

ICR Treatment Study Summary Report

City of Aurora

Aurora Water Treatment Plant

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Evaluation of Granular Activated Carbon Adsorption of Disinfection Byproduct Precursors for Compliance with the Information Collection Rule

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Attachments: 1 CD-ROM containing *Data Collection Spreadsheets*, *Treatment Study Summary Report Spreadsheet*, this report and laboratory reports listing all analytical results and QC data in portable document format (PDF)

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3

List of Abbreviations

3 List of Abbreviations

°C	degrees Celsius
µg	microgram
µL	microliter
µm	micrometer
A_0	logistic function parameter
A_f	logistic function parameter
B	logistic function parameter
BCAA	bromochloroacetic acid
BDCM	bromodichloromethane
BMRL	below minimum reporting level
BV	bed volume
BV ₅₀	bed volumes to 50 percent TOC breakthrough
C	concentration
\bar{C}	blended effluent concentration
C1	larger of two observed values for RPD calculation
C2	smaller of two observed values for RPD calculation
CCC	continuing calibration check
CCI	construction cost index
CDBAA	chlorodibromoacetic acid
CHBr ₃	bromoform
CHCl ₃	chloroform
Cl ⁻	chloride
CLD	chlorine demand
cm	centimeter
cu	cubic
CUR	carbon usage rate
D	column inner diameter
d	day
d	diameter
D	logistic function parameter
DBAA	dibromoacetic acid
DBCM	dibromochloromethane
DBP	disinfection byproduct
DCAA	dichloroacetic acid
DCBAA	dichlorobromoacetic acid
DS	distribution system
EBCT	empty-bed contact time
EPA	Environmental Protection Agency
ft	feet
g	gram
GAC	granular activated carbon
gal	gallon
gpm	gallons per minute

HAA	haloacetic acid
HAA5	sum of five haloacetic acids: MCAA, DCAA, TCAA, MBAA, DBAA
HAA6	sum of six haloacetic acids: MCAA, DCAA, TCAA, MBAA, DBAA, BCAA
HAA9	sum of nine haloacetic acids: MCAA, DCAA, TCAA, MBAA, DBAA, BCAA, DCBAA, CDBAA, TBAA
hr	hour
<i>i</i>	individual contactor
ICR	Information Collection Rule
in.	inch
inf	influent
l	bed length
L	liter
LC	large column
m	mass
^{max}	maximum
MBAA	monobromoacetic acid
MCAA	monochloroacetic acid
MCL	maximum contaminant level
mg	milligram
MGD	million gallons per day
^{min}	minimum
min	minute
mL	milliliter
mm	millimeter
MRL	minimum reporting level
MtBE	methyl tert-butyl ether
<i>n</i>	number of contactors
NA	not applicable
NA	not analyzed
NA _p	not applicable
NA _v	not available
NB	not backwashed
ntu	nephelometric turbidity unit
O&M	operations and maintenance
^p	particle
PE	performance evaluation
PPI	Producers Price Index
Q	flow rate
QA/QC	quality assurance/quality control
Re	Reynold's number
RPD	relative percent difference
RSSCT	rapid small-scale column test
sc	small column
SDS	simulated distribution system
sec	second
SF	scaling factor

SM	<i>Standard Methods</i>
SUVA	specific ultraviolet absorbance
t	time
T	total
TBAA	tribromoacetic acid
TCAA	trichloroacetic acid
THM	trihalomethane
THM4	sum of four trihalomethanes: CHCl_3 , BDCM, DBCM, and CHBr_3
TOC	total organic carbon
TOC_0	influent total organic carbon
TOX	total organic halide
TSUVA	specific ultraviolet absorbance based on TOC
UV	ultraviolet absorbance
UV_{254}	ultraviolet absorbance at 254 nm
ϵ	bed porosity
ν	kinematic viscosity
ρ	density

4

Conclusions and Recommendations

4 Conclusions and Recommendations

As required by the Information Collection Rule (ICR), a treatment study was conducted by Summers & Hooper, Inc. (S&H) to evaluate the removal of disinfection byproduct (DBP) precursors by granular activated carbon (GAC) for the Aurora Water Treatment Plant, operated by the City of Aurora. The rapid small-scale column test (RSSCT) was utilized as the bench-scale method to simulate full-scale GAC performance. The treatment study was performed off-site at S&H's laboratory facilities in Cincinnati, Ohio. It was designed and conducted as required by section 141.141(3) of the ICR, published in the May 14, 1996 Federal Register. A bituminous coal-based GAC, F-300, manufactured by Calgon Carbon Corporation was investigated. DBP formation by disinfection with free chlorine was simulated by utilizing site-specific chlorination conditions designed to match the distribution system conditions. The procedures followed were those contained in the *GAC Precursor Removal Studies* section of the *ICR Manual for Bench- and Pilot-Scale Treatment Studies* (USEPA, 1996a) and all analyses were conducted following approved methods and as required by the *ICR/DBP Analytical Methods Manual* (USEPA, 1996b).

An electronic deliverable is included at the end of this report. It includes: this report in portable document format along with all data analyzed during this treatment study and all required QA/QC information; the *ICR Treatment Studies Data Collection Spreadsheets*, with all data input as required by EPA; and the *Treatment Study Summary Report Spreadsheet*, with all data input as required by EPA.

The source water used by the Aurora Water Treatment Plant is a blend of the Fox River and a local groundwater. The Aurora Water Treatment Plant is a softening plant, and the softened water pH after recarbonation is typically 9.4. Because the source water blend showed a limited impact of seasonal variations in water quality, two seasonal samples (March and September) were taken to evaluate seasonal variability. The sampling dates were chosen to capture the extremes in blended source and treated water quality observed based on TOC monitoring efforts. In addition, GAC optimization studies were performed by evaluating a range of empty-bed contact times (EBCTs) and influent pH levels in parallel with the seasonal variability studies.

To examine the impact of seasonal variability on DBP precursor control by GAC, 10 and 20 minute EBCT contactors were evaluated during each session. A parallel evaluation of additional EBCTs was performed during the March session: shorter EBCTs of 5.0 and 7.5 minutes were evaluated in parallel with the 10 and 20 minute EBCT RSSCTs. The plant recarbonation pH of 9.4 was maintained in the influent water to the seasonal variability RSSCTs and the RSSCTs simulating the additional EBCTs.

To evaluate the impact of EBCT on DBP precursor removal by GAC directly, the breakthrough curve for each EBCT run was plotted on a throughput basis, in units of bed volumes. This transformation normalizes for the differences in EBCTs. In general, DBP precursor removal performance improved with increasing EBCT between 5.0 and 20 minutes.

In parallel with the September session, the impact of influent pH on DBP precursor removal by GAC was examined by conducting two additional 10 minute EBCT RSSCTs with influent pH

levels of 8.9 and 8.4. There was a negligible difference in DBP precursor removal by GAC when influent pH levels were lowered from 9.4 to 8.9. However, decreasing influent pH levels from 9.4 to 8.4 yielded a 25 percent increase in GAC run times to placeholders for Stage 2 maximum contaminant levels (MCLs).

Using the placeholders for Stage 2 DBP MCLs, the formation of total trihalomethane (THM4) was the controlling parameter for GAC run time estimates. Overall, DBP formation was well-controlled by GAC. For the 5.0 minute EBCT contactor operated during the March session, the run time to the placeholder for Stage 2 THM4 MCL was 21 days. This run time was extended to 49 days assuming operation of 11 contactors in parallel and with staggered reactivation cycles. Under the 11 contactor blended effluent assumption, run times were as long as 288 days for the March session 20 minute EBCT contactor. Selection of an appropriate EBCT is important towards maintaining cost-effective adsorption of DBP precursors, because capital costs associated with the larger contactors increase in greater proportion than the decrease in operations and maintenance (O&M) costs due to less frequent reactivation. All run times given reflect meeting the Stage 2 THM4 MCL with a 20 percent safety factor, 32 µg/L.

Based on an EPA cost model, the total cost (capital and O&M) for GAC to maintain simulated distribution system DBP (SDS-DBP) levels below the placeholders for Stage 2 MCLs using steel pressure contactors was estimated in the range of 28 to 36 cents/1,000 gallons for EBCTs in the range of 5.0 to 10 minutes, during the March session and operated in parallel staggered mode. Shorter run times occurred during the September session, increasing the total cost estimates for a 10 minute EBCT contactor operated in parallel staggered mode by 36 percent, to 49 cents/1,000 gal. The shortest contactor yielded the lowest total costs due to the higher capital costs associated with larger contactors. O&M costs were relatively constant over all four EBCTs evaluated. Decreasing the influent pH from 9.4 to 8.9 yielded only a slight decrease in total costs, but reducing the influent pH from 9.4 to 8.4 yielded an 8 percent decrease in total costs. The cost estimates were based on the operation of 11 steel pressure contactors in parallel with staggered reactivation cycles and did not include the cost of pH adjustment.

A relative measure of GAC performance is the number of bed volumes to 50 percent total organic carbon (TOC) breakthrough, BV_{50} . This parameter can correlate GAC performance to the influent TOC concentration. Typically, GAC performance improves with decreasing influent TOC concentration, as the loading on the GAC contactor is decreased. The measured BV_{50} values for GAC runs in this study were compared to the BV_{50} of an average water (at GAC influent pH values between 7 and 8), correlated to the influent TOC concentration, which is available in the literature. Based on the average influent TOC concentration at a pH of 9.4 during the two sessions, the contactor operation time measured as BV_{50} was lower than predicted. At EBCTs of 10 and 20 minutes (without pH adjustment), the measured BV_{50} values averaged 22 percent lower than predicted, while that for EBCTs of 5.0 and 7.5 minutes averaged 43 percent lower than predicted. Decreasing the influent pH from 9.4 to 8.4 increased the BV_{50} value by 19 percent, so that it was only 14 percent less than predicted.

A normalized breakthrough evaluation (effluent percent breakthrough) showed that TOC served as a conservative indicator for the breakthrough of SDS haloacetic acid (HAA) and SDS total organic halide (TOX). However, percent SDS-THM4 breakthrough exceeded percent TOC breakthrough for most runs. This may have been partly due to the relatively high pH of

chlorination, 9.1, which favored the base-catalyzed formation of THMs. Normalized ultraviolet absorbance at 254 nm (UV_{254}) well predicted SDS-TOX breakthrough.

In general, GAC performance can be improved by lowering the influent TOC concentration and the decreasing influent pH. The improved GAC performance achieved during the March session over the September session at a given EBCT was partly due to the lower average influent TOC concentration measured during the March session. Lower influent TOC concentrations result in less loading on the GAC contactor. DBP precursor removal by GAC improves with decreasing pH because reducing the influent pH renders natural organic matter (DBP precursors) less soluble and therefore more adsorbable. However, the potential benefits and cost-savings in removing more TOC prior to GAC adsorption or reducing the pH of adsorption must be weighed against the increased chemical usage, sludge production, or other effects on the total cost of treatment. For the Aurora Water Treatment Plant, the influent pH study showed that GAC run times could be increased by 25 percent by decreasing the adsorption pH from 9.4 to 8.4.

5

Background Information

5 Background Information

5.1 Treatment Plant Description

The City of Aurora operates the Aurora Water Treatment Plant, a surface and groundwater plant that provides water for a population of 116,405 in the Aurora, Illinois area. The basic treatment steps involved are softening (with upflow clarification), recarbonation, GAC filtration, and disinfection. Careful plant control of finished water pH, alkalinity, and hardness is necessary to mitigate potential distribution system corrosion problems. The GAC media is Filtrasorb-300 (F-300) a bituminous coal based GAC manufactured by Calgon Carbon Corporation and is typically replaced with virgin GAC every three years. The state approved plant capacity is 28 million gallons per day (MGD) and the source water is a blend of Fox River water (FRW) and a local ground water. During 1998, the average monthly blend ranged from 52 to 62 percent river water, with an average of 57 percent river water. Figure 1 shows a simple schematic of the Aurora Water Treatment Plant.

5.1.1 Treatment Plant Design Information

Table 1 summarizes the Aurora Water Treatment Plant plant design data. The data presented is based on data from report A.2 "Design Plant Parameters" and report A.3 "Design Plant Chemical Parameters," of the *ICR Water Utility Database System*.

5.1.2 Treatment Challenges Facing Plant

A primary concern at the Aurora Water Treatment Plant has been the disposal of sludge from the lime softening process. Lagoons currently in use to store and dewater sludge have reached capacity. The plant is currently considering alternative disposal possibilities, such as land applying, landfilling, and dewatering sludge. The amount of sludge generated may increase if the lime softening process must remove greater amounts of TOC and DBP precursors. A recent challenge has been the occurrence of a taste and odor episode one month in duration in 1998. The plant currently controls taste and odor episodes using PAC, potassium permanganate, and GAC. An increase in the frequency or duration of taste and odor episodes may exceed the plant's capability of controlling it.

5.2 Tabular Summary of Source and Finished Water Quality

Tables 2 and 3 summarize average source and finished water quality, respectively, at the Aurora Water Treatment Plant, based on data taken between July 1997 and December 1998. This data constitutes preliminary ICR monitoring results and has not necessarily undergone EPA review. The source water to the Aurora Water Treatment Plant is a blend of the Fox River and ground water wells. The source water blend is characterized by moderate TOC levels, averaging 4.0 mg/L. The source water blend specific UV absorbance (TSUVA, defined as UV_{254}/TOC) averaged 3.2 L/mg-m. This was reduced to an average of 1.7 L/mg-m after treatment. The

average TOC concentration after treatment was 2.6 mg/L, an average 38 percent removal. Ammonia is added after the clearwell.

Distribution system (DS) THM4 levels ranged from 45 to 90 µg/L. DS-THM4 levels averaged 69 µg/L, meeting the Stage 1 MCL of 80 µg/L but higher than the Stage 1 MCL with a 20 percent safety factor, 64 µg/L. DS-THM4 levels exceeded the placeholder for Stage 2 MCL of 40 µg/L or 32 µg/L with a 20 percent safety factor. DS-HAA5 averaged 16 µg/L, meeting both the Stage 1 MCL of 60 µg/L or 48 µg/L with a 20 percent safety factor and the placeholder for Stage 2 HAA5 MCL of 30 µg/L or 24 µg/L with a 20 percent safety factor. Like DS-THM4, DS-HAA5 concentrations also showed a wide seasonal variability. This variability was likely partially due to variability in treated TOC concentration, which yielded a relative percent difference (RPD) of 31 percent. The variability was also due to seasonal temperature variations and differences in distribution system residence times of the samples taken to compute mean distribution system DBP formation.

Unit Process	Process Description
Other Treatment Process (Chemical Addition)	Surface Area (ft ²): NA _p Liquid Volume (gal): NA _p Short Circuiting Factor: NA _p Powdered activated carbon (PPC): 3.74 mg/L Potassium permanganate (KMnO ₄): 1.62 mg/L Aluminum sulfate, Alum (Al ₂ [SO ₄] ₃ ·14H ₂ O): 2.14 mg/L Organic polymer - coagulant aid (Cationic Polymer): 5.46 mg/L
Additional Water Source	Water Source Type: Groundwater
Disinfectant Addition	Chemical Code: CL ₂ Measurement Formula: Cl ₂ Dose Rate (mg/L): 3.60
Solids Contact Clarifier	Clarifier Type: Sludge Blanket Clarifier Type: Reactor Clarifier Clarifier Type: Upflow Clarifier Brand Name: ClariCone Surface Area (ft ²): 11,300 Liquid Volume (gal): 1,200,000 Short Circuiting Factor: NA _v Baffling Type: Unbaffled
Recarbonation Basin	Surface Area (ft ²): 1,850 Liquid Volume (gal): 248,000 Baffling Type: Unbaffled Short Circuiting Factor: NA _v
Granular Activated Carbon	Surface Area (ft ²): 3,872 Liquid Volume (gal): 738,600 Type of Activated Carbon: F-300 Carbon Volume (ft ³): 19,360 Empty Bed Contact Time (min): 8
Disinfection Addition	Chemical Code: CL ₂ Measurement Formula: Cl ₂ Dose Rate (mg/L): 4.30
Clearwell	Surface Area (ft ²): 29,708 Liquid Volume (gal): 4,000,000 Minimum Liquid Volume (gal): 1,111,000 Baffling Type: Unbaffled Short Circuiting Factor: NA _v Covered Contactor: Yes
Disinfection Addition	Chemical Code: NH ₃ A Measurement Formula: NH ₃ Dose Rate (mg/L): 0.70

NA_p: not applicable

NA_v: not available

Table 1 Summary of treatment plant design data

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	16.9	3.2	10.1	21.8	15
pH	8.0	0.1	7.8	8.1	15
Alkalinity (mg/L as CaCO ₃)	258	14	225	277	15
Total hardness (mg/L as CaCO ₃)	308	19	272	349	15
Calcium hardness (mg/L as CaCO ₃)	176	22	133	214	15
TOC (mg/L)	4.0	1.1	2.8	7.0	14
UV ₂₅₄ (1/cm)	0.095	0.039	0.040	0.179	15
TSUVA (L/mg-m)	3.2	0.6	1.7	4.4	14
Bromide (µg/L)*	75/130	20/49	44/52	107/216	14/14

*Blended water bromide concentration was not available. Given values were sampled from each of the two source waters (Fox River/ground water wells)

Table 2 Summary of source (blended) water quality at the Aurora Water Treatment Plant

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	17.1	4.5	8.8	23.0	15
pH	9.2	0.1	9.1	9.4	15
Turbidity (ntu)	0.12	0.09	0.06	0.39	15
TOC (mg/L)	2.6	0.8	1.8	5.0	13
UV ₂₅₄ (1/cm)	0.041	0.008	0.028	0.064	14
TSUVA (L/mg-m)	1.7	0.3	0.9	2.1	13
DS-THM4 (µg/L)	69	18	45	90	20
DS-HAA5 (µg/L)	16	3	12	26	20
DS-HAA6 (µg/L)	21	4	16	32	20

DS: distribution system

Table 3 Summary of finished water quality at the Aurora Water Treatment Plant

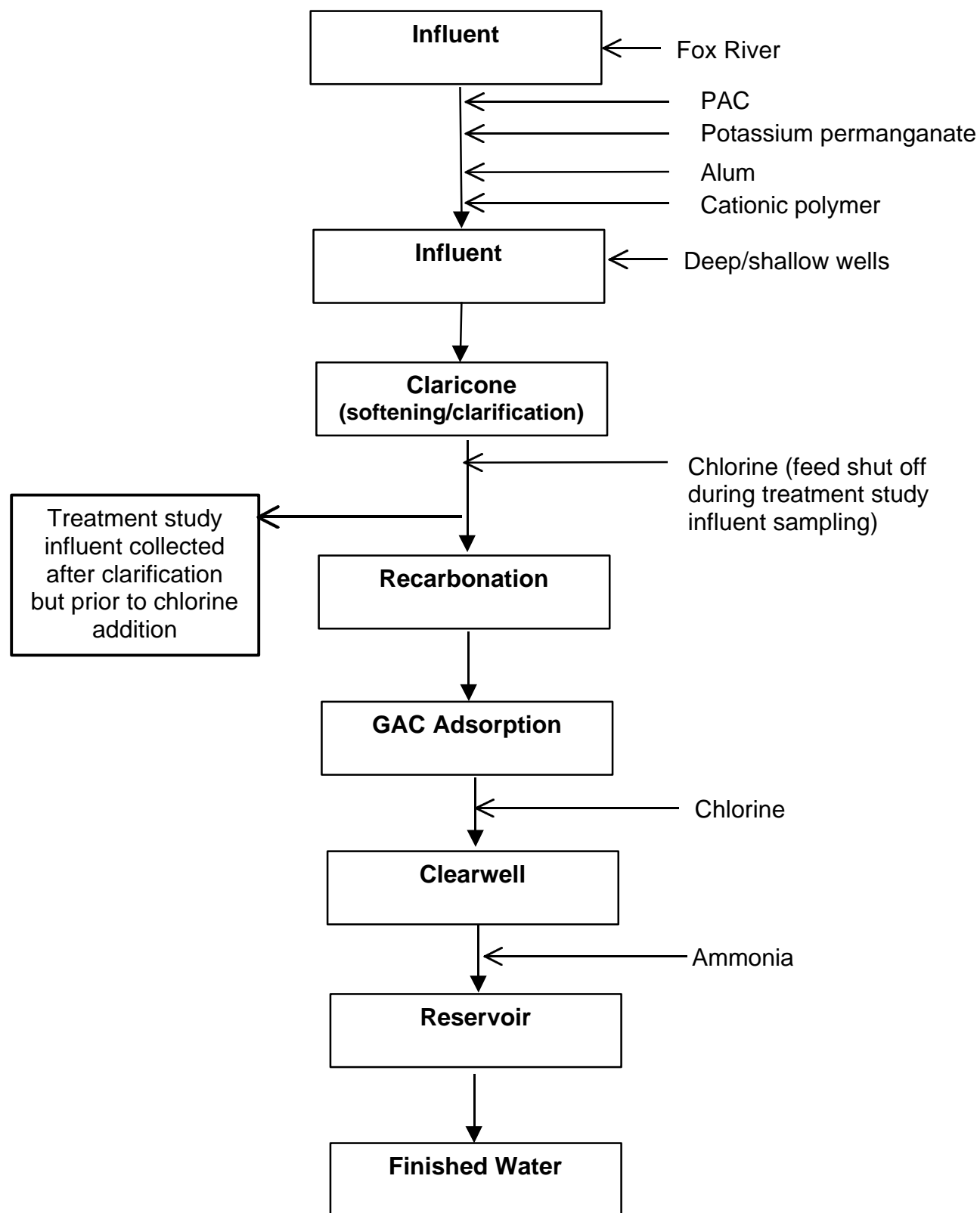


Figure 1 Aurora Water Treatment Plant plant schematic

6

Materials and Methods

6 Materials and Methods

6.1 Treatment Study Influent Sampling Procedures

The treatment study influent water was sampled from the Aurora Water Treatment Plant after full-scale softening and prior recarbonation, GAC adsorption, and disinfectant addition. To complete the study, water samples were taken on two occasions, the dates of which are summarized in Table 4. The surface and ground water blend is also summarized in Table 4.

Under normal plant operation, chlorine is added at the end of the softening and clarification step, prior to the treatment study influent sampling point. The chlorine feed was turned off the day before sampling, and remained off until sampling was complete. Samples for free chlorine analysis were taken prior to drum sampling, to demonstrate that free chlorine concentrations had reached nondetectable levels. Free chlorine levels were also monitored during drum sampling, to ensure that concentrations were below detection limits during treatment study influent sampling. Prior to and during treatment study influent sampling, measured free chlorine levels were below detection limits during both sessions.

The water was sampled in 55-gallon drums. The 55-gallon drums were of plastic construction and were extensively cleaned at S&H's laboratory facility prior to use. The cleaning process included 24-hour exposures each to hot tap water, a basic solution, and an acidic solution. Prior to use, the drums were filled with water and TOC samples analyzed to ensure that no detectable leaching of organic compounds from the inside surface of the drums was occurring (measured as TOC).

During the day prior to each sampling event, the plant softened/clarified water (treatment study influent sampling point) was sampled and analyzed for TOC to determine the representativeness of the sample. The analysis was performed the following day by Summers & Hooper, Inc. Once the representativeness of the softened/clarified water was verified by comparison to historic data, sampling into the 55-gallon drums proceeded. The water quality verification TOC data obtained are summarized in Table 5. Plant operation and treatment parameters (e.g., chemical doses) were confirmed as within acceptable normal variation prior to drum sampling.

For both sampling sessions the treatment study influent water was shipped the day of sampling. The travel time for the each session was two days, under ambient temperature conditions. To check for significant biodegradation or other changes during shipment, an aliquot of the treatment study influent water was sampled for TOC approximately half way through each sampling event. The sample was immediately preserved. Upon arrival at S&H's laboratory facilities, a second aliquot was obtained for TOC analysis. Both samples were analyzed, and the results are summarized in Table 6. The TOC concentration of the treatment study sampling point before and after shipping did not change by more than 0.1 mg/L during any of the two sampling periods.

6.2 Pretreatment Processes to the Advanced Treatment Processes

The full-scale and bench-scale pretreatment processes in place prior to bench-scale GAC are described in Figure 2. The water was sampled after full-scale softening and clarification. Bench-scale filtration through a 1.0- μ m glass fiber cartridge filter simulated full-scale filtration. Bench-scale cartridge filtration is also necessary pretreatment step prior to RSSCT testing. The TOC data for the filtered water, Table 6, shows that there was little change in TOC concentration before and after cartridge filtration: all filtered TOC values were measured within 0.1 mg/L of the unfiltered TOC concentrations. Recarbonation was simulated by the addition of sulfuric acid to a pH of 9.4. During the operation of the RSSCT, the pH was maintained within 0.1 pH units of the target GAC influent pH by the addition of dilute solutions of sulfuric acid and sodium hydroxide.

Table 7 summarizes the design data for each pretreatment process prior to GAC adsorption. Bench-scale cartridge filtration and pH adjustment were employed as bench-scale pretreatment during both sessions.

6.3 Advanced Treatment Process Information

6.3.1 Schematics and Descriptions of the Process Equipment Used

Figures 3 and 4 show a schematic of the RSSCT systems. All components were of stainless steel, glass, or Teflon construction. The batch influent water was held in a stainless steel container. The influent water was pumped through each column using a metering diaphragm pump. The wetted parts of the pump were Teflon and glass. The pumps were rated for 1 percent speed control and 75 psi continuous duty. A stainless steel gas sampling cylinder was used as a pulse dampener. Pressure gauges with stainless steel connections were used to monitor the system pressure. The effluent flow rate was monitored constantly. The calibration of the effluent flow rate control system was checked by a manual measurement at least twice daily and adjusted as necessary to maintain it within 3 percent of the design flow rate.

The system configuration for the 5.0, 7.5, and 10 minute EBCT contactors is shown in Figure 3. For these RSSCTs, the entire GAC bed was packed in a single column. The same configuration was used for the three 10 minute EBCT contactors used to evaluate influent pH. The 20 minute EBCT contactor was packed into two columns in series, as shown in Figure 4. This allowed for backwashing by mixing the top portion of the GAC bed, if made necessary by high system pressures, without disturbing the remainder of the bed. However, no backwashing was necessary during this treatment study. Typically, 90 percent of the GAC bed was packed in the second column. Both columns were of equal inner diameters.

The GAC was packed in chromatography columns with Teflon fittings. The GAC support consisted of appropriately sized stainless steel screens, glass wool, and Teflon beads. The 9.0 and 10.0 mm inner diameter columns used required a support system as shown in Figure 5, so that the GAC was contained within the effective length of the column.

6.3.2 Design Data for the Advanced Treatment Process

The design data for the RSSCTs conducted during each session are summarized in Table 8. During the first session, all RSSCTs were designed using columns with inner diameters of 10.0 mm, to increase the flow rate relative to the short EBCTs examined. During the second session, in which EBCTs of 10 and 20 minutes only were examined, all RSSCTs utilized columns with inner diameters of 9.0 mm. Reynolds numbers of 0.40 and 0.50 were used for all RSSCTs during the first and second sessions, respectively.

6.3.3 Procedures Specific to the Treatment Study

6.3.3.1 GAC Preparation Procedures

A representative batch of Filtrasorb 300 (F-300), a bituminous-coal based GAC, was obtained from the manufacturer, Calgon Carbon Co. The GAC is a 8x30 mesh size (average particle diameter, $d_p = 1.48$ mm). Using a riffle splitter, a small (30-50 g) representative sample of the GAC was obtained. Using a jar mill, the GAC was ground to a 100x200 mesh size ($d_p = 0.113$ mm). Care was taken to frequently remove and sieve the GAC in the jar mill. The GAC was ground until the entire sample passed through the 100 mesh size sieve. Usually, a recovery of 25 to 30 percent was obtained, as defined by the amount of GAC retained between the 100 and 200 mesh size sieves divided by the total amount of GAC prior to grinding.

The ground GAC was transferred to a beaker, and covered with reagent grade (adsorbed-deionized) water. The GAC was washed by repeated additions and decantations of reagent grade water. The reagent grade water was added at a high rate and turbulence, to stir up the GAC and release fines. The supernatant water containing GAC fines was decanted after the GAC was allowed to settle. Towards the end of the cleaning procedure, the sample was sonicated twice for 5 to 10 seconds. The sonication step helped loosen fines that were subsequently removed by the addition and decantation of reagent grade water.

The GAC was dried in an oven at 80 to 90°C for 6 to 12 hours. The temperature was then raised to between 100 and 110°C and the sample was dried until it reached a constant weight. The sample was removed and cooled inside a dessicator. Once cooled, if not immediately used, it was stored in a glass vial sealed with a lid with TFE-lined septum until ready for use.

The dry bed density was measured using a sample of dried and cooled GAC. Stored GAC was dried in an oven as described above prior to the dry bed density measurement. To measure the dry bed density, a sample of the GAC was placed inside a 10-mL glass graduated cylinder to a level of 5 to 9 mL. The cylinder was tapped to pack the GAC. A volume was measured and recorded. This GAC was then weighed on a balance. The volume reading of the graduated cylinder was checked and calibrated if necessary by adding a known volume of water to it using a 10-mL class A graduated pipette. The GAC dry bed density was calculated by dividing the weight by the calibrated volume.

The calculated mass of GAC of each RSSCT was weighed, placed inside a clean beaker, and covered with reagent grade water. The wetted GAC was usually allowed to sit for 12-24 hours, followed by placement in a vacuum for at least 1 hour to displace the air within the pores.

6.3.3.2 RSSCT Column Setup

The GAC support for RSSCTs consisted of a stainless steel screen (60 or 100 mesh size), Teflon beads, glass wool, a 200 mesh size stainless steel screen, and a 100 mesh size stainless steel screen. The column support is detailed in Figure 5. A small amount of glass wool was placed inside the Teflon fitting, supported by a 60 mesh size stainless steel screen.

The columns were packed by adding the GAC as a slurry and packing the column by repeatedly tapping the sides. The 20 minute full-scale equivalent EBCT RSSCTs were packed into two columns of the same inner diameter placed in series. Only reagent grade water was used during the packing process.

6.3.3.3 Batch Influent Preparation

On arrival to S&H's laboratory facilities, the influent water was filtered through a 1.0- μ m nominal pore size glass fiber cartridge filter. The cartridge filter was pre-rinsed with deionized water. The pH of the batch influent was adjusted to the target pH using dilute solutions of sulfuric acid or sodium hydroxide. Dilute solutions of sulfuric acid and sodium hydroxide were used to maintain the influent pH within 0.1 pH units of the target pH during operation of the RSSCTs.

6.3.3.4 RSSCT Monitoring

The effluent flow rates were monitored constantly to ensure that the flow rates were maintained within 5 percent of the design flow rate. The calibration of the effluent flow rate control system was checked at least twice daily and adjusted when a flow rate differed by more than 3 percent from the design flow rate. The system pressure was monitored daily. The effluent TOC concentration was monitored frequently so that samples could be taken at 5 to 8 percent increments of the average influent TOC concentration.

6.4 Experimental Design

Due to a limited amount of seasonal variability, in the groundwater/surface water blend that serves as the source water for the Aurora Water Treatment Plant, only two RSSCT sessions were performed to evaluate seasonal variability. In lieu of the additional two sessions normally required for seasonal variability studies, two GAC process parameters were evaluated: EBCT and influent pH. Additional EBCTs of 5.0 and 7.5 were evaluated in parallel with the 10 and 20 minute EBCT contactors during the first session. During the second session, two additional RSSCTs at EBCTs of 10 minutes were operated so that a total of three influent pH values could be evaluated: 9.4, 8.9, and 8.4. The influent pH study was performed in parallel with the 10 and

20 minute EBCTs required for seasonal variability. The experimental design is summarized in Table 9.

6.5 ICR Treatment Study Protocol

This treatment study was designed and conducted as required by section 141.141(3) of the Information Collection Rule (ICR), published in the May 14, 1996 Federal Register. The procedures contained in the *GAC Precursor Removal Studies* section of the *ICR Manual for Bench- and Pilot-Scale Treatment Studies* were followed. During RSSCT operation, a minimum of 12 effluent samples were taken at target 5 to 8 percent increments of the average influent TOC concentration. Three samples were taken in duplicate and the resulting experimental variability is displayed on all plots as vertical error bars representing the relative difference between the duplicate samples. All required analyses were conducted, including pH, temperature, TOC, UV₂₅₄, and SDS chlorination for THMs, HAAs, and TOX.

For the first session, in which four EBCTs were evaluated, the 5.0, 7.5, and 10 minute RSSCTs were operated sequentially, in parallel with the 20 minute EBCT RSSCT. Four influent A (alkalinity, calcium hardness, total hardness, ammonia, and bromide) and six influent B (pH, temperature, turbidity, TOC, UV₂₅₄, SDS chlorination) samples were taken during the runs, and the data from these applied to all four RSSCTs operated. During the second session, in which 10 and 20 minute EBCT RSSCTs were operated to complete seasonal variability testing, and two additional 10 minute EBCT RSSCTs were conducted to evaluate influent pH, all contactors were operated in parallel, although they did not all share the same influent. A total of four influent A samples were taken, two from the 10 and 20 minute EBCT RSSCT influent, and one each from the two 10 minute EBCT influent pH RSSCTs. Additionally, an extra influent sample analyzed for alkalinity only was taken from each of the two 10 minute EBCT influent pH RSSCTs. Three influent B samples were taken from the 10 and 20 minute EBCT RSSCT system, while two influent B samples were taken from each of the two 10 minute EBCT influent pH RSSCTs.

The ICR requires that the RSSCTs be operated until the first of three conditions are met:

1. the effluent TOC concentration reaches at least 70 percent of the average influent TOC concentration
2. the effluent TOC concentration reaches a plateau at greater than 50 percent of the influent TOC concentration (a plateau is defined as an increase in TOC concentration of no more than 10 percent over a two-month full-scale equivalent time period)
3. the RSSCT has been operated for an equivalent of one year full-scale operation

With one exception, all column runs were terminated based on meeting the first condition: the effluent TOC concentration reached or exceeded 70 percent of the average influent TOC concentration. The twelfth and last RSSCT effluent sample was taken at this point. A thirteenth effluent sample (analyzed for TOC, pH, and temperature only) was taken two full-scale equivalent weeks after the twelfth effluent sample to confirm that 70 percent TOC breakthrough was reached, as required by the ICR. The exception affected the 20 minute EBCT run during the first session. After 55 percent breakthrough was reached, an increase of only 0.07 mg/L

occurred over a 65-day period. This increase was only 4 percent, and therefore, the column was terminated based on the second condition, after 65 percent breakthrough was reached (as required, 12 effluent samples were taken). For the influent pH 8.4 run, both the eleventh and twelfth samples exceeded 70 percent breakthrough, and were taken more than two full-scale weeks apart. Therefore, a thirteenth sample was not taken. Table 10 summarizes the run termination criteria used, percent breakthrough reached at the twelfth sample, and the corresponding full-scale equivalent run time.

A tabular summary of the all data analyzed during the treatment study is given in the Appendix. As required by EPA, the data was input into the *ICR Treatment Studies Data Collection Spreadsheets*. These files are included in electronic form (CD-ROM) as an attachment to this report.

6.6 Simulated Distribution System (SDS) Chlorination Conditions

The target simulated distribution system (SDS) conditions are summarized in Table 11. During both sessions, a 24-hour holding time was targeted. The samples were buffered at pH 9.1 using a borate buffer, and the target free chlorine residual was 0.80 mg/L as Cl₂. The pH represents that maintained in the distribution system. The incubation temperature varied seasonally: temperatures of 8.0 and 20.0°C were used during the March and September sessions, respectively. These values were based on the average March and September distribution system temperature. The same target SDS conditions were applied to both GAC influent and effluent samples chlorinated. For GAC influent water, during both sessions, the average and standard deviation obtained for each parameter are summarized in Table 12. The same data are summarized in Table 13 for the effluent samples during both RSSCT runs. The average reported SDS incubation temperature during the September session runs was lower than the target of 20°C due to a power failure that affected samples in the constant temperature incubator (See Section 7.2).

6.7 Analytical Methods

A list of all analytical methods used during the study is shown in Table 14. A summary listing the laboratories involved for analytical support and the period over which analyses were conducted by each laboratory is shown in Table 15. Contact information for the laboratories involved is summarized in Table 16.

Session	Sampling Date	Percent Fox River water	Percent groundwater
1	March 25, 1998	52	48
2	September 22, 1998	59	41

Table 4 Sampling dates for GAC bench-scale treatment study sessions

Sample date	TOC concentration (mg/L)	
	Raw blend	Softened/clarified
March	3.1	2.2
September	3.6	2.7

Table 5 Summary of sample representativeness data

Sample date	Treatment study sampling point TOC concentration (mg/L)		Percent change (%)	Filtered water TOC concentration (mg/L)
	On day of sampling	Upon arrival at S&H		
March	1.9	2.0	+5.3	1.9
September	2.7	2.7	0.0	2.7

Table 6 Summary of TOC sampling before and after water shipment

Unit Process	Process Description
Other Treatment Process (Chemical Addition)	Surface Area (ft ²): NA _P Liquid Volume (gal): NA _P Short Circuiting Factor: NA _P Powdered activated carbon (PPC): 3.74 mg/L Potassium permanganate (KMnO ₄): 1.62 mg/L Aluminum sulfate, Alum (Al ₂ [SO ₄] ₃ ·14H ₂ O): 2.14 mg/L Organic polymer - coagulant aid (Cationic Polymer): 5.46 mg/L
Additional Water Source	Water Source Type: Groundwater
Solids Contact Clarifier	Clarifier Type: Sludge Blanket Clarifier Type: Reactor Clarifier Clarifier Type: Upflow Clarifier Brand Name: ClariCone Surface Area (ft ²): 11,300 Liquid Volume (gal): 1,200,000 Short Circuiting Factor: NA _V Baffling Type: Unbaffled
Cartridge Filtration (Bench-Scale)	Surface Area (ft ²): 5.0 Nominal Pore Size (µm): 1.0 Filter Material: Glass fiber Filter Life (gallons of processed water): 250 - 300
pH Adjustment (Bench-Scale, Seasonal Variability and EBCT Studies)	Chemical Type: Sulfuric acid Adjusted pH: 9.4 Dose Rate (mg/L): 23
pH Adjustment (Bench-Scale, Influent pH Study)	Chemical Type: Sulfuric acid Adjusted pH: 8.9 Dose Rate (mg/L): 28
pH Adjustment (Bench-Scale, Influent pH Study)	Chemical Type: Sulfuric acid Adjusted pH: 8.4 Dose Rate (mg/L): 31

NA_P: Not applicable NA_V: Not available

Table 7 Summary of design data for each pretreatment process prior to GAC

Design parameter	Design value			
	March		September	
	10, 20 minute EBCT	5.0, 7.5 minute EBCT	10, 20 minute EBCT	Influent pH study
GAC manufacturer	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.
GAC brand name	F-300	F-300	F-300	F-300
GAC type	Bituminous	Bituminous	Bituminous	Bituminous
GAC mesh size	8x30	8x30	8x30	8x30
Average particle diameter, d_{LC} (mm)	1.480	1.480	1.480	1.480
General design parameters				
Minimum Reynold's number, $Re_{SC, min}$ (-)	0.40	0.40	0.50	0.50
Full-scale operating temperature ($^{\circ}C$)	11	11	20	20
Kinematic viscosity, ν_{LC} (m^2/s)	1.27E-06	1.27E-06	1.00E-06	1.00E-06
Bed porosity, ϵ_{LC} (-)	0.45	0.45	0.45	0.45
Measured dry bed density, ρ_{SC} (g/cm^3)	0.462	0.462	0.466	0.466
RSSCT design parameters				
RSSCT mesh size	100x200	100x200	100x200	100x200
Particle diameter, d_{SC} (mm)	0.113	0.113	0.113	0.113
Scaling factor, SF	13.16	13.16	13.16	13.16
Hydraulic loading rate, v_{SC} (m/hr)	7.23	7.23	7.23	7.23
Column diameter, D_{SC} (mm)	10.0	10.0	9.0	9.0
Flow rate, Q_{SC} (mL/min)	9.5	9.5	7.7	7.7
Estimated run length				
RSSCT influent TOC concentration (mg/L)	1.9	1.9	2.5	2.5
Bed volumes to 50% TOC breakthrough, BV_{50}	9,400	9,400	6,600	6,600
Estimated total run time, BV_T	33,000	33,000	23,100	23,100
RSSCT 1				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	10	5	10	10
Estimated full-scale run time, t_{LC}^T (days)	229	114	160	160
Estimated RSSCT run time, t_{SC}^T (days)	17.4	8.7	12.2	12.2
Volume water required, V_{SC} (L)	237	119	134	134
Mass GAC required, m_{SC} (g)	3.33	1.66	2.72	2.72
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	0.76	0.38	0.76	0.76
Bed length, l_{SC} (cm)	9.2	4.6	9.2	9.2
RSSCT 2				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	20	7.5	20	10
Estimated full-scale run time, t_{LC}^T (days)	458	172	321	160
Estimated RSSCT run time, t_{SC}^T (days)	34.8	13.1	24.4	12.2
Volume water required, V_{SC} (L)	475	178	269	134
Mass GAC required, m_{SC} (g)	6.65	2.49	5.43	2.72
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	1.52	0.57	1.52	0.76
Bed length, l_{SC} (cm)	18.3	6.9	18.3	9.2

Table 8 Summary of RSSCT design parameters

Month sampled	Pretreatment	Influent pH	EBCT (min)
March	Softening / pH adjustment	9.4	5.0, 7.5, 10, 20
September	Softening / pH adjustment	9.4	10, 20
September	Softening / additional pH adjustment	8.4, 8.9	10, 10

Table 9 Experimental design summary

Month sampled	EBCT (min)	Influent pH	Run termination criteria *	Run time (days)	Percent TOC breakthrough
March	5.0	9.4	1	40	73
	7.5	9.4	1	100	73
	10	9.4	1	98	73
	20	9.4	2	226	62
September	10	9.4	1	84	71
	20	9.4	1	203	72
	10	8.9	1	84	71
	10	8.4	1	116	77

* 1: the effluent TOC concentration reaches at least 70 percent of the average influent TOC concentration

2: the effluent TOC concentration reaches a plateau at greater than 50 percent of the influent TOC concentration (a plateau is defined as an increase in TOC concentration of no more than 10 percent over a two-month full-scale equivalent time period)

3: the RSSCT has been operated for the full-scale equivalent of one year

Table 10 Summary of RSSCT run termination criteria, run time, and percent TOC breakthrough reached

Parameter	Session 1 (March)		Session 2 (September)	
	Value	Tolerance	Value	Tolerance
Incubation time (hours)	24.0	1.0	24.0	1.0
Incubation temperature (°C)	8.0	2.0	20.0	2.0
pH	9.10	0.20	9.10	0.20
Free chlorine residual (mg/L)	0.80	0.30	0.80	0.30

Table 11 Simulated distribution system (SDS) chlorination target conditions

EBCT (min)	Influent pH	Incubation time (hours)		Incubation temperature (°C)		Incubation pH		Free chlorine residual (mg/L)	
		Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Session 1 (March)									
5.0, 7.5, 10, 20	9.4	24.1	0.3	8.5	0.4	9.11	0.05	0.78	0.15
Session 2 (September)									
10, 20	9.4	23.9	0.2	17.2	4.7	9.16	0.02	0.79	0.22
10	8.4	23.9	0.1	15.8	5.8	9.07	0.02	0.90	0.12
10	8.9	23.9	0.1	15.8	5.7	9.10	0.01	0.79	0.25

*pH is average of analysis at beginning and end of incubation period for each sample.

Table 12 Summary of experimental SDS chlorination conditions for GAC influent water

EBCT (min)	Influent pH	Incubation time (hours)		Incubation temperature (°C)		Incubation pH		Free chlorine residual (mg/L)	
		Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Session 1 (March)									
5.0	9.4	24.0	0.2	8.5	0.0	9.08	0.04	0.84	0.03
7.5	9.4	24.2	0.3	8.6	0.4	9.10	0.05	0.78	0.07
10	9.4	24.0	0.2	8.7	0.0	9.09	0.04	0.90	0.14
20	9.4	24.0	0.2	8.7	0.1	9.07	0.05	0.85	0.05
Session 2 (September)									
10	9.4	23.8	0.2	17.1	4.0	9.13	0.03	0.75	0.23
20	9.4	23.9	0.2	18.9	2.9	9.12	0.03	1.00	0.21
10	8.4	24.0	0.1	18.2	3.4	9.10	0.03	1.07	0.20
10	8.9	23.9	0.1	18.2	3.4	9.10	0.02	0.98	0.22

*pH is average of analysis at beginning and end of incubation period for each sample.

Table 13 Summary of experimental SDS chlorination conditions for GAC effluent water

Analyte	Session	Method	Minimum reporting level (MRL)
Alkalinity	All	SM 2320 B	5 mg/L as CaCO ₃
Ammonia-Nitrogen	All	EPA 350.1	0.05 mg/L as NH ₃ -N
Bromide	All	EPA 300.0 A	0.02 mg/L
Calcium hardness	All	EPA 200.7	5 mg/L as CaCO ₃
Chlorine dose (solution standardization)	All	SM 4500-Cl B	NA
Chlorine residual	All	SM 4500-Cl F	0.2 mg/L as Cl ₂
HAA (DCAA, TCAA, MBAA, DBAA, BCAA, BDCAA)	All	EPA 552.2	1.0 µg/L (each analyte)
HAA (MCAA, CDBAA)	All	EPA 552.2	2.0 µg/L (each analyte)
HAA (TBAA)		EPA 552.2	4.0 µg/L
pH	All	4500-H ⁺ B	NA
Temperature	All	SM 2550 B	NA
Total hardness	All	SM 2340 B	5 mg/L as CaCO ₃
Total organic carbon (TOC)	All	SM 5310 C	0.50 mg/L
Total organic halide (TOX)	All	SM 5320 B	25 µg/L as Cl ⁻
THM (CHCl ₃ , BDCM, DBCM, CHBr ₃)	All	EPA 551.1	1.0 µg/L (each analyte)
Turbidity	All	SM 2130 B	0.05 ntu
UV absorbance at 254 nm (UV ₂₅₄)	All	SM 5910 B	0.009 cm ⁻¹

NA: not applicable

SM: *Standard Methods***Table 14 Summary of analytical methods and MRLs**

Analyses performed	Sessions of service	Laboratory
Alkalinity, chlorine dose, chlorine residual, HAA9, pH, temperature, THM4, TOC, TOX, turbidity, UV ₂₅₄	All	Summers & Hooper, Inc.
Ammonia, bromide, calcium hardness, total hardness	All	Montgomery Watson Laboratories

Table 15 Summary of laboratories conducting analyses

	Summers & Hooper, Inc.	Montgomery Watson Laboratories
ICR lab ID number	ICROH033	ICRCA013
Contact name:	Mr. Stuart Hooper	Dr. Andrew Eaton
Contact phone number	(513) 679-2200	(626) 568-6400
Contact fax number	(513) 679-2201	(626) 568-6324

Table 16 Laboratory contact information

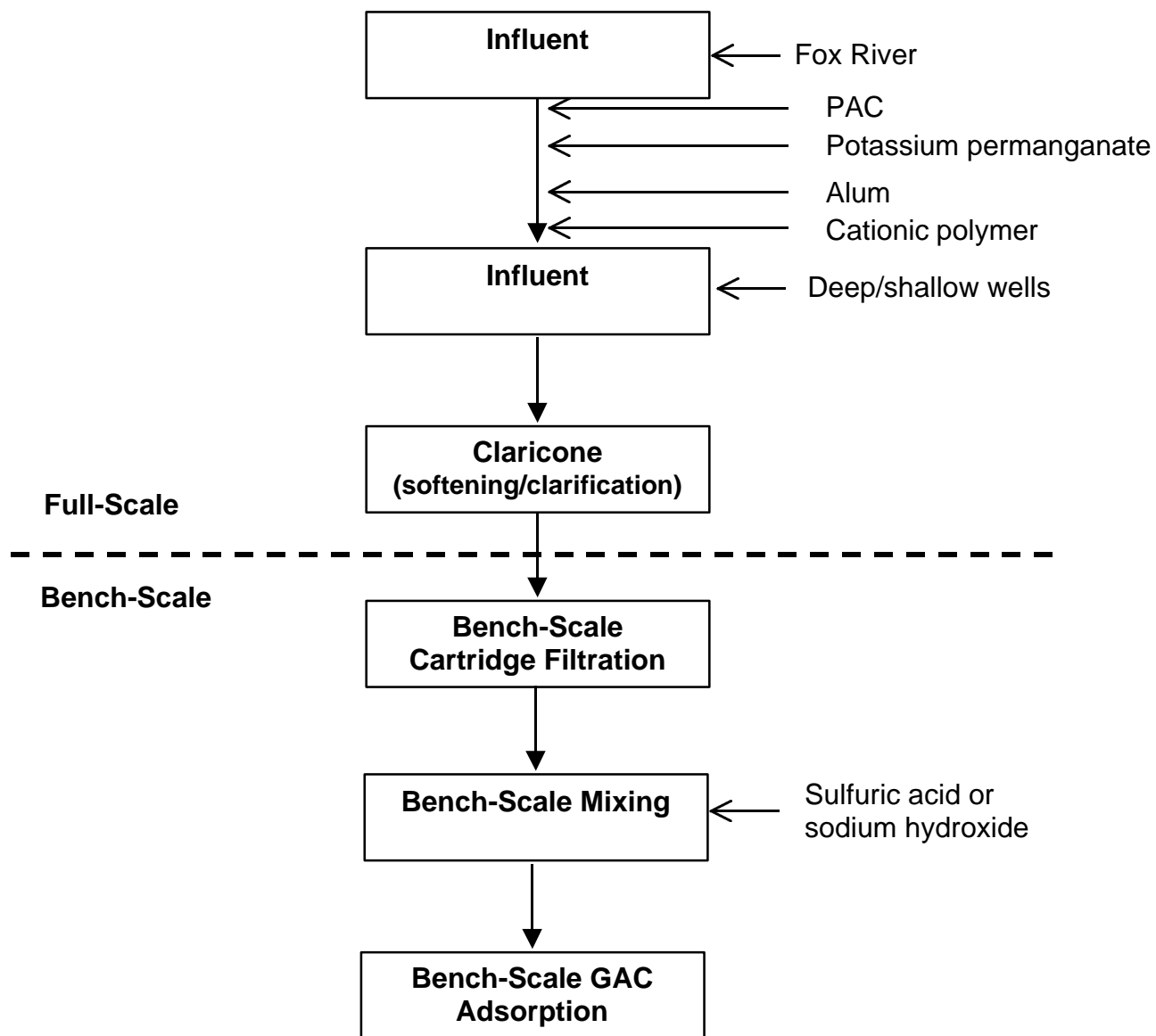


Figure 2 Schematic of pretreatment processes prior to GAC

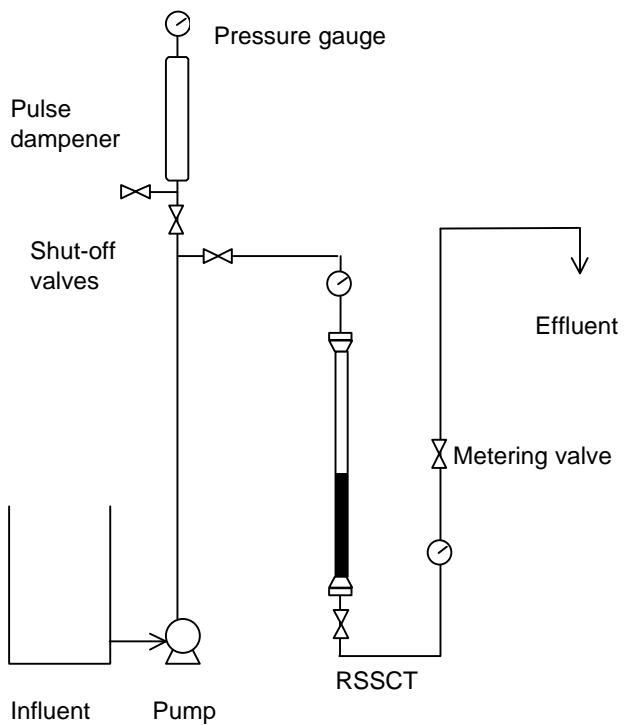


Figure 3 RSSCT system schematic for 5, 7.5, and 10 minute EBCT full-scale equivalent contactor and 10 minute EBCT, pH study contactors

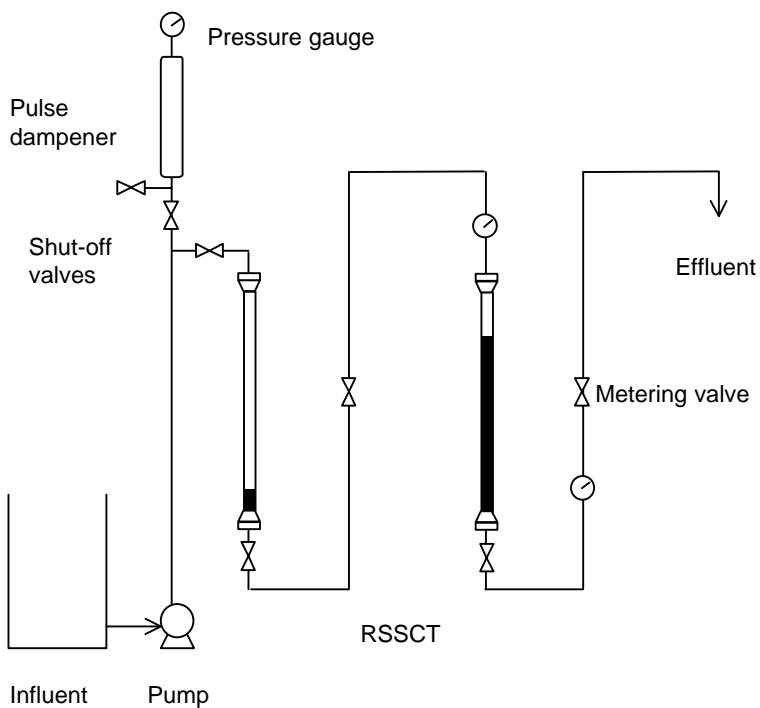


Figure 4 RSSCT system schematic for 20 minute EBCT full-scale equivalent contactor

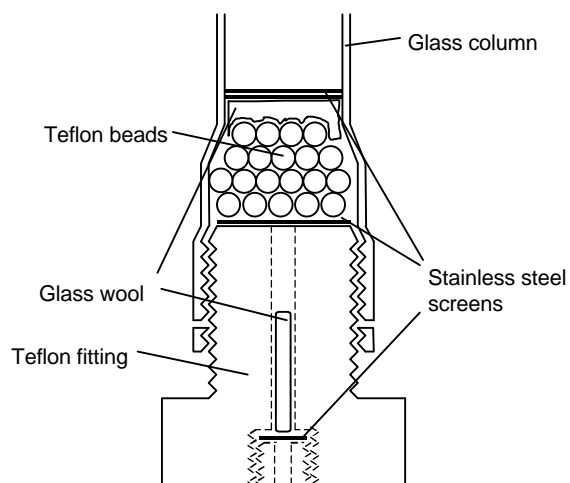


Figure 5 RSSCT column GAC support system for 9.0 and 10.0 mm inner diameter columns

7

Results and Discussion

7 Results and Discussion

7.1 Data Analysis

A significant amount of data was collected during the treatment study. The following chapters summarize various methods of analyzing the data. These include a discussion of the impact of seasonal variability, contactor EBCT, and GAC influent pH on DBP precursor control. Although data for single contactor operation was generated by this treatment study, in practice, multiple GAC contactors in parallel are used, and GAC run times are lengthened significantly by operating the contactors in a staggered mode. GAC run times are estimated based on a model that simulates the operation of multiple GAC contactors in parallel. Breakthrough curve extrapolations were performed: the algorithm used and the results obtained are presented. The extent to which TOC and UV₂₅₄ breakthrough served as indicators for DBP precursor breakthrough is analyzed. During the course of the treatment study, two RSSCTs were operated under the same experimental design (EBCT and GAC influent pH) using water from two sample dates. The results from the duplicate runs are compared. An evaluation of GAC performance based on TOC breakthrough and compared to other waters is presented. Finally, an EPA cost model is used to estimate the costs for GAC treatment based meeting the placeholders for Stage 2 DBP MCLs.

7.2 Problems Encountered

During the September RSSCT session, a short power failure during SDS testing turned off the constant temperature incubator. This occurred eight hours after the start of incubation for SDS chlorination for 16 samples (13 GAC effluent samples, from the beginning of each of the three runs and three influent samples). The incubator remained off when power was returned, and the problem was not discovered for about 12 hours. The incubator was located inside a walk-in cooler and set to maintain a water temperature of 20°C. Therefore, the water temperature cooled to below the target SDS temperature. A time-weighted average temperature of 11.7°C was reported. The affected samples are listed in the summary spreadsheets contained in the Appendix. The free chlorine residual measured for the affected samples was near the target free chlorine residual, indicating that the decrease in temperature after eight hours did not have a large effect on chlorine demand. Three of the samples affected were taken from the influent to GAC for the three influent pH runs. A comparison of the chlorination data for these samples with influent to GAC samples incubated at the target temperature of 20°C showed that chlorine demand was on average 3.6 percent lower at the low incubation temperature. SDS-THM4 formation was on average 14 percent lower for the affected samples. SDS-HAA6 and SDS-TOX formation were on average 6.4 and 2.5 percent lower, respectively. The formation of SDS-THM4 was most sensitive to the temperature decrease.

A duplicate effluent sample from the influent pH 9.4, 10 minute EBCT, contactor operated during the September session (9809-471) yielded a non-detectable free chlorine residual after SDS testing. Although associated DBPs were analyzed, they cannot be reported due to the lack

of a measurable residual after SDS testing. The data presented in this report does not include the SDS-DBPs measured from the affected sample.

7.3 Water Quality Data

The average pretreated influent to GAC water quality for each run is summarized in Table 17. The average influent TOC concentration was 1.9 mg/L in March, and increased to 2.6 mg/L for the September water sample, an increase of 37 percent. This increase in TOC concentration corresponded with a change in the source water blend from 54 percent FRW, 46 percent ground water in March to 60 percent FRW and 40 percent ground water in September. Although UV_{254} also increased between March and September, the TSUVA remained constant during both sessions at an average 0.021 L/mg-cm. Bromide levels were 46 percent higher in September (105 µg/L) as compared to March (72 µg/L). Other inorganic parameters, including alkalinity, calcium hardness, total hardness, and ammonia, remained fairly constant between the two sampling sessions. SDS-DBP levels measured in September were also higher than those measured in March (average 89 percent increase), due to the higher TOC concentration and SDS incubation temperature in September. The SDS target incubation temperature in March was 8°C, while that in September was 20°C. Other SDS chlorination conditions remained unchanged. Chlorine demand increased from 3.9 to 5.0 mg/L between the March and September sessions, in large part due to the increase in SDS incubation temperature.

Water Quality Parameter	5.0, 7.5, 10, 20 minute EBCT (March)		10, 20 minute EBCT (September)		10 minute EBCT, influent pH study (September)			
	Mean	St. Dev.	Mean	St. Dev.	Influent pH 8.4		Influent pH 8.9	
Temperature (°C)	17.4	1.2	19.1	1.5	19.6	1.3	19.6	1.3
pH	9.43	0.01	9.43	0.06	8.48	0.06	8.87	0.04
Turbidity (ntu)	0.13	0.03	0.13	0.03	0.15	0.00	0.15	0.00
Alkalinity (mg/L as CaCO ₃)	69	3	58	1	53	1	53	1
Calcium hardness (mg/L as CaCO ₃)	32	1	30	0	30	NA	30	NA
Total hardness (mg/L as CaCO ₃)	135	10	131	3	133	NA	133	NA
Ammonia (mg/L)	0.29	0.02	0.29	0.01	0.29	NA	0.30	NA
Bromide (mg/L)	0.072	0.004	0.105	0.007	0.100	NA	0.110	NA
TOC (mg/L)	1.9	0.07	2.6	0.03	2.6	0.1	2.6	0.0
UV ₂₅₄ (1/cm)	0.038	0.001	0.054	0.001	0.055	0.001	0.055	0.000
Specific UV absorbance, SUVA (L/mg-m)	2.0	--	2.1	--	2.1	--	2.1	--
SDS-THM4 (µg/L)	55	2	103	10	97	8	103	12
SDS-HAA5 (µg/L)	13	1	25	2	24	2	24	2
SDS-HAA6 (µg/L)	17	2	35	3	33	2	34	2
SDS-HAA9 (µg/L)	20	2	38	3	36	2	37	4
SDS-TOX (µg Cl ⁻ /L)	127	7	218	7	220	12	224	6
SDS-chlorine demand (mg/L)	3.9	0.1	5.0	0.1	5.0	0.1	5.0	0.1

NA: not applicable

Table 17 Summary of GAC influent water quality

8

Impact of Seasonal Variability

8 Impact of Seasonal Variability

During each of the two sessions required to investigate the impact of seasonal variability (March and September), both 10 minute and 20 minute full-scale equivalent EBCTs were evaluated using RSSCTs. Table 4 lists the sampling date for each session. Based on limited seasonal variability evidenced by plant blended source and finished water quality, it was determined that only two sessions would be required to adequately capture that variability and its effect on GAC performance. The sampling dates for the two sessions were chosen to capture the seasonal low (March) and high (September) levels of blended source water and treated water TOC concentrations measured during monitoring efforts.

Figure 6 shows the RSSCT effluent TOC breakthrough profiles for the 10 minute EBCT contactors during each session. A wide range in breakthrough behavior was observed, likely due to the relatively large difference in influent TOC concentration. The September session yielded an earlier effluent breakthrough and higher effluent TOC levels than did the March session, as was expected due to the difference in influent TOC concentrations. The September session influent TOC concentration (2.6 mg/L) was 37 percent higher than that for the March session (1.9 mg/L influent TOC concentration). The run time to an effluent TOC concentration of 1.0 mg/L was 49 days during the March session, but was only 24 days during the September session. Run times to 70 percent TOC breakthrough were 91 and 79 days for the March and September sessions, respectively. Similar differences in effluent breakthrough occurred for UV₂₅₄, shown in Figure 7 for the 10 minute EBCT run. Again, a large difference in influent UV₂₅₄ values likely contributed to the relatively large difference in breakthrough profiles, with the higher influent UV₂₅₄ run (September) yielding faster initial breakthrough and higher effluent UV₂₅₄ levels than the March session.

The GAC effluent breakthrough profiles for SDS-DBPs are plotted in Figures 8 through 12 for the 10 minute EBCT contactors. The differences in GAC performance between the two sessions were greater than that observed for TOC and UV₂₅₄. The formed influent concentrations also showed a greater percent change between the two seasons. As with TOC and UV₂₅₄, GAC effluent SDS-DBP formed concentrations were lower for the March session than for the September session. Although constant target values for SDS incubation time, pH, and free chlorine residual were used for the two sessions, the incubation temperature used varied seasonally. The target SDS incubation temperature was 8°C in March and 20°C in September, and this increase in incubation temperature may have increased formed SDS-DBP levels further above the expected increase due to the higher DBP precursor levels (TOC and UV₂₅₄). Influent SDS-THM4, SDS-HAA6, and SDS-TOX levels were an average factor of 1.9 higher in September than in March. Due to the higher influent levels, the poorer GAC performance during the September session was expected.

The GAC effluent SDS chlorine demand (CLD), Figure 13, displayed a very high immediate breakthrough, which was fairly constant between the two sessions. The high immediate breakthrough was likely caused by inorganic chlorine demand. Influent ammonia was measured at 0.29 mg/L for the both sessions. Both influent and effluent SDS-CLD was higher during the September session, due to the higher TOC concentration and SDS temperature.

The effluent pH and temperature for each EBCT run during each quarterly session was also monitored, and the results, summarized in Table 18, were consistent with a RSD of less than 6 percent.

The RSSCT effluent TOC breakthrough profiles for the 20 minute EBCT contactors are shown in Figure 14. Again, the effluent TOC profiles varied widely between the two sessions: the run time to an effluent TOC concentration of 1.0 mg/L decreased from 124 days in March to 53 days in September. Although the March session run did not exceed 70 percent TOC breakthrough, 66 percent TOC breakthrough was reached after 242 days, while 70 percent TOC breakthrough was exceeded during the September session after 192 days. Due to the greater EBCT, run times were longer than those observed for the 10 minute EBCT runs. The difference in TOC breakthrough observed between each session was similar to that observed for the 10 minute EBCT runs. Better performance for TOC removal occurred during the March session, as was expected due to the lower influent TOC concentration. Similar trends were observed for effluent UV₂₅₄ breakthrough, shown in Figure 15. The GAC effluent breakthrough profiles for SDS-DBP formation are plotted in Figures 16 through 20. The breakthrough trends for SDS-THMs and SDS-HAAs described above for the 10 minute EBCT contactor were also evident in the 20 minute EBCT contactor breakthrough profiles, with the higher DBP precursor levels and SDS incubation temperatures in September leading to poorer GAC performance for the removal of THM, HAA, and TOX precursors.

Figure 21 shows the measured GAC effluent SDS chlorine demand. Again, a high immediate breakthrough occurred during both sessions, likely caused by inorganic, especially ammonia, chlorine demand. Although effluent SDS-CLD was initially higher during the September session, after about 60 full-scale days it began to decrease, even though effluent organic demand was increasing over time due to TOC breakthrough. This phenomenon may have been caused by biological removal of inorganic chlorine demand, possibly ammonia, during the runs. The decrease in effluent inorganic chlorine demand was greater than the increase in organic chlorine demand during the runs. Effluent ammonia samples were not taken; however, inorganic chlorine demand testing was performed on GAC effluent samples. A five-minute chlorine demand test was used, as the chlorine demand after 5 minutes of reaction can be assumed to be mostly due to fast reactions with inorganic compounds. The results of this testing are presented in Figure 21. The data show that inorganic demand decreased over time, and that the difference between total demand and inorganic demand, or the organic chlorine demand, increased slightly over time, as would be expected by the breakthrough of TOC and UV₂₅₄. It was not determined why the decrease in inorganic chlorine demand did not occur during the March session, or why the 10 minute EBCT runs were unaffected.

Table 19 summarizes run times to various GAC effluent criteria for the 10 and 20 minute EBCT contactors during both sessions. The study length is also tabulated. The THM and HAA run time criteria chosen are based on Stage 1 (80 µg/L for THM4 and 60 µg/L for HAA5) and the placeholders for Stage 2 MCLs (40 µg/L for THM4 and 30 µg/L for HAA5), with a 20 percent safety factor. The TOC, UV₂₅₄, and TOX breakthrough criteria were chosen to represent a range of concentrations. A relative performance criteria, 50 percent breakthrough, c/c_0 , was also chosen for TOC and UV₂₅₄. For a visual comparison of the impact of seasonal variability on GAC run times, bar graph plots of the data were generated. Figures 22 and 23 summarize run times to effluent TOC and UV₂₅₄ criteria, and Figures 24 and 25 summarize run times to effluent

SDS-THM4 and SDS-HAA5 criteria. For cases where the effluent concentration did not reach the run time criterion, no bar is shown.

In summary, GAC performance was strongly affected by influent DBP precursor levels and SDS incubation temperature. Independent of EBCT, the September session, with higher influent DBP precursor concentrations and SDS incubation temperature yielded poorer GAC performance, with shorter run times to various effluent criteria. GAC effluent SDS-THM4 levels were higher, in comparison to Stage 1 and the placeholders for Stage 2 MCLs, than were effluent SDS-HAA5 levels. Therefore, the breakthrough of SDS-THM4 will determine GAC run times and reactivation frequency.

Based on the calculated run times for both sessions and EBCTs, the corresponding concentration of other measured parameters (DBP precursor surrogates and SDS-DBPs) at that run time were also calculated. These data are summarized in Tables 20 through 23. For example, Table 20 shows that when the placeholder for Stage 2 MCL for THM4 (with a 20 percent safety factor) was exceeded, the TOC concentration was 1.0 mg/L, the SDS-HAA5 concentration was 5 µg/L, and the SDS-TOX concentration was 56 µg Cl⁻/L.

It is important to track the breakthrough behavior of specific DBP species, because some may be of potential health concern and a MCL could be set for a specific DBP species. GAC does not remove bromide and this can result in relatively high bromide to TOC ratios in the GAC effluent. Because of the high bromide to TOC ratios, GAC effluent SDS-DBPs may undergo shifts in speciation to more brominated DBP species, especially during the early part of the breakthrough. In some cases, effluent concentration are measured higher than influent levels.

For the two 10 minute EBCT runs, Figures 26, 27, 28, and 29 show the breakthrough behavior of the formed THMs: chloroform (CHCl₃), bromodichloromethane (BDCM), dibromochloromethane (DBCM), and bromoform (CHBr₃), respectively. GAC effluent levels of SDS-THM4 were about evenly distributed between the formation of all four species for both sessions. Effluent formed BDCM and CHBr₃ concentrations exceeded those measured in the influent. Effluent formed DBCM levels approached measured influent levels. The effluent formed BDCM and CHBr₃ breakthrough curves show the impact of the increase in bromide to TOC ratio in the GAC effluent. With the exception of SDS-CHBr₃, all THM species analyzed during the March session were formed at lower levels in the GAC effluent than during the September session. At run times above 50 days, effluent SDS-CHBr₃ was formed at higher levels during the March session. However, the September run yielded an effluent SDS-CHBr₃ peak of 12 µg/L at 20 scaled operation days (after which effluent levels decreased due to decreasing bromide to TOC ratio), while during the March session, effluent SDS-CHBr₃ did not exceed 9 µg/L. The MRL for each analyte is indicated on each plot as a dashed line.

All nine HAA species were analyzed during the study. Plots of the effluent formed breakthrough profiles for the nine HAA species for the 10 minute EBCT contactors during both sessions are shown in Figures 30 through 38. The HAA species analyzed were monochloroacetic acid (MCAA), dichloroacetic acid (DCAA), trichloroacetic acid (TCAA), monobromoacetic acid (MBAA), dibromoacetic acid (DBAA), bromochloroacetic acid (BCAA), dichlorobromoacetic acid (DCBAA), chlorodibromoacetic acid (CDBAA), and tribromoacetic acid (TBAA). DCAA, DBAA, and BCAA were formed at significant concentrations in the GAC effluent of the 10

minute EBCT contactors during both sessions. Trace levels (less than 3 µg/L) of TCAA and DCBAA were also detected. In all cases, formed concentrations during the September session were greater than those during the March session, for the 10 minute EBCT contactors. SDS-DBAA showed the poorest relative control by GAC during both sessions, with effluent levels exceeding the influent during the September session. However, effluent levels were relatively low: DBAA effluent formed concentrations did not exceed 7 µg/L. The brominated species reached 60 to 100 percent of formed influent levels during the runs, while maximum formed effluent levels of DCAA and TCAA did not exceed 60 percent of influent levels. Again, the poorer control of the precursors of the brominated HAA species by GAC can be attributed to the increase in bromide to TOC ratio in the GAC effluent.

Similar THM and HAA species breakthrough behavior was observed for the 20 minute EBCT runs, except that run times were longer to any given effluent concentration. For THMs (Figures 39 through 42), both SDS-BDCM and SDS-CHBr₃ yielded effluent concentrations which reached or exceeded the formed influent levels during each session. Again, for SDS-CHBr₃, a peak effluent concentration occurred early in the run, followed by decreasing levels. After 110 days, the March session effluent SDS-CHBr₃ levels were greater than those measured for the September run. For all THM species, the September session yielded higher effluent formed levels than did the March session.

For the 20 minute EBCT runs in March and September, the SDS-HAA species breakthrough data are plotted in Figures 43 through 51. GAC effluent formed concentrations were higher for the September run. The dominant HAA species analyzed were DCAA, DBAA and BCAA, as was observed during the 10 minute EBCT contactor runs. Trace levels of TCAA, DCBAA, and CDBAA were detected, but not at concentrations above 3 µg/L. Again, effluent levels for the brominated species were higher relative to formed influent concentrations, as compared to the non-brominated species, due to increases in the bromide to TOC ratio in the GAC effluent.

Effluent sample number	Effluent pH				Effluent temperature (°C)			
	March Session, EBCT (min)		September Session, EBCT (min)		March Session, EBCT (min)		September Session, EBCT (min)	
	10	20	10	20	10	20	10	20
1	8.1	9.1	9.1	9.1	23	23	22	22
2	8.6	8.7	9.1	9.1	23	23	22	22
3	8.6	8.9	9.1	9.0	23	22	23	22
4	8.7	8.9	9.1	8.8	22	21	23	22
5	8.4	8.4	9.1	9.2	21	21	22	21
6	8.4	9.2	9.1	9.1	23	21	22	22
7	8.6	9.3	9.2	9.0	22	22	22	23
8	8.5	9.4	9.2	9.2	21	22	22	21
9	8.5	9.2	9.0	9.2	21	22	22	22
10	9.5	9.4	9.2	9.1	21	23	21	22
11	9.3	9.3	9.1	9.2	23	22	22	21
12	9.6	9.3	9.1	9.1	22	23	22	22
13	9.3	9.4	9.3	9.4	23	22	22	21
Mean	8.8	9.1	9.1	9.1	22	22	22	22
Standard deviation	±0.5	±0.3	±0.1	±0.1	±0.8	±0.8	±0.4	±0.5
Relative percent error	5	3	1	1	4	4	2	2

Table 18 GAC effluent pH and temperature data for seasonal variability runs

Parameter	Units	Value	Run time (days)			
			10 minute EBCT		20 minute EBCT	
			March	September	March	September
TOC	(mg/L)	2.0	*	*	*	*
		1.0	49	24	124	53
		$c/c_0 = 50\%^{\dagger}$	44	35	108	90
UV-254	(1/cm)	0.040	*	*	*	*
		0.020	62	32	184	72
		$c/c_0 = 50\%^{\dagger}$	56	50	155	125
SDS-THM4	(µg/L)	80	*	78	*	*
		64	*	43	*	94
		32	47	19	110	39
SDS-HAA5	(µg/L)	48	*	*	*	*
		24	*	*	*	*
SDS-HAA6	(µg/L)	48	*	*	*	*
		24	*	*	*	200
SDS-HAA9	(µg/L)	48	*	*	*	*
		24	*	56	*	135
SDS-TOX	(µg Cl ⁻ /L)	120	*	50	*	130
		70	68	25	*	56
Study length	(days)	--	98	84	226	218

[†]GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time.

Table 19 Run times to selected GAC effluent criteria for both 10 and 20 minute EBCT runs

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	49	7,050	1.0	0.016	33	5	7	8	59
			0.9†	44	6,370	0.9	0.014	31	5	7	8	54
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	62	8,930	1.1	0.020	39	6	9	10	67
			0.019†	56	8,070	1.1	0.019	37	5	8	9	64
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	47	6,700	1.0	0.015	32	5	7	8	56
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	68	9,810	1.2	0.021	41	7	10	11	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 20 Run times to selected GAC effluent criteria (10 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	124	8,930	1.0	0.016	32	5	7	7	53
			0.9†	108	7,740	0.9	0.016	32	6	8	9	52
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	184	13,220	1.2	0.020	38	7	10	11	66
			0.019†	155	11,140	1.1	0.019	35	5	7	8	60
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	110	7,950	0.9	0.016	32	6	8	9	53
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	*	*							

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 21 Run times to selected GAC effluent criteria (20 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	24	3,460	1.0	0.016	48	7	11	12	63
			1.3†	35	5,010	1.3	0.021	57	11	16	17	89
UV ₂₅₄	(1/cm)	0.054	0.040	*	*							
			0.020	32	4,570	1.2	0.020	56	10	16	17	83
			0.027†	50	7,160	1.6	0.027	71	13	19	21	120
SDS-THM4	(µg/L)	103	80	78	11,270	1.8	0.033	80	16	23	25	147
			64	43	6,230	1.4	0.025	64	12	18	19	106
			32	18	2,570	0.7	0.010	32	4	6	6	41
SDS-HAA5	(µg/L)	25	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	38	48	*	*							
			24	56	8,030	1.6	0.030	74	15	22	24	126
SDS-TOX	(µg Cl ⁻ /L)	218	120	50	7,190	1.6	0.027	71	13	19	21	120
			70	25	3,620	1.1	0.017	52	8	12	13	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 22 Run times to selected GAC effluent criteria (10 minute EBCT) during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	53	3,780	1.0	0.016	46	7	11	12	64
			1.3†	90	6,450	1.3	0.022	63	13	18	20	96
UV ₂₅₄	(1/cm)	0.054	0.040	*	*							
			0.020	72	5,150	1.2	0.020	57	11	16	18	84
			0.027†	125	8,980	1.5	0.027	69	13	19	23	118
SDS-THM4	(µg/L)	103	80	*	*							
			64	94	6,760	1.3	0.023	64	13	18	20	99
			32	39	2,780	0.6	0.009	32	5	7	7	39
SDS-HAA5	(µg/L)	25	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	35	48	*	*							
			24	200	14,430	1.8	0.034	77	16	24	27	142
SDS-HAA9	(µg/L)	38	48	*	*							
			24	135	9,740	1.6	0.028	69	14	20	24	122
SDS-TOX	(µg Cl ⁻ /L)	218	120	130	9,350	1.6	0.028	69	14	20	23	120
			70	56	4,070	1.1	0.018	48	8	12	13	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 23 Run times to selected GAC effluent criteria (20 minute EBCT) during session 2, September

