WET Labs
Western Environmental Technology Laboratories Inc.

ECO Chlorophyll Fluorometer Characterization Sheet

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> Chlorophyll concentration expressed in µg/l can be derived using the equation:
>
> ## CHL (µg/l) = Scale Factor * (Output - Clean Water Offset)

	Digital	
Clean Water Offset (CWO)	63	counts
Chl. Equivalent Concentration (CEC)	1821	counts
Scale Factor (SF)	0.0142	µg/l/count
Maximum Output	4120	counts
Resolution	1.2	counts
Ambient temperature during characterization	23.3	°C

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

CEC Signal output of the fluorometer when using a fluorescent proxy that has been determined to be approximately equivalent to 25 µg/l of a *Thalassiosira weissflogii* phytoplankton culture.

SF: Used to derive chlorophyll concentration from the signal output of the fluorometer. The scale factor is determined using the following equation: SF = 25 ÷ (CEC - CWO). For example: 18.34 ÷ (2865 - 43.5) = 0.00650.

Maximum Output: Maximum signal output the fluorometer is capable of.

Resolution: Standard deviation of 1 minute of collected data.

The relationship between fluorescence and chlorophyll-a concentrations *in-situ* is highly variable. The scale factor listed on this document was determined using a mono-culture of phytoplankton (*Thalassiosira weissflogii*). The population was assumed to be