

HISTORIC ANALYTICAL INSTRUMENTATION¹

Analysis	Instrumentation	Dates Used
Alkalinity	Radiometer type TTT lc auto-titrator Radiometer TIM840 ManTech auto-titrator	1963 – 21 May 2008 20 May 2008 – 30 Aug 2011 31 August 2011 - present
Ammonia	Technicon Auto-Analyzer II	July 1978 - present
Cations (Na,K,Ca,Mg)	Varian 1200 Perkin Elmer 5000 Perkin Elmer 4000 Varian SpectrAA220 Shimadzu AA-7000	1974 – (March) 1980 March 1980 - 9 March 1999 15 March 1999 - December 1999 29 March 2000 – June 2011 August 2011 - present
Carbon, Dissolved Organic	Shimadzu model 5000A Shimadzu TOC-VCSH Combustion Analyzer	10 June 2003 - 13 April 2006 30 May 2006 - present
Anions (Cl,SO4)	Dionex DX500 Ion Chromatograph Dionex 1500 Ion Chromatograph	15 March 2004 - February 2006* 14 March 2006 - present
Specific Conductance	YSI model 31 YSI model 3200	< 1981 - May 1998 June 1998 - present
Nitrate	Technicon Auto-Analyzer II	July 1978 - present
Nitrogen, Total	Fisher electrophotometer Milton-Roy 601 Spectrophotometer Technicon Auto-Analyzer II	< 1980 - November 1986 # December 1986 - May 2005 # June 2005 - present
pH	Radiometer type TTT lc auto-titrator Radiometer TIM840 ManTech auto-titrator	1963 – 21 May 2008 20 May 2008 – 30 August 2011 31 Aug 2011 - present
Phosphate- Ortho	Klett-Summerson colorimeter Milton-Roy 601 Spectrophotometer Technicon Auto-Analyzer II	< 1980 - 1 March 1989 13 March 1989 – 10 June 2008 26 June 2008 - present
Phosphorous- Total	Klett-Summerson colorimeter Milton-Roy 601 Spectrophotometer Technicon Auto-Analyzer II	< 1980 - 15 March 1989 20 March 1989 – 19 July 2010 16 June 2010 - present
Silica	Technicon Auto-Analyzer II	July 1978 - present

* prior to March 2004 the laboratory contracted these analyses with University of Washington. No instrument information available at this time.

Analyses performed during these periods determined total Kjeldahl nitrogen.

¹ Compiled March 2015.