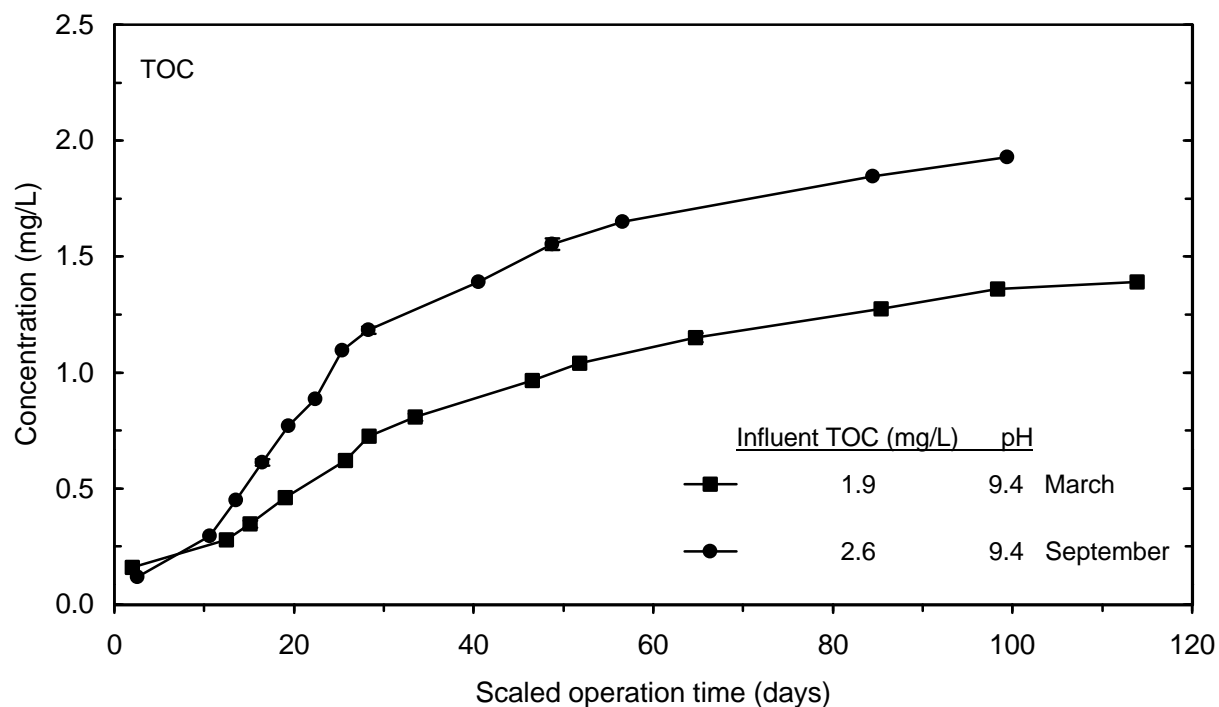


Figure 6 TOC breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

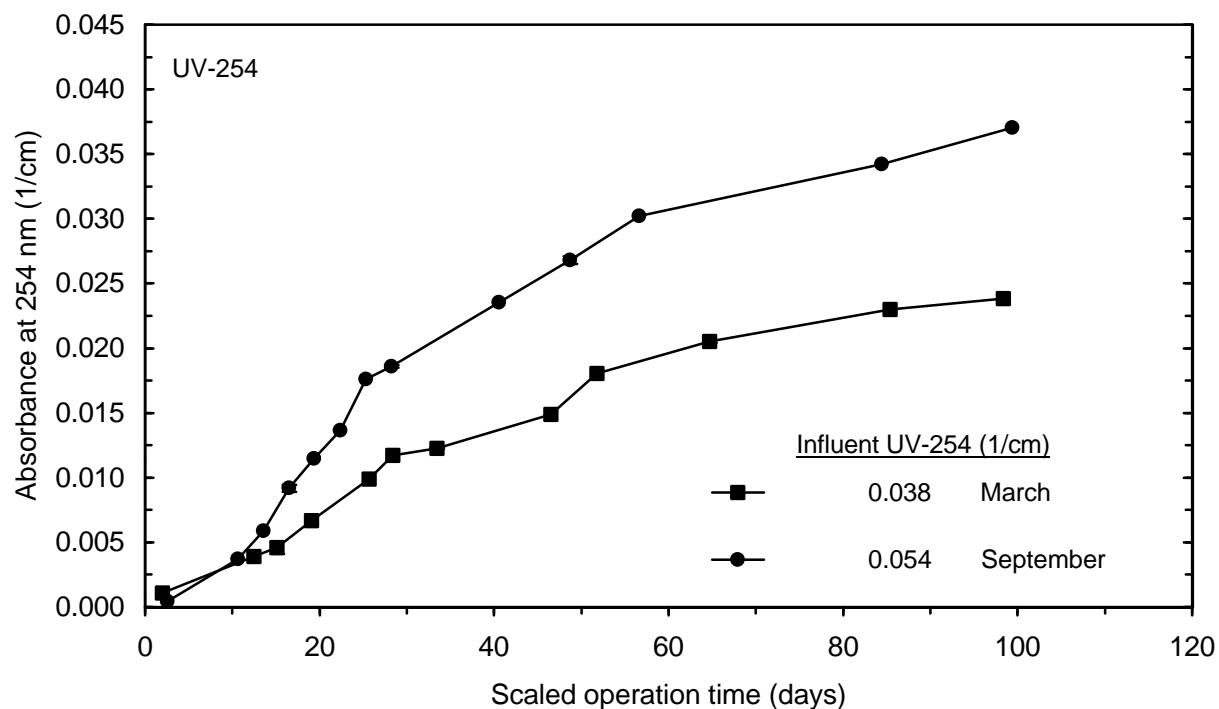


Figure 7 UV-254 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

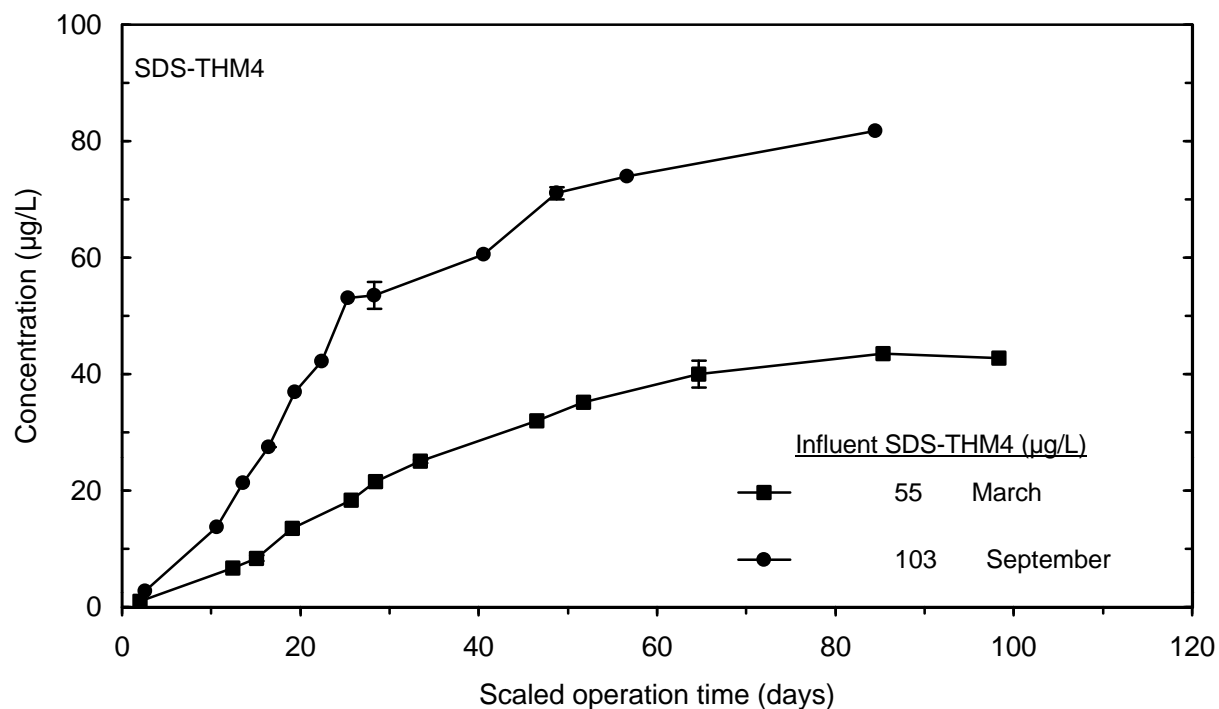


Figure 8 SDS-THM4 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

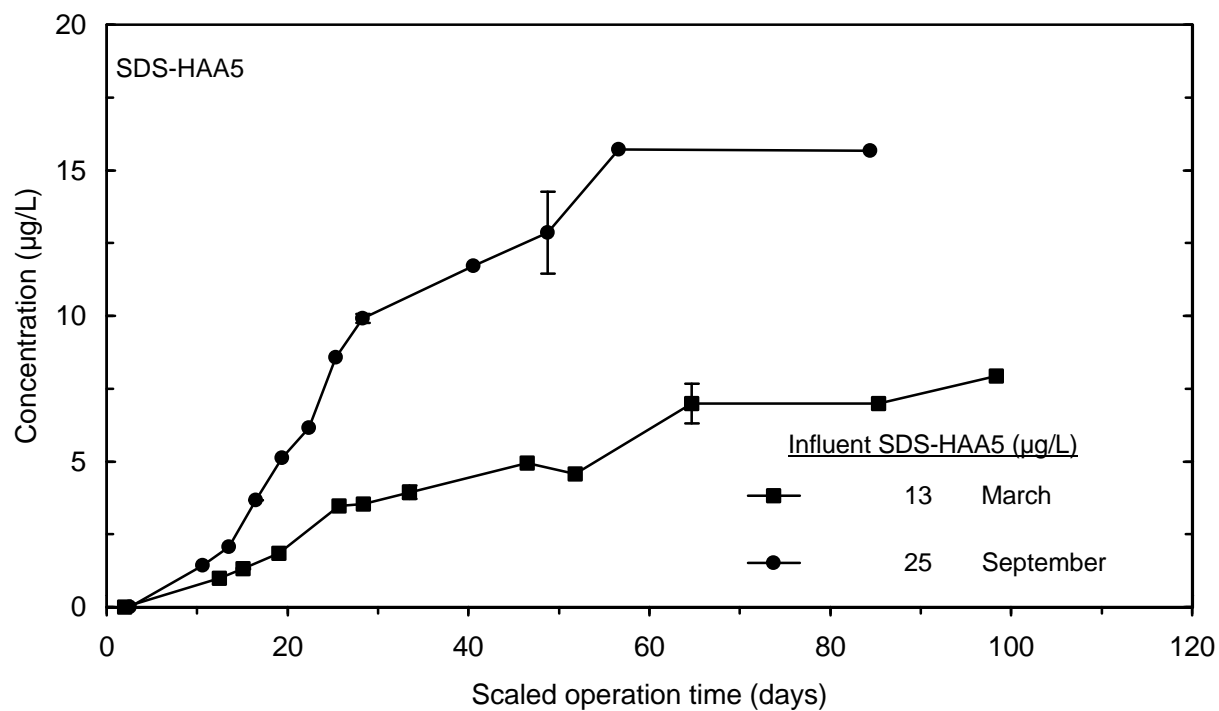


Figure 9 SDS-HAA5 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

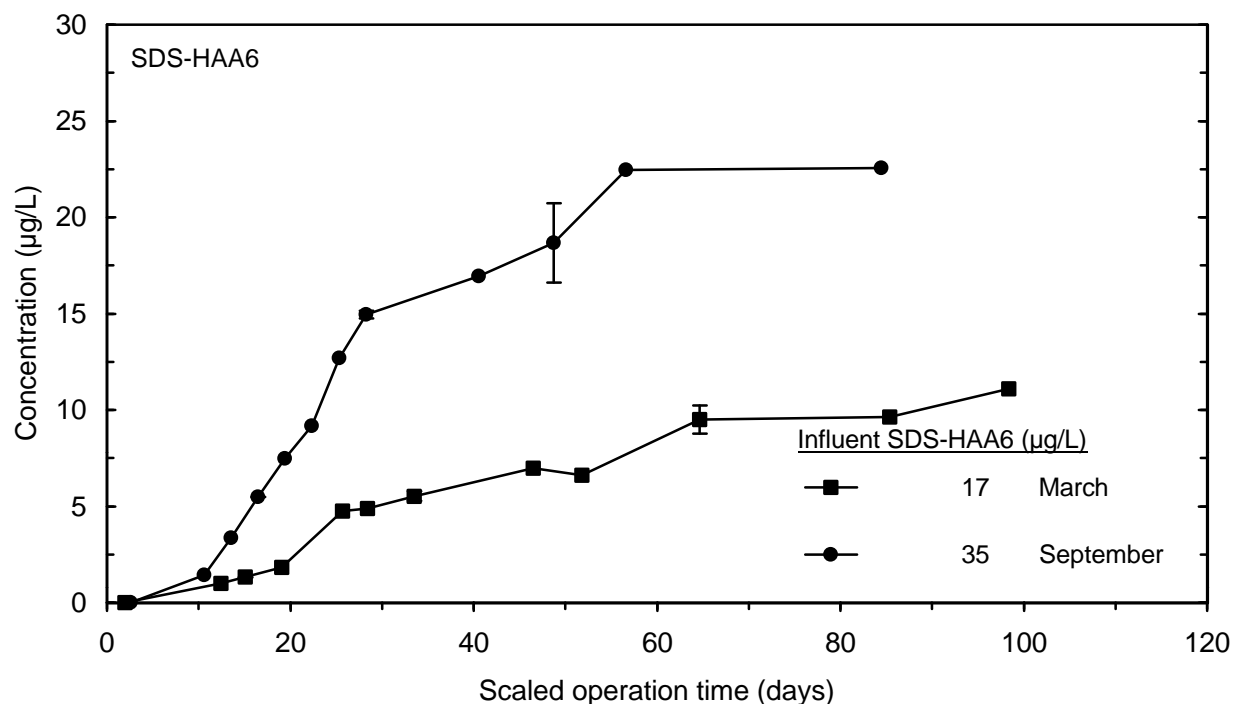


Figure 10 SDS-HAA6 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

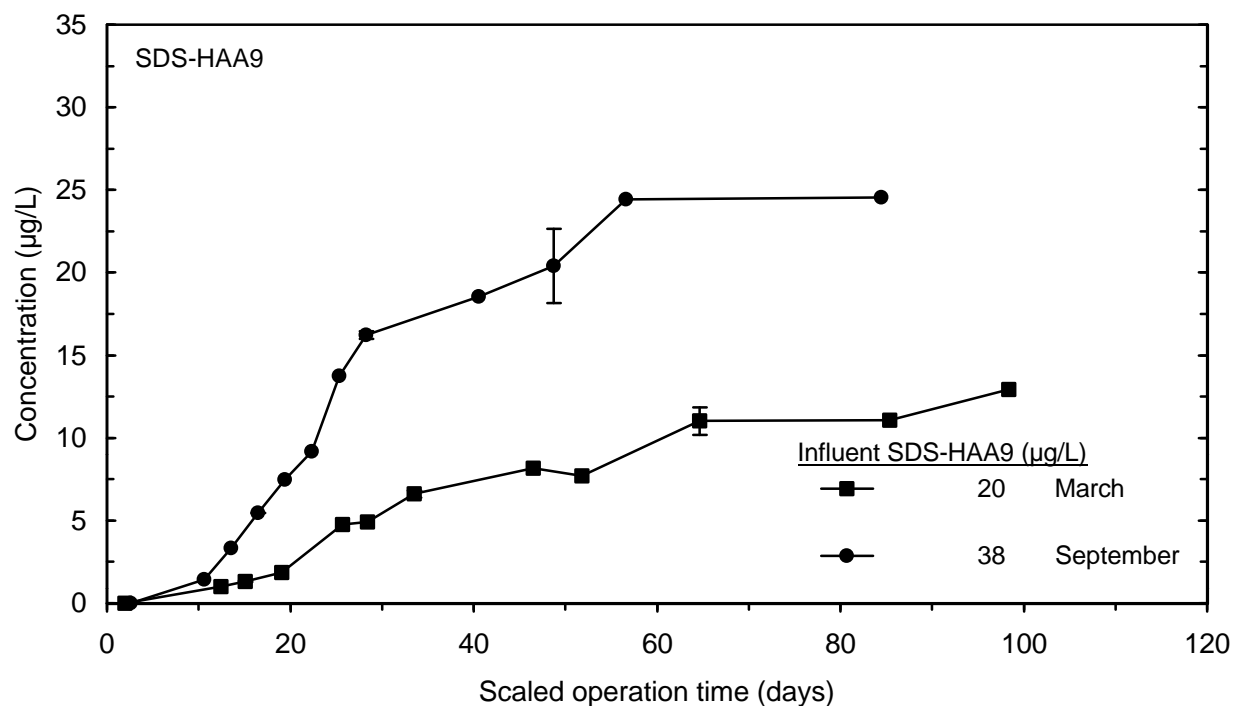


Figure 11 SDS-HAA9 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

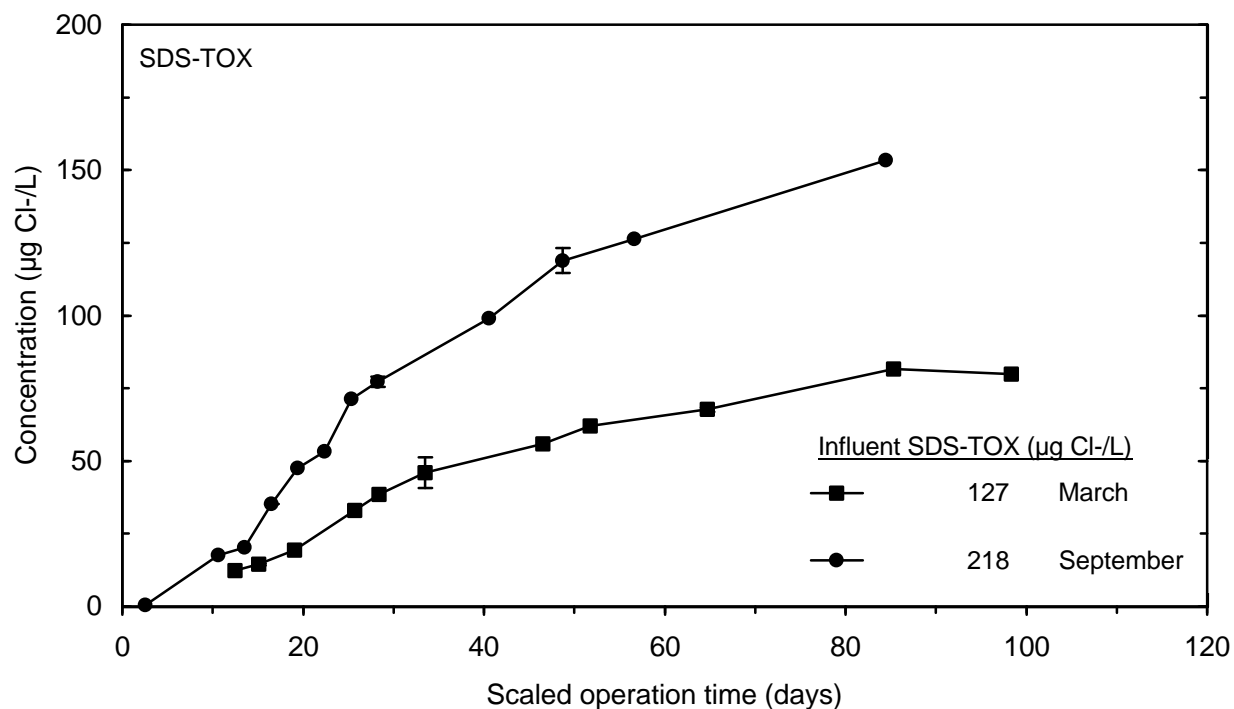


Figure 12 SDS-TOX breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

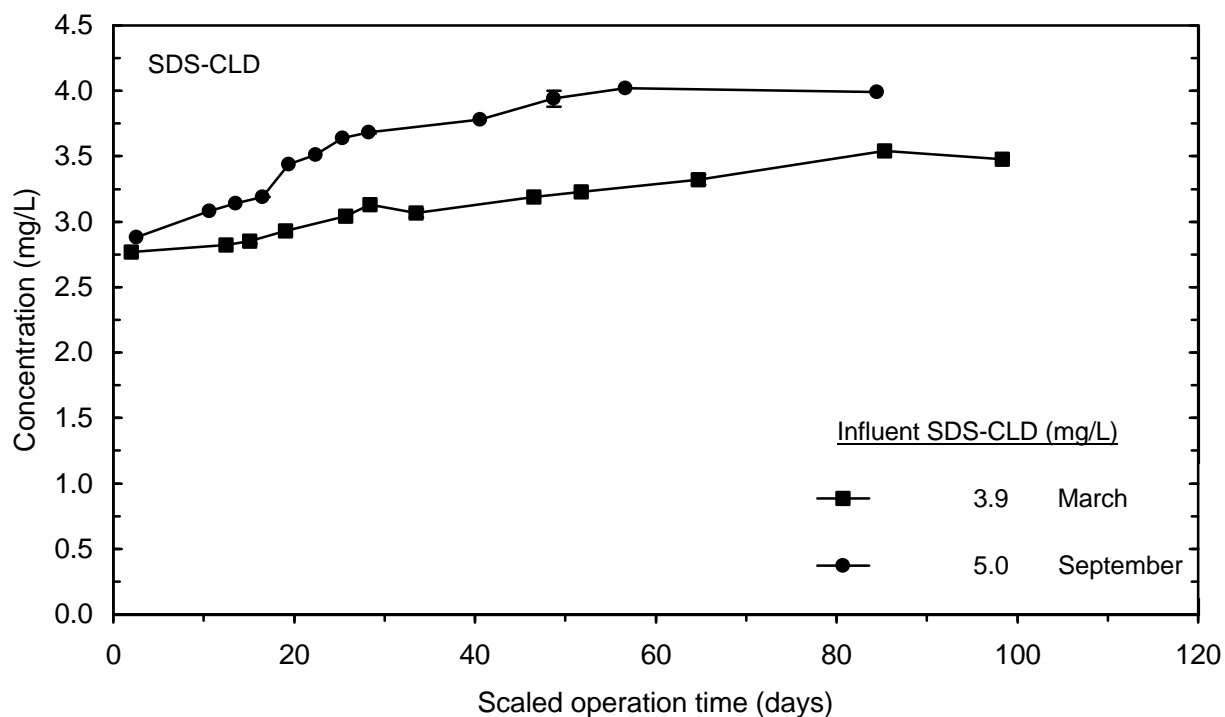


Figure 13 SDS-CLD breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

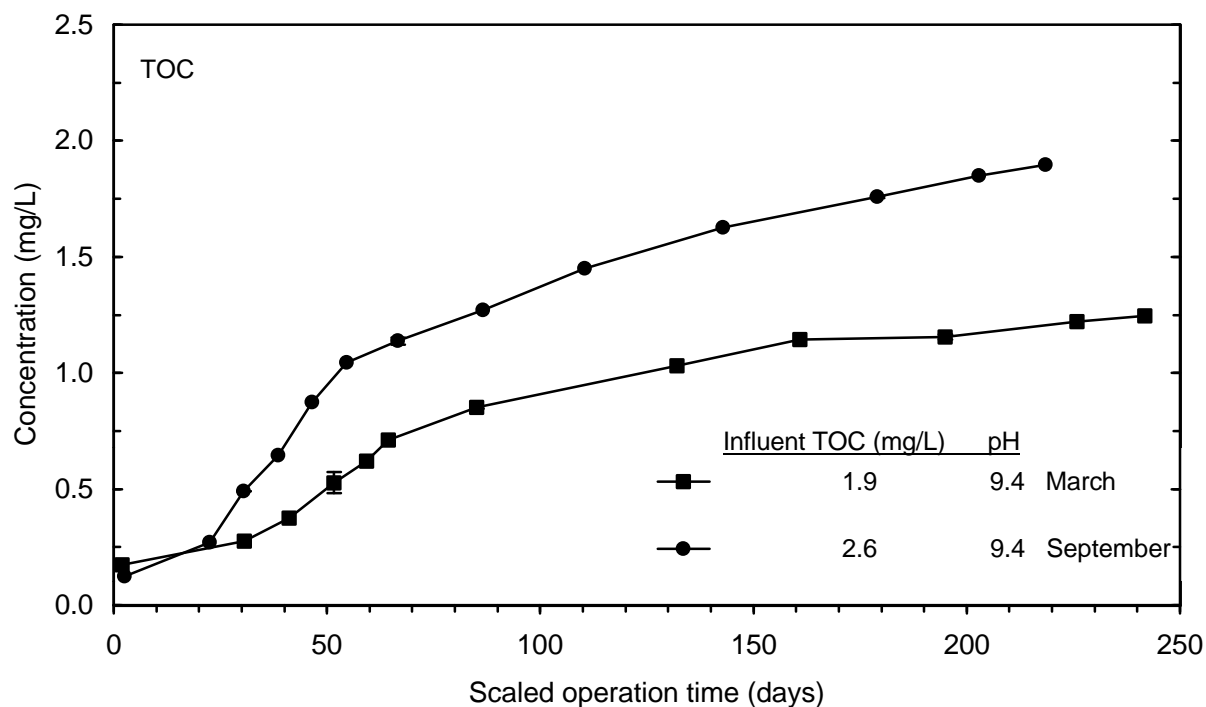


Figure 14 TOC breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

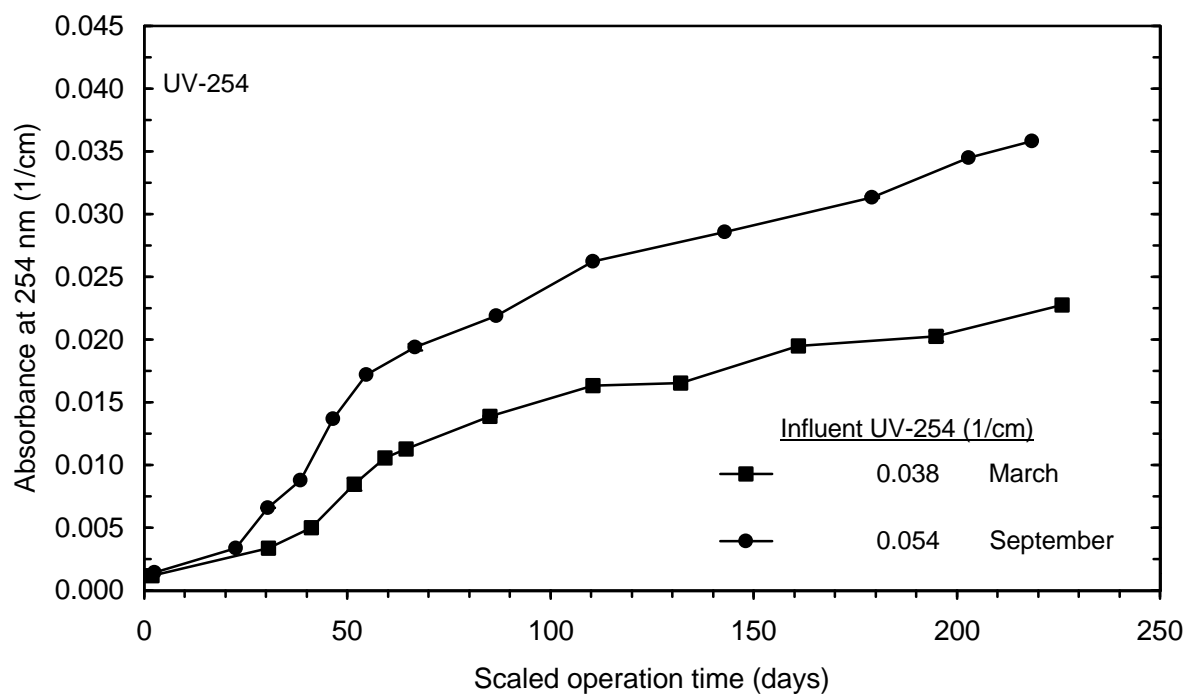


Figure 15 UV-254 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

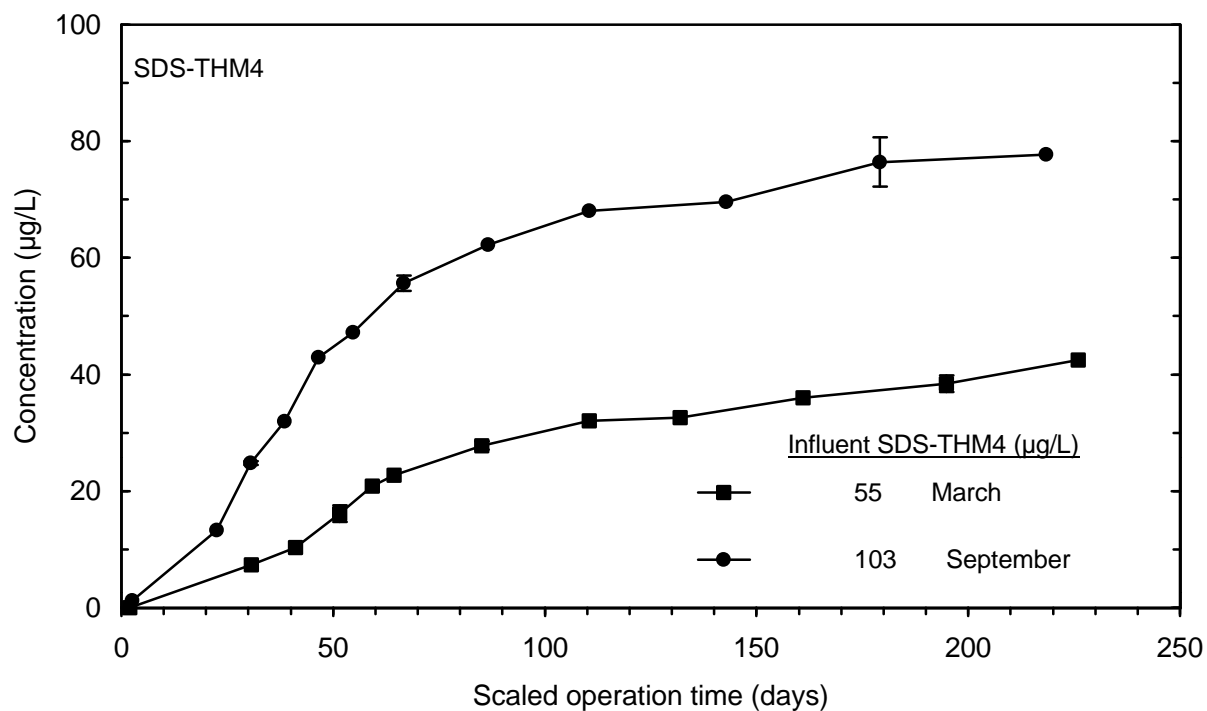


Figure 16 SDS-THM4 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

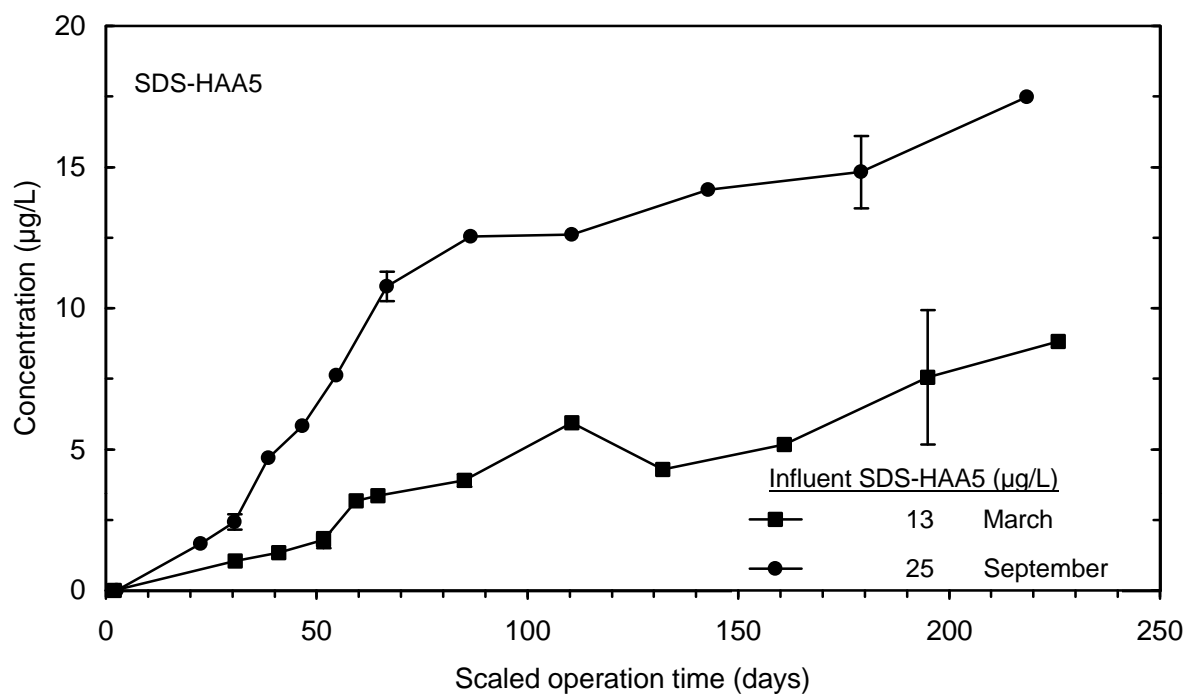


Figure 17 SDS-HAA5 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

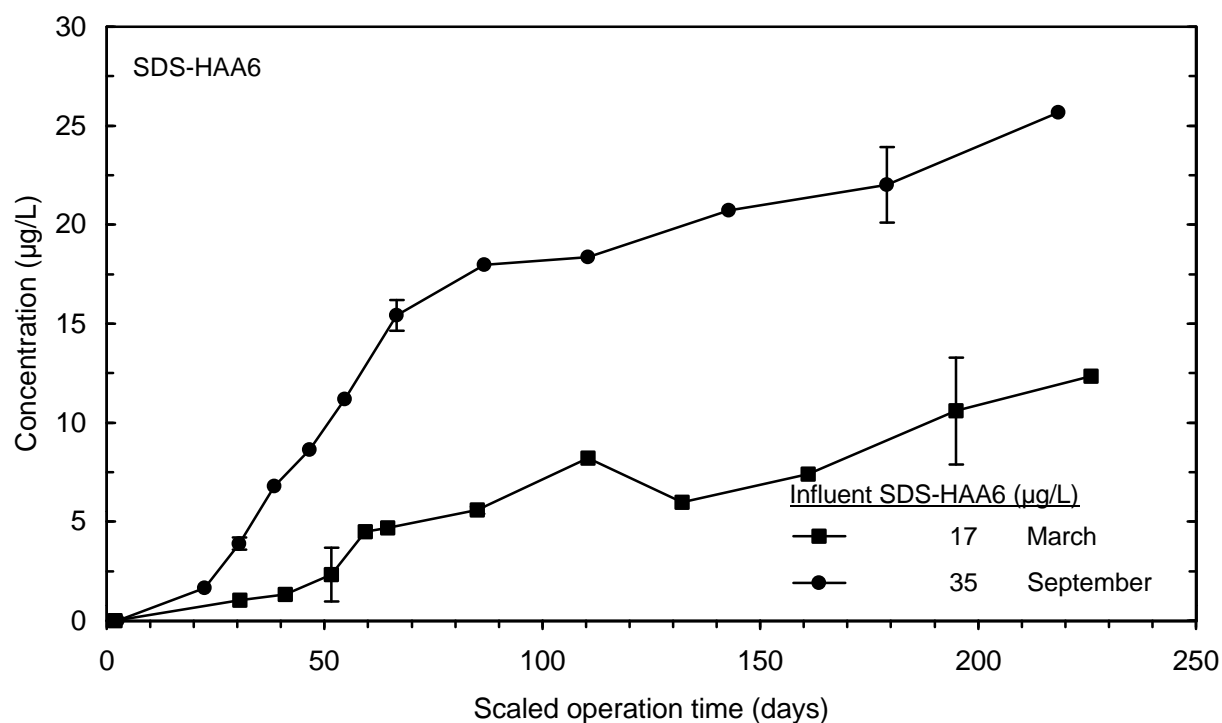


Figure 18 SDS-HAA6 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

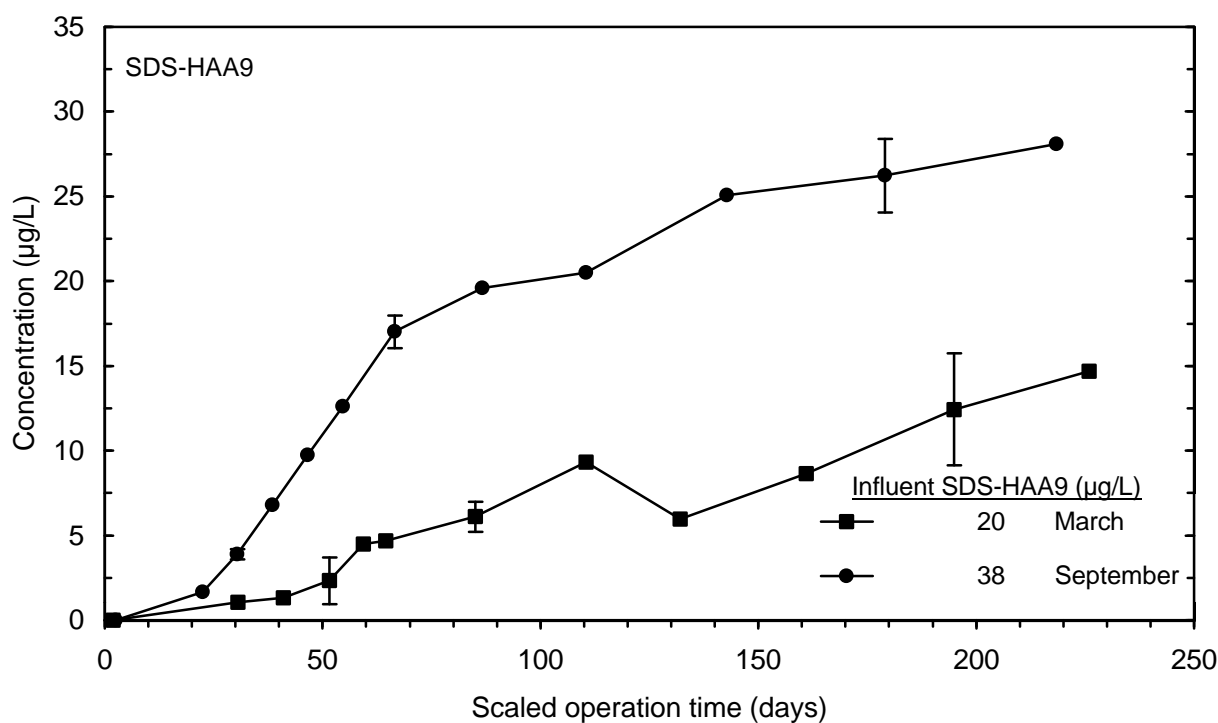


Figure 19 SDS-HAA9 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

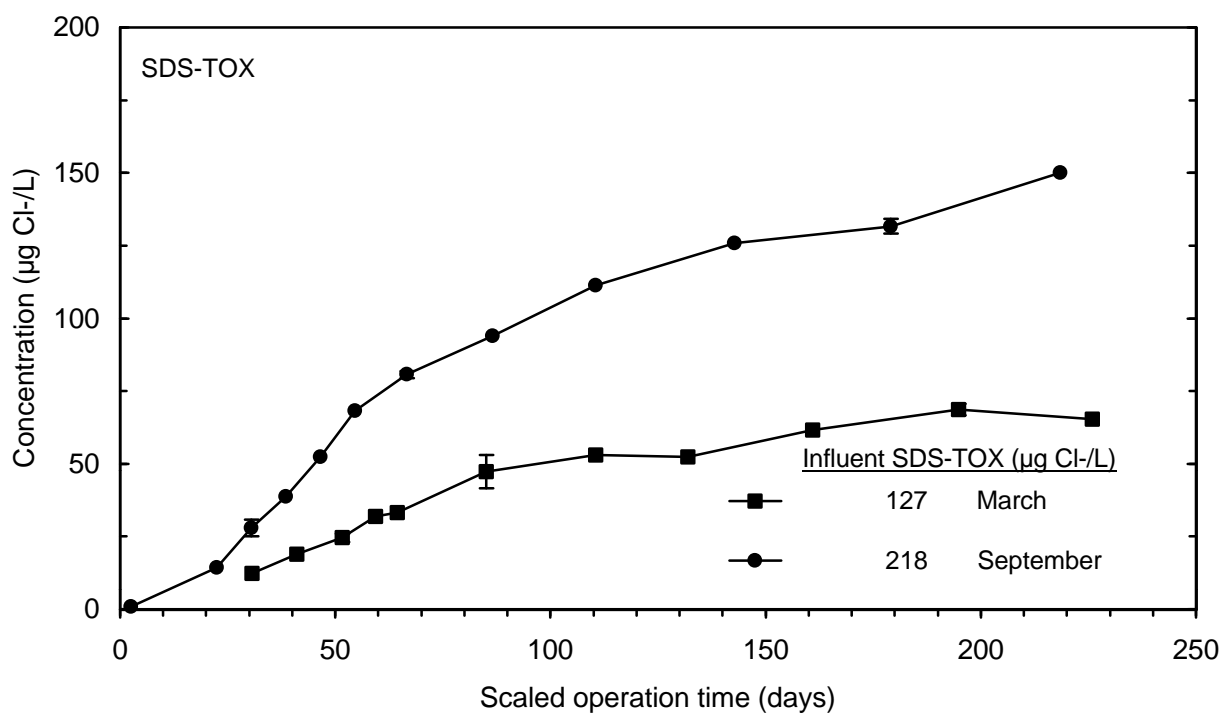


Figure 20 SDS-TOX breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

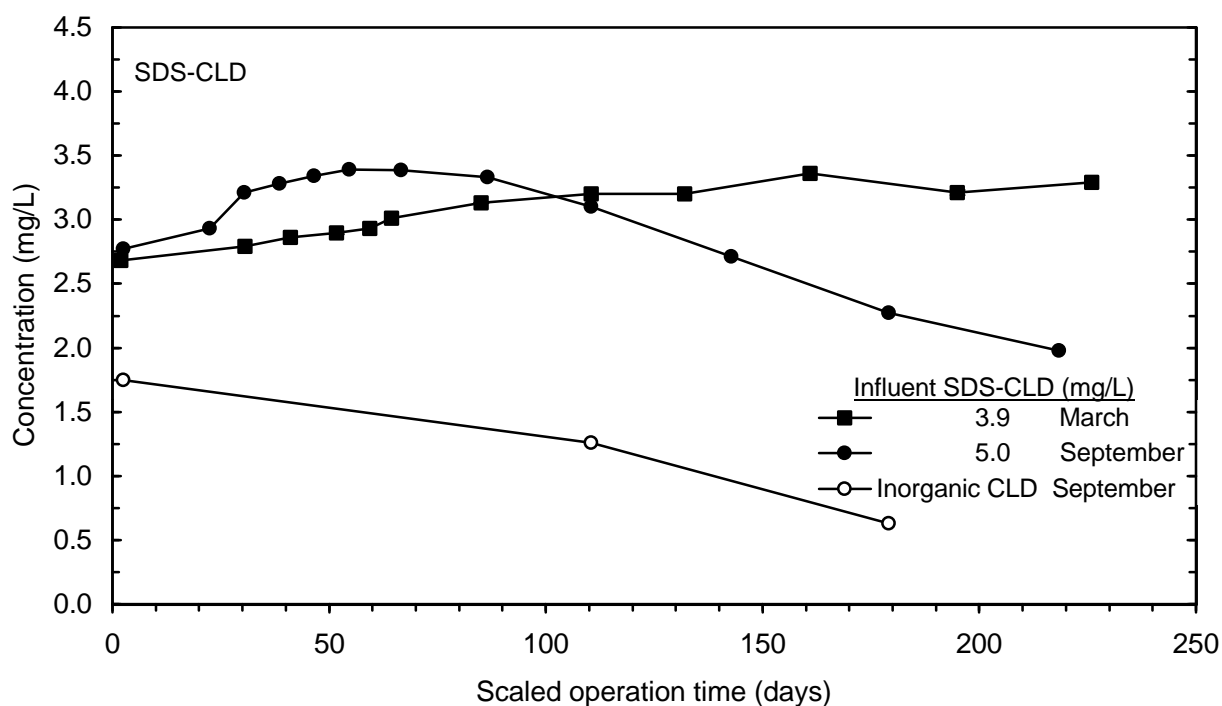


Figure 21 SDS-CLD breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

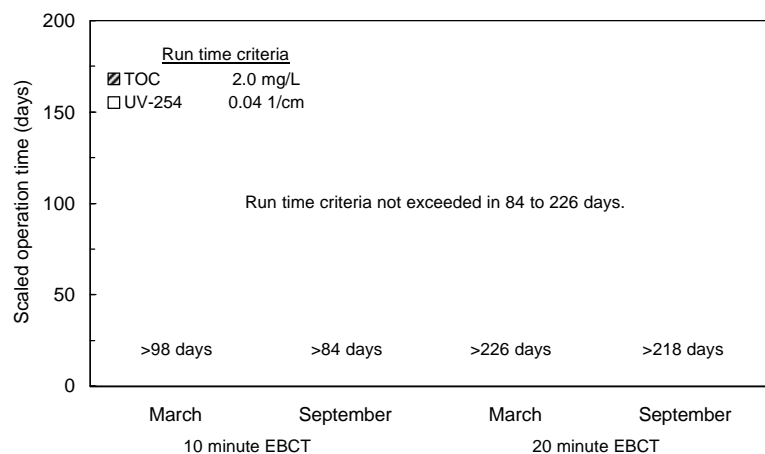


Figure 22 GAC run times based on single breakthrough curves for TOC and UV-254 effluent criteria for 10 and 20 minute EBCT contactors

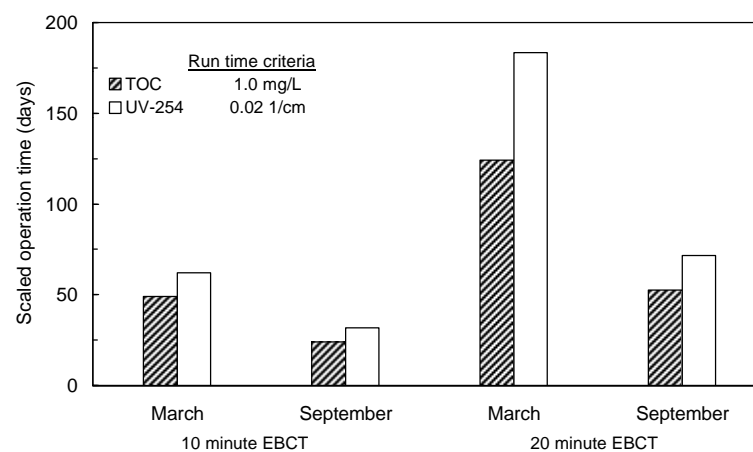


Figure 23 GAC run times based on single breakthrough curves for TOC and UV-254 effluent criteria for 10 and 20 minute EBCT contactors

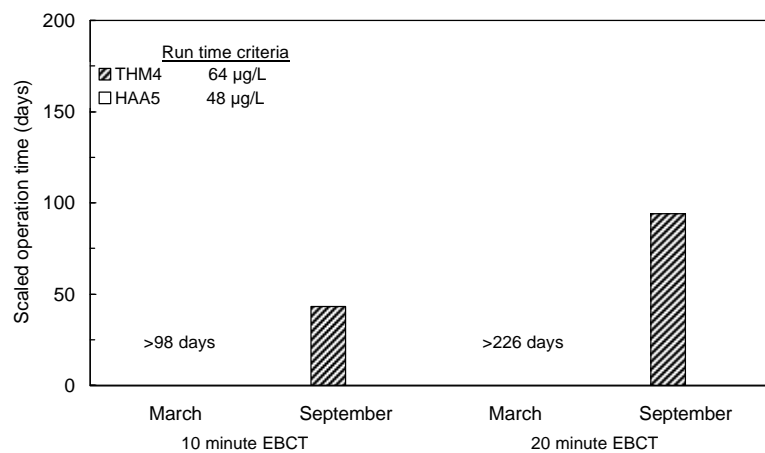


Figure 24 GAC run times based on single breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria for 10 and 20 minute EBCT contactors

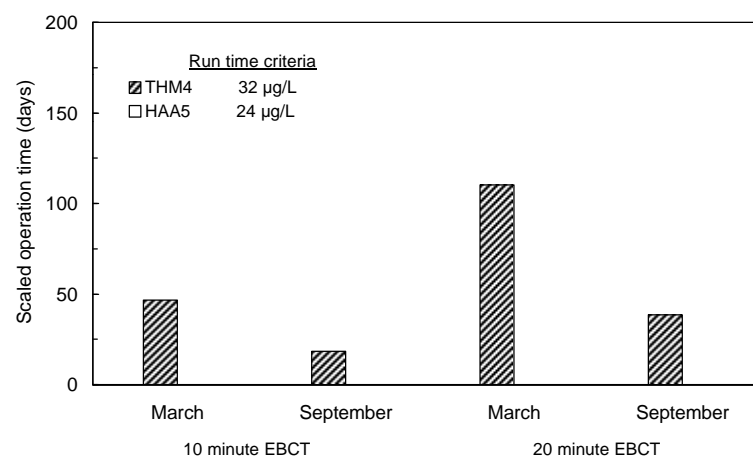


Figure 25 GAC run times based on single breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria for 10 and 20 minute EBCT contactors

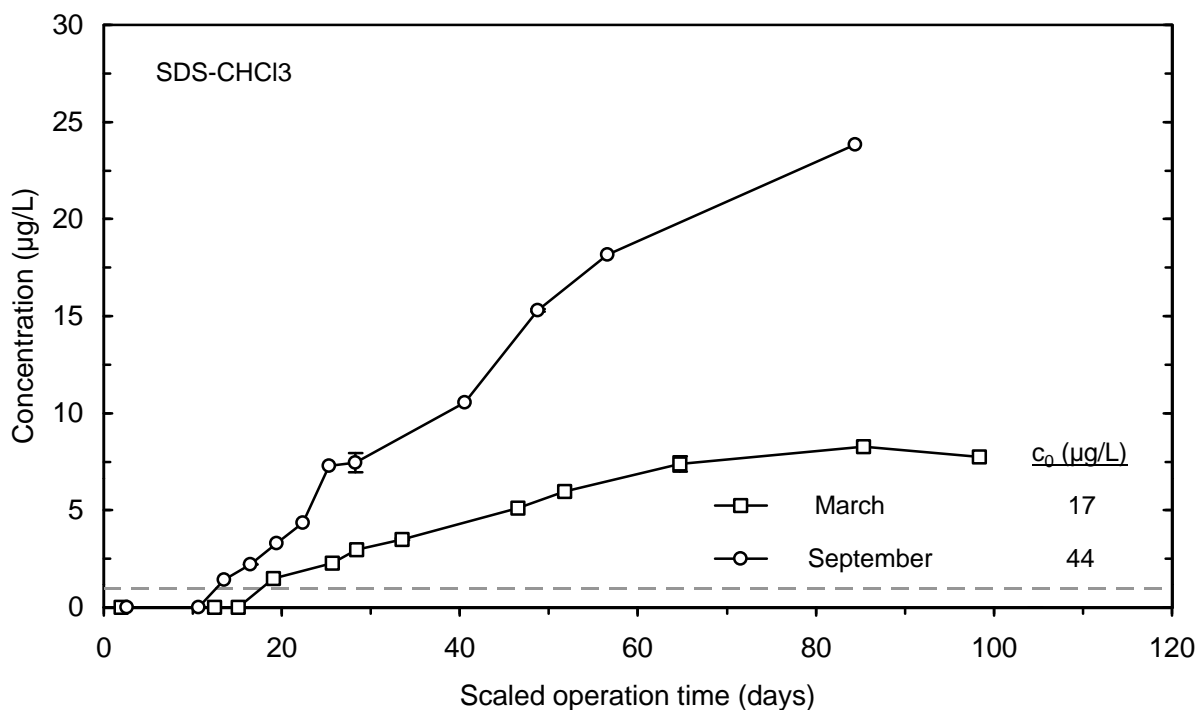


Figure 26 SDS-CHCl₃ breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

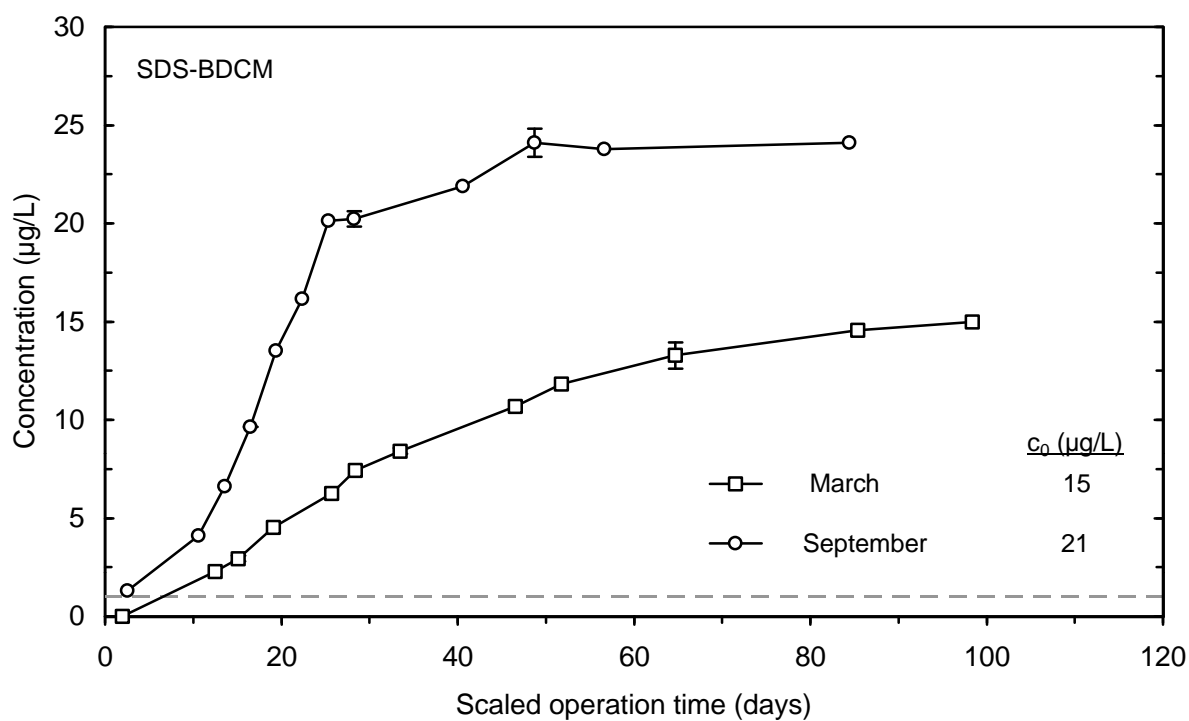


Figure 27 SDS-BDCM breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

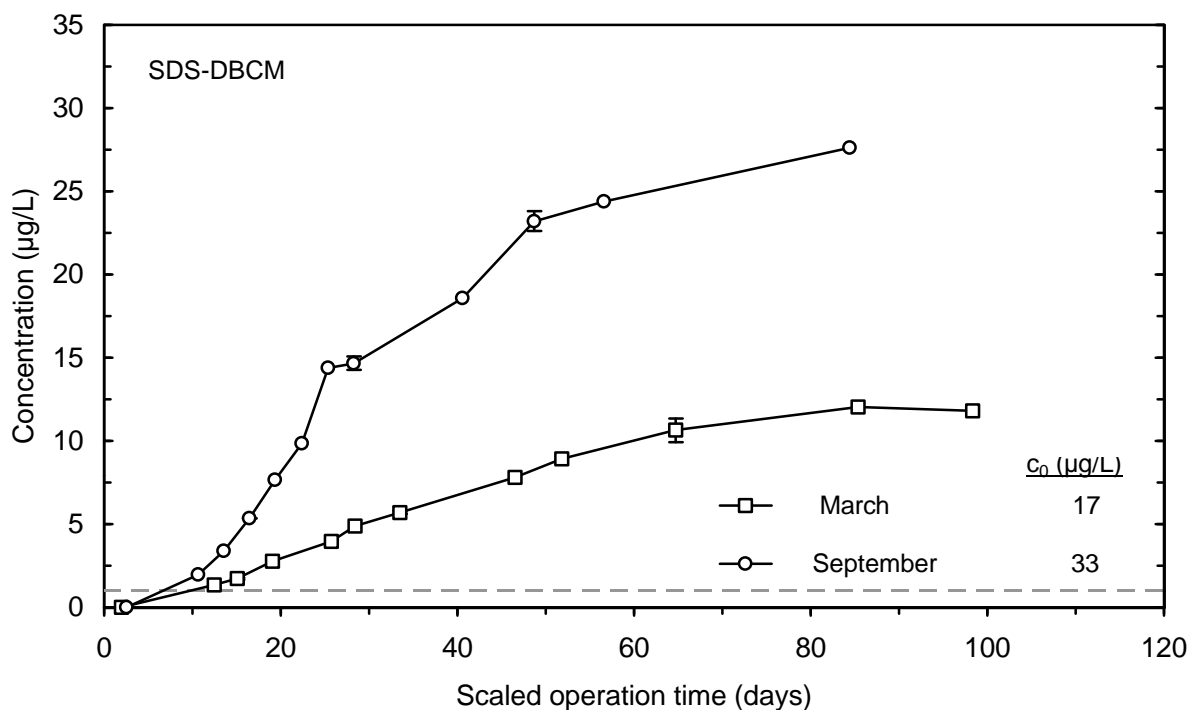


Figure 28 SDS-DBCM breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

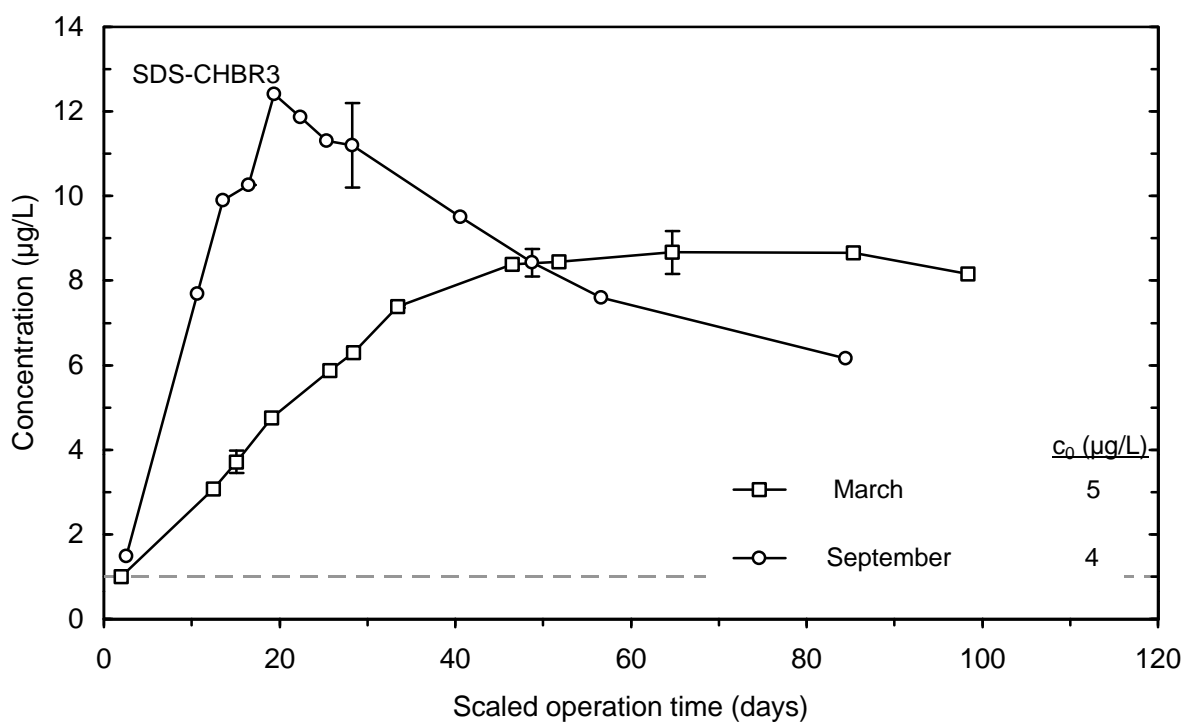


Figure 29 SDS-CHBR3 breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

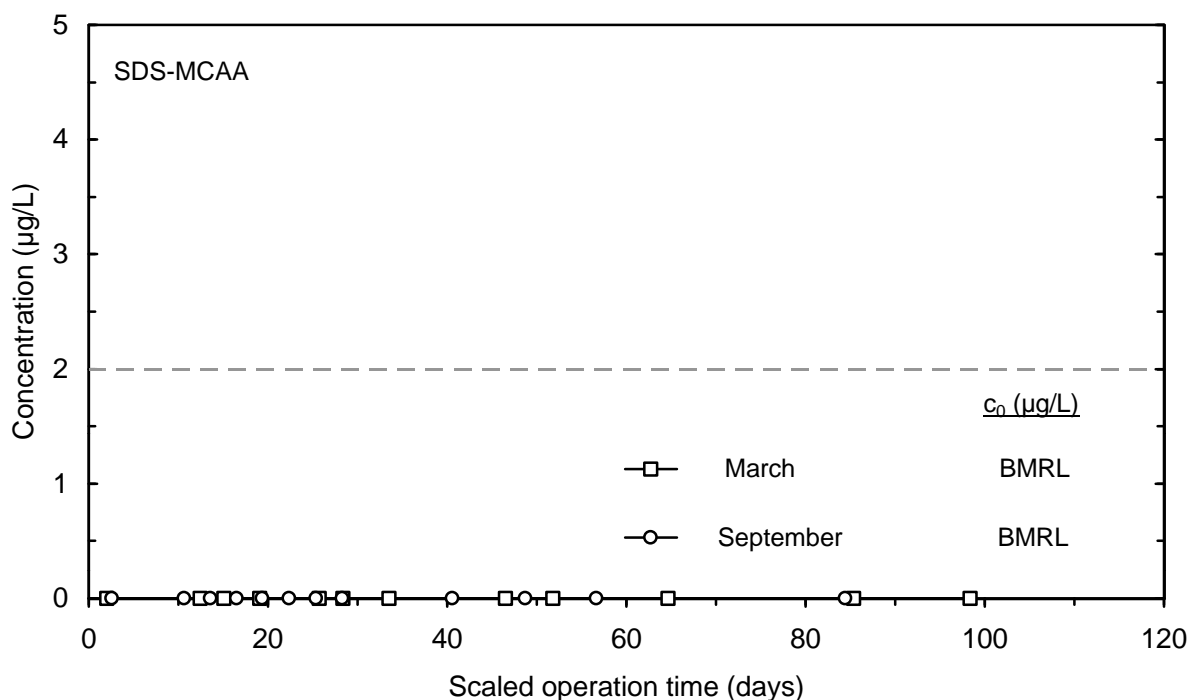


Figure 30 SDS-MCAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

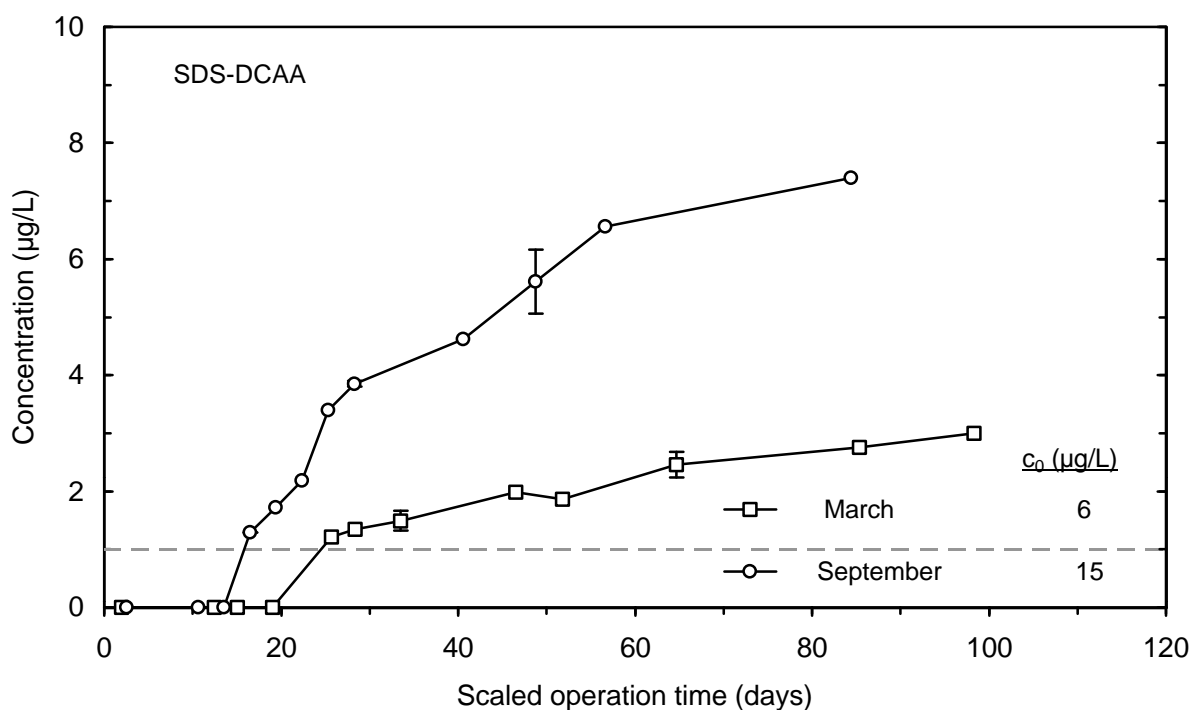


Figure 31 SDS-DCAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

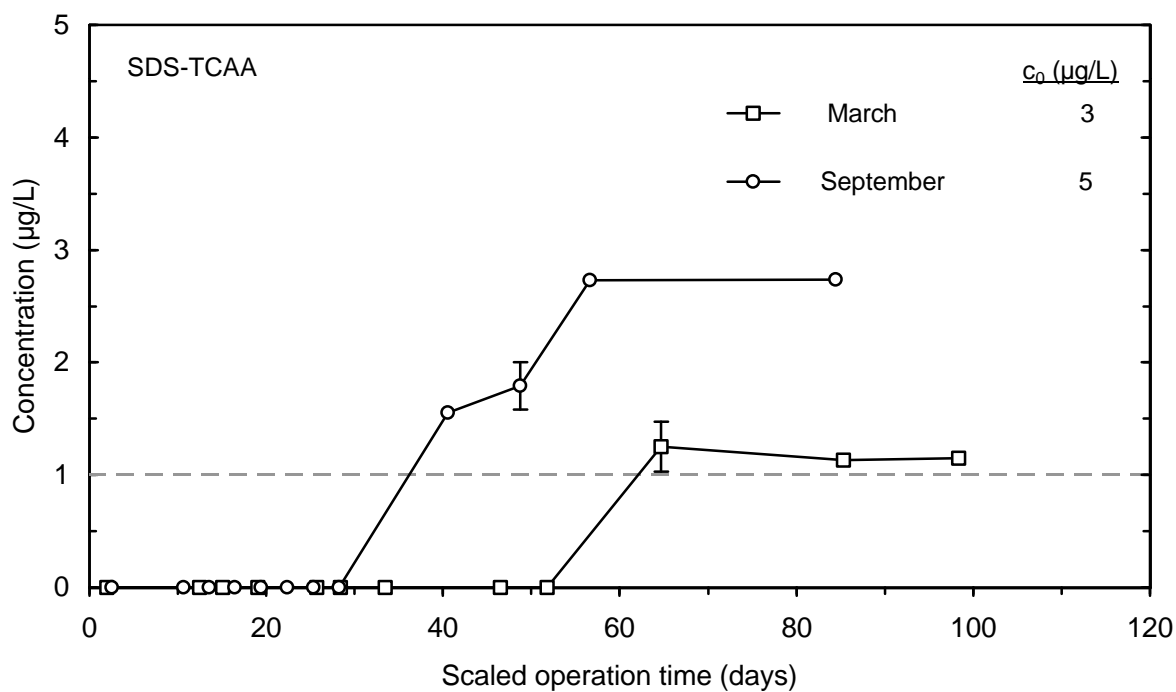


Figure 32 SDS-TCAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

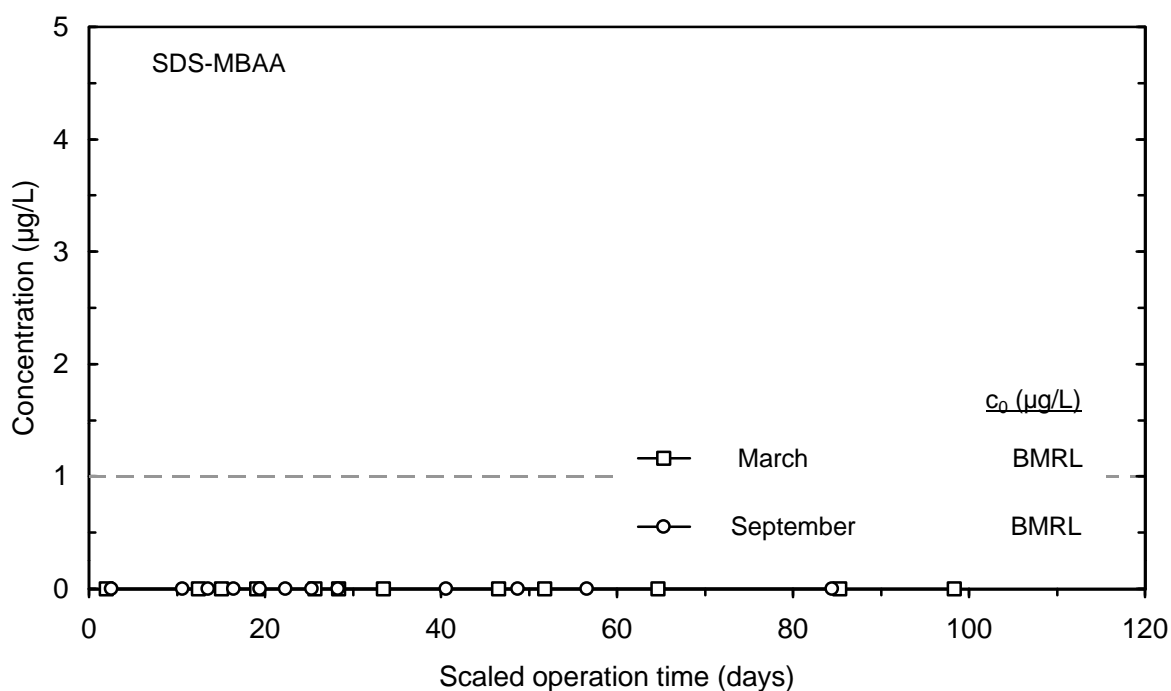


Figure 33 SDS-MBAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

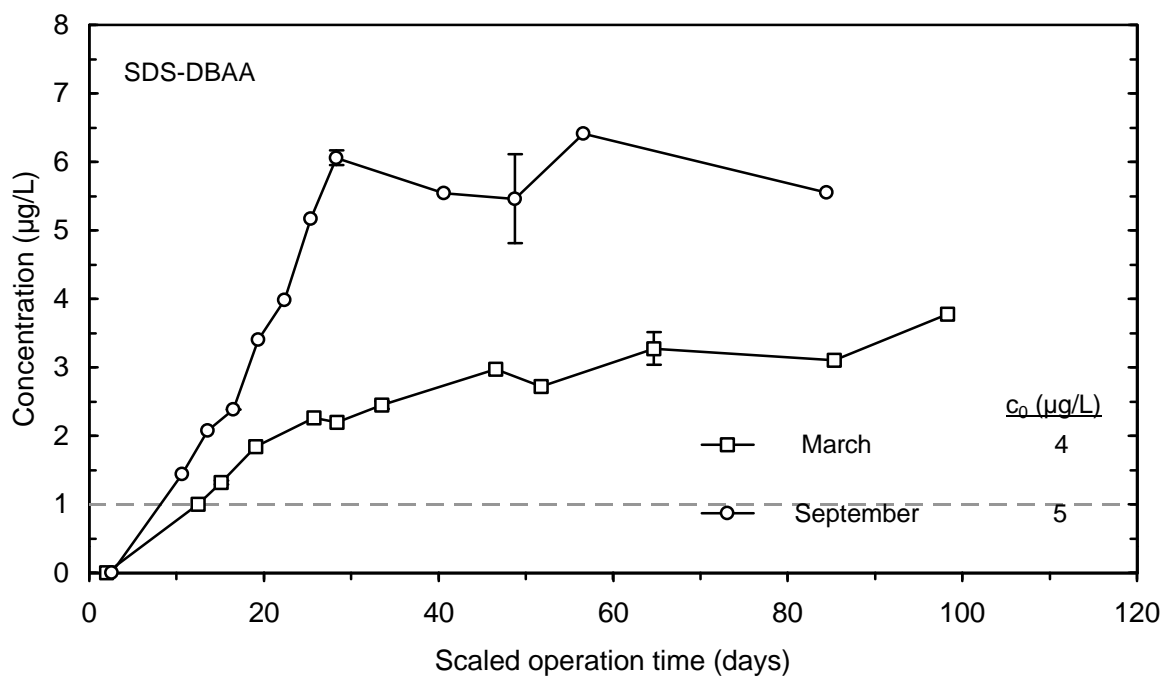


Figure 34 SDS-DBAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

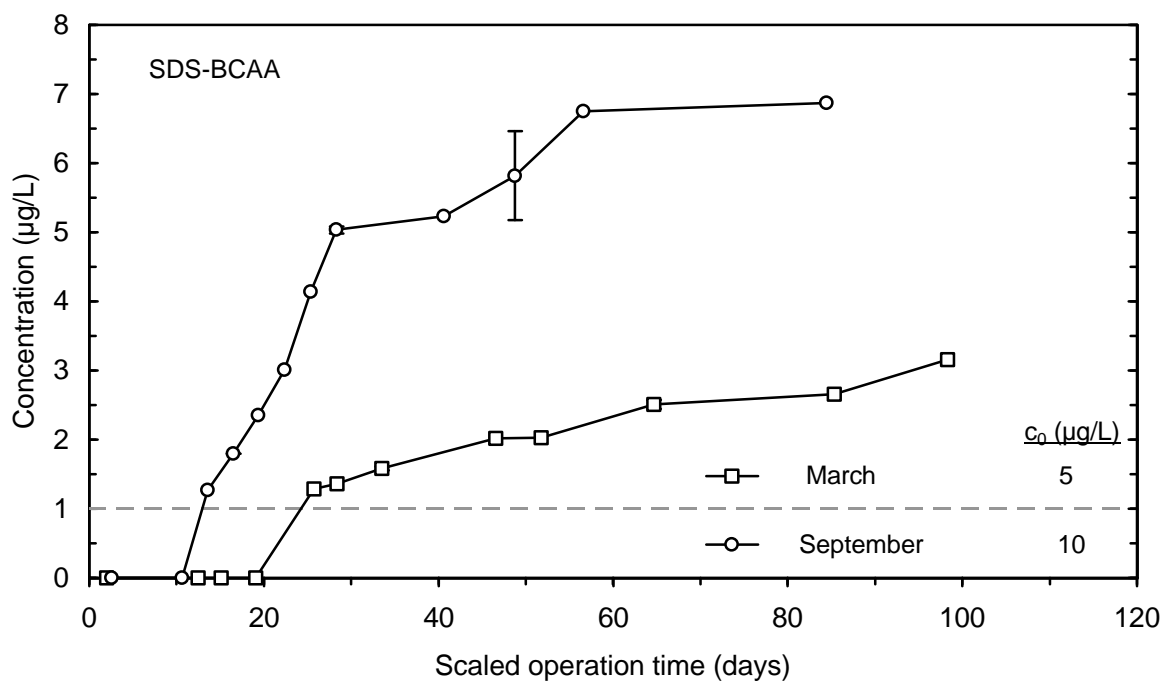


Figure 35 SDS-BCAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

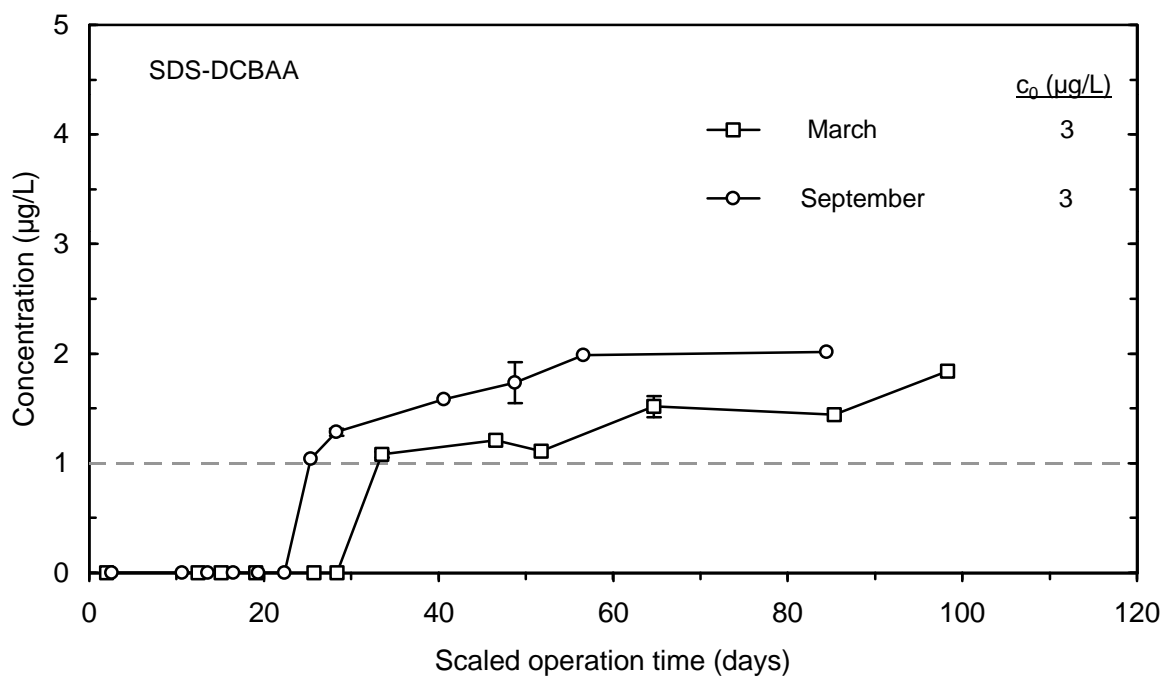


Figure 36 SDS-DCBAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

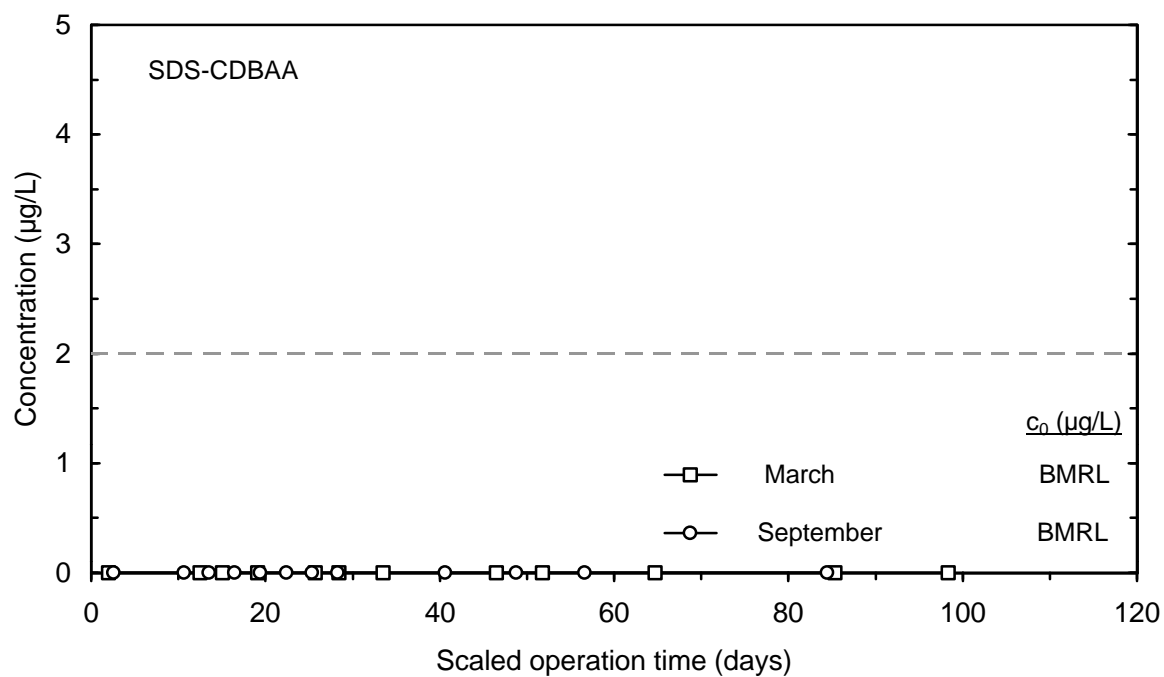


Figure 37 SDS-CDBAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

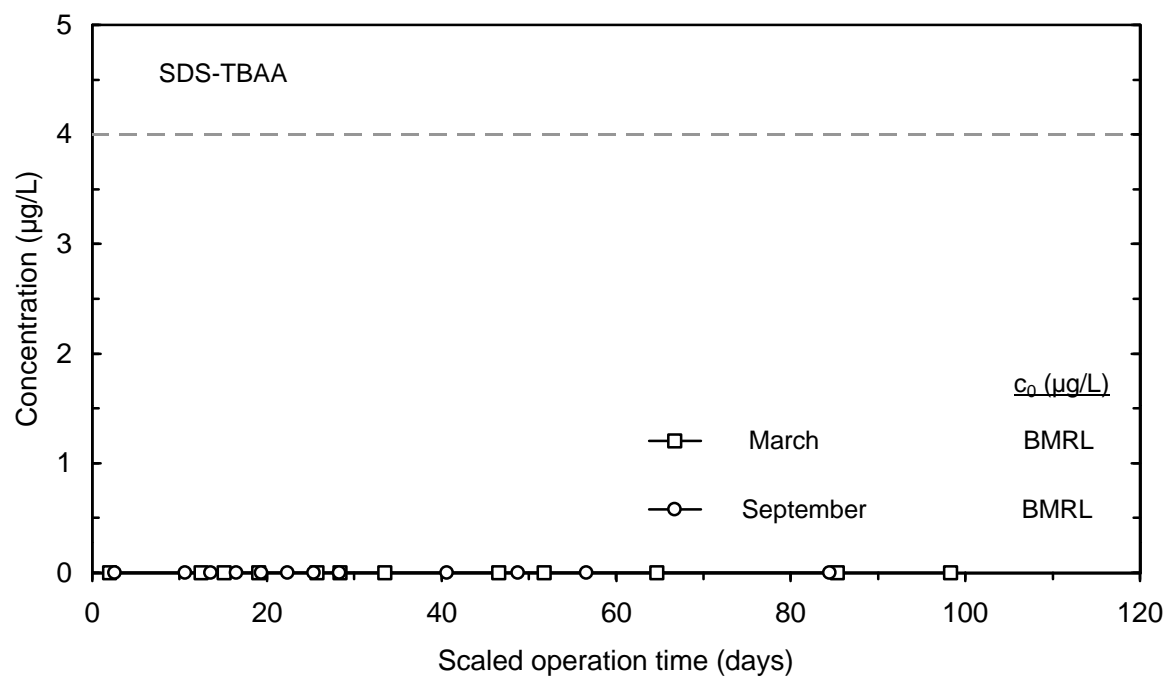


Figure 38 SDS-TBAA breakthrough comparison for two 10 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

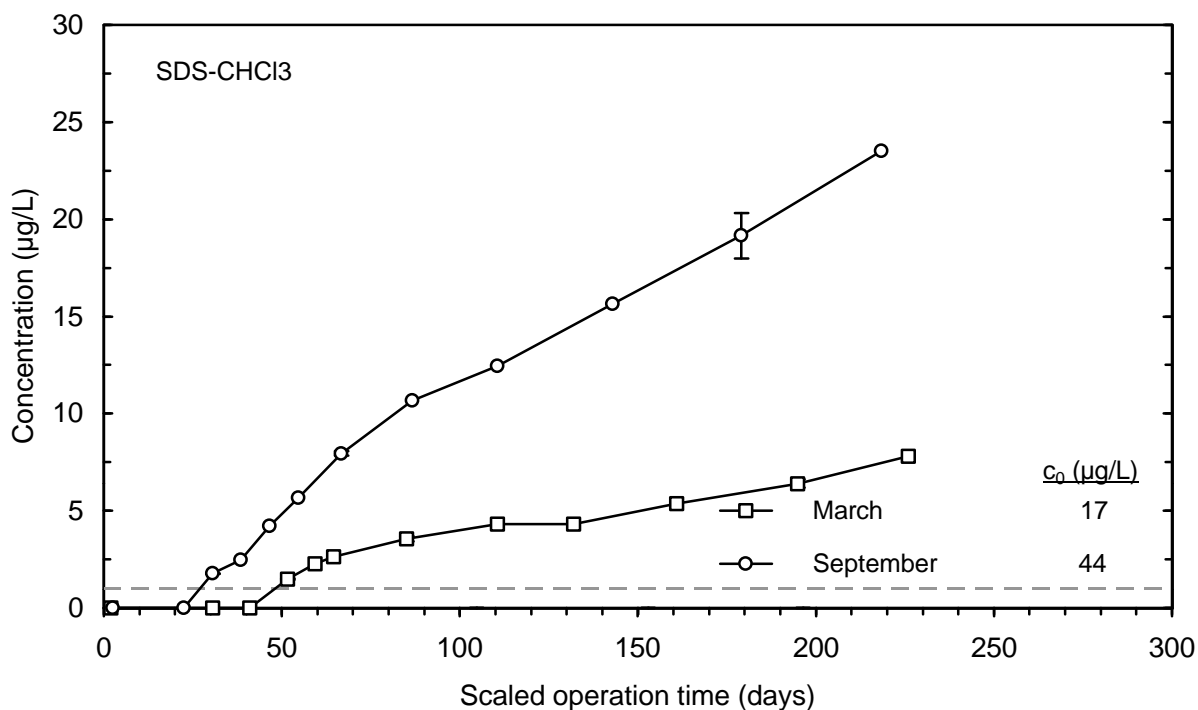


Figure 39 SDS-CHCl₃ breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

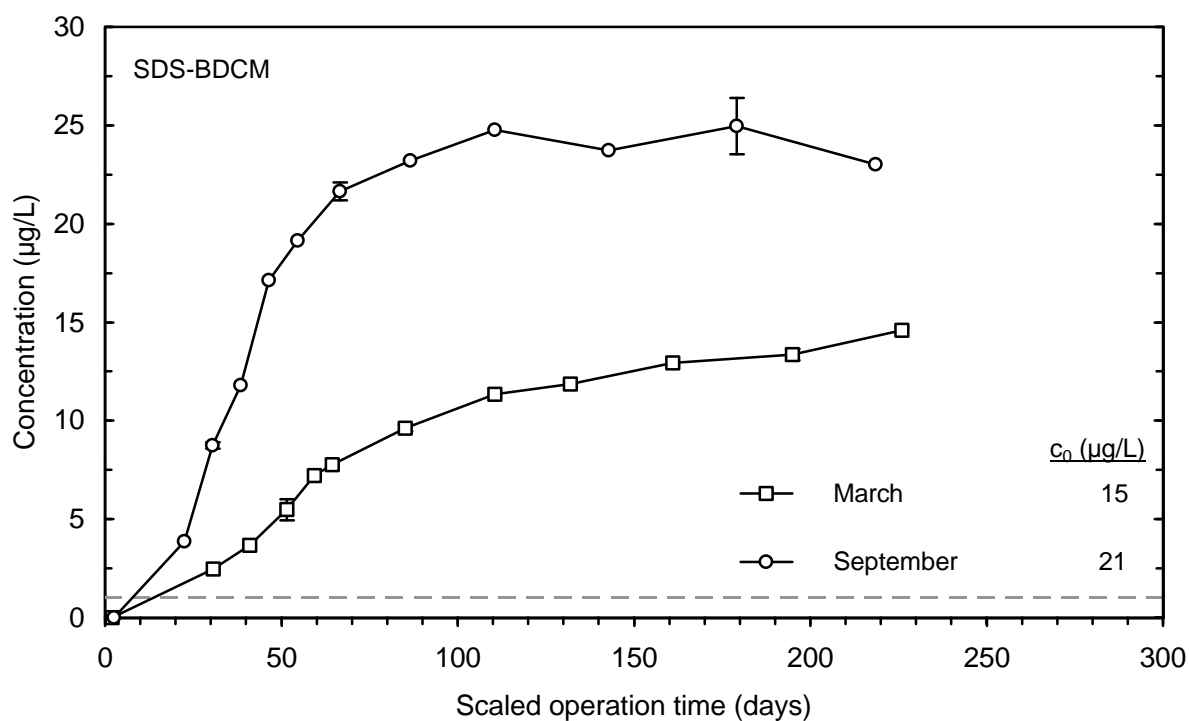


Figure 40 SDS-BDCM breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

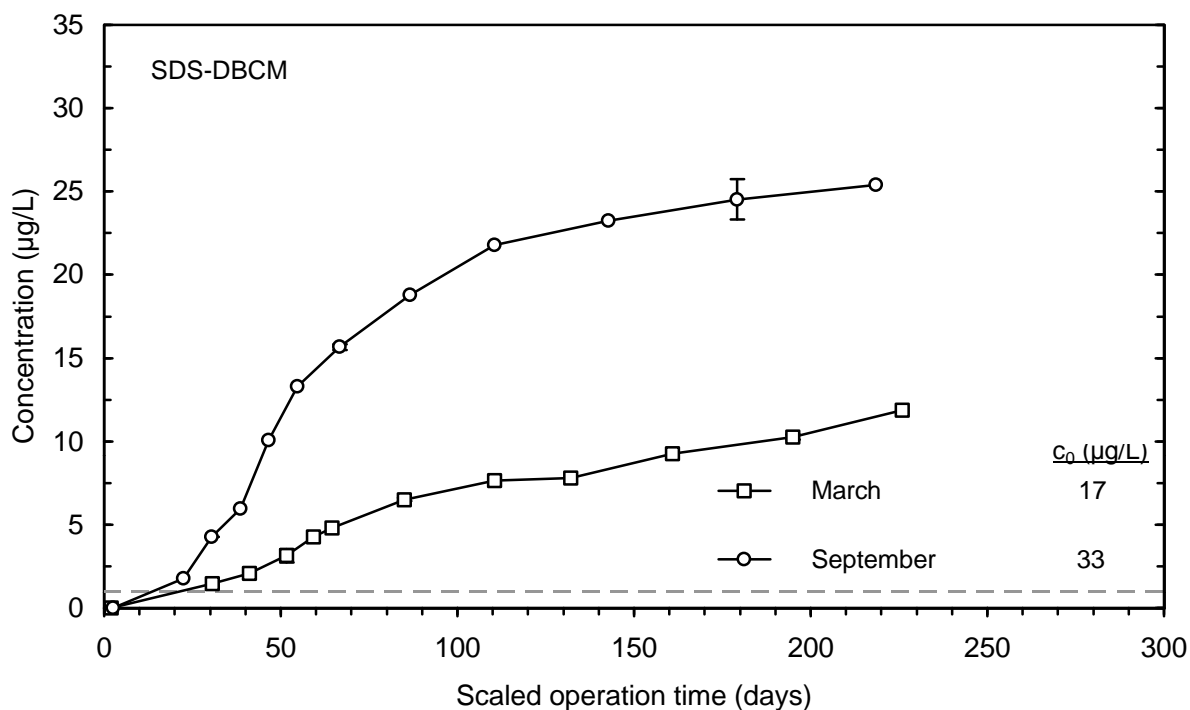


Figure 41 SDS-DBCM breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

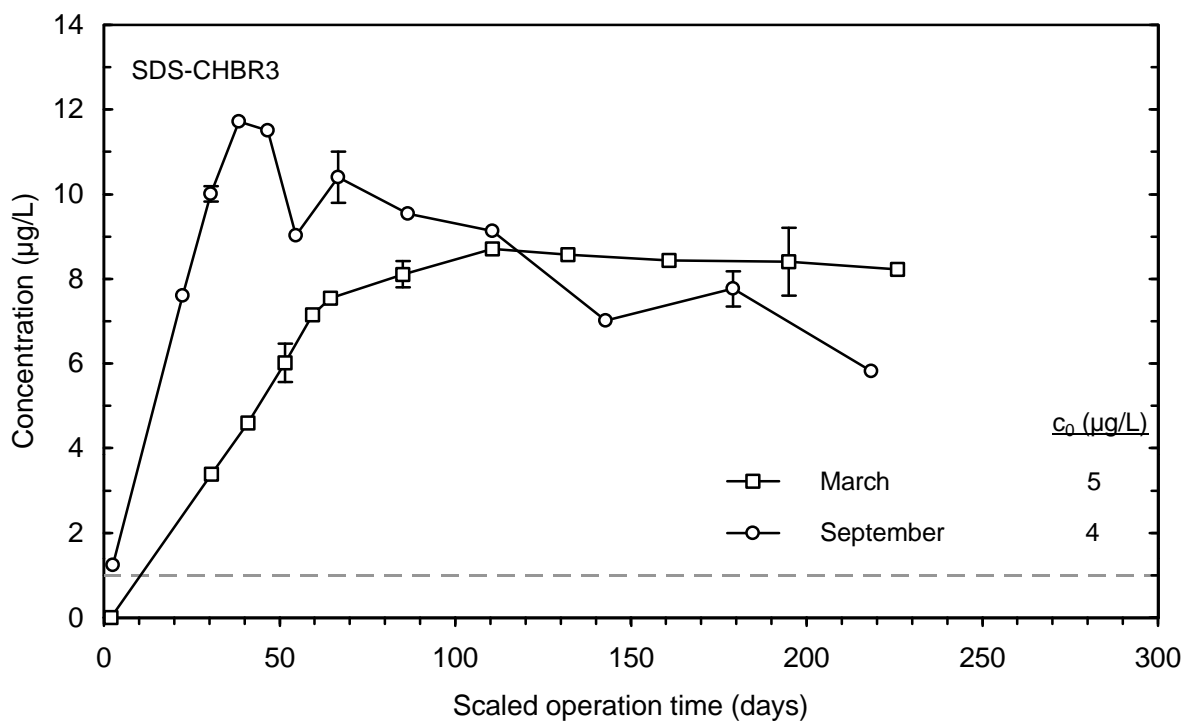


Figure 42 SDS-CHBR3 breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

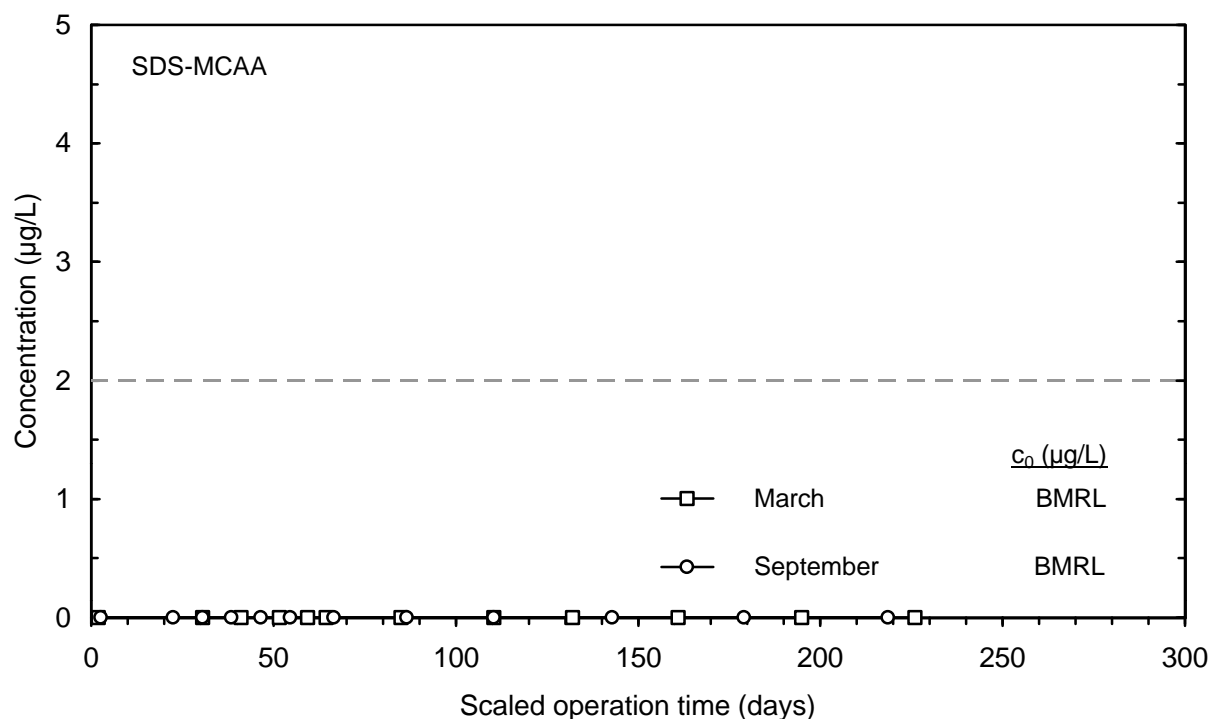


Figure 43 SDS-MCAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

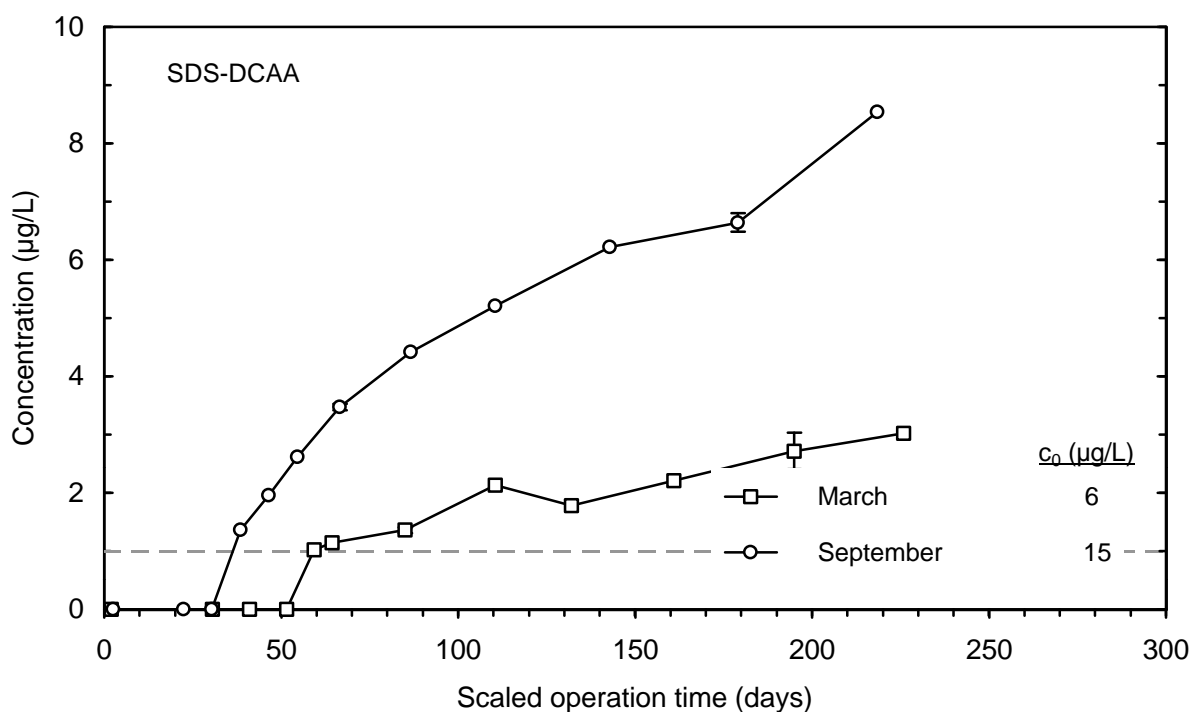


Figure 44 SDS-DCAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

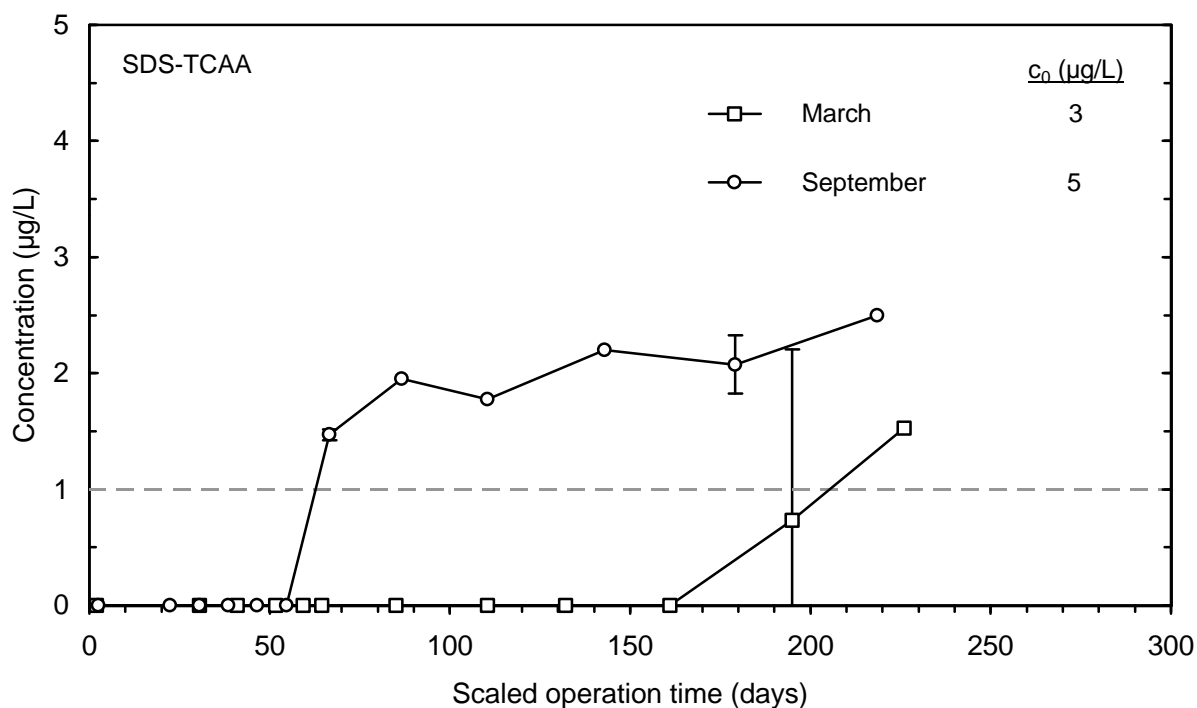


Figure 45 SDS-TCAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

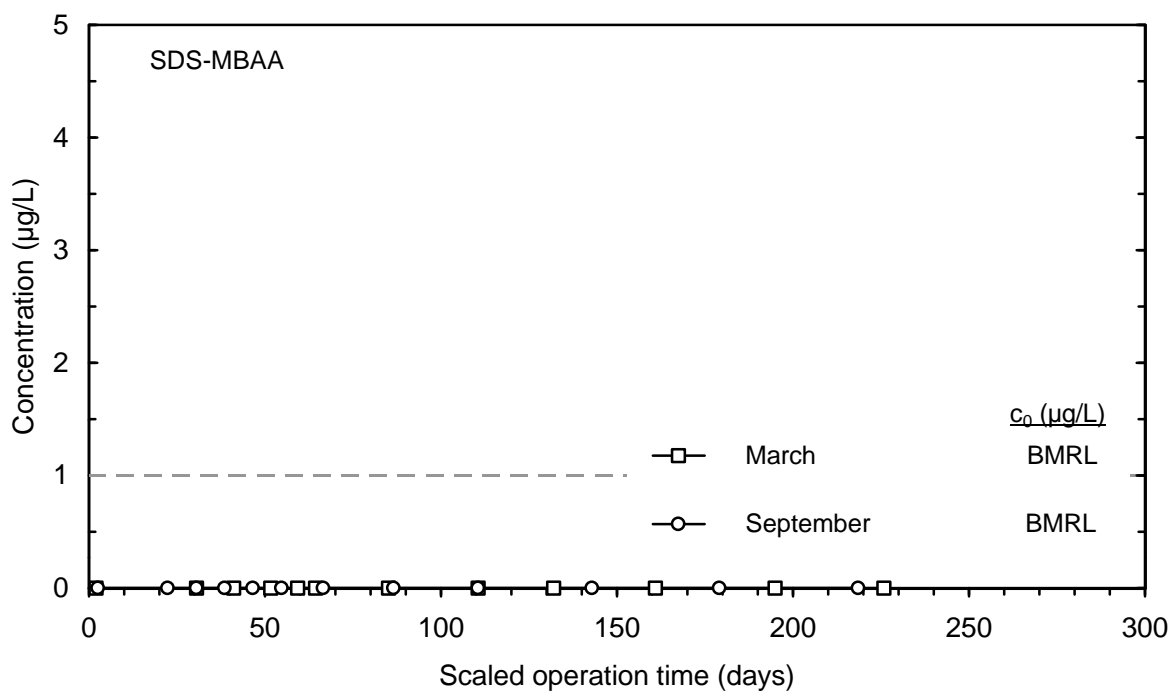


Figure 46 SDS-MBAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

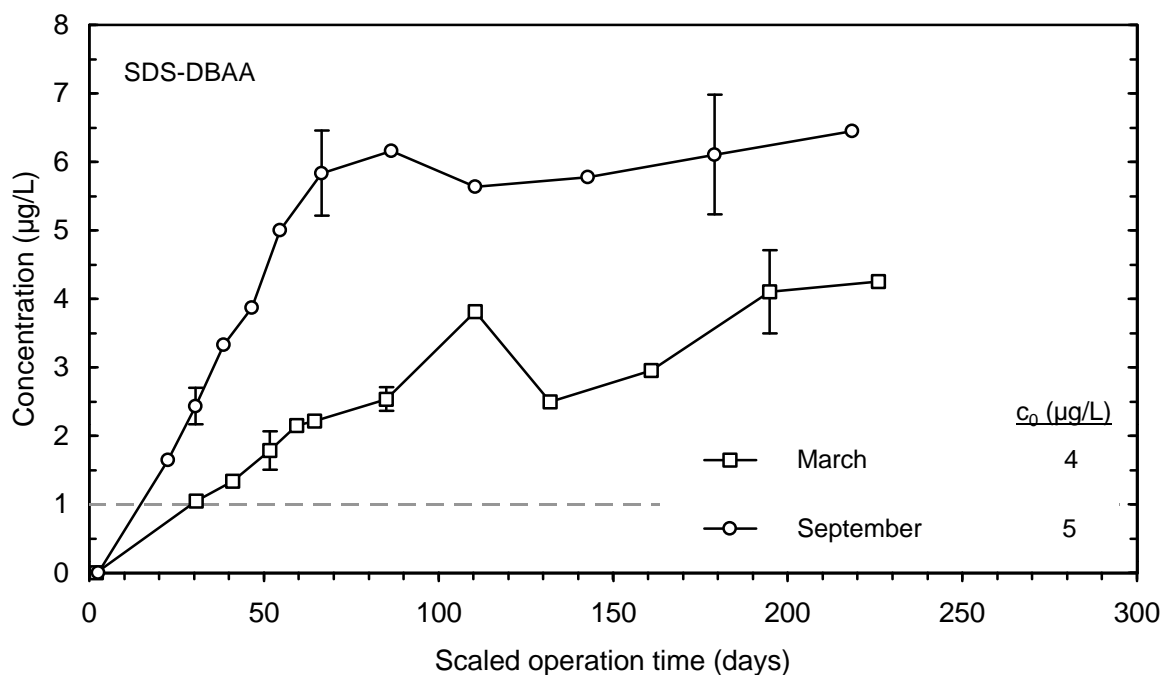


Figure 47 SDS-DBAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

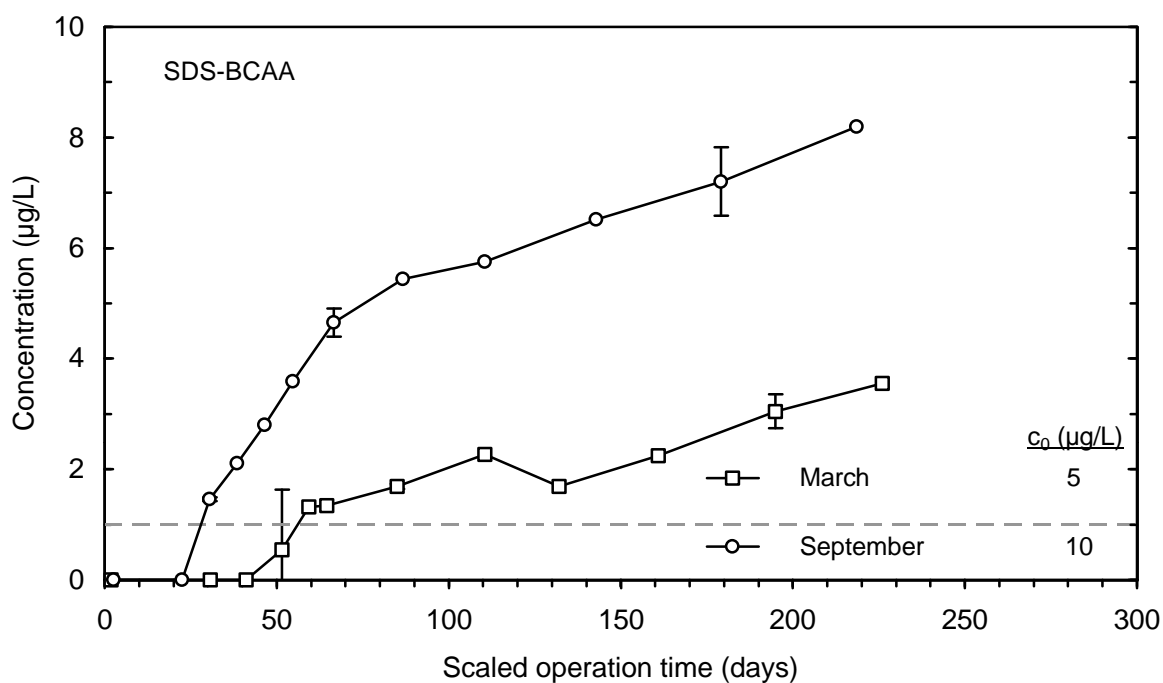


Figure 48 SDS-BCAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

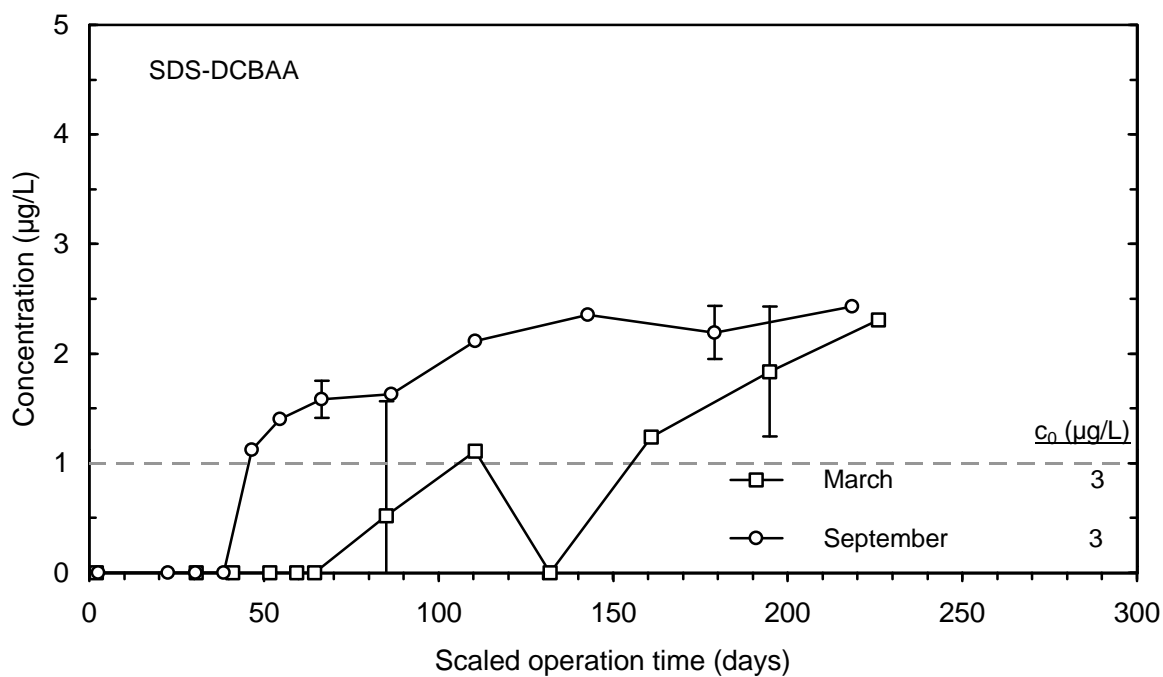


Figure 49 SDS-DCBAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

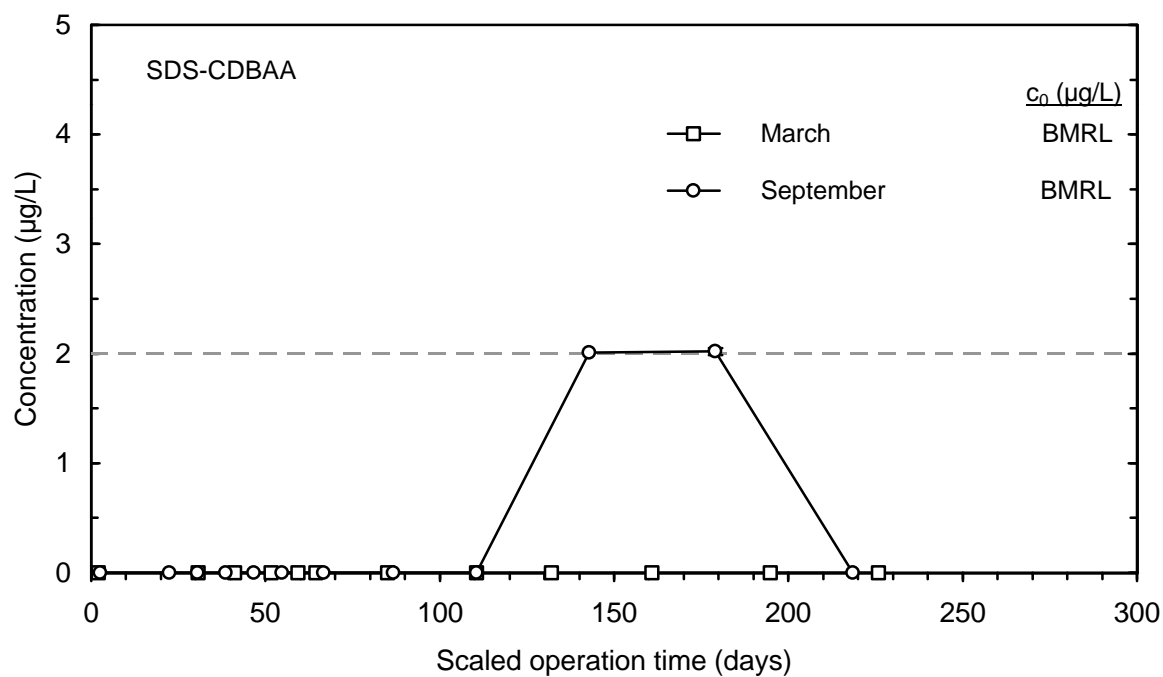


Figure 50 SDS-CDBAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

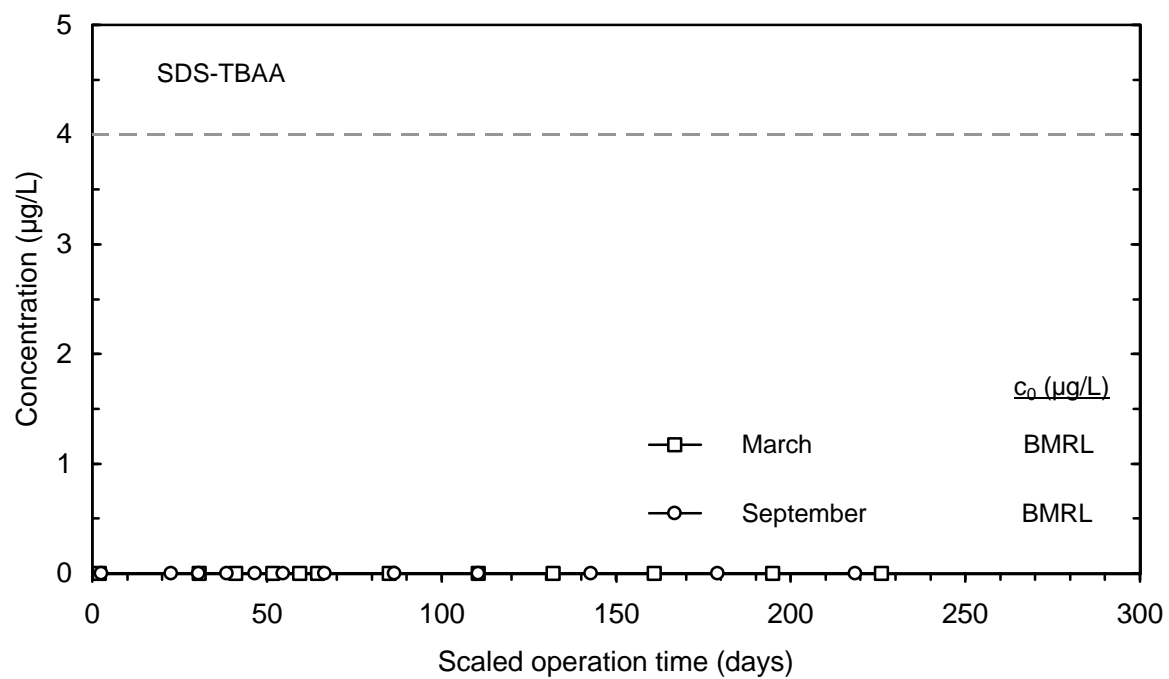


Figure 51 SDS-TBAA breakthrough comparison for two 20 minute EBCT contactors; water sampled in March (session 1) and September (session 2)

9

Impact of Empty-Bed Contact Time (EBCT)

9 Impact of Empty-Bed Contact Time (EBCT)

9.1 Evaluation on Scaled Operation Time Basis

During the March session, four EBCTs were evaluated: 5.0, 7.5, 10, and 20 minutes. In addition, 10 and 20 minute EBCT RSSCTs were operated during the September session. For purposes of comparison and due to differences in water quality, the breakthrough data for the four EBCT runs conducted in March are evaluated as a set, followed by a discussion of the results from the 10 and 20 minute EBCT runs performed in September.

Figure 52 shows the impact of EBCT on TOC breakthrough for EBCTs of 5.0, 7.5, 10, and 20 minutes during the March session. A range of effluent TOC breakthrough behavior was observed, with scaled operation times of 18 to 124 days to an effluent concentration of 1.0 mg/L. As EBCT increased, the effluent breakthrough profiles shifted to the right, indicating longer scaled operation times to a given effluent criterion.

The impact of EBCT between 5.0 and 20 minutes on UV₂₅₄ breakthrough during the March session is shown in Figure 53. Again, GAC performance improved with increasing EBCT. Similar results were obtained for the SDS-DBPs, shown in Figures 41 through 45. Control of effluent SDS-THM4, SDS-HAA, and SDS-TOX improved with increasing EBCT. The smallest gain occurred between the 7.5 and 10 minute EBCT contactors, but the percent difference in EBCT between these two was also the smallest. The GAC effluent SDS chlorine demand (CLD), Figure 59, showed a relatively high immediate breakthrough. As EBCT increased, the profiles shifted to the right, with little difference observed between the SDS-CLD breakthrough curves for the 7.5 and 10 minute EBCT contactors. The effluent pH and temperature for each EBCT run during each quarterly session was monitored. The results for the 10 and 20 minute EBCT contactors were presented above in Section 8; the results for the 5.0 and 7.5 minute EBCT contactors is summarized in Table 24, and were consistent with a RSD of less than 6 percent.

Figure 60 shows the impact of EBCT on TOC breakthrough for EBCTs of 10 and 20 minutes during the September session. Run times to an effluent TOC concentration of 1.0 mg/L were 24 and 53 days, respectively. The effluent breakthrough profile for the 20 minute EBCT contactor was shifted to the right, indicating longer run times to a given effluent criterion.

Similar results were obtained for UV₂₅₄ and all SDS-DBPs, shown in Figures 48 through 53. Again, breakthrough performance was improved at the higher EBCT. The effluent SDS chlorine demand for the 20 minute EBCT contactor decreased during the run (Figure 67). The decrease in inorganic chlorine demand during the run as a possible explanation for this was discussed in Section 8.

Bar graph plots of run times to effluent TOC, UV₂₅₄, SDS-THM4, and SDS-HAA5 criteria are shown in Figures 55 through 58 for the four EBCT runs during the March session. For runs where the effluent concentration did not reach the run time criterion, no bar is shown. For the 10 and 20 minute EBCT runs during the September session, bar graph GAC run time summaries are shown in Figures 59 through 62. Again, where effluent levels did not exceed the run time

criteria, no bars are shown. The data show that run times to any given criterion increased with increasing EBCT.

Based on the calculated run times for all EBCTs, the corresponding concentration of other measured parameters (DBP precursor surrogates and SDS-DBPs) at that run time were also calculated. For the 10 and 20 minute EBCT contactors, these data are also summarized in Tables 20 through 23. The data summaries for the 5.0 and 7.5 minute EBCT contactors run during the March session are shown in Tables 25 and 26.

9.2 Evaluation on Throughput Basis

To better evaluate the impact of EBCT on DBP precursor removal by GAC, the breakthrough curves for each EBCT are plotted on a throughput basis, with units of bed volumes. This transformation normalizes for the difference in EBCTs to be compared. The following equation is used to convert from run time to throughput in bed volumes:

$$\text{Throughput (bed volumes)} = \frac{\text{Run time}}{\text{EBCT}} \quad (1)$$

For the 5.0, 7.5, 10, and 20 minute EBCT runs (March session), Figures 63 through 70 compare contactor performance for the breakthrough of TOC, UV₂₅₄, SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, SDS-TOX, and SDS-CLD. The TOC breakthrough curves, Figure 30, show no difference in throughput performance between the 7.5 and 10 minute EBCT contactors. However, the 7.5 and 10 minute EBCT runs outperformed the 5.0 minute EBCT run. Overall, the 20 minute EBCT run yielded the highest throughput for TOC removal. Similar results were obtained for UV₂₅₄ breakthrough (Figure 77). Overall, GAC performance improved with increasing EBCT. SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, and SDS-TOX breakthrough curves for the four EBCTs examined during the March session are shown in Figures 65, 66, 67, 68, and 69, respectively. The improvement in GAC performance with increasing EBCT evident for TOC and UV₂₅₄ was also seen the breakthrough of DBP precursors. These trends are not as visible with SDS-HAA breakthrough curves due to the low levels measured. SDS-CLD breakthrough showed very little impact of EBCT when plotted on this normalized basis (Figure 83).

Figure 84 compares TOC breakthrough of each contactor on a throughput basis for EBCTs of 10 and 20 minutes during the September session. A slight improvement in performance of the 20 minute over the 10 minute EBCT contactor was observed after 4,000 bed volumes. Similar results were observed for UV₂₅₄ breakthrough (Figure 85). SDS-DBP breakthrough curves are shown in Figures 73 through 77. For the beginning of the run, the curves showed very similar throughput performance between EBCTs of 10 and 20 minutes. Towards the end of the run, the 20 minute EBCT contactor outperformed the 10 minute EBCT contactor on a throughput basis. SDS-CLD results are shown in Figure 91. Interpretation of the GAC effluent SDS-CLD results are made difficult by decreasing inorganic chlorine demand.

9.3 DBP Species Breakthrough Evaluation

As described earlier, it is important to track the breakthrough behavior of specific DBP species, since some may be of potential health concern and a MCL could be set for a specific DBP compound. GAC does not remove bromide and this can result in relatively high bromide to TOC ratios in the GAC effluent. Because of the high bromide to TOC ratios, GAC effluent SDS-DBPs may undergo shifts in speciation to more brominated DBP species, especially during the early part of the breakthrough. In some cases, effluent levels are higher than influent levels.

For EBCTs between 5.0 and 20 minutes, evaluated during the March session, Figures 79 through 82 show the breakthrough behavior of the formed THMs: CHCl_3 , BDCM, DBCM, and CHBr_3 . For all runs, effluent levels reached approximately the same concentration; however, the breakthrough profiles shifted to the right as EBCT increased. Effluent SDS-BDCM levels reached the formed influent concentration at the end of the run for each EBCT. Effluent CHBr_3 levels exceeded the formed influent levels for all runs. These curves reached a peak and then showed a slight decrease over run time, regardless of EBCT, due to the high bromide to TOC ratio in the GAC effluent. As EBCT increased, however, the curves shifted to the right, indicating better GAC performance.

Plots of the effluent formed breakthrough profiles for the nine HAA species and the four EBCTs run during the March session are shown in Figures 83 through 91. Significant levels of DCAA, DBAA, and BCAA were formed in the GAC effluent of all four EBCT runs. The removal of the precursors to these HAA species improved as EBCT increased.

