

Analysis	Method	Method #	Reference
Total Alkalinity	Potentiometric Titration	2320 B.4.6	Std. Methods ¹
Ammonia (as N)	Automated Colorimetric	350.1	EPA Methods ¹
Chloride	Potentiometric Titration	4500-Cl D	Std. Methods ¹
Nitrate & Nitrite (as N)	Automated Colorimetric	353.2	EPA Methods ²
Orthophosphate	Automated Colorimetric	365.1	EPA Methods ²
As, Pb, U, Se, Bi	ICP-MS	200.8	EPA Methods ²
Al, As, Ba, Be, Bi, Ca, Cd, Cr, Cu, Fe, K, Mg, Mn, Na, Ni, P, Pb, S, Sb, Sulfate, Si, Silica, Sn, Zn	ICP-AES	200.7	EPA Methods ²
TOC	Combustion	5310 C	Std. Methods ¹
Temperature	Thermocouple	17.1	EPA Methods ²
HPC	Culture	9215 C	Std. Methods ¹

Supplemental Table 1. Water quality analyses methods.

¹ Standard Methods for the Examination of Water and Wastewater, " 21st Edition (2005).

² USEPA, "Methods for the Determination of Metals in Environmental Samples," EPA-600/14-91-010 (1994).

Parameter	Contactor	Filter
<i>Filter loading rate</i>		
m/hr	5.4 (1.2 - 10.5)	4.9 (1.22 - 5.4)
gpm/ft ²	2.2 (0.5 - 4.3)	1.8 (0.5 - 2.2)
<i>Air flowrate</i>		
L/min	2.5	--
cfm/ft ²	2.86	--
<i>Backwash conditions</i>		
duration, min	5	15
bed expansion, %	0	50
m/hr	124	41.5
gpm/ft ²	51	17
<i>Contactor</i>		
depth, cm	139.7	--
depth, inches	55	--
effective size, mm	12.7 (6.35 - 31.8)	--
effective size, inches	0.5 (0.25 - 1.25)	--
<i>Filter</i>		
anthracite depth, cm		25.4
anthracite depth, inches		10
Anthracite, mm	--	0.97
anthracite, inches	--	0.04
ADGS ⁺ silica sand depth, cm		76.2
ADGS ⁺ silica sand depth, inches		30
ADGS ⁺ silica sand, mm	--	(0.30-.35)
ADGS ⁺ silica sand, inches	--	(0.012-0.014)

Supplemental Table 2. Design and operating parameters during the pilot.