



CDOM WETStar Characterization

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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 meter	
Clean Water Offset (CWO)	0.059 V @	24 °C
Scale Factor (SF)	62 ppb/l/V @	24 °C
Maximum Output	5.1 V @	24 °C
Resolution	0.35 mV	
Ambient Characterization Temperature	24 ± 1 °C	
Current Draw	40 mA @ 12V (typical)	
12-hour Stability	0.38 mV/hr	
Temperature Stability, 25–2 °C	0.28 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.