For EBCTs of 10 and 20 minutes during the September run, Figures 92 through 95 show the breakthrough behavior of formed CHCl_3 , BDCM, DBCM, and CHBr_3 . Again, the breakthrough behavior of the two EBCT contactors was similar, with the 20 minute EBCT breakthrough profile shifted to the right for each species, indicating better performance. The breakthrough of the nine HAA species for EBCTs of 10 and 20 minutes during the September session is shown in Figures 96 through 104. Again, DCAA, DBAA, and BCAA were the dominant HAA species measured, and the 20 minute EBCT contactor outperformed the 10 minute EBCT contactor for the removal of the precursors to these HAA species.

Effluent sample number	Effluent pH at EBCT (min)		Effluent temperature (°C) at EBCT (min)	
	5.0	7.5	5.0	7.5
1	9.1	8.9	23	23
2	9.1	9.0	22	22
3	9.3	9.0	22	23
4	9.3	9.0	21	23
5	9.2	9.0	20	23
6	9.0	9.1	21	22
7	9.2	9.0	22	23
8	9.3	9.0	22	23
9	9.3	9.0	20	23
10	9.3	9.2	21	21
11	9.2	9.0	23	21
12	9.3	8.8	21	22
13	8.7	9.0	23	21
Mean	9.2	9.0	22	22
Standard deviation	±0.2	±0.1	±1.0	±0.8
Percent standard deviation	2	1	5	4

Table 24 GAC effluent pH and temperature data for 5.0 and 7.5 minute EBCT contactors during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	18	5,270	1.0	0.016	30	6	8	9	55
			0.9†	16	4,530	0.9	0.015	28	5	7	8	50
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	27	7,790	1.2	0.020	37	6	9	10	66
			0.019†	25	7,140	1.1	0.019	35	7	10	12	61
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	21	6,040	1.0	0.017	32	6	9	10	57
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	29	8,270	1.2	0.021	38	6	9	10	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 25 Run times to selected GAC effluent criteria (5.0 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	37	7,140	1.0	0.018	33	6	9	11	54
			0.9†	33	6,350	0.9	0.016	33	6	8	10	55
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	50	9,660	1.2	0.020	37	8	11	12	62
			0.019†	42	8,070	1.1	0.019	35	7	10	11	56
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	31	5,920	0.9	0.016	32	5	8	9	54
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	61	11,780	1.2	0.023	39	8	11	12	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 26 Run times to selected GAC effluent criteria (7.5 minute EBCT) during session 1, March

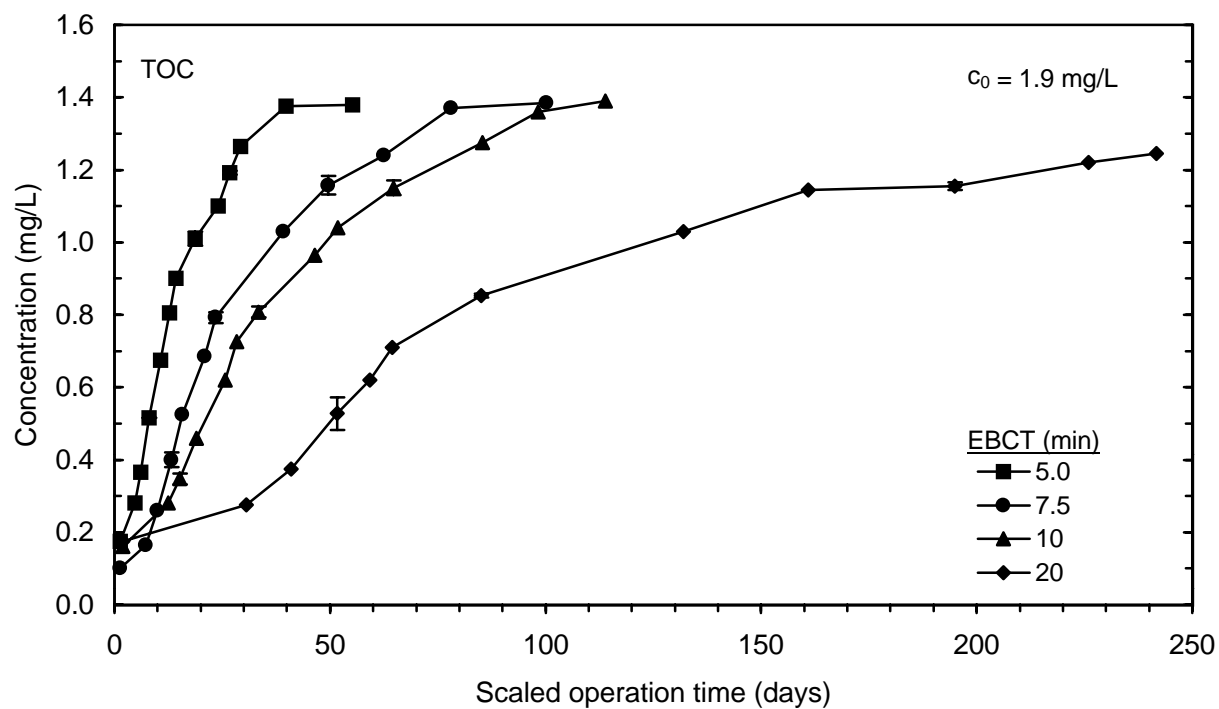


Figure 52 Impact of EBCT on TOC breakthrough; water sampled in March (session 1)

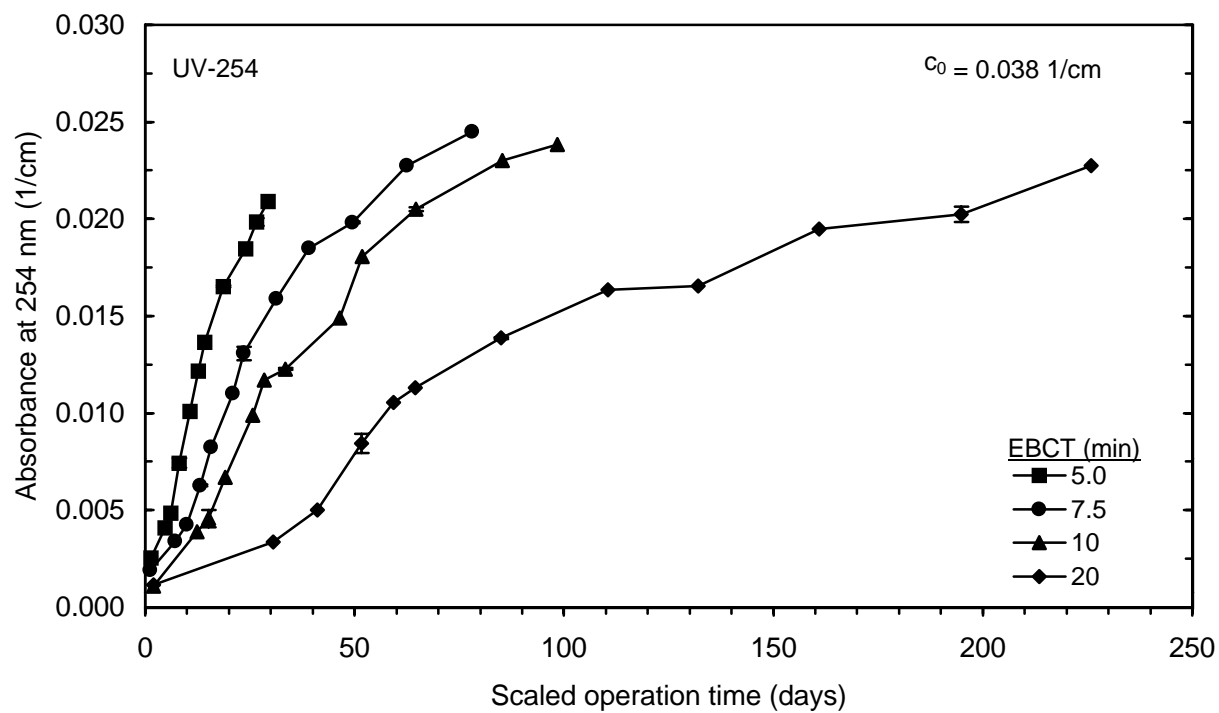


Figure 53 Impact of EBCT on UV-254 breakthrough; water sampled in March (session 1)

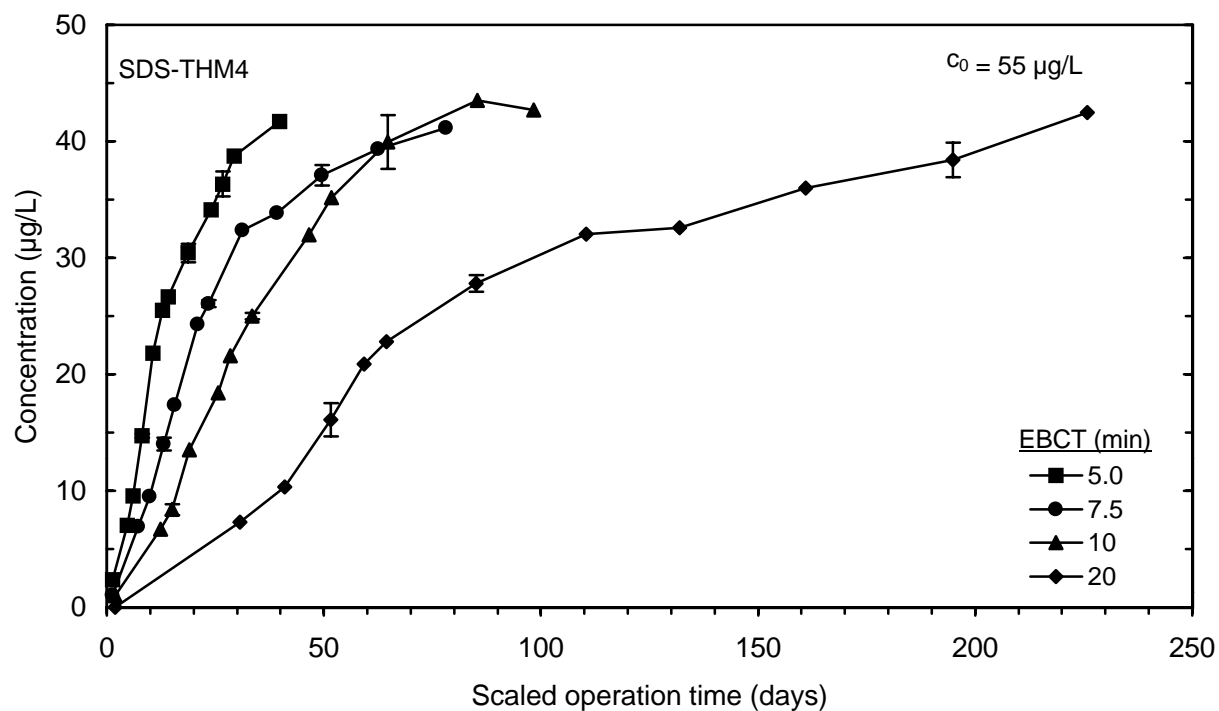


Figure 54 Impact of EBCT on SDS-THM4 breakthrough; water sampled in March (session 1)

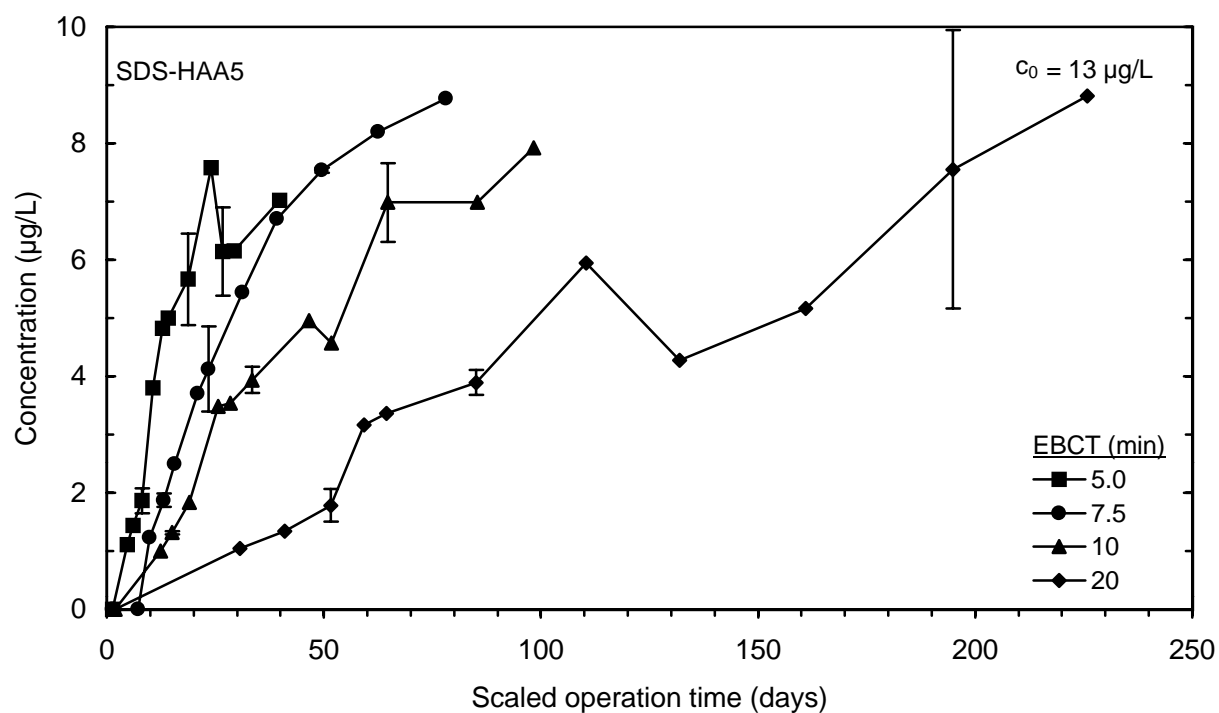


Figure 55 Impact of EBCT on SDS-HAA5 breakthrough; water sampled in March (session 1)

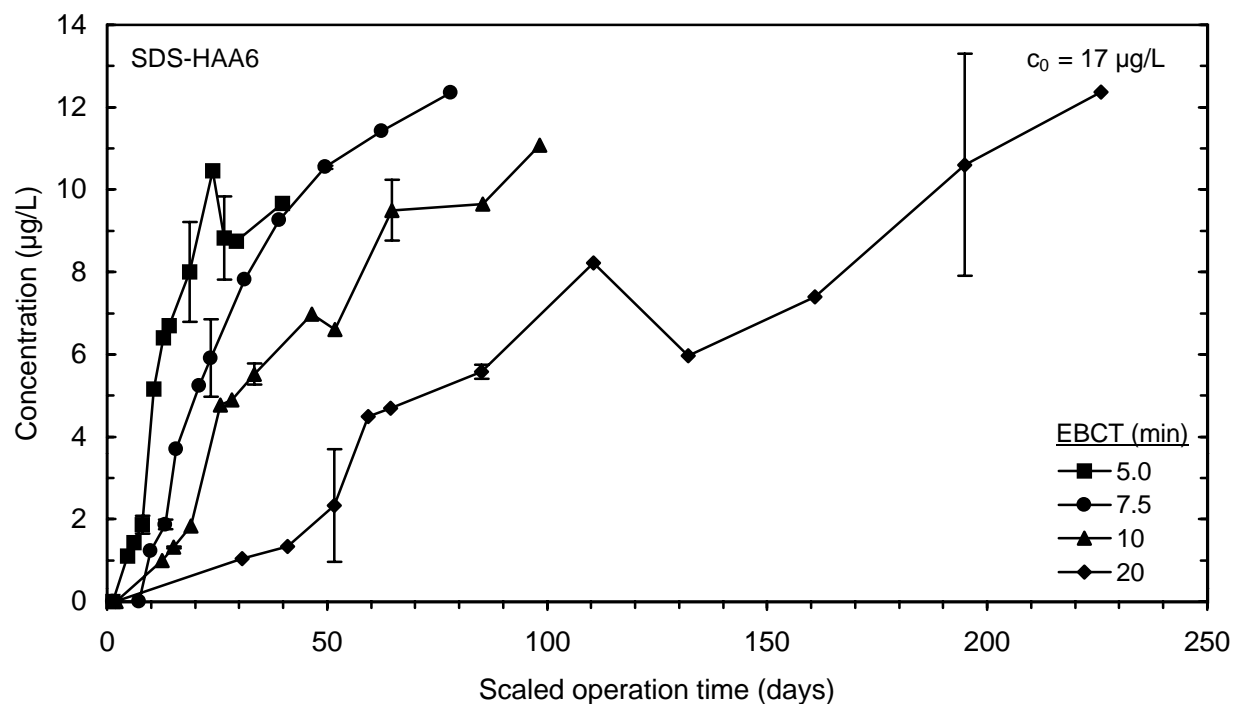


Figure 56 Impact of EBCT on SDS-HAA6 breakthrough; water sampled in March (session 1)

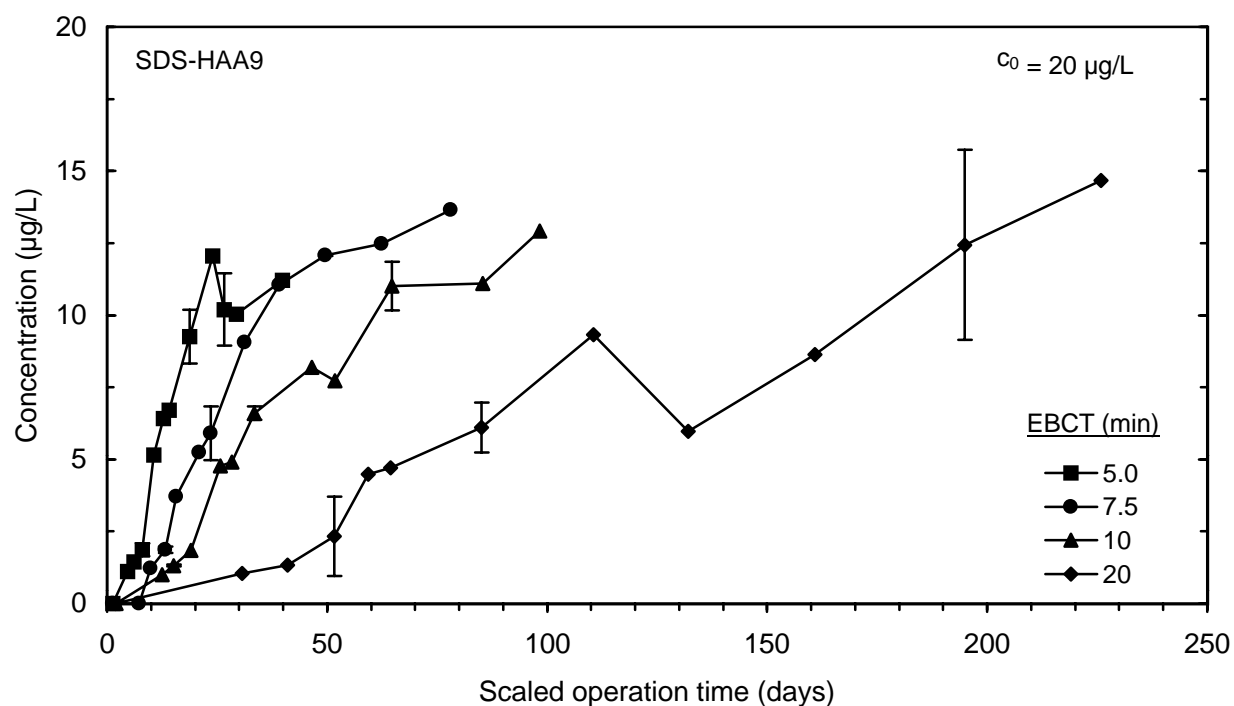


Figure 57 Impact of EBCT on SDS-HAA9 breakthrough; water sampled in March (session 1)

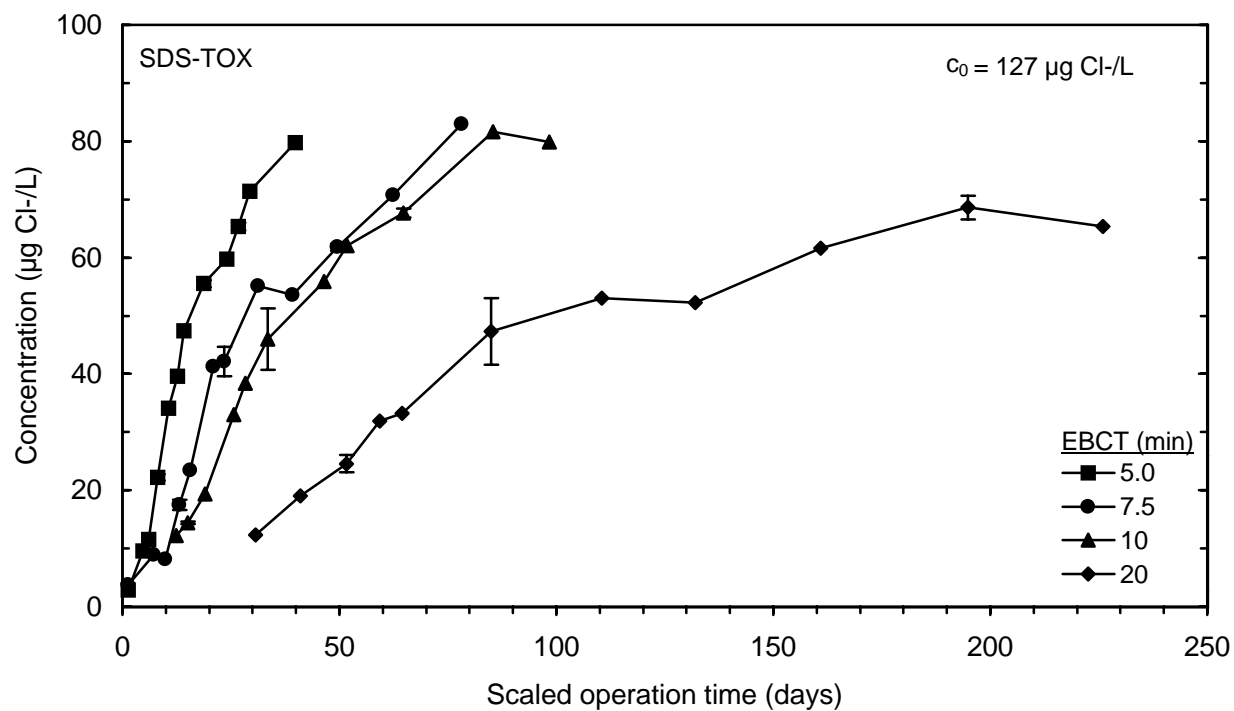


Figure 58 Impact of EBCT on SDS-TOX breakthrough; water sampled in March (session 1)

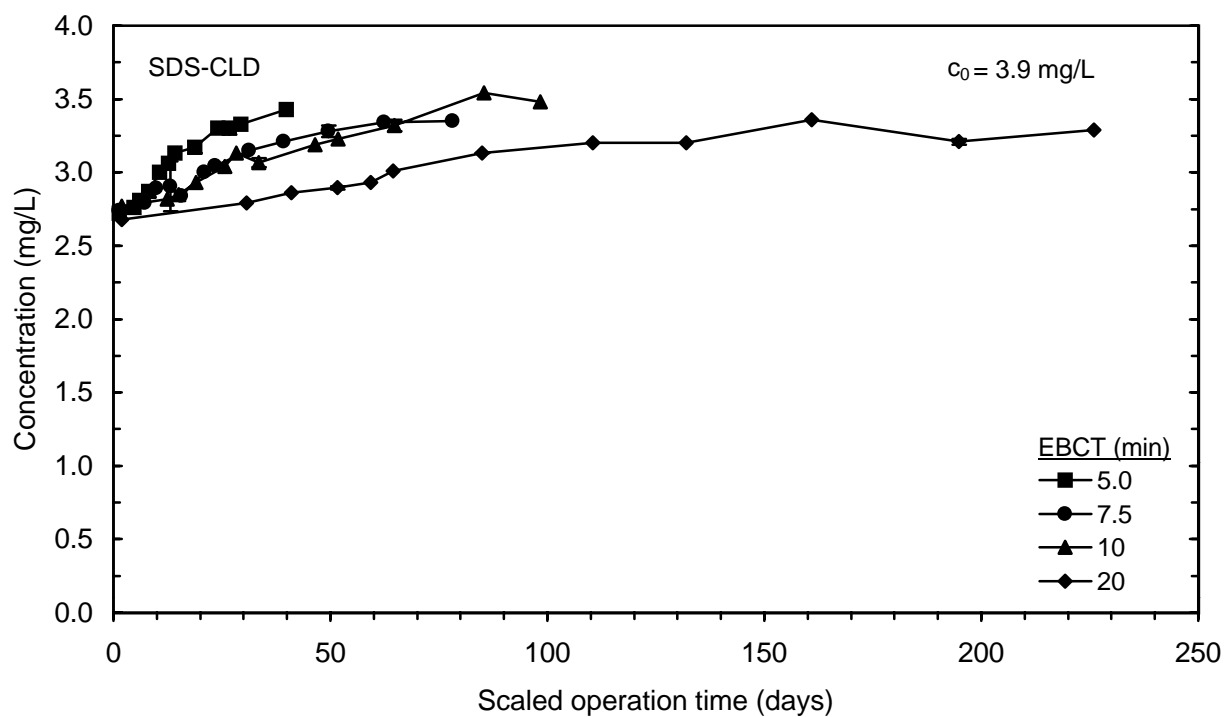


Figure 59 Impact of EBCT on SDS-CLD breakthrough; water sampled in March (session 1)

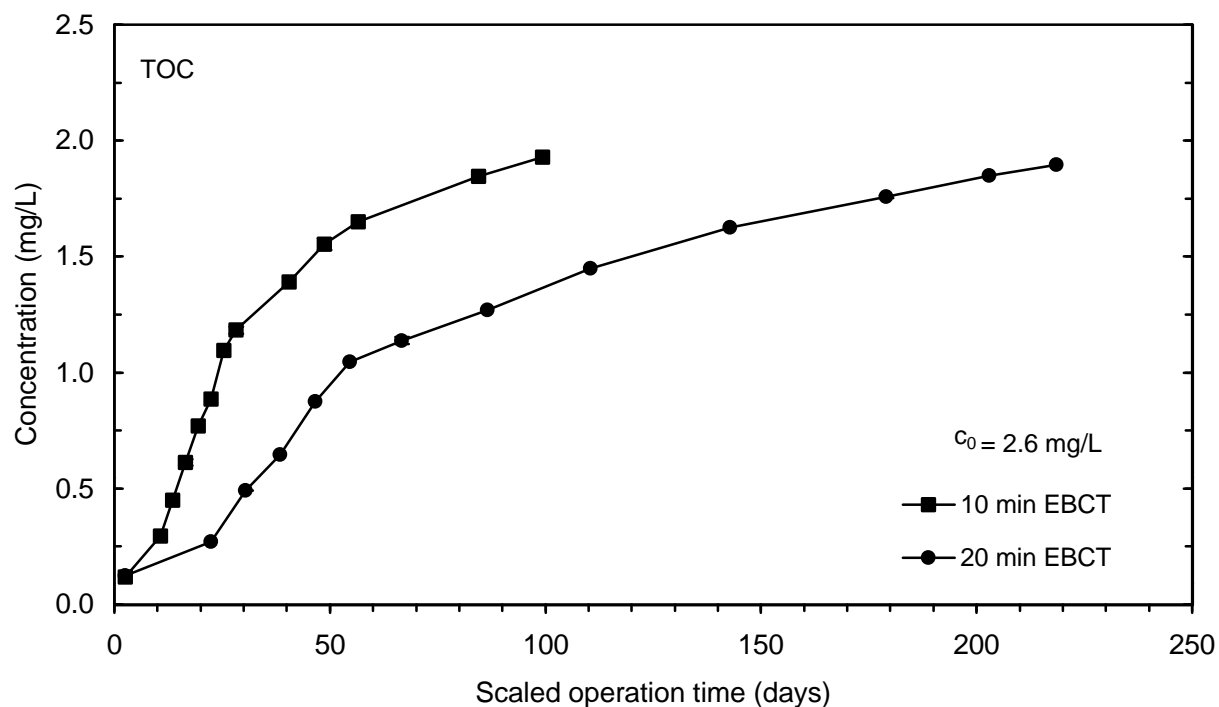


Figure 60 Impact of EBCT on TOC breakthrough; water sampled in September (session 2)

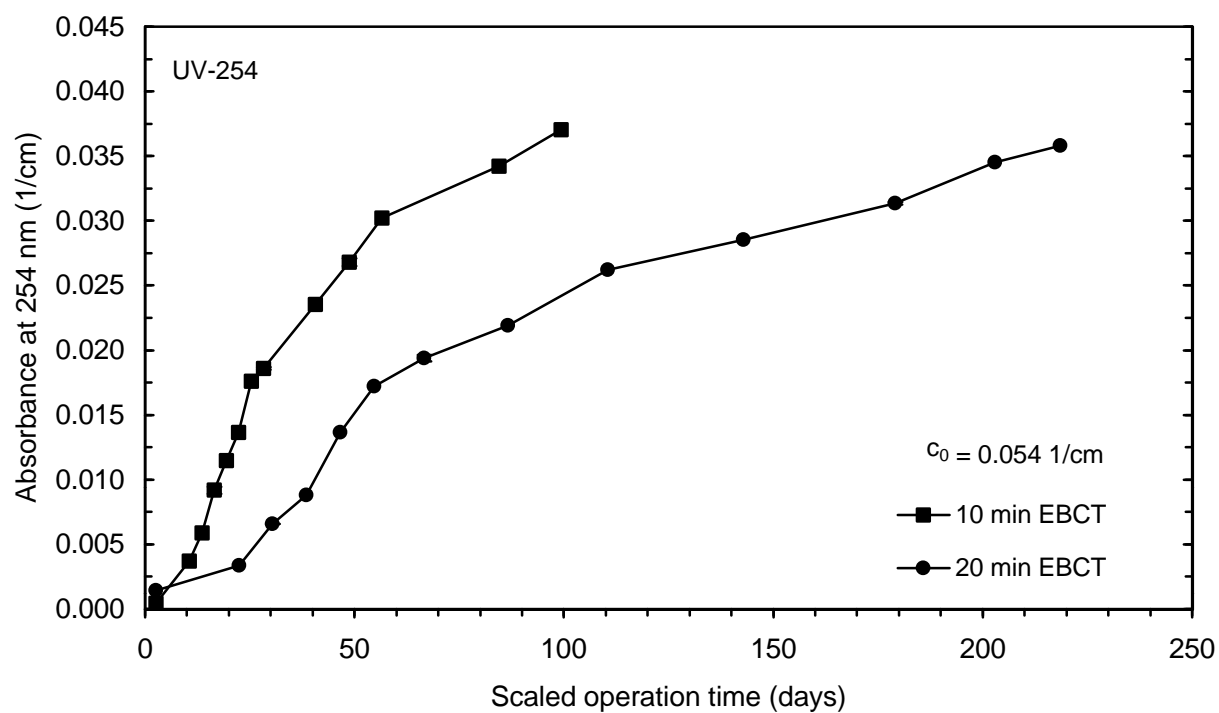


Figure 61 Impact of EBCT on UV-254 breakthrough; water sampled in September (session 2)

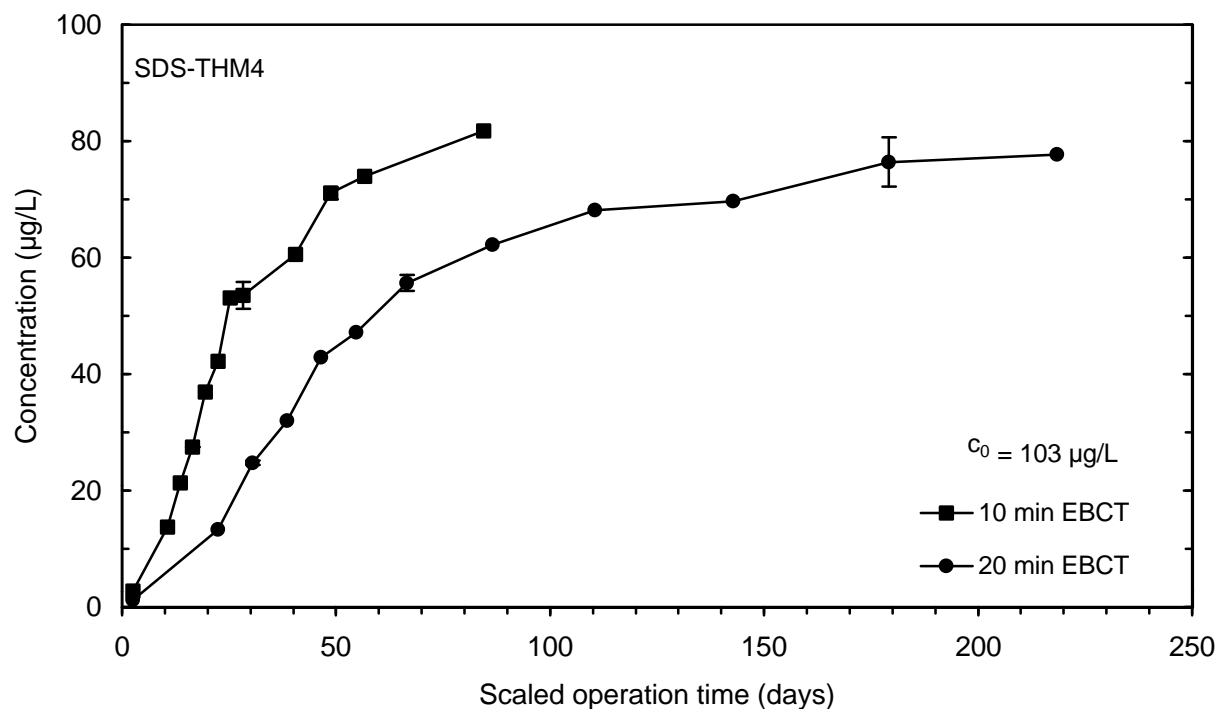


Figure 62 Impact of EBCT on SDS-THM4 breakthrough; water sampled in September (session 2)

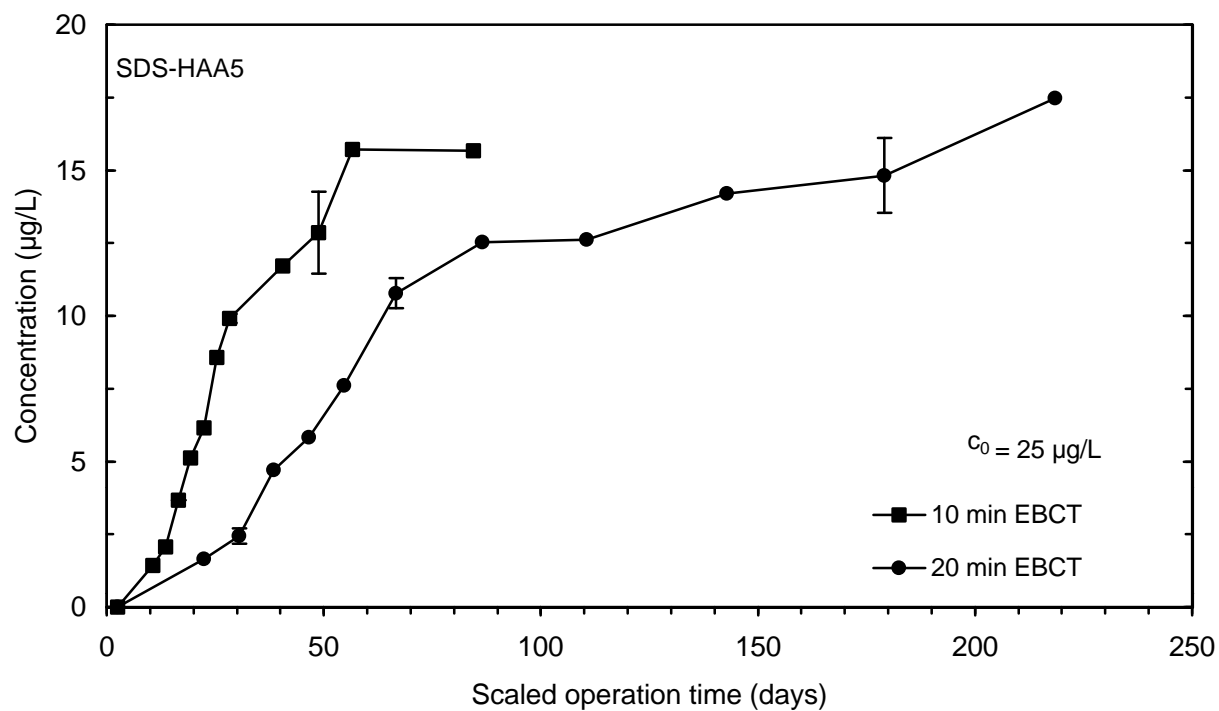


Figure 63 Impact of EBCT on SDS-HAA5 breakthrough; water sampled in September (session 2)

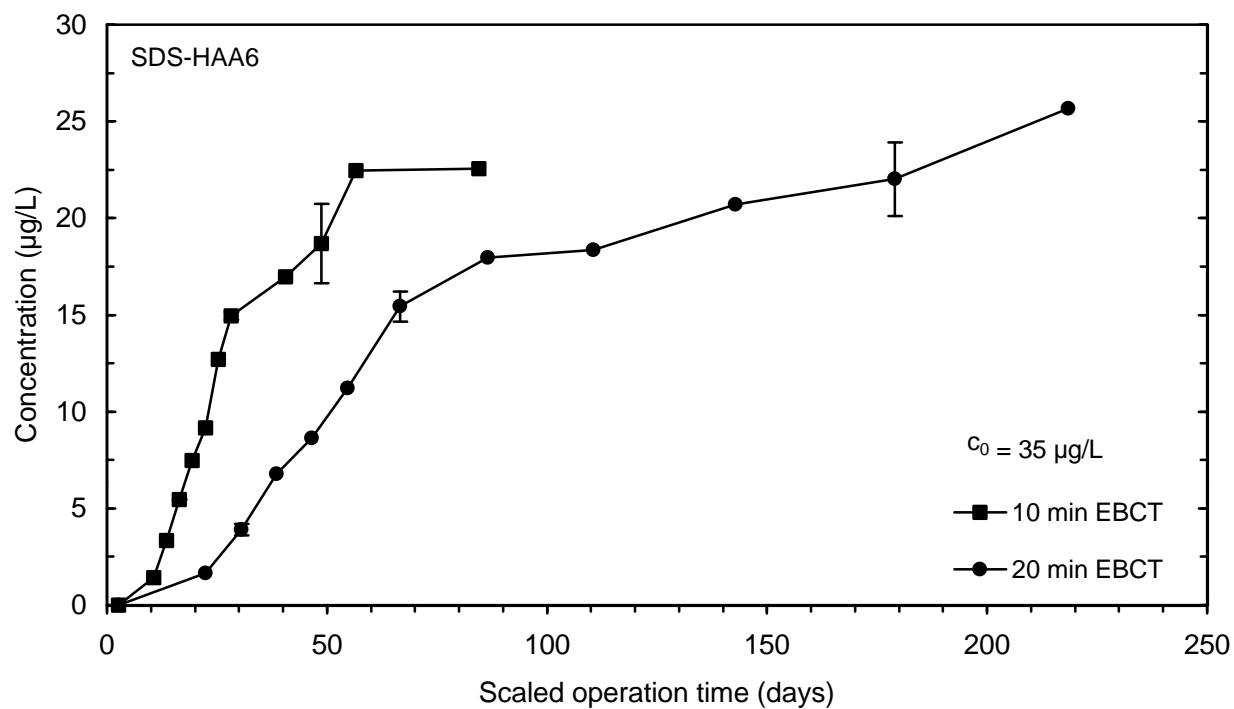


Figure 64 Impact of EBCT on SDS-HAA6 breakthrough; water sampled in September (session 2)

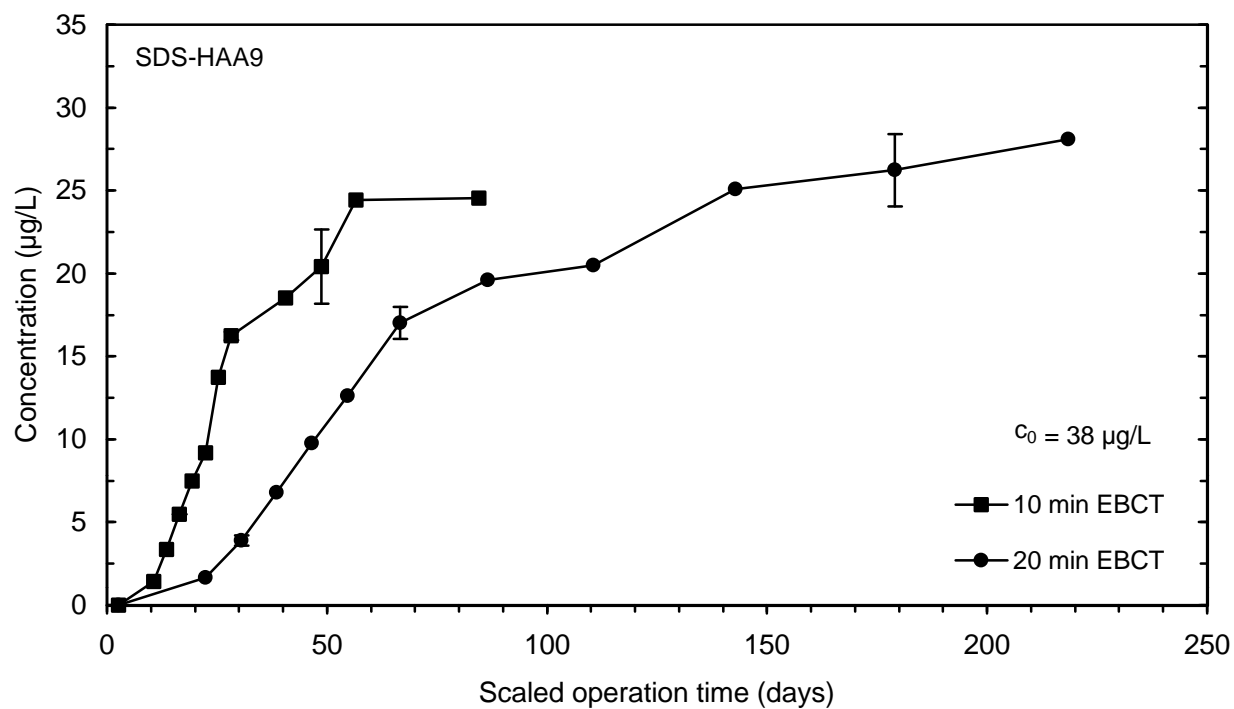


Figure 65 Impact of EBCT on SDS-HAA9 breakthrough; water sampled in September (session 2)

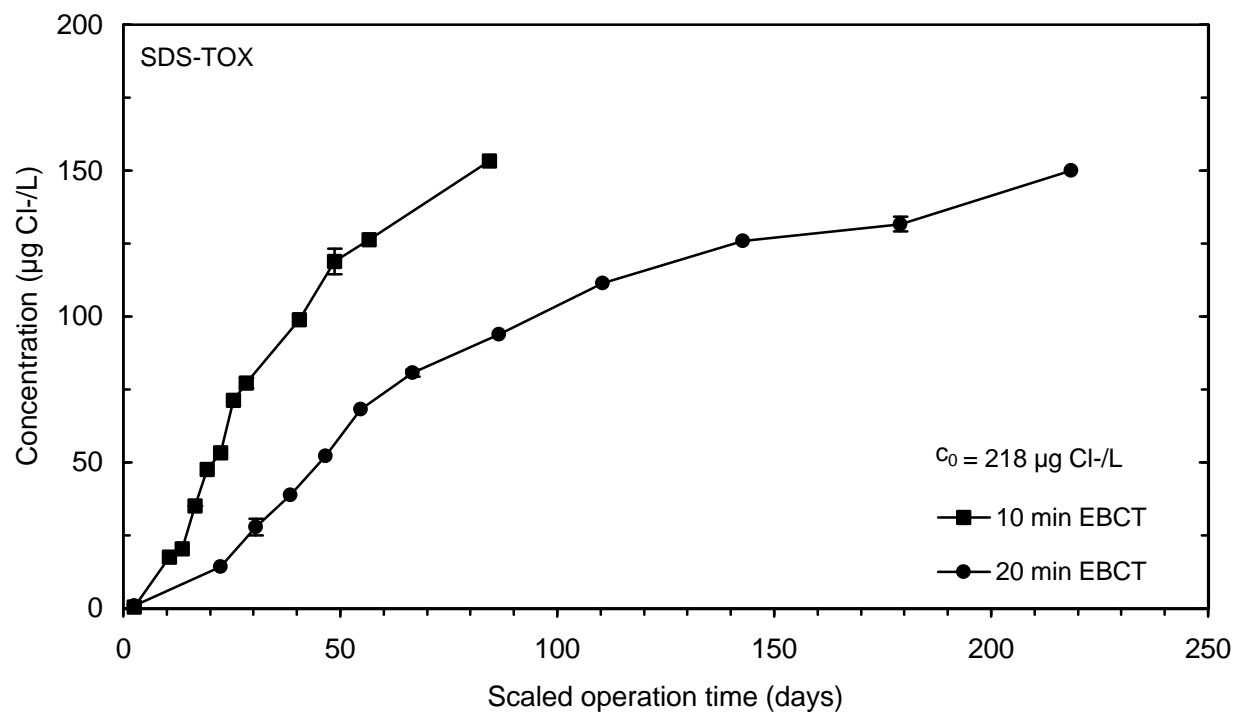


Figure 66 Impact of EBCT on SDS-TOX breakthrough; water sampled in September (session 2)

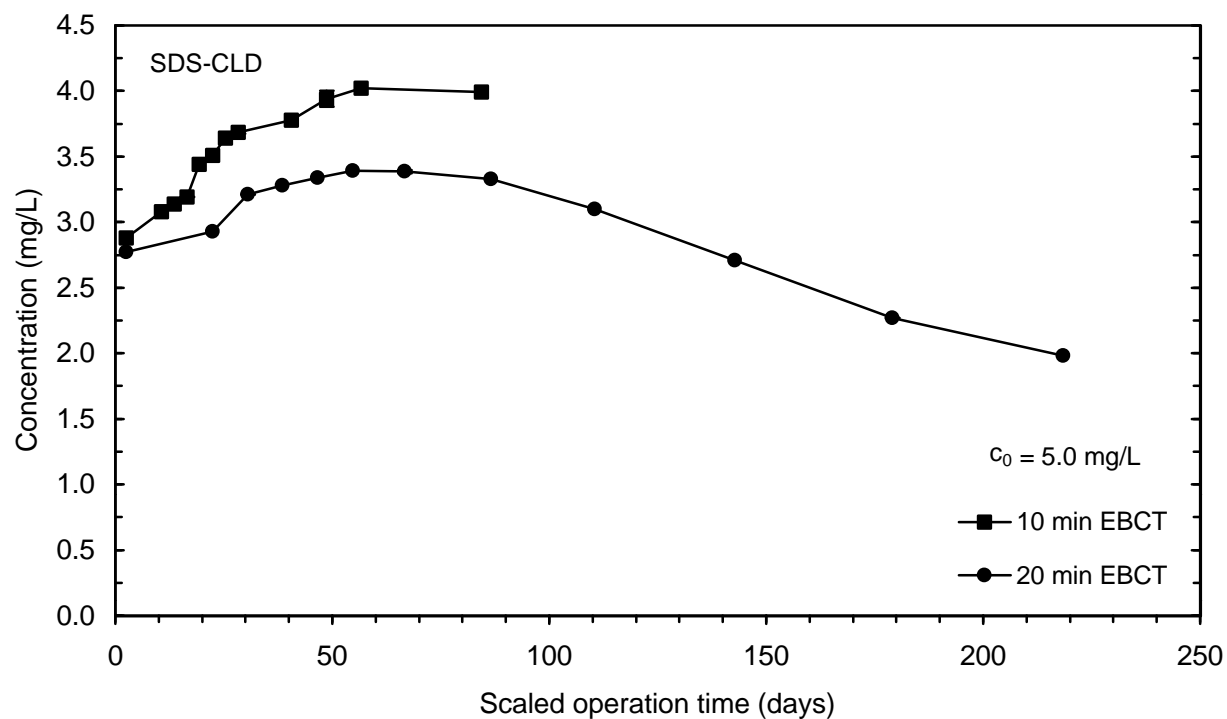


Figure 67 Impact of EBCT on SDS-CLD breakthrough; water sampled in September (session 2)

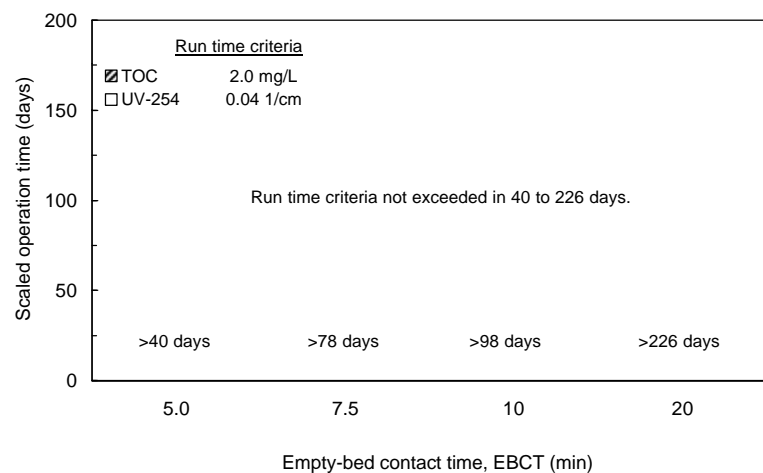


Figure 68 Impact of EBCT on run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (high) during session 1, March

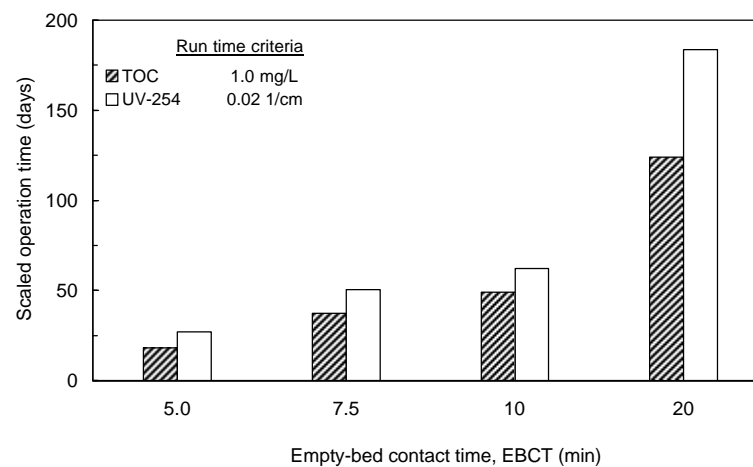


Figure 69 Impact of EBCT on run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (low) during session 1, March

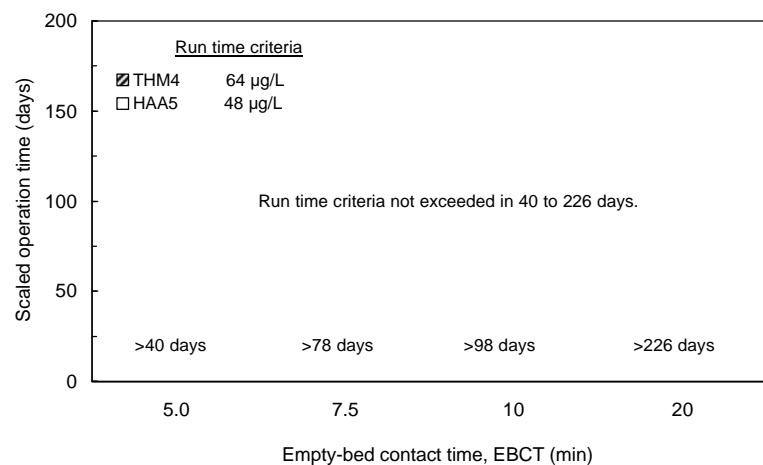


Figure 70 Impact of EBCT on run times based on single contactor breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria during session 1, March

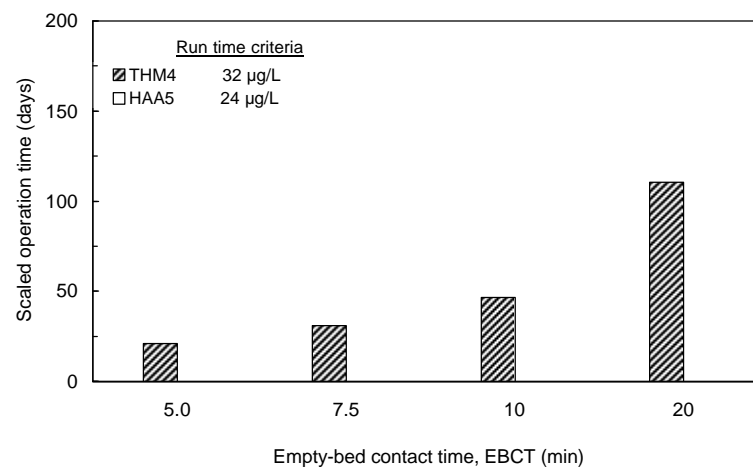


Figure 71 Impact of EBCT on run times based on single contactor breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria during session 1, March

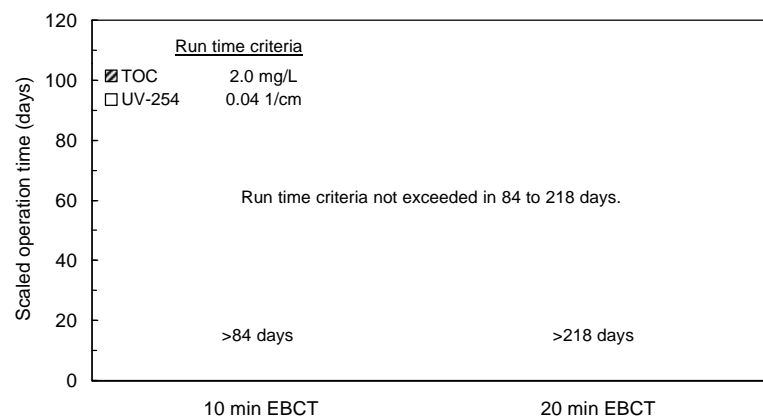


Figure 72 Impact of EBCT on Scaled operation times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (high) during session 2,

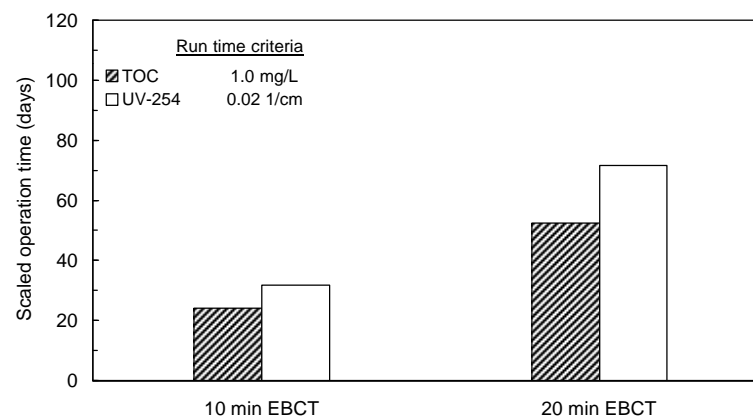


Figure 73 Impact of EBCT on Scaled operation times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (low) during session 2,

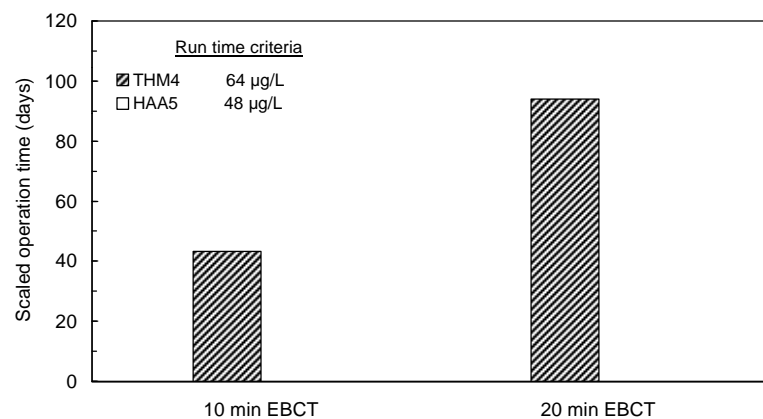


Figure 74 Impact of EBCT on Scaled operation times based on single contactor breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria during session 2,

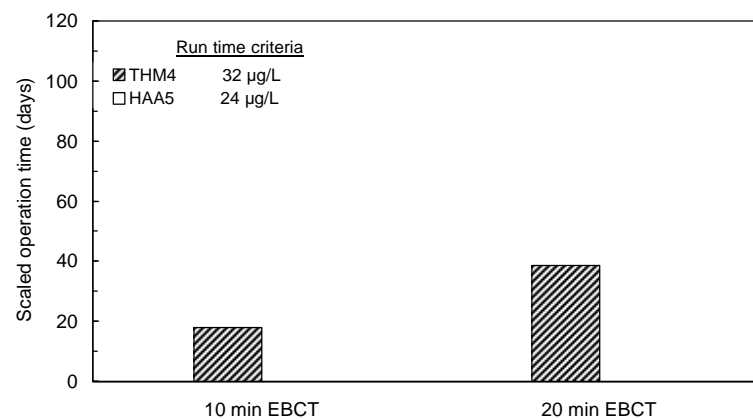


Figure 75 Impact of EBCT on Scaled operation times based on single contactor breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria during session 2,

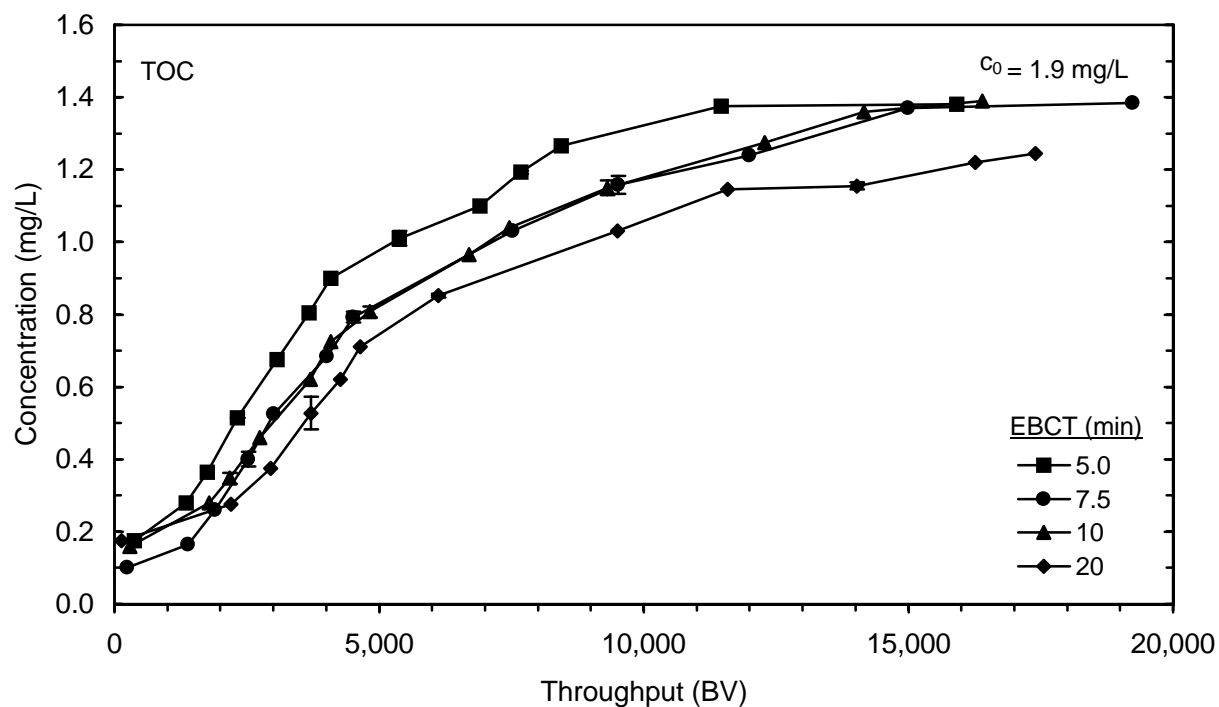


Figure 76 Impact of EBCT on TOC breakthrough plotted as throughput in bed volumes treated during session 1, March

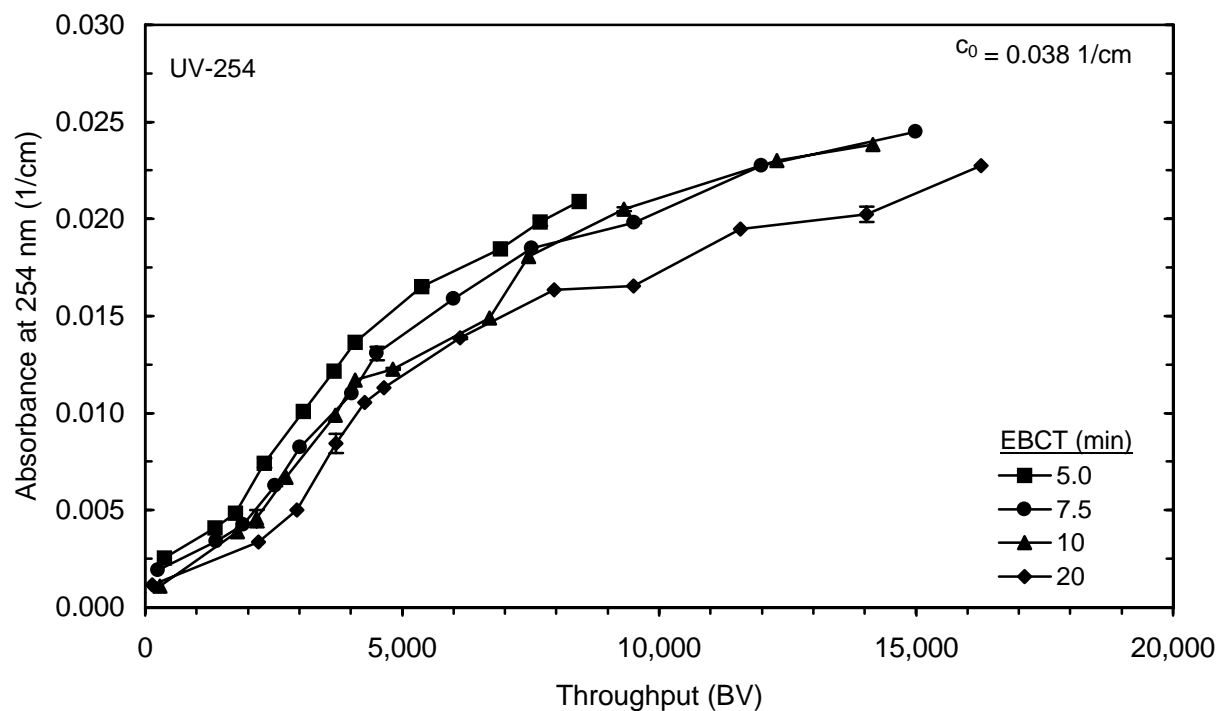


Figure 77 Impact of EBCT on UV-254 breakthrough plotted as throughput in bed volumes treated during session 1, March

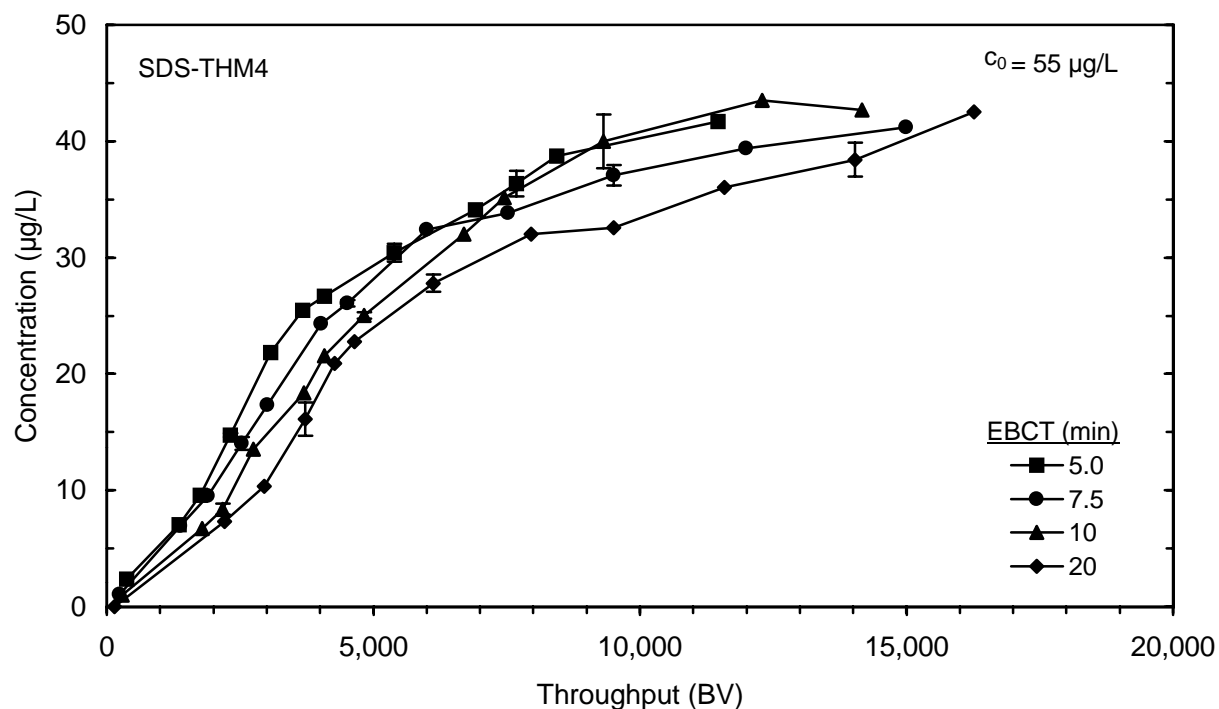


Figure 78 Impact of EBCT on SDS-THM4 breakthrough plotted as throughput in bed volumes treated during session 1, March

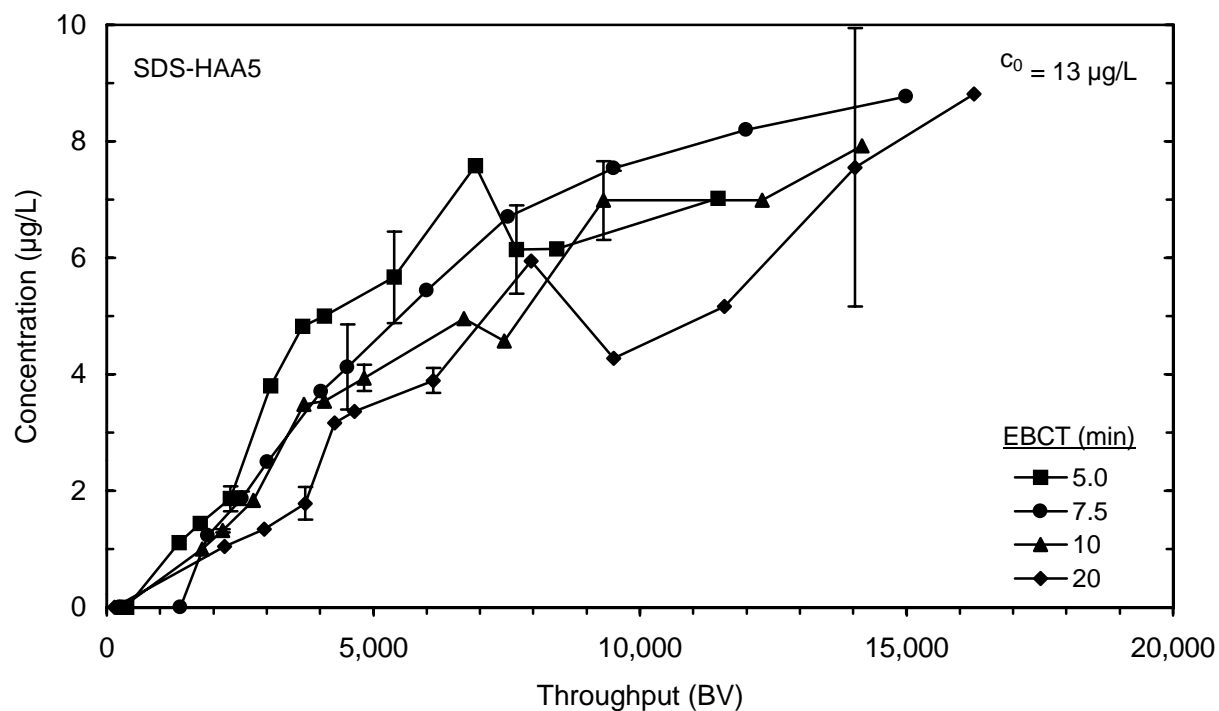


Figure 79 Impact of EBCT on SDS-HAA5 breakthrough plotted as throughput in bed volumes treated during session 1, March

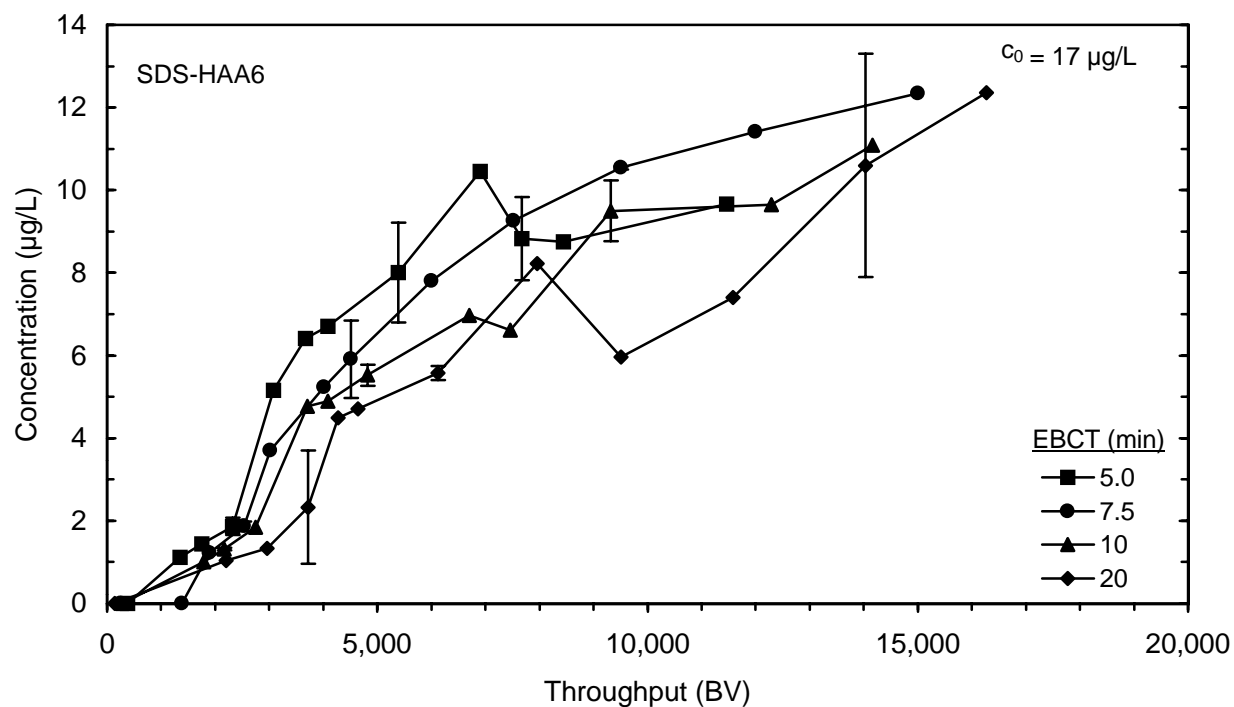


Figure 80 Impact of EBCT on SDS-HAA6 breakthrough plotted as throughput in bed volumes treated during session 1, March

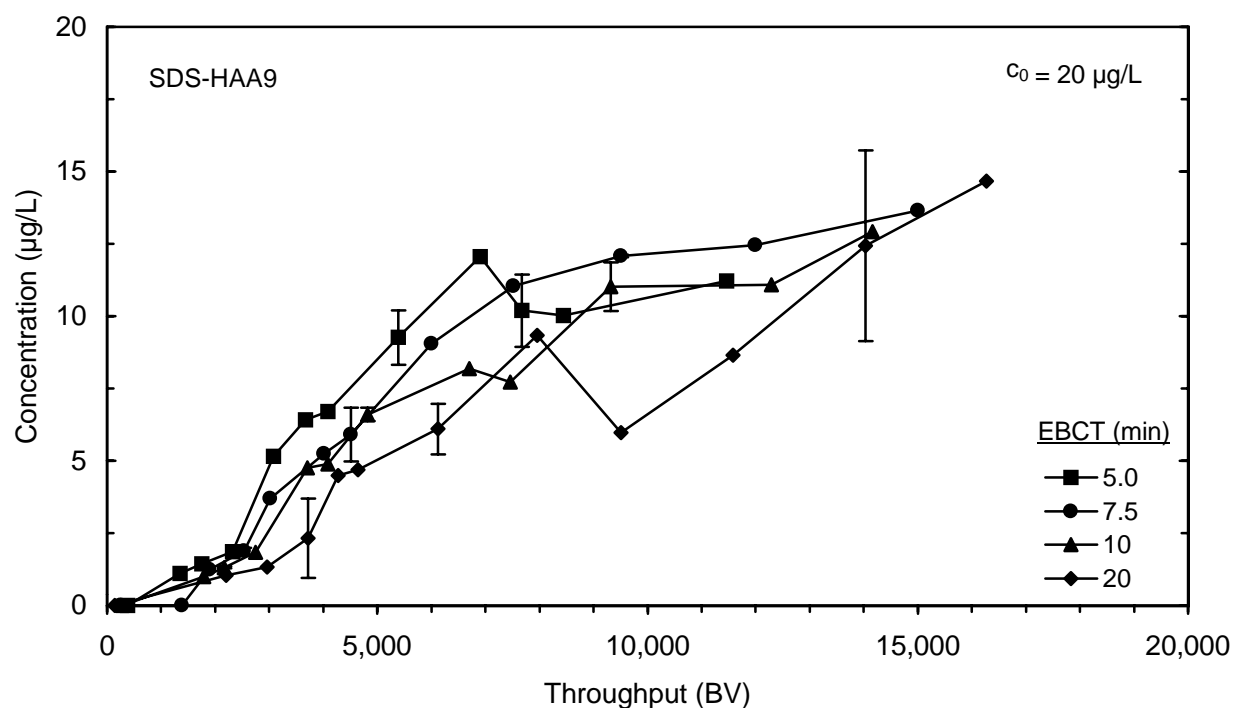


Figure 81 Impact of EBCT on SDS-HAA9 breakthrough plotted as throughput in bed volumes treated during session 1, March

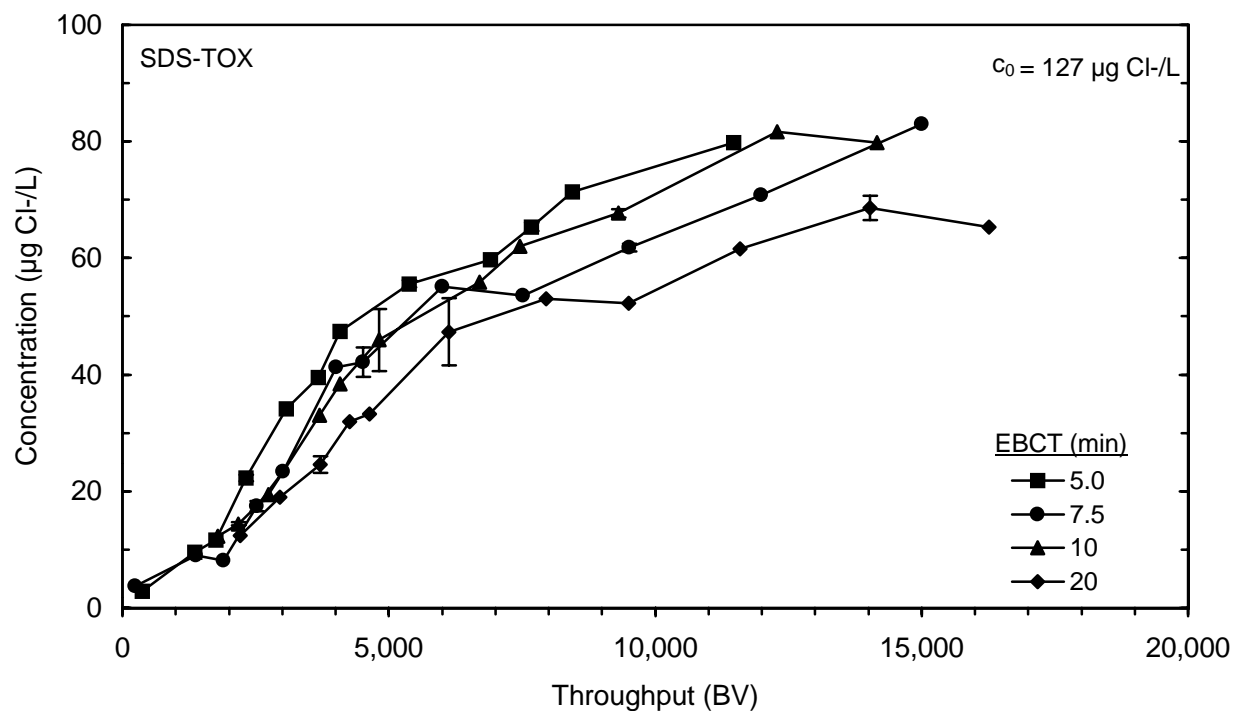


Figure 82 Impact of EBCT on SDS-TOX breakthrough plotted as throughput in bed volumes treated during session 1, March

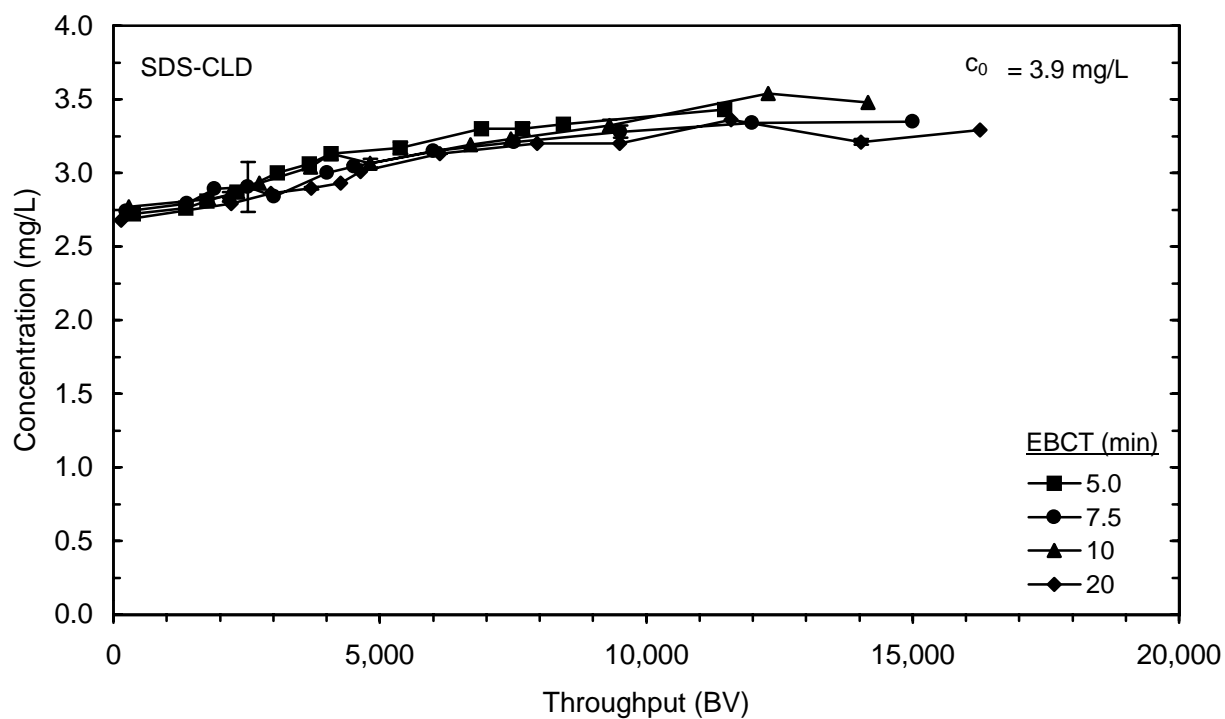


Figure 83 Impact of EBCT on SDS-CLD breakthrough plotted as throughput in bed volumes treated during session 1, March

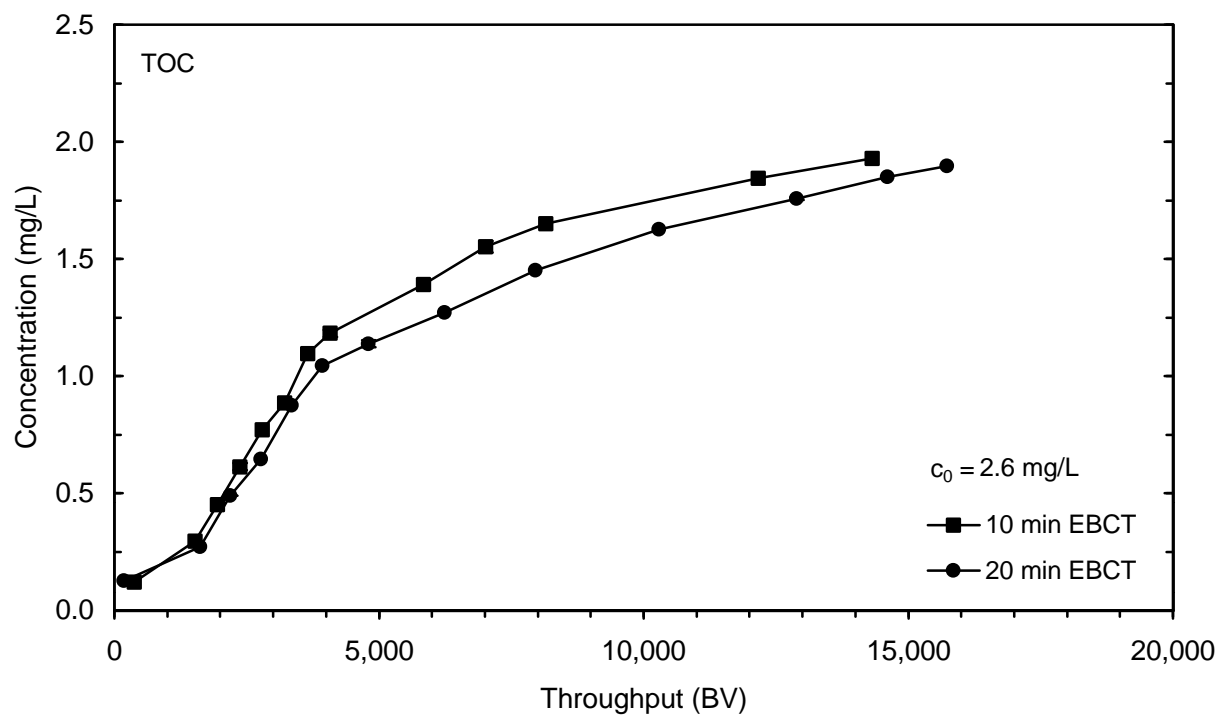


Figure 84 Impact of EBCT on TOC breakthrough plotted as throughput in bed volumes treated during session 2, September

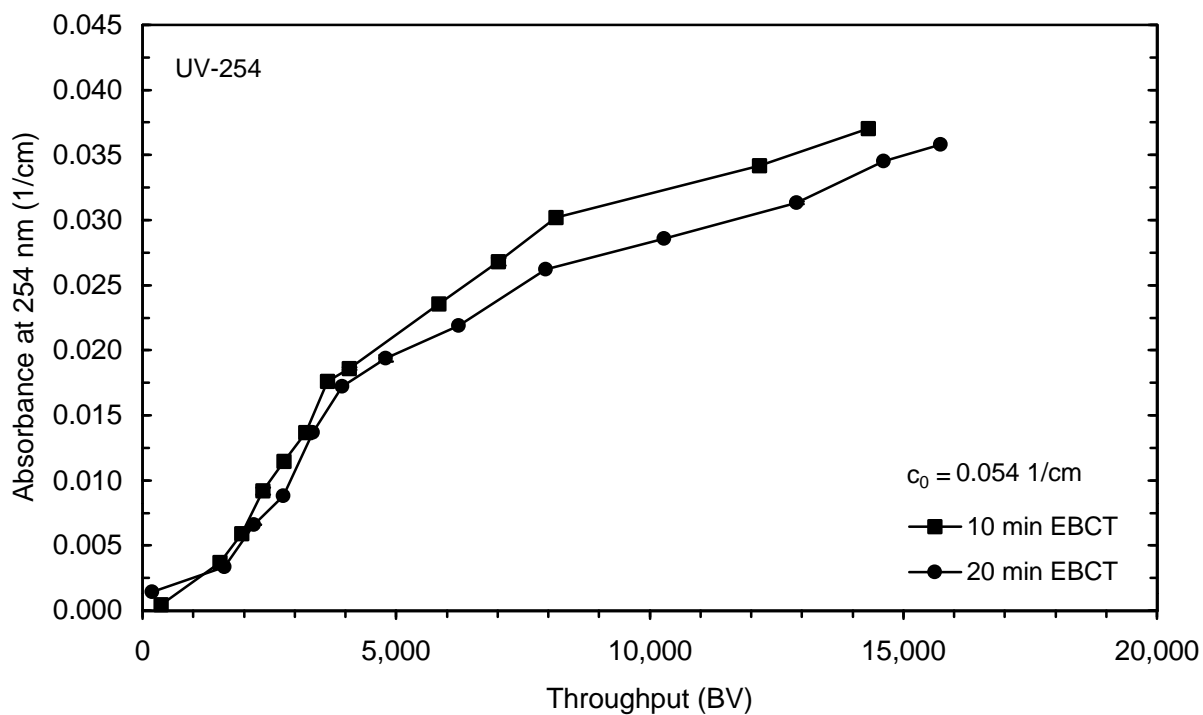


Figure 85 Impact of EBCT on UV-254 breakthrough plotted as throughput in bed volumes treated during session 2, September

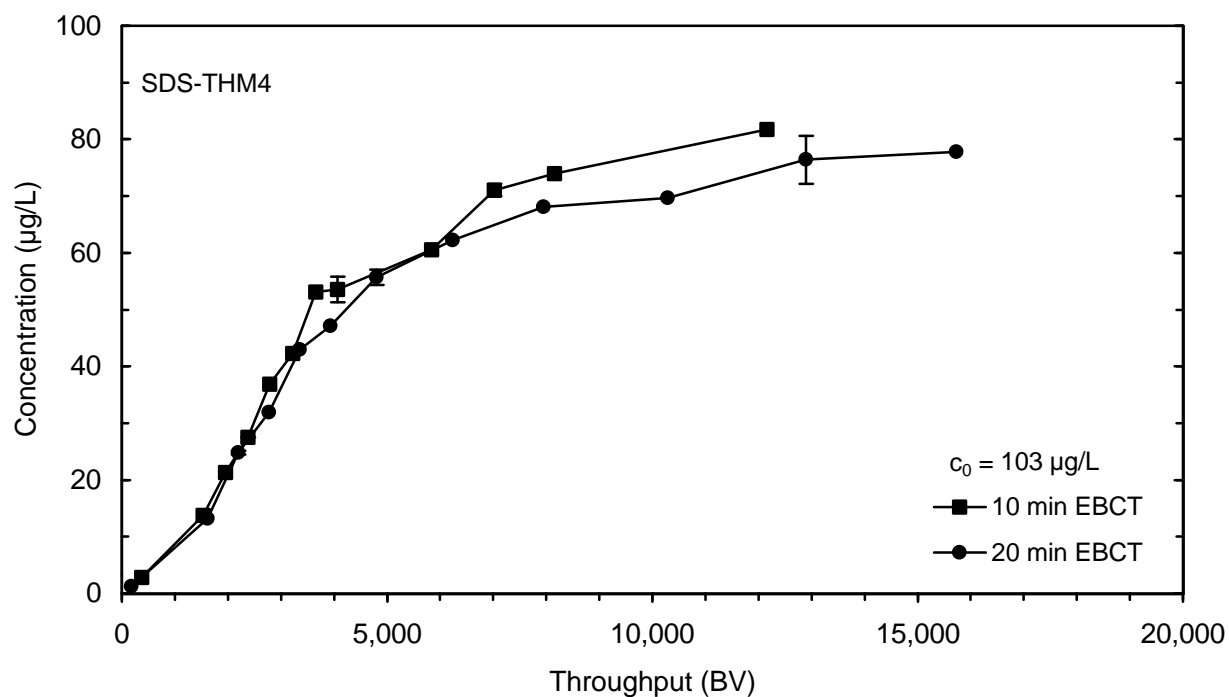


Figure 86 Impact of EBCT on SDS-THM4 breakthrough plotted as throughput in bed volumes treated during session 2, September

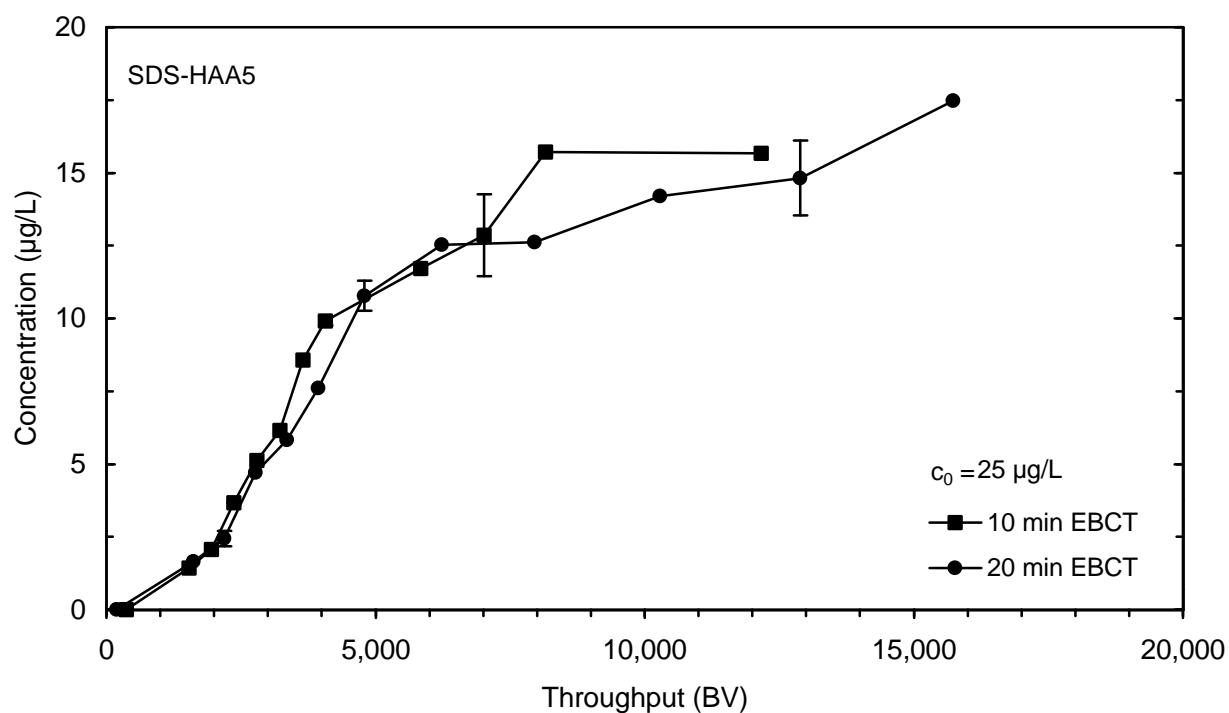


Figure 87 Impact of EBCT on SDS-HAA5 breakthrough plotted as throughput in bed volumes treated during session 2, September

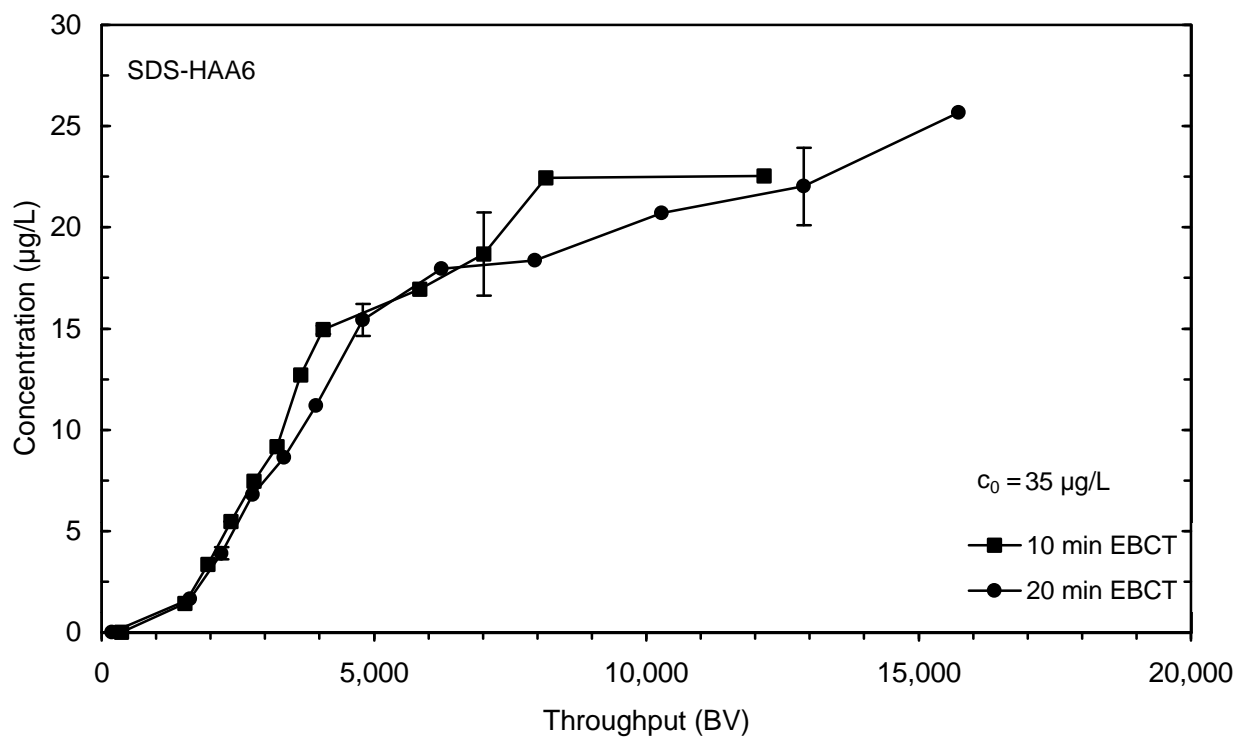


Figure 88 Impact of EBCT on SDS-HAA6 breakthrough plotted as throughput in bed volumes treated during session 2, September

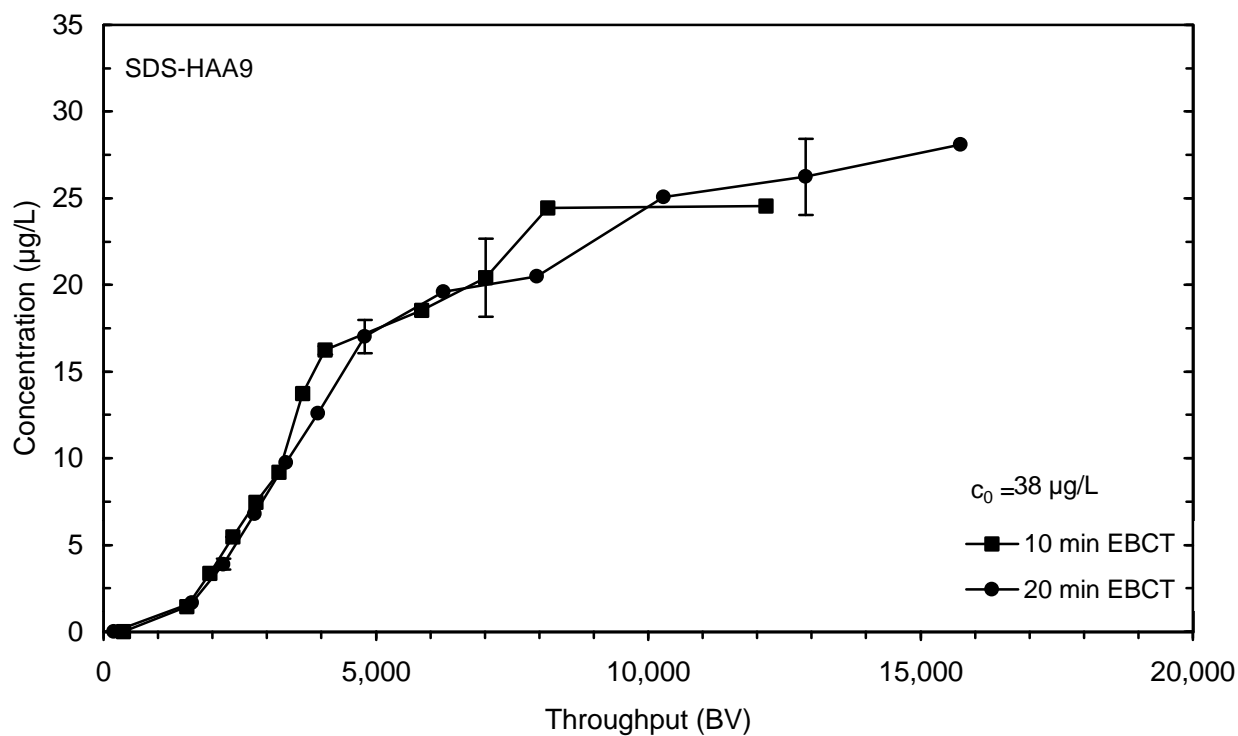


Figure 89 Impact of EBCT on SDS-HAA9 breakthrough plotted as throughput in bed volumes treated during session 2, September

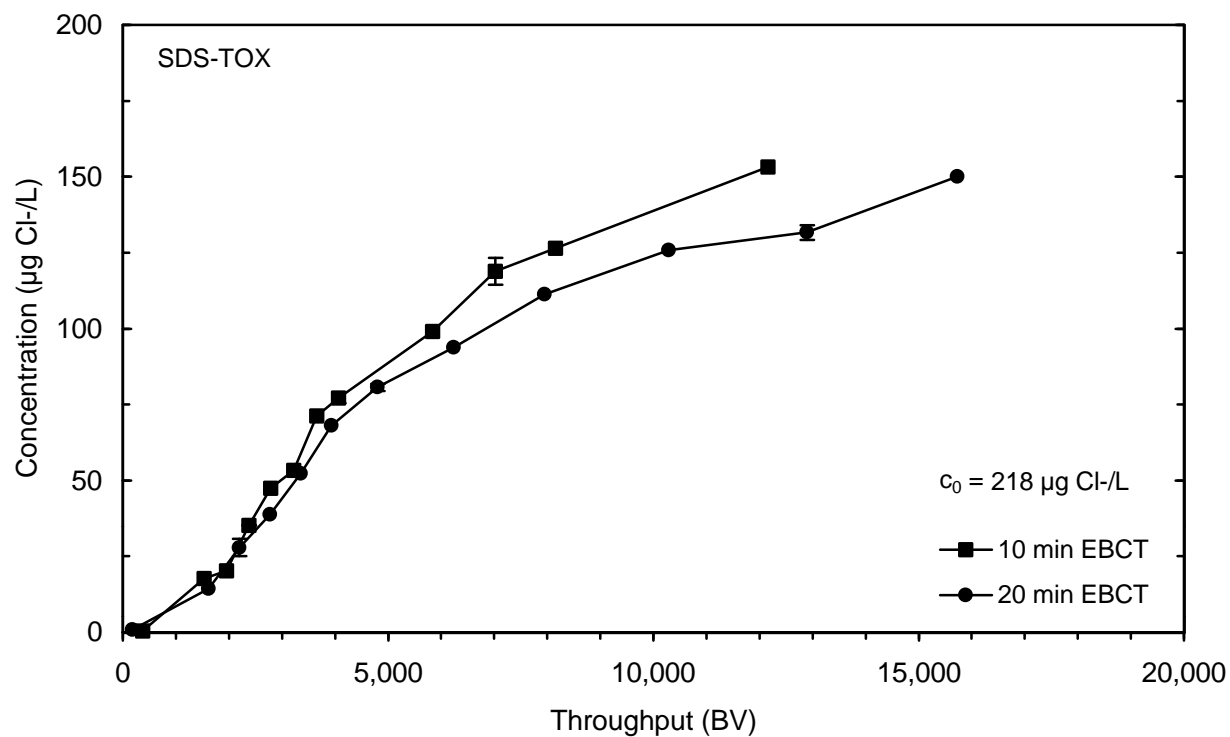


Figure 90 Impact of EBCT on SDS-TOX breakthrough plotted as throughput in bed volumes treated during session 2, September

