22 ± 1°C
Current Draw	40 mA @ 12V (typical)
12-hour Stability	1.55 mV/hr
Temperature Stability, 25–2 °C	1.48 mV/°C

Definitions:

CWO: Clean Water Offset value obtained using pure filtered de-ionized water.

SF: Determined using the following equation: $SF = x / (\text{output} - \text{CWO})$, where x is the concentration of the solution used during the instrument characterization. SF is used to derive instrument output concentration from the raw signal output of the fluorometer.

Maximum Output: Maximum signal output of the fluorometer.

Resolution: Standard deviation of 1 minute of clean water data, sampled once per second.

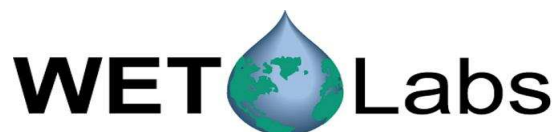
Ambient Characterization Temperature: Room temperature at time of characterization.

Current Draw: The amount of current the instrument uses for operation.

12-hour Stability: Deviation of output averaged over 12 hours.

Temperature Stability: Measured output variation per degree.

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WETStar Calibration and Repairs

Date July 14, 2009 **Customer** Oregon State University

S/N# WSCD-859 **Repair Order** 6675

Standard Service

- Performed noise test: 1 sample/sec for 60 sec
- Performed stability test: 1 sample/min for 12 hrs
- Performed temperature test: 25–2 °C
- Performed saturation test
- Shake-tested unit
- Pressure-tested unit
- Updated unit's calibration sheet

Additional Repairs

Replaced Bulkhead Connector, Power Board and O-Rings.

Comments