

**TABLE E-1
FIELD ANALYTICAL METHODS**

Parameter	Method	Reporting Limit	Range	Accuracy
Specific conductance	YSI 85D Oxygen Conductivity Salinity & Temperature	0.01 mS/cm	0 to 200.0 mS/cm	±0.5% full scale
Temperature	YSI 85D Oxygen Conductivity Salinity & Temperature	0.1 °C	-5.0 °C – 65.0 °C	±0.1 °C (±1 lsd ¹)
pH	Thermo Electron Corporation Orion 230A+	0.01	-2.00 - 19.99	± 0.02 pH
Turbidity	HACH 2100P Turbidimeter Portable	0.01 NTU	0 - 1000 NTU	± 2% of reading or ± 1 least significant digit from 0-500 NTU; ± 3% of reading between 500-1000 NTU
Surfactants	CHEMetrics CHEMets Kit (K-9400) Methylene Blue Active Substances	0.13 mg/L	0.0 mg/L – 3.0 mg/L*	± 0.13 & ± 0.5 mg/L ²
Nitrate-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Nitrate 3 Vacu-vials® (K-6933) Cadmium reduction ^{3***}	2.26 mg/L**	2.26 mg/L – 13.6 mg/L**	± 30%
Ammonia-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Ammonia 3 Vacu-vials® (K-1403) Salicylate ^{***}	0.10 mg/L**	0.10 mg/L – 3.00 mg/L**	Varies with measured concentration ^{4,5}
Ortho-phosphate-P	CHEMetrics V-2000 Multi-Analyte LED Photometer – Phosphate 2 Vacu-vials® (K-8513) Stannous chloride chemistry ^{6***}	0.25 mg/L**	0.25 mg/L – 2.61 mg/L**	Varies with measured concentration ^{4,5}

Notes:

¹ The least significant digit (lsd) is the least (farther right) significant digit in a number.

² ± 0.13 for the range of 0.0 to 1.0 mg/L, ± 0.25 mg/L for the range of 1.0 to 2.0 mg/L and 0.5 mg/L for the range of 2.0 to 3.0 mg/L.

³ This method determines the concentration of nitrate in mg/L NO₃. To determine the amount of nitrate-nitrogen, the concentration of nitrogen must be adjusted for the presence of oxygen in the NO₃ molecule. Therefore, the result is multiplied by a conversion factor of 0.226, the ratio of the molecular weight of N (14 g/mol) to NO₃ (62 g/mol). The detection limit for nitrate is 10.0 mg/L; however, the detection limit for nitrate-nitrogen is lowered due to the conversion.

⁴ Practical Detection Limit (PDL) is defined as the lower limit of the stated test range.

⁵ Percent error adjusts as follows: ±30% at PDL, ±20% for 25% of full range, ±10% for 75% of full range, ±10% for 120% of full range. "Full range" is equal to the upper limit of the test kit's range.

⁶ This method determines the concentration of orthophosphate in mg/L PO₄. To determine the amount of orthophosphate-P, the concentration of phosphate must be adjusted for the presence of oxygen in the PO₄ molecule. Oxygen is 67.4% of phosphate by mass but is not a plant nutrient in this form. Therefore, the result is multiplied by a conversion factor of 0.326, the ratio of the molecular weight of P (31 g/mol) to PO₄ (95 g/mol). The detection limit for orthophosphate is 0.75 mg/L; however, the detection limit for orthophosphate-P is lowered due to the conversion.

*Extended ranges in chemical analyses can be achieved through dilutions. Accuracies decrease proportionally with further dilutions.

** Readings below the PDL have increased percent error; measurements are reported, but are flagged as being below the PDL.

***Reporting limit, range, and accuracy information taken from Hanna Instruments and CHEMetrics manuals, available online at www.hannainst.com and www.chemetrics.com. Additional information regarding CHEMetrics accuracy was obtained from the manufacturer via email.