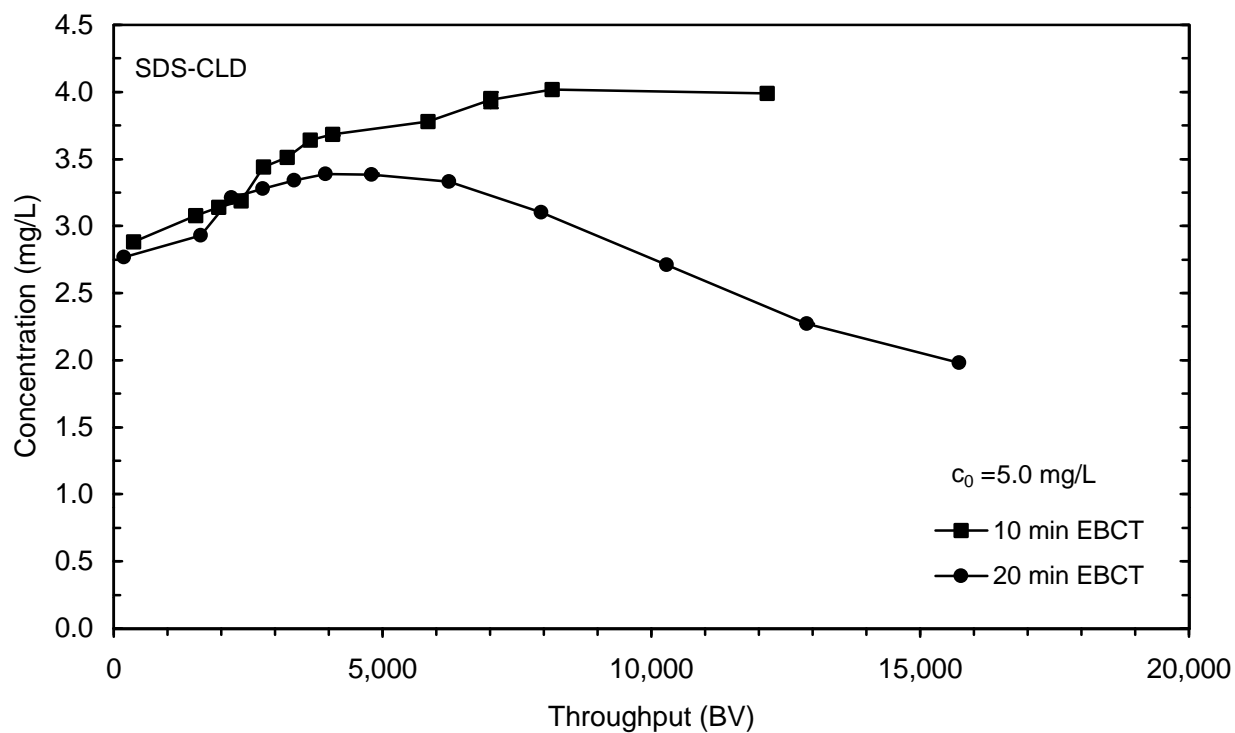


Figure 91 Impact of EBCT on SDS-CLD breakthrough plotted as throughput in bed volumes treated during session 2, September

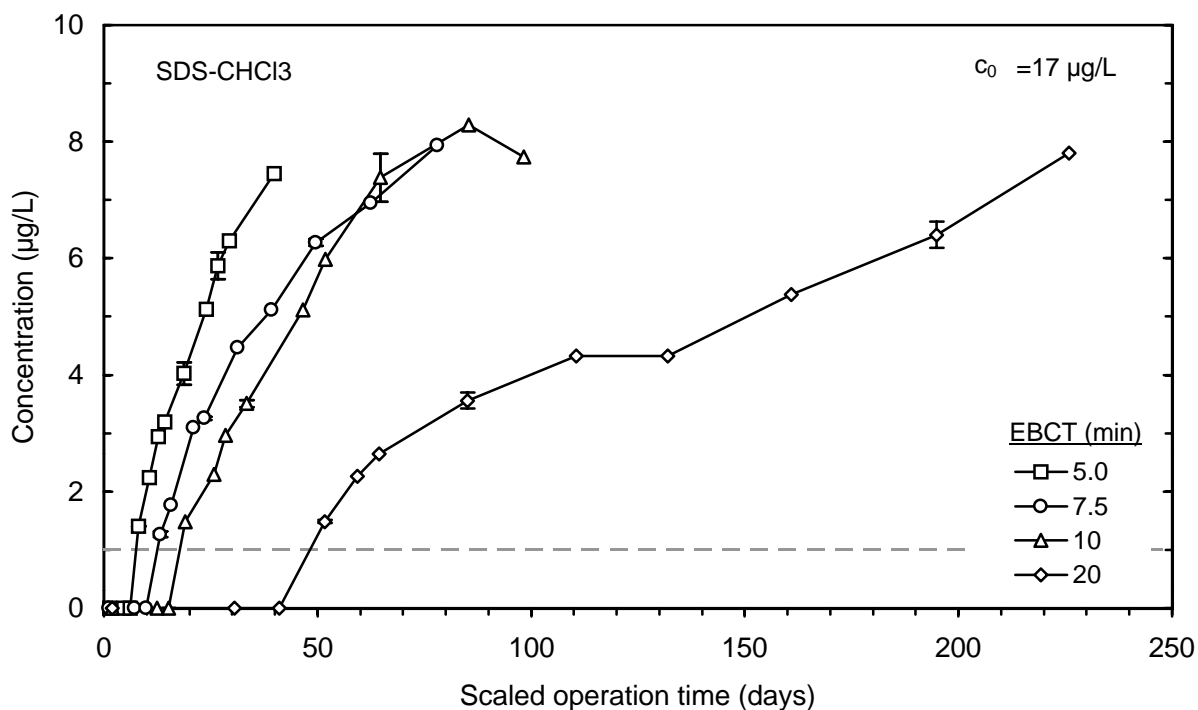


Figure 92 Impact of EBCT on SDS-CHCl₃ breakthrough during session 1, March

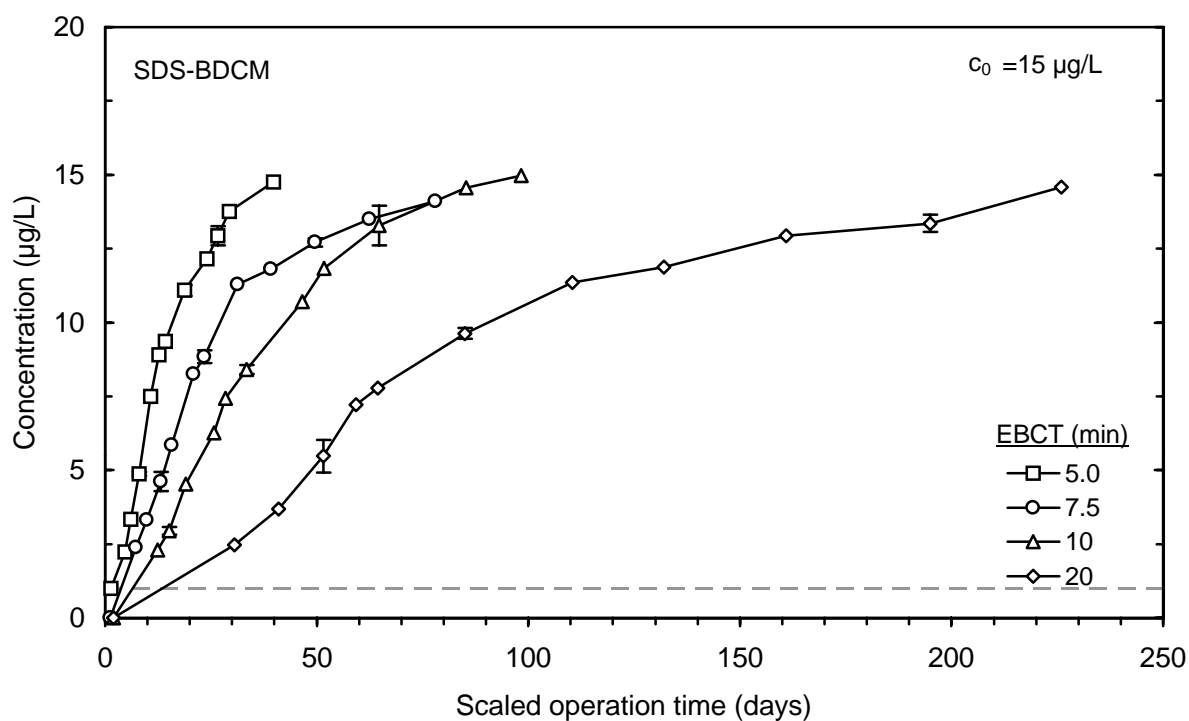


Figure 93 Impact of EBCT on SDS-BDCM breakthrough during session 1, March

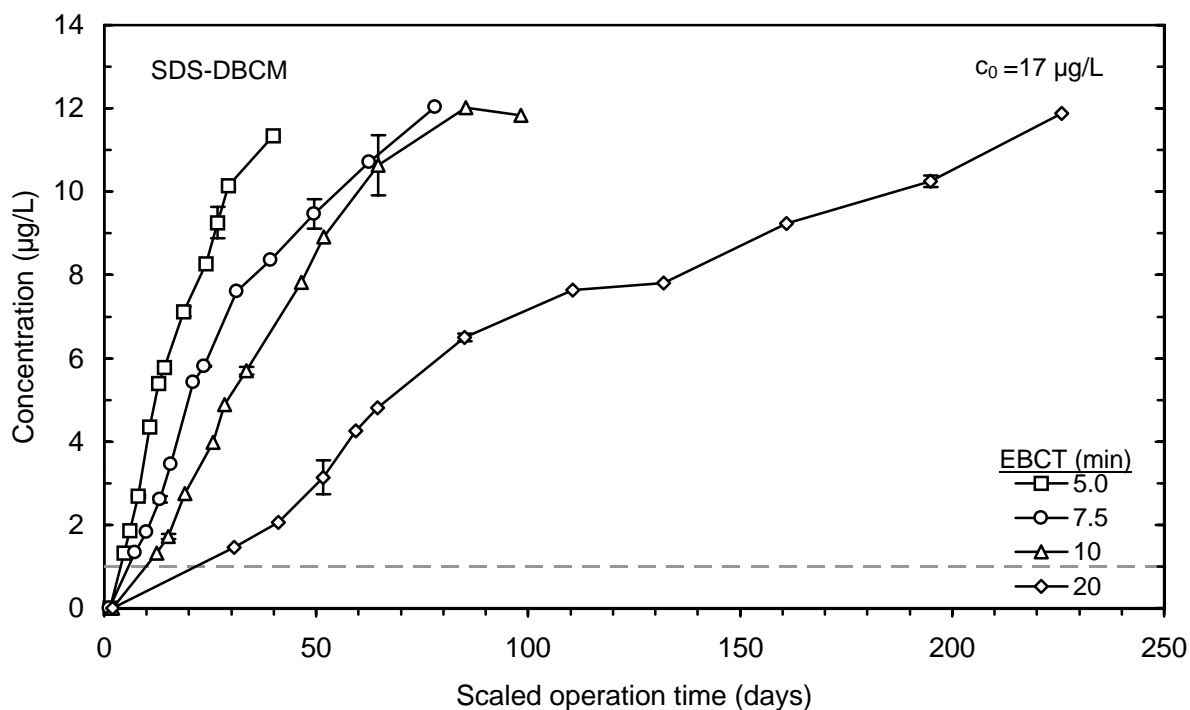


Figure 94 Impact of EBCT on SDS-DBCM breakthrough during session 1, March

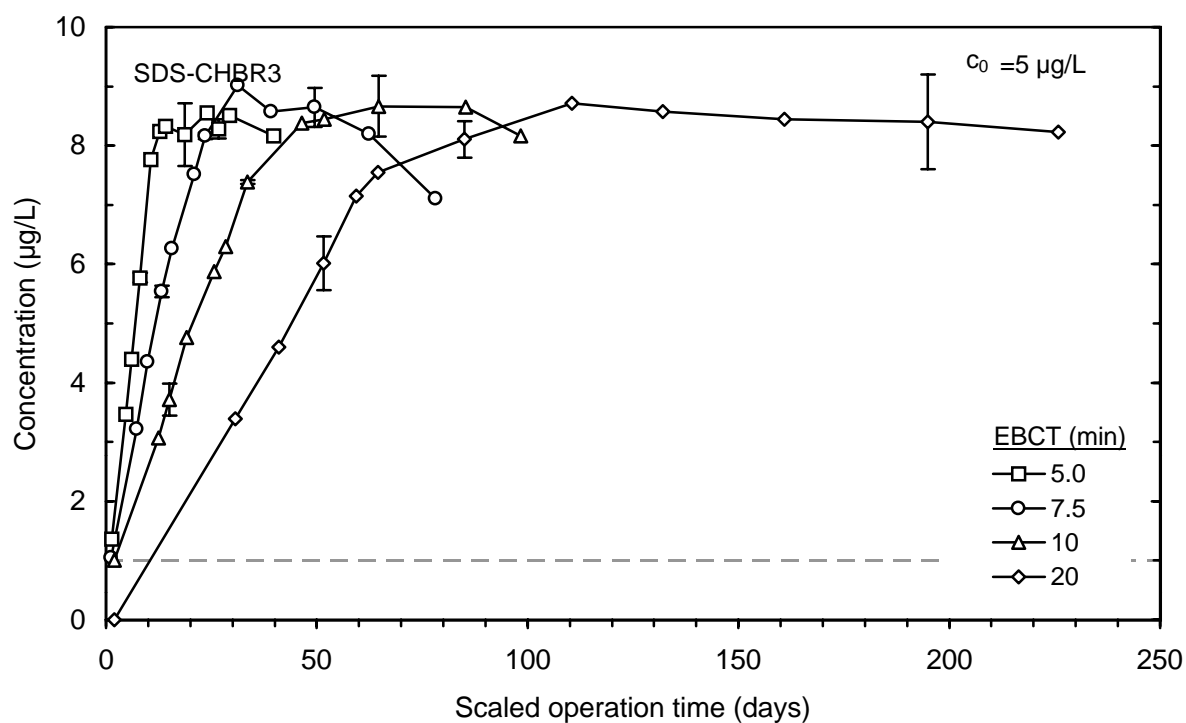


Figure 95 Impact of EBCT on SDS-CHBR3 breakthrough during session 1, March

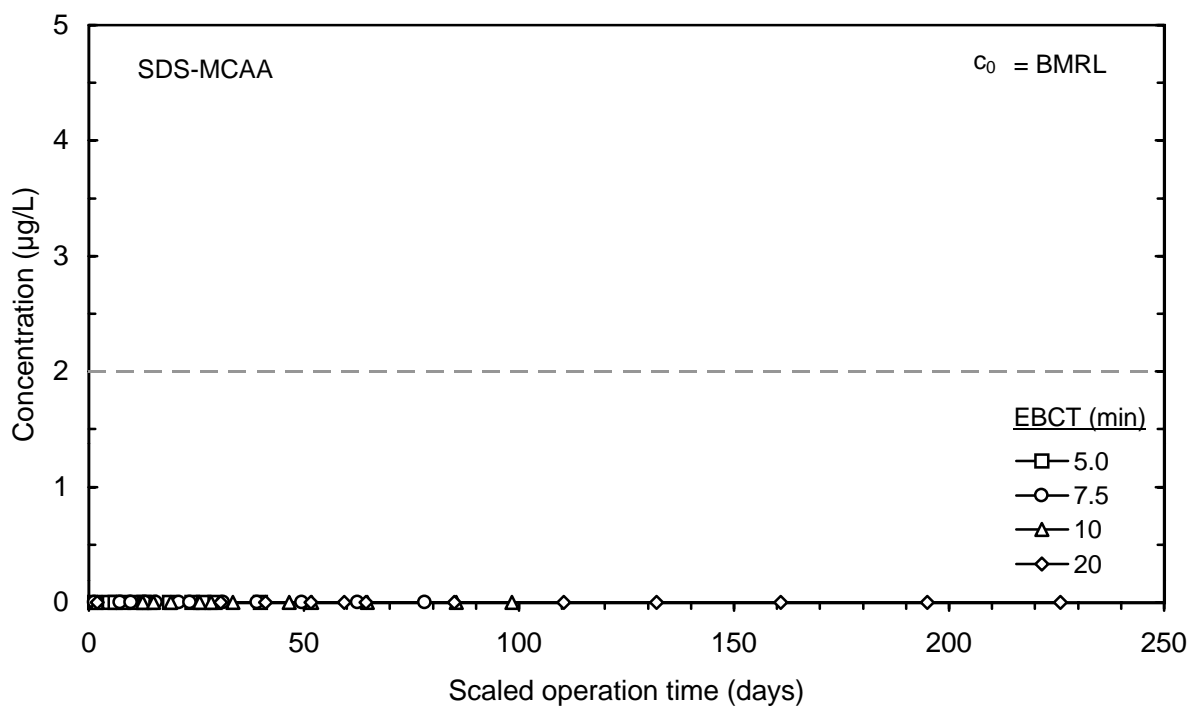


Figure 96 Impact of EBCT on SDS-MCAA breakthrough during session 1, March

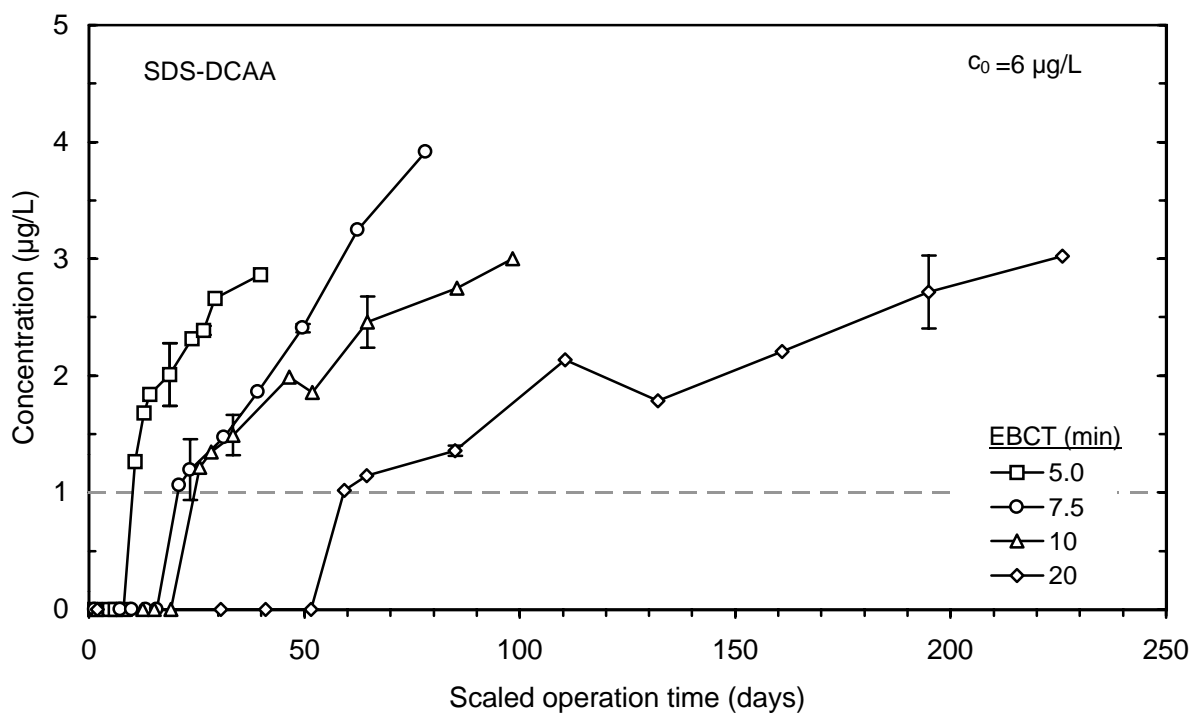


Figure 97 Impact of EBCT on SDS-DCAA breakthrough during session 1, March

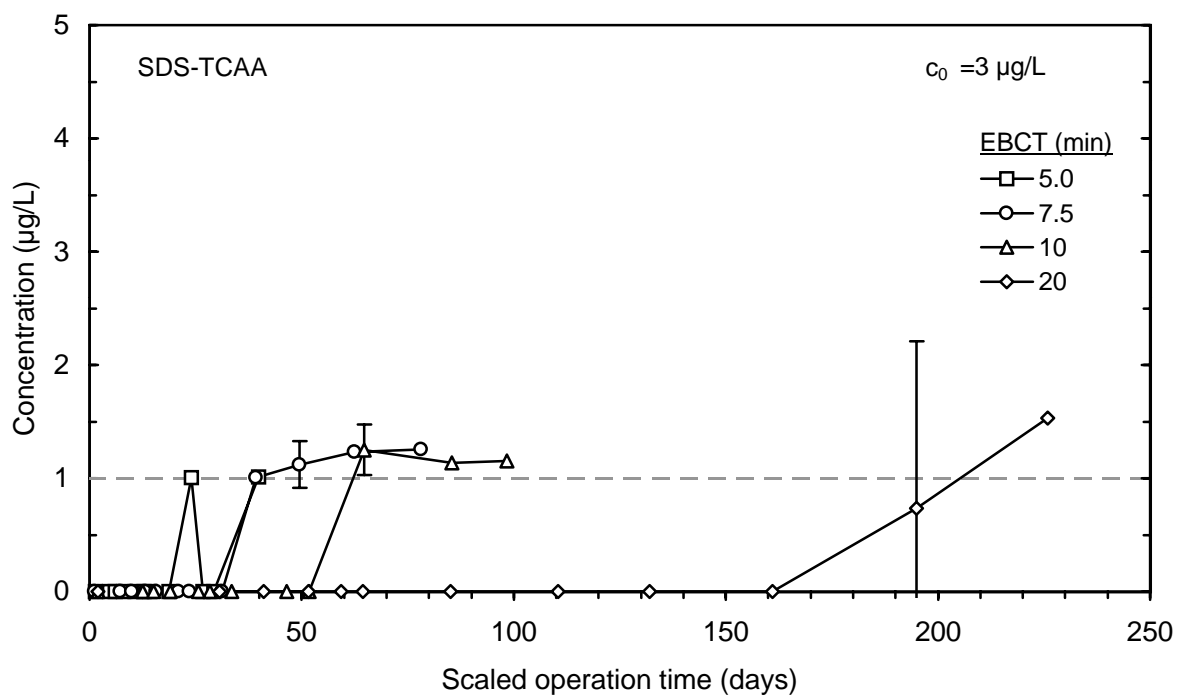


Figure 98 Impact of EBCT on SDS-TCAA breakthrough during session 1, March

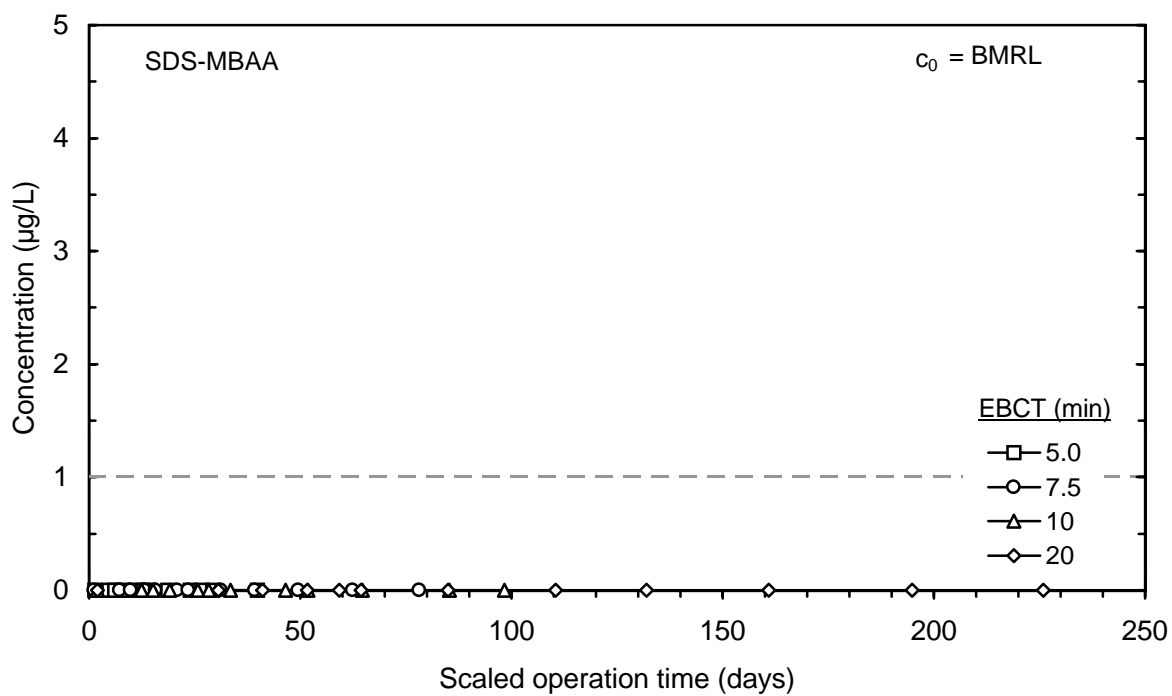


Figure 99 Impact of EBCT on SDS-MBAA breakthrough during session 1, March

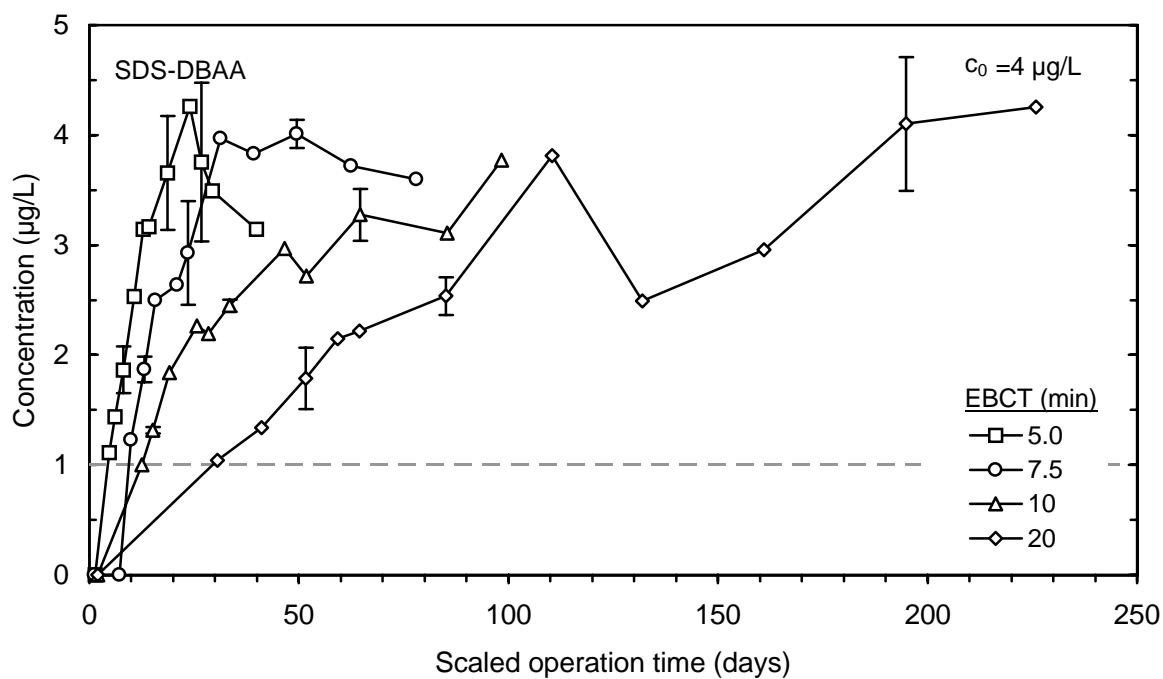


Figure 100 Impact of EBCT on SDS-DBAA breakthrough during session 1, March

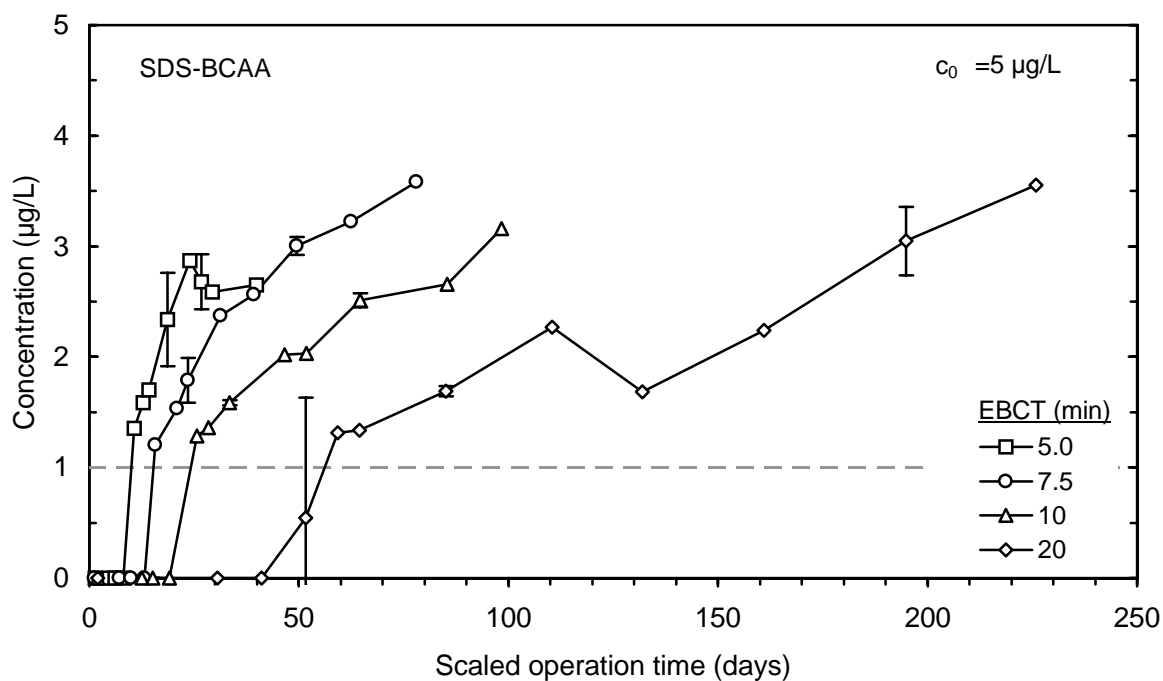


Figure 101 Impact of EBCT on SDS-BCAA breakthrough during session 1, March

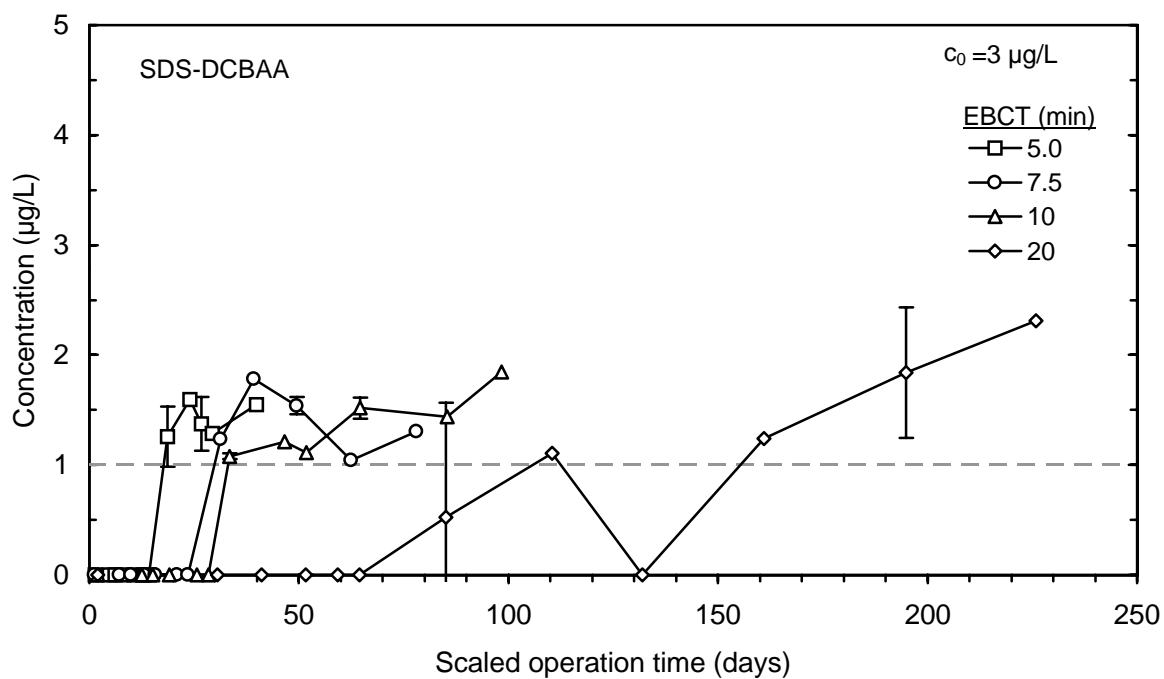


Figure 102 Impact of EBCT on SDS-DCBAA breakthrough during session 1, March

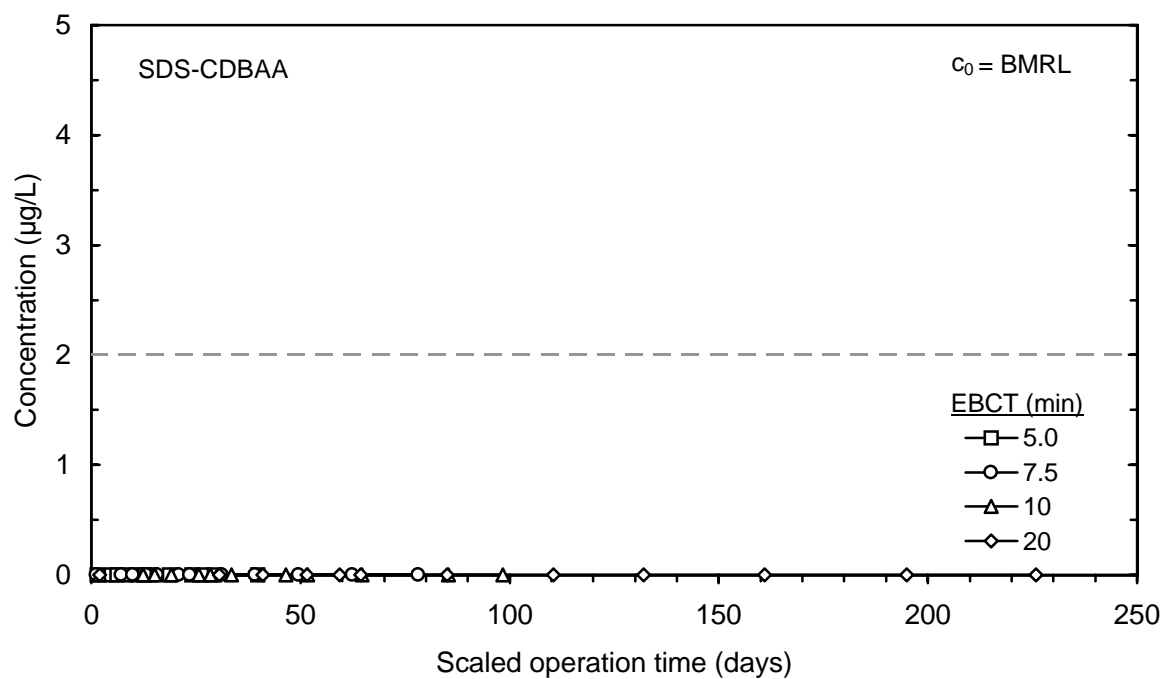


Figure 103 Impact of EBCT on SDS-CDBAA breakthrough during session 1, March

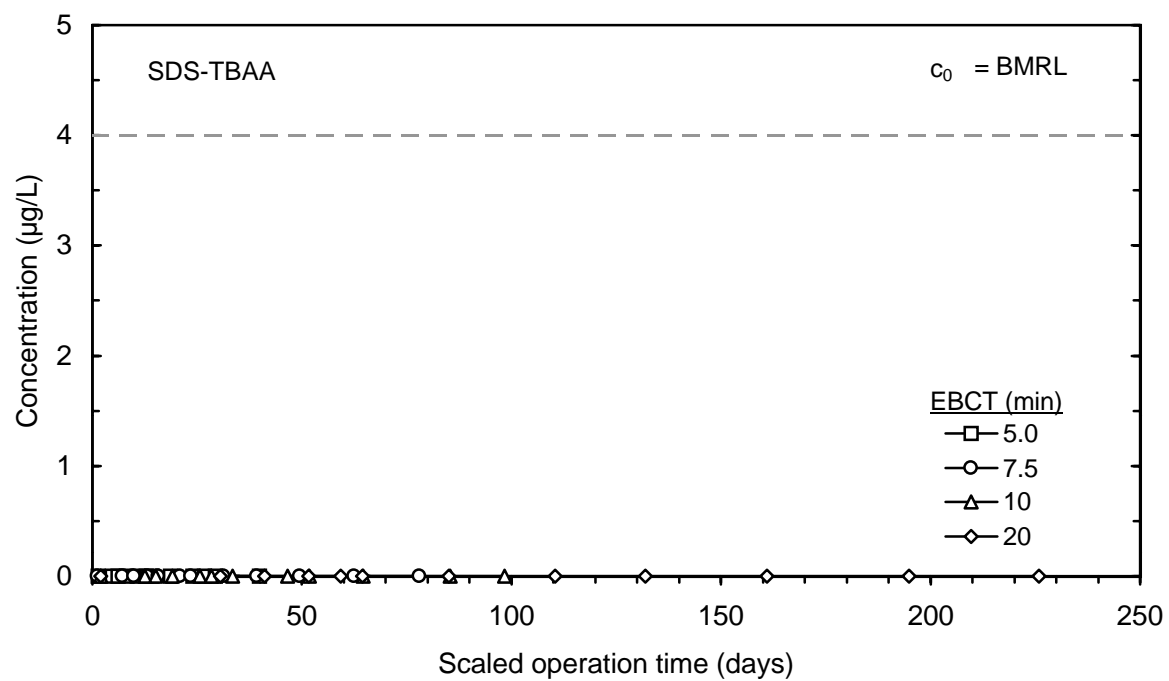


Figure 104 Impact of EBCT on SDS-TBAA breakthrough during session 1, March

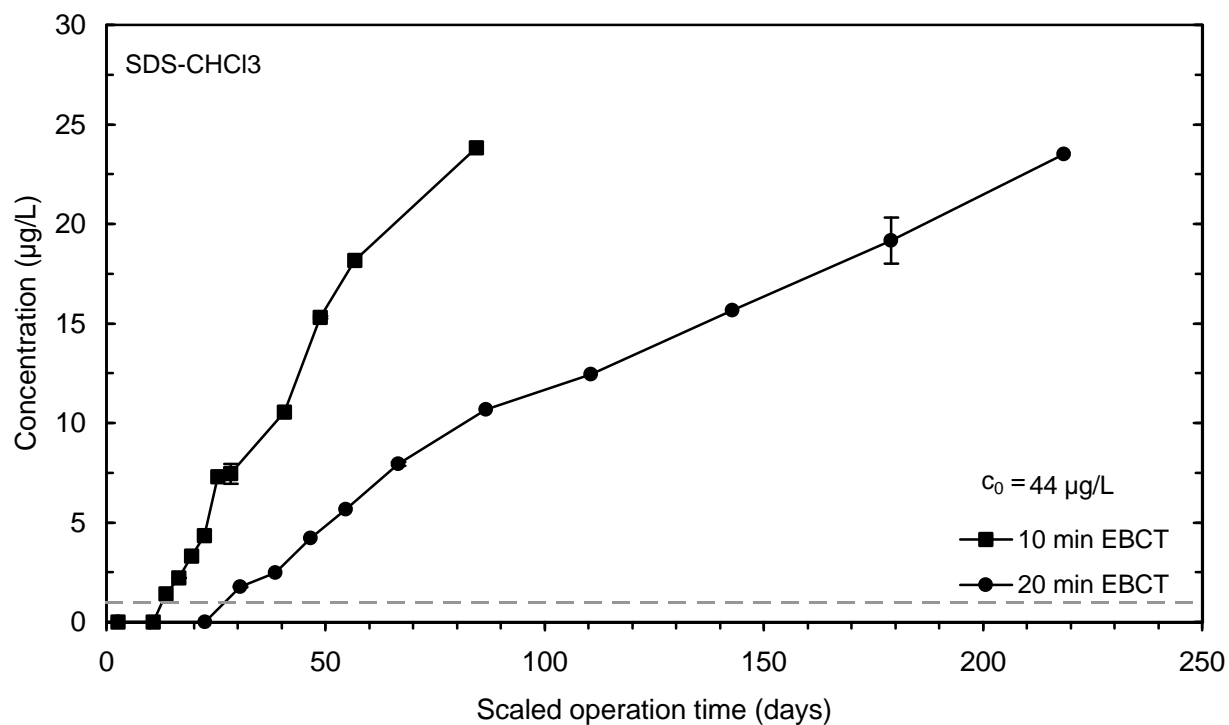


Figure 105 Impact of EBCT on SDS-CHCl₃ breakthrough during session 2, September

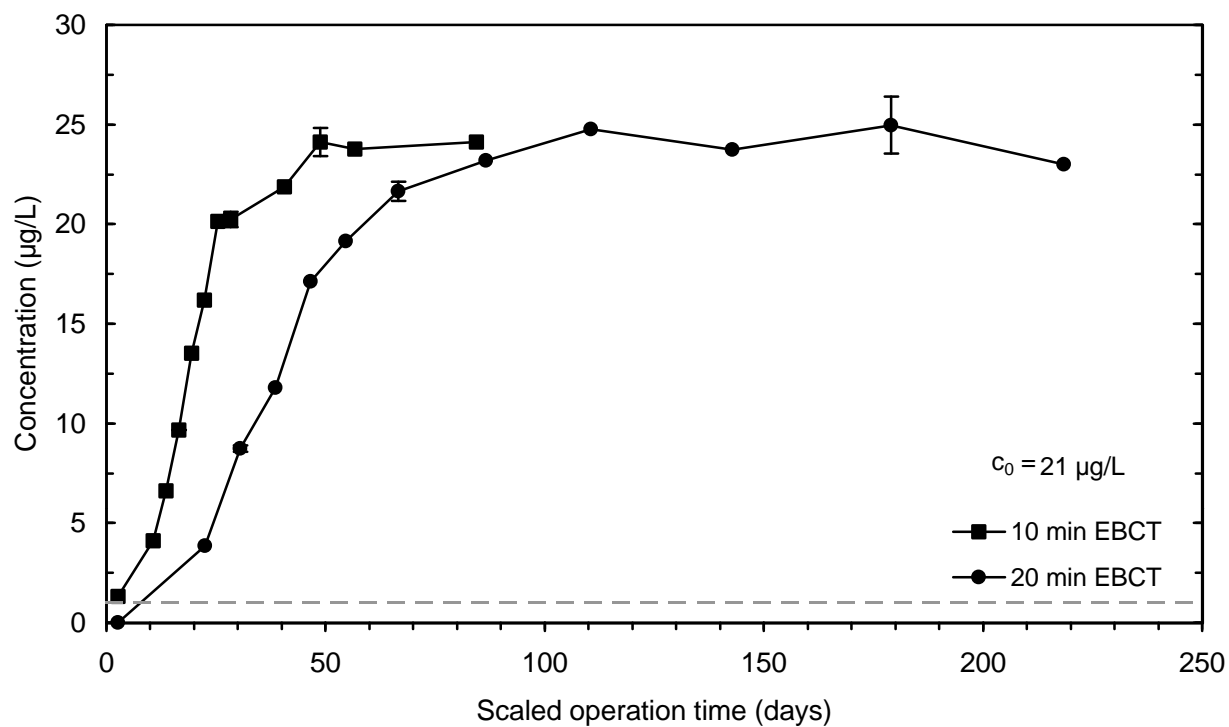


Figure 106 Impact of EBCT on SDS-BDCM breakthrough during session 2, September

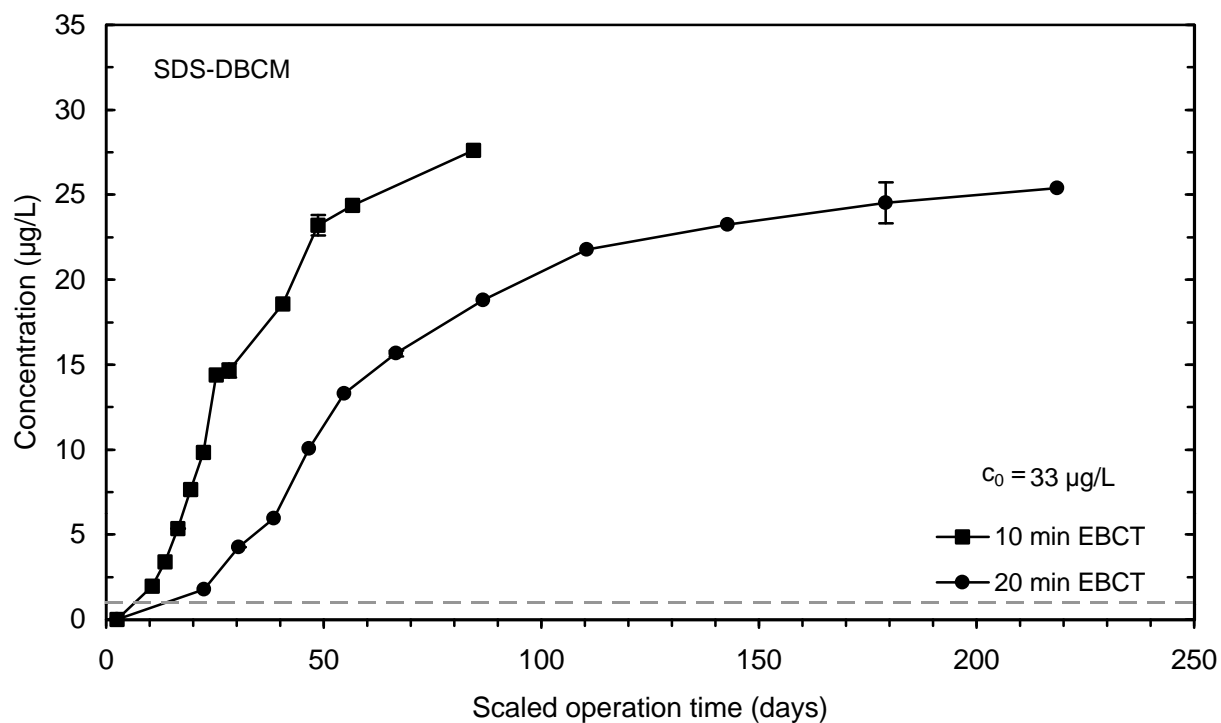


Figure 107 Impact of EBCT on SDS-DBCM breakthrough during session 2, September

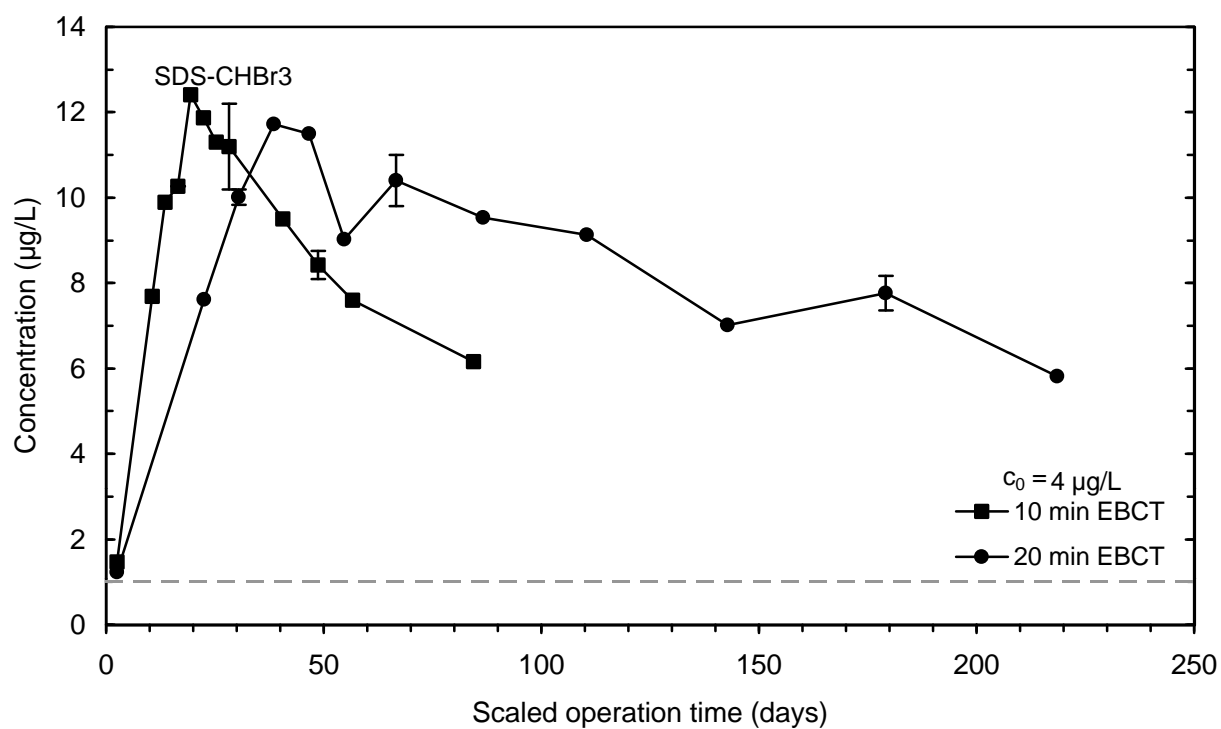


Figure 108 Impact of EBCT on SDS-CHBr₃ breakthrough during session 2, September

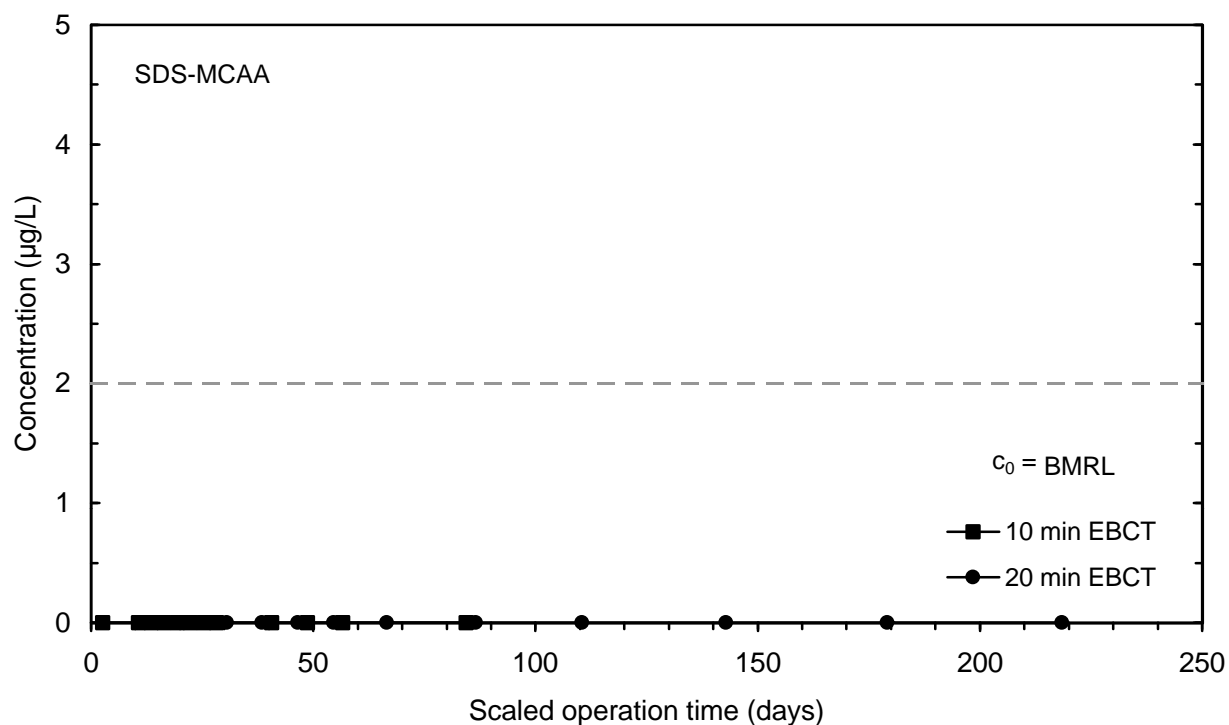


Figure 109 Impact of EBCT on SDS-MCAA breakthrough during session 2, September

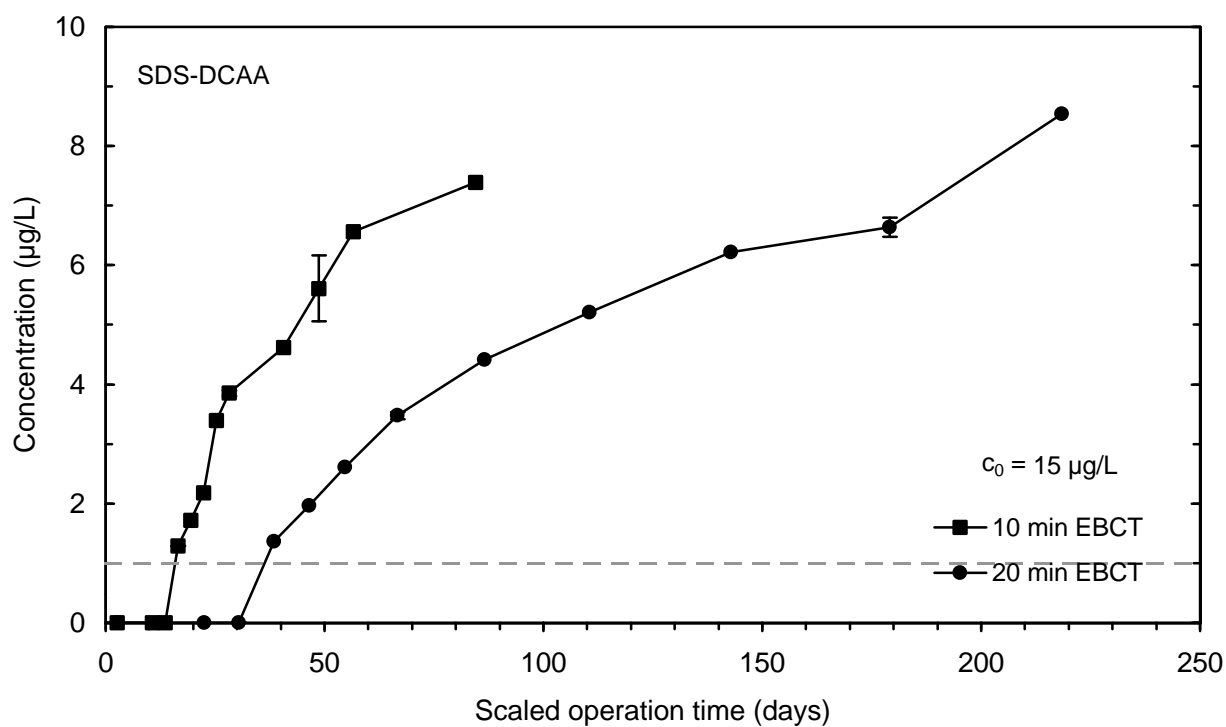


Figure 110 Impact of EBCT on SDS-DCAA breakthrough during session 2, September

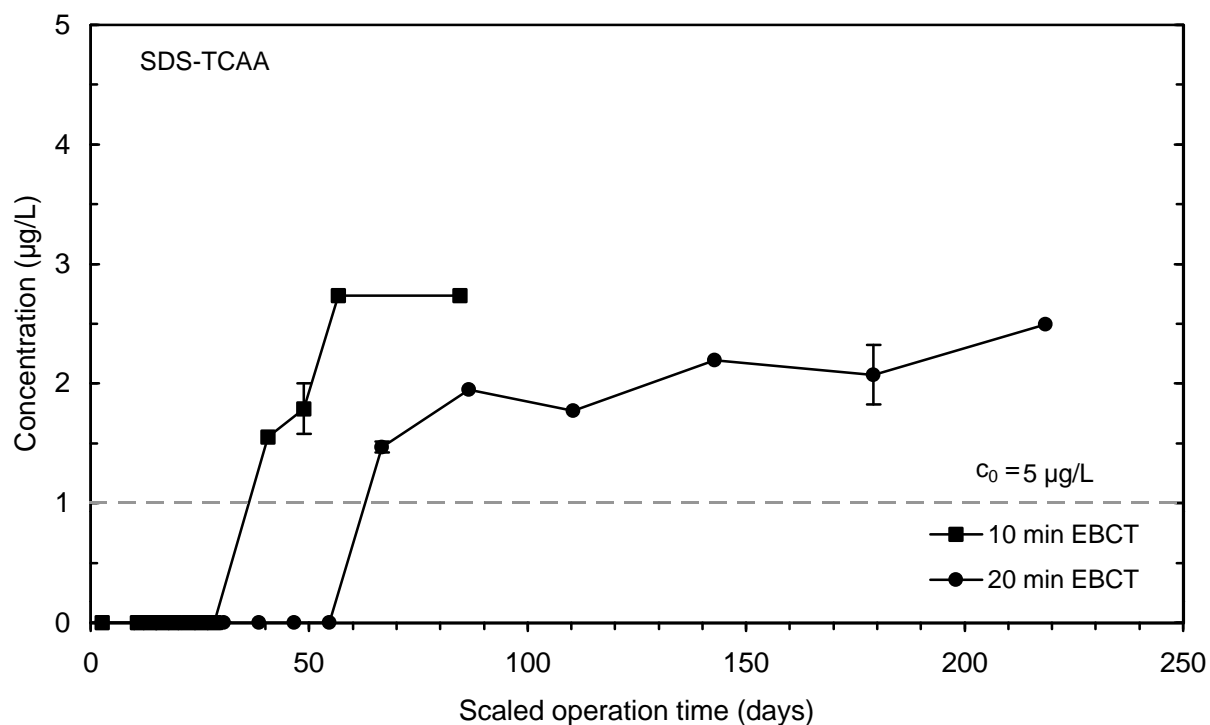


Figure 111 Impact of EBCT on SDS-TCAA breakthrough during session 2, September

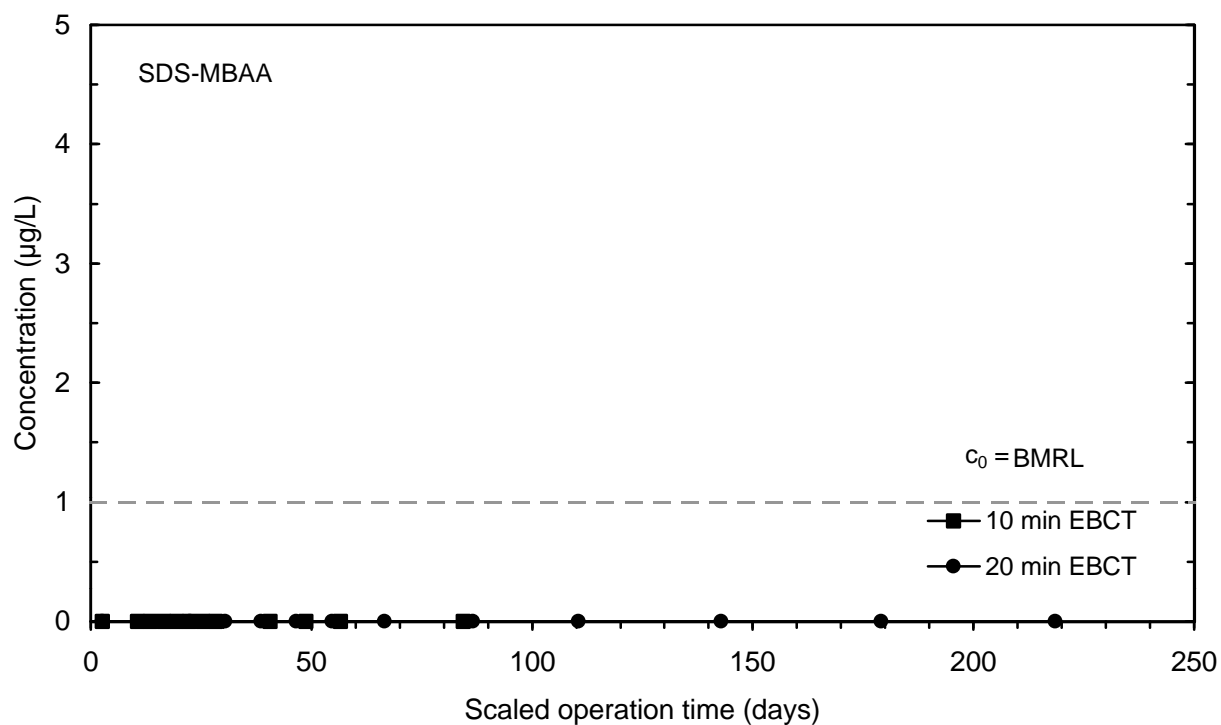


Figure 112 Impact of EBCT on SDS-MBAA breakthrough during session 2, September

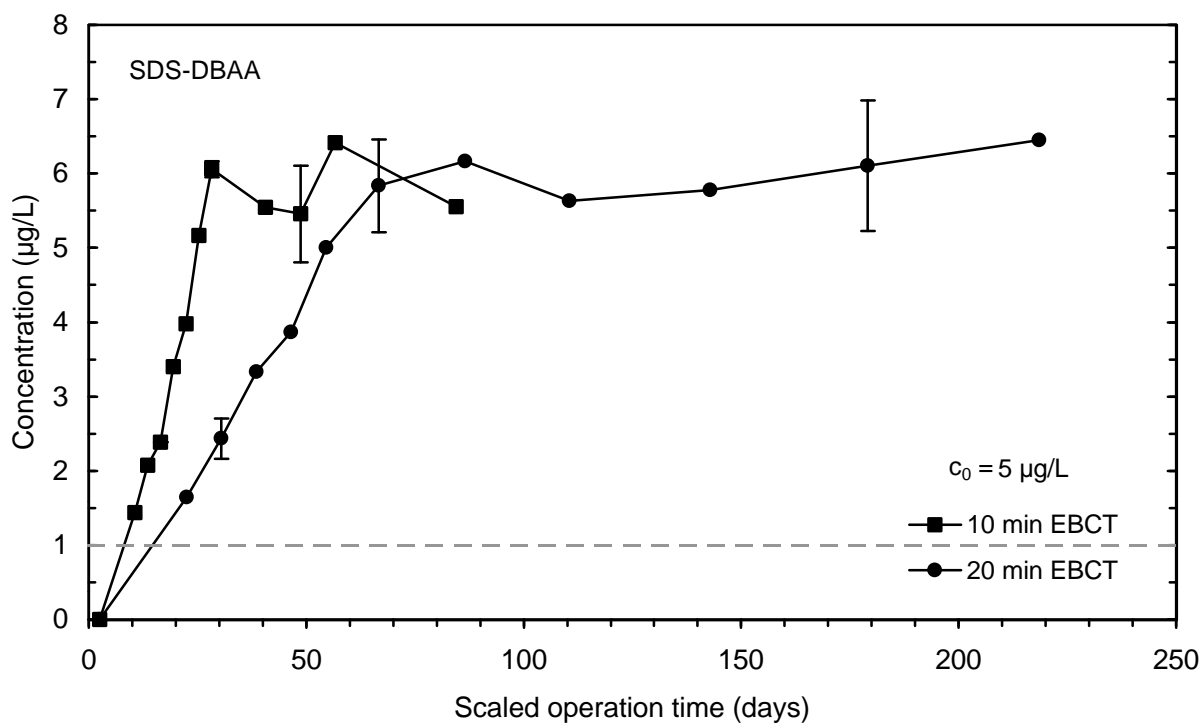


Figure 113 Impact of EBCT on SDS-DBAA breakthrough during session 2, September

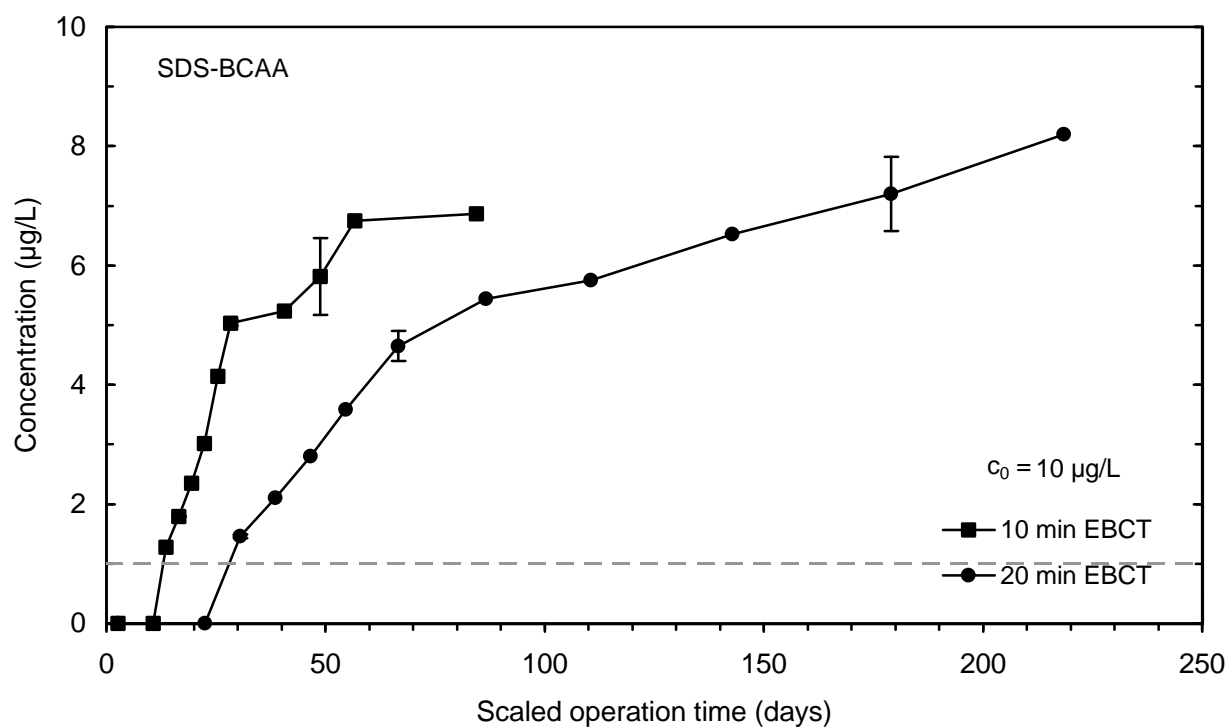


Figure 114 Impact of EBCT on SDS-BCAA breakthrough during session 2, September

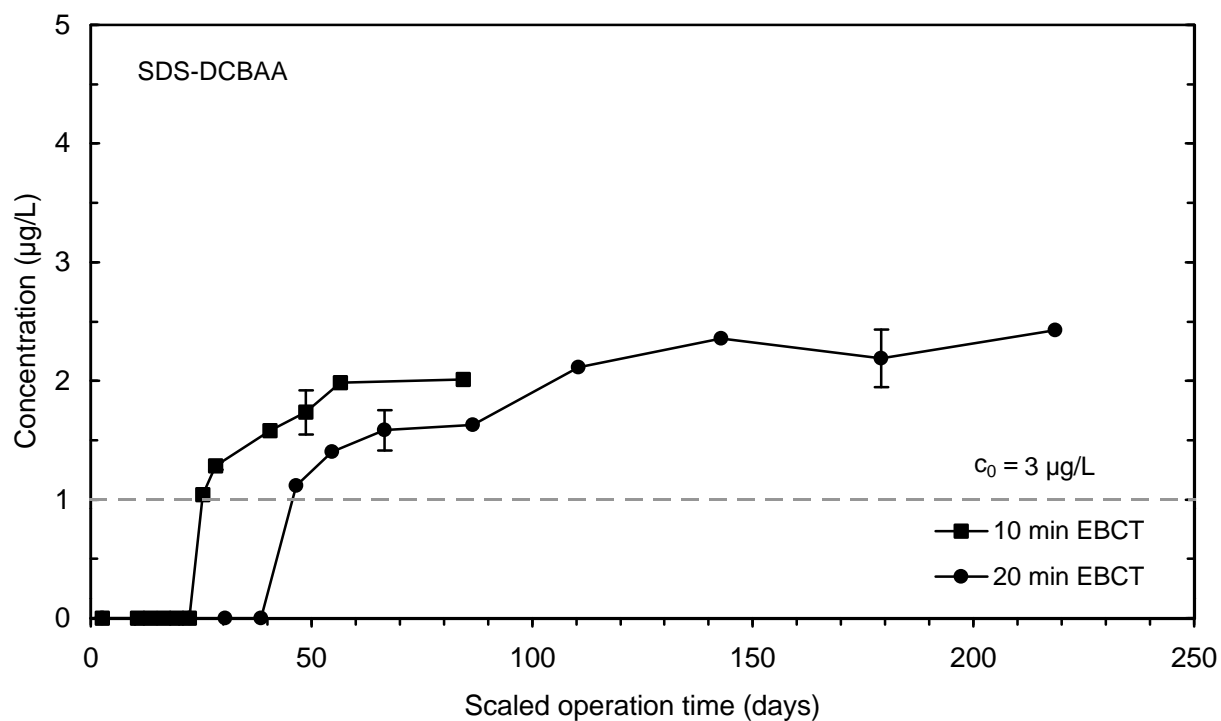


Figure 115 Impact of EBCT on SDS-DCBAA breakthrough during session 2, September

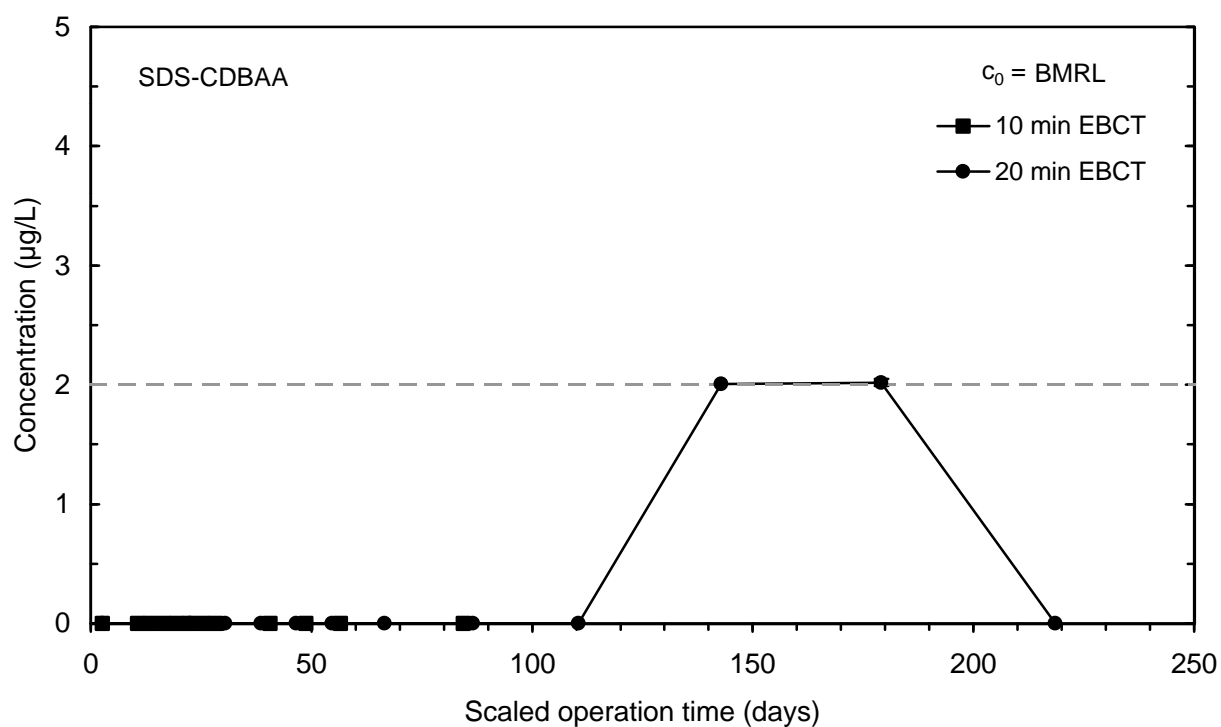


Figure 116 Impact of EBCT on SDS-CDBAA breakthrough during session 2, September

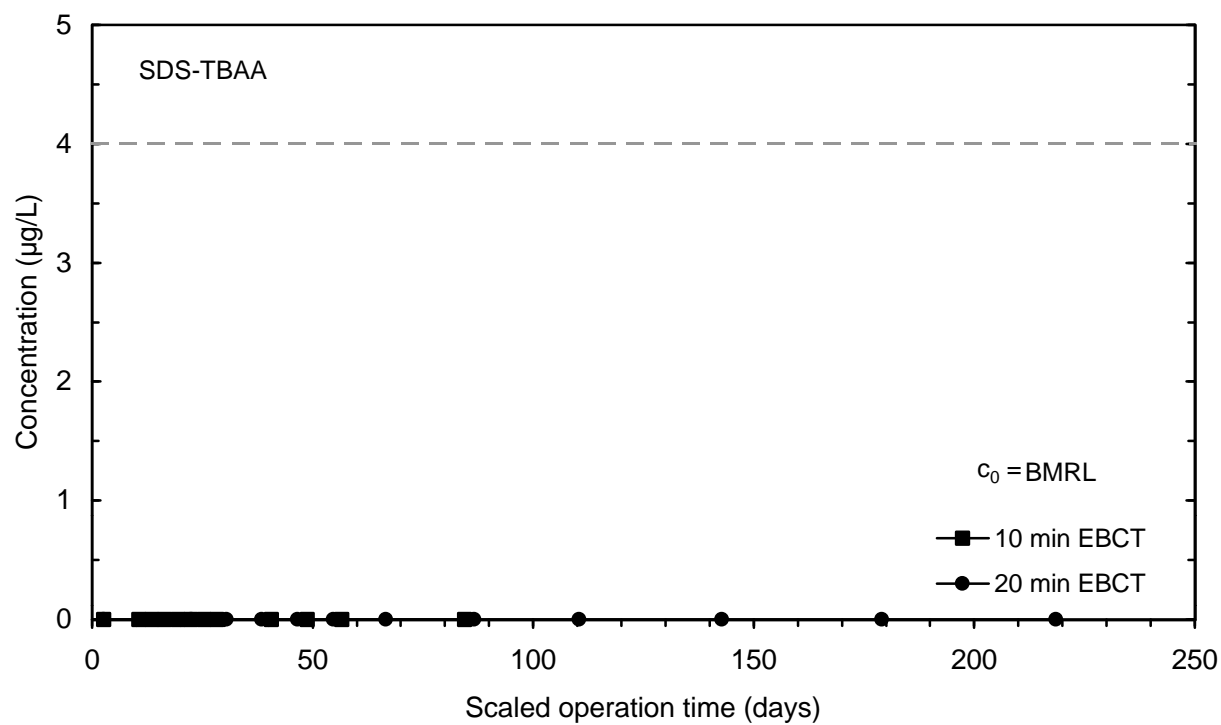


Figure 117 Impact of EBCT on SDS-TBAA breakthrough during session 2, September

10

Impact of Influent pH

10 Impact of Influent pH

Using the batch of water sampled in September, two additional RSSCTs were operated at a constant EBCT (10 minutes), but at adjusted influent pH levels. In conjunction with the 10 minute EBCT contactor required for seasonal variability, with an influent pH of 9.4, a second 10 minute EBCT contactor was operated with an influent pH of 8.9, and a third with an influent pH of 8.4. Thus, the breakthrough data from the three 10 minute EBCT contactors could be compared to determine the impact of influent pH adjustment in the pH range of 8.4 to 9.4 on GAC performance. An influent pH of 9.4 prior to GAC adsorption is relatively high; this study was conducted to determine if a slight drop in the influent pH to a value of 8.9 or a large decrease to a value of 8.4 would significantly improve GAC performance for DBP precursor removal. The influent water quality for each contactor is summarized in Table 17. SDS chlorination for all three influent pH contactors was conducted under constant conditions, including pH, summarized in Table 11. Therefore, pH only affected adsorption of DBP precursors; all samples were buffered to pH 9.1 prior to SDS chlorination.

Figure 118 shows the impact of influent pH on TOC breakthrough. A small range in effluent TOC breakthrough behavior was observed, with run times to an effluent concentration of 1.0 mg/L ranging from 24 to 28 days. Run times to 70 percent TOC breakthrough ranged from 80 to 91 days. As influent pH was decreased from 9.4 to 8.4, the effluent TOC profiles shifted to the right, indicating improved performance at lower influent pH. The level of immediate breakthrough was similar for all three runs; the point of initial breakthrough (effluent concentrations beginning to increase above immediate breakthrough levels) shifted to the right, from 10 to 15 days, with decreasing influent pH. At run times above 40 days, the influent pH 9.4 and 8.9 curves converged, while the influent pH 8.4 curve still showed a slight shift to the right. The impact of influent pH on UV₂₅₄ breakthrough is shown in Figure 119. For the adsorption of UV-absorbing compounds, a slight and continuous benefit in GAC performance was observed with decreasing pH over the length of the run.

A comparison of SDS-THM4 breakthrough for the three influent pH values is shown in Figure 120. As was observed for TOC breakthrough, the control of THM4 precursors improved with decreasing influent pH. However, it is evident from Figure 120 that little improvement was observed between influent pH levels of 9.4 and 8.9. Between influent pH levels of 8.9 and 8.4 however, an improvement in GAC performance for THM4 precursor control is evident.

Similar results were obtained for the impact of pH on SDS-HAA breakthrough, as shown in Figures 108, 109, and 110 for SDS-HAA5, SDS-HAA6, and SDS-HAA9, respectively. Although relatively low effluent SDS-HAA levels were measured during all three runs, similar performance was observed for the influent pH 9.4 and 8.9 runs, while an improvement in GAC performance occurred at an influent pH of 8.4.

Throughout most of the run, there was little difference in GAC performance for TOX precursor removal at GAC influent pH levels of 9.4 or 8.9 (Figure 124). An improvement in performance did occur during influent pH 8.4 run.

Plots of effluent SDS-CLD are shown in Figure 125. A comparison of the impact of influent pH on effluent CLD is hampered by the decrease in inorganic demand during the run that affected the influent pH 8.9 and 8.4 runs.

The effluent pH and temperature for the three influent pH contactors was also monitored. The results are summarized in Table 27. The variability of both effluent pH and temperature was very low (less than 4 percent RSD) during all runs.

Tables 28 and 29 summarize run times to various GAC effluent criteria for the influent pH 8.4 and 8.9 runs. Based on the calculated run times, the corresponding concentration of other measured parameters (DBP precursor surrogates and SDS-DBPs) at that run time were also calculated. This same information was presented earlier for the influent pH 9.4 run (Table 22).

Bar graph plots of run times to TOC, UV₂₅₄, THM4, and HAA5 criteria were generated. Figures 113 and 114 summarize run times to effluent TOC and UV₂₅₄ criteria, and Figures 115 and 116 summarize run times to effluent SDS-THM4 and SDS-HAA5 criteria. For cases where the effluent concentration did not reach the run time criterion, no bar is shown. For all influent pH contactors, neither Stage 1 or the placeholder for Stage 2 HAA5 criteria were exceeded. Both Stage 1 and the placeholder for Stage 2 THM4 criteria were exceeded during the runs.

Figures 117, 118, 119, and 120 show the breakthrough of formed CHCl₃, BDCM, DBCM, and CHBr₃, respectively, for all three influent pH contactors. In general, each THM species followed the trends observed for SDS-THM4: there was little difference in performance between influent pH levels of 9.4 and 8.9, and a slight improvement in GAC performance was observed for the influent pH 8.4 run.

The breakthrough of the nine HAA species for the influent pH runs is shown in Figures 121 through 129. Again, only SDS-DCAA, SDS-DBAA, and SDS-BCAA were present in the GAC effluent at significant concentrations. SDS-DCAA breakthrough showed little impact of pH between 9.4 and 8.9; however, an improvement in GAC performance was evident at influent pH 8.4 (Figure 135). The breakthrough of SDS-DBAA, shown in Figure 138, showed no visible impact of influent pH between 8.4 and 9.4. SDS-BCAA breakthrough showed an improvement in GAC performance for the influent pH 8.4 contactor up to about 40 days run time, after which there was no significant impact of influent pH on precursor removal.

Effluent sample number	Effluent pH		Effluent temperature (°C)	
	September session, Influent pH 8.4	September session, Influent pH 8.9	September session, Influent pH 8.4	September session, Influent pH 8.9
1	8.3	8.6	22	22
2	8.2	8.6	23	22
3	8.2	8.6	22	24
4	8.2	8.6	22	23
5	8.2	8.6	22	22
6	8.2	8.7	22	23
7	8.1	8.6	21	23
8	8.1	8.6	21	22
9	8.0	8.5	22	22
10	8.0	8.6	23	21
11	8.1	8.3	22	23
12	8.1	8.5	23	22
13		8.5		22
Mean	8.1	8.6	22	22
Standard deviation	±0.1	±0.1	±0.7	±0.6
Relative percent error	1	1	3	3

Table 27 GAC effluent pH and temperature data for 10 minute EBCT, influent pH 8.4 and 8.9 contactors during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	26	3,760	1.0	0.016	50	9	14	16	67
			1.3†	36	5,220	1.3	0.020	59	11	16	17	90
UV ₂₅₄	(1/cm)	0.055	0.040	*	*							
			0.020	35	5,090	1.3	0.020	57	10	15	17	88
			0.027†	56	8,000	1.6	0.027	71	14	21	23	119
SDS-THM4	(µg/L)	100	80	79	11,310	1.8	0.033	80	16	23	25	138
			64	45	6,420	1.5	0.024	64	13	19	21	107
			32	19	2,670	0.6	0.009	32	5	7	7	37
SDS-HAA5	(µg/L)	24	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	33	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	37	48	*	*							
			24	64	9,150	1.7	0.030	76	15	22	24	126
SDS-TOX	(µg Cl ⁻ /L)	222	120	57	8,160	1.6	0.028	71	14	21	23	120
			70	27	3,930	1.0	0.016	51	9	13	15	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 28 Run times to selected GAC effluent criteria for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	28	4,050	1.0	0.014	50	7	10	10	58
			1.3†	42	5,980	1.3	0.020	58	10	16	17	90
UV ₂₅₄	(1/cm)	0.055	0.040	*	*							
			0.020	40	5,810	1.3	0.020	57	10	15	17	88
			0.027†	55	7,910	1.6	0.027	66	12	17	19	115
SDS-THM4	(µg/L)	100	80	*	*							
			64	51	7,330	1.5	0.026	64	11	17	18	108
			32	23	3,310	0.7	0.010	32	5	8	8	42
SDS-HAA5	(µg/L)	24	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	33	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	37	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	222	120	60	8,690	1.6	0.029	67	13	20	22	120
			70	32	4,590	1.1	0.016	52	8	12	12	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.

#Data not available for listed parameter at given breakthrough criterion.

Table 29 Run times to selected GAC effluent criteria for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

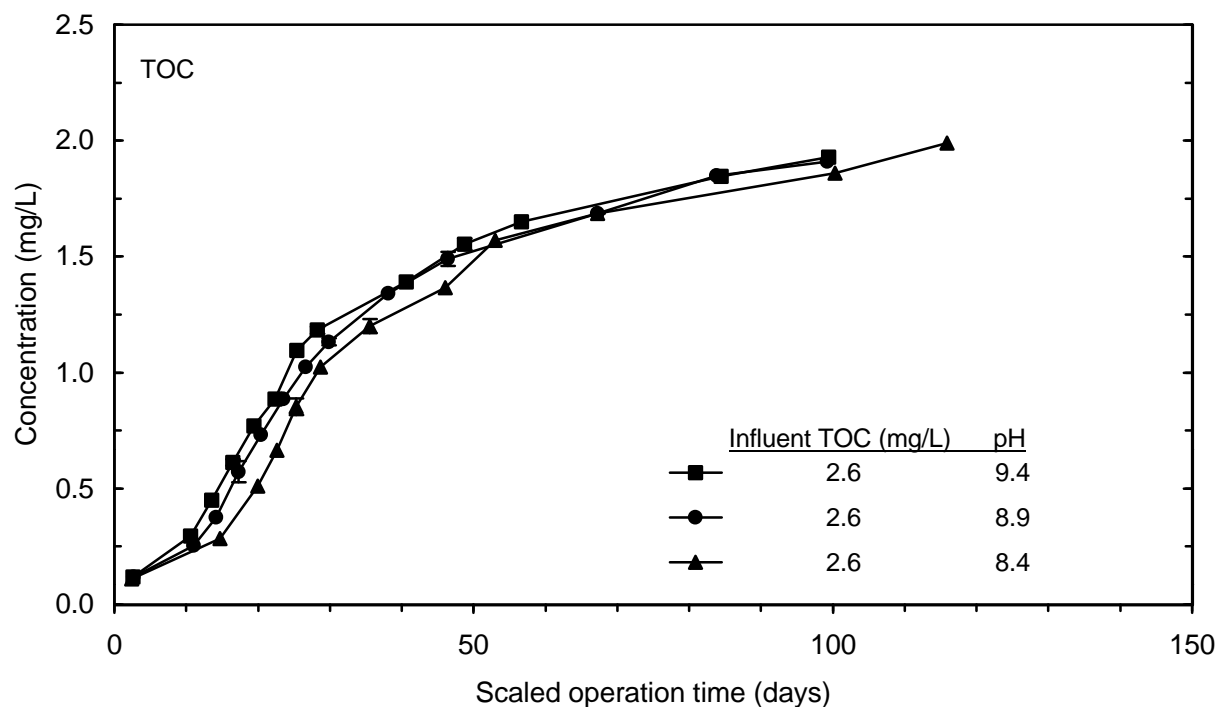


Figure 118 Impact of influent pH on TOC breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

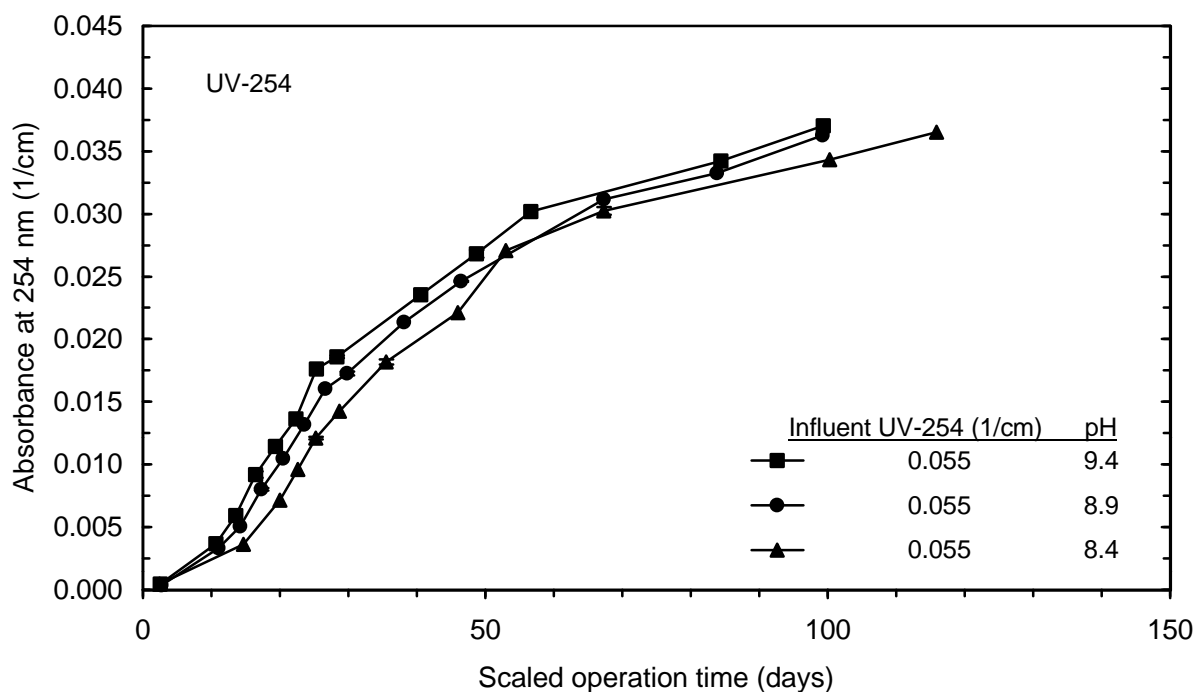


Figure 119 Impact of influent pH on UV-254 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

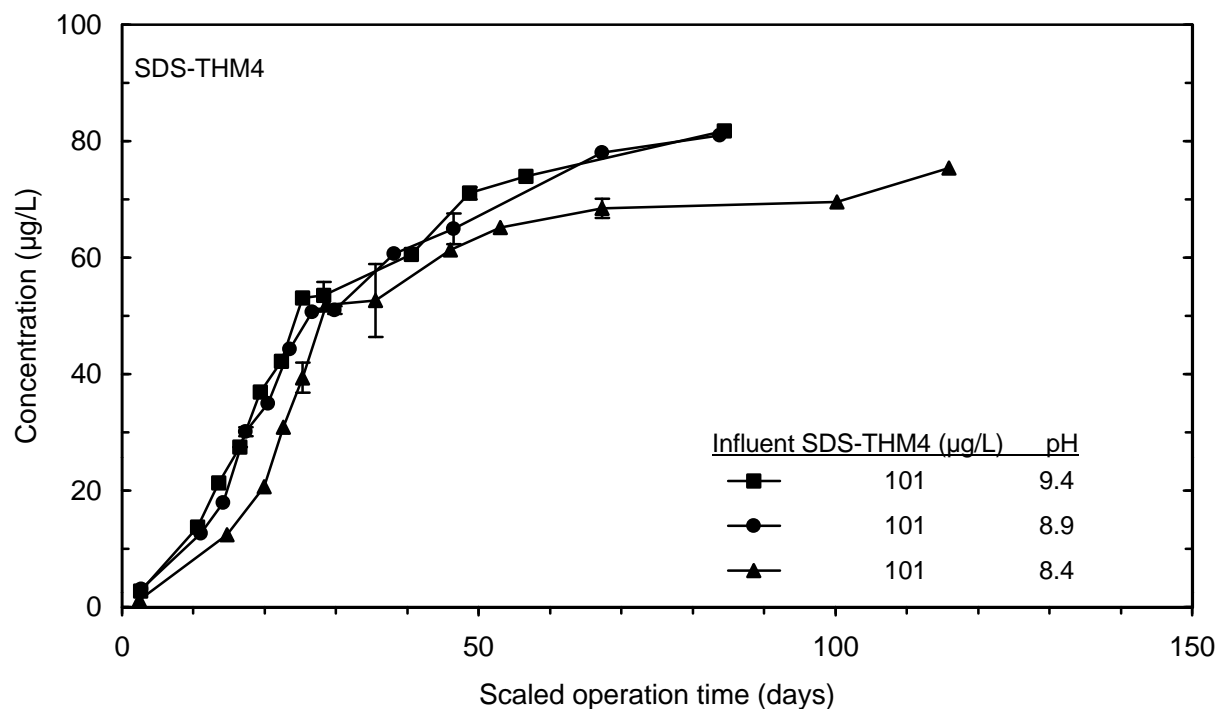


Figure 120 Impact of influent pH on SDS-THM4 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

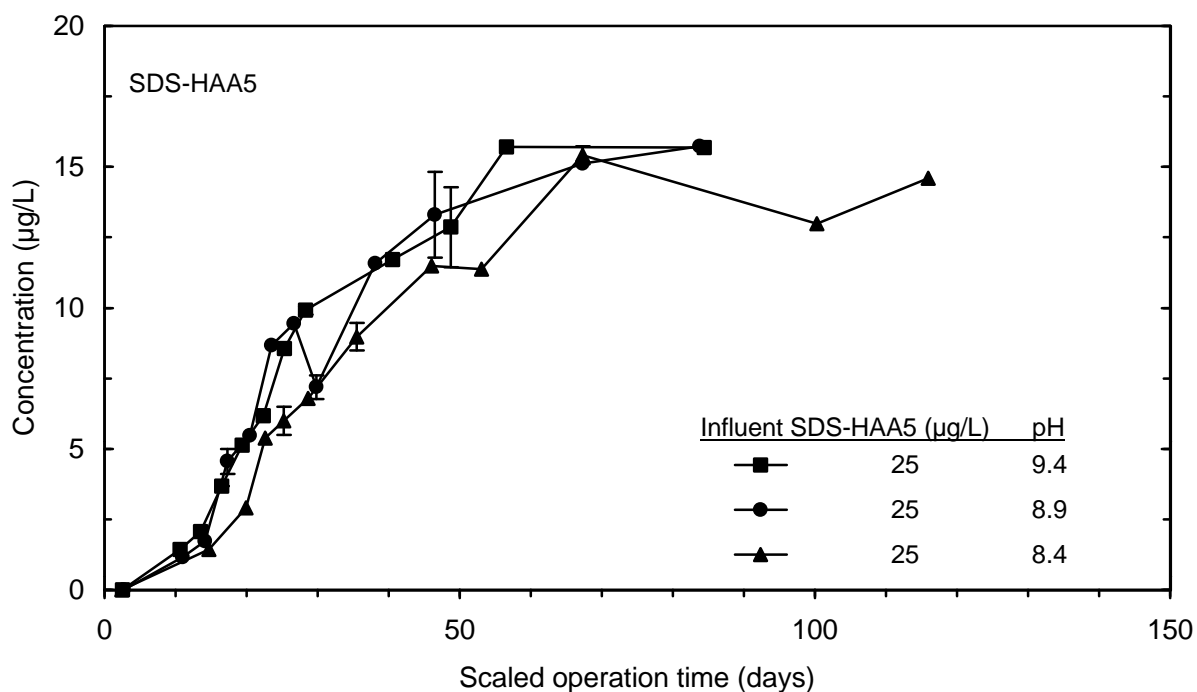


Figure 121 Impact of influent pH on SDS-HAA5 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

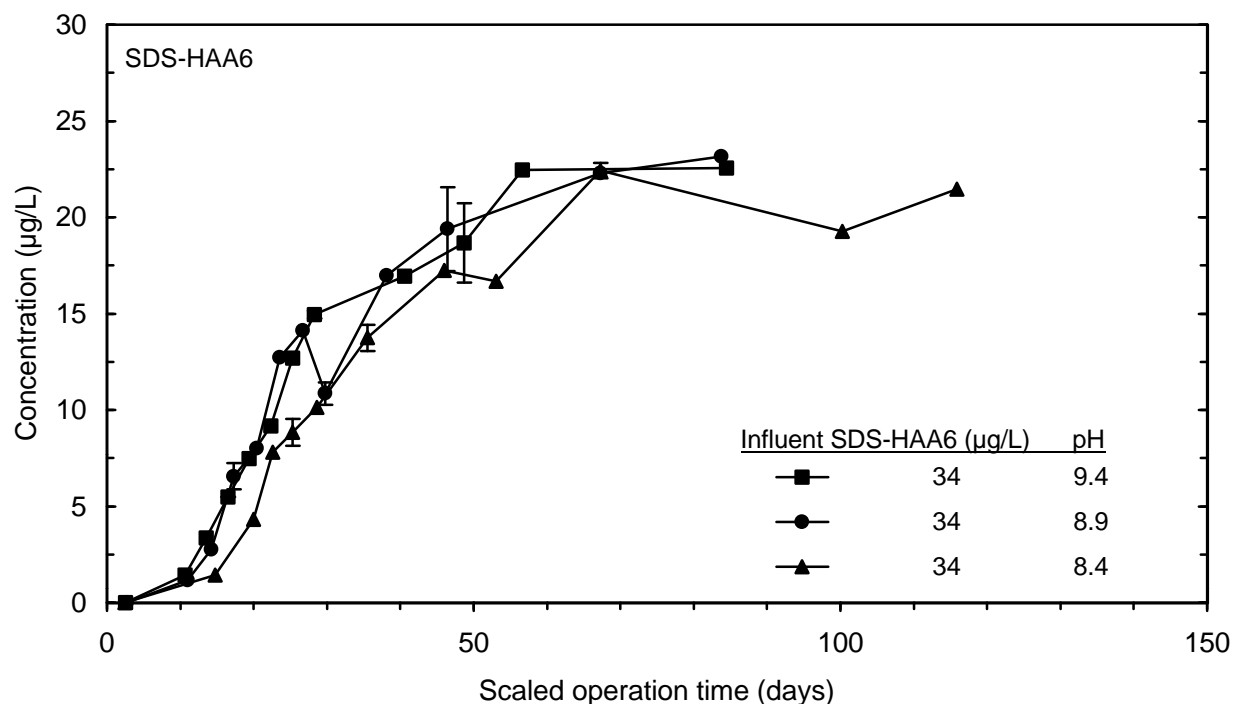


Figure 122 Impact of influent pH on SDS-HAA6 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

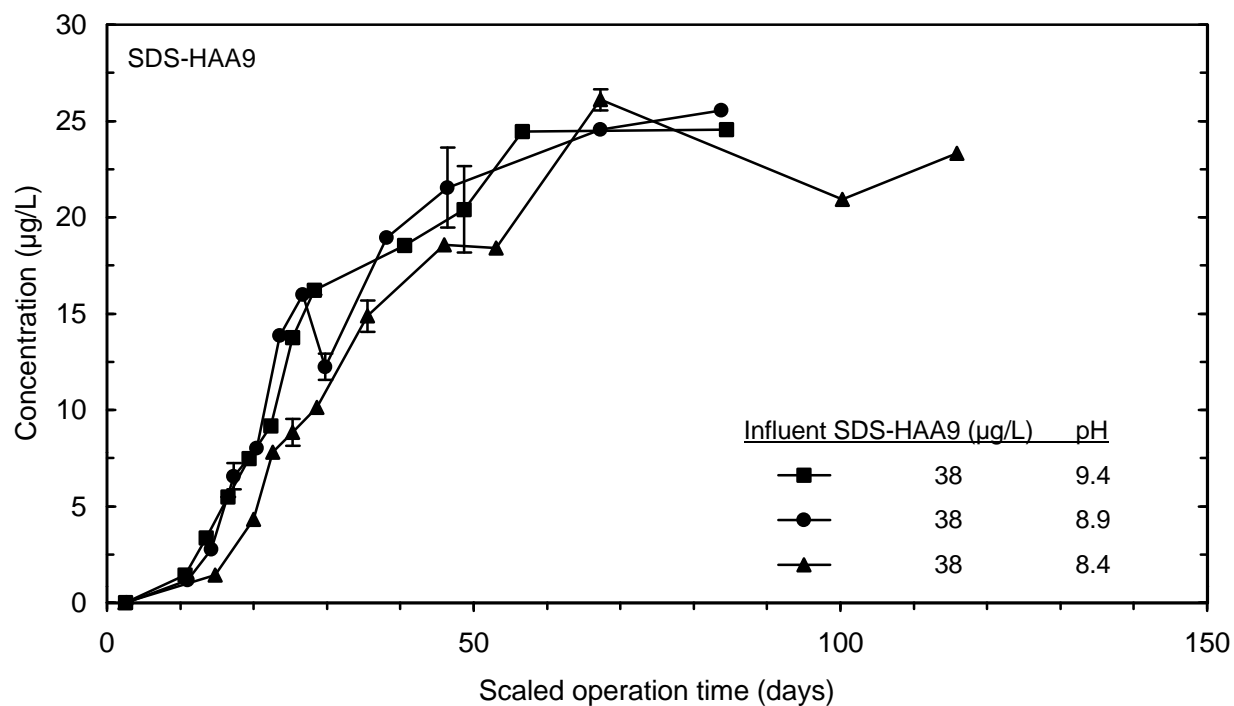


Figure 123 Impact of influent pH on SDS-HAA9 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

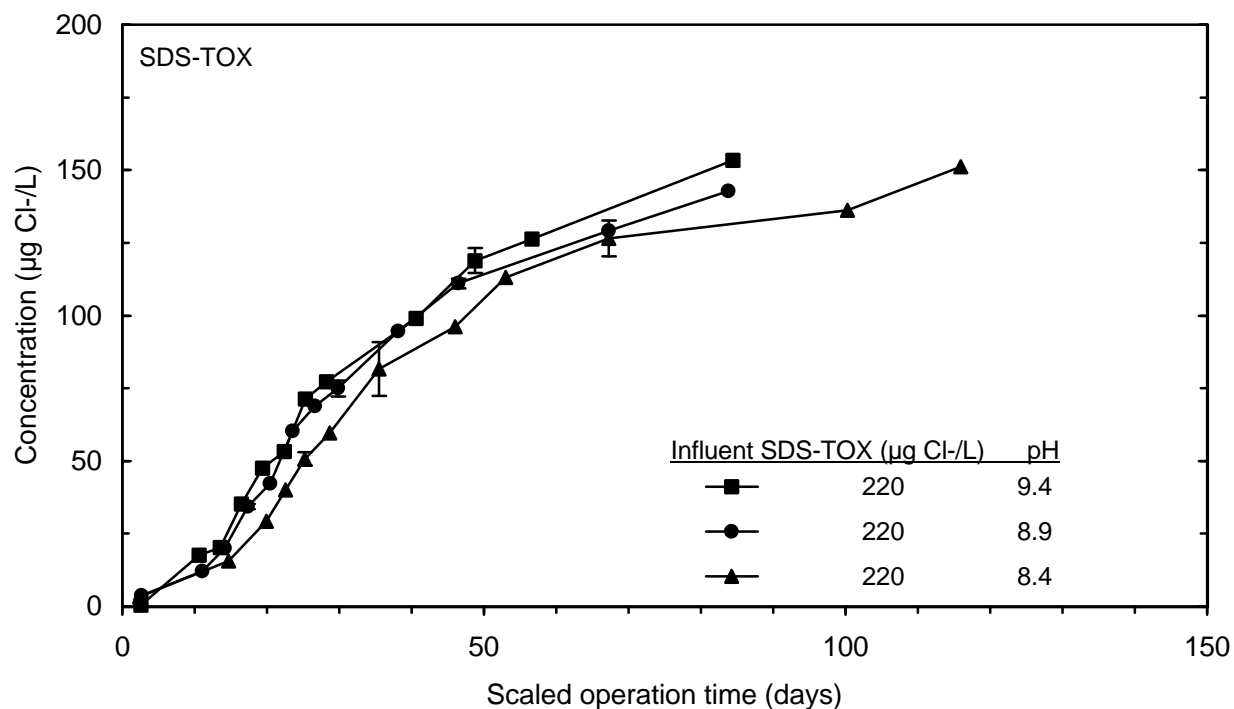


Figure 124 Impact of influent pH on SDS-TOX breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

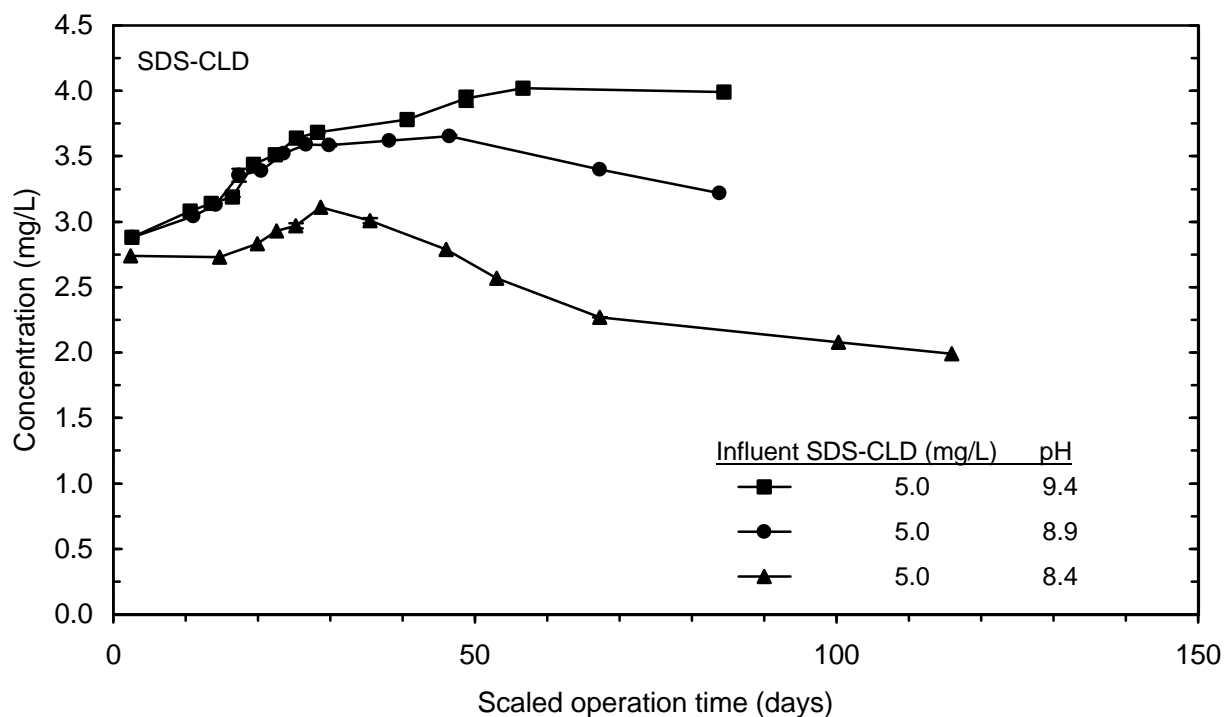


Figure 125 Impact of influent pH on SDS-CLD breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

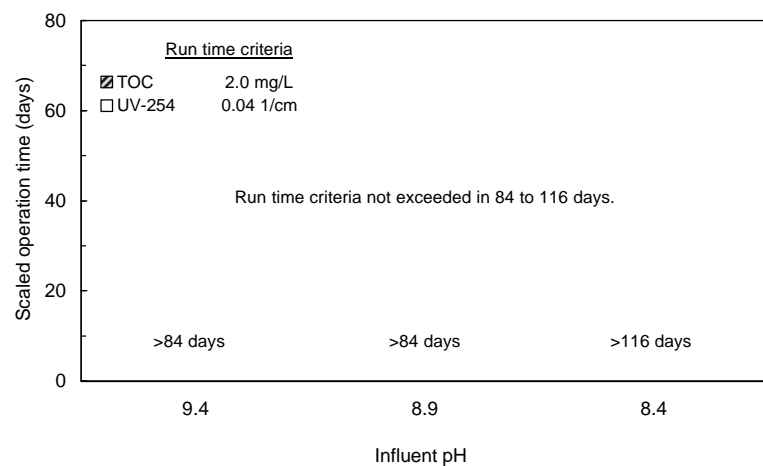


Figure 126 Impact of pH on run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (high)

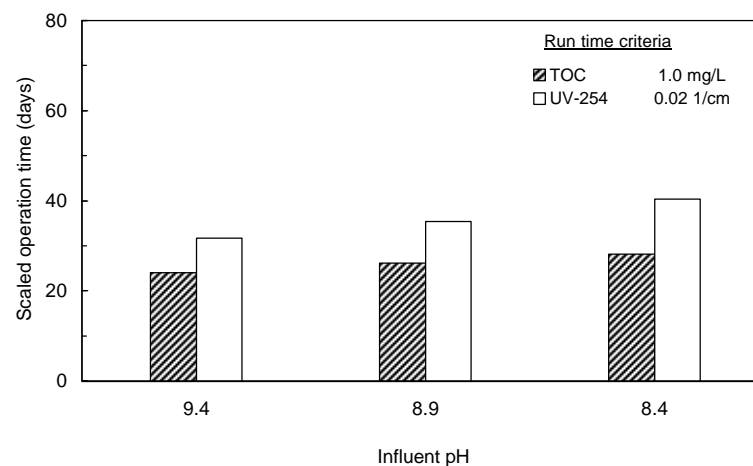


Figure 127 Impact of pH on run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (low)

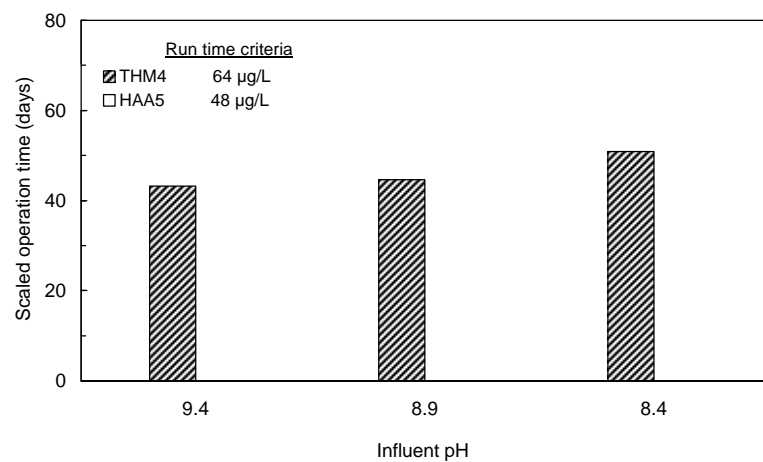


Figure 128 Impact of pH on run times based on single contactor breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria

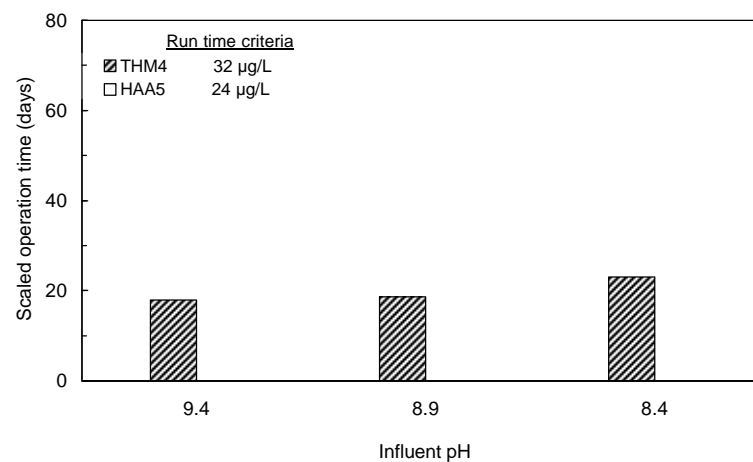


Figure 129 Impact of pH on run times based on single contactor breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria

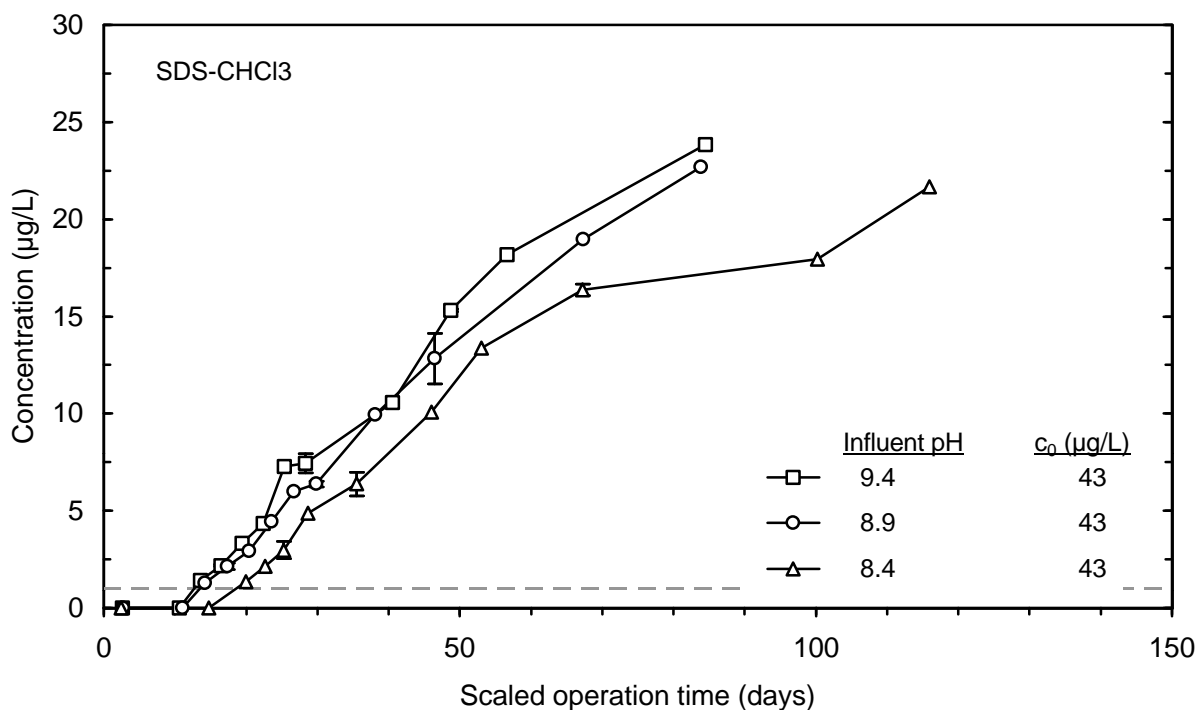


Figure 130 Impact of influent pH on SDS-CHCl₃ breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

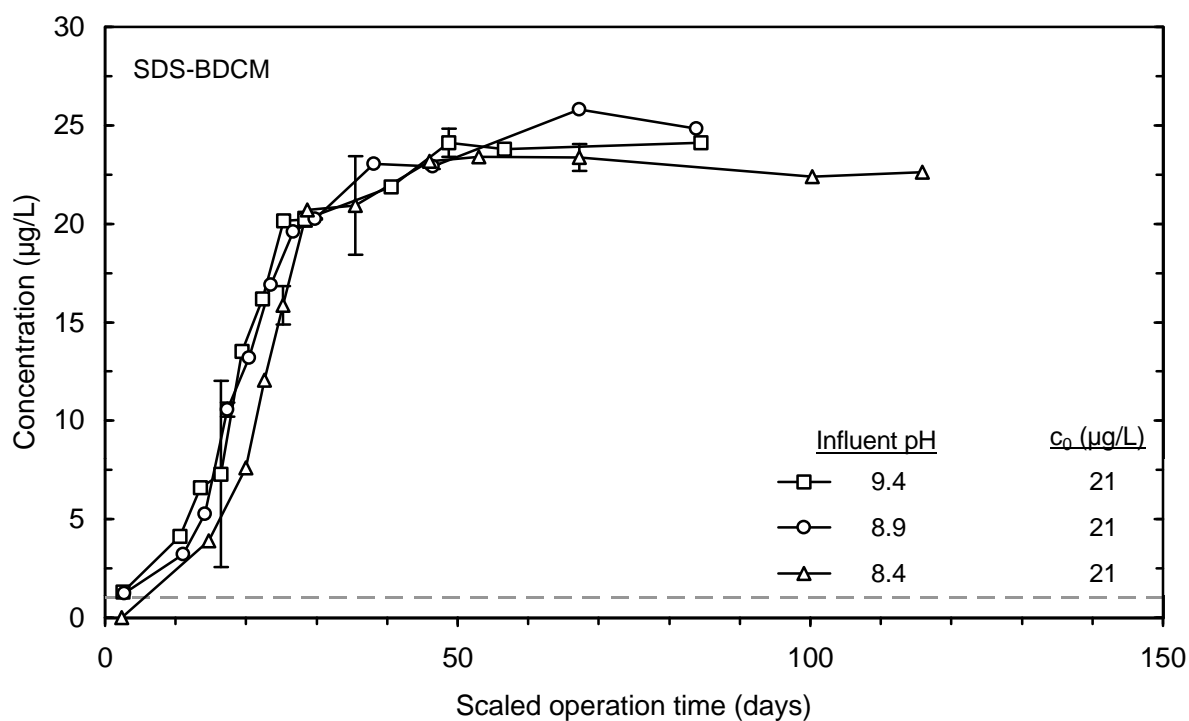


Figure 131 Impact of influent pH on SDS-BDCM breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

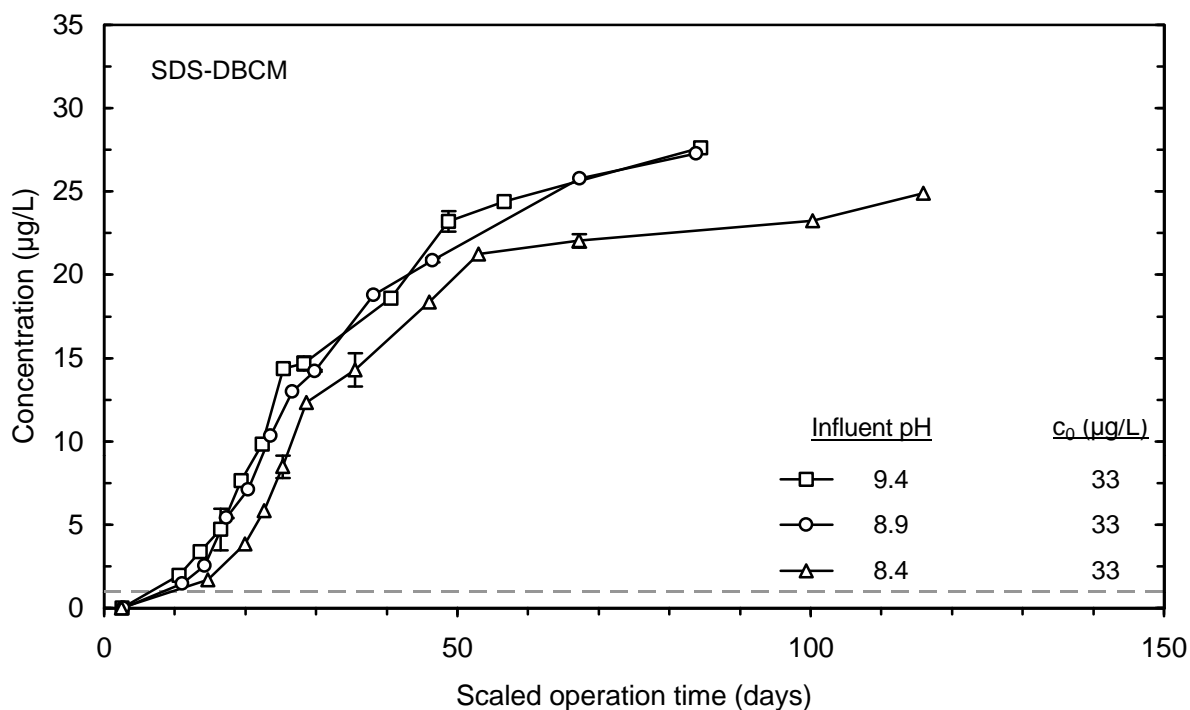


Figure 132 Impact of influent pH on SDS-DBCM breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

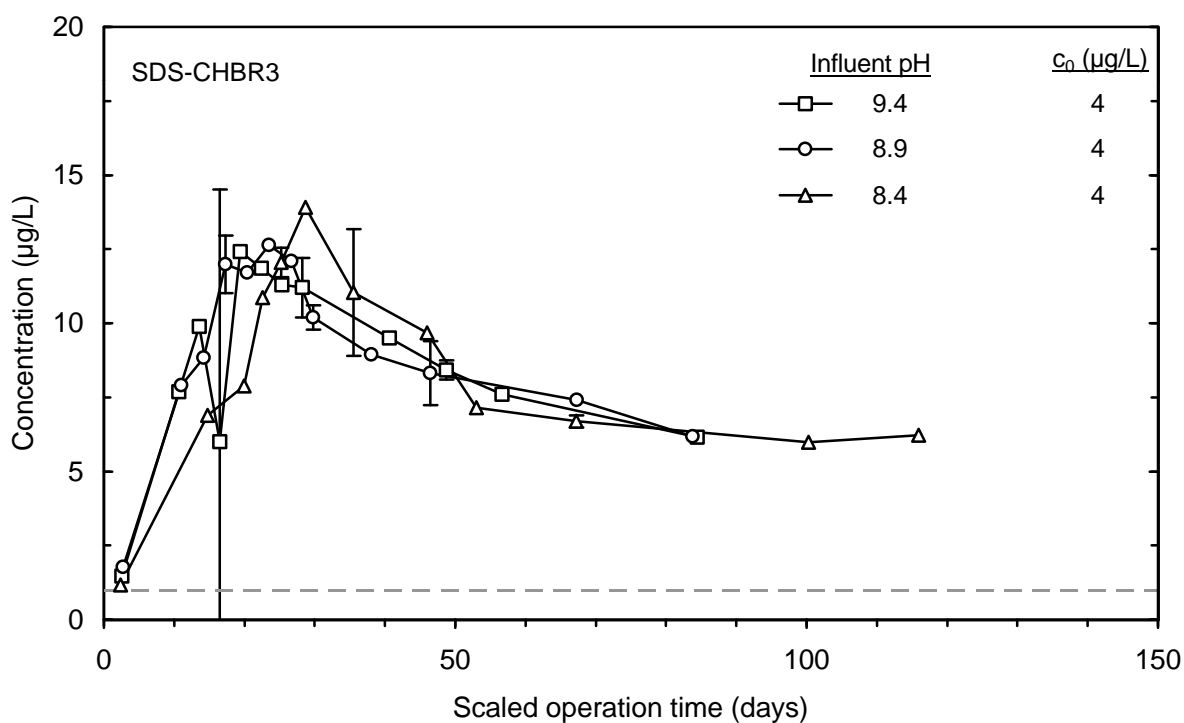


Figure 133 Impact of influent pH on SDS-CHBR3 breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

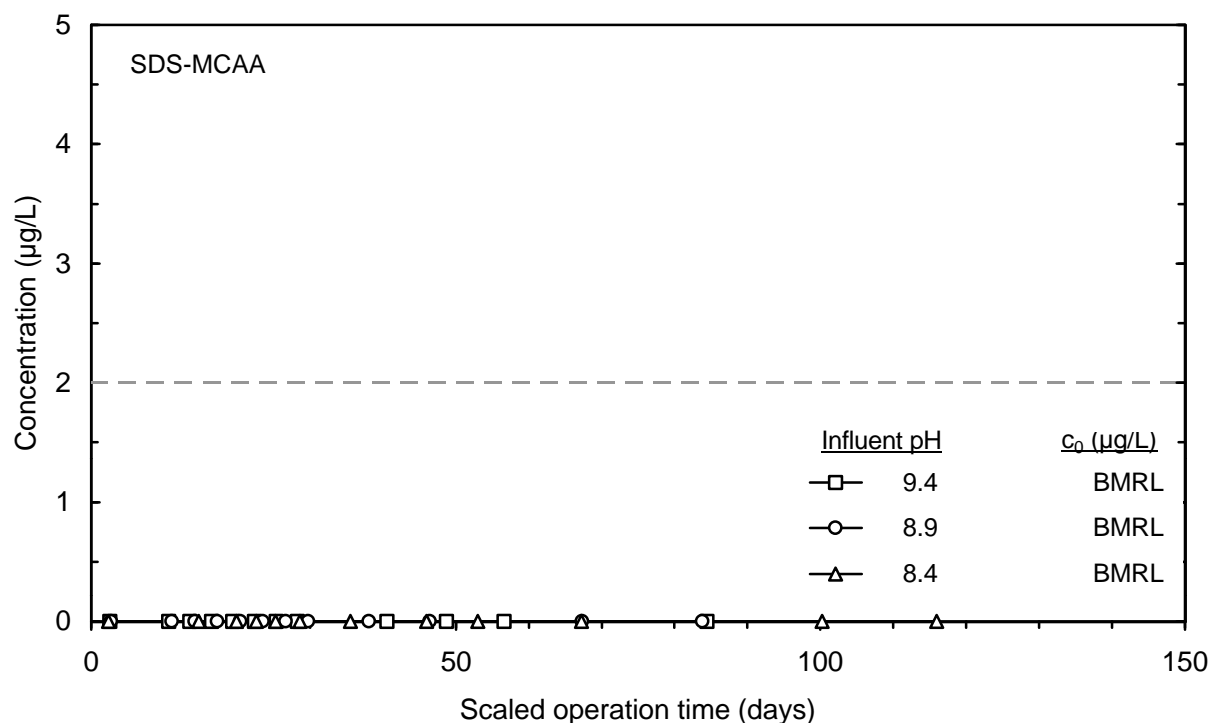


Figure 134 Impact of influent pH on SDS-MCAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

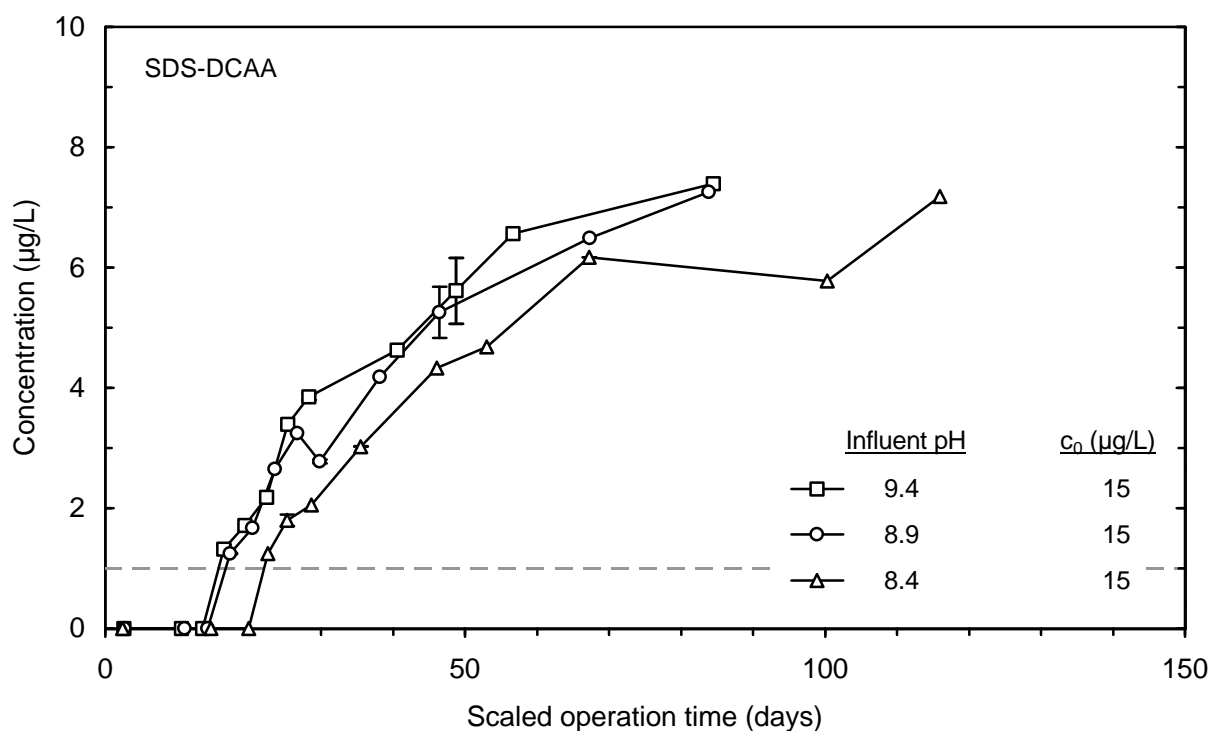


Figure 135 Impact of influent pH on SDS-DCAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

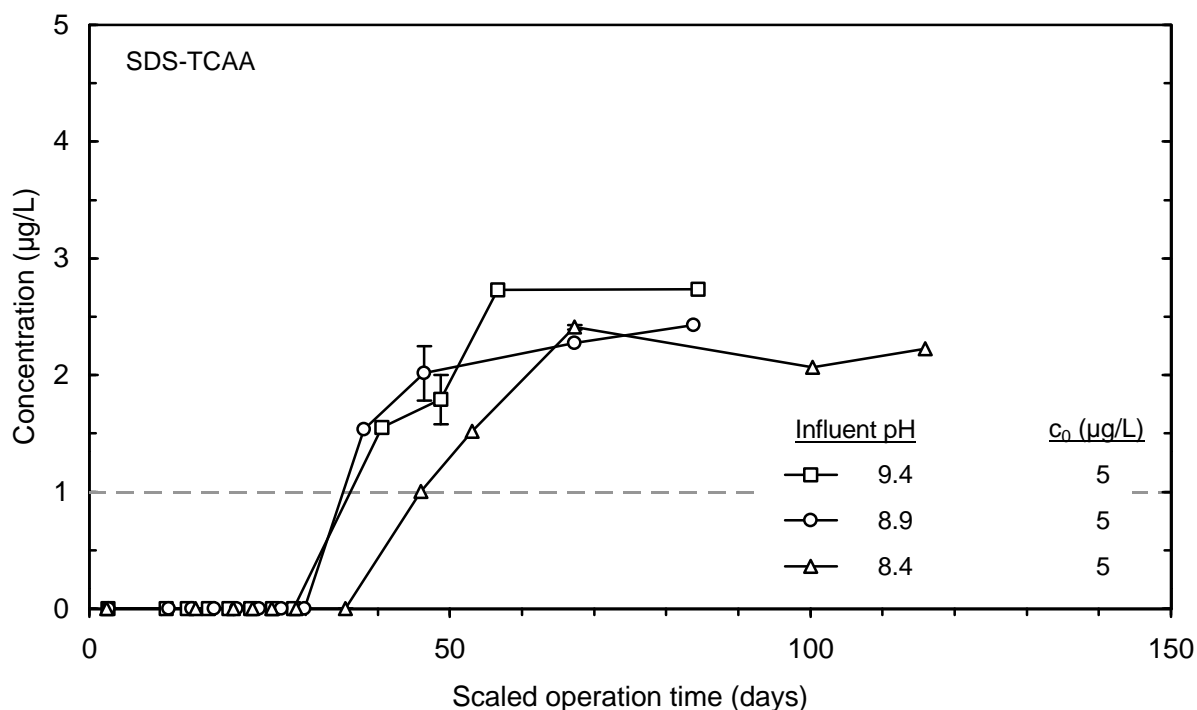


Figure 136 Impact of influent pH on SDS-TCAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

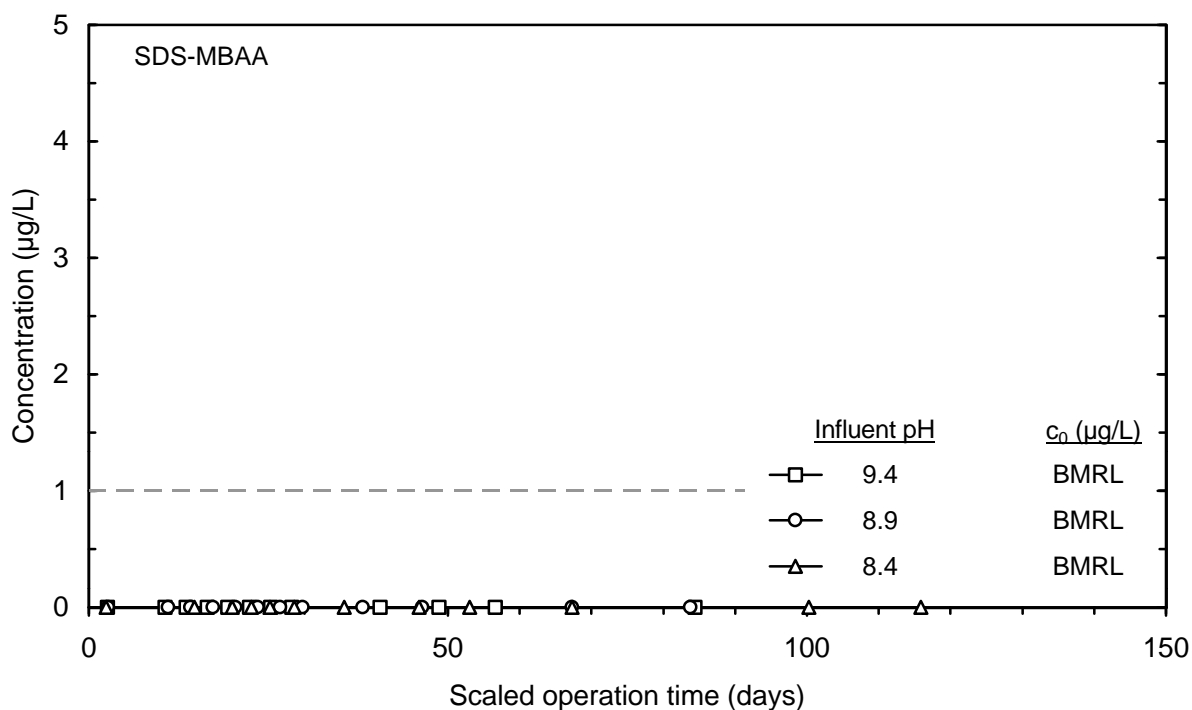


Figure 137 Impact of influent pH on SDS-MBAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

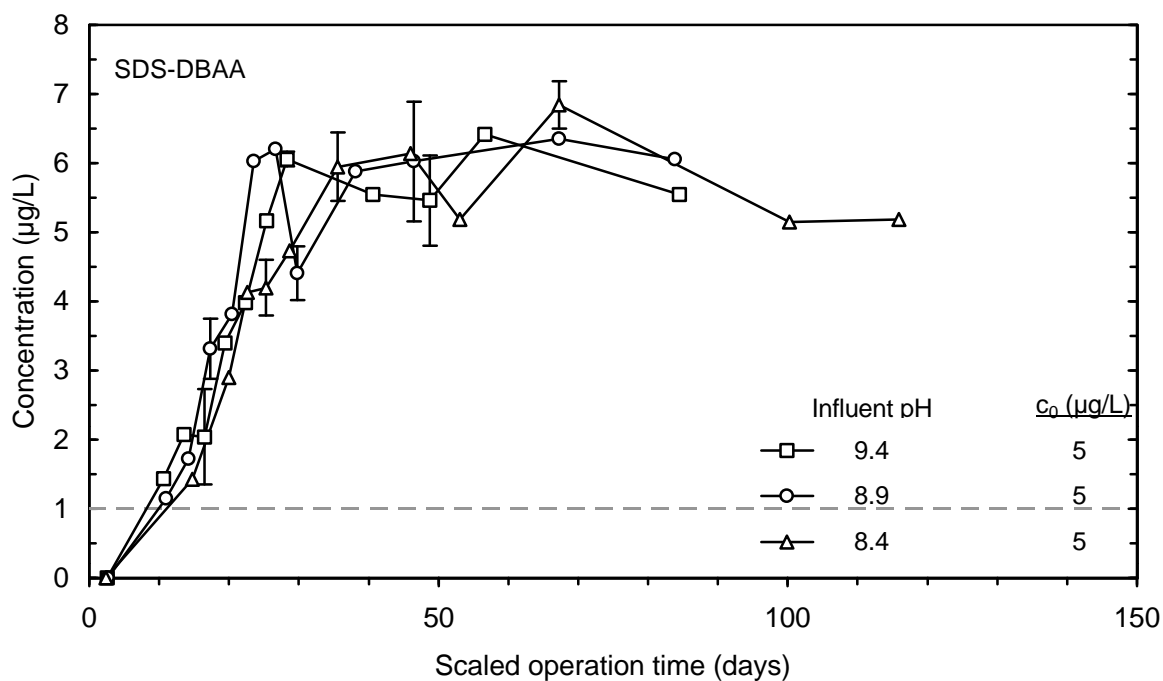


Figure 138 Impact of influent pH on SDS-DBAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

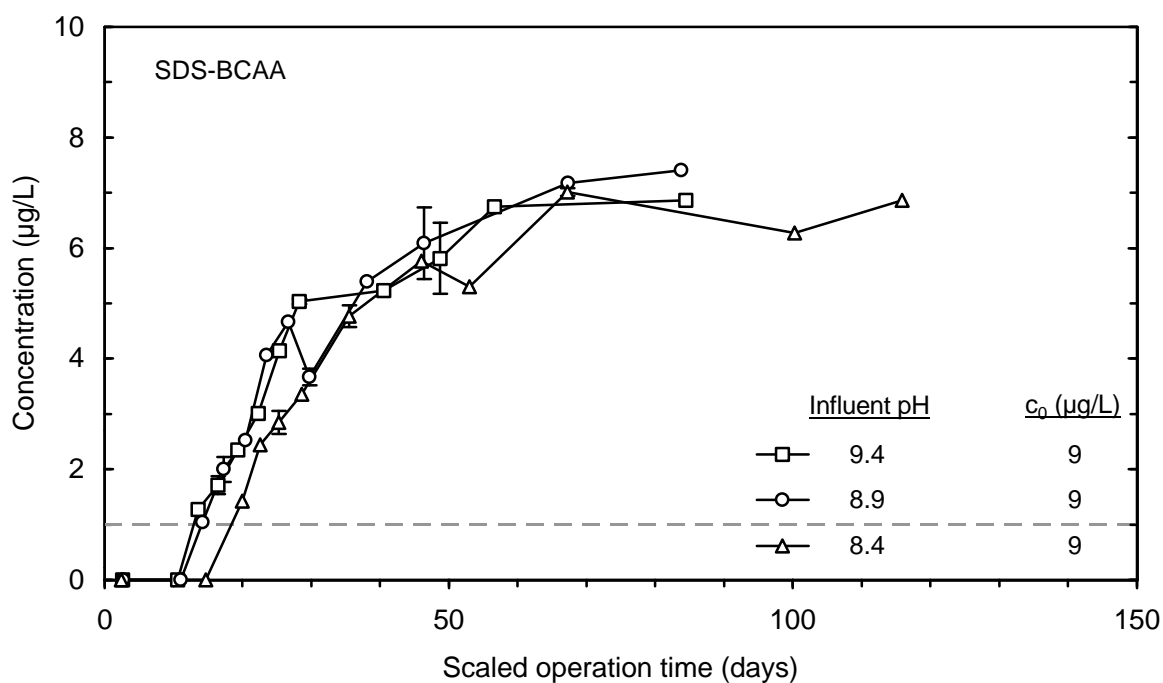


Figure 139 Impact of influent pH on SDS-BCAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

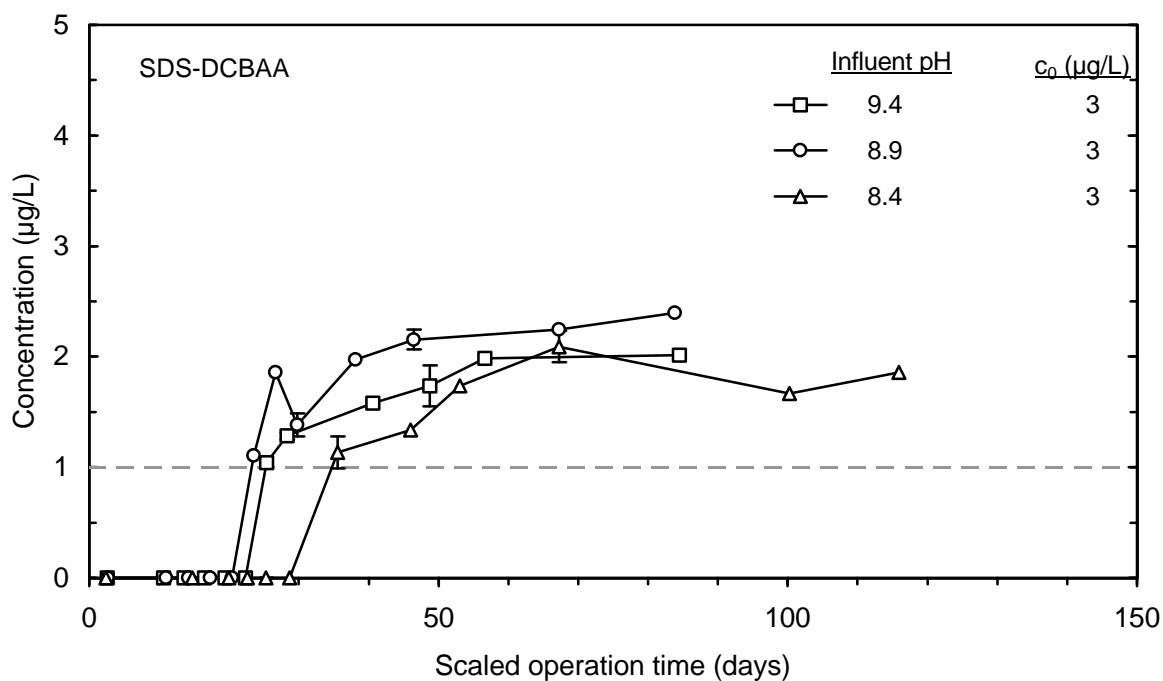


Figure 140 Impact of influent pH on SDS-DCBAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

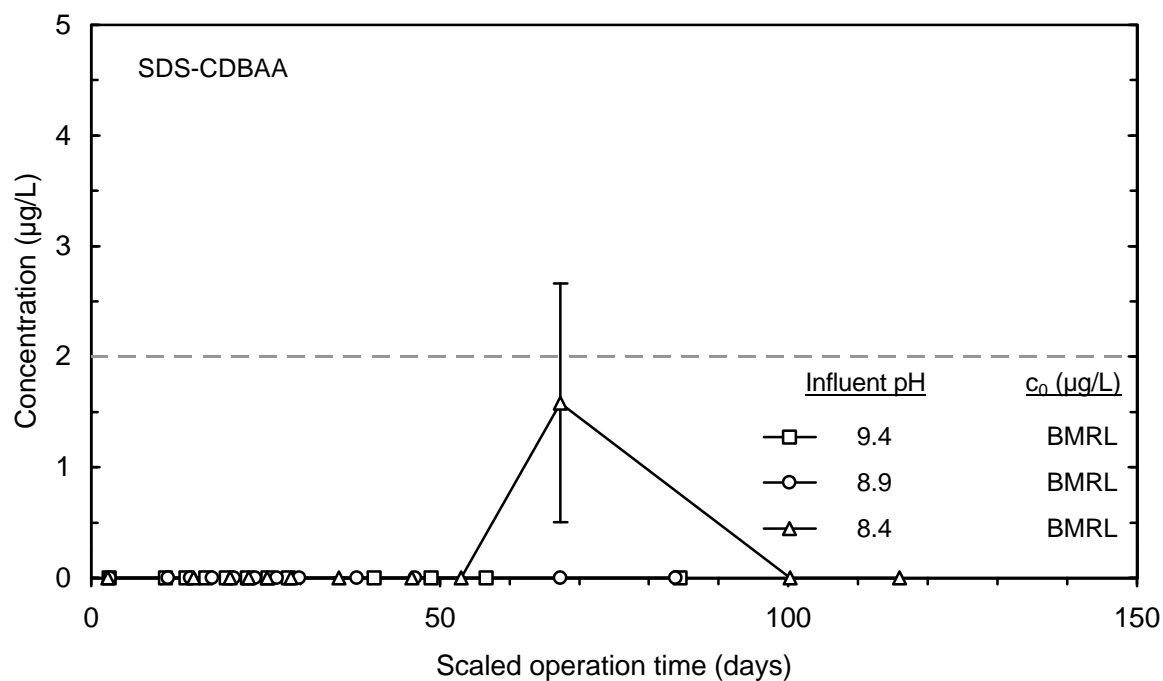


Figure 141 Impact of influent pH on SDS-CDBAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

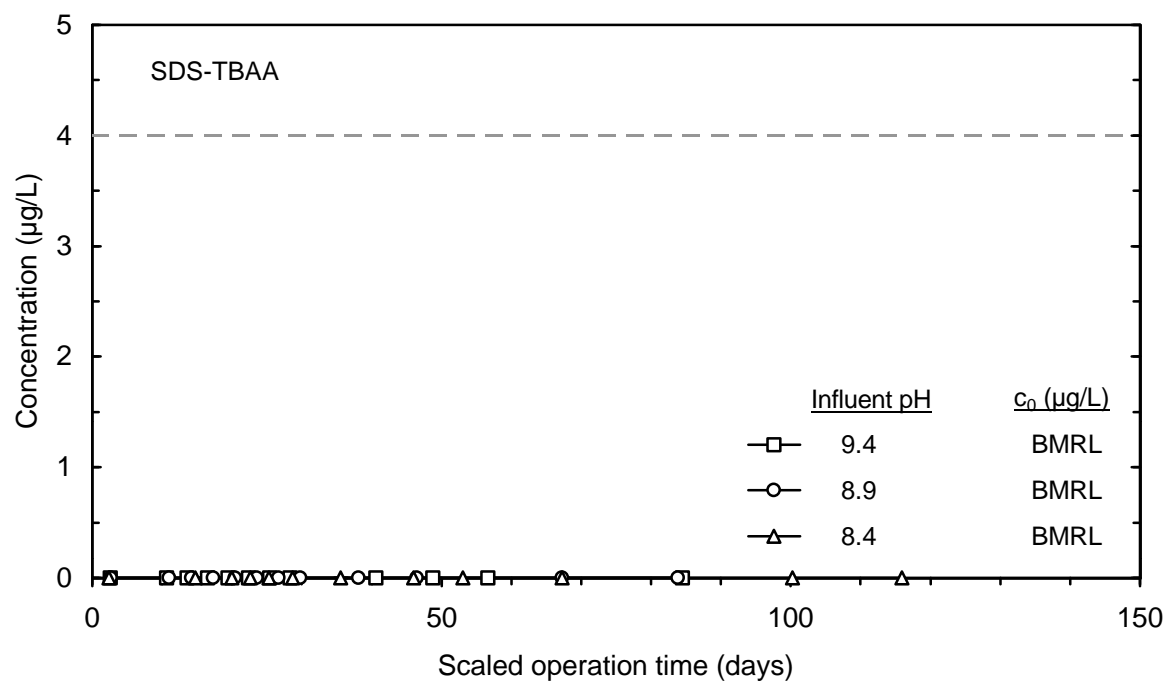


Figure 142 Impact of influent pH on SDS-TBAA breakthrough for 10 minute EBCT contactors; water sampled in September (session 2)

11

*Blended Effluent Simulation
and Breakthrough Curve
Extrapolation*

11 Blended Effluent Simulation and Breakthrough Curve Extrapolation

The data generated by an RSSCT simulates the performance of a single GAC contactor for DBP precursor control. For single contactor operation, when the effluent water quality exceeds levels set as run time criteria, the GAC must be replaced with reactivated or virgin GAC. In practice, multiple GAC contactors in parallel are used, and GAC run times are lengthened significantly by operating the contactors in a staggered mode: the GAC in each contactor is replaced with reactivated or virgin GAC at regular intervals (Westrick and Cohen, 1976; Roberts and Summers, 1982). The effluent from all contactors is blended prior to disinfection. Since only the blended effluent must meet a given water quality objective, each contactor can be operated longer and produce a water quality in excess of the system water quality objective. As a prelude to any type of cost analysis, the impact of blended GAC contactor effluents should be considered.

It is possible to model the performance of contactors operated in parallel staggered mode using the data produced by a single RSSCT. The breakthrough curve data are first fit to the logistic function, a function that results in a characteristic S-shape curve typical of breakthrough curves:

$$C(t) = \frac{A_f - A_0}{1 + Be^{-Dt}} + A_0 \quad (2)$$

This form of the logistic function is a variation of that presented in Chowdhury et al. (1996). The parameters A_f , A_0 , B , and D are varied for a best-fit of the data by a sum of squares minimization algorithm. An equation that simulates a blended effluent scenario can be derived by the following integration of the logistic function:

$$\bar{C}(t) = \frac{1}{t} \int_0^t C(t) dt \quad (3)$$

For applications involving 10 or more staggered contactors operated in parallel, Equation 3 provides a good approximation of blended effluent water quality (Roberts and Summers, 1982). Integration of Equation 2 and substitution into Equation 3 yields:

$$\bar{C}(t) = A_f + \frac{A_f - A_0}{Dt} \ln \frac{1 + Be^{-Dt}}{1 + B} \quad (4)$$

After a best fit of the breakthrough data to Equation 2 was determined (using a least squares minimization approach), the parameter values were input into Equation 4. A plot of Equation 4, therefore, gives the blended effluent concentration for any contactor run time. A summary of the best fit parameter values and r^2 values for fits to all 64 breakthrough data sets is given in Table 30. As can be seen by the high r^2 for curve fits (mean: 0.97, 25th percentile: 0.97, 75th percentile: 0.98), the model well fit the data. For all breakthrough curves, except those for SDS-CLD, the value for A_0 is zero and A_0 can be dropped from Equations 2 and 4, yielding a three

parameter model. The parameter A_0 is needed for SDS-CLD to account for the high initial breakthrough. Due to the decrease in inorganic chlorine demand during some of the runs, the logistic function was not always an adequate model for fitting the SDS-CLD breakthrough data; the affected runs were omitted from this analysis.

Figures 130 through 137 contain single column and blended effluent breakthrough curves for 10 and 20 minute EBCT contactors operated during the March session for TOC, UV_{254} , SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, SDS-TOX, and SDS-CLD. The analysis summarized in these plots demonstrates the potential impact on overall costs of accounting for a blended effluent situation. For instance, the 10 minute EBCT contactor TOC breakthrough curve plotted in Figure 143 exceeds an effluent concentration of 0.94 mg/L (50 percent TOC breakthrough) after 44 days. The multiple contactor blended effluent breakthrough curve exceeds the same effluent TOC criterion after 105 days of single contactor operation time. Thus, for multiple GAC contactors operated in staggered mode, each 10 minute EBCT individual contactor can be operated a factor of 2.4 times longer, prior to reaching a treated water target effluent TOC concentration of 0.94 mg/L. A similar analysis can be made for SDS-THM4 and SDS-HAA5.

The single contactor and blended effluent (multiple contactors) comparisons are presented for the 10 and 20 minute EBCT contactors operated during the September session in Figures 130 through 137, and for the 10 and 20 minute EBCT contactors operated during the March session in Figures 138 through 145. For the March additional EBCT runs, Figures 146 through 153 compare single contactor data to blended effluent data. Finally, this same comparison is made for the two September session influent pH runs in Figures 154 through 160 (SDS-CLD curves not shown).

Tables 31 through 38 summarize multiple contactor blended effluent run times for all runs. For each parameter and criterion, the value of other parameters is given when the run time criterion is met. When applicable, run time calculations based on effluent blending of extrapolated breakthrough curves are included (described below).

For single and multiple contactor configurations, Tables 39 and 40 summarize the percent increase in run times observed between a 10 and 20 minute EBCT contactor, for both sessions. Based on the range of run time criteria applied, the average increase in run time between a 10 and 20 minute EBCT contactor over both sessions was 148 and 152 percent for single and multiple contactor configurations, respectively. The similarity in percentages indicates that the percent increase in run time gained by the additional contact time for a single contactor is equivalent to that for a multiple contactor simulation. Table 41 summarizes the change in run time between a 5.0 and 7.5 minute EBCT contactor during the March Session. On average, the average increase in run time between a 5.0 and 7.5 minute EBCT contactor was 88 and 91 percent for single and multiple contactor configurations, respectively.

By accounting for multiple contactor configurations, the estimated contactor run time increased by an average of 137 percent for all EBCTs and both sessions, as compared to single contactor performance. Thus, when 10 or more contactors are operated in staggered mode, the run time of each contactor is 137 percent longer than that of a single GAC contactor.

The carbon usage rate (CUR) is a measure of the amount of carbon needed to treat water to the given GAC effluent run time criterion. The CUR is calculated by the following equation:

$$\text{CUR} = \frac{\text{EBCT} * r}{\text{RT}} \quad (5)$$

where r is the GAC density and RT is the run time. The CUR is normally reported with units of lbs/MG. Tables 42 and 43 summarize the percent decrease in CUR observed between 10 and 20 minute EBCT contactors for both single and multiple contactor configurations for both sessions. On average, the CUR for 20 minute EBCT contactors was 25 percent lower than the CUR for 10 minute EBCT contactors, based on single or multiple contactor breakthrough data. For the 5.0 and 7.5 minute EBCT contactors operated during the March session, the same information is presented in Table 44. The CUR of the 7.5 minute EBCT contactor also averaged 25 percent lower than the CUR for the 5.0 minute EBCT contactors. The CUR based on effluent blending was on average 57 percent lower than the CUR based on single contactor data, for all EBCTs and both sessions.

Based on the March and September runs, a seasonal comparison of multiple contactor simulation run times is summarized in Table 45, for 10 and 20 minute EBCT contactors. Run times to meet the placeholder for Stage 2 THM4 MCL ranged from 36 to 110 days for a 10 minute EBCT contactor, and from 76 to 288 days for a 20 minute EBCT contactor.

Bar graph summaries of run times to effluent criteria for single and multiple contactor configurations for 10 and 20 minute EBCT runs during the March session are shown in Figures 161 through 164. Run times are calculated and compared based on TOC, UV₂₅₄, SDS-THM4, and SDS-HAA5 criteria, as described in Section 9.1. For the September session, run time comparisons for the 10 and 20 minute EBCT contactors are shown in Figures 165 through 168. Run time comparisons for the 5.0 and 7.5 minute EBCT contactors (March session) are shown in Figures 169 through 172. A similar analysis was performed on the influent pH runs: bar graph summaries of run times to effluent criteria for single and multiple contactor configurations for runs with influent pH values of 8.4 and 8.9 are shown in Figures 173 through 176.

In many cases, the blended effluent simulation results did not exceed run time criteria. To increase the benefit of the data set, a breakthrough curve extrapolation procedure was developed to allow reasonable and conservative run time estimates to be made, when blended effluent levels did not exceed the reactivation criteria. To the original breakthrough curve data set for each parameter, three points were added at 150, 200, and 250 percent of the run time at which the last sample point was reported (t_{max}), based on the following set of equations:

Point	Run time	Concentration	
A	$1.5t_{\max}$	$C(t_{\max}) + 0.5[C_{\text{inf}} - C(t_{\max})]$	(6)
B	$2.0t_{\max}$	$C(t_{\max}) + 0.6[C_{\text{inf}} - C(t_{\max})]$	(7)
C	$2.5t_{\max}$	$C(t_{\max}) + 0.7[C_{\text{inf}} - C(t_{\max})]$	(8)

where C_{inf} is the influent concentration for each parameter, and $C(t_{\max})$ is the effluent concentration of the parameter at t_{\max} .

The logistic function curve was fit to the data set including the three extrapolation points. The integrated form of the logistic function (Equation 4) was again used to estimate blended effluent water quality for the extrapolation. The run time data contained in the figures and tables presented earlier in this section include the estimates derived by the extrapolation procedure, when applicable. No breakthrough curves were extrapolated beyond 250 percent of the maximum run time. Figures 177 through 232 contain the extrapolated breakthrough curves for all runs. Extrapolation results are not presented for HAA data, due to the low levels measured. Table 46 summarizes the best fit parameter values and r^2 values for all curve fits.

Parameter	Coefficient	March Session, EBCT (min)				September Session			
		5.0	7.5	10	20	Influent pH 9.4, EBCT (min)		10 min. EBCT, influent pH	
						10	20	8.9	8.4
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	1.33	1.30	1.34	1.19	1.79	1.78	1.80	1.86
	B	6.6	9.0	6.5	7.5	10.1	7.5	12.4	11.7
	D	0.170	0.103	0.063	0.034	0.100	0.037	0.099	0.083
	r^2	0.985	0.980	0.987	0.988	0.978	0.972	0.985	0.978
UV ₂₅₄	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.021	0.023	0.024	0.020	0.035	0.033	0.034	0.035
	B	9.7	9.3	9.1	20.0	11.1	9.8	14.0	14.8
	D	0.203	0.097	0.066	0.048	0.083	0.036	0.085	0.074
	r^2	0.995	0.987	0.982	0.958	0.974	0.968	0.981	0.986
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	38.3	38.6	42.5	37.7	74.2	72.6	76.1	68.5
	B	10.6	11.1	12.2	13.4	17.8	12.3	13.1	36.9
	D	0.226	0.135	0.084	0.044	0.139	0.057	0.114	0.150
	r^2	0.979	0.988	0.990	0.970	0.969	0.982	0.976	0.976
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	6.6	8.3	7.6	9.4	14.7	15.0	15.0	14.0
	B	27.7	17.5	9.7	8.3	32.3	23.6	20.9	23.3
	D	0.324	0.116	0.064	0.018	0.143	0.058	0.118	0.105
	r^2	0.967	0.982	0.950	0.891	0.975	0.968	0.950	0.967
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	9.3	11.5	10.3	12.8	20.8	22.0	22.0	20.4
	B	46.8	21.4	12.5	9.1	41.9	22.0	22.2	28.8
	D	0.354	0.126	0.072	0.019	0.159	0.056	0.122	0.115
	r^2	0.974	0.979	0.950	0.889	0.974	0.967	0.950	0.968
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	10.9	12.8	12.0	17.2	22.7	25.6	24.1	22.7
	B	43.0	31.0	15.7	11.3	51.8	20.2	27.8	31.9
	D	0.315	0.140	0.077	0.017	0.165	0.051	0.131	0.113
	r^2	0.977	0.989	0.960	0.896	0.975	0.973	0.953	0.962
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	72	72	79	65	143	136	135	141
	B	13.6	12.6	10.2	9.4	14.6	12.0	18.5	16.3
	D	0.216	0.115	0.072	0.035	0.093	0.040	0.104	0.082
	r^2	0.974	0.951	0.981	0.974	0.974	0.976	0.985	0.985
SDS-CLD	A_o	2.36	2.60	2.80	2.66	1.70	NR	NR	NR
	A_f	3.43	3.36	3.50	3.27	4.01	NR	NR	NR
	B	2.6	4.7	20.0	16.1	1.2	NR	NR	NR
	D	0.120	0.077	0.072	0.046	0.071	NR	NR	NR
	r^2	0.987	0.981	0.935	0.965	0.908	NR	NR	NR

NR: not reported

Table 30 Summary of logistic function curve fit parameters and r^2 values

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	116#	16,700	1.0	0.017	33	5	8	9	59
			0.9†	105	15,140	0.9	0.016	31	5	7	8	55
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	148#	21,270	1.1	0.020	36	6	9	10	69
			0.019†	133#	19,200	1.1	0.019	35	6	8	10	65
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	110#	15,890	1.0	0.017	32	5	7	8	58
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	154#	22,190	1.1	0.020	36	7	9	10	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 31 Run times to selected GAC effluent criteria based on effluent blending (10 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	314#	22,620	1.0	0.018	33	6	8	9	57
			0.9†	278#	19,990	0.9	0.017	32	5	8	9	52
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	384#	27,660	1.1	0.020	35	7	9	11	64
			0.019†	344#	24,750	1.0	0.019	34	6	9	10	60
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	288#	20,720	1.0	0.017	32	6	8	9	54
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	456#	32,840	1.2	0.022	37	7	10	12	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 32 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	54	7,730	1.0	0.016	45	8	12	13	67
			1.3†	87	12,490	1.3	0.023	58	11	16	17	94
UV ₂₅₄	(1/cm)	0.054	0.040	*	*							
			0.020	70	10,130	1.2	0.020	52	10	14	15	84
			0.027†	114#	16,370	1.5	0.027	66	13	19	21	118
SDS-THM4	(µg/L)	103	80	*	*							
			64	103#	14,780	1.5	0.026	64	13	18	20	111
			32	36	5,150	0.7	0.011	32	5	8	8	43
SDS-HAA5	(µg/L)	25	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	38	48	*	*							
			24	170#	24,510	1.7	0.033	73	16	22	24	139
SDS-TOX	(µg Cl ⁻ /L)	218	120	118#	16,980	1.5	0.028	67	14	20	21	120
			70	56	8,090	1.0	0.017	46	8	12	13	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 33 Run times to selected GAC effluent criteria based on effluent blending (10 minute EBCT) during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	128	9,200	1.0	0.017	47	9	12	14	70
			1.3†	210	15,100	1.3	0.023	57	11	16	18	95
UV ₂₅₄	(1/cm)	0.054	0.040	*	*							
			0.020	165	11,850	1.2	0.020	53	10	15	16	84
			0.027†	293#	21,080	1.5	0.027	67	14	20	22	117
SDS-THM4	(µg/L)	103	80	*	*							
			64	247#	17,790	1.4	0.025	64	13	18	21	106
			32	76	5,500	0.7	0.010	32	5	7	8	42
SDS-HAA5	(µg/L)	25	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	38	48	*	*							
			24	355#	25,520	1.6	0.030	70	15	21	24	127
SDS-TOX	(µg Cl ⁻ /L)	218	120	309#	22,240	1.5	0.028	68	14	20	23	120
			70	127	9,170	1.0	0.017	47	9	12	14	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 34 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	48	13,840	1.0	0.017	31	6	8	9	55
			0.9†	40	11,600	0.9	0.016	29	5	7	8	50
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	57#	16,470	1.1	0.020	34	6	9	10	65
			0.019†	52#	14,870	1.1	0.019	33	6	8	10	61
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	49#	14,010	1.0	0.018	32	6	8	9	59
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	66#	19,120	1.2	0.022	36	7	10	11	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 35 Run times to selected GAC effluent criteria based on effluent blending (5.0 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	1.9	2.0	*	*							
			1.0	96	18,410	1.0	0.018	33	6	9	10	57
			0.9†	79	15,250	0.9	0.017	32	6	8	9	52
UV ₂₅₄	(1/cm)	0.038	0.040	*	*							
			0.020	109#	21,020	1.1	0.020	35	7	10	11	64
			0.019†	99#	18,910	1.0	0.019	34	7	9	11	60
SDS-THM4	(µg/L)	55	80	*	*							
			64	*	*							
			32	83#	15,920	1.0	0.017	32	6	9	10	54
SDS-HAA5	(µg/L)	13	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	17	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	20	48	*	*							
			24	*	*							
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*							
			70	130#	24,910	1.2	0.022	37	8	11	12	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 36 Run times to selected GAC effluent criteria based on effluent blending (7.5 minute EBCT) during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	58	8,350	1.0	0.016	46	8	12	13	69
			1.3†	93	13,400	1.3	0.022	59	11	17	18	93
UV ₂₅₄	(1/cm)	0.055	0.040	*	*							
			0.020	77	11,060	1.2	0.020	53	10	15	16	85
			0.027†	129#	18,530	1.6	0.027	68	14	20	22	120
SDS-THM4	(µg/L)	100	80	*	*							
			64	107#	15,420	1.5	0.024	64	13	19	21	108
			32	37	5,390	0.7	0.010	32	5	8	9	43
SDS-HAA5	(µg/L)	24	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	33	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	37	48	*	*							
			24	175#	25,160	1.7	0.032	72	15	22	24	136
SDS-TOX	(µg Cl ⁻ /L)	222	120	128#	18,500	1.6	0.027	68	14	20	22	120
			70	58	8,420	1.0	0.016	46	8	12	14	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 37 Run times to selected GAC effluent criteria based on effluent blending for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV ₂₅₄ (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl ⁻ /L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	65	9,390	1.0	0.016	43	8	11	12	67
			1.3†	101	14,570	1.3	0.022	52	10	14	16	92
UV ₂₅₄	(1/cm)	0.055	0.040	*	*							
			0.020	86	12,420	1.2	0.020	49	9	13	15	84
			0.027†	137#	19,750	1.6	0.027	62	13	18	20	115
SDS-THM4	(µg/L)	100	80	*	*							
			64	153#	22,010	1.6	0.029	64	13	19	21	121
			32	45	6,470	0.7	0.010	32	5	8	8	45
SDS-HAA5	(µg/L)	24	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	33	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	37	48	*	*							
			24	290#	41,710	1.9	0.036	71	15	22	24	147
SDS-TOX	(µg Cl ⁻ /L)	222	120	150#	21,560	1.6	0.029	64	13	19	21	120
			70	68	9,800	1.0	0.016	44	8	12	12	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 38 Run times to selected GAC effluent criteria based on effluent blending for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

Parameter	Units	Influent concentra- tion	Breakthrough criterion	Run time (days) at given EBCT (min)				Percent increase in run time (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors	
				Contactor configuration				Contactor configuration		EBCT (min)	
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	1.9	2.0	*	*	*	*				
			1.0	49	116	124	314	153	171	137	153
			0.9†	44	105	108	278	143	164	138	158
UV-254	(1/cm)	0.038	0.040	*	*	*	*				
			0.020	62	148	184	384	196	160	138	109
			0.019†	56	133	155	344	176	158	138	122
SDS-THM4	(µg/L)	55	80	*	*	*	*				
			64	*	*	*	*				
			32	47	110	110	288	137	161	137	161
SDS-HAA5	(µg/L)	13	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	17	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	20	48	*	*	*	*				
			24	*	*	*	*				
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*	*	*				
			70	68	154	*	456		196	126	

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 39 Summary of GAC run times to selected GAC effluent criteria for 10 and 20 minute EBCT contactors during session 1, March

Parameter	Units	Influent concentra- tion	Breakthrough criterion	Run time (days) at given EBCT (min)				Percent increase in run time (%)			
				10		20		10 to 20		Single to multiple	
				Contactor configuration				min EBCT		contactors	
				Contactor configuration				EBCT (min)			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	2.6	2.0	*	*	*	*				
			1.0	24	54	53	128	119	138	124	143
			1.3†	35	87	90	210	157	142	149	134
UV-254	(1/cm)	0.054	0.040	*	*	*	*				
			0.020	32	70	72	165	125	134	121	130
			0.027†	50	114	125	293	151	158	129	135
SDS-THM4	(µg/L)	103	80	78	*	*	*				
			64	43	103	94	247	117	141	137	163
			32	18	36	39	76	116	114	100	98
SDS-HAA5	(µg/L)	25	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	35	48	*	*	*	*				
			24	*	*	200	*				
SDS-HAA9	(µg/L)	38	48	*	*	*	*				
			24	56	170	135	355	143	108	205	162
SDS-TOX	(µg Cl ⁻ /L)	218	120	50	118	130	309	160	162	136	138
			70	25	56	56	127	125	127	123	126

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 40 Summary of GAC run times to selected GAC effluent criteria for 10 and 20 minute EBCT contactors during session 2, September

Parameter	Units	Influent concen- tration	Breakthrough criterion	Run time (days) at given EBCT (min)				Percent increase in run time (%)			
				5		7.5		5 to 7.5 min EBCT		Single to multiple contactors	
				Contactor configuration				Contactor configuration		EBCT (min)	
				Single	Multiple	Single	Multiple	Single	Multiple	5	7.5
TOC	(mg/L)	1.9	2.0	*	*	*	*				
			1.0	18	48	37	96	103	99	163	158
			0.9†	16	40	33	79	110	97	156	140
UV-254	(1/cm)	0.038	0.040	*	*	*	*				
			0.020	27	57	50	109	86	91	111	118
			0.019†	25	52	42	99	70	91	108	134
SDS-THM4	(µg/L)	55	80	*	*	*	*				
			64	*	*	*	*				
			32	21	49	31	83	47	70	132	169
SDS-HAA5	(µg/L)	13	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	17	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	20	48	*	*	*	*				
			24	*	*	*	*				
SDS-TOX	(µg Cl⁻/L)	127	120	*	*	*	*				
			70	29	66	61	130	114	95	131	111

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

#Run time estimated from breakthrough curve extrapolation procedure.

Table 41 Summary of GAC run times to selected GAC effluent criteria for 5.0 and 7.5 minute EBCT contactors during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Percent decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors	
				Single	Multiple	Single	Multiple	Contactor configuration		EBCT (min)	
								Single	Multiple	10	20
TOC	(mg/L)	1.9	2.0	*	*	*	*				
			1.0	570	240	420	170	26	29	58	60
			0.9†	630	260	480	190	24	27	59	60
UV-254	(1/cm)	0.038	0.040	*	*	*	*				
			0.020	450	190	280	140	38	26	58	50
			0.019†	500	210	340	150	32	29	58	56
SDS-THM4	(µg/L)	55	80	*	*	*	*				
			64	*	*	*	*				
			32	600	250	470	180	22	28	58	62
SDS-HAA5	(µg/L)	13	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	17	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	20	48	*	*	*	*				
			24	*	*	*	*				
SDS-TOX	(µg Cl ⁻ /L)	127	120	*	*	*	*				
			70	410	180	*	110		39	56	

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

Table 42 Summary of carbon usage rates to selected GAC effluent criteria for 10 and 20 minute EBCT contactors during session 1, March

Parameter	Units	Influent concentration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Percent decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors	
				Contactor configuration		Contactor configuration		Contactor configuration		EBCT (min)	
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	2.6	2.0	*	*	*	*				
			1.0	1,160	520	990	410	15	21	55	59
			1.3†	800	320	580	250	28	22	60	57
UV-254	(1/cm)	0.054	0.040	*	*	*	*				
			0.020	880	400	730	320	17	20	55	56
			0.027†	560	250	420	180	25	28	55	57
SDS-THM4	(µg/L)	103	80	360	*	*	*				
			64	640	270	550	210	14	22	58	62
			32	1,560	780	1,350	680	13	13	50	50
SDS-HAA5	(µg/L)	25	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	35	48	*	*	*	*				
			24	*	*	260	*				
SDS-HAA9	(µg/L)	38	48	*	*	*	*				
			24	500	160	380	150	24	6	68	61
SDS-TOX	(µg Cl⁻/L)	218	120	560	240	400	170	29	29	57	58
			70	1,110	500	920	410	17	18	55	55

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

Table 43 Summary of carbon usage rates to selected GAC effluent criteria for 10 and 20 minute EBCT contactors during session 2, September

Parameter	Units	Influent concentration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Percent decrease in CUR (%)			
				5		7.5		5 to 7.5 min EBCT		Single to multiple contactors	
				Single	Multiple	Single	Multiple	Contactor configuration		5	7.5
								Single	Multiple		
TOC	(mg/L)	1.9	2.0	*	*	*	*				
			1.0	760	290	520	200	32	31	62	62
			0.9†	890	350	590	250	34	29	61	58
UV-254	(1/cm)	0.038	0.040	*	*	*	*				
			0.020	510	240	390	180	24	25	53	54
			0.019†	560	270	460	200	18	26	52	57
SDS-THM4	(µg/L)	55	80	*	*	*	*				
			64	*	*	*	*				
			32	660	290	630	240	5	17	56	62
SDS-HAA5	(µg/L)	13	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	17	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	20	48	*	*	*	*				
			24	*	*	*	*				
SDS-TOX	(µg Cl⁻/L)	127	120	*	*	*	*				
			70	480	210	320	150	33	29	56	53

†GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Calculated values are left blank.

Table 44 Summary of carbon usage rates to selected GAC effluent criteria for 5.0 and 7.5 minute EBCT contactors during session 1, March

Parameter	Units	Value	Run time (days)			
			10 minute EBCT		20 minute EBCT	
			March	September	March	September
TOC	(mg/L)	2.0	*	*	*	*
		1.0	116#	54	314#	128
		$c/c_0 = 50\%^{\dagger}$	105	87	278#	210
UV-254	(1/cm)	0.040	*	*	*	*
		0.020	148#	70	384#	165
		$c/c_0 = 50\%^{\dagger}$	133#	114#	344#	293#
SDS-THM4	(µg/L)	80	*	*	*	*
		64	*	103#	*	247#
		32	110#	36	288#	76
SDS-HAA5	(µg/L)	48	*	*	*	*
		24	*	*	*	*
SDS-HAA6	(µg/L)	48	*	*	*	*
		24	*	*	*	*
SDS-HAA9	(µg/L)	48	*	*	*	*
		24	*	170#	*	355#
SDS-TOX	(µg Cl ⁻ /L)	120	*	118#	*	309#
		70	154#	56	456#	127
Extrapolated run time (days)		--	246	211	480	455

[†]GAC effluent concentration equal to 50 percent of the average influent concentration.

*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure).

#Run time estimated from breakthrough curve extrapolation procedure.

Table 45 Run times to selected GAC effluent criteria based on effluent blending for 10 and 20 minute EBCT

Parameter	Coefficient	March Session, EBCT (min)				September Session			
						Influent pH 9.4, EBCT (min)		10 min. EBCT, influent pH	
		5.0	7.5	10	20	10	20	8.9	8.4
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	1.56	1.55	1.59	1.58	2.13	2.16	2.11	2.15
	B	5.0	6.0	5.0	4.1	6.5	4.8	7.9	8.1
	D	0.111	0.060	0.040	0.014	0.062	0.020	0.065	0.058
	r^2	0.955	0.950	0.956	0.915	0.947	0.930	0.954	0.954
UV ₂₅₄	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.032	0.031	0.032	0.031	0.044	0.045	0.045	0.044
	B	6.9	6.3	6.7	5.6	7.5	5.8	7.6	8.5
	D	0.097	0.050	0.037	0.014	0.048	0.016	0.042	0.043
	r^2	0.945	0.930	0.933	0.896	0.925	0.908	0.920	0.929
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	46.4	44.9	47.5	45.8	86.5	82.5	85.8	78.9
	B	6.3	7.3	9.6	6.4	8.7	7.7	9.3	12.3
	D	0.131	0.089	0.065	0.023	0.085	0.039	0.086	0.090
	r^2	0.945	0.959	0.977	0.930	0.943	0.957	0.959	0.947
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	10.0	10.4	10.6	11.2	20.1	20.3	19.3	17.8
	B	5.9	10.3	7.4	8.6	10.7	6.7	10.3	11.3
	D	0.095	0.070	0.035	0.015	0.065	0.021	0.067	0.061
	r^2	0.794	0.942	0.903	0.888	0.909	0.881	0.893	0.903
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	13.3	14.1	14.3	15.1	27.9	28.3	26.9	25.1
	B	7.6	12.0	8.3	9.1	11.0	7.6	12.4	13.5
	D	0.114	0.079	0.039	0.016	0.070	0.025	0.079	0.071
	r^2	0.824	0.946	0.899	0.885	0.911	0.906	0.913	0.922
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	15.4	15.8	16.4	17.8	30.3	31.1	29.4	27.6
	B	9.1	14.8	9.4	11.3	12.1	9.6	14.4	17.1
	D	0.118	0.086	0.041	0.017	0.073	0.029	0.085	0.076
	r^2	0.853	0.951	0.908	0.896	0.913	0.937	0.918	0.925
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	104	104	107	106	182	179	181	177
	B	7.3	6.8	6.2	4.8	10.3	6.8	8.8	9.0
	D	0.098	0.048	0.037	0.011	0.060	0.020	0.052	0.048
	r^2	0.915	0.891	0.920	0.861	0.944	0.918	0.916	0.931

Table 46 Summary of logistic function curve fit parameters and r2 values for curve fits after breakthrough curve extrapolation

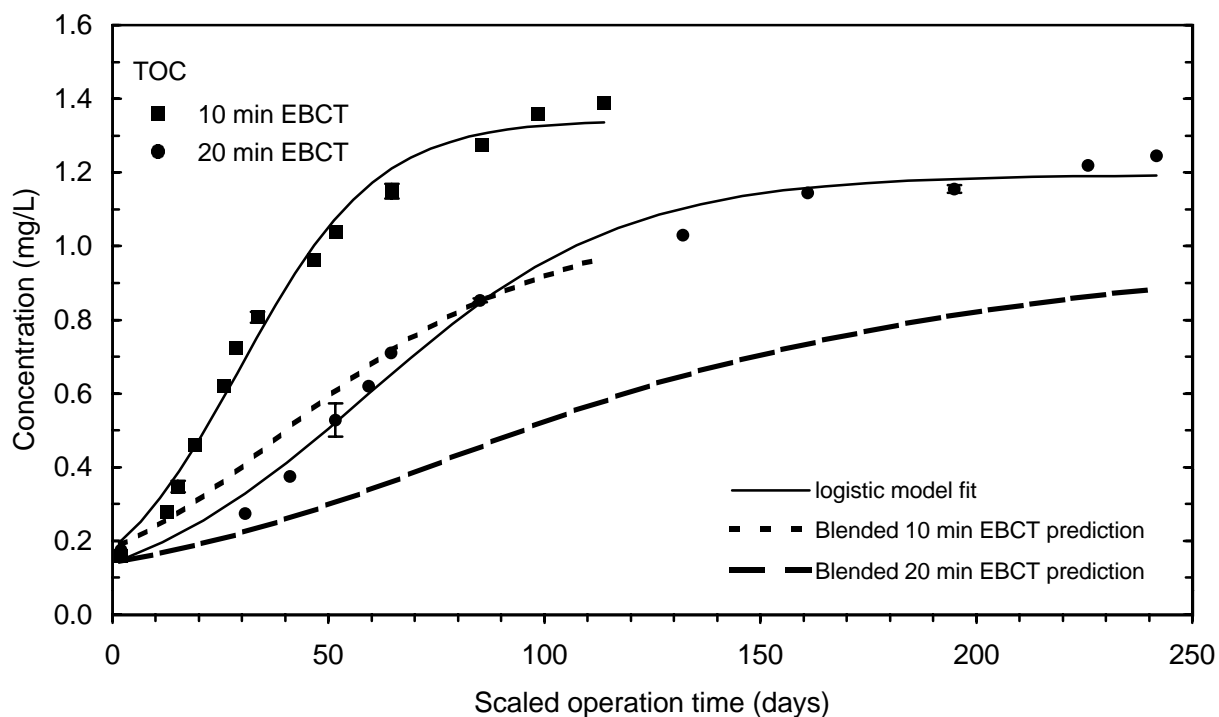


Figure 143 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

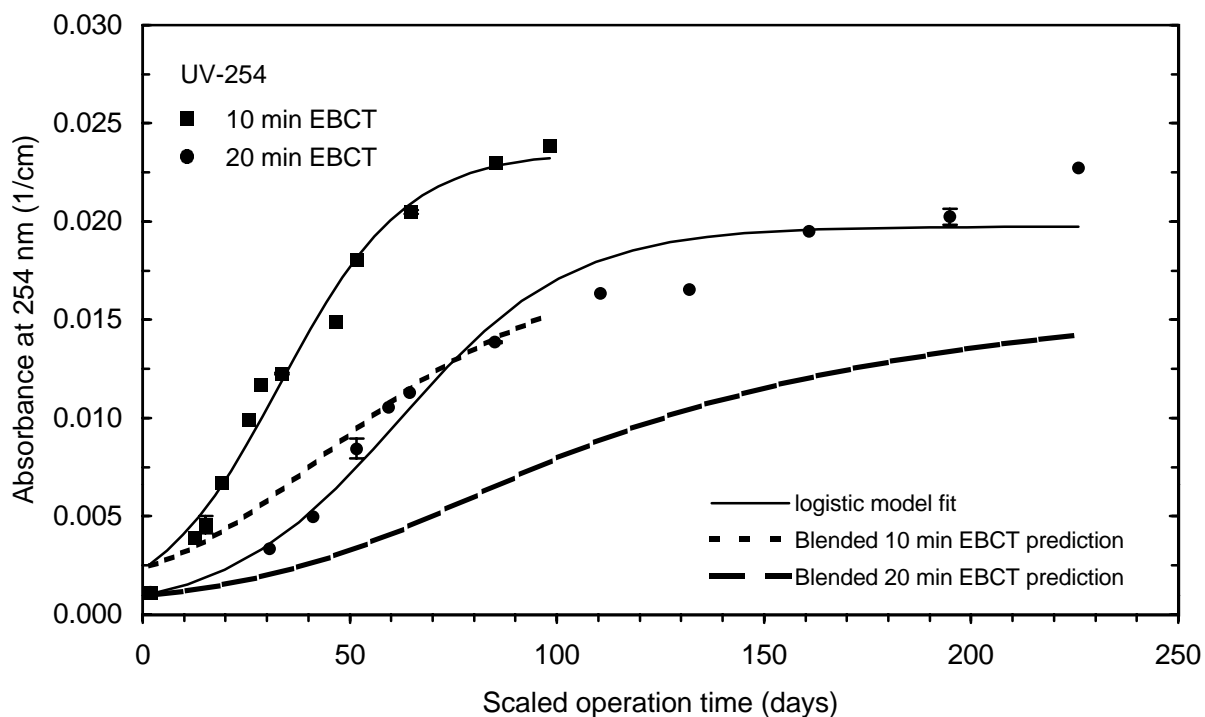


Figure 144 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

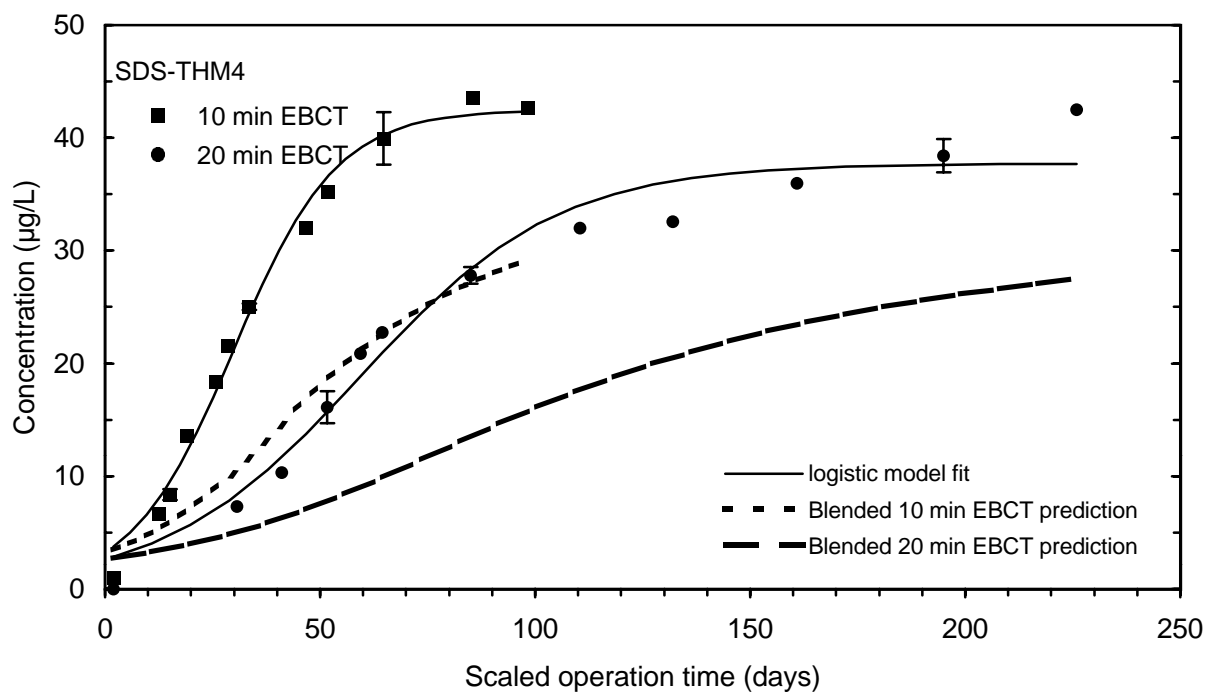


Figure 145 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

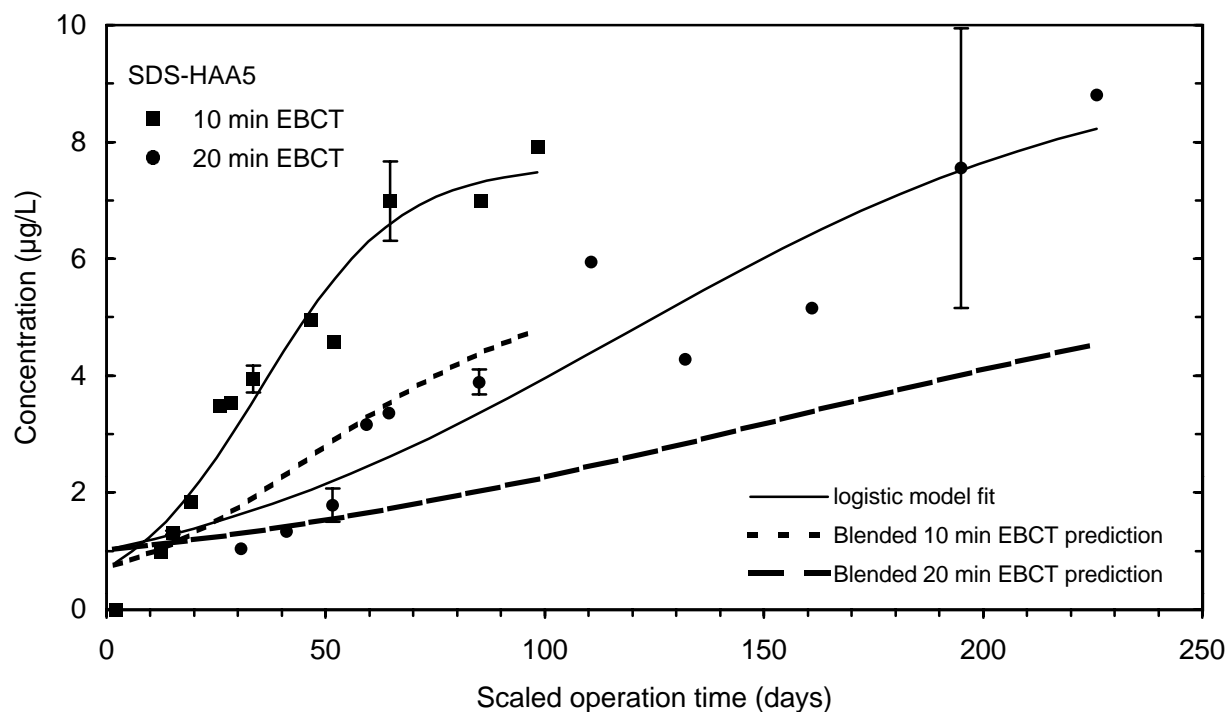


Figure 146 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

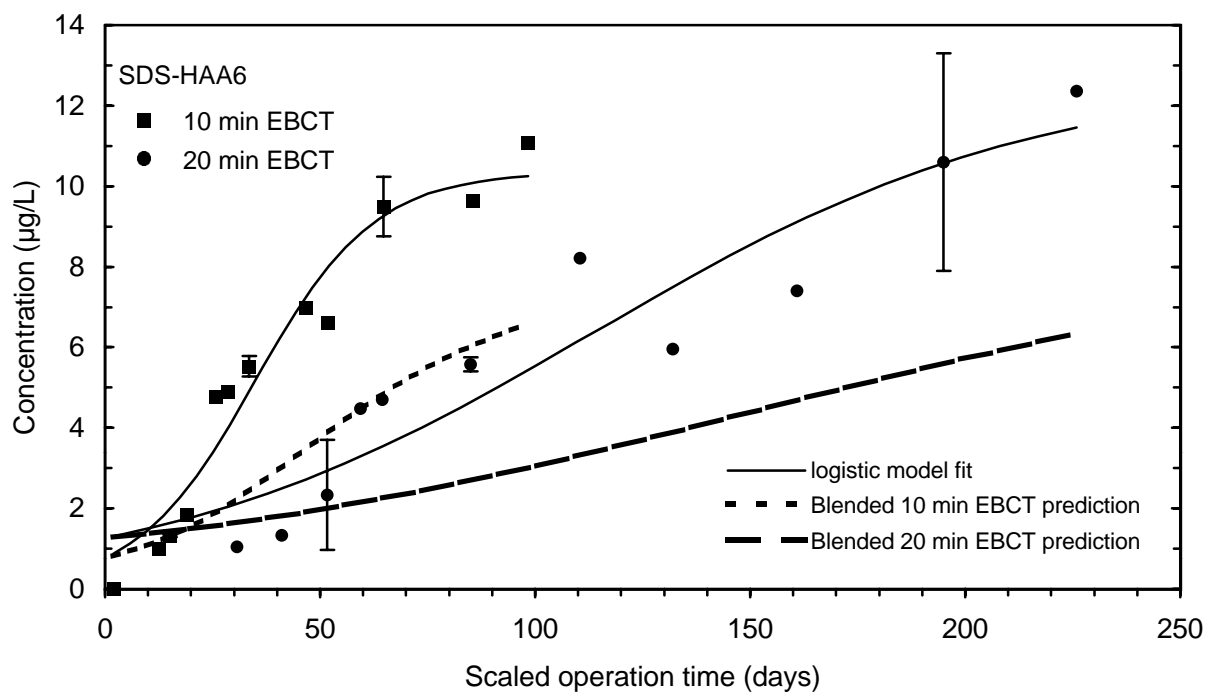


Figure 147 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

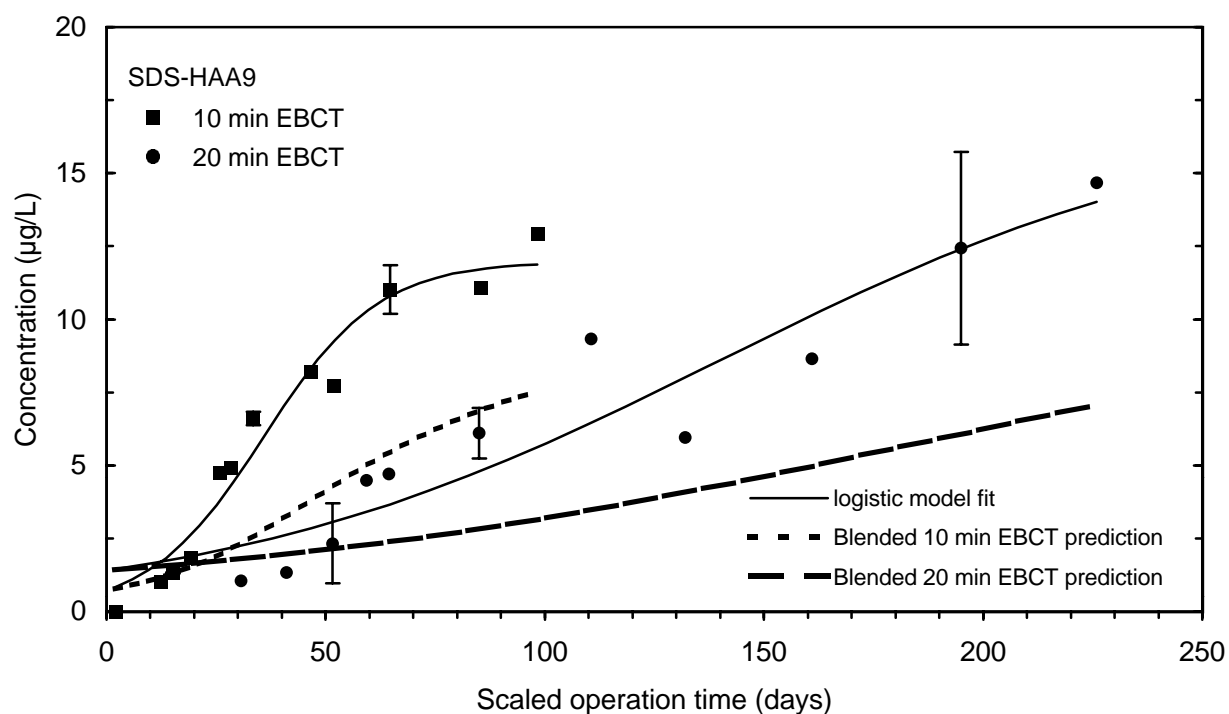


Figure 148 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

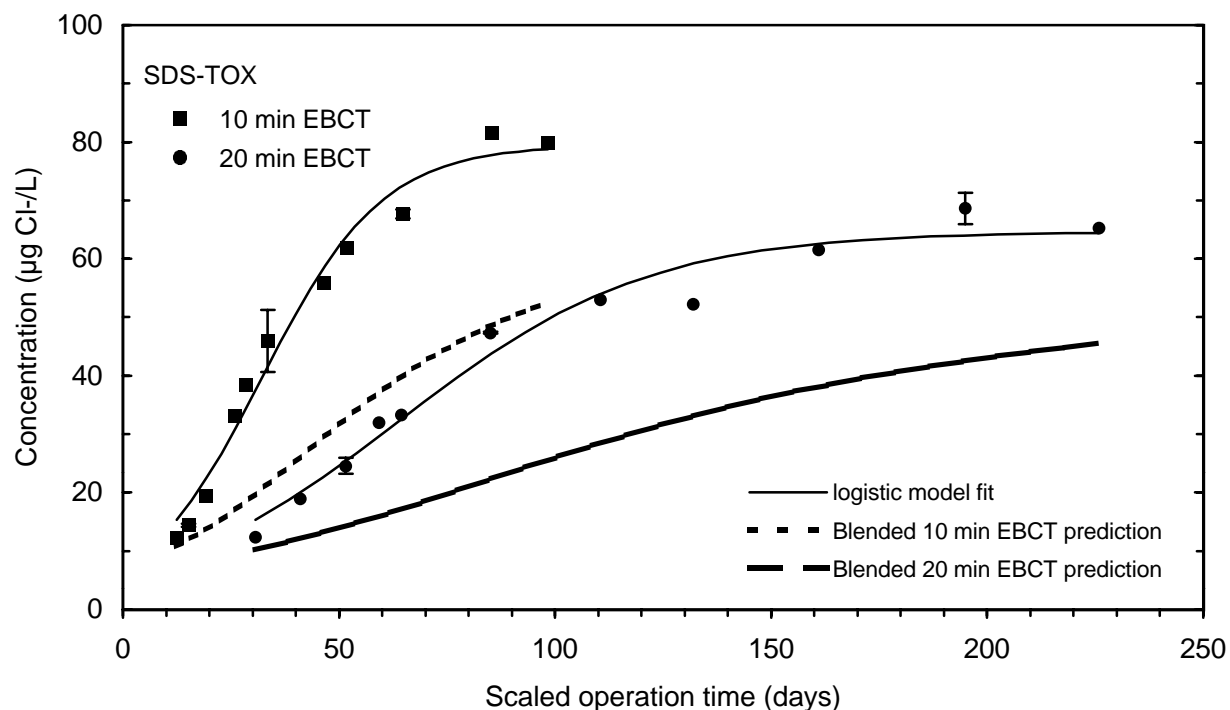


Figure 149 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

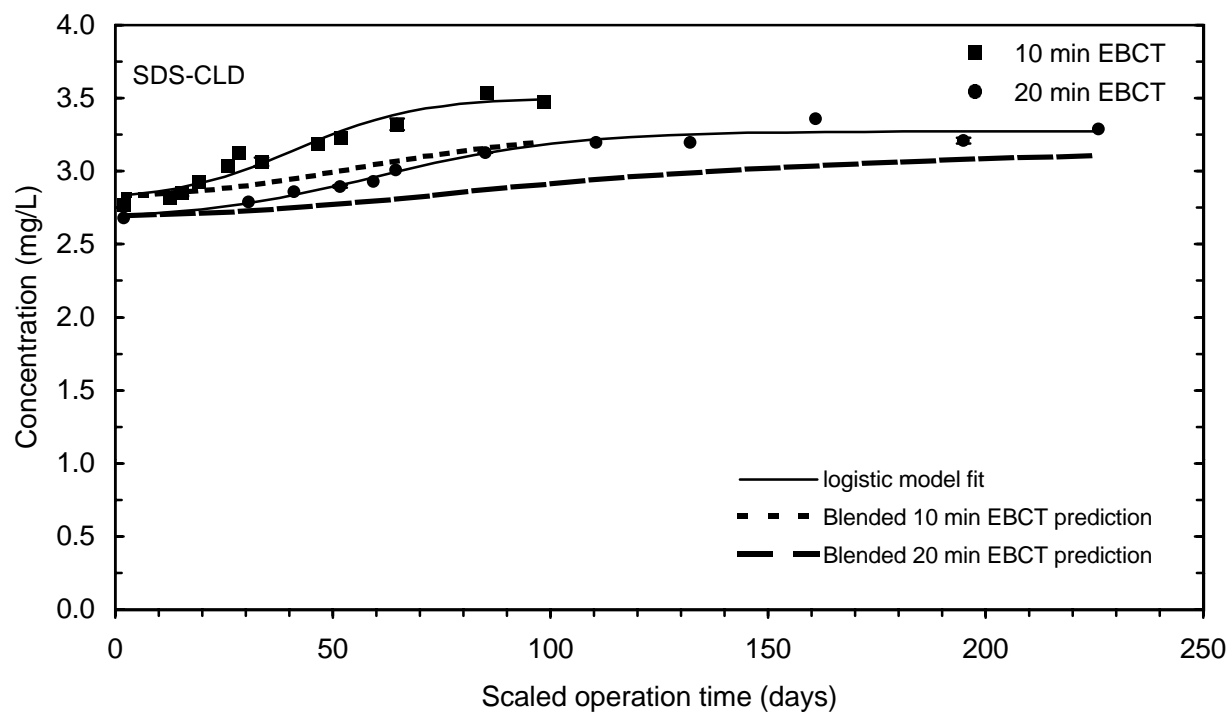


Figure 150 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (March)

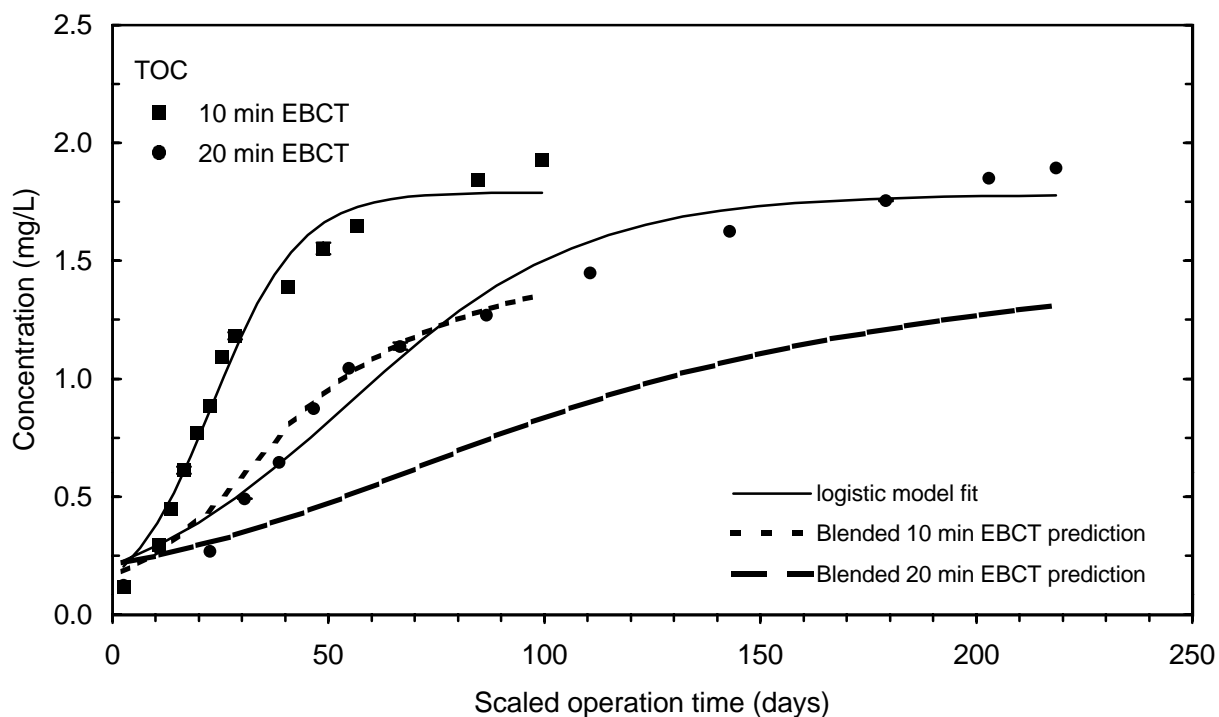


Figure 151 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

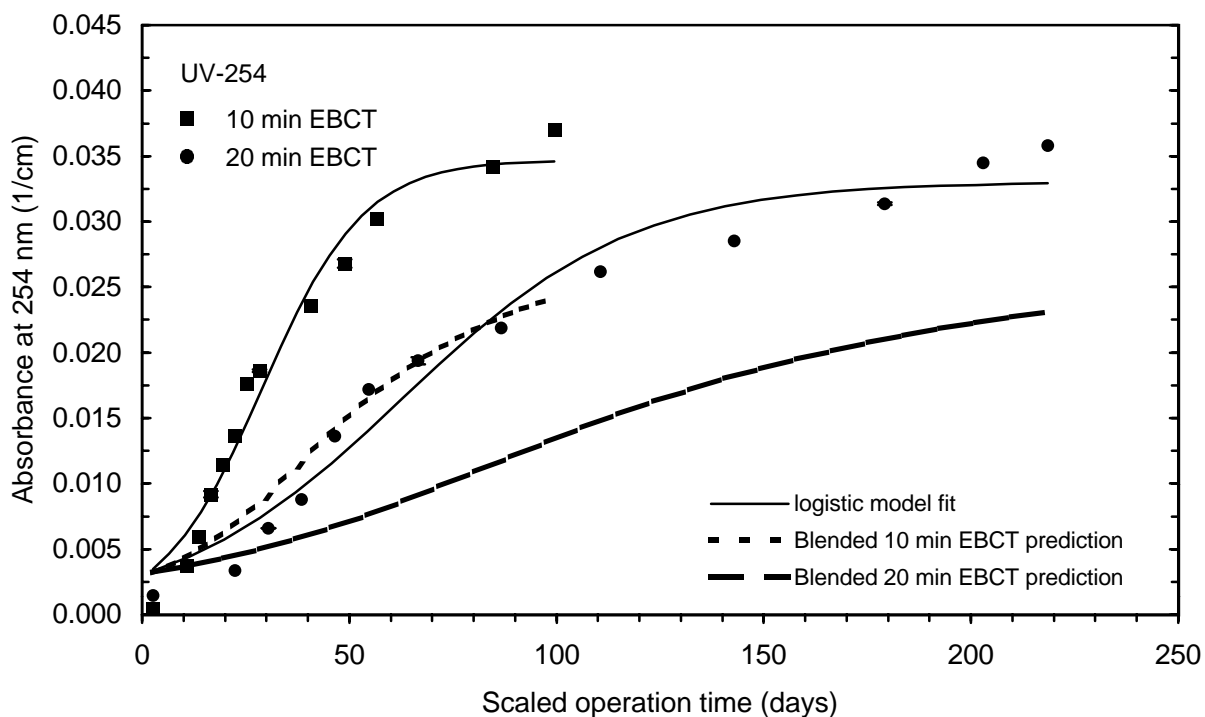


Figure 152 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

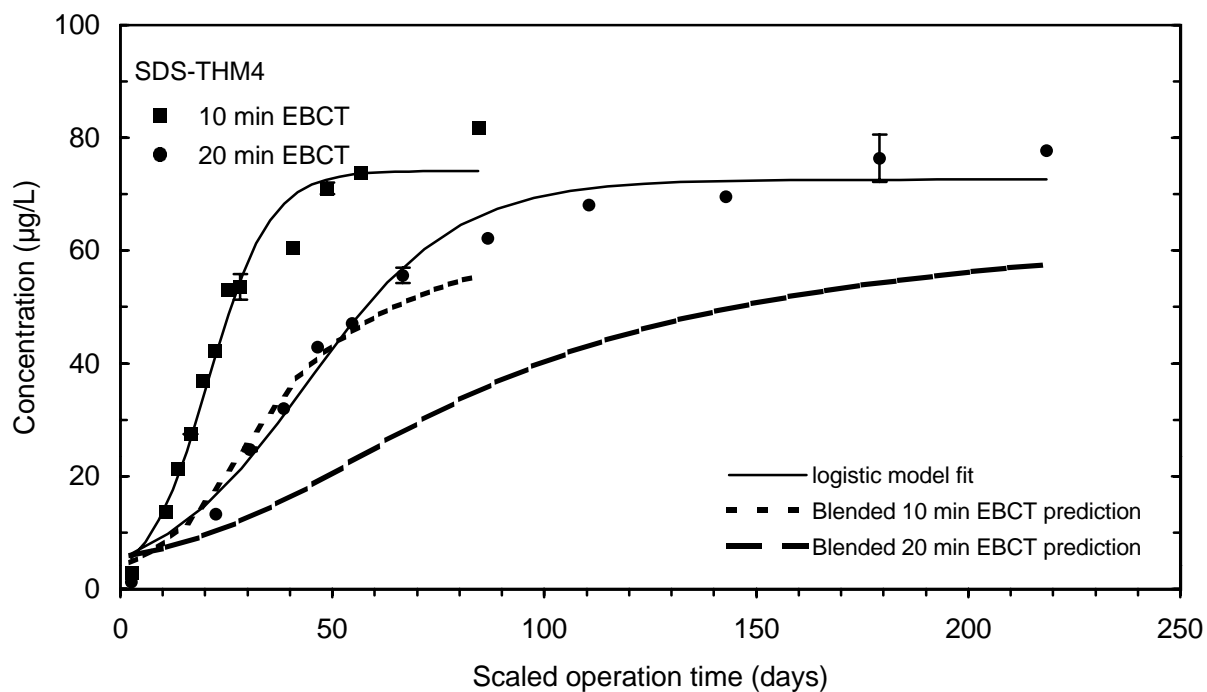


Figure 153 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

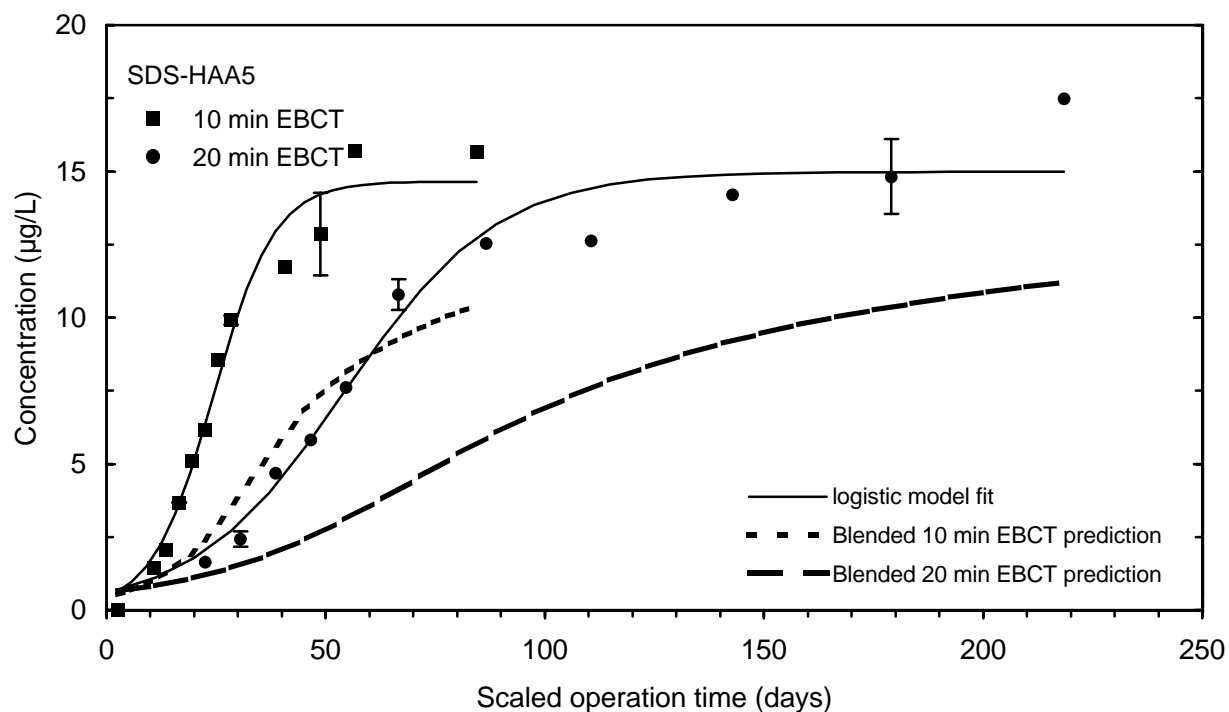


Figure 154 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

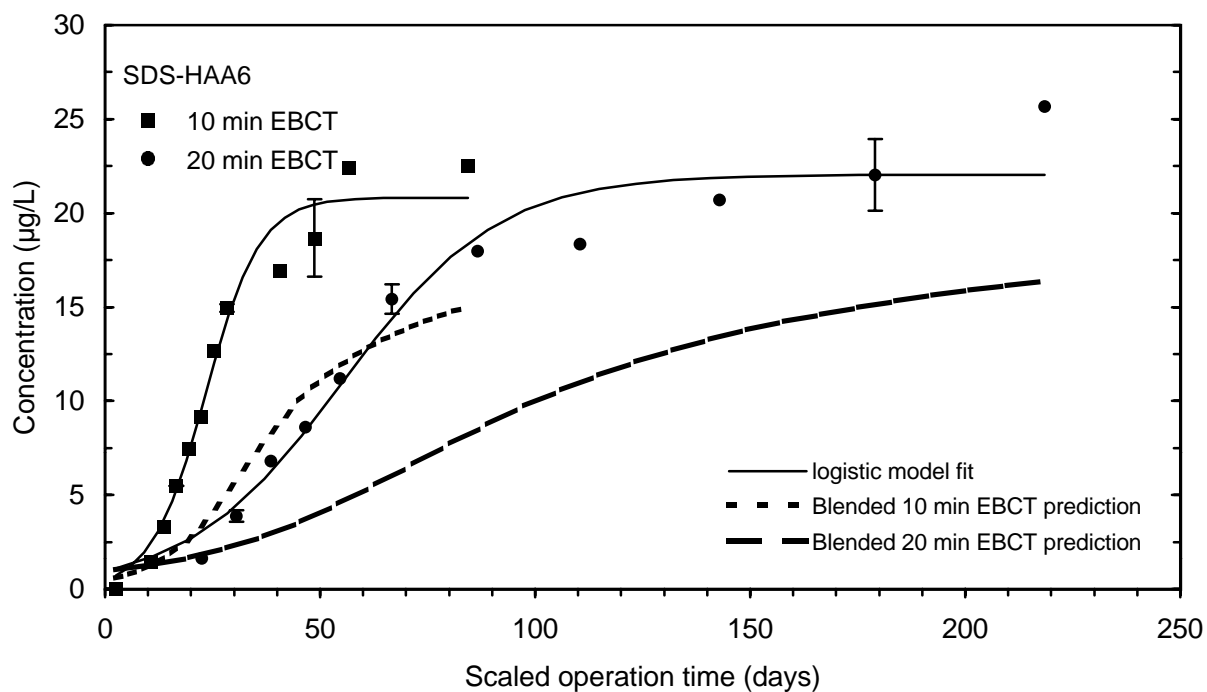


Figure 155 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

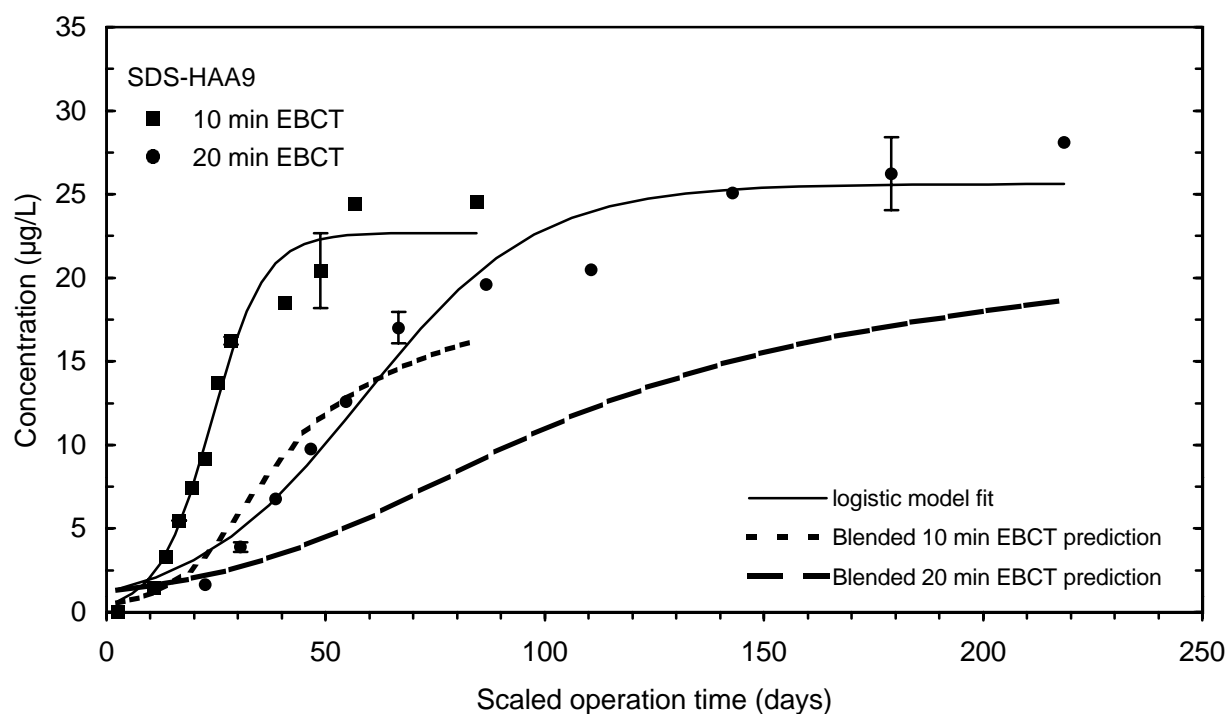


Figure 156 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

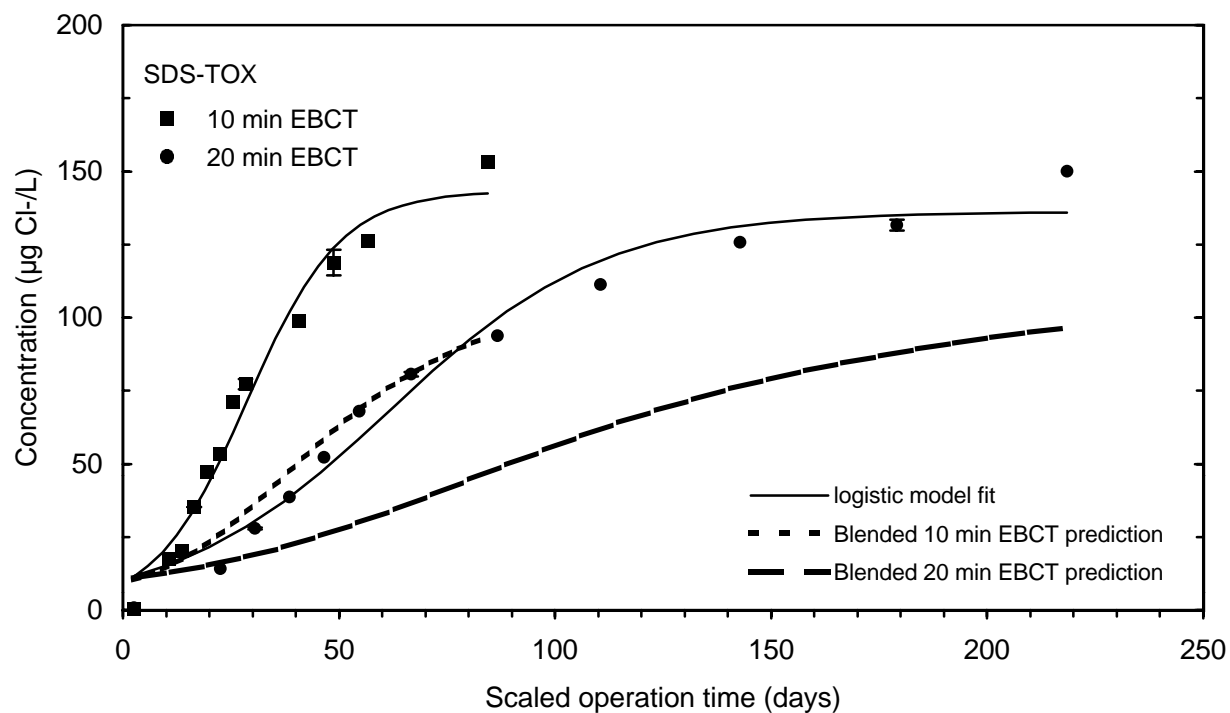


Figure 157 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

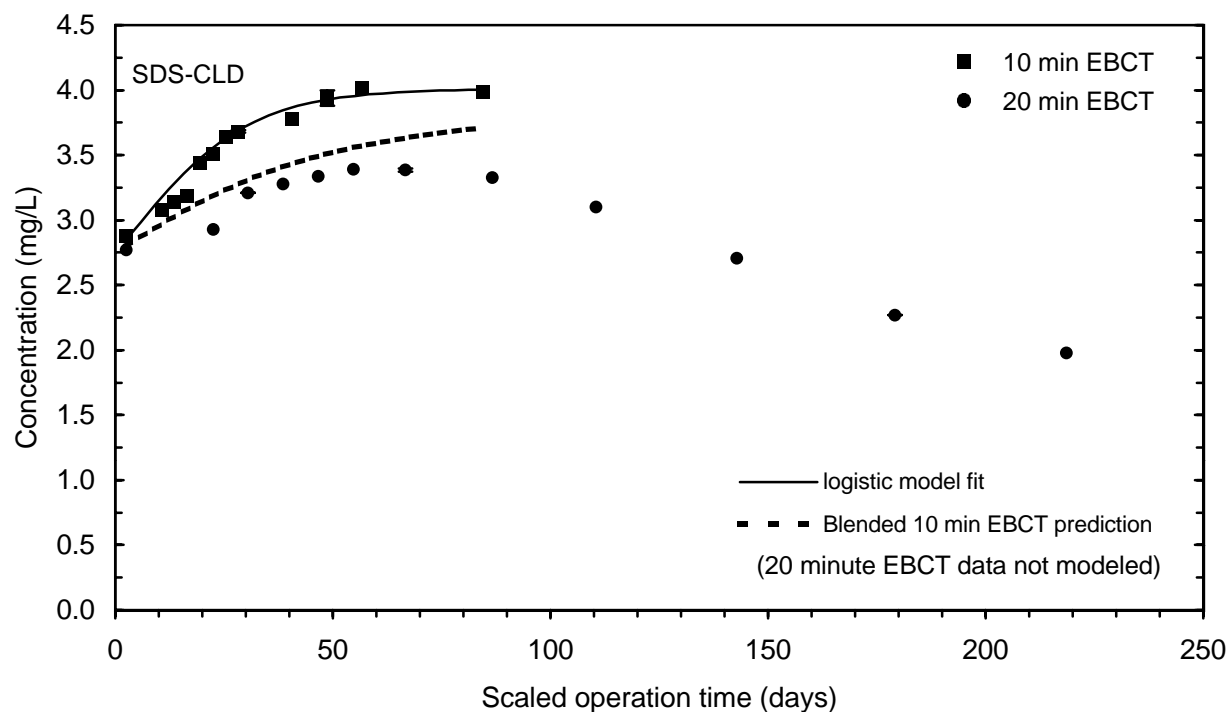


Figure 158 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (September)

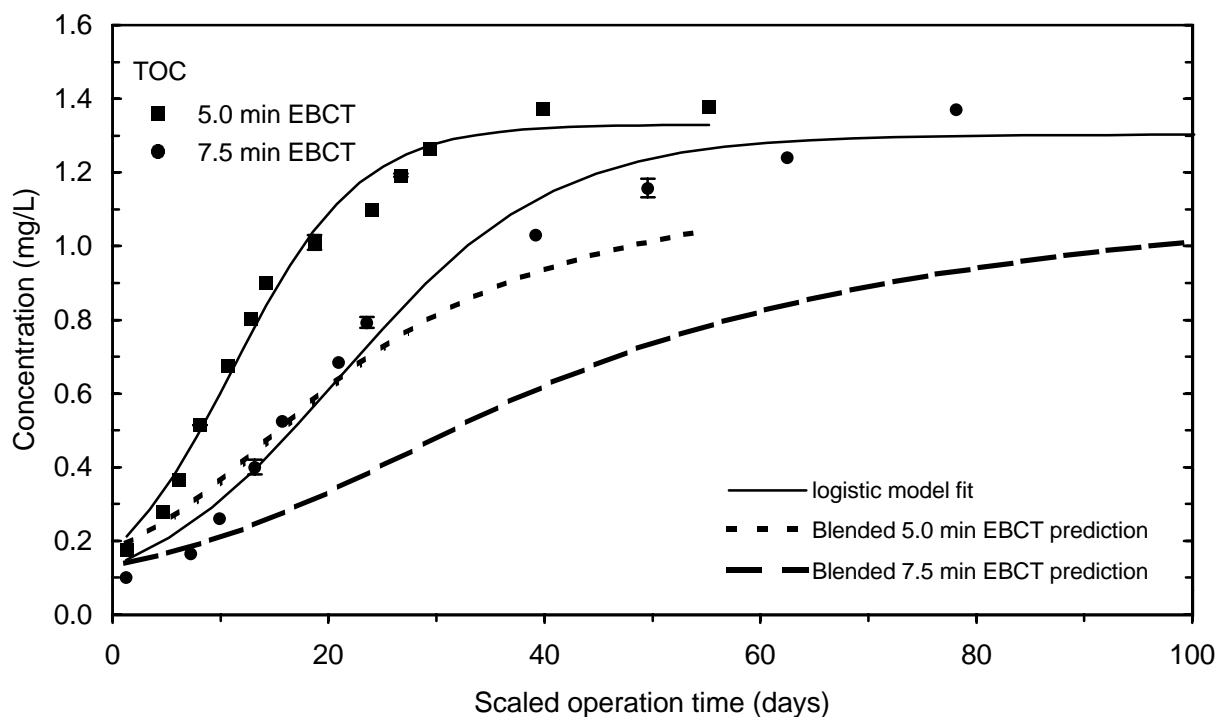


Figure 159 TOC breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

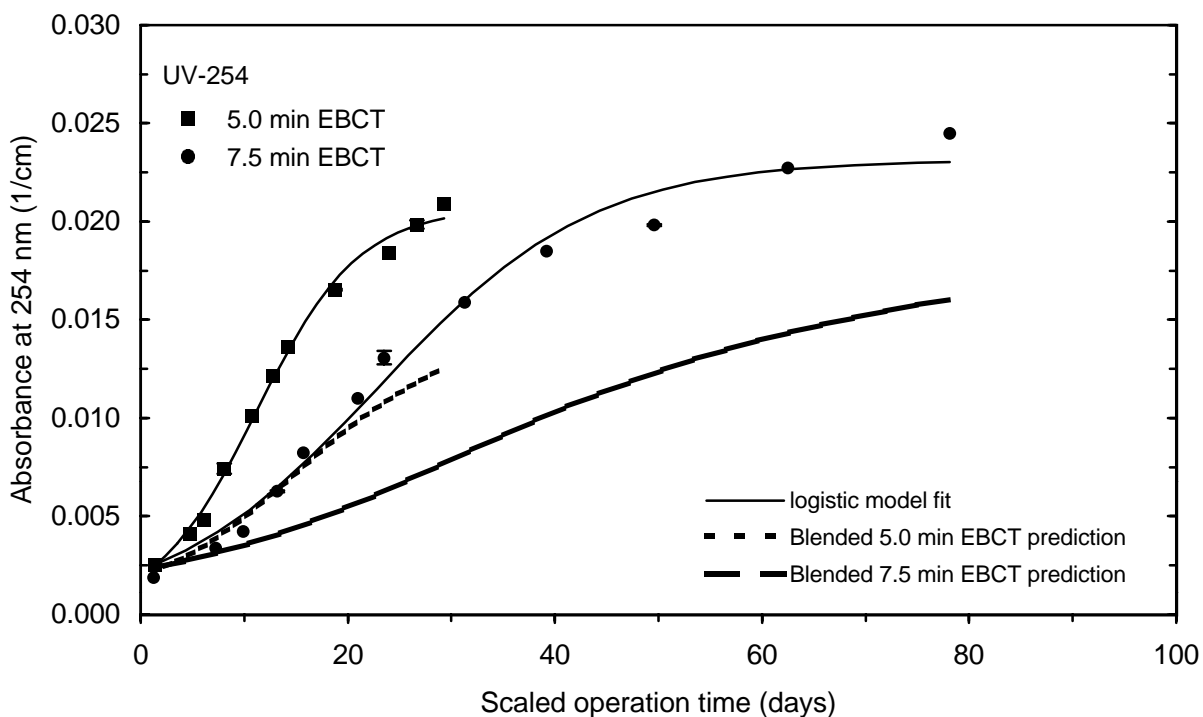


Figure 160 UV-254 breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

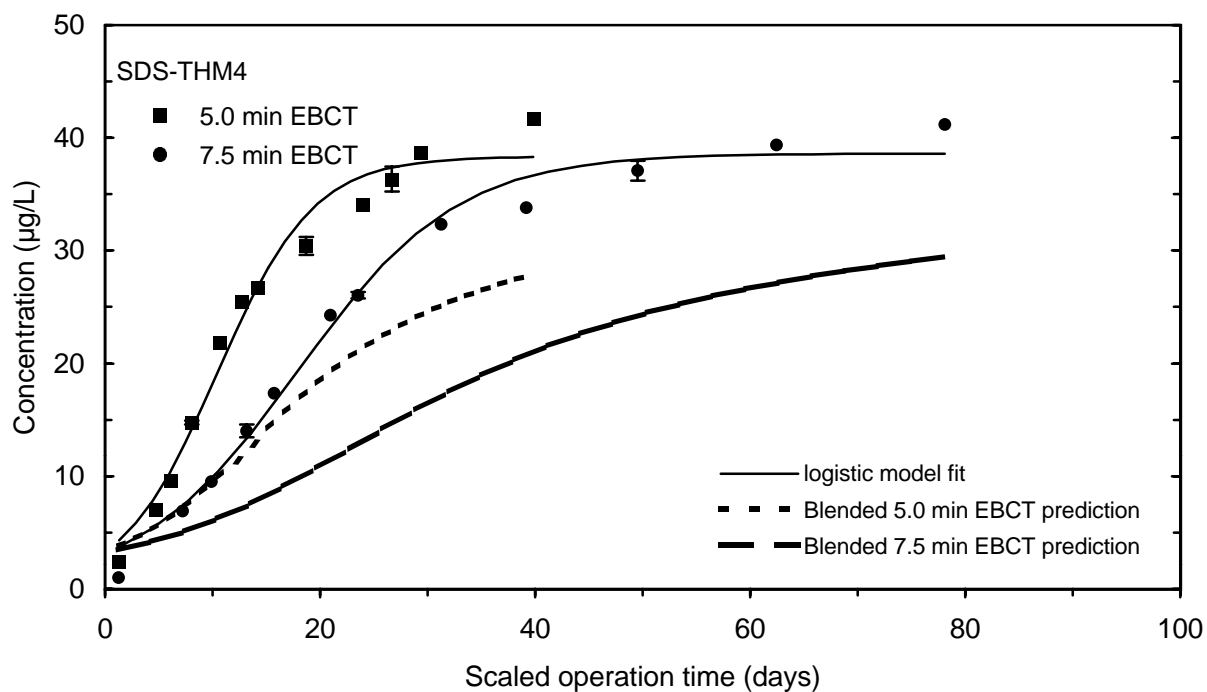


Figure 161 SDS-THM4 breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

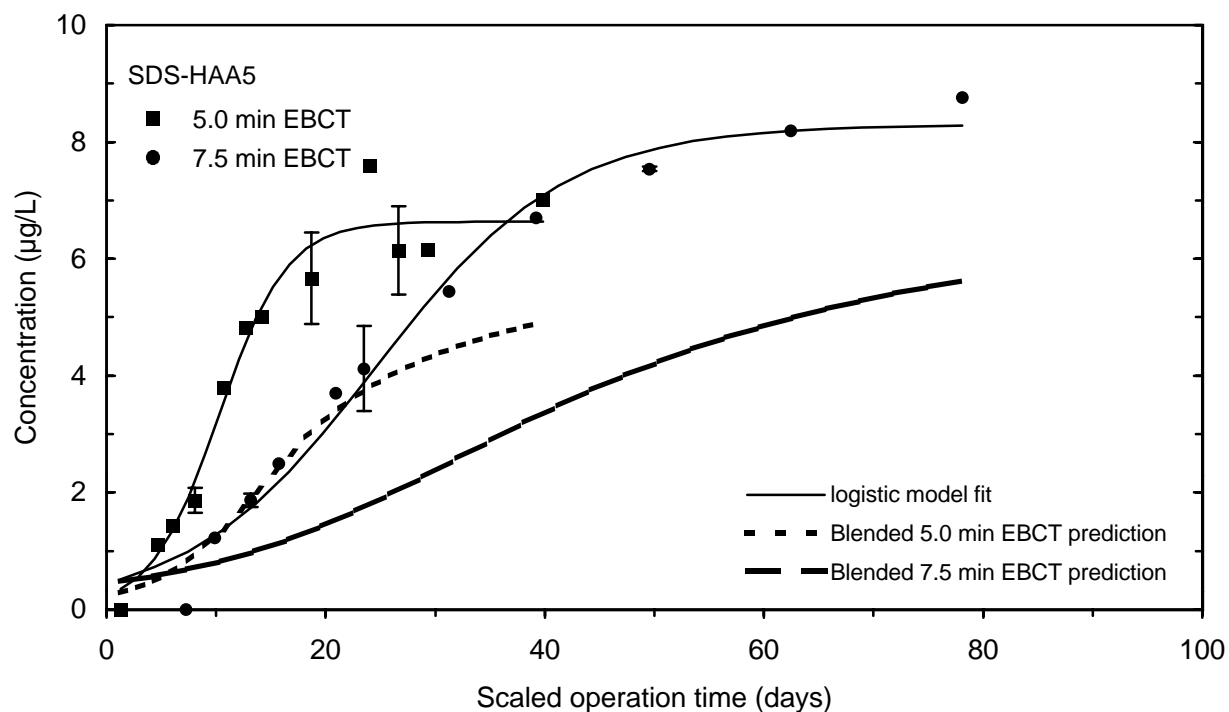


Figure 162 SDS-HAA5 breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

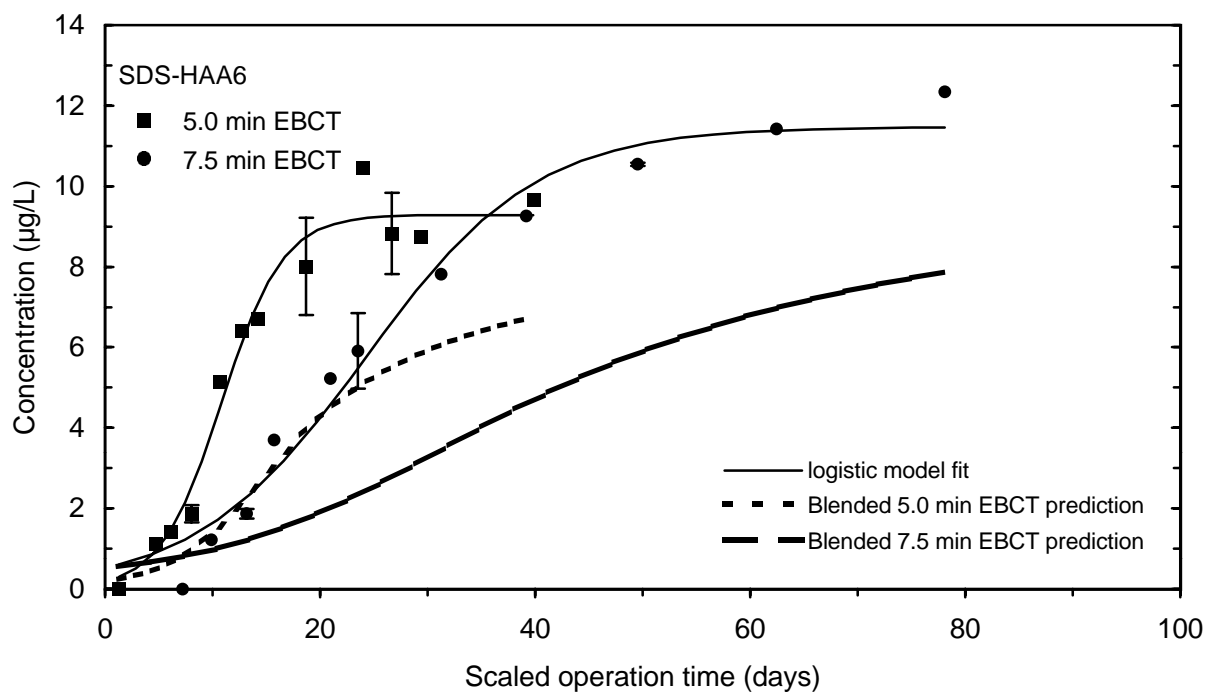


Figure 163 SDS-HAA6 breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

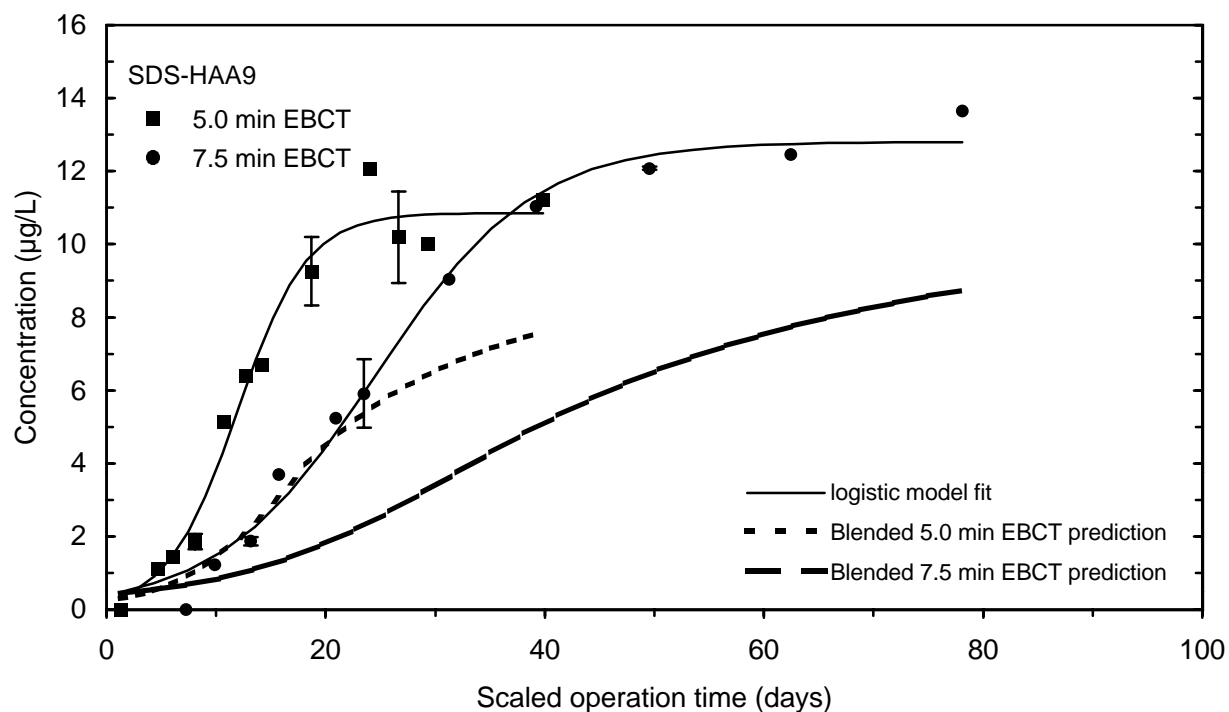


Figure 164 SDS-HAA9 breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

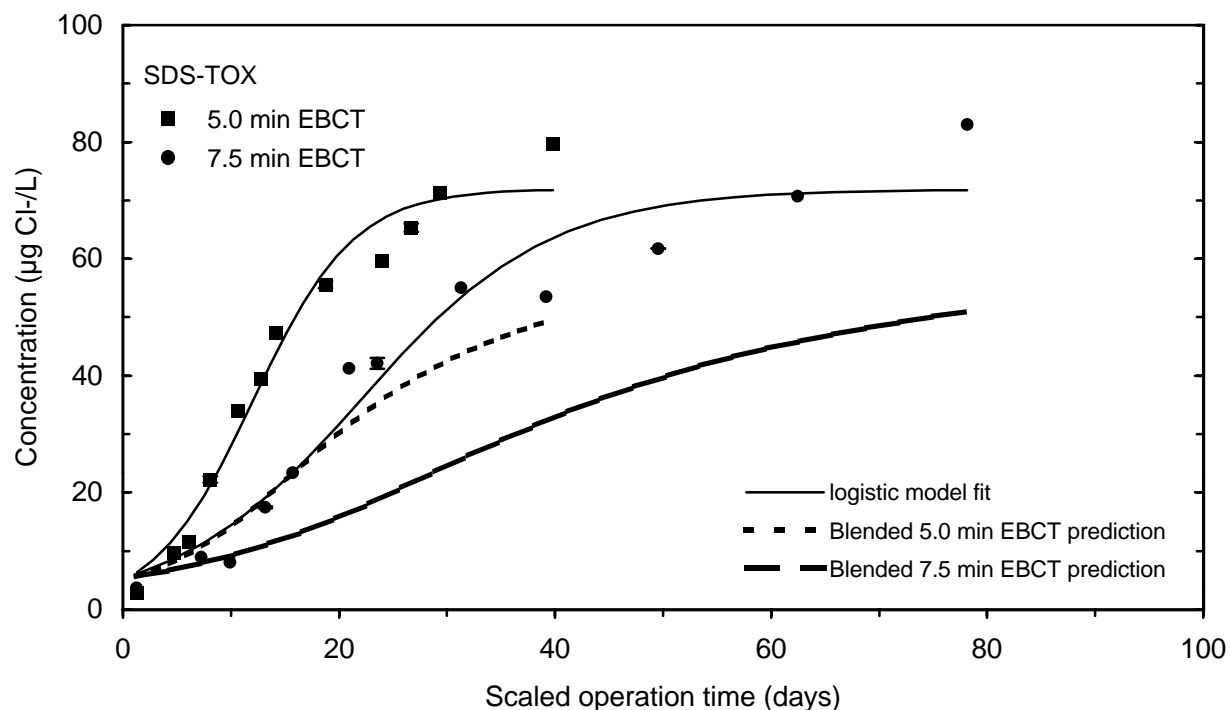


Figure 165 SDS-TOX breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

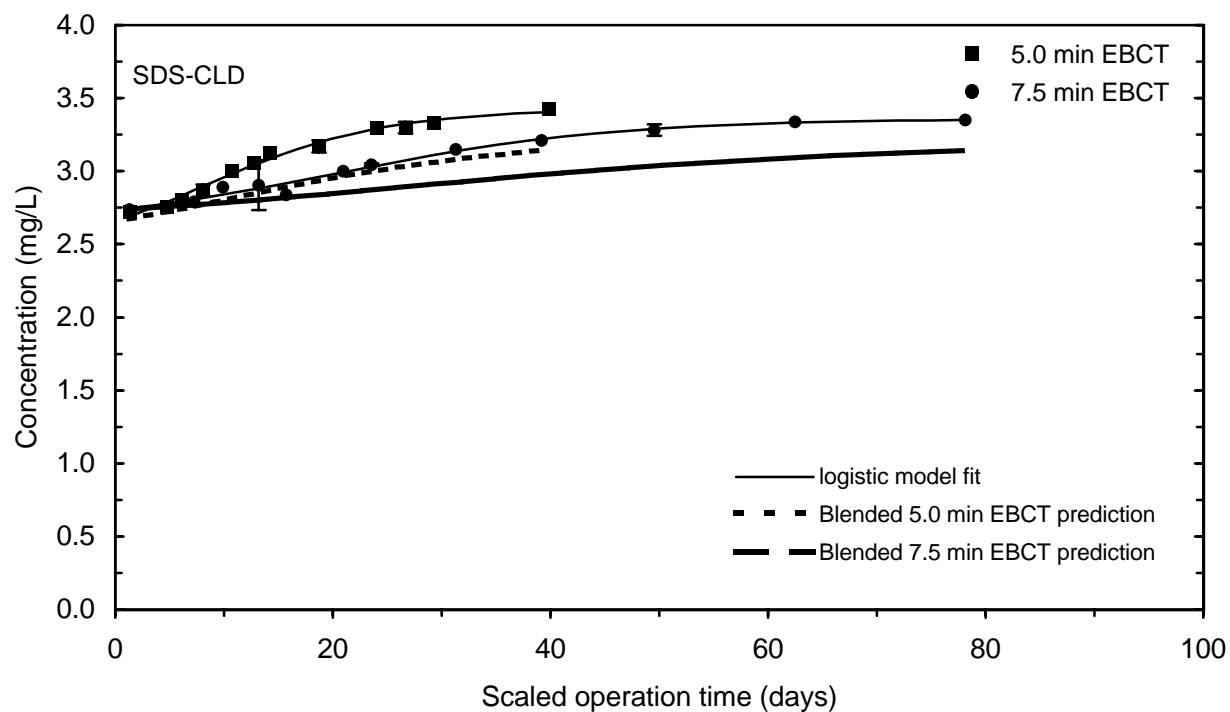


Figure 166 SDS-CLD breakthrough and effluent blending for 5.0 and 7.5 minute EBCT contactors during session 1 (March)

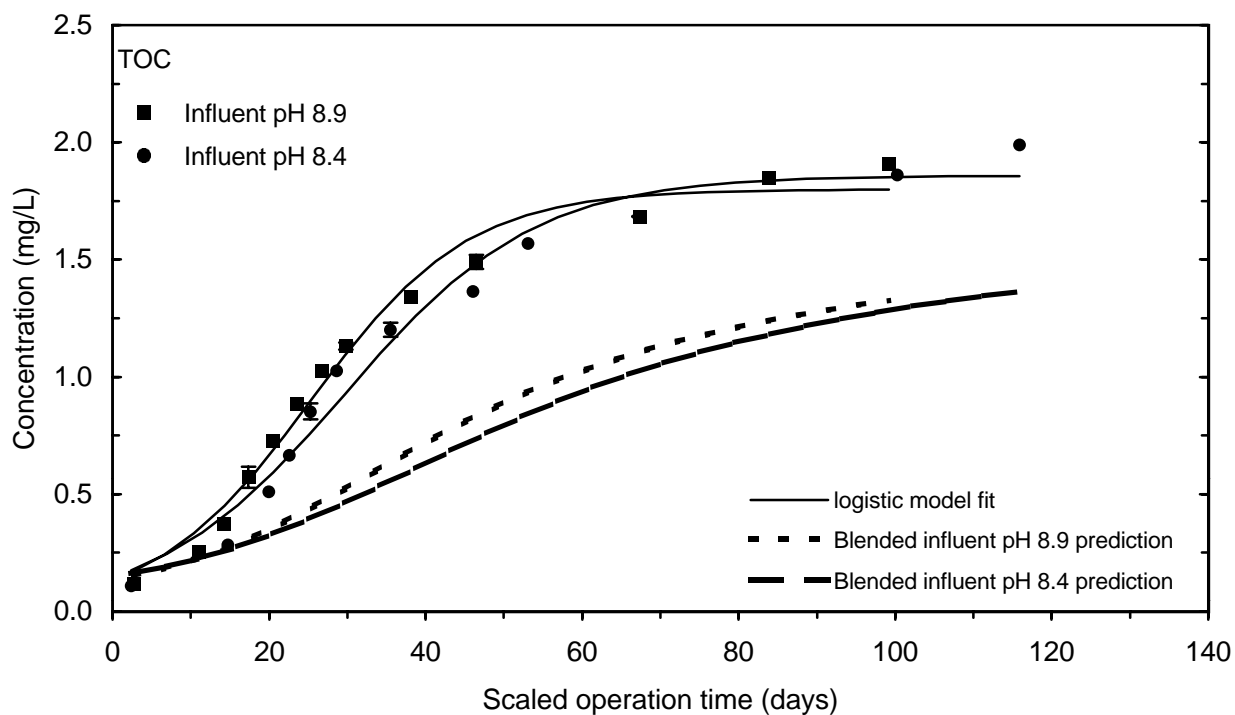


Figure 167 TOC breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

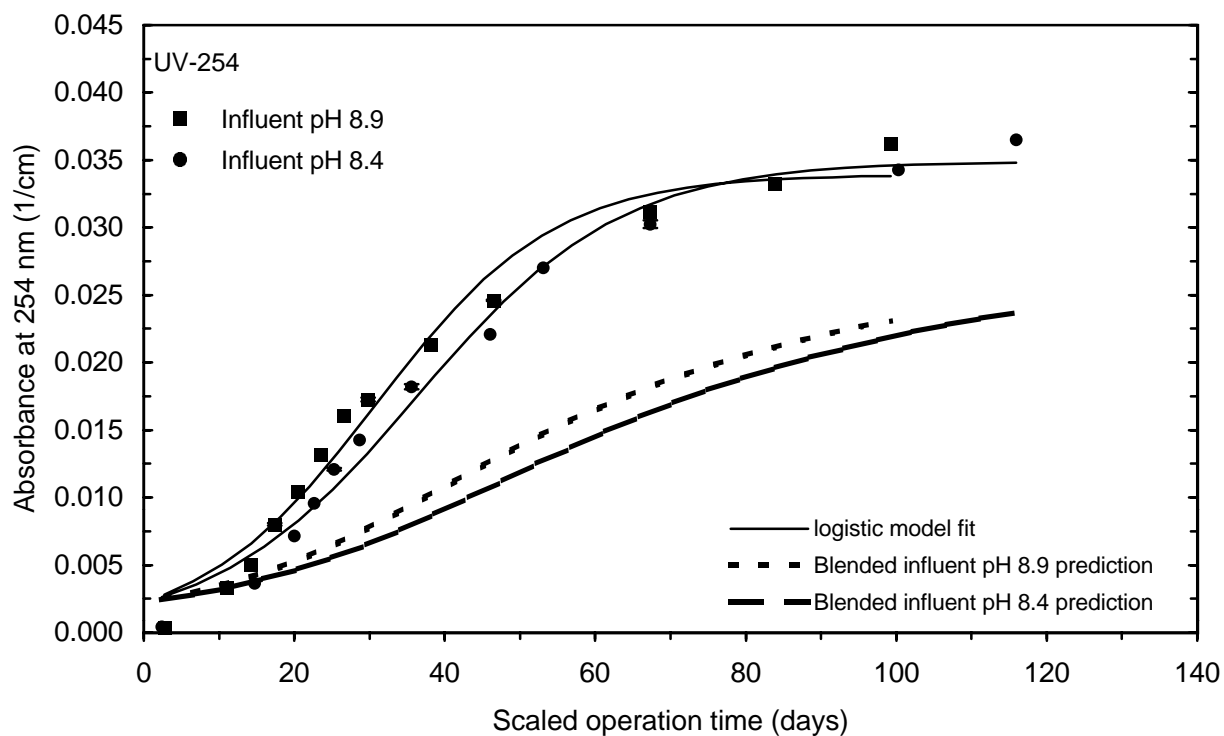


Figure 168 UV-254 breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

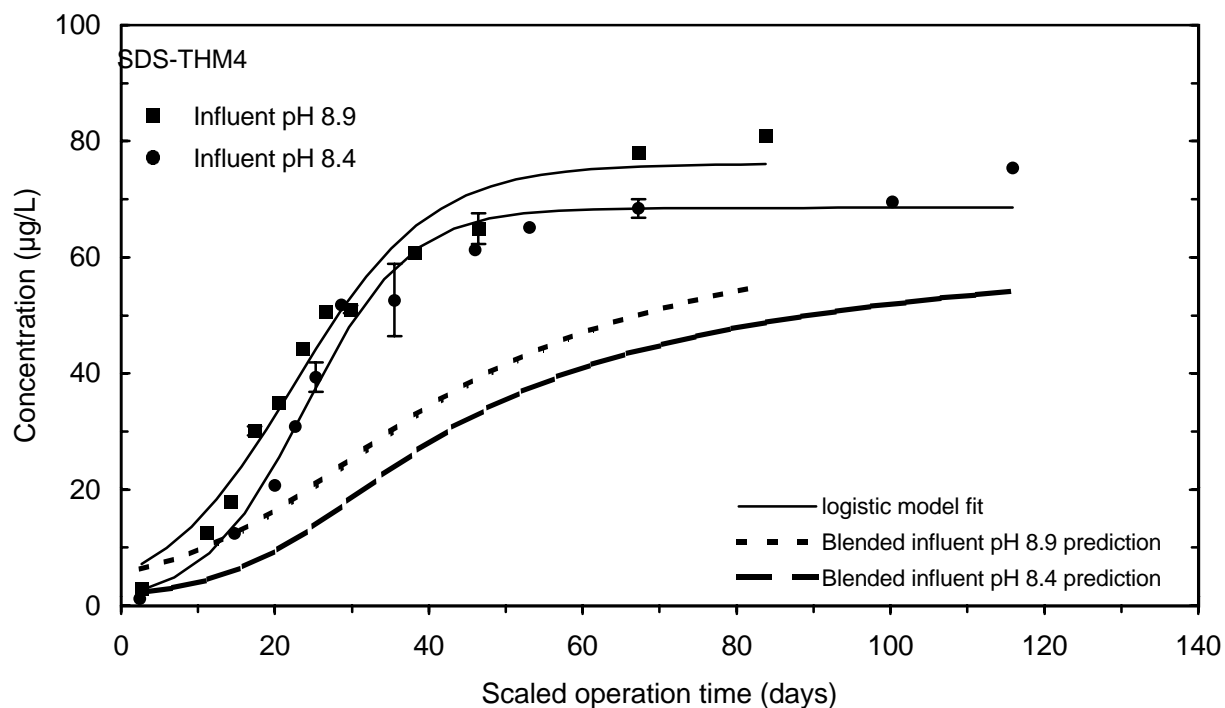


Figure 169 SDS-THM4 breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

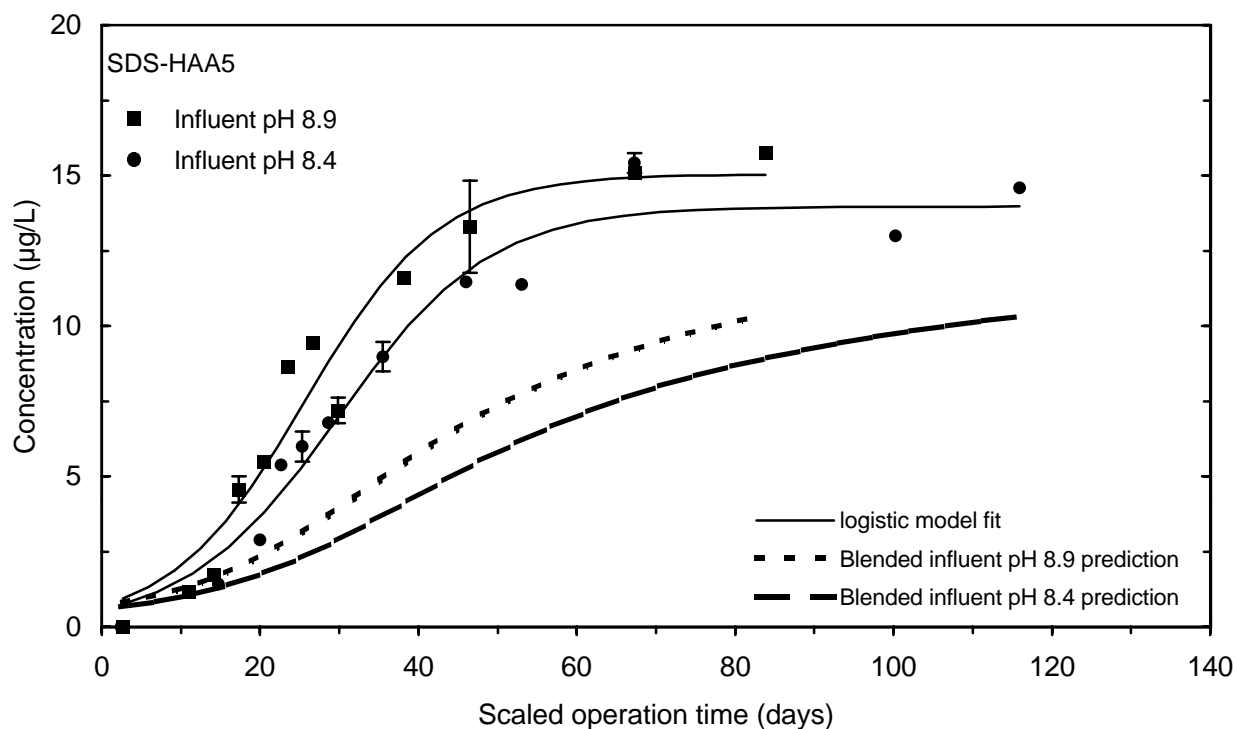


Figure 170 SDS-HAA5 breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

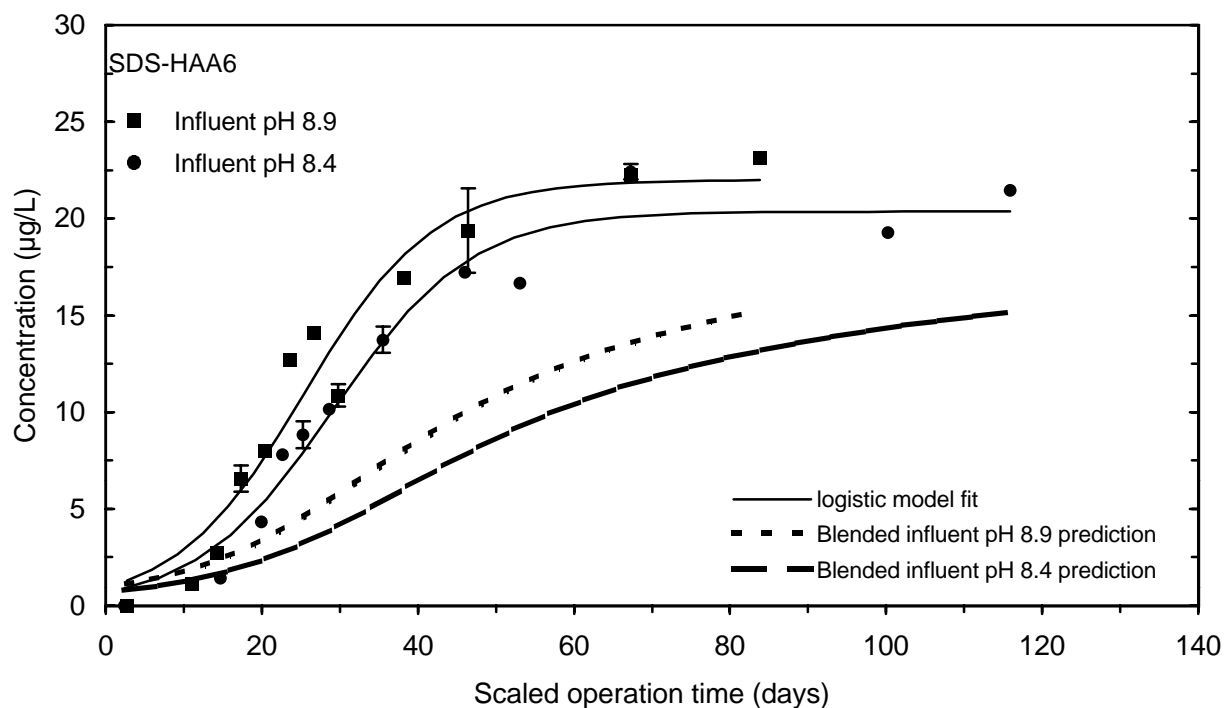


Figure 171 SDS-HAA6 breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

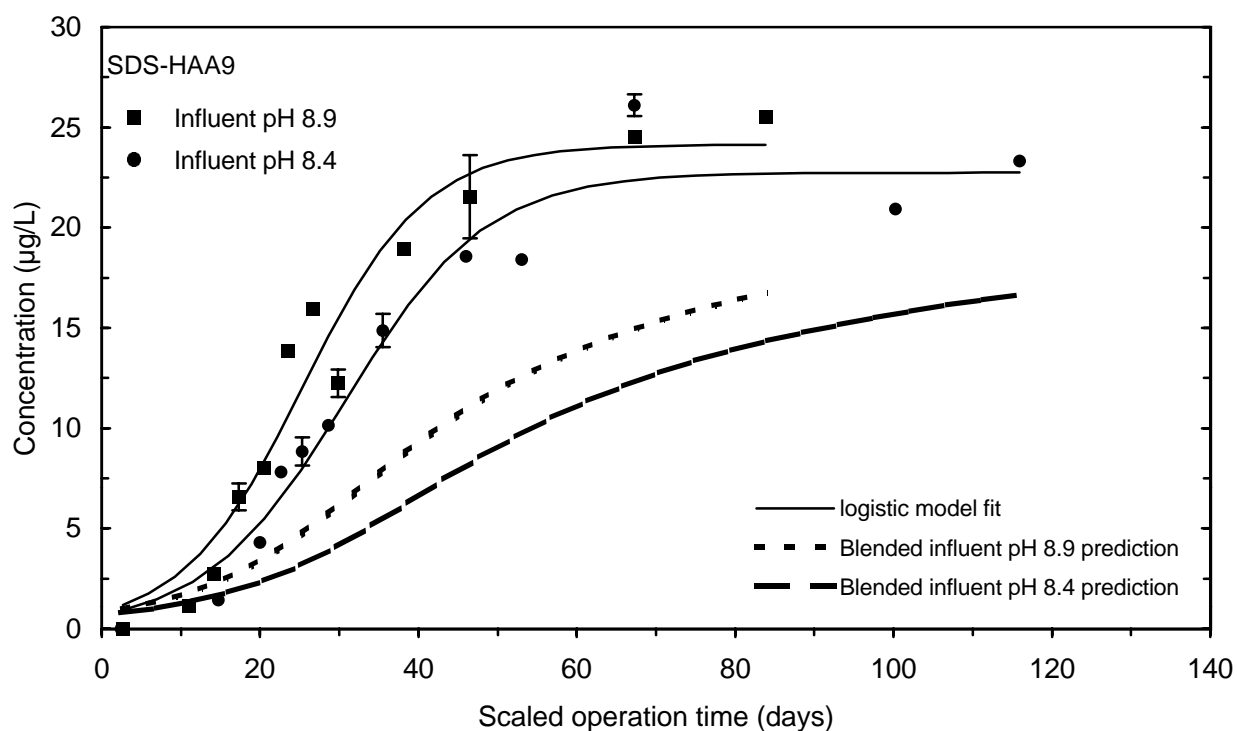


Figure 172 SDS-HAA9 breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

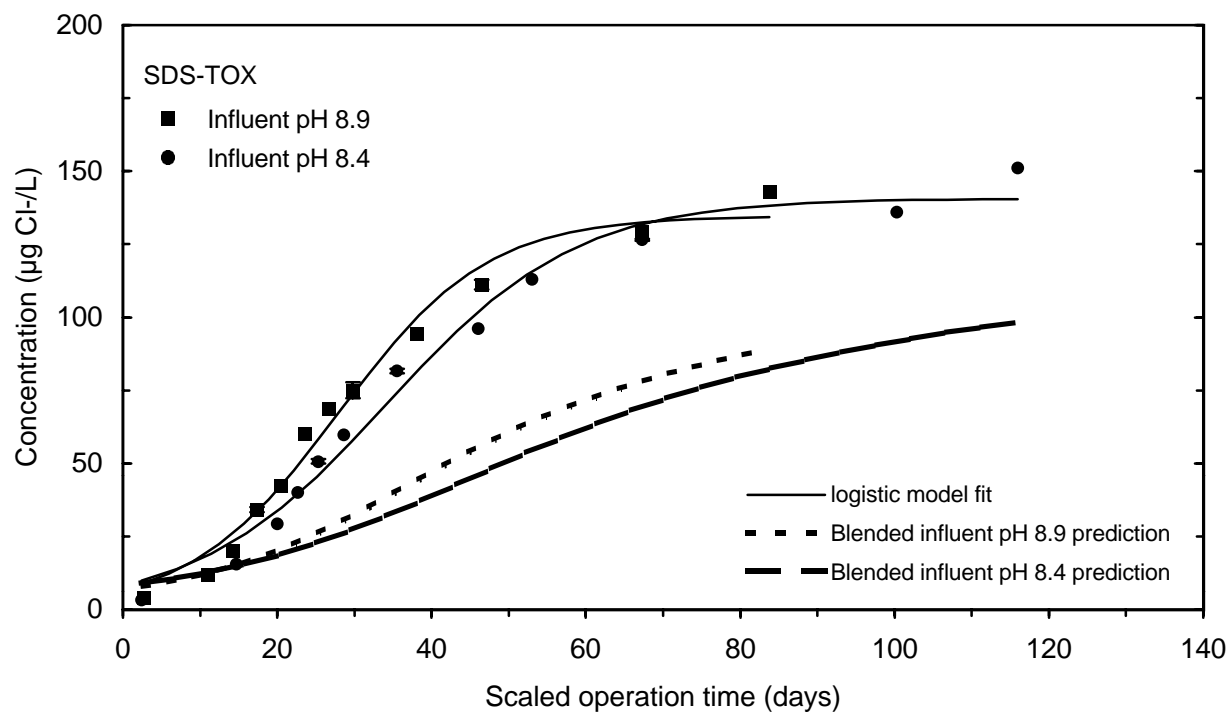


Figure 173 SDS-TOX breakthrough and effluent blending for influent pH 8.4 and 8.9 contactors (10 minute EBCT) during session 2 (September)

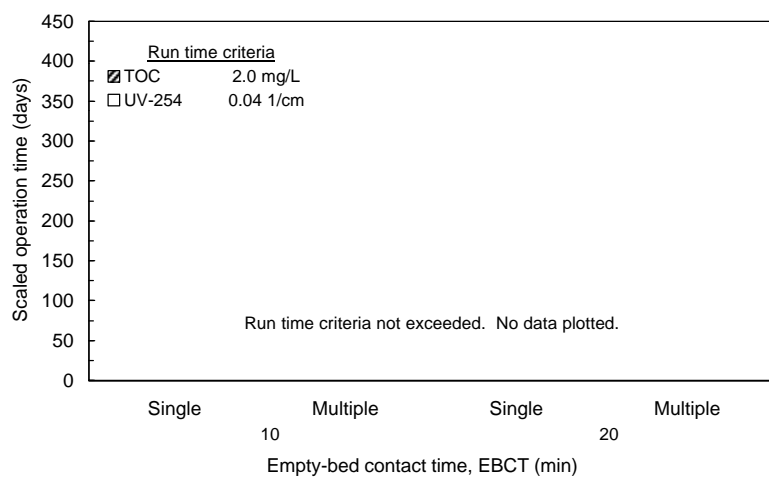


Figure 174 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (March)

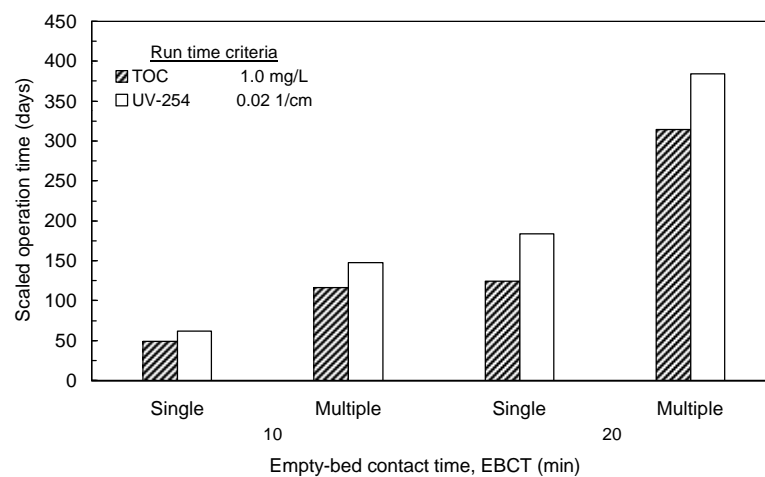


Figure 175 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (March)

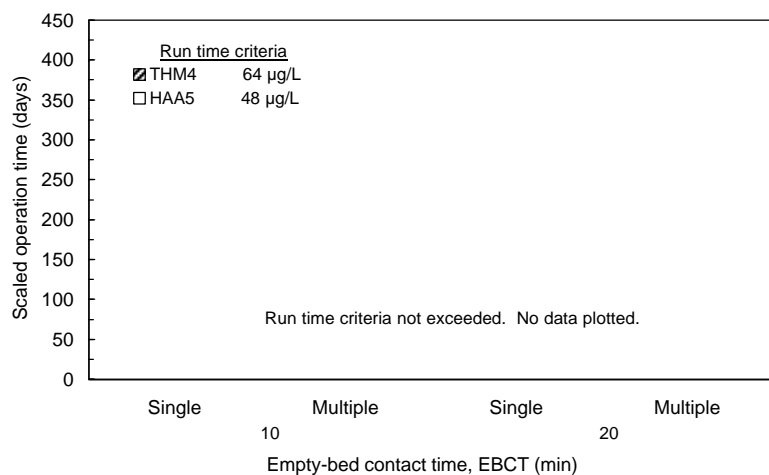


Figure 176 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 1 (March)

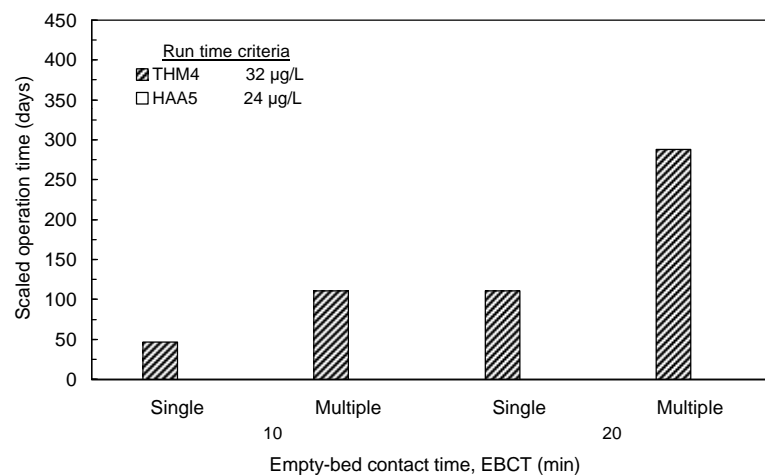


Figure 177 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 1 (March)

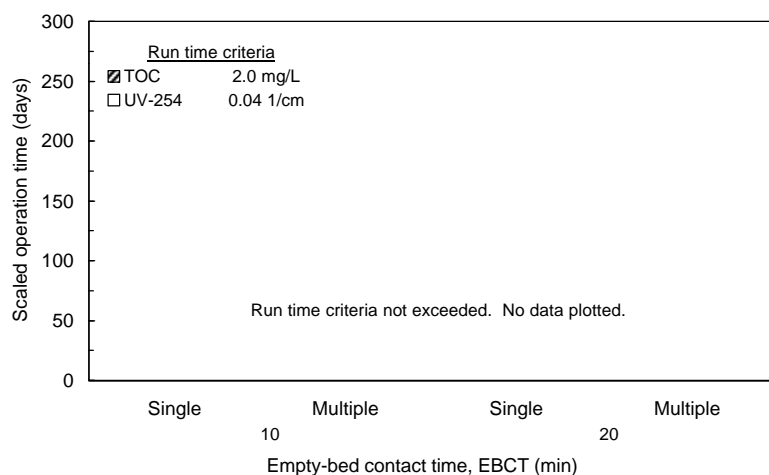


Figure 178 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (September)

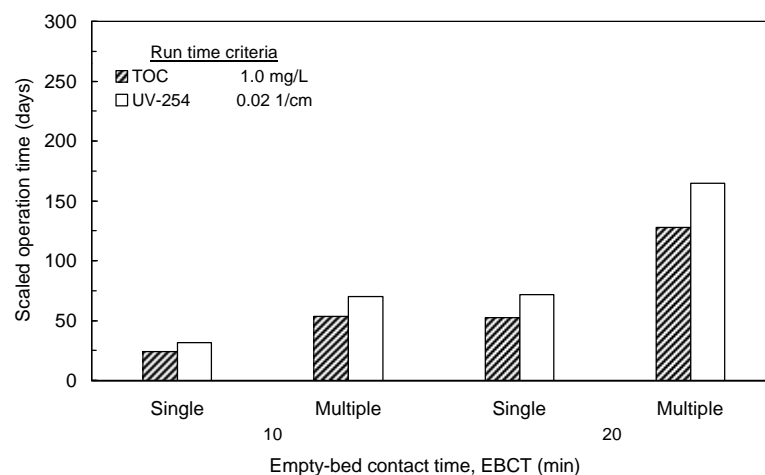


Figure 179 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (September)

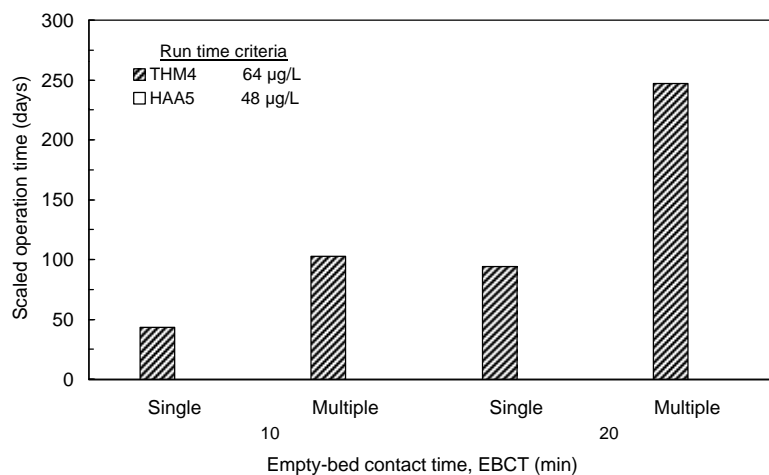


Figure 180 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 2 (September)

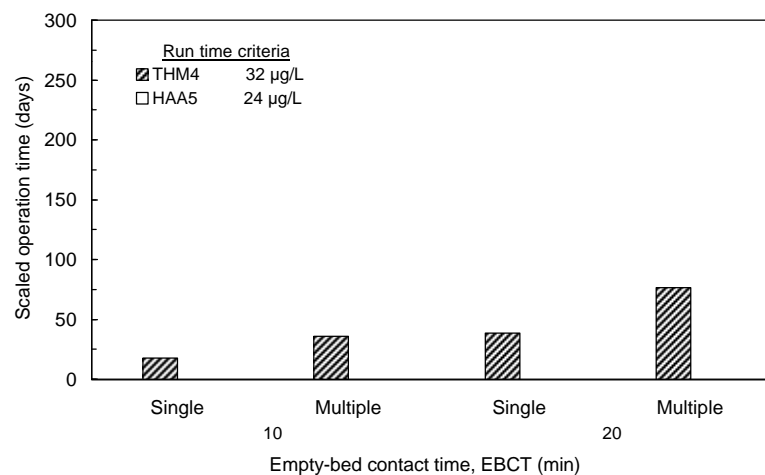


Figure 181 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 2 (September)

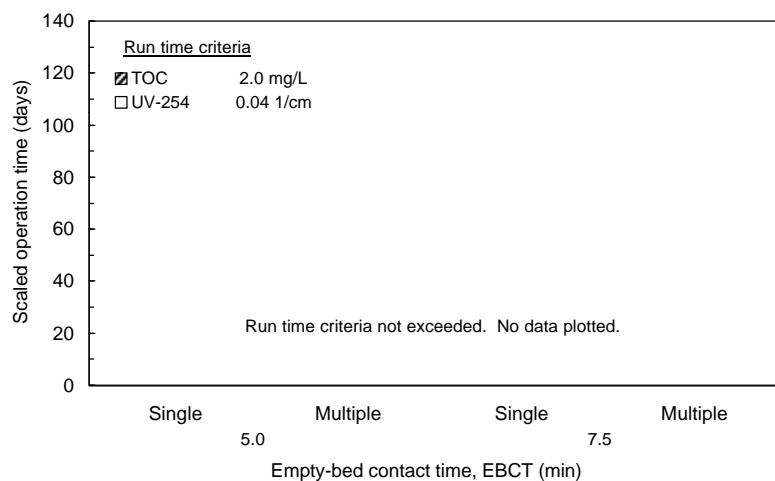


Figure 182 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) for 5.0 and 7.5 minute EBCTs

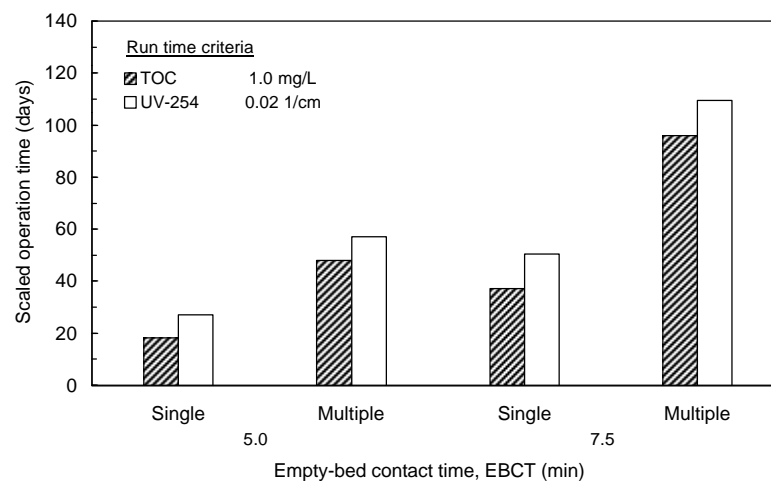


Figure 183 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) for 5.0 and 7.5 minute EBCTs

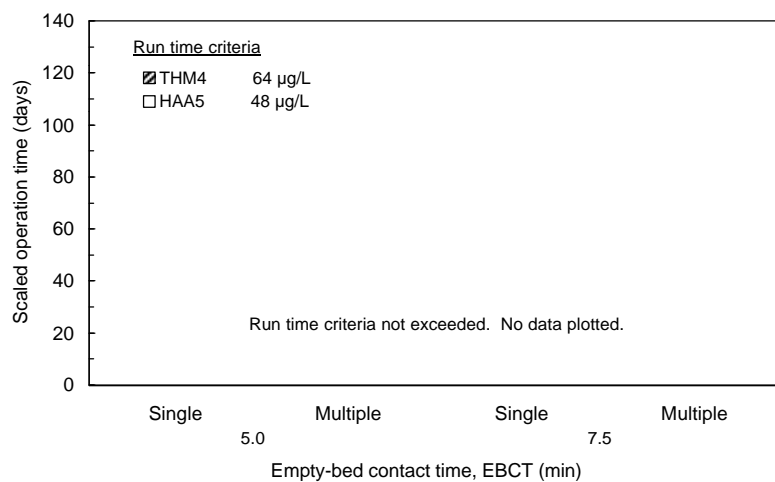


Figure 184 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria for 5.0 and 7.5 minute EBCTs

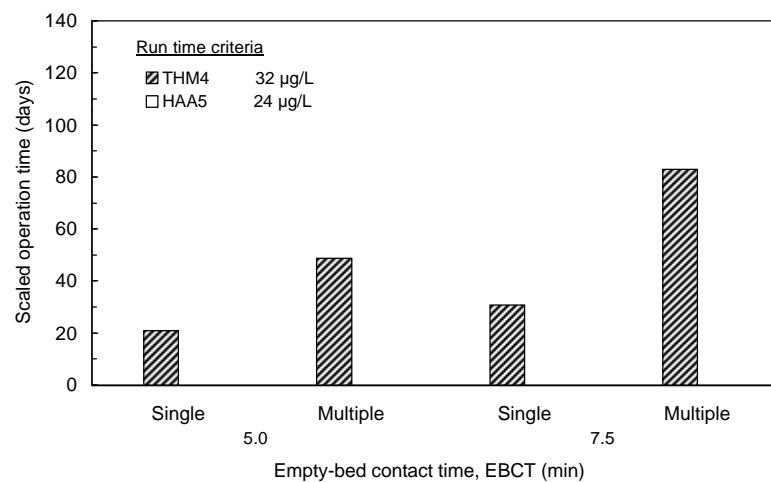


Figure 185 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria for 5.0 and 7.5 minute EBCTs



Figure 186 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 criteria (high) for influent pH 8.4 and 8.9 contactors

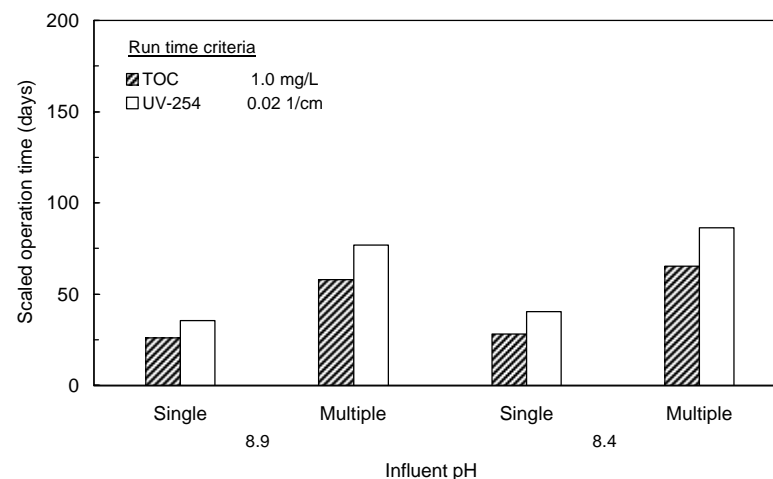


Figure 187 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 criteria (low) for influent pH 8.4 and 8.9 contactors

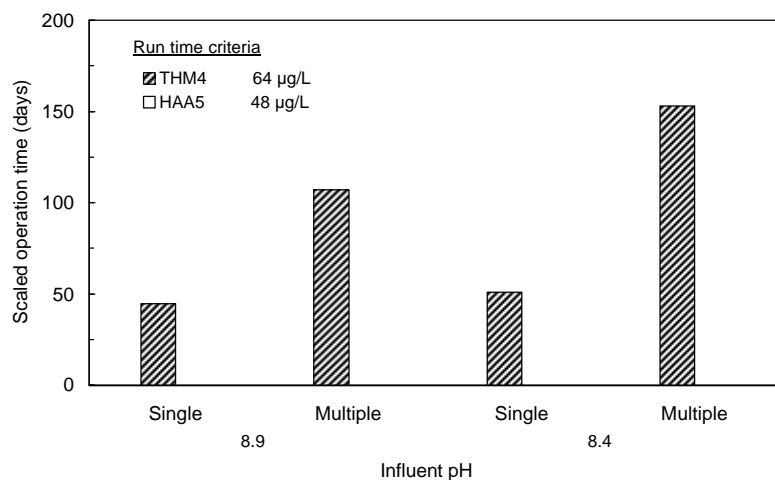


Figure 188 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 criteria for influent pH 8.4 and 8.9 contactors

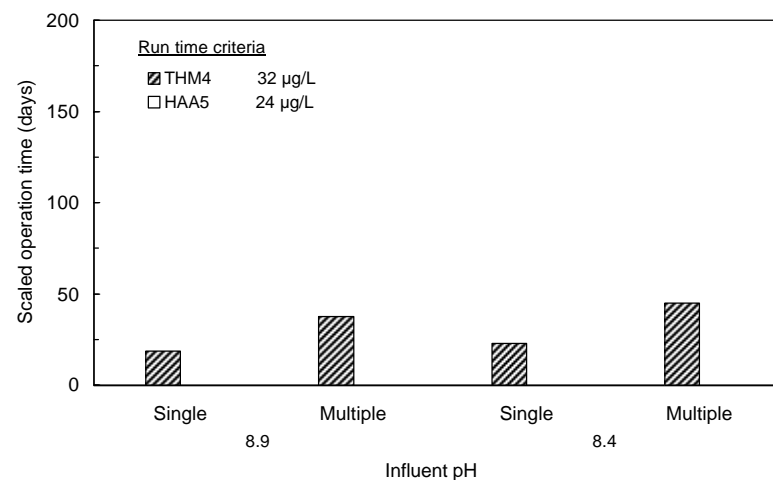


Figure 189 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 criteria for influent pH 8.4 and 8.9 contactors

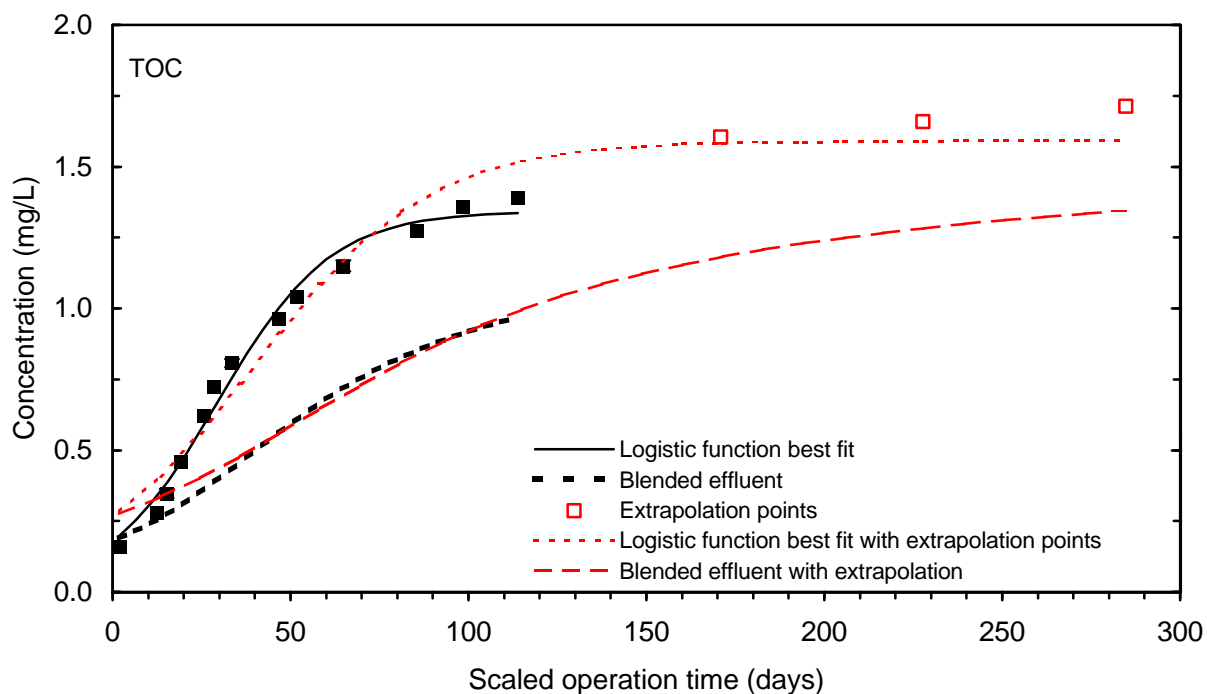


Figure 190 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 1, March

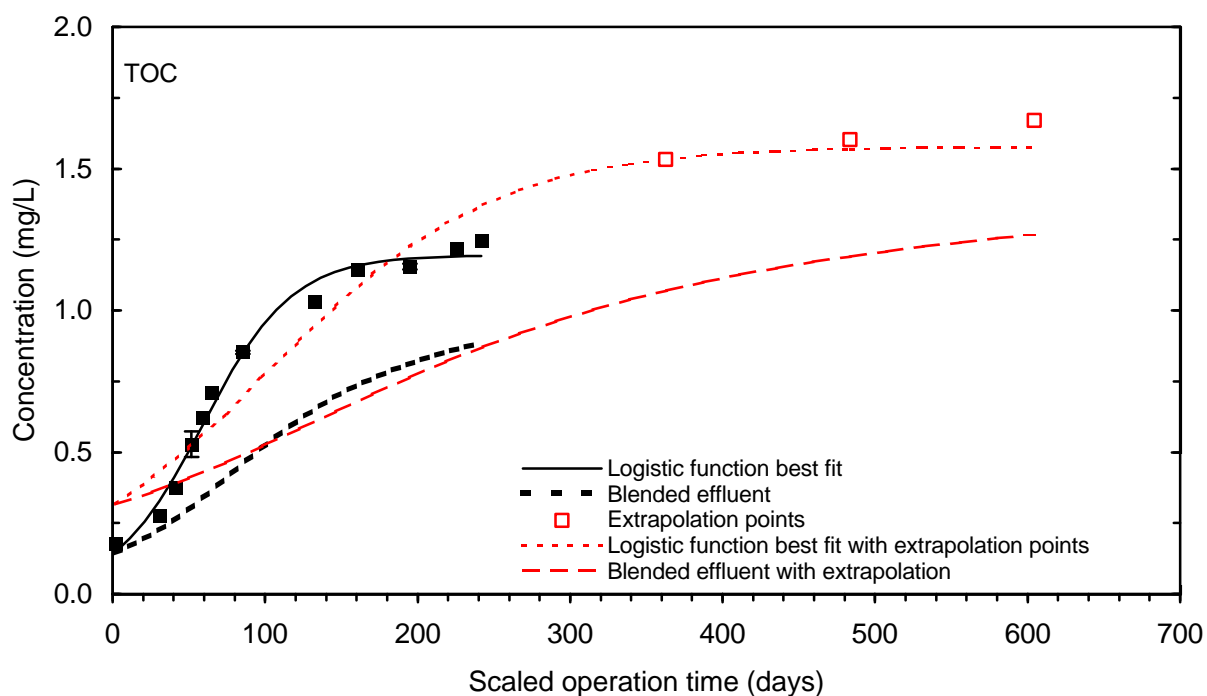


Figure 191 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 1, March

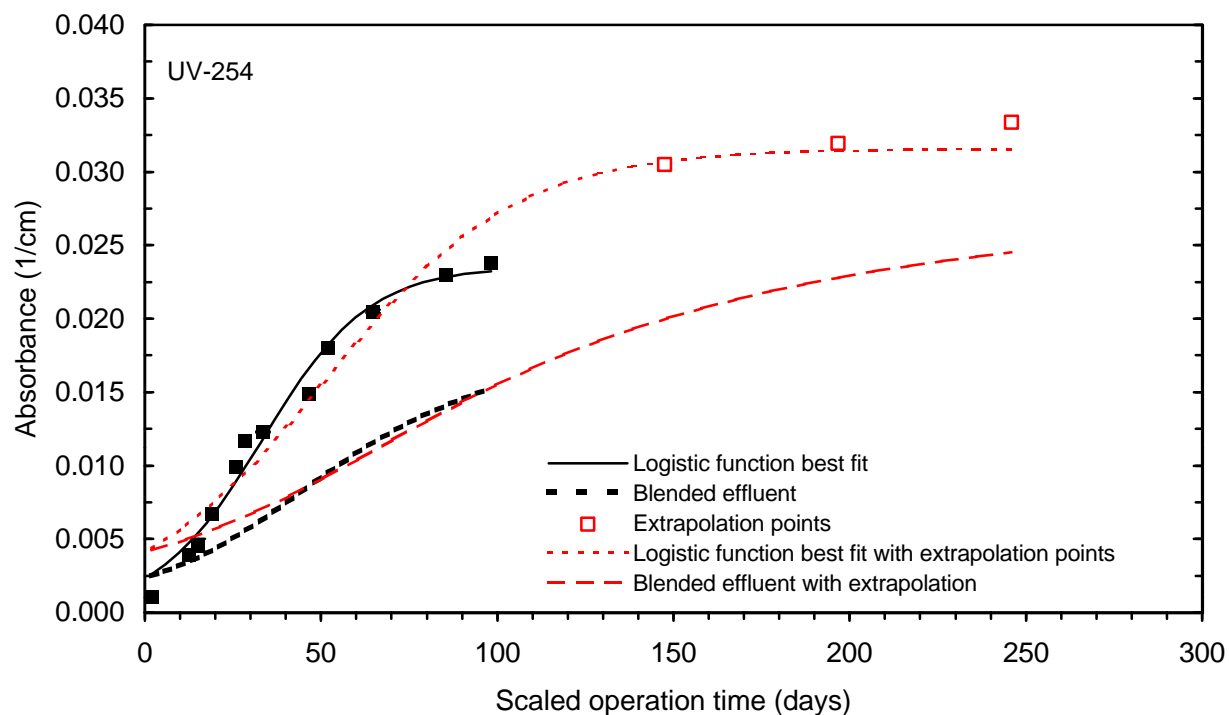


Figure 192 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 1, March

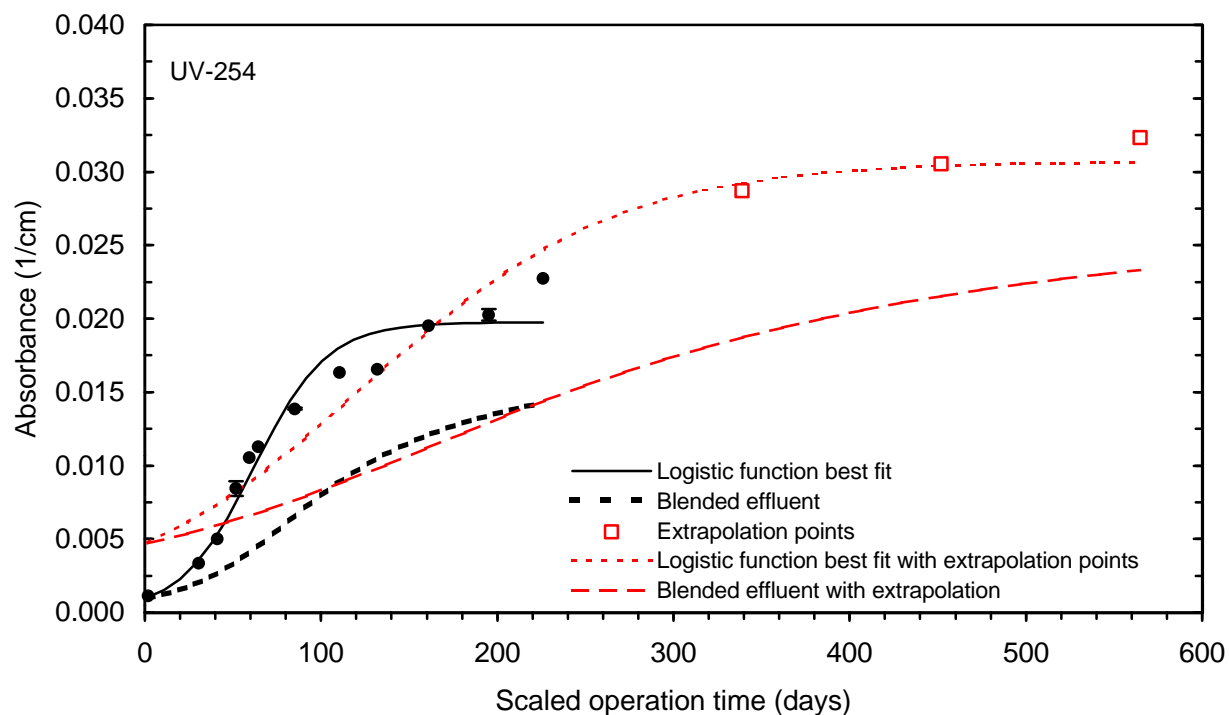


Figure 193 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 1, March

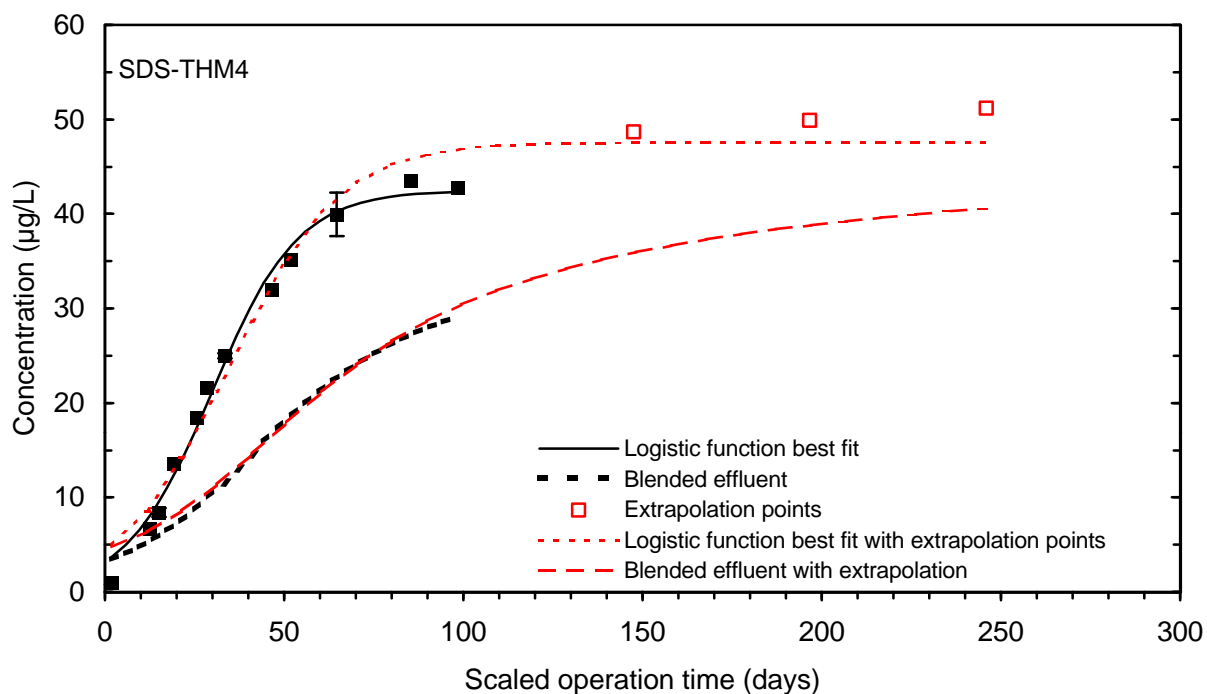


Figure 194 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 1, March

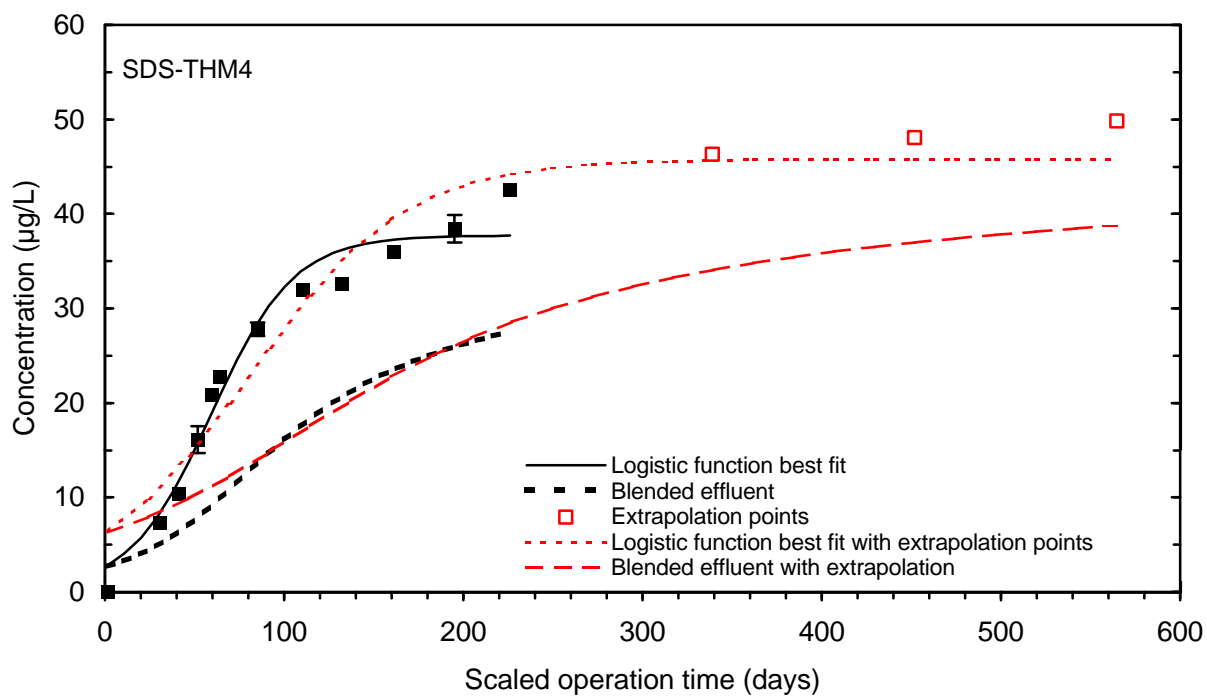


Figure 195 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 1, March

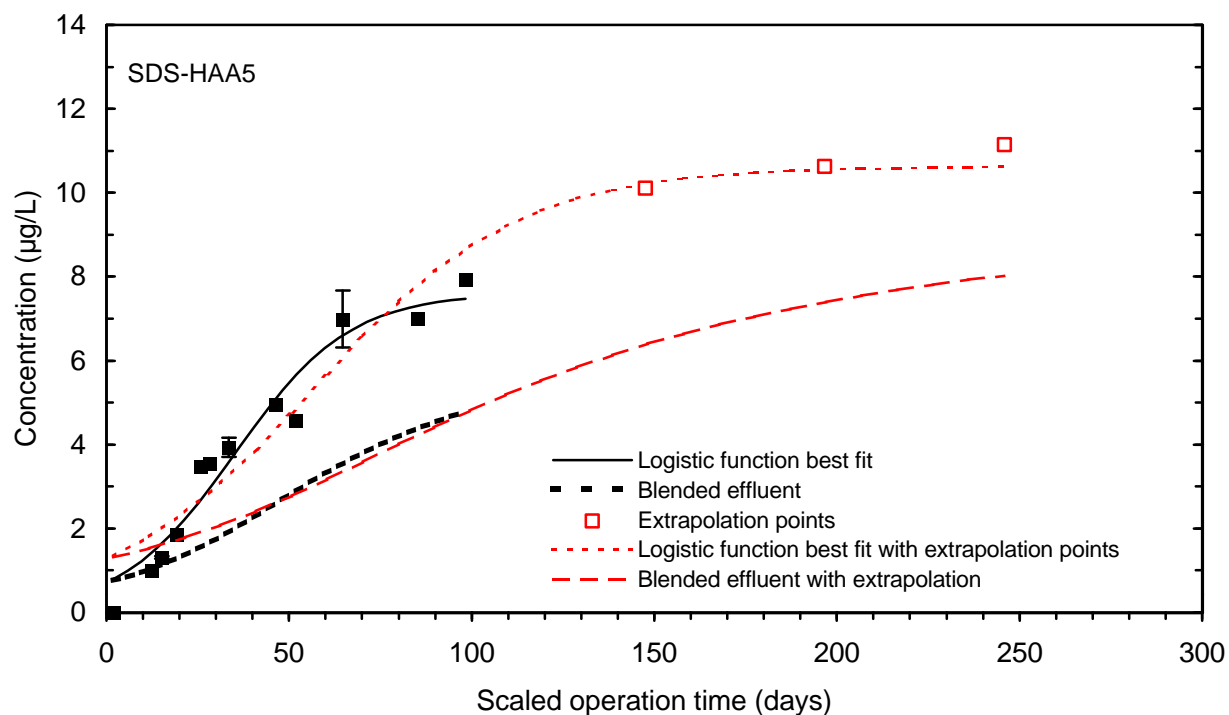


Figure 196 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 1, March

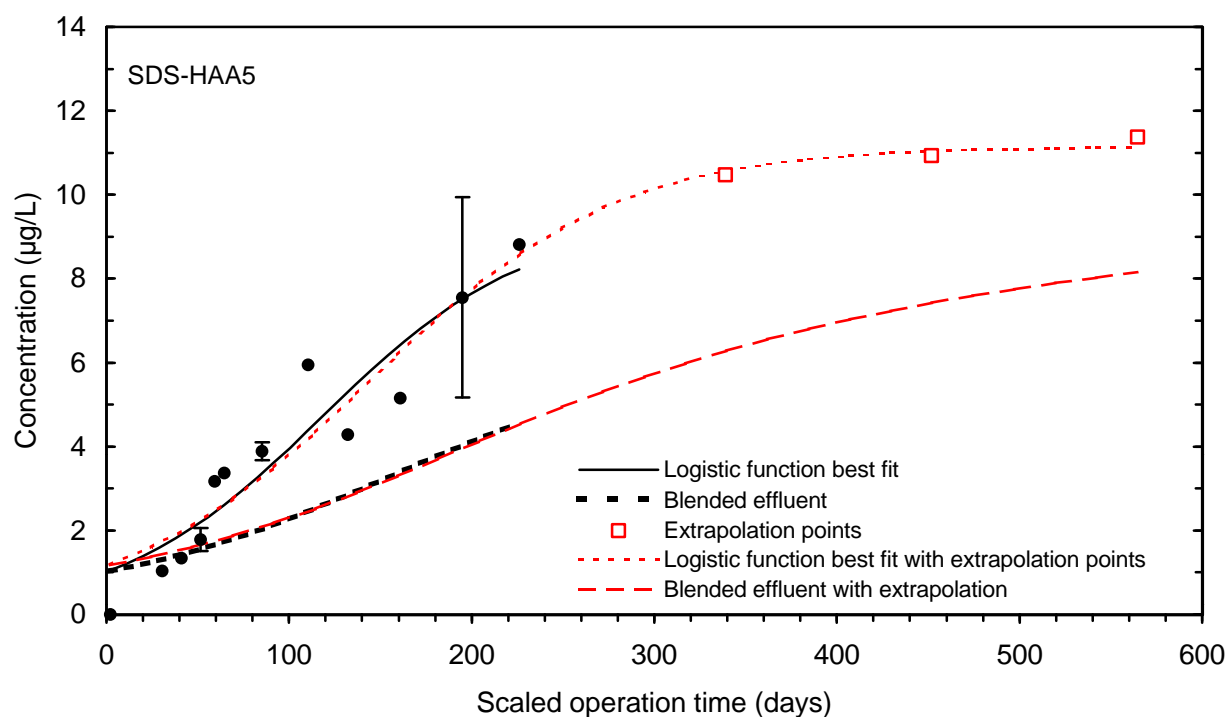


Figure 197 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 1, March

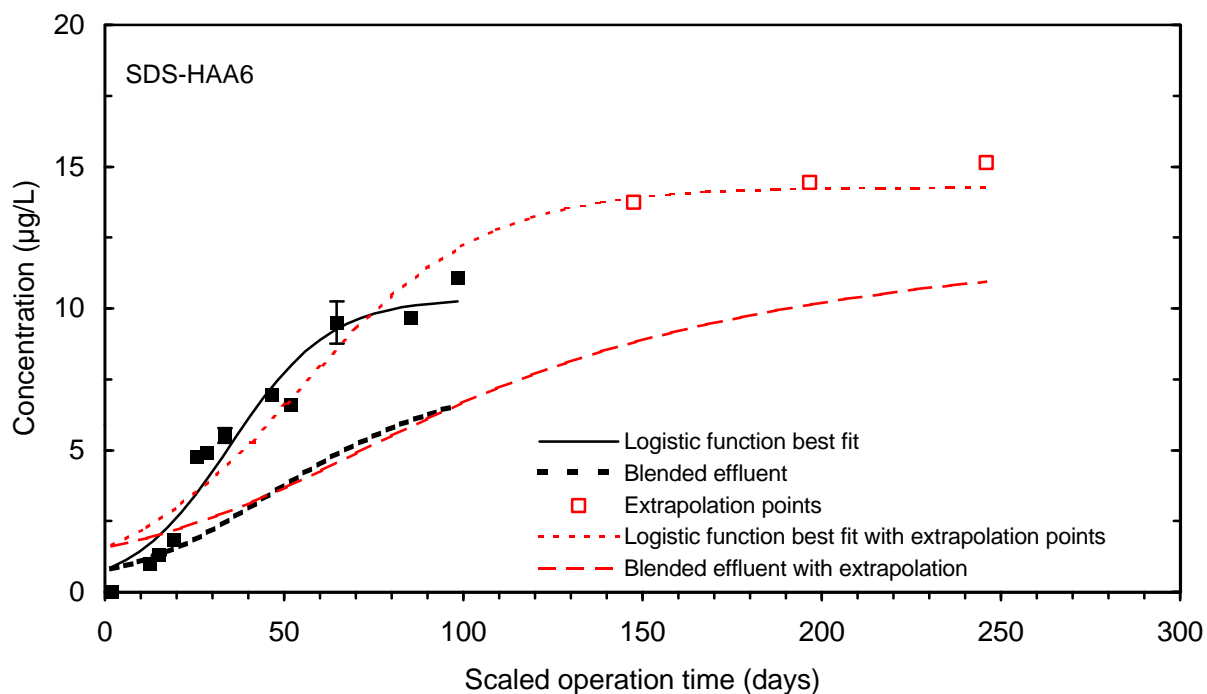


Figure 198 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 1, March

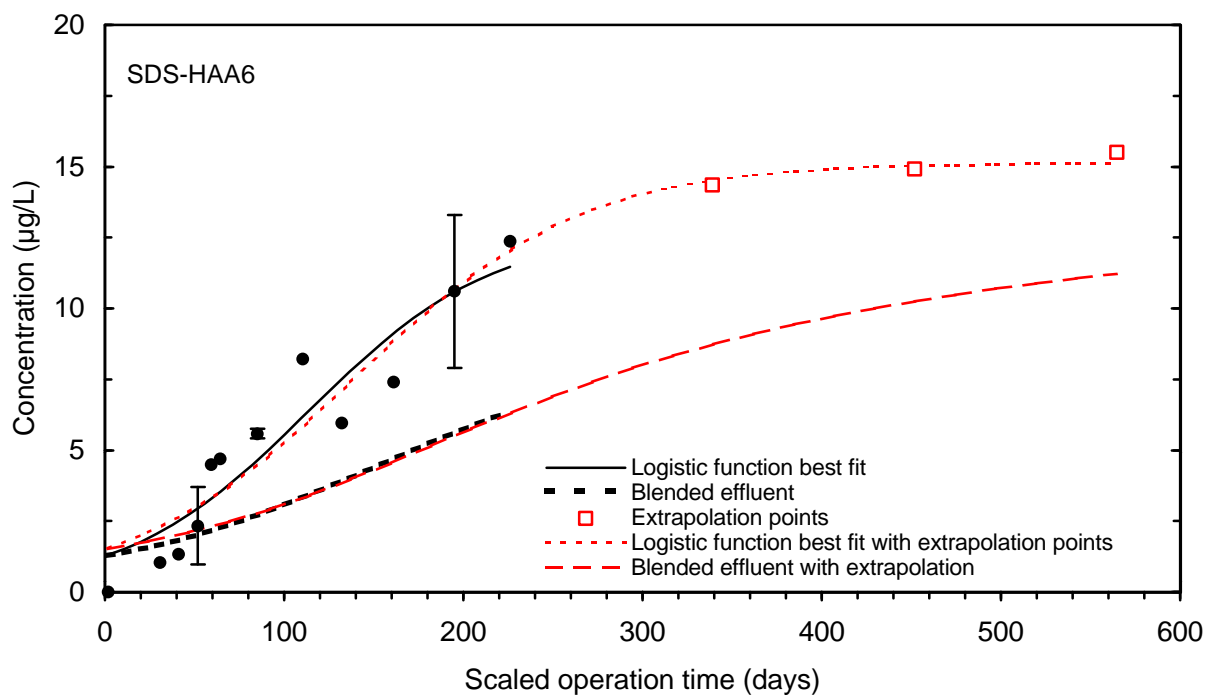


Figure 199 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 1, March

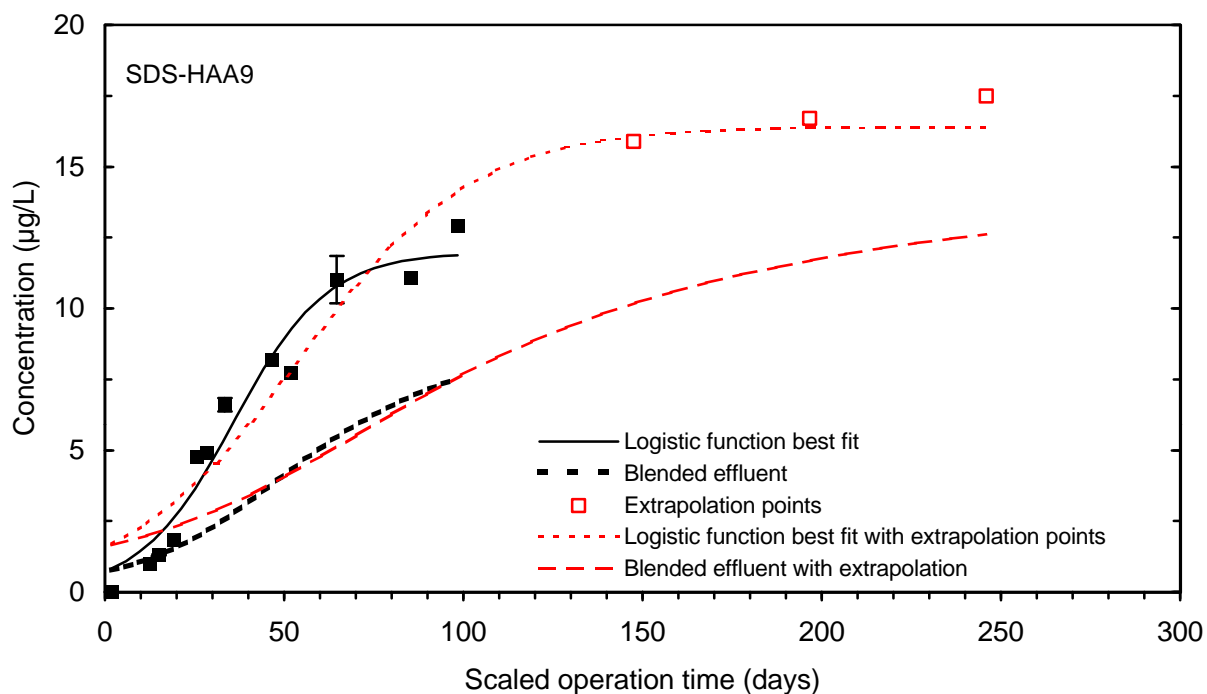


Figure 200 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 1, March

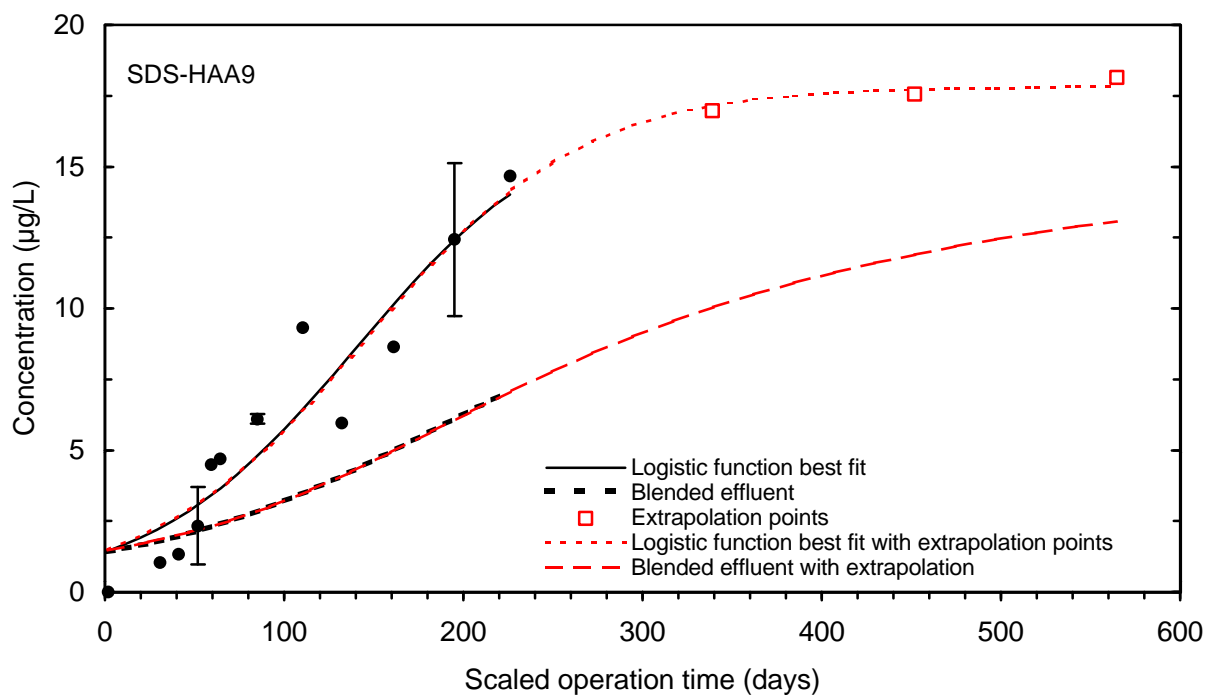


Figure 201 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 1, March

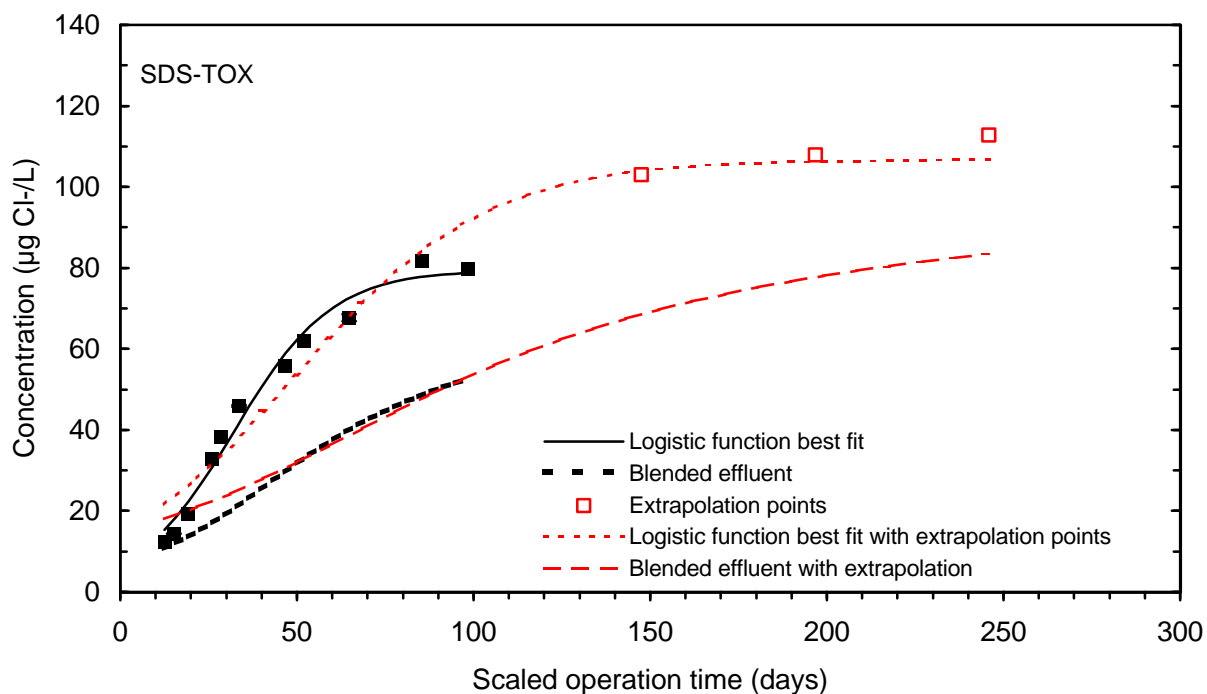


Figure 202 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 1, March

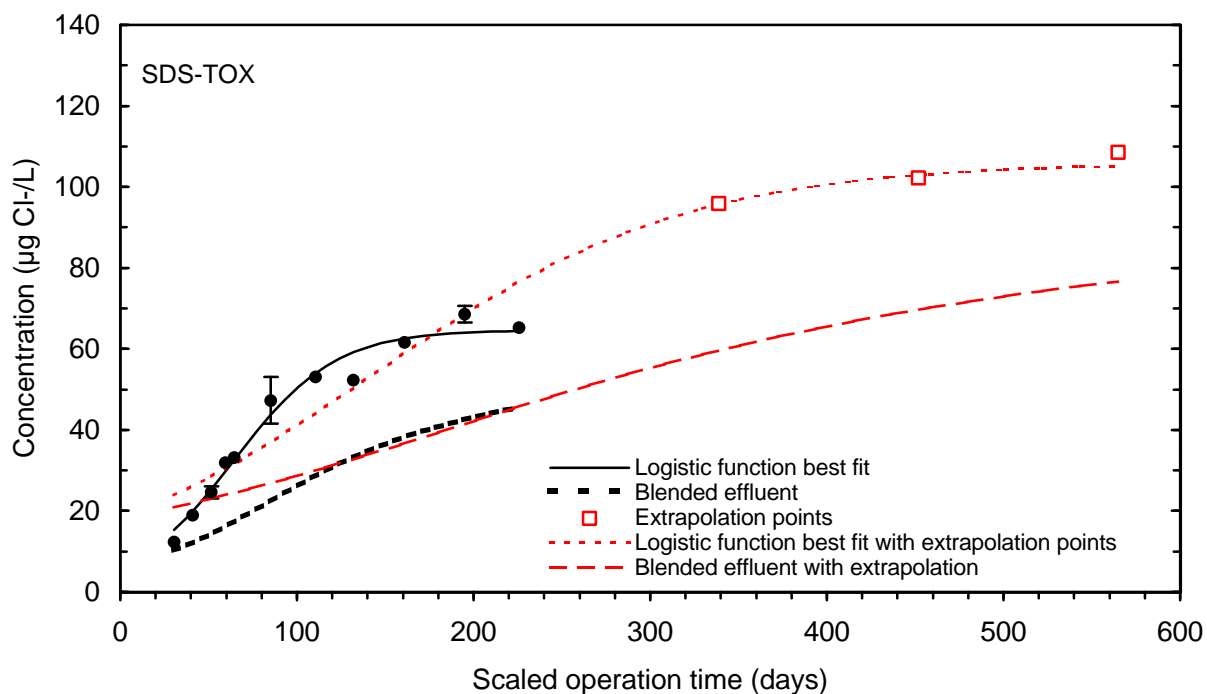


Figure 203 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 1, March

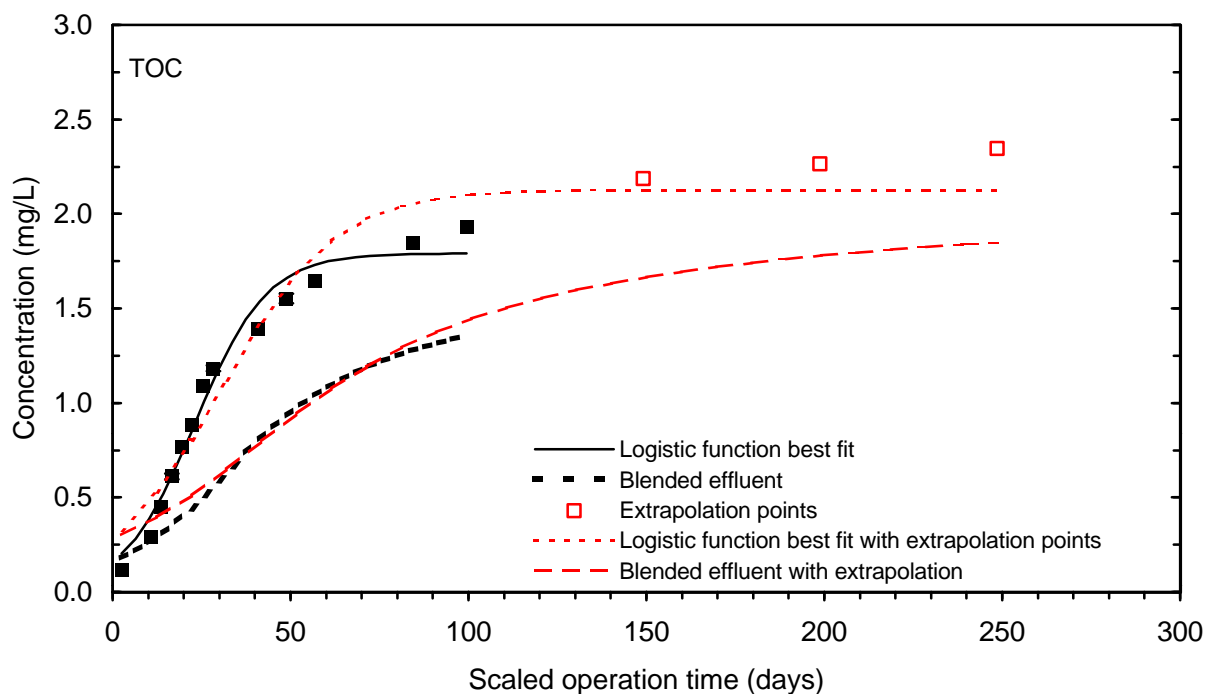


Figure 204 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 2, September

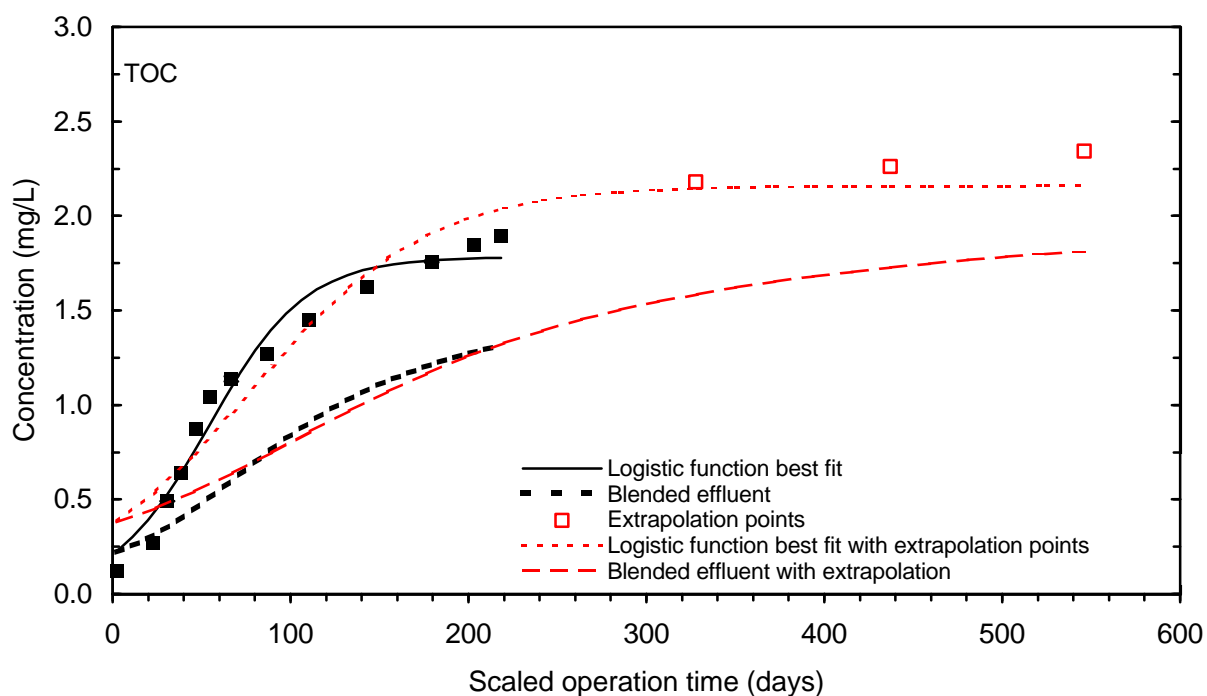


Figure 205 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 2, September

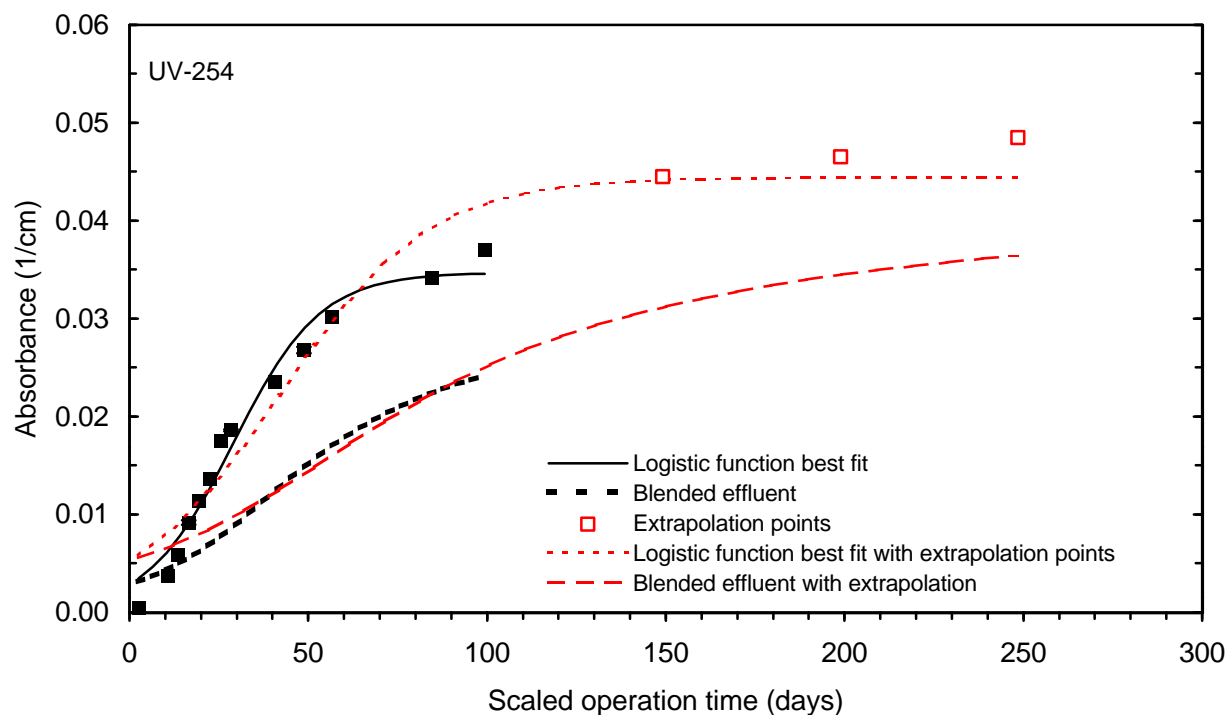


Figure 206 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 2, September

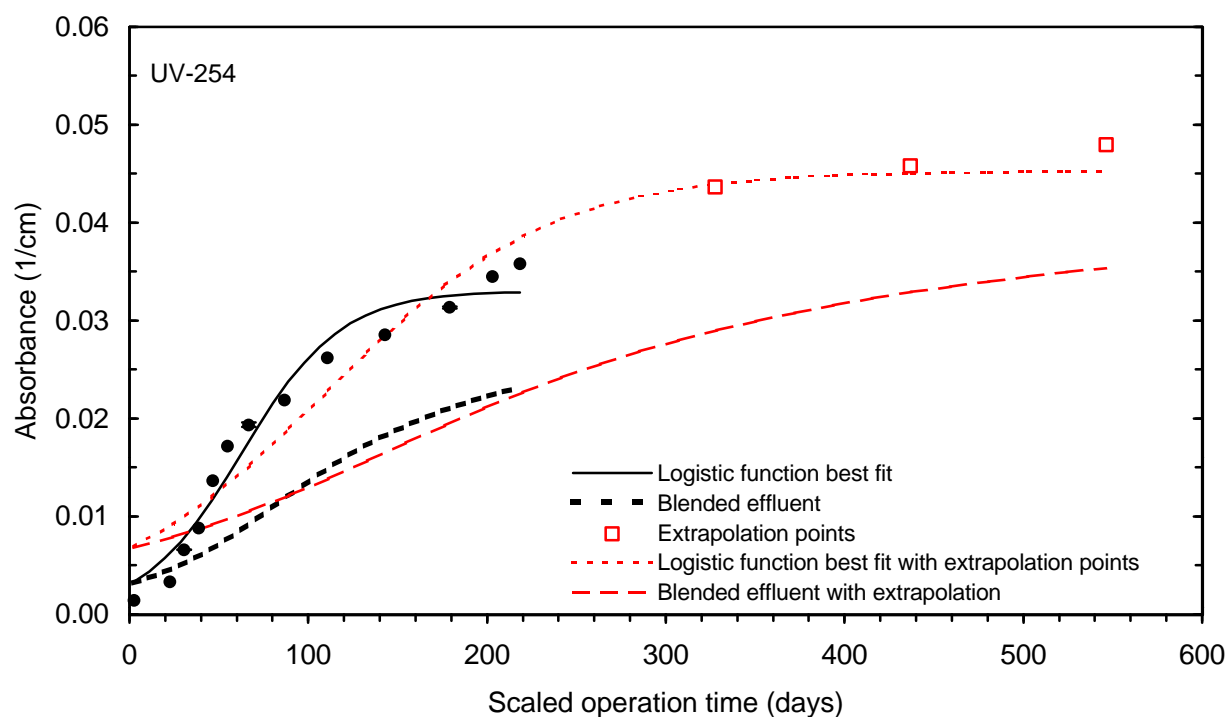


Figure 207 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 2, September

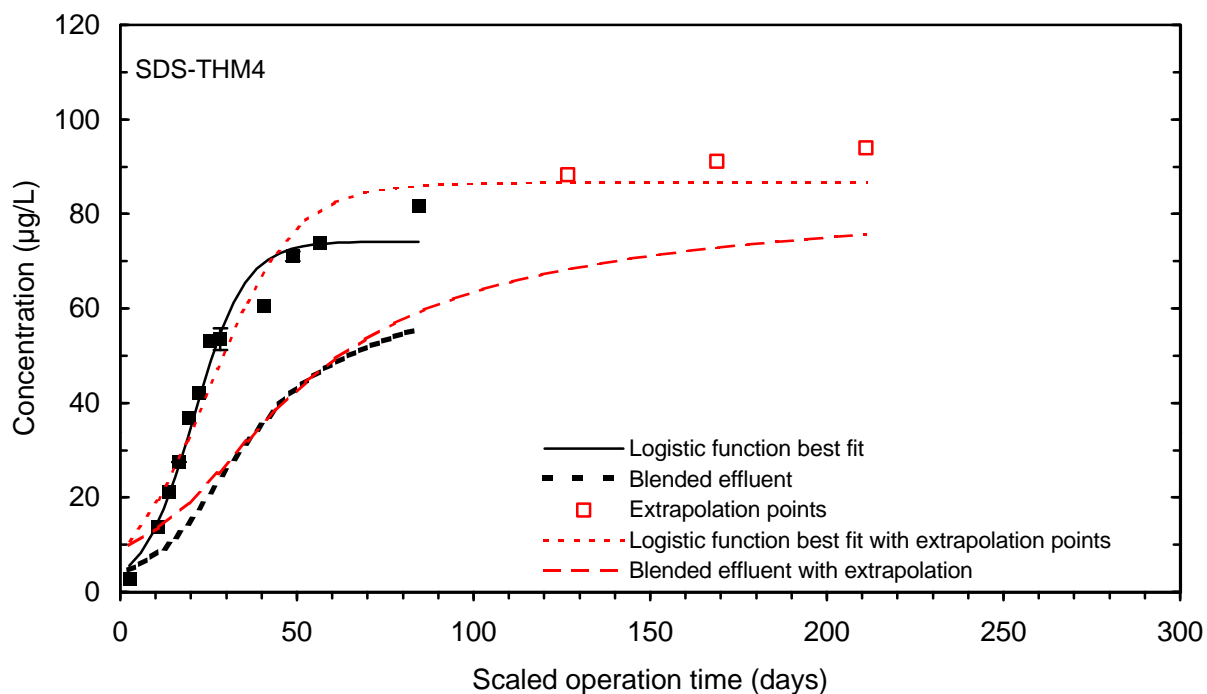


Figure 208 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 2, September

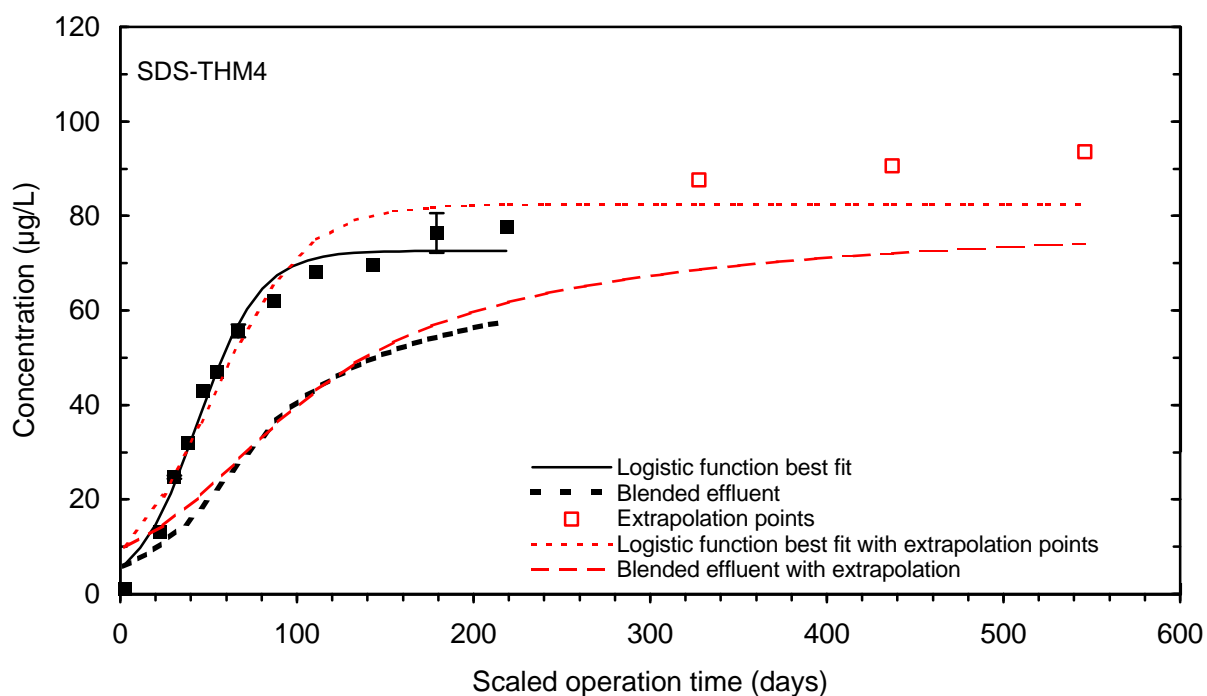


Figure 209 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 2, September

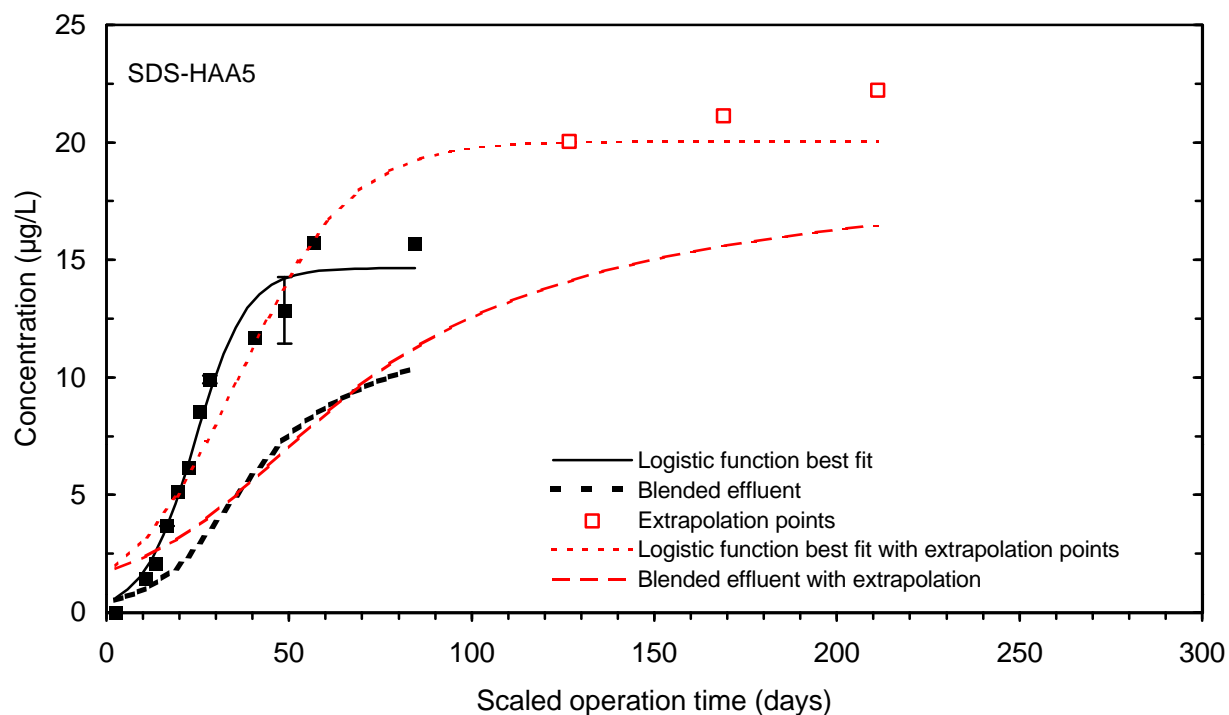


Figure 210 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 2, September

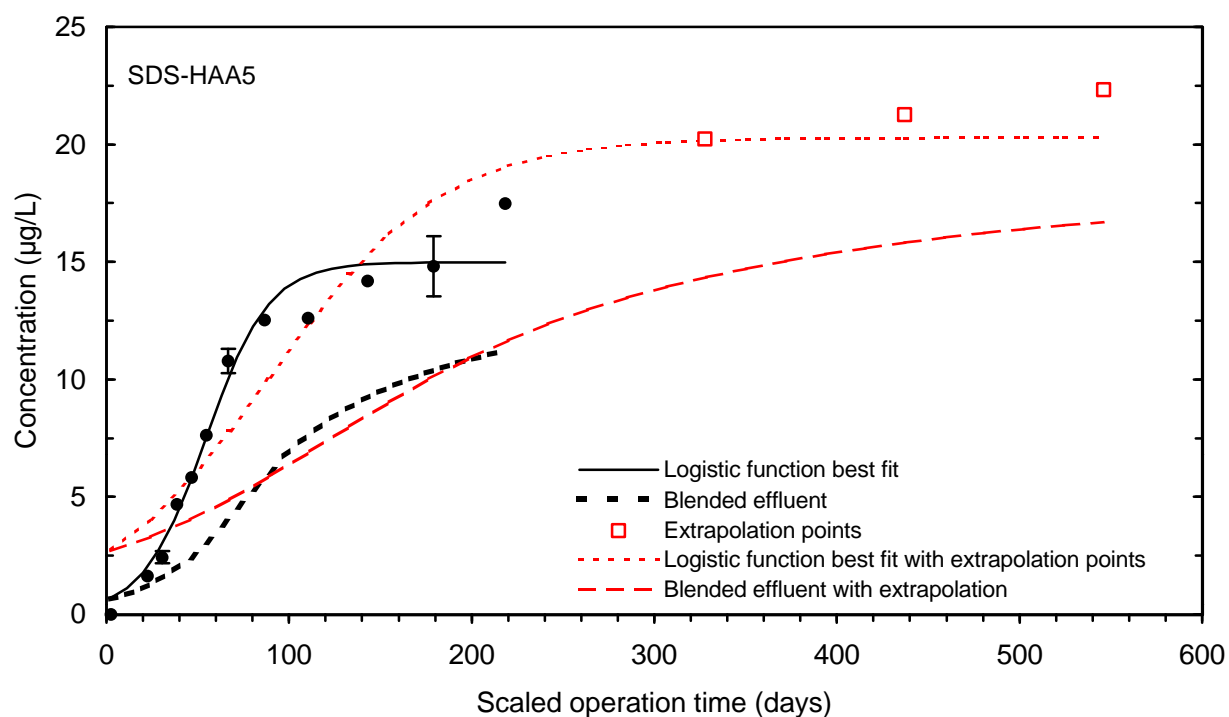


Figure 211 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 2, September

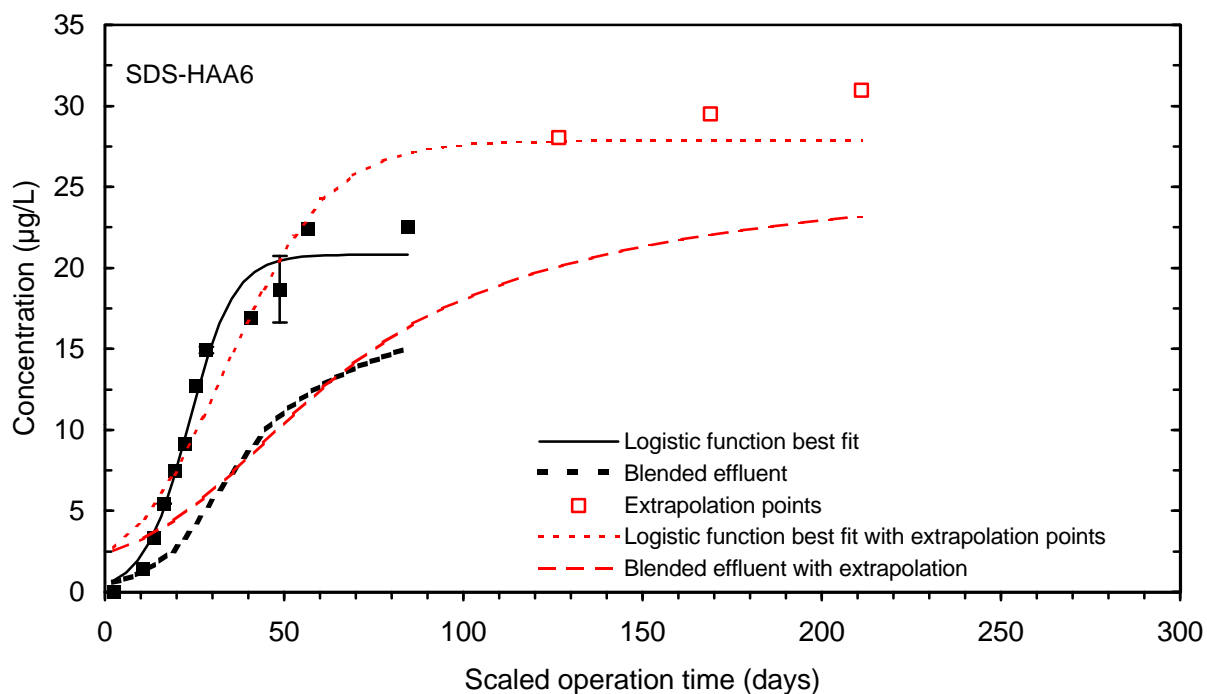


Figure 212 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 2, September

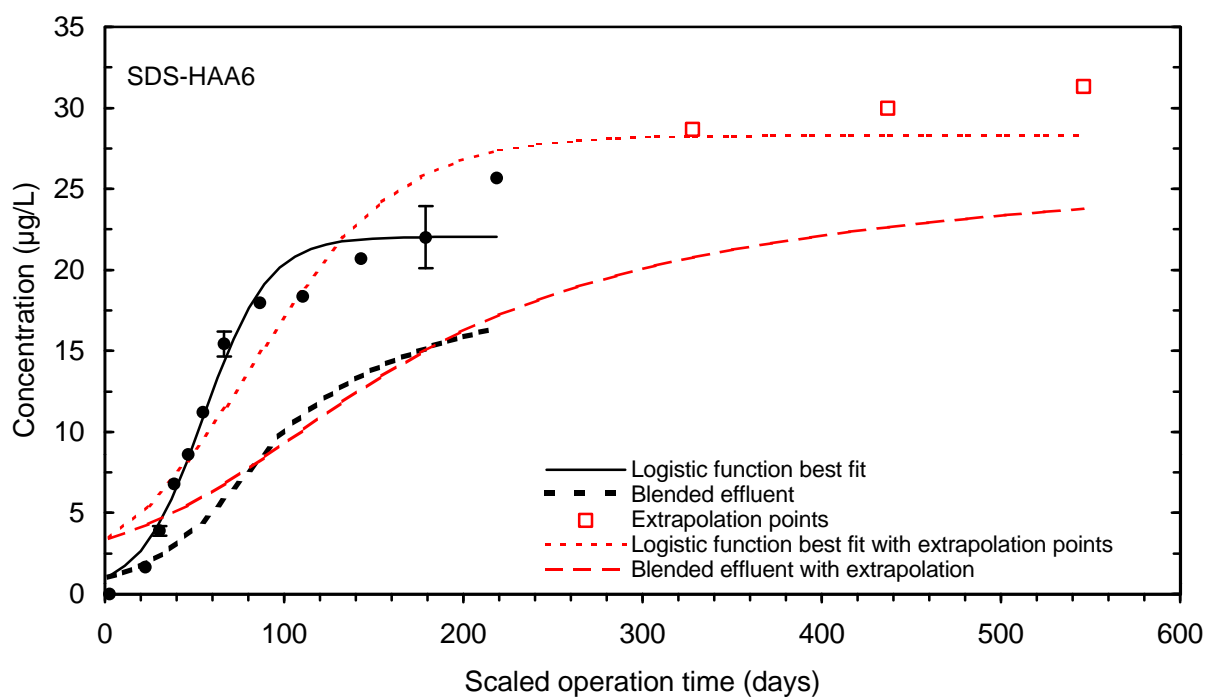


Figure 213 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 2, September

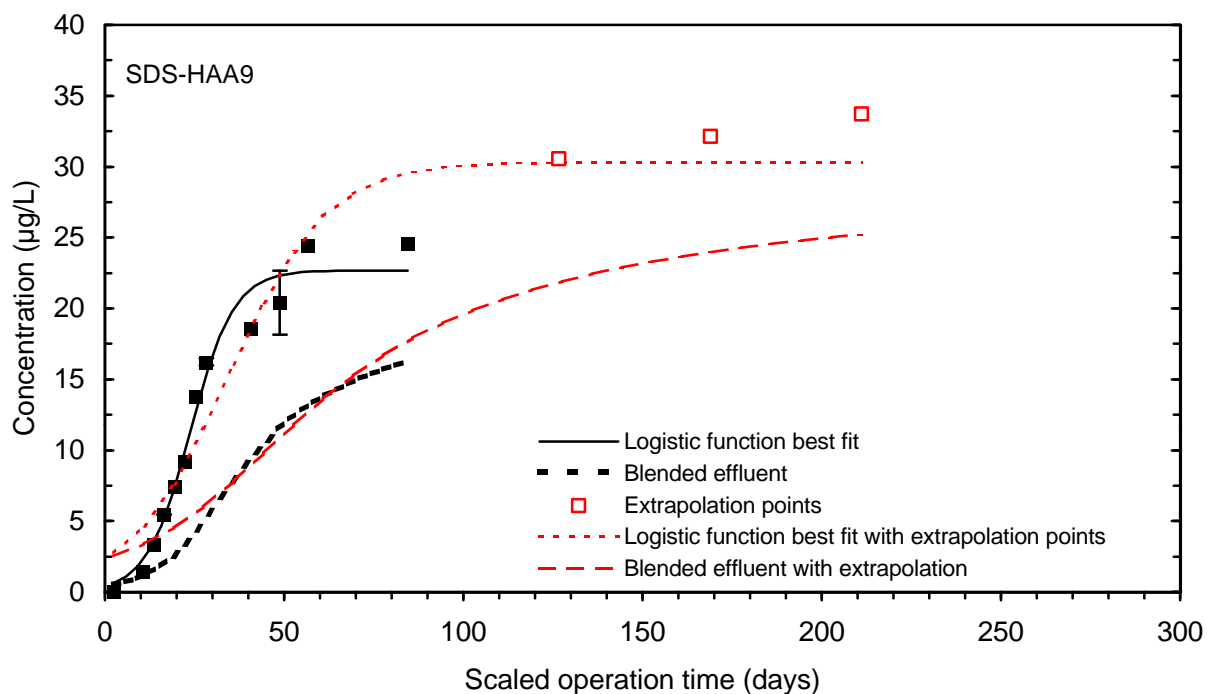


Figure 214 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 2, September

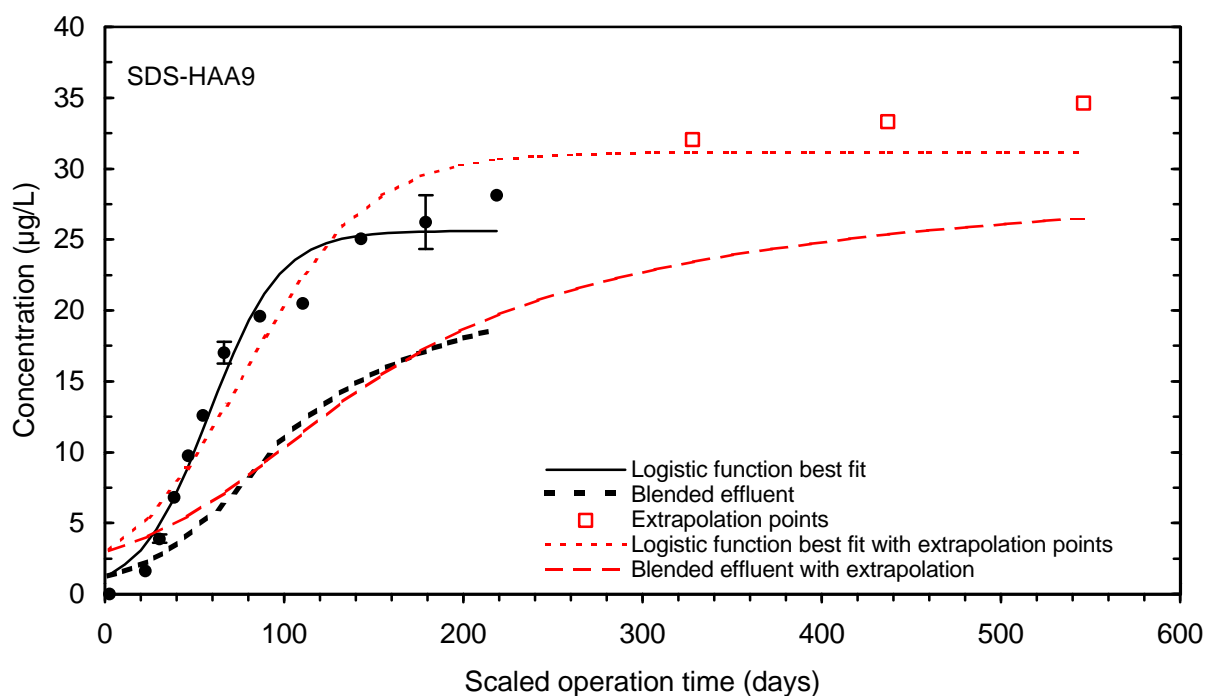


Figure 215 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 2, September

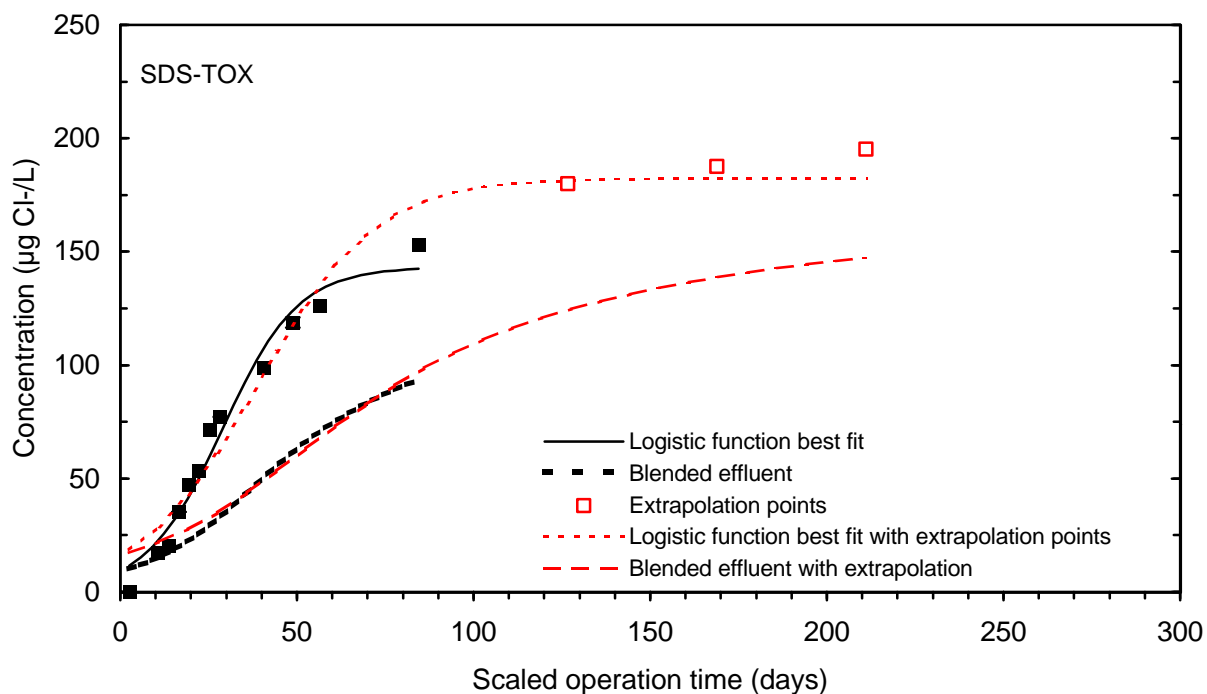


Figure 216 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 2, September

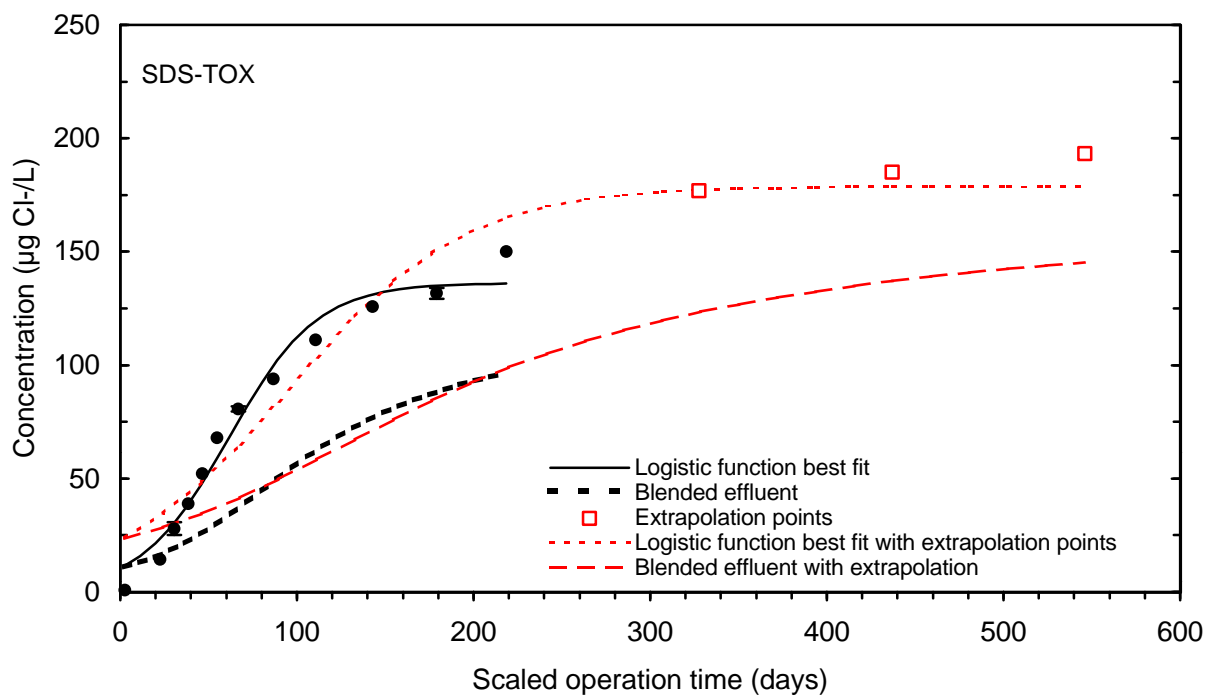


Figure 217 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 2, September

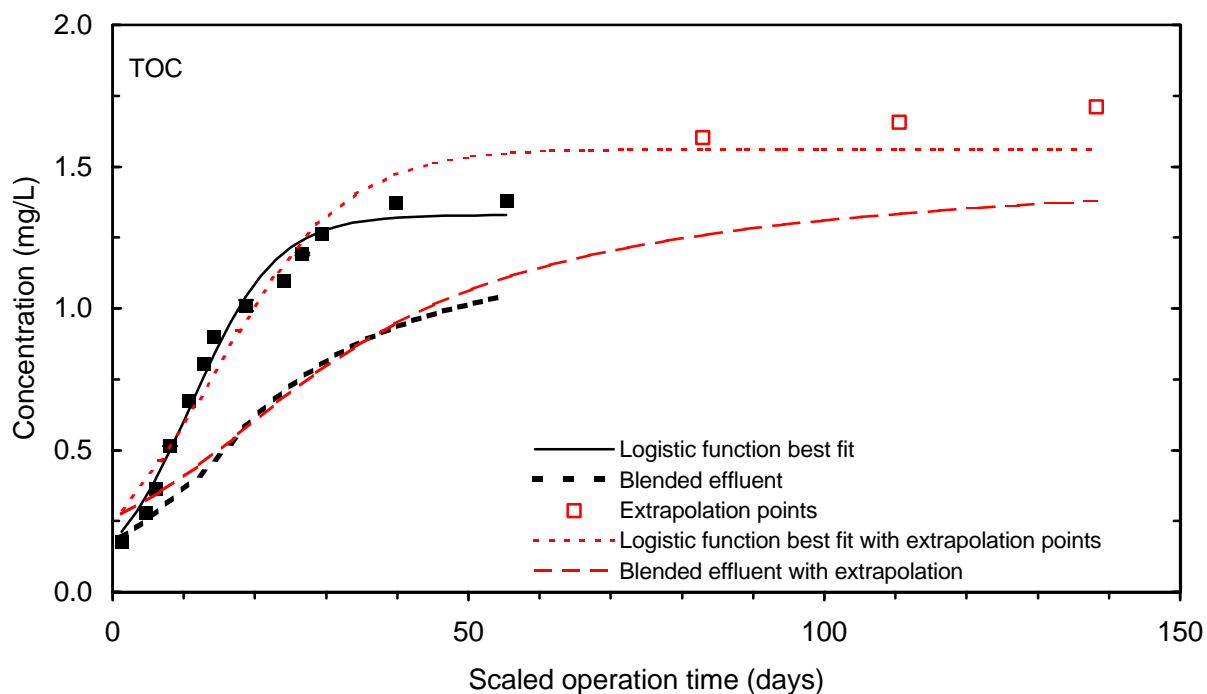


Figure 218 Single contactor and blended effluent extrapolated TOC breakthrough curve (5.0 minute EBCT) during session 1, March

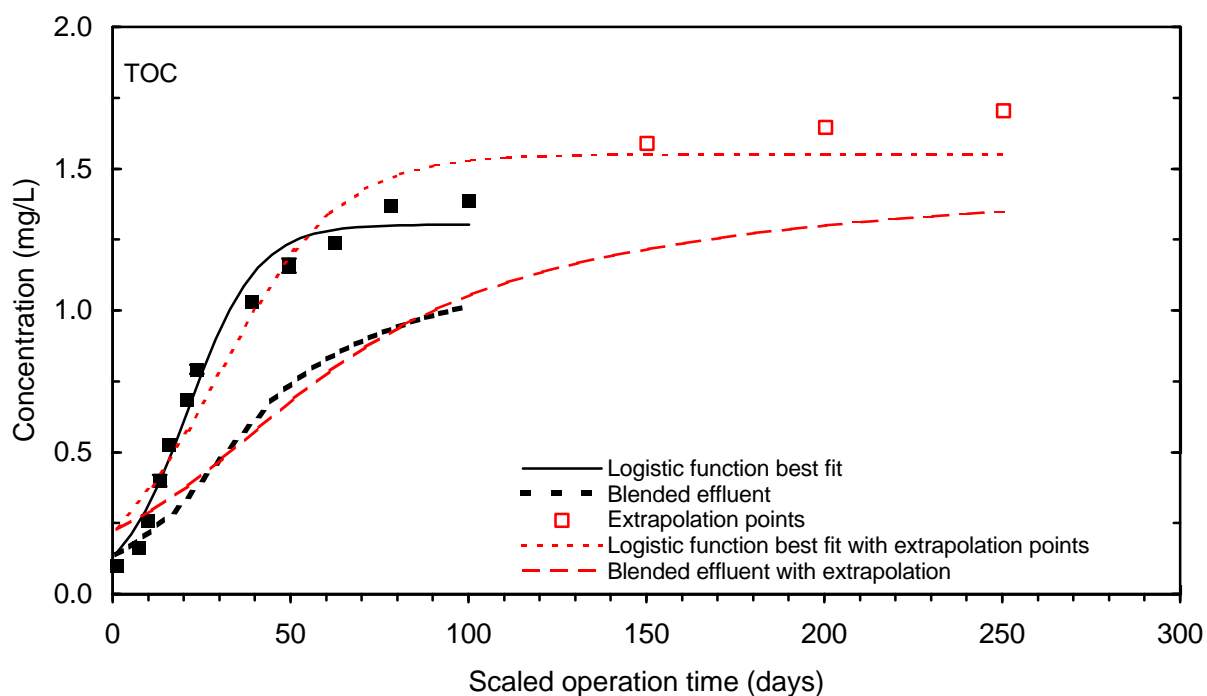


Figure 219 Single contactor and blended effluent extrapolated TOC breakthrough curve (7.5 minute EBCT) during session 1, March

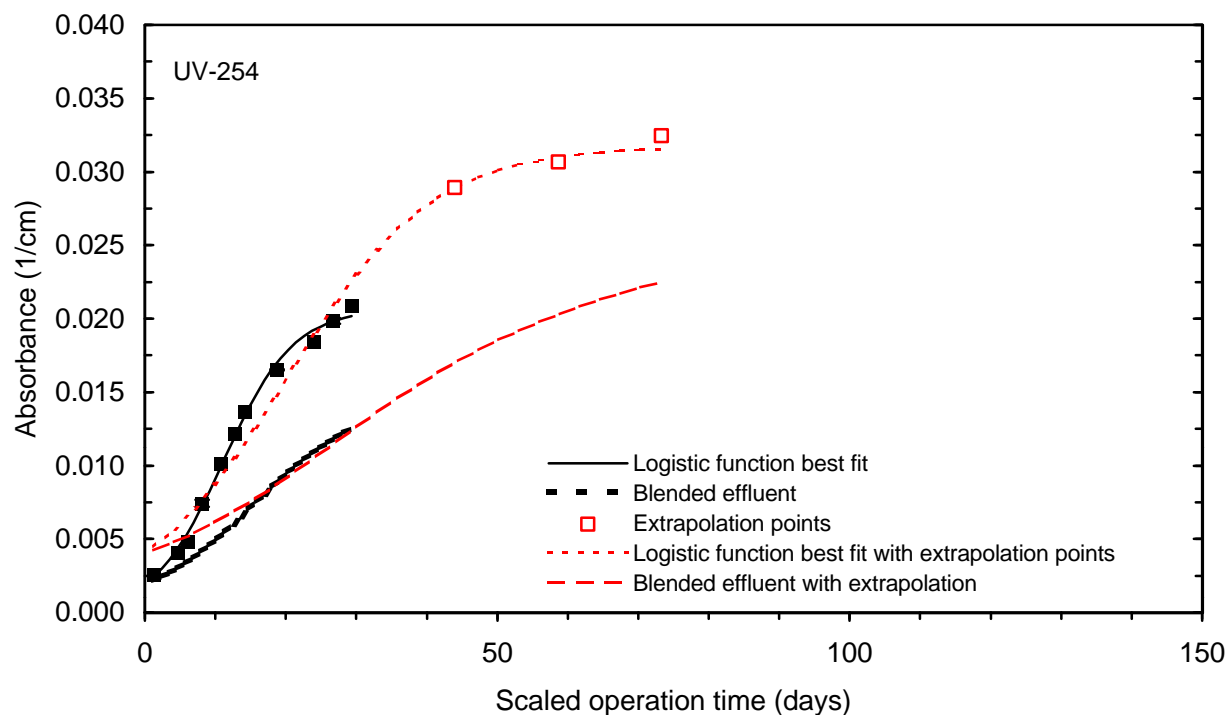


Figure 220 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (5.0 minute EBCT) during session 1, March

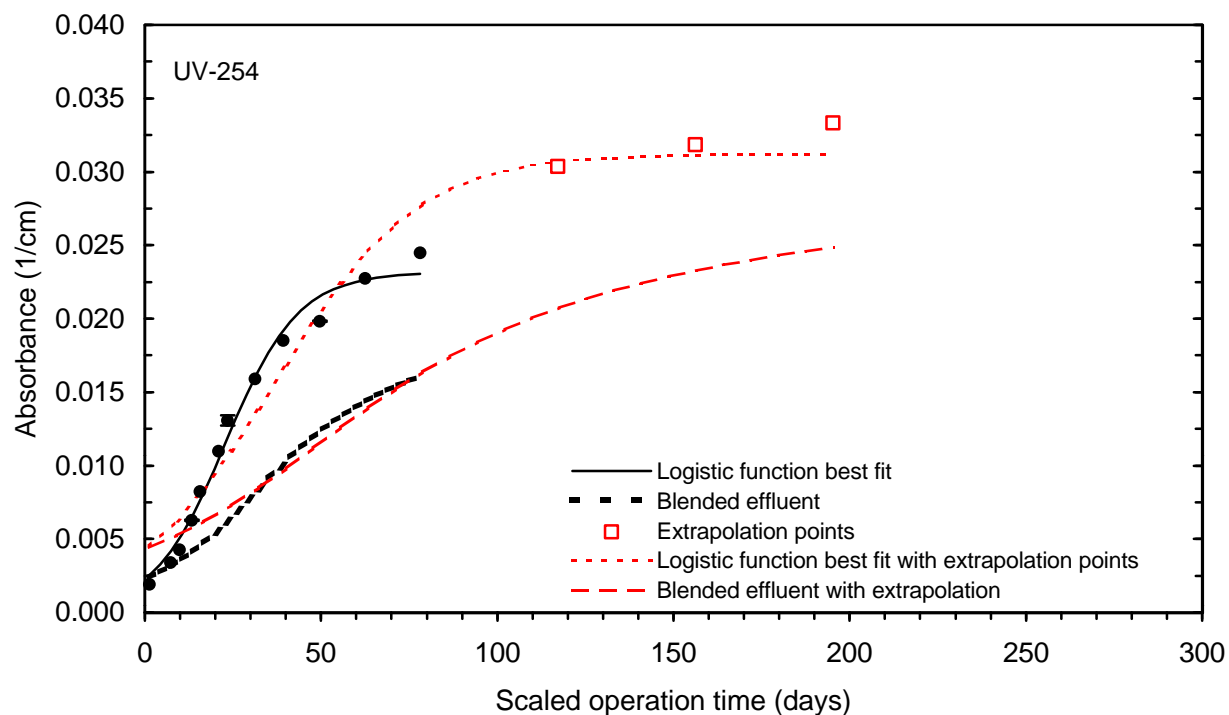


Figure 221 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (7.5 minute EBCT) during session 1, March

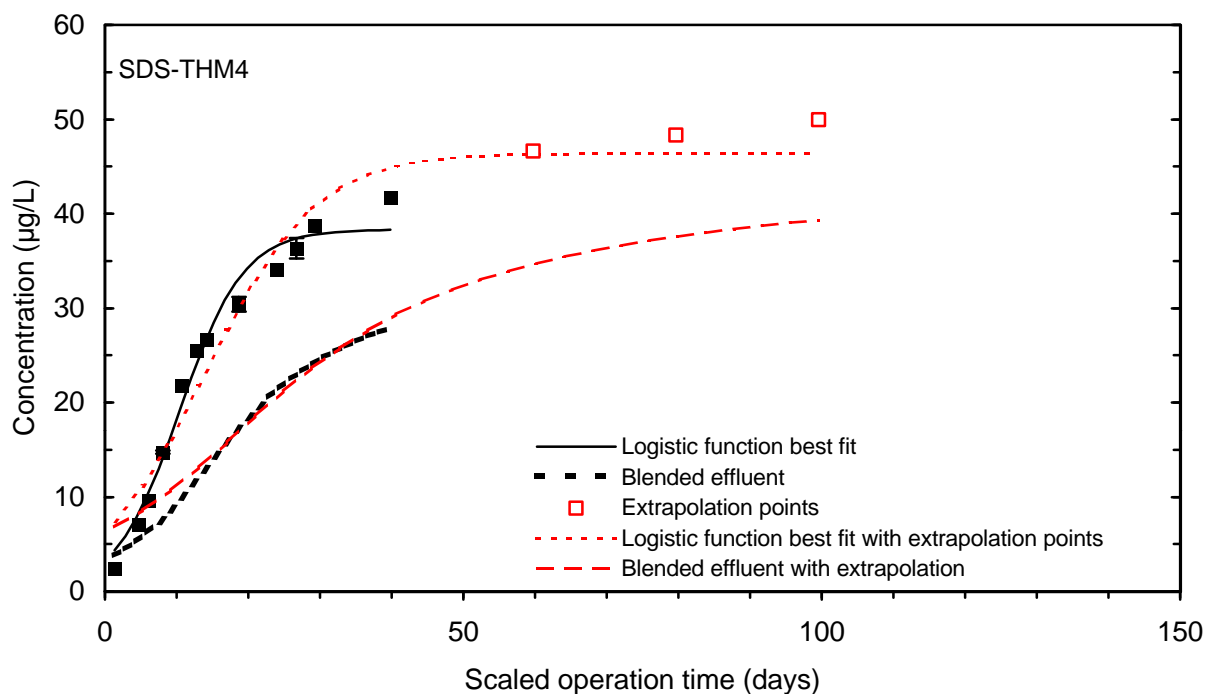


Figure 222 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (5.0 minute EBCT) during session 1, March

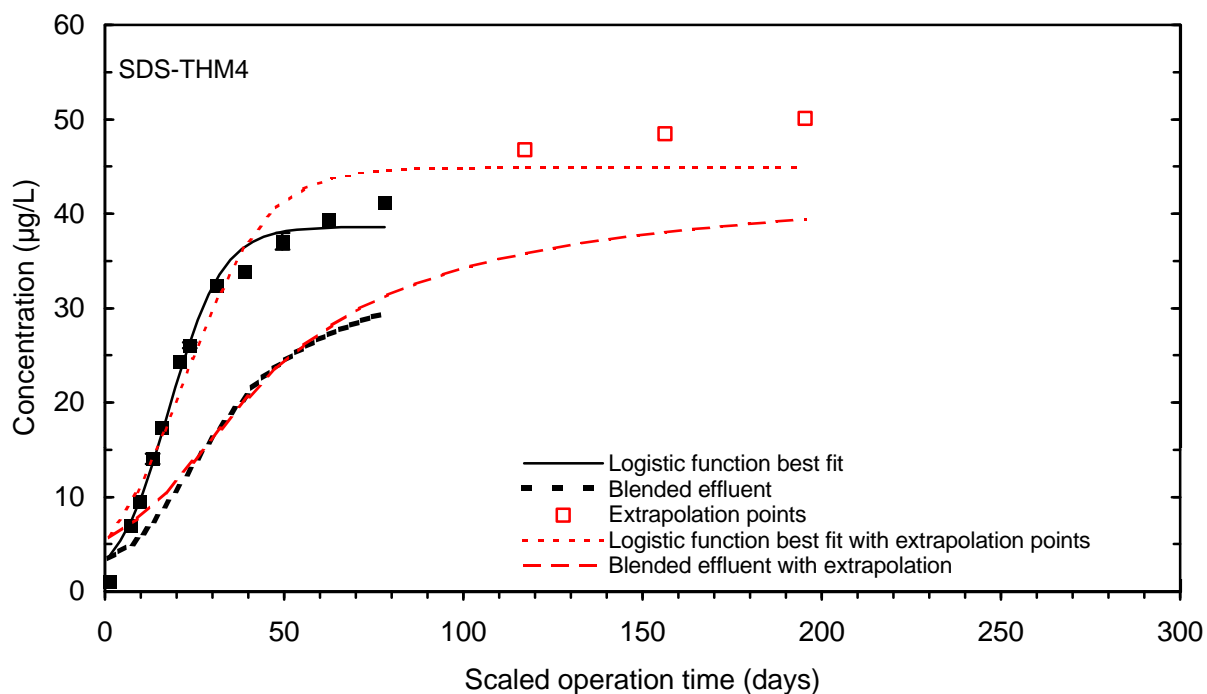


Figure 223 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (7.5 minute EBCT) during session 1, March

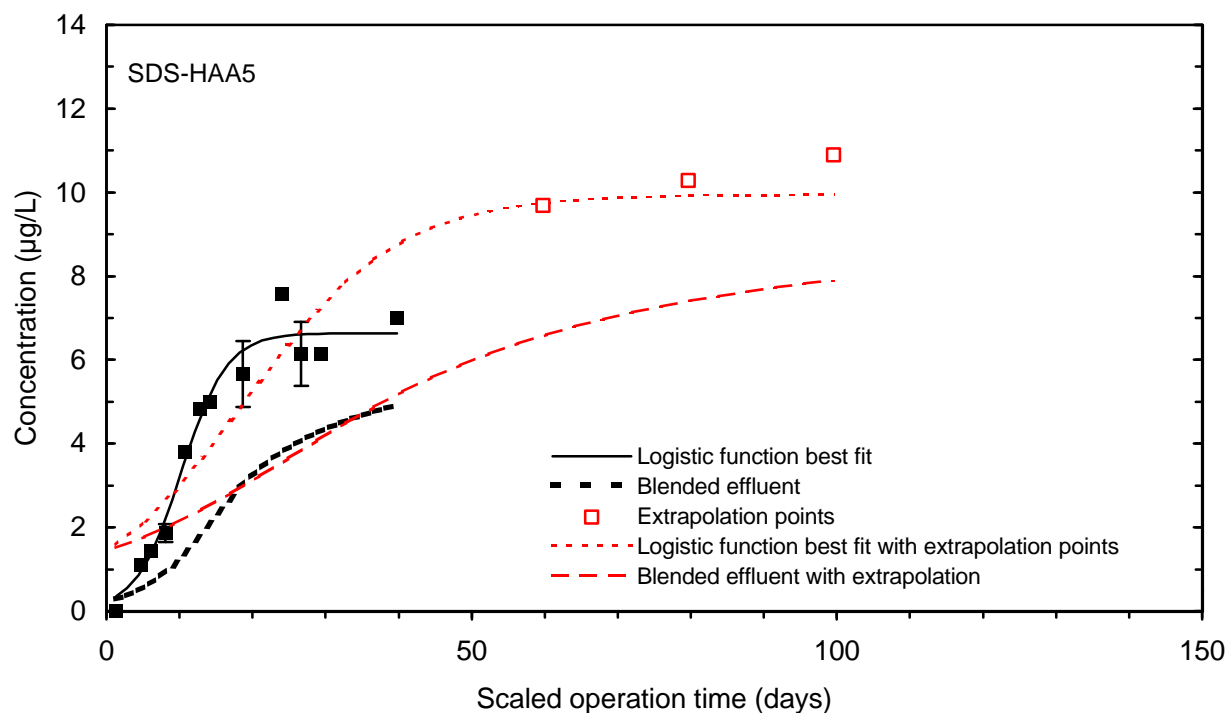


Figure 224 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (5.0 minute EBCT) during session 1, March

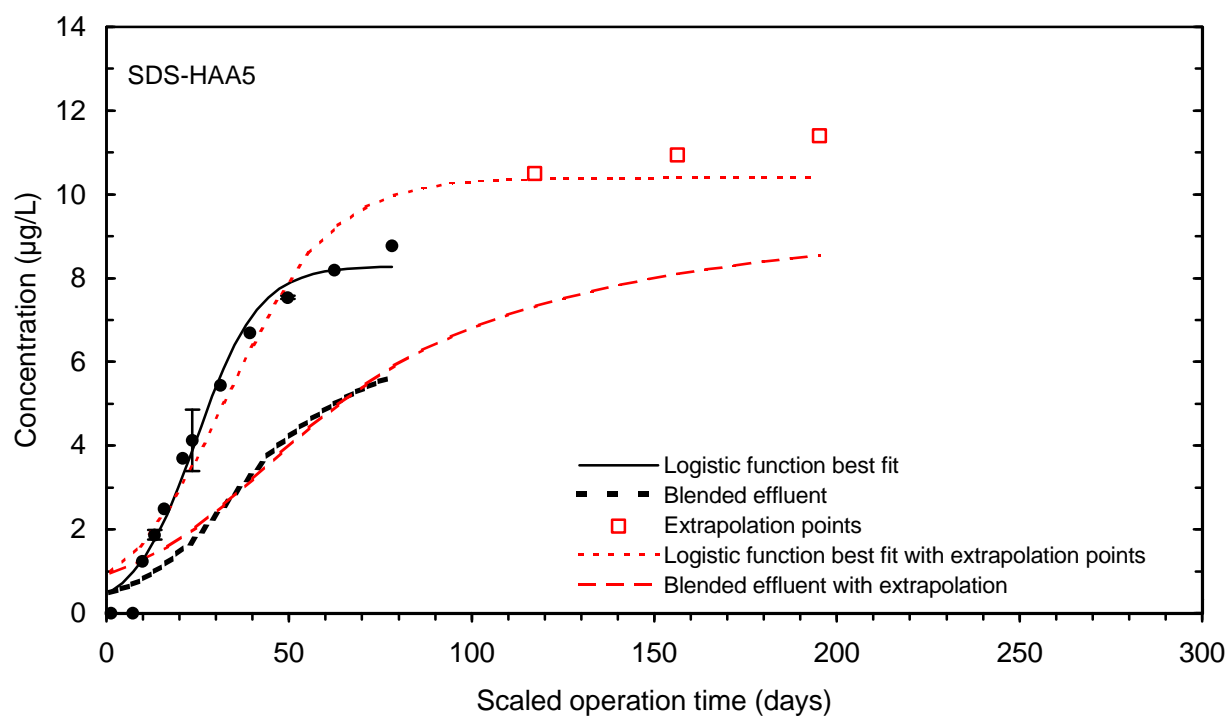


Figure 225 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (7.5 minute EBCT) during session 1, March

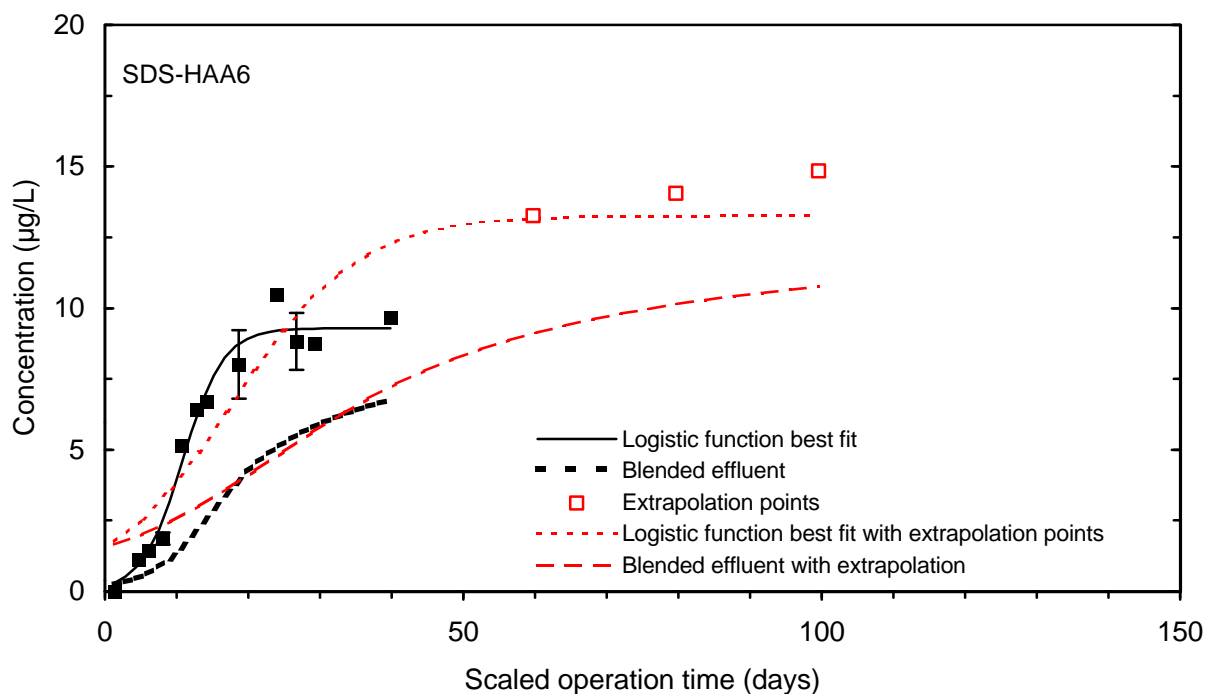


Figure 226 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (5.0 minute EBCT) during session 1, March

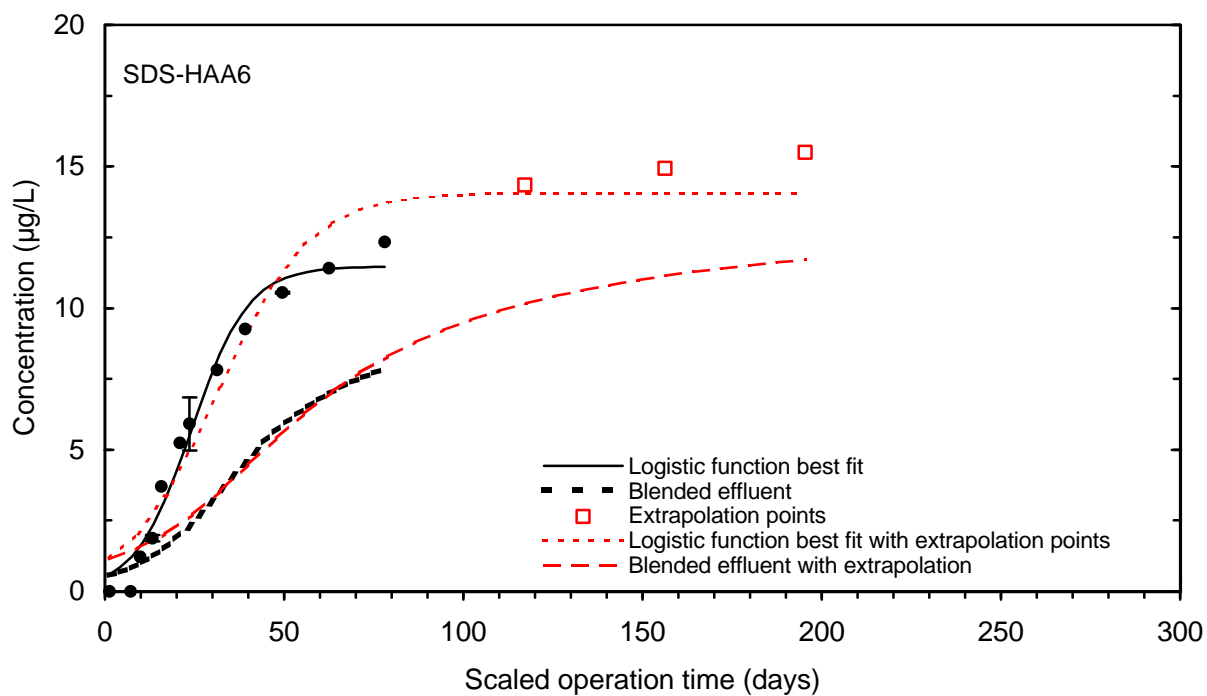


Figure 227 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (7.5 minute EBCT) during session 1, March

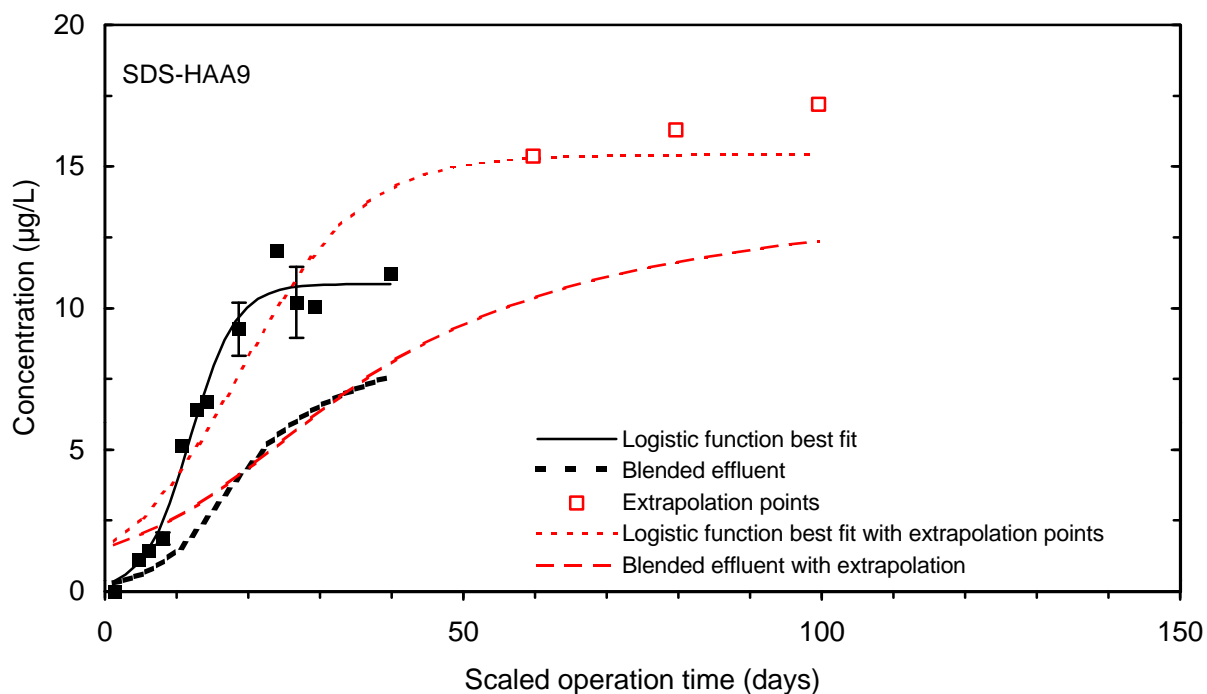


Figure 228 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (5.0 minute EBCT) during session 1, March

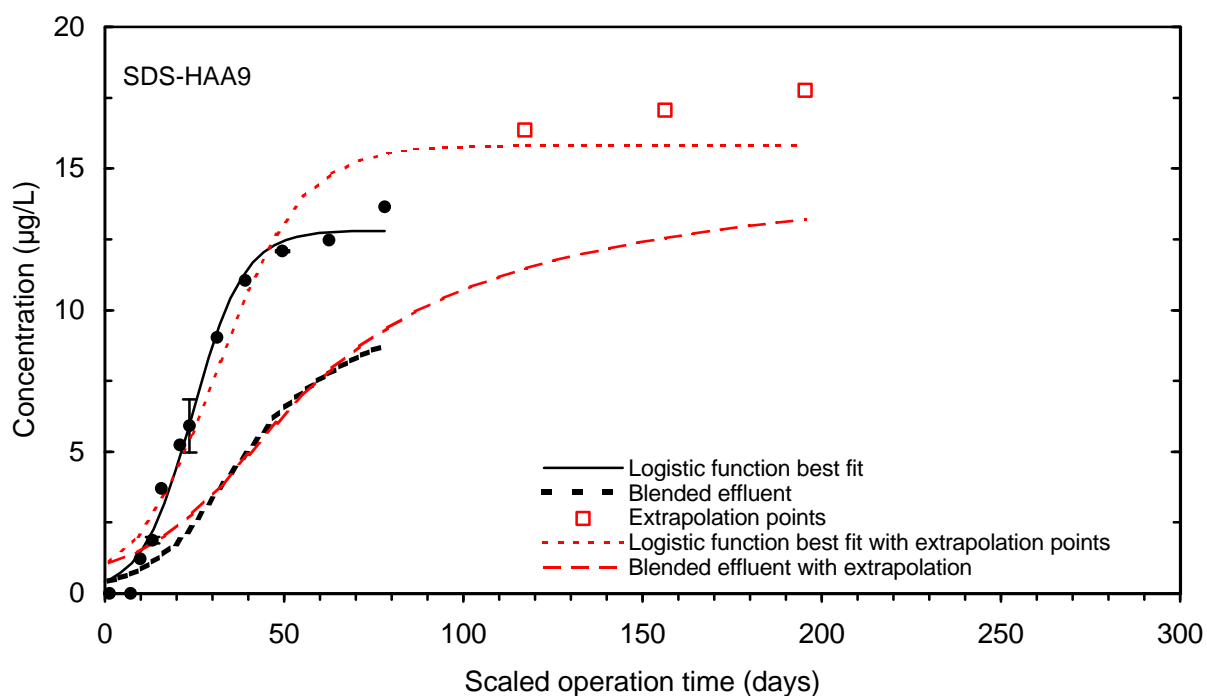


Figure 229 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (7.5 minute EBCT) during session 1, March

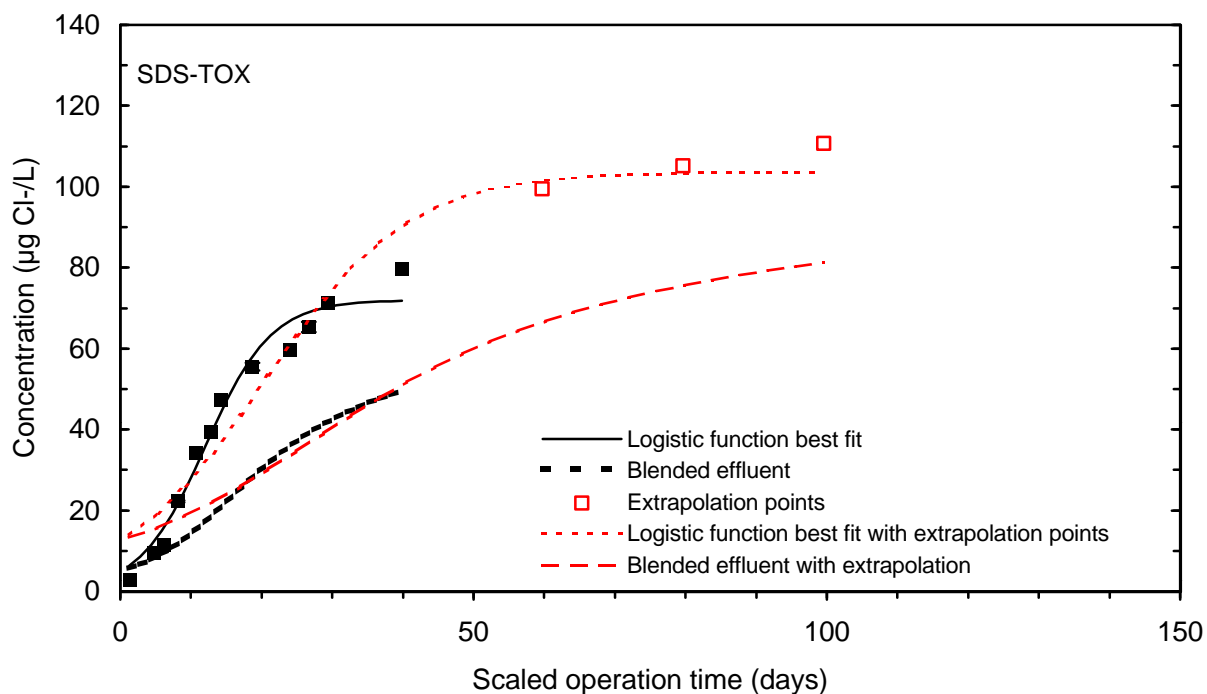


Figure 230 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (5.0 minute EBCT) during session 1, March

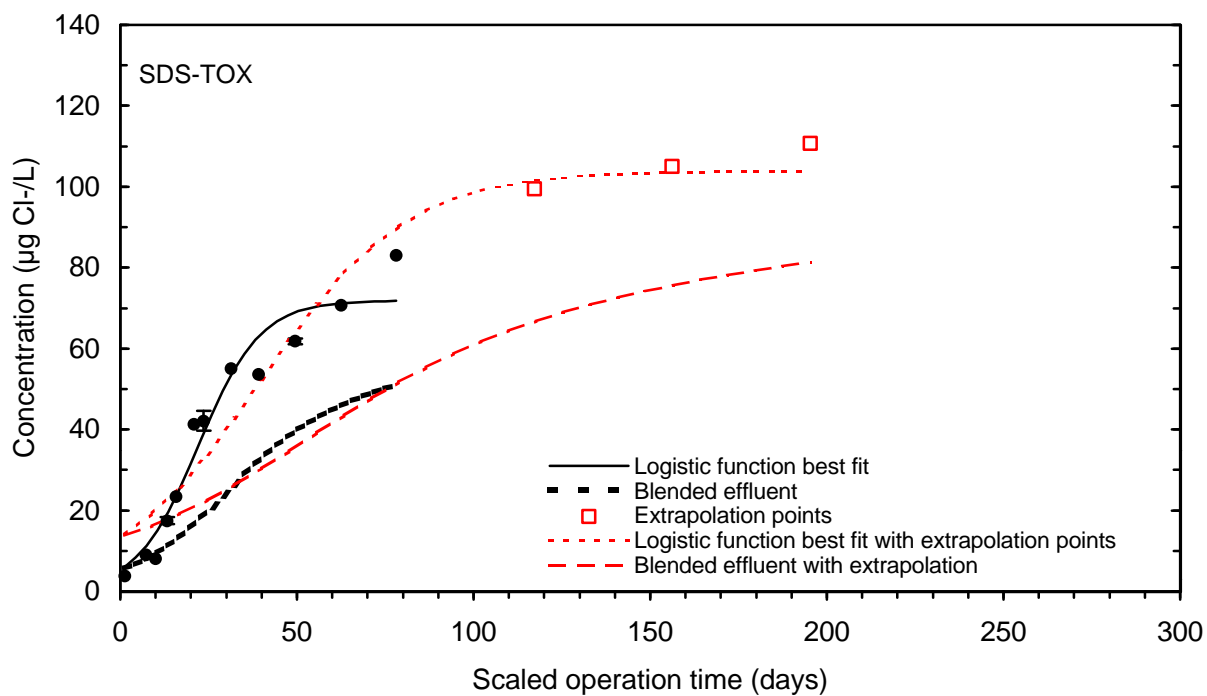


Figure 231 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (7.5 minute EBCT) during session 1, March

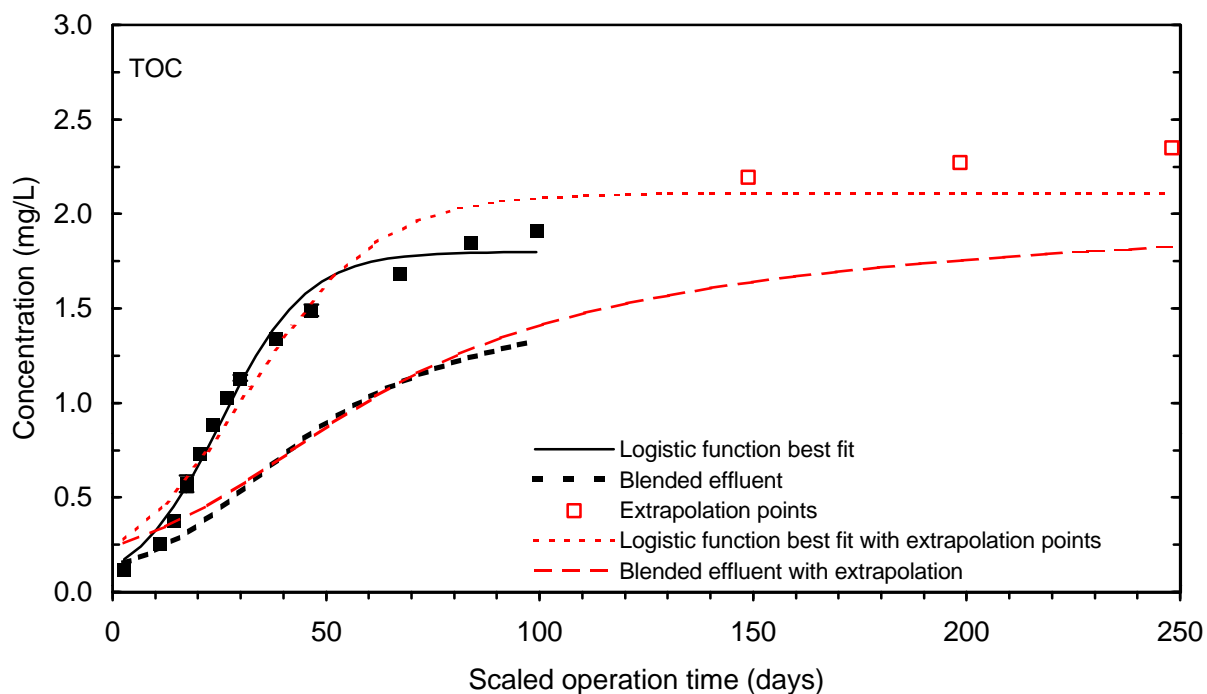


Figure 232 Single contactor and blended effluent extrapolated TOC breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

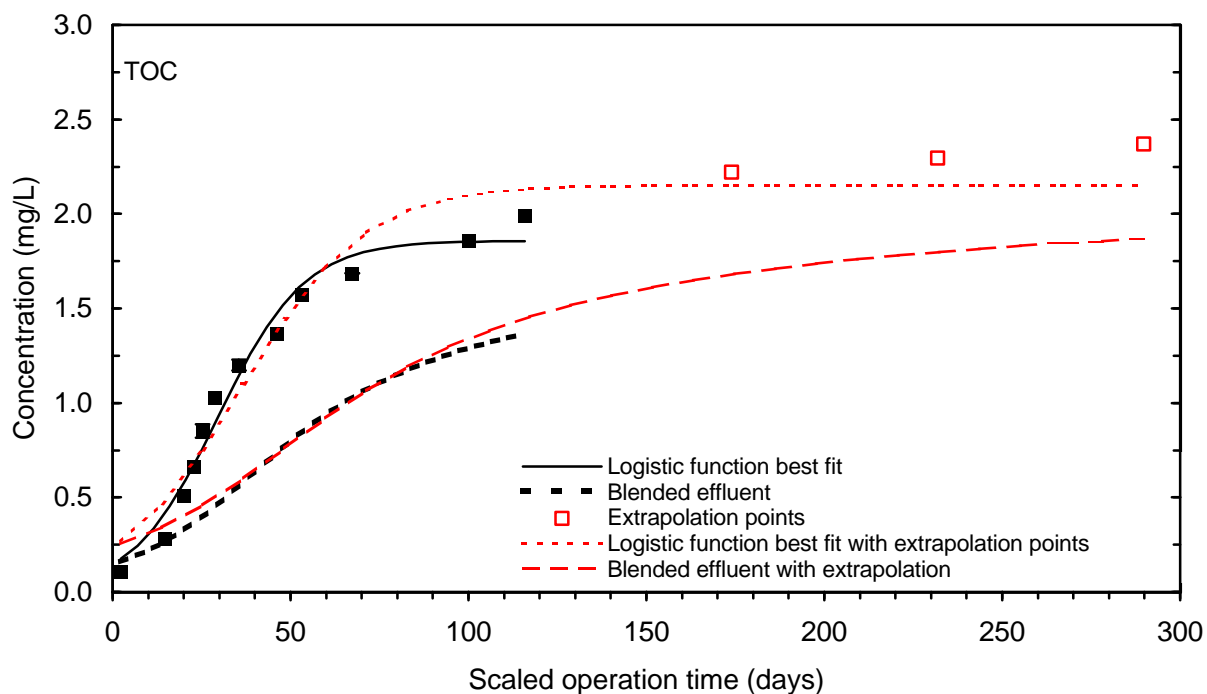


Figure 233 Single contactor and blended effluent extrapolated TOC breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

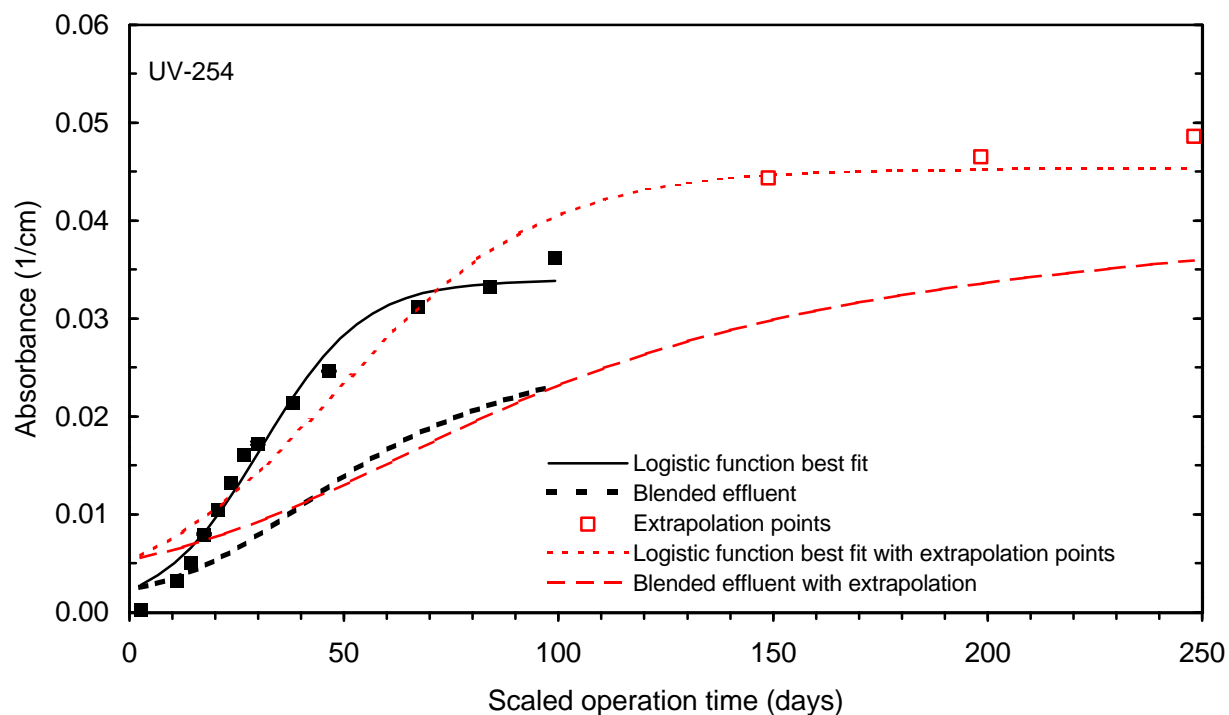


Figure 234 Single contactor and blended effluent extrapolated UV-254 breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

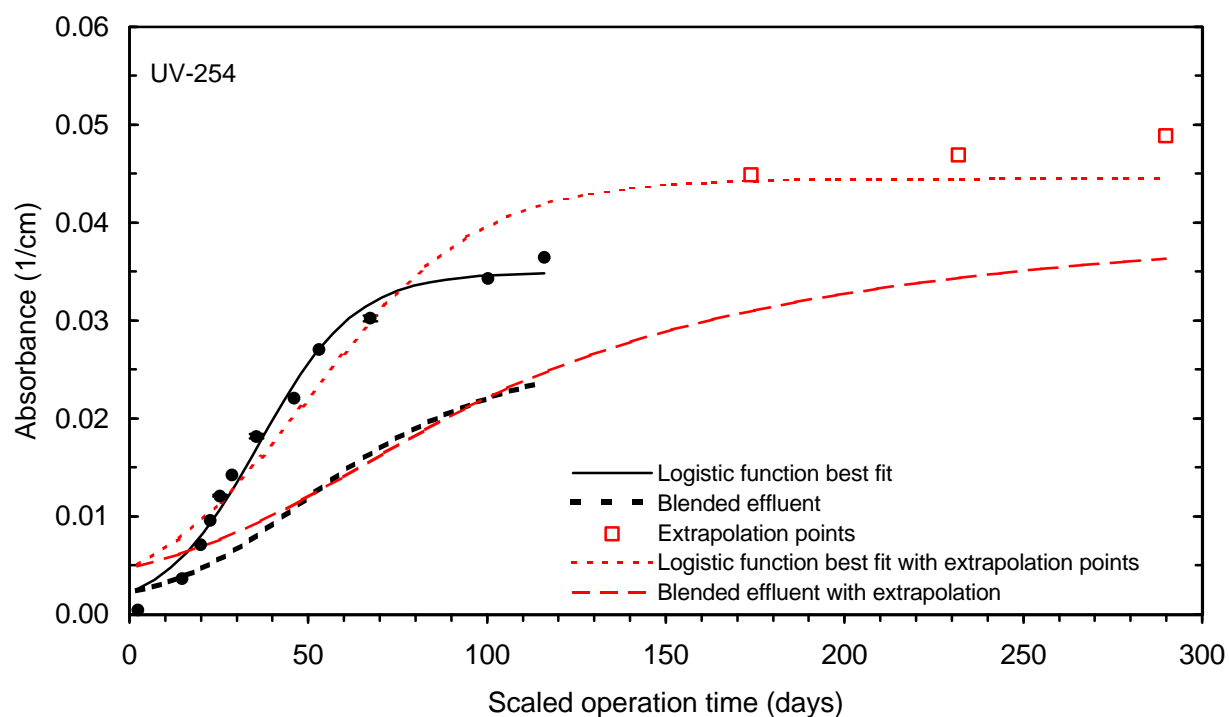


Figure 235 Single contactor and blended effluent extrapolated UV-254 breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

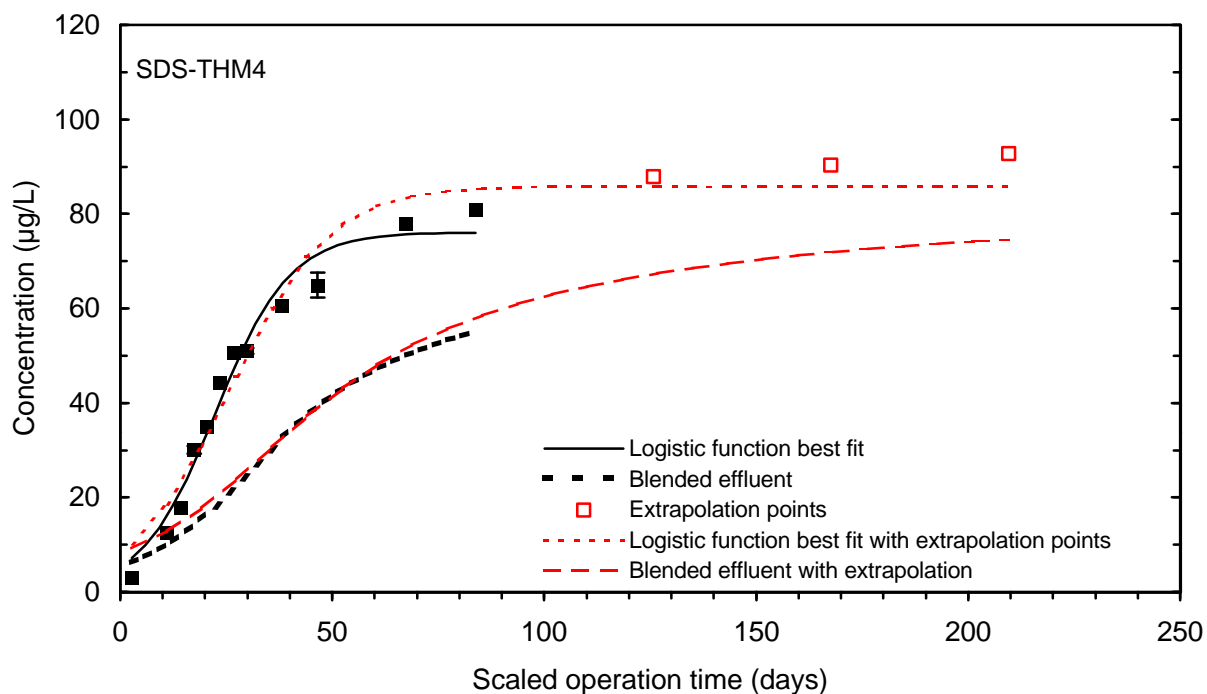


Figure 236 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

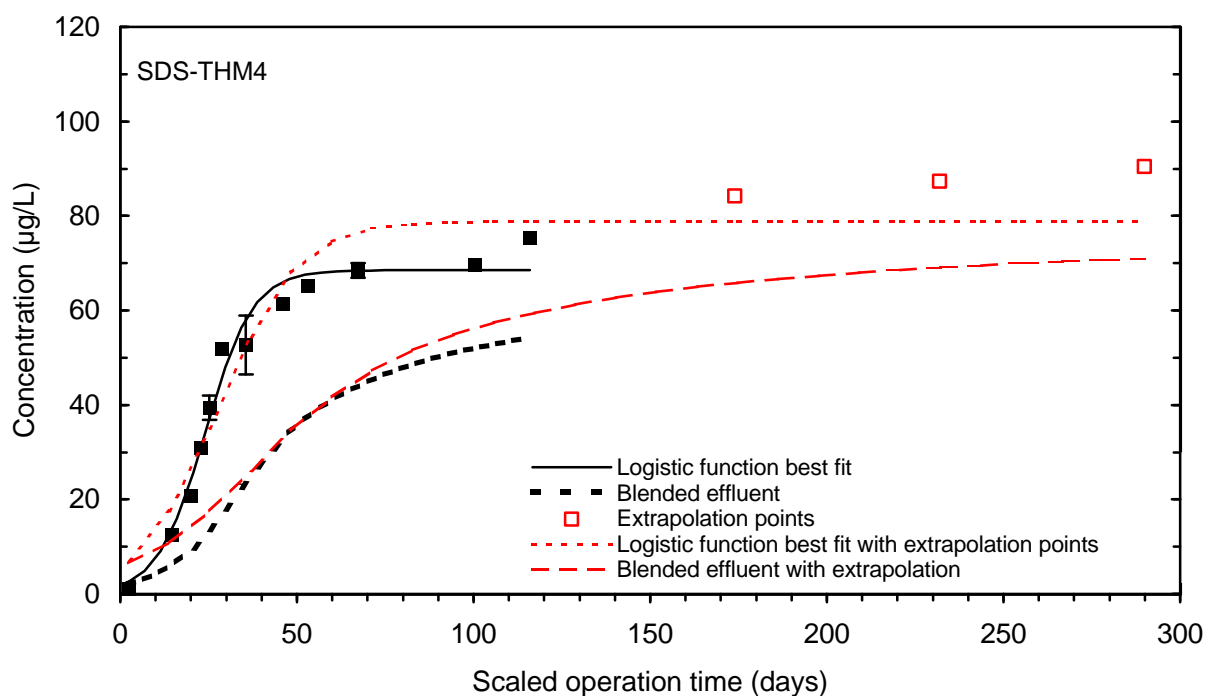


Figure 237 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

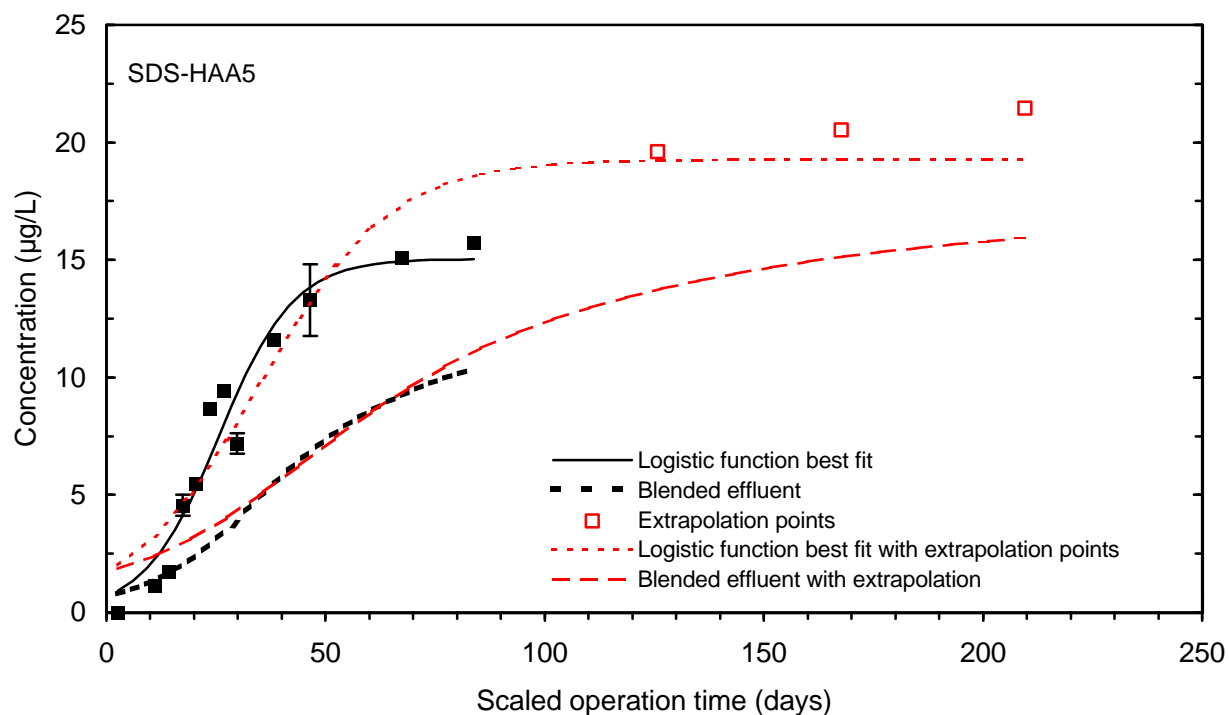


Figure 238 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

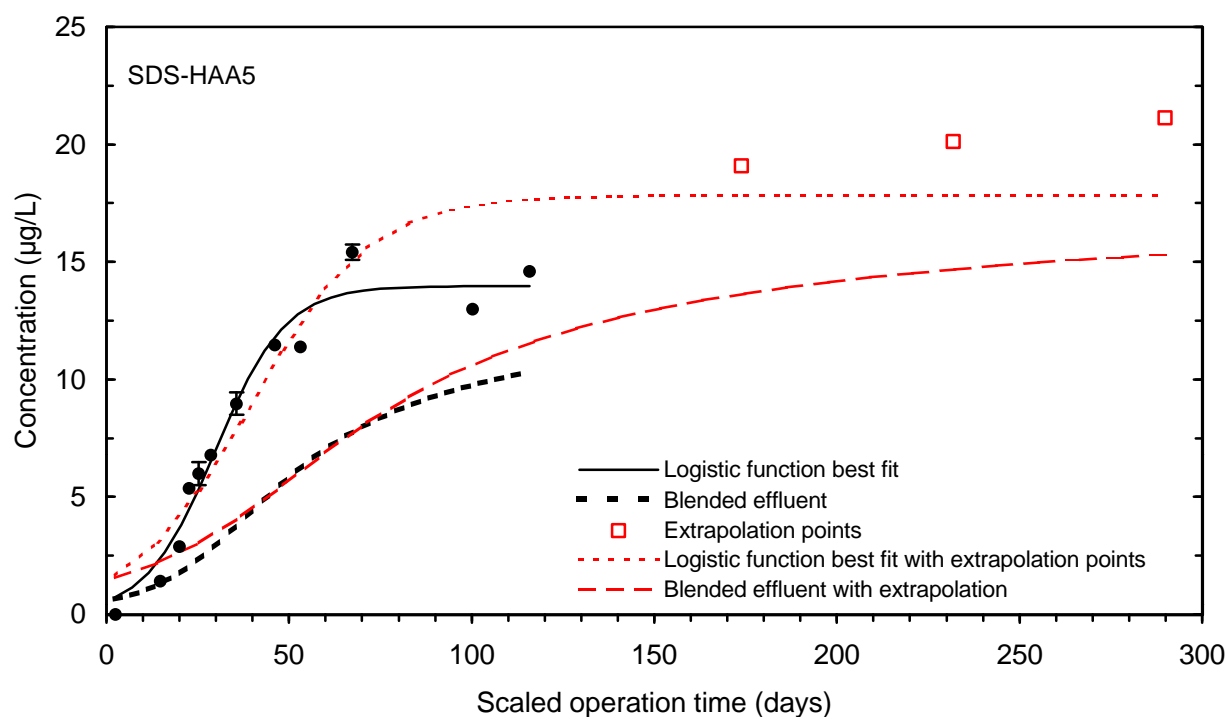


Figure 239 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

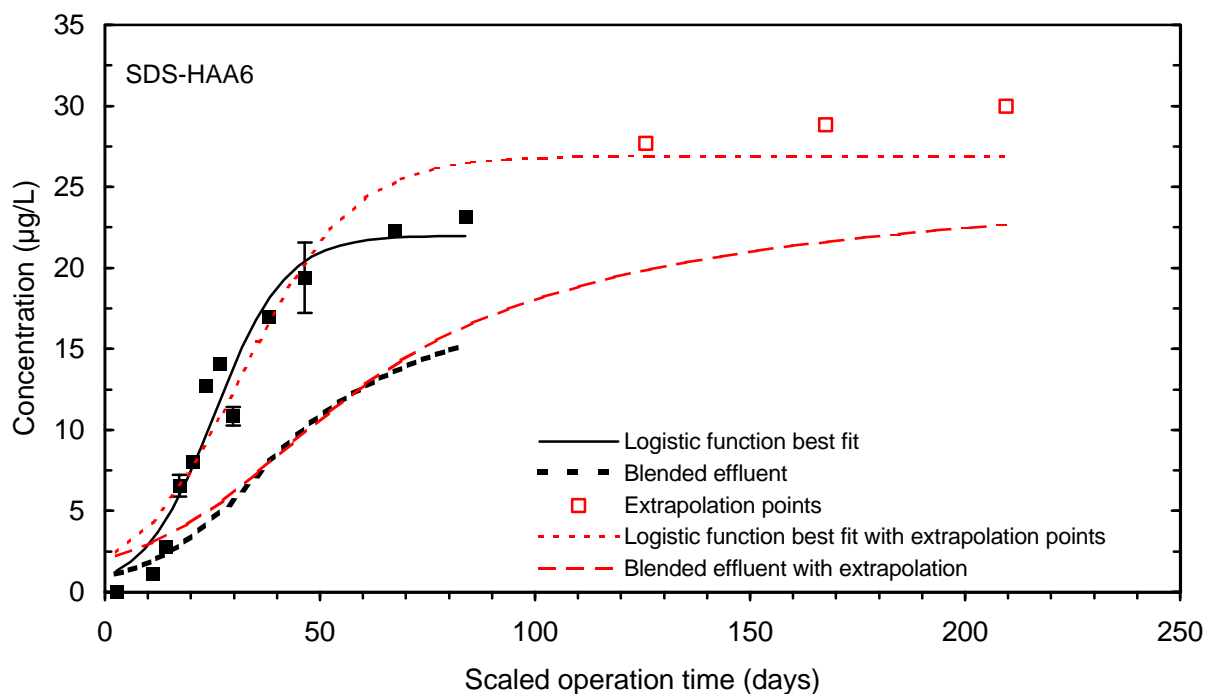


Figure 240 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

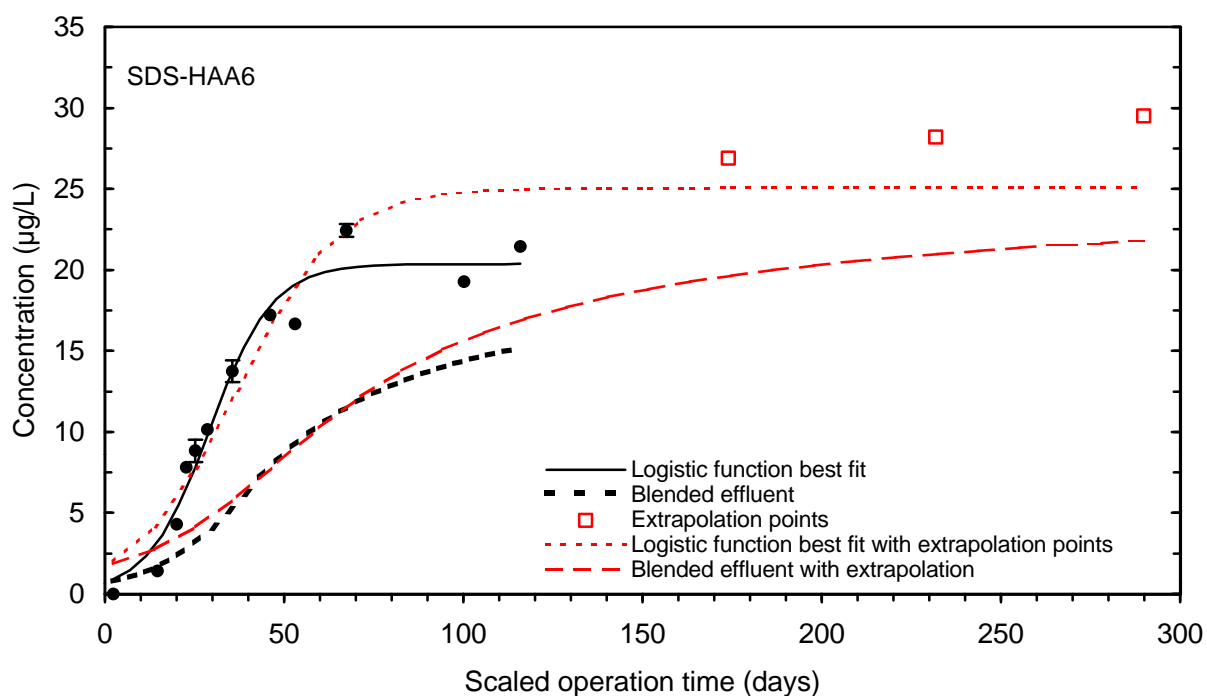


Figure 241 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2,

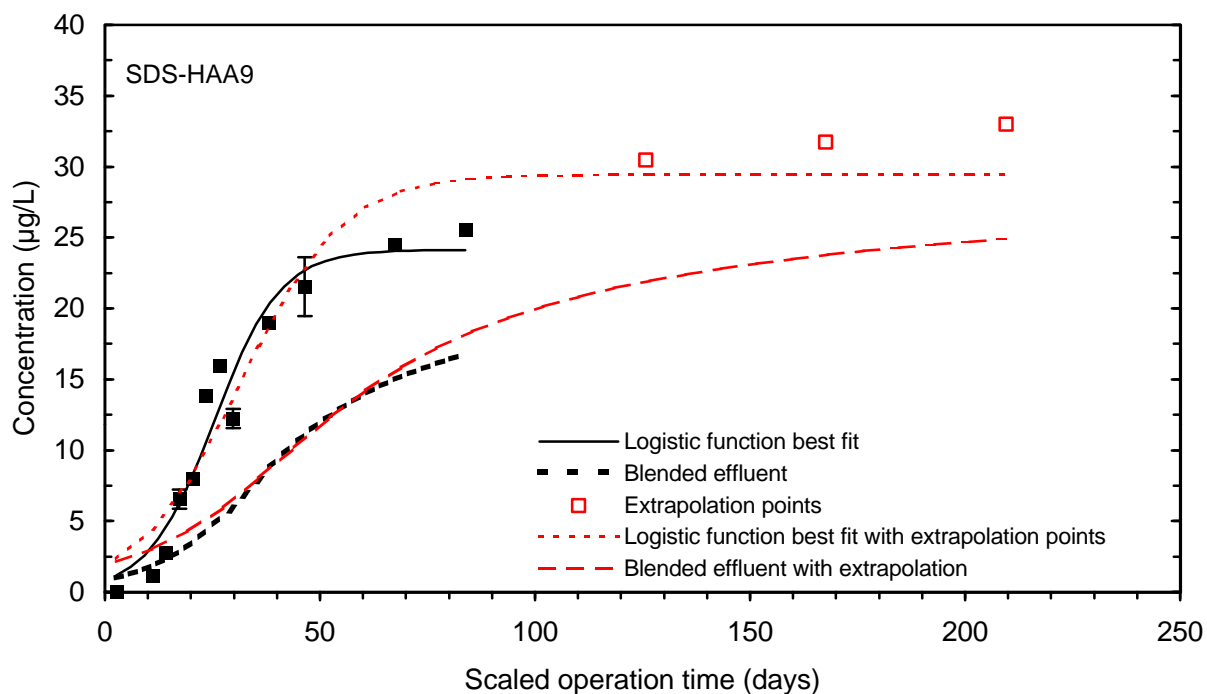


Figure 242 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

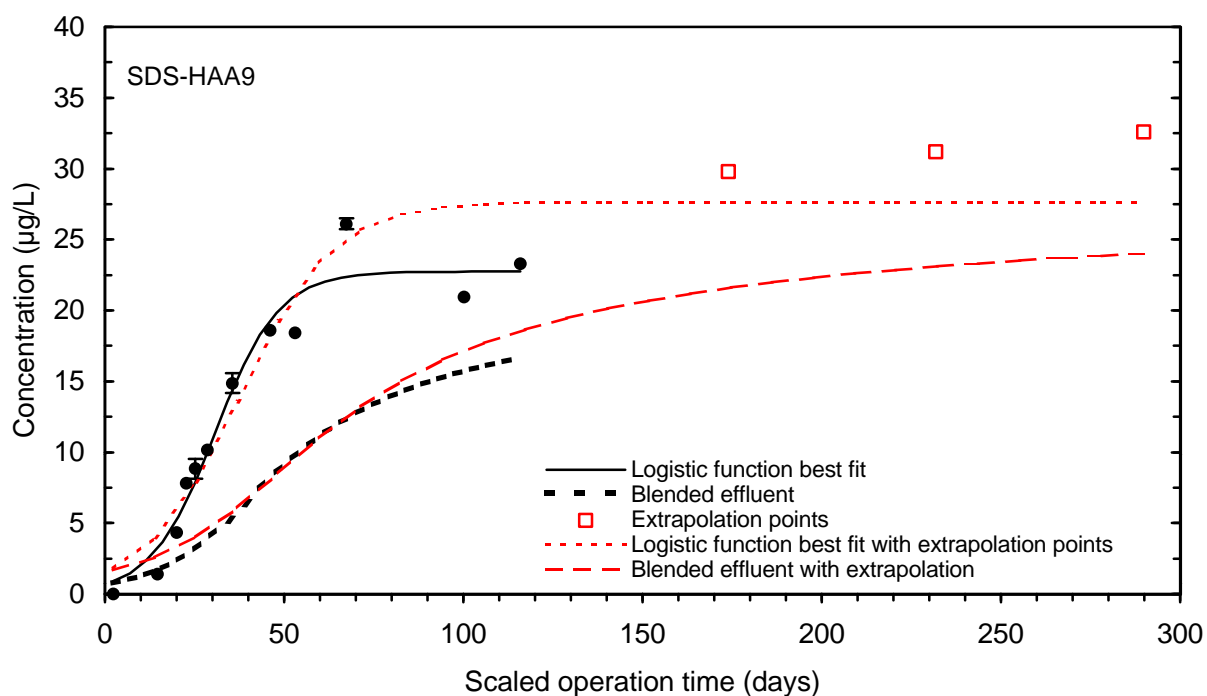


Figure 243 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

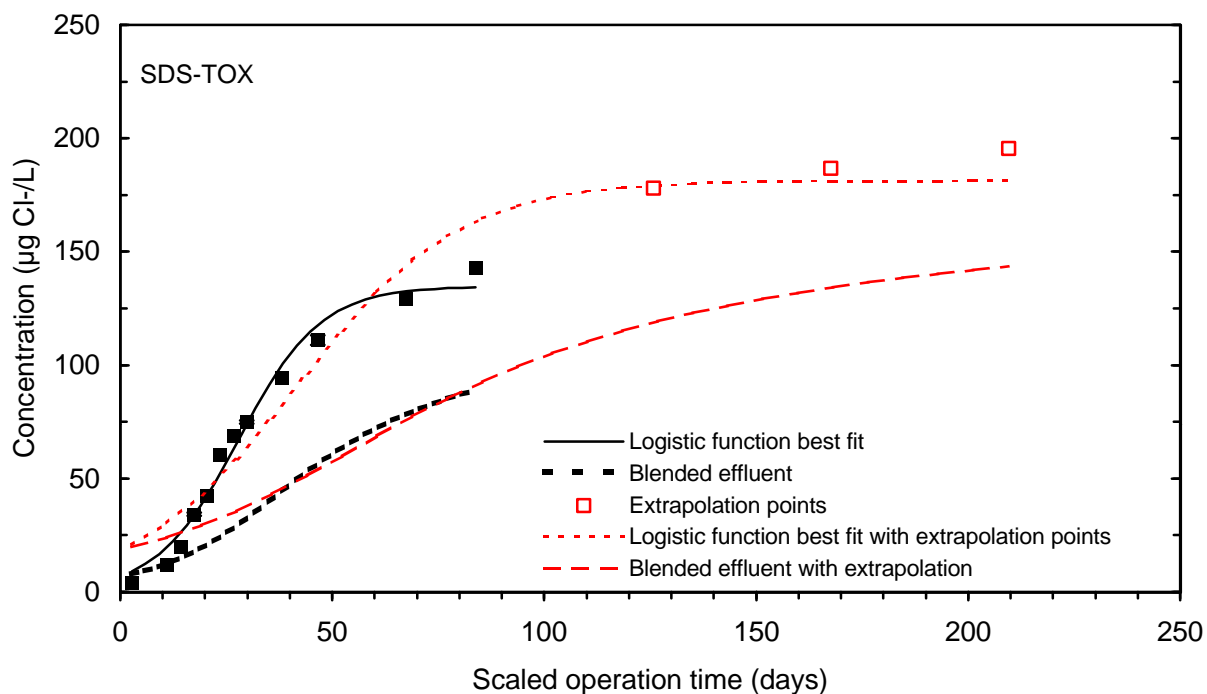


Figure 244 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

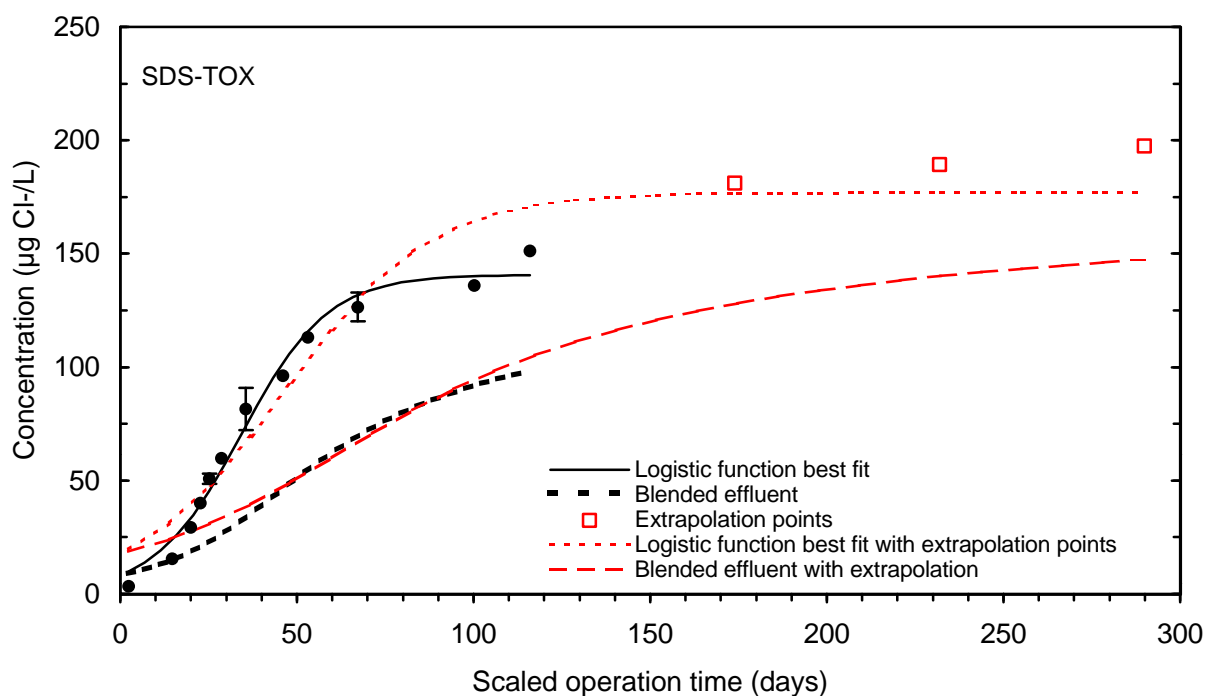


Figure 245 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

12

*Normalized DBP Precursor
Breakthrough*

12 Normalized DBP Precursor Breakthrough

An additional method of analyzing GAC breakthrough data is to divide the GAC effluent concentrations of each parameter by their respective GAC influent concentrations. The relative breakthrough patterns of each parameter can then be compared on a fraction breakthrough level. This type of analysis helps determine whether surrogates for DBP precursor breakthrough are reliable indicators of DBP precursor breakthrough. Furthermore, the normalized comparison analysis can determine how well the surrogates serve as indicators of DBP precursor breakthrough.

The normalized breakthrough patterns for all parameters (DBP surrogates and SDS-DBPs) for the 10 minute EBCT contactor run during the March session are shown in Figure 246. High initial relative levels of chlorine demand are present, due to the presence of inorganic chlorine demand. Initially, the normalized breakthrough of TOC occurs earlier than the SDS-DBPs. However, after 25 days, the normalized breakthrough of SDS-THM4 exceeds that of TOC, and remains 5 to 10 percent higher throughout the remainder of the run. Therefore, TOC was not a conservative indicator of SDS-THM4 breakthrough. The relatively high percent breakthrough of SDS-THM4 may have been due in part to the high pH of chlorination, 9.1, due to the formation of base-catalyzed THMs. Normalized breakthrough of SDS-HAA and SDS-TOX occurs at about the same rate during the run, along with UV₂₅₄, indicating that UV₂₅₄ served as an indicator of SDS-HAA and SDS-TOX breakthrough.

Similar patterns were observed for the 20 minute EBCT contactor during the March session (Figure 234); SDS-THM4 breakthrough occurred prior to TOC breakthrough. Normalized SDS-TOX breakthrough closely follows that for UV₂₅₄. There is some variability in the SDS-HAA data, due to the relatively low levels measured, influent SDS-HAA6 was measured at 17 µg/L.

The normalized breakthrough patterns for all parameters are shown in Figures 235 and 236 for the September session 10 and 20 minute EBCT runs. Again, normalized breakthrough of SDS-THM4 exceeded that of TOC by 5 to 10 percent throughout the entire run for both contactors. Normalized SDS-HAA and SDS-TOX breakthrough occurred between normalized TOC and UV₂₅₄.

For the 5.0 and 7.5 minute EBCT runs conducted during the March session, normalized breakthrough patterns for all parameters are shown in Figures 237 and 238. Normalized SDS-THM4 occurred at only a slightly higher level than normalized TOC breakthrough for the 5.0 minute EBCT run: SDS-THM4 percent breakthrough was about 2 percent higher than that for TOC. For the 7.5 minute EBCT contactor, however, normalized SDS-THM4 levels exceeded those for TOC by about 5 to 10 percent during most of the run. Normalized SDS-HAA and SDS-TOX more closely followed UV₂₅₄ for the 5.0 minute EBCT run. For the 7.5 minute EBCT run, normalized SDS-HAA breakthrough occurred at about the same rate as normalized TOC breakthrough. Normalized SDS-TOX breakthrough matched that of normalized UV₂₅₄.

The normalized breakthrough patterns for all parameters analyzed during the influent pH study are shown in Figures 239 and 240, for influent pH values of 8.9 and 8.4, respectively. At an influent pH of 8.9, effluent normalized SDS-THM4 again yielded percent breakthrough that was 5 to 10

percent higher than that for TOC. Overall, for the influent pH 8.4 run, the difference was smaller, and towards the end of the run, the percent breakthrough levels were about equal for SDS-THM4 and TOC. There was no impact of chlorination pH, as all samples for both runs were chlorinated at a pH of 9.1. Normalized SDS-HAA breakthrough followed TOC for both runs, although some variability was evident due to the low levels analyzed. SDS-TOX and UV₂₅₄ matched well for both runs.

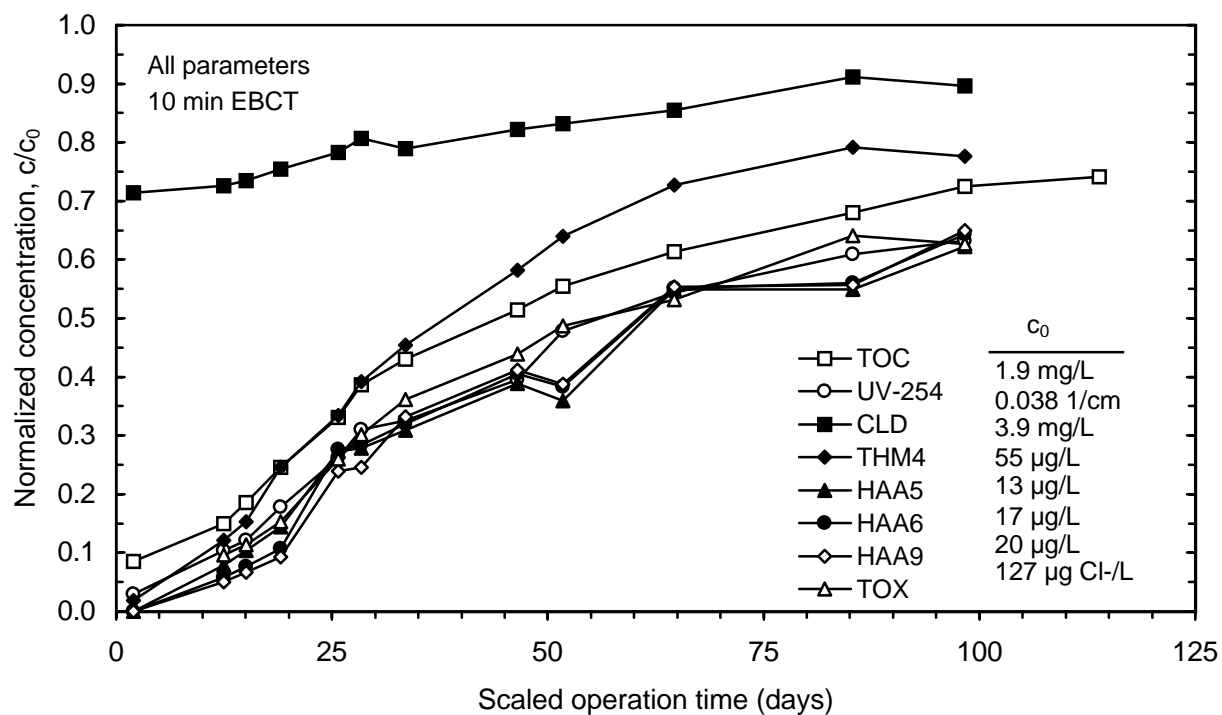


Figure 246 Normalized breakthrough patterns (10 minute EBCT) during session 1, March

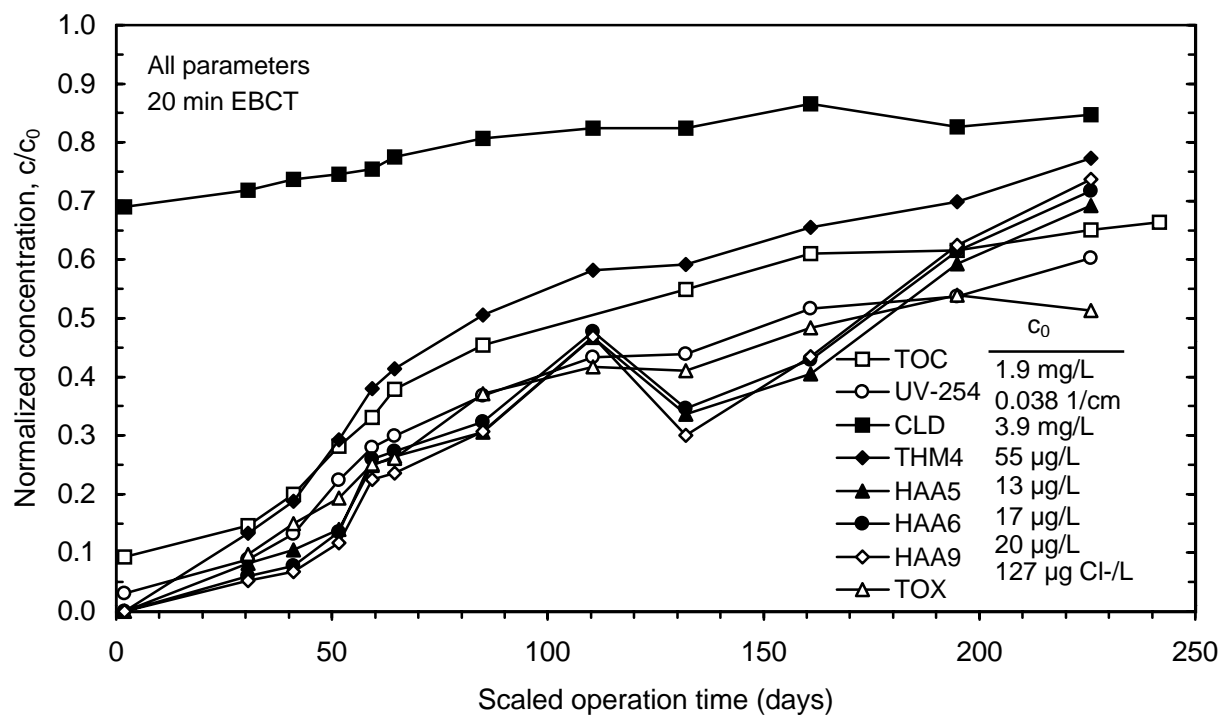


Figure 247 Normalized breakthrough patterns (20 minute EBCT) during session 1, March

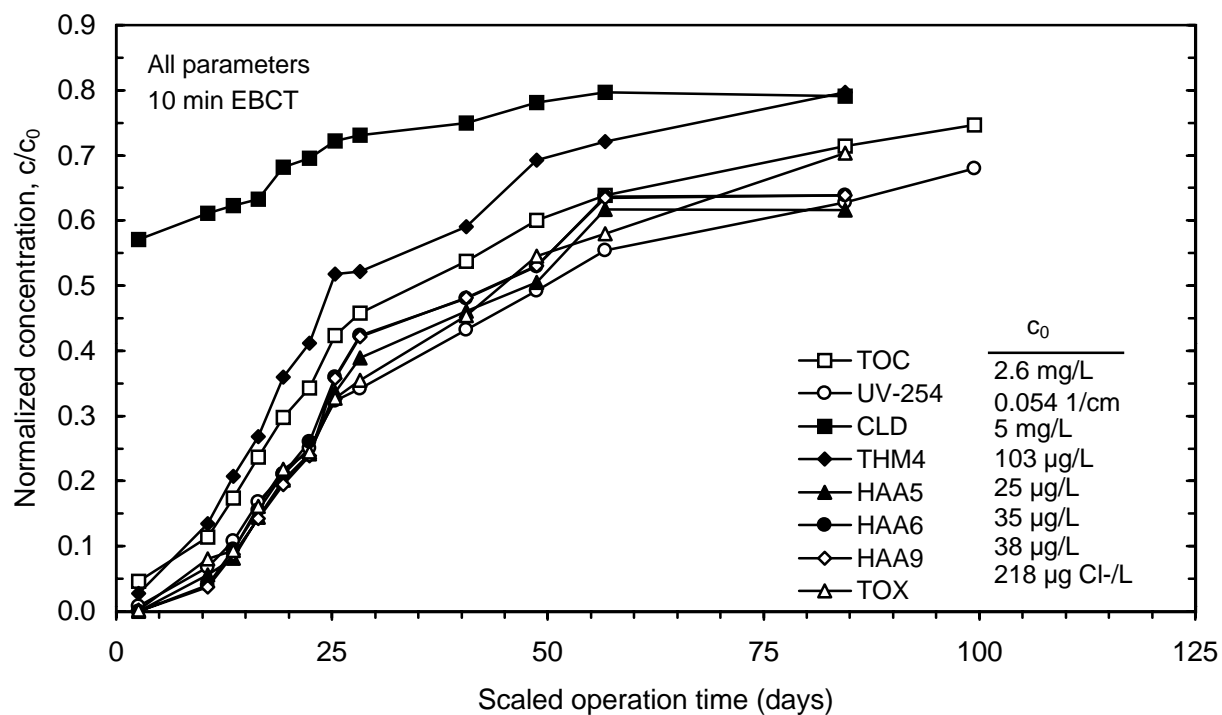


Figure 248 Normalized breakthrough patterns (10 minute EBCT) during session 2, September

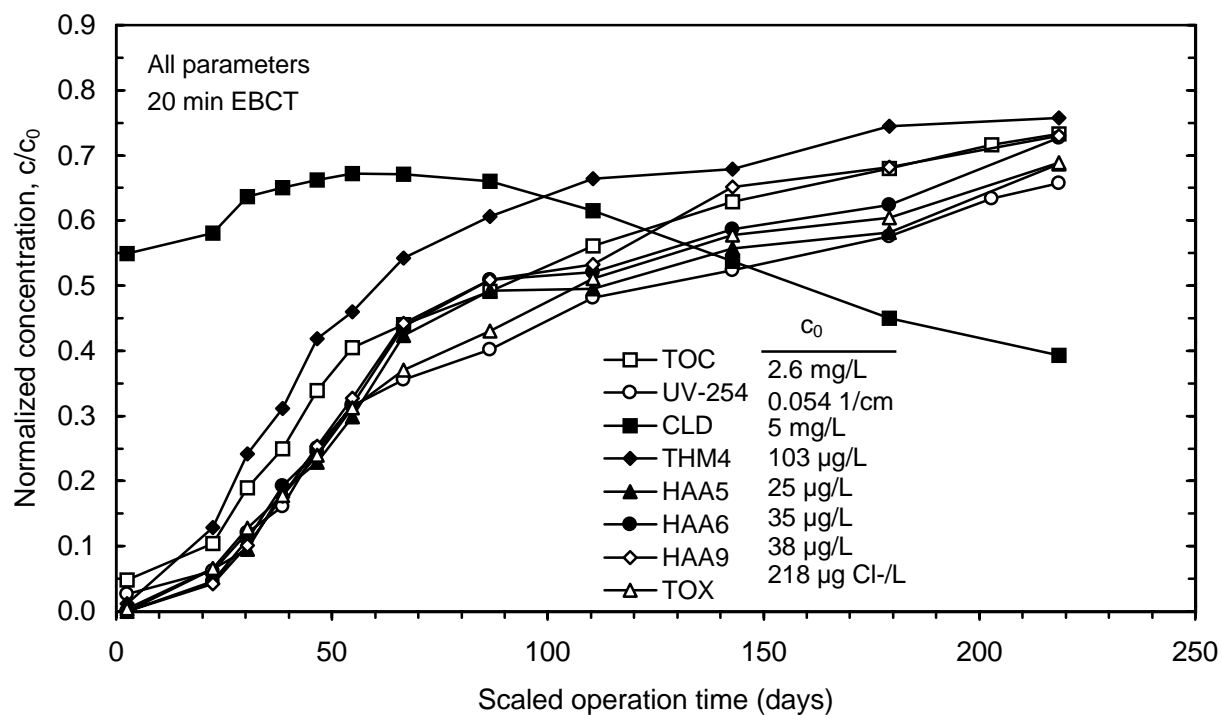


Figure 249 Normalized breakthrough patterns (20 minute EBCT) during session 2, September

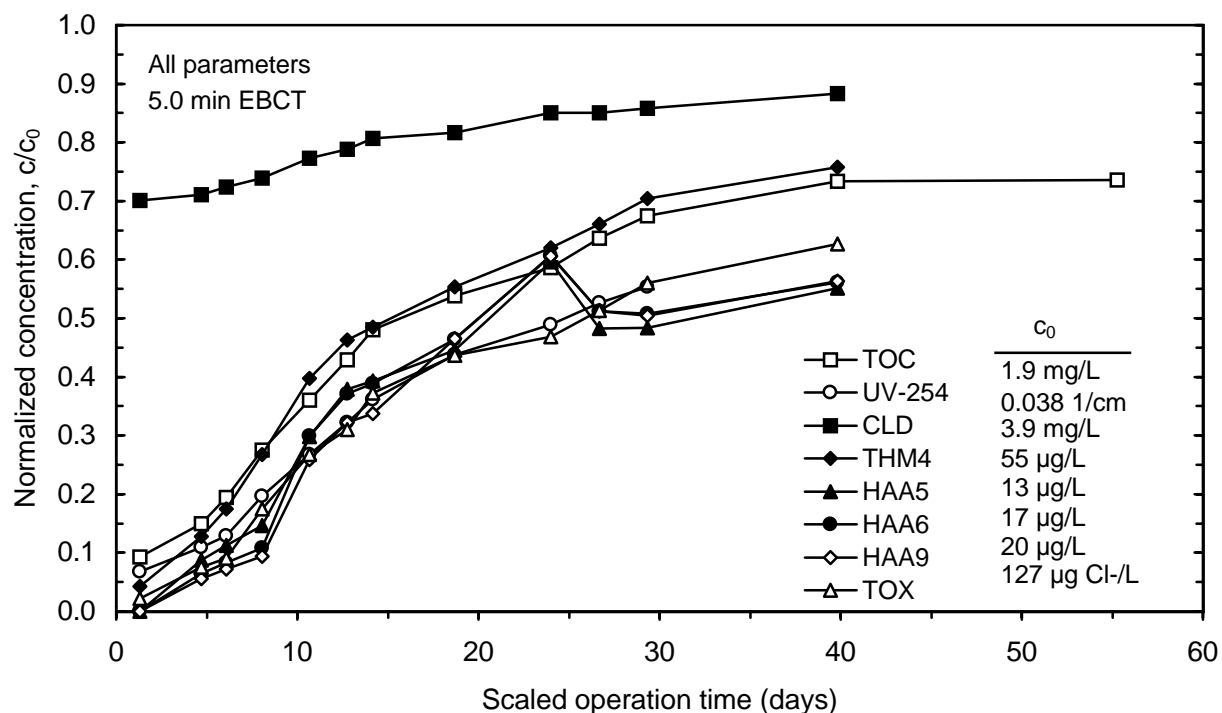


Figure 250 Normalized breakthrough patterns (5 minute EBCT) during session 1, March

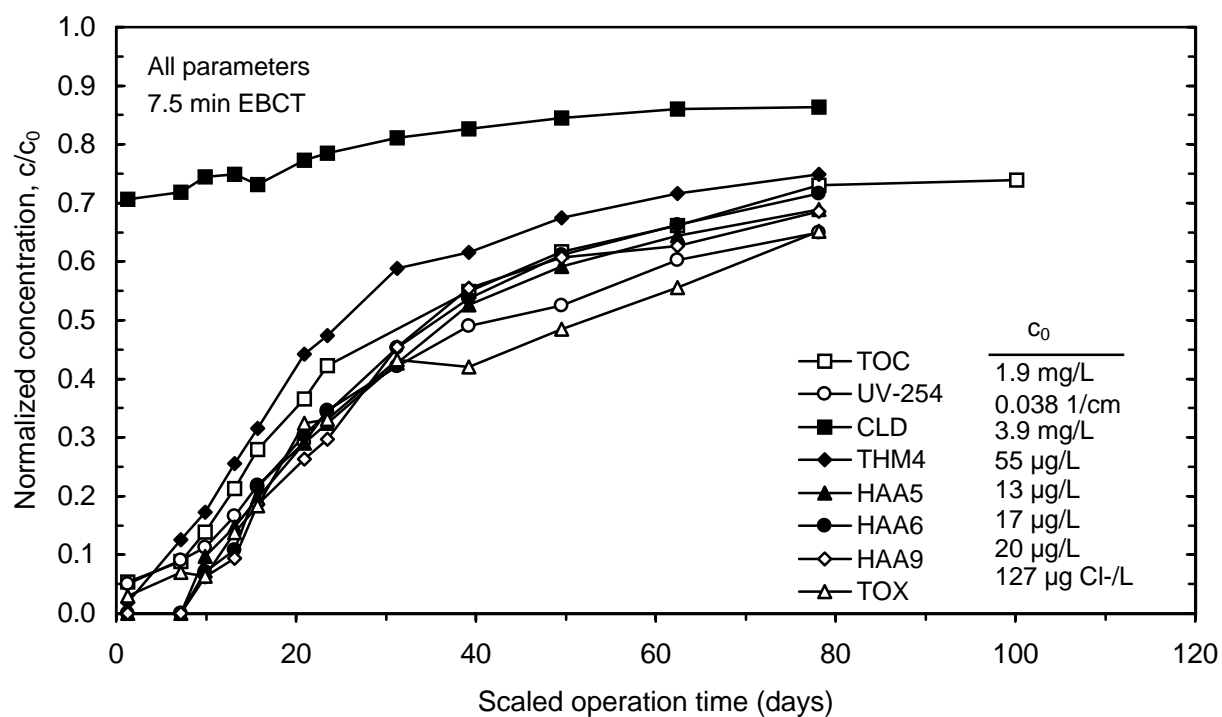


Figure 251 Normalized breakthrough patterns (7.5 minute EBCT) during session 1, March

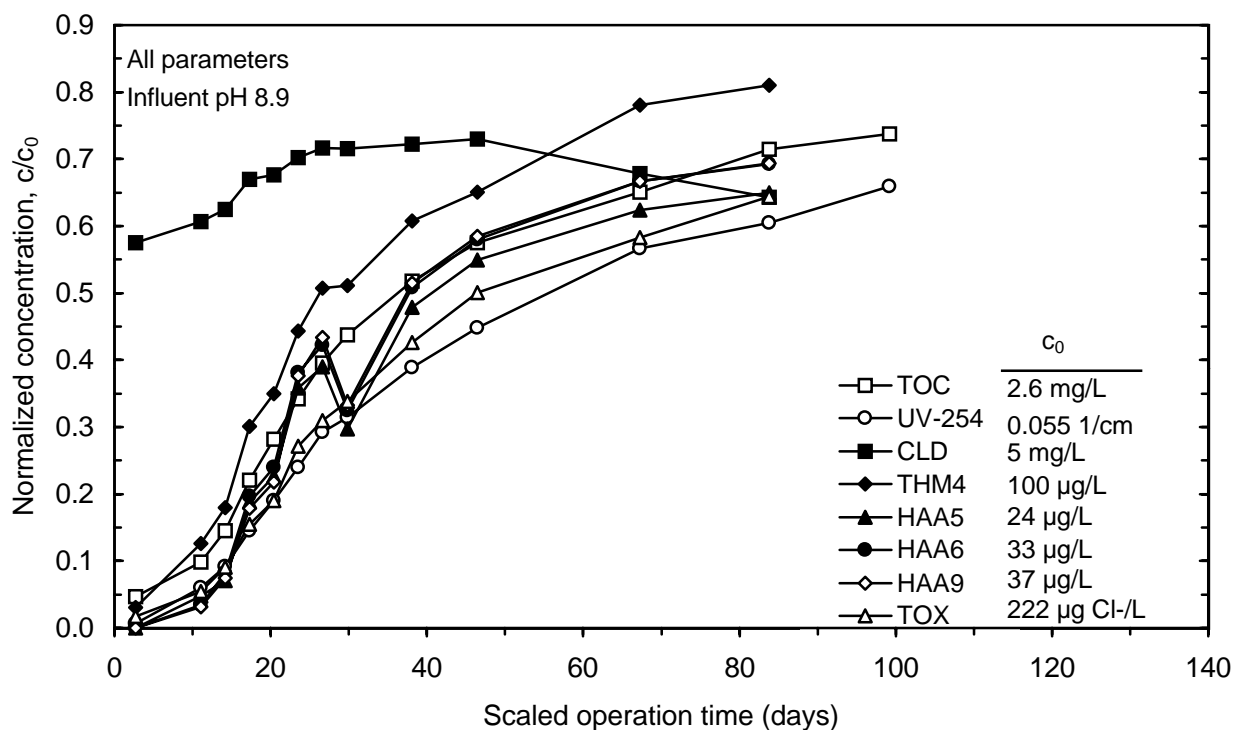


Figure 252 Normalized breakthrough patterns for influent pH 8.9 contactor (10 minute EBCT) during session 2, September

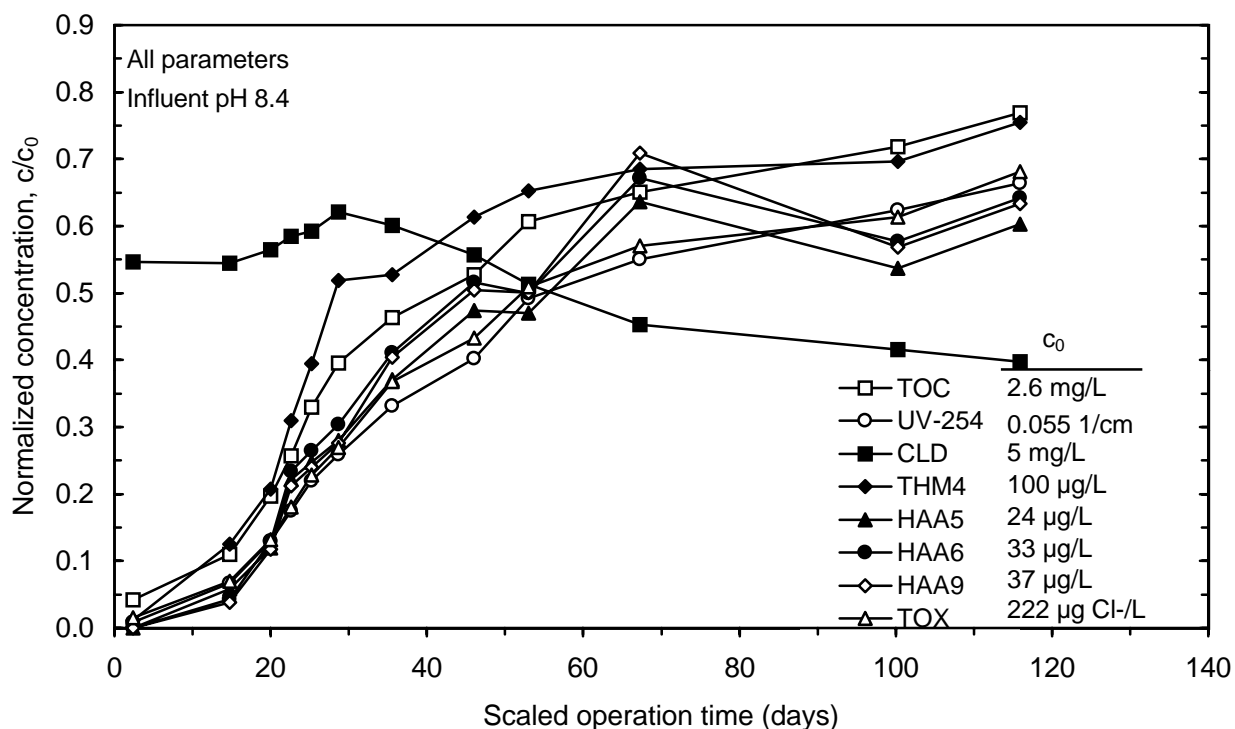


Figure 253 Normalized breakthrough patterns for influent pH 8.4 contactor (10 minute EBCT) during session 2, September

13

TOC-DBP and UV₂₅₄-DBP Relationships

13 TOC-DBP and UV₂₅₄-DBP Relationships

Paired concentration plots of GAC effluent SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, and SDS-TOX against GAC effluent TOC and UV₂₅₄ were generated on a concentration and on a normalized (fraction breakthrough) basis. These plots are summarized in Figures 221 through 224. All EBCT and influent pH runs are presented on the same plots. In general, TOC and UV₂₅₄ served as good predictors of GAC effluent DBP formation regardless of season, EBCT, and influent pH. The graphs summarized in Figure 254 show that the correlation between TOC and SDS-DBPs during the September session yielded higher formed DBP levels per mg TOC, due to the higher SDS incubation temperature used in September. There was no apparent impact of EBCT or influent pH on the correlation between TOC and SDS-DBPs. Similar results were observed for the correlations between UV₂₅₄ and SDS-DBPs, shown in Figure 255.

In the paired normalized concentration data plots shown in Figures 243 and 244, a line with a slope of 1 and y-intercept of 0 is also plotted. The general trend of the data in comparison to this line indicates whether the fraction breakthrough of the surrogate parameter (TOC or UV₂₅₄) directly predicts the fraction breakthrough of the formed DBP (data falls on the line), or if the surrogate parameter serves as a conservative indicator of the formed DBP breakthrough (data lies below the line). Examples of the former are SDS-HAA and SDS-TOX against UV₂₅₄. Examples of the latter are SDS-HAA and SDS-TOX against TOC. Therefore, although TOC served as a conservative indicator of SDS-HAA and SDS-TOX breakthrough, UV₂₅₄ served as a better direct predictor of SDS-HAA and SDS-TOX breakthrough. As was observed in Section 12, neither TOC nor UV₂₅₄ served as conservative indicators for SDS-THM4 breakthrough. This is also apparent in the normalized plots of SDS-THM4 against TOC and UV₂₅₄. Again, there was no detectable impact of EBCT or influent pH on these trends.

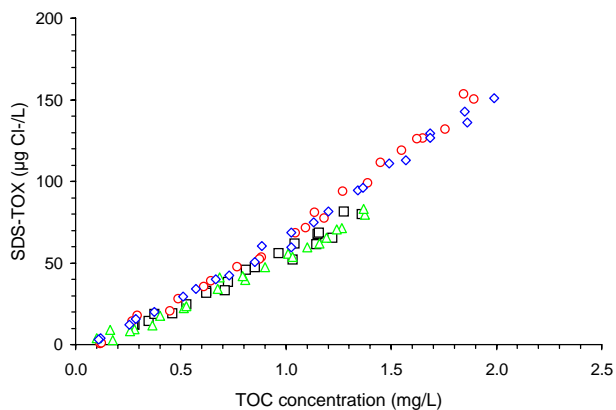
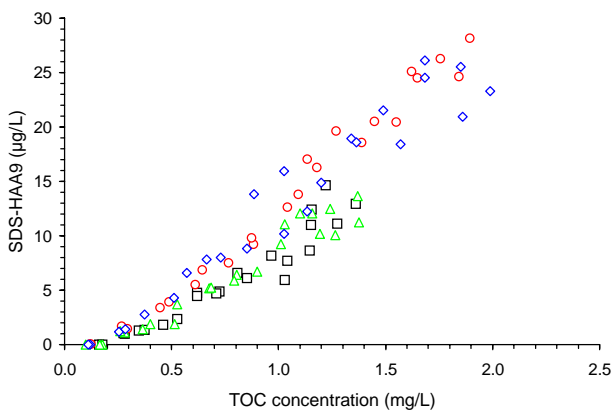
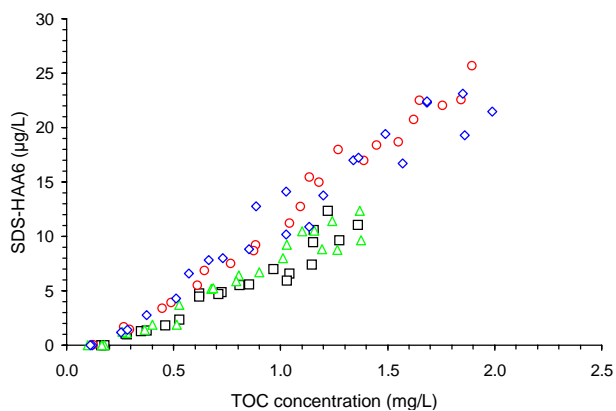
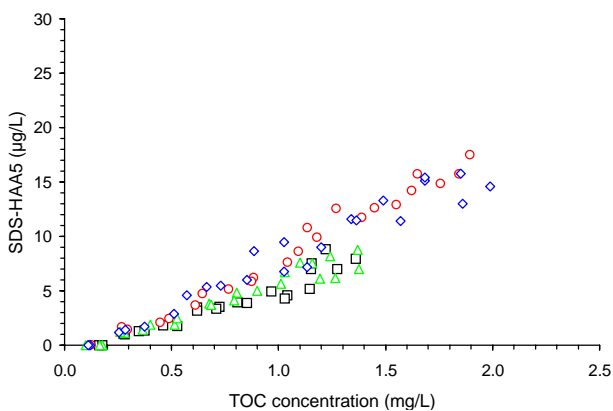
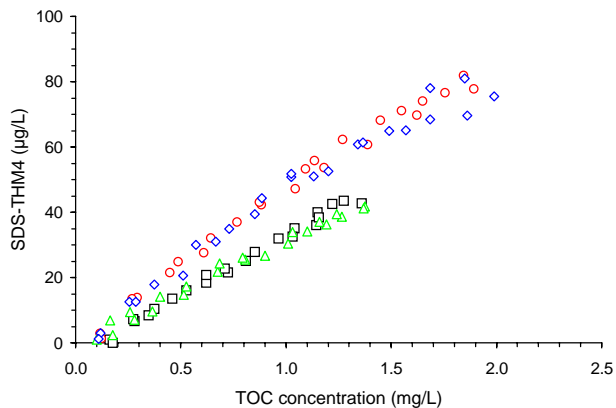
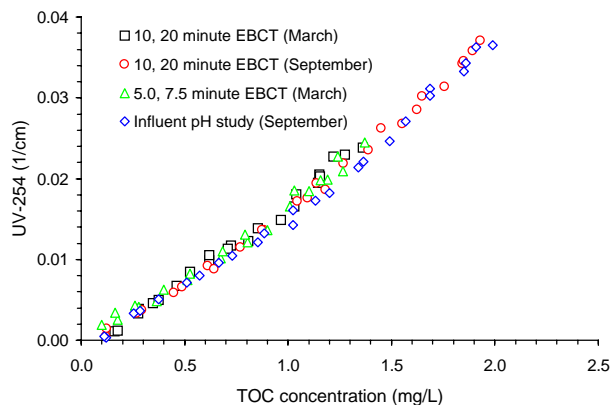


Figure 254 Correlation based on GAC effluent TOC concentration for all sessions

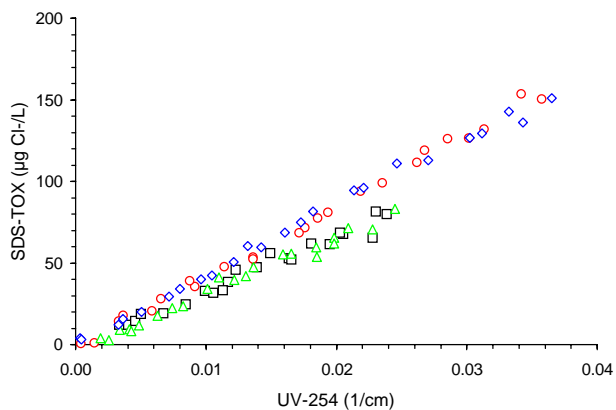
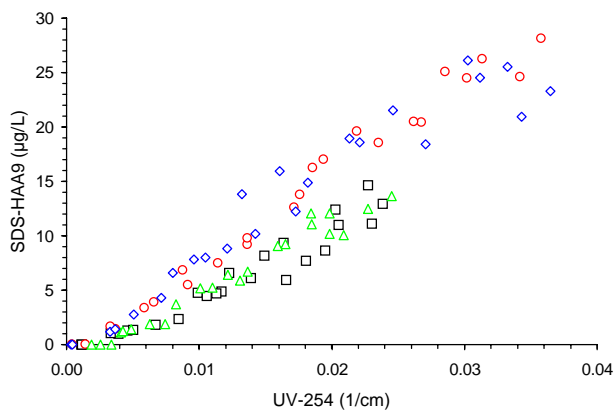
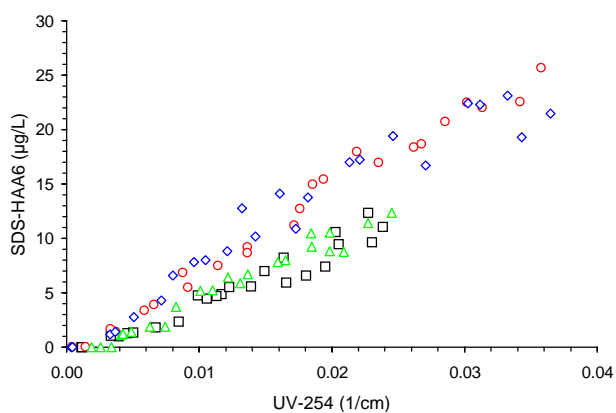
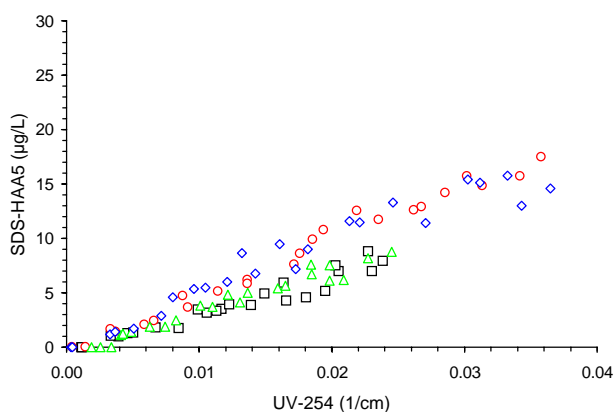
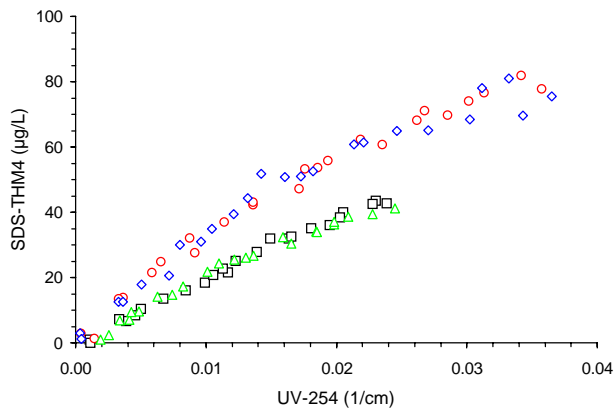
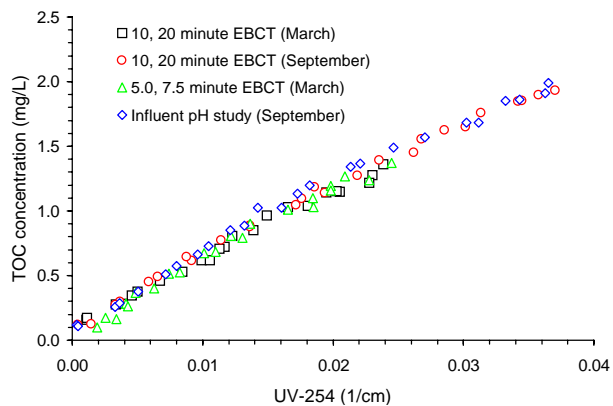


Figure 255 Correlation based on GAC effluent UV-254 for all sessions

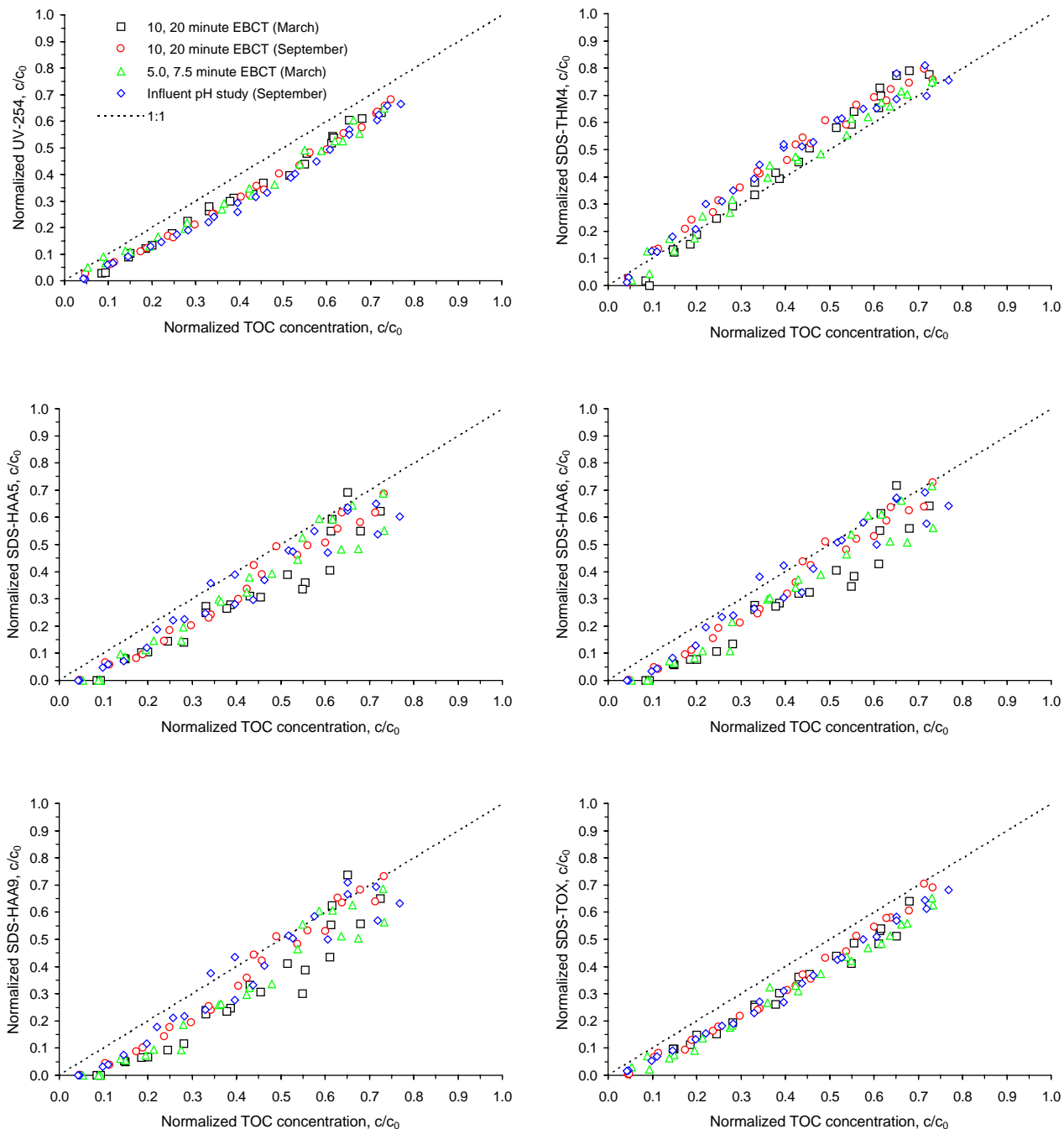


Figure 256 Correlation based on normalized GAC effluent TOC concentration for all sessions

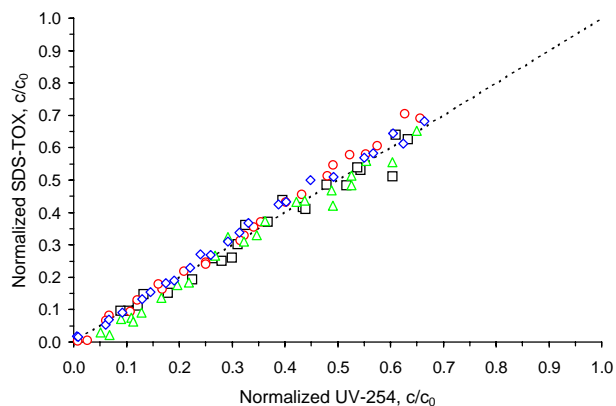
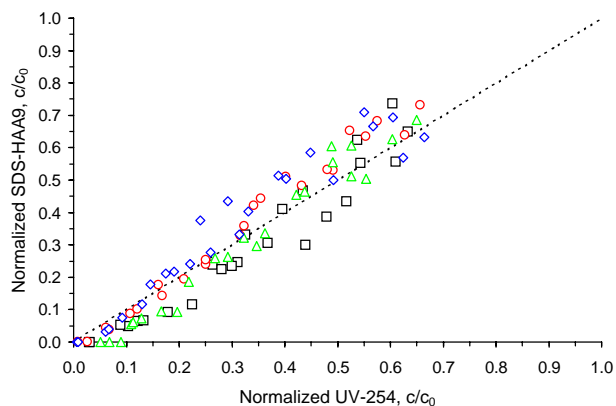
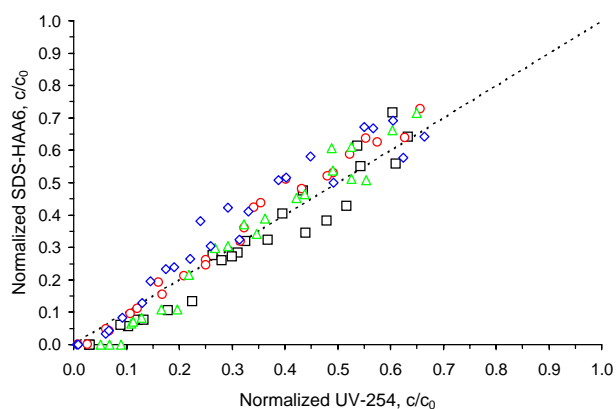
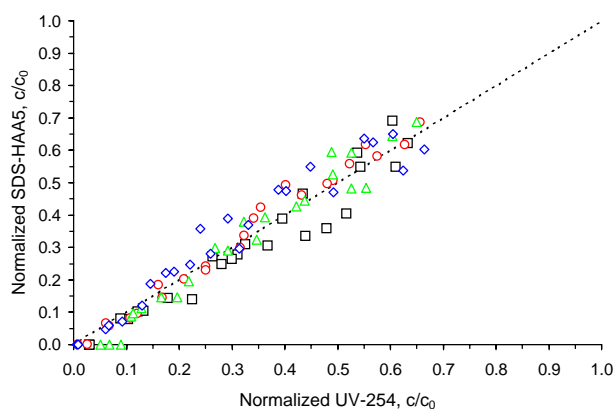
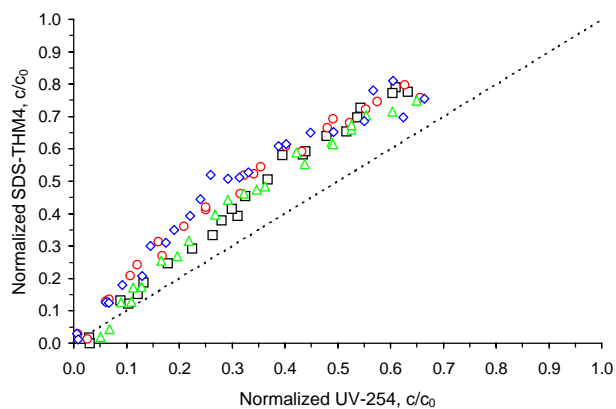
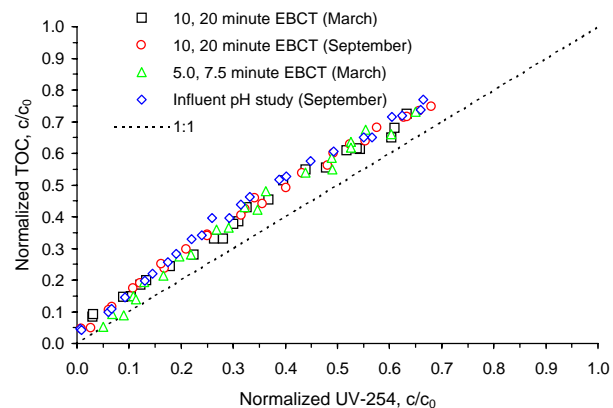


Figure 257 Correlation based on normalized GAC effluent UV-254 for all sessions

14

TOC Breakthrough Performance Evaluation

14 TOC Breakthrough Performance Evaluation

Based on a correlation that relates influent TOC concentration to bed volumes to 50 percent TOC breakthrough, BV_{50} (Summers et al. 1994; Hooper et al. 1996), the GAC performance of the Aurora Water Treatment Plant water source can be evaluated. The correlation is given by the following equation, developed for GAC runs with influent pH between 7 and 8:

$$BV_{50} = \frac{18,000}{TOC_0} \quad (9)$$

where TOC_0 is the mean influent TOC concentration, in mg/L. For RSSCT runs, the BV_{50} obtained is plotted in Figure 258. The performance of an average water is given by the dashed line, which represents Equation 9. Figure 258 shows that in general, GAC performance was poorer than that predicted by Equation 9.

During the March session, the four EBCT runs showed that GAC performance improved with increasing EBCT. The BV_{50} value for the 5.0 minute EBCT runs was 4,530 (53 percent less than predicted), while the BV_{50} value for the 20 minute EBCT contactor was 7,740 (19 percent less than predicted). A 22 percent increase in BV_{50} occurred between the 10 and 20 minute EBCT contactors during the March session. During the September session, the increase in BV_{50} between the 10 and 20 minute EBCT contactors was 29 percent. Adjusting for the differences in influent TOC concentration between the two sessions, the BV_{50} for the March session 10 and 20 minute EBCT contactors was 34 and 19 percent less than predicted, respectively, while that for the September session 10 and 20 minute EBCT contactors was 28 and 7 percent less than predicted, respectively.

The impact of influent pH on BV_{50} can be also be observed in Figure 258, based on the three 10 minute EBCT runs at varying influent pH levels conducted during the September session. At a 10 minute EBCT, reducing the influent pH from 9.4 and 8.9 increased the BV_{50} by 4.3 percent. Reducing the influent pH from 8.9 to 8.4 yielded a greater gain in BV_{50} , which increased by 14 percent, to 5,980 bed volumes, which was only 14 percent less than predicted by the correlation.

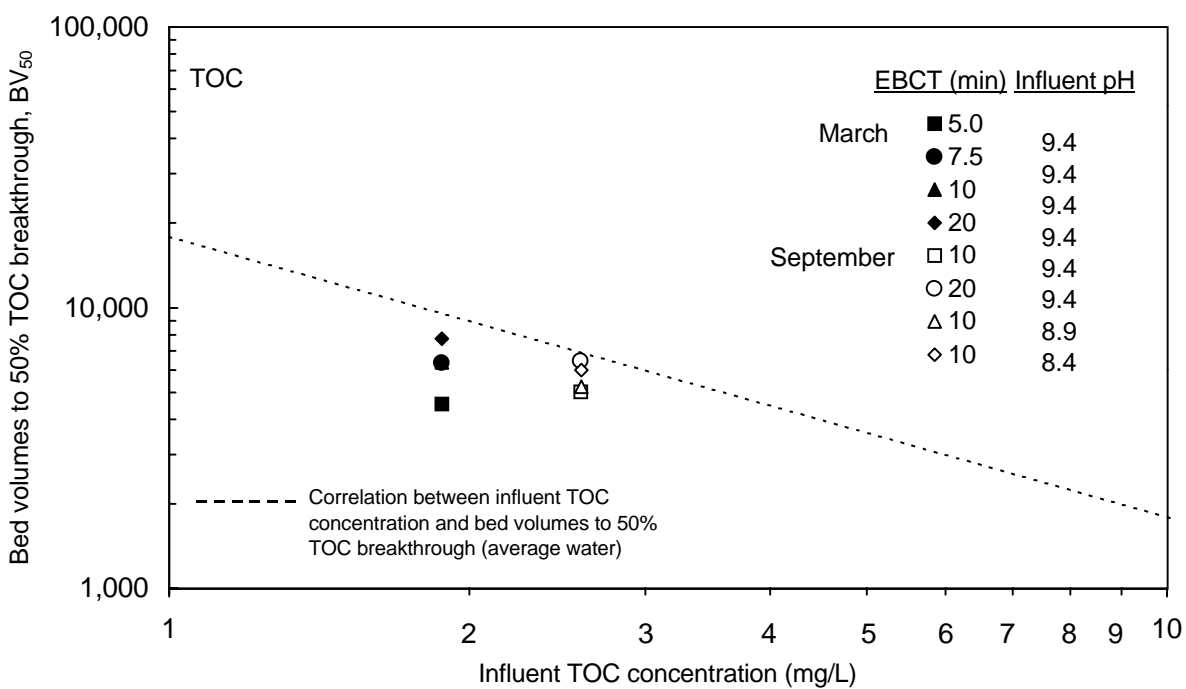


Figure 258 Comparison between GAC performance during treatment study testing and average water GAC performance

15

Cost Information and Analysis

15 Cost Information and Analysis

A comparative cost analysis was performed based on the data obtained during the treatment study using an EPA cost model (Clark and Adams, 1991). The cost analysis included the cost of on-site spent carbon reactivation. Costs were evaluated using steel pressure contactors and were determined in cents/1,000 gal for both capital and operations and maintenance (O&M) costs. Based on the maximum plant capacity of 28 MGD, 11 steel pressure contactors were required (20-ft diameter). Although plant production varies throughout the year, an average of 15.5 MGD was used for modeling purposes. The economic input data to the model are summarized in Table 47.

On-site GAC reactivation was assumed. An average reactivation cost was determined based on reactivation by fluidized bed, infrared, and multihearth technologies. Total costs reflect an average of reactivation costs by the three technologies: individual costs for each reactivation technology are not reported.

The cost model sizes the contactors based on the plant capacity flow. The EBCT input into the model is the EBCT under plant capacity conditions. Therefore, under average flow conditions, the EBCT in each contactor will be higher, leading to longer intervals between GAC reactivation and lower O&M costs, and the costs reported here are conservative estimates.

The estimated capital costs are based on the economic input values, EBCT, type of contactor, and spent carbon reactivation demand. A GAC cost of 90 cents/lb was assumed. The O&M costs are determined based on the service life of each contactor, assuming operation of multiple contactors in parallel, staggered mode. Relative to the placeholders for Stage 2 DBP MCLs, THM4 formation was much higher than HAA5 formation, and thus run time calculations are based on effluent SDS-THM4 levels. The service life input into the model was based on a formed GAC effluent THM4 concentration of 32 µg/L, the run time to the placeholder for Stage 2 THM4 MCL (with a 20 percent safety factor).

In some cases, it was necessary to apply breakthrough curve extrapolation procedures (to at most 250 percent of the maximum run time) to estimate a GAC run time. Table 48 summarizes the estimated run times to comply with the placeholders for Stage 2 DBP MCLs.

Table 49 summarizes the GAC cost analysis results. Capital, O&M, and total costs are included for all runs. The costs are given in cents/1,000 gallons water treated. The impact of seasonal variability on GAC performance can be seen in the difference in costs between the March and September sessions for equivalent EBCTs. For example, the total costs for GAC treatment with 10 minute EBCT contactors based on the March session results was 36 cents/1,000 gal. Based on the September results, the costs increased to 48 cents/1,000 gal, a 36 percent increase.

Based on the March session results, as EBCT decreased from 20 to 5.0 minutes, the total costs for GAC treatment also decreased, from 53 to 28 cents/1,000 gal. This decrease was due mainly to a decrease in capital costs associated with the smaller sized contactors. O&M costs were fairly constant over all four EBCTs evaluated.

Based on the September session results, decreasing the influent pH from 9.4 to 8.4 yielded a slight decrease in total costs, from 49 to 46 cents/1,000 gal. The change in total costs between influent pH 9.4 and 8.9 was very small, with most of the decrease in costs occurring between influent pH levels of 8.9 and 8.4.

A bar graph comparison of capital, O&M, and total costs for all runs is shown in Figure 259 for 11 steel pressure contactors in parallel. The error bars shown represent the standard deviation of the average cost calculated from the three reactivation technologies. The cost model results do not include the cost for pH adjustment from the 9.4 to 8.9 and 8.4 for the influent pH runs. This model assumed and included the costs for on-site GAC reactivation; off-site reactivation may be more cost-effective depending on the location and charges associated with a regional reactivation facility.

Parameter	Value
Capital recovery interest rate (%)	10
Capital recovery period (years)	20
Overhead & profit factor (% of construction costs)	5
Special sitework factor (% of construction costs)	5
Construction contingencies (% of construction costs)	10
Engineering fee factor (% of construction costs)	10
ENR construction cost index (CCI base year 1913) and date	5,986 (March 1999)
Producers Price Index (PPI base year 1967=100) and date	370 (January 1999)
Labor rate + fringe (\$/hour)	15
Labor overhead factor (% of labor)	10
Electric rate (\$/kWh)	0.0604
Fuel oil rate (\$/gallon)	0.95
Natural gas rate (\$/cu.ft.)	0.0683
Process water rate (\$/1,000 gal)	0.315
Modifications to existing plant (% of construction cost)	5

Table 47 Economic input data to cost model

Session	EBCT (min)	Influent pH	Run time (days) for contactor configuration	
			Single	Multiple (more than 10)
March	20	9.4	110	288†
	10	9.4	47	110†
	7.5	9.4	31	83†
	5.0	9.4	188	49†
September	20	9.4	39	76
	10	9.4	18	36
	10	8.9	155	37
	10	8.4	23	45

†Extrapolation beyond maximum run time required for estimate

Table 48 Summary of GAC run times to meet the placeholders for Stage 2 MCLs

Session	EBCT (min)	Influent pH	Cost (cents/1,000 gal)		
			Capital	O&M	Total
March	20	9.4	44	9	53
	10	9.4	27	10	36
	7.5	9.4	22	10	32
	5.0	9.4	18	10	28
September	20	9.4	48	19	67
	10	9.4	30	20	49
	10	8.9	30	19	49
	10	8.4	29	17	46

Table 49 Summary of GAC adsorption costs for compliance with the placeholders for Stage 2 MCL

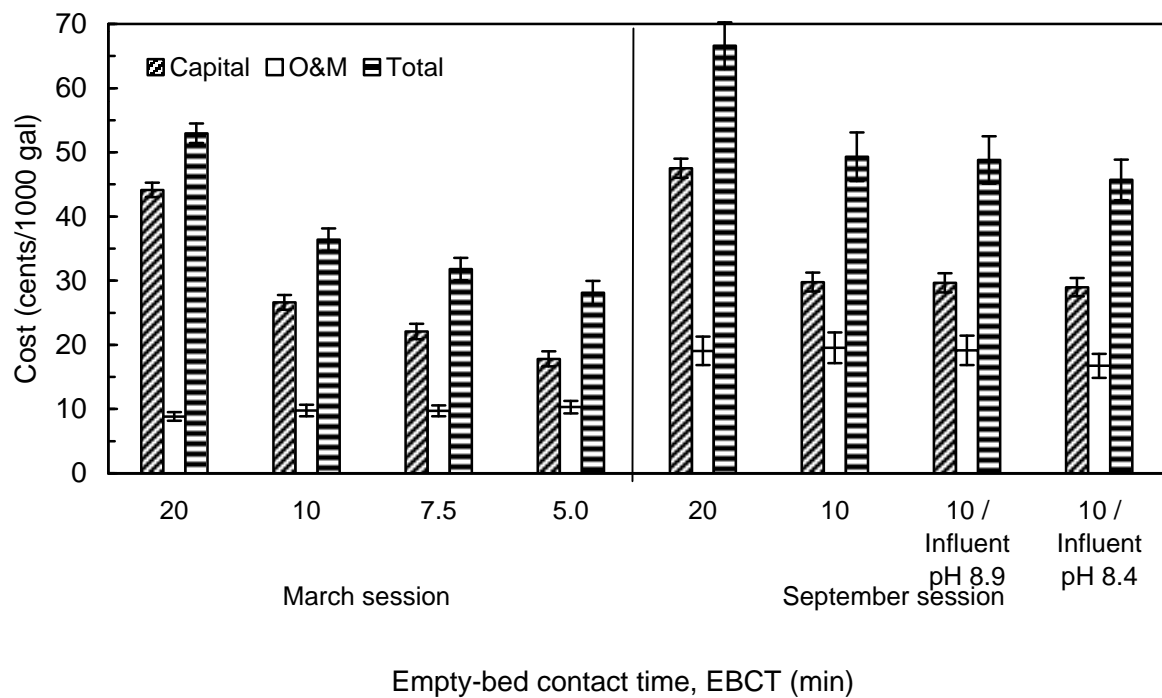


Figure 259 Average costs for GAC treatment with steel pressure contactors and on-site reactivation; costs based on 11 contactors in parallel

16

Summary of Significant Results

16 Summary of Significant Results

Based on an EPA cost model, the cost for GAC to maintain SDS-DBP levels below the placeholders for Stage 2 MCLs using steel pressure contactors was estimated to be in the range of 28 to 36 cents/1,000 gallons for EBCTs of 5.0 to 10 minutes operated in parallel staggered mode, based on the March session results. Shorter run times occurred during the September session, increasing the total cost estimates for a 10 minute EBCT contactor by 36 percent to 49 cents/1,000 gal. The shortest contactor yielded the lowest total costs due to the higher capital costs associated with larger contactors. O&M costs were relatively constant over all four EBCTs evaluated. Decreasing the influent pH from 9.4 to 8.9 yielded only a slight decrease in total costs. Reducing the influent pH from 9.4 to 8.4 yielded an 8 percent decrease in total costs. The cost estimates were based on the operation of 11 steel pressure contactors in parallel with staggered reactivation cycles and did not include the cost of pH adjustment. All cost estimates were based on the breakthrough of SDS-THM4, the controlling parameter for run time estimates to comply with the placeholders for Stage 2 DBP MCLs.

At a GAC influent pH of 9.4, based on the average influent TOC concentration during the two sessions, the contactor operation time measured as bed volumes to 50 percent TOC breakthrough (BV_{50}) was lower than that for an average water (influent pH 7 to 8). At EBCTs of 10 and 20 minutes (without pH adjustment), the measured BV_{50} values averaged 22 percent lower than expected, while that for EBCTs of 5.0 and 7.5 minutes averaged 43 percent lower than expected. Decreasing the influent pH from 9.4 to 8.4 increased the BV_{50} value by 19 percent, so that it was only 14 percent less than that of an average water.

Overall, SDS-DBP formation was well-controlled by GAC. For the 5.0 minute EBCT contactor operated during the March session, the run time to the placeholders for Stage 2 THM4 MCL was 21 days. This run time was extended to 49 days assuming operation of 11 contactors in parallel and with staggered reactivation cycles. Under the 11 contactor blended effluent assumption, run times were as long as 288 days for the March session 20 minute EBCT contactor. Selection of an appropriate EBCT is important towards maintaining cost-effective adsorption of DBP precursors. Based on an EPA cost model, the overall costs of a system with 5.0 minute EBCT contactors were estimated as less than that for a systems with longer EBCTs because capital costs associated with the larger contactors increased in greater proportion than the decrease in O&M costs due to less frequent reactivation. However, the cost model may not appropriately account for problems encountered with very frequent GAC replacement.

A normalized breakthrough evaluation (effluent percent breakthrough) showed that TOC served as a conservative indicator for the breakthrough of SDS-HAA and SDS-TOX. However, percent SDS-THM4 breakthrough exceeded percent TOC breakthrough for most runs. This may have been partly due to the relatively high pH of chlorination, 9.1, which favored the base-catalyzed formation of THMs. Normalized UV_{254} well predicted SDS-TOX breakthrough.

17

QA/QC Summary

17 QA/QC Summary

All analyses performed during the treatment study followed the methods and QA/QC procedures required by the *DBP/ICR Analytical Methods Manual*. A summary of the data analyzed during this treatment study and all the required QA/QC information is summarized in electronic form in portable document format at the end of this report. The EPA has requested that the results of laboratory duplicate analyses, laboratory fortified matrix spike analyses, and any performance evaluation (PE) analyses be reported in the *Treatment Study Summary Report Spreadsheet*, an electronic Excel workbook supplied by EPA. The required data has been input into this file, and an electronic version of it is included as an attachment to this report.

As required by the ICR, three field duplicates were collected from each RSSCT. The results of the duplicate analyses are summarized in Table 50.

17.1 Calibration Procedures

Calibration procedures for bromide, haloacetic acids, total organic carbon, total organic halide, and trihalomethanes analyzed during this study are summarized in the following sections.

17.1.1 Bromide (EPA Method 300.0 A)

Five calibration standards and a blank are prepared by adding accurately measured volumes of ICR stock standard to volumetric flask and diluting to volume with reagent water. The calibration standards range from 0.02 to 0.50 mg/L. Using a 200 µL injection volume, the peak area responses against the concentration are tabulated and a linear curve is established. The calibration correlation coefficient must be equal to or greater than 0.995. After establishing the calibration the fourth calibration standard is analyzed. The recovery must be within 90 to 110 percent of the true value. Next a second source standard at the MID level is analyzed and the recovery must be within 90 to 110 percent of the true value prior to proceeding with ICR protocol.

17.1.2 Haloacetic Acids (EPA Method 552.2)

An initial calibration curve is extracted and analyzed for each set of samples to be analyzed for haloacetic acids. The concentrations of each of the levels of aqueous calibration standards are given in Table 51.

Level 1 represents concentrations near the MDL for each analyte. The concentrations of the remaining levels define the working range of the detector. Levels 5 and 6 are specified by the *DBP/ICR Analytical Methods Manual* to be used as continuing calibration checks.

Each analysis run is started with a methyl tert-butyl ether (MtBE) solvent blank. This is a check on the extraction solvent as well as on the instrument system. If this run is acceptable, the extracts of the seven levels of the calibration curve are analyzed (2-µL injection volume). The

Chemstation Chromatography Software System is used to generate a calibration curve by plotting the areas against the concentrations of the seven calibration extracts. The curve is defined as first order; correlation coefficients must be greater than 0.99.

17.1.3 Total Organic Carbon (Standard Method 5310 C)

The instrument calibration accuracy is verified daily by analysis of a 4.00 mg/L as carbon standard solution of potassium hydrogen phthalate. Recovery of the standard must be between 99 and 101 percent. When outside of this range, the slope of a linear regression between standard amount and area count and the origin is adjusted and the standard is reanalyzed to ensure a recovery between 99 and 101 percent. Calibration check standards and samples are then analyzed as described in the *DBP/ICR Analytical Methods Manual*.

17.1.4 Total Organic Halide (Standard Method 5320 B)

An instrument calibration verification is performed yearly. The 2,4,6-trichlorophenol standard is injected directly onto the nitrate-washed method blank. Concentrations of 0.5, 1, 2.5, 5, 10, and 20 µg as Cl⁻ are included in the curve. A first order curve with correlation coefficient greater than 0.99 must be obtained, and is only used to verify instrument performance.

At the beginning of each daily run, and after cell cleaning during the day, three NaCl injections of 5 µg as Cl⁻ are made directly into the titration cell. This serves as a cell performance check. Recovery of the NaCl standard must be within 3 percent of the historic mean. Typically, recovery is 95 to 105 percent.

17.1.5 Trihalomethanes (EPA Method 551.1)

An initial calibration curve is extracted and analyzed for each set of samples to be analyzed for trihalomethanes. The concentrations of each of the levels of aqueous calibration standards are given in Table 52.

Level 1 represents concentrations near the MDL for each analyte. The concentrations of the remaining levels define the working range of the detector. Levels 4 and 5 are specified by the *DBP/ICR Analytical Methods Manual* to be used as continuing calibration checks.

Each analysis run is started with a MtBE solvent blank. This is a check on the extraction solvent as well as on the instrument system. If this run is acceptable, the extracts of the six levels of the calibration curve are analyzed (2.0-µL injection volume). The Chemstation Chromatography Software System is used to generate a calibration curve by plotting the areas against the concentrations of the six calibration extracts. The curve is defined as first order; correlation coefficients must be greater than 0.99.

Analyte	Count	Mean RPD	Percentiles		
			25th	50th	75th
TOC	24	2.2	0.8	1.7	2.5
UV-254	24	1.9	0.5	1.0	2.1
pH	24	0.4	0.1	0.2	0.5
Temperature	24	0.5	0.0	0.4	0.5
SDS-TOX	24	4.3	1.7	2.9	5.2
SDS-THM4	24	4.5	2.1	3.4	5.6
SDS-HAA5	23	8.8	5.3	8.7	11.2
SDS-HAA6	23	10.0	4.8	7.8	11.1
SDS-HAA9	23	10.3	5.4	7.9	10.6
SDS-chlorine residual	24	3.3	0.9	2.2	6.0
<i>THM Species</i>					
SDS-CHCl ₃	20	4.3	1.7	3.8	6.2
SDS-BDCM	24	3.7	1.9	2.7	5.4
SDS-DBCM	23	3.5	1.1	1.8	5.5
SDS-CHBr ₃	24	6.4	2.9	5.5	8.3
<i>HAA Species</i>					
SDS-MCAA	1	0.0	NA	NA	NA
SDS-DCAA	17	4.8	1.2	2.4	8.9
SDS-TCAA	8	32.1	2.5	11.7	13.5
SDS-MBAA	1	0.0	NA	NA	NA
SDS-DBAA	23	9.5	6.0	10.1	13.6
SDS-BCAA	19	16.4	2.4	5.5	10.4
SDS-TBAA	1	0.0	NA	NA	NA
SDS-CDBAA	3	23.3	0.8	1.6	34.9
SDS-DCBAA	15	23.1	5.3	10.7	15.2

RPD: relative percent difference

NA: not applicable

Table 50 Summary of field duplicate precision for RSSCT runs

Level	Concentration (µg/L)
1	0.5
2	1.0
3	2.0
4	4.0
5	20.
6	40.
7	80.

Table 51 Haloacetic acid aqueous calibration standard concentrations (EPA Method 552.2)

Level	Concentration (µg/L)
1	0.5
2	1.0
3	5.0
4	20.
5	40.
6	80.

Table 52 Trihalomethane aqueous calibration standard concentrations (EPA Method 551.1)

18

List of References

18 List of References

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*Appendix: Summary of
Treatment Study Data*

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

													SDS Chlorination Conditions*										
No.	Sample ID	Client Sample ID	Start Date/Time		End Date/Time		Stop T	Run L	F-S L	TOC	UV254	Temp	pH	Dose	Res.	Dem	Temp	pH	Time	Alk.	Hard-Tot	Hard-CA	Turb.
							(days)	(days)	(days)	(mg/L)	(1/cm)	(°C)		(mg/L)	(mg/L)	(mg/L)	(°C)		hrs	(mg/L)	(mg/L as CaCO3)	(ntu)	
Effluent C		EBCT: 10 min	Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9803-361	105.10.Eff-1	3/31/98	11:13	3/31/98	15:59		0.15	2	0.16	0.001	22.9	8.1	3.50	0.73	2.77	8.7	9.03	23.9				
2	9804-11	105.10.Eff-4	4/1/98	6:19	4/1/98	11:06		0.95	12	0.28	0.004	22.7	8.6	3.60	0.78	2.82	8.7	9.03	24.0				
3	9804-19	105.10.Eff-5	4/1/98	11:06	4/1/98	15:54		1.15	15	0.34	0.004	22.6	8.6	3.75	0.89	2.86	8.7	9.09	24.0				
3d	9804-20	105.10.Eff-5d	4/1/98	11:06	4/1/98	15:54		1.15	15	0.35	0.005	22.8	8.6	3.75	0.91	2.84	8.7	9.10	24.1				
4	9804-22	105.10.Eff-7	4/1/98	18:25	4/1/98	23:06		1.45	19	0.46	0.007	22.2	8.7	4.05	1.12	2.93	8.7	9.11	24.1				
5	9804-34	105.10.Eff-10	4/2/98	6:27	4/2/98	11:17		1.95	26	0.62	0.010	20.9	8.4	4.15	1.11	3.04	8.7	9.08	24.2				
6	9804-35	105.10.Eff-11	4/2/98	11:23	4/2/98	16:09		2.16	28	0.72	0.012	22.7	8.4	4.25	1.12	3.13	8.7	9.12	24.2				
7	9804-39	105.10.Eff-13	4/2/98	20:44	4/3/98	1:22		2.54	33	0.81	0.012	22.2	8.5	3.99	0.94	3.05	8.7	9.05	23.7				
7d	9804-40	105.10.Eff-13d	4/2/98	20:44	4/3/98	1:22		2.54	33	0.80	0.012	22.2	8.7	3.97	0.89	3.08	8.7	9.04	23.8				
8	9804-67	105.10.Eff-17	4/3/98	20:26	4/4/98	1:13		3.53	47	0.96	0.015	20.8	8.5	4.09	0.90	3.19	8.7	9.14	23.8				
9	9804-70	105.10.Eff-19	4/4/98	6:04	4/4/98	10:47		3.93	52	1.04	0.018	21.3	8.5	4.14	0.91	3.23	8.7	9.18	23.9				
10	9804-88	105.10.Eff-24	4/5/98	5:33	4/5/98	10:21		4.91	65	1.16	0.021	21.0	9.5	4.23	0.93	3.30	8.7	9.10	23.9				
10d	9804-89	105.10.Eff-24d	4/5/98	5:33	4/5/98	10:21		4.91	65	1.14	0.020	21.1	9.5	4.21	0.87	3.34	8.7	9.12	23.9				
11	9804-108	105.10.Eff-29	4/6/98	19:18	4/6/98	23:59		6.49	85	1.27	0.023	22.6	9.3	4.18	0.64	3.54	8.6	9.07	24.3				
12	9804-123	105.10.Eff-31	4/7/98	18:59	4/7/98	23:41		7.47	98	1.36	0.024	22.4	9.6	4.26	0.78	3.48	8.6	9.03	24.0				
13	9804-135	105.10.Eff-33	4/8/98	23:17	4/9/98	4:00		8.65	114	1.39		22.7	9.3										
Effluent C		EBCT: 20 min	Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9803-362	105.20.Eff-1	3/31/98	11:13	3/31/98	15:49		0.15	2	0.17	0.001	22.7	9.1	3.50	0.82	2.68	8.7	9.03	24.2				
2	9804-43	105.20.Eff-6	4/2/98	15:32	4/2/98	20:08		2.33	31	0.28	0.003	22.7	8.7	3.61	0.82	2.79	8.7	9.01	23.9				
3	9804-58	105.20.Eff-10	4/3/98	10:30	4/3/98	15:13		3.12	41	0.38	0.005	21.5	8.9	3.68	0.82	2.86	8.7	9.09	23.9				
4	9804-71	105.20.Eff-11	4/4/98	5:41	4/4/98	10:34		3.92	52	0.51	0.008	20.3	8.9	3.77	0.87	2.90	8.7	9.07	24.0				
4d	9804-72	105.20.Eff-11d	4/4/98	5:41	4/4/98	10:34		3.92	52	0.55	0.009	21.2	8.9	3.80	0.91	2.89	8.7	9.14	24.0				
5	9804-81	105.20.Eff-12	4/4/98	19:49	4/5/98	0:29		4.51	59	0.62	0.011	20.9	8.4	3.85	0.92	2.93	8.7	9.17	24.1				
6	9804-84	105.20.Eff-14	4/5/98	5:12	4/5/98	9:52		4.90	64	0.71	0.011	21.1	9.2	3.91	0.90	3.01	8.7	9.15	24.1				
7	9804-111	105.20.Eff-22	4/6/98	18:46	4/6/98	23:22		6.46	85	0.85	0.014	22.3	9.3	3.93	0.80	3.13	8.6	9.02	24.3				
7d	9804-112	105.20.Eff-22d	4/6/98	18:46	4/6/98	23:22		6.46	85	0.85	0.014	22.3	9.3	3.93	0.80	3.13	8.6	9.07	24.4				
8	9804-138	105.20.Eff-28	4/8/98	16:07	4/8/98	22:50		8.39	110		0.016	22.2	9.4	4.01	0.81	3.20	8.6	9.06	24.0				
9	9804-169	105.20.Eff-30	4/10/98	8:21	4/10/98	13:04		10.03	132	1.03	0.017	21.5	9.2	4.05	0.85	3.20	8.5	9.01	23.7				
10	9804-187	105.20.Eff-31	4/12/98	13:07	4/12/98	17:49		12.23	161	1.15	0.020	23.3	9.4	4.13	0.77	3.36	8.5	9.01	23.5				
11	9804-222	105.20.Eff-35	4/15/98	2:59	4/15/98	7:50		14.81	195	1.16	0.020	21.6	9.3	4.10	0.90	3.20	8.8	9.07	24.2				
11d	9804-223	105.20.Eff-35d	4/15/98	2:59	4/15/98	7:50		14.81	195	1.15	0.020	21.7	9.4	4.10	0.88	3.22	8.8	8.99	24.2				
12	9804-293	105.20.Eff-39	4/17/98	12:44	4/17/98	15:12		17.17	226	1.22	0.023	22.6	9.3	4.17	0.88	3.29	8.8	9.06	24.2				

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N (mg/L)	Brom (µg/L)				
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6			HAA9			
Effluent C		EBCT: 10 min	Carbon Type: Bituminous			Influent pH: 9.4				Scaling Factor: 13.2																
1	9803-361	105.10.Eff-1	2	0.16		ND	ND	ND	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2	9804-11	105.10.Eff-4	12	0.28	12	ND	2.3	1.3	3.1	6.7	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1					
3	9804-19	105.10.Eff-5	15	0.34	14	ND	2.9	1.7	3.6	8.1	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1					
3d	9804-20	105.10.Eff-5d	15	0.35	15	ND	3.0	1.7	3.9	8.6	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1					
4	9804-22	105.10.Eff-7	19	0.46	19	1.5	4.5	2.8	4.8	13.5	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2					
5	9804-34	105.10.Eff-10	26	0.62	33	2.3	6.3	4.0	5.9	18.4	ND	1	ND	ND	2	1	ND	ND	ND	5	5					
6	9804-35	105.10.Eff-11	28	0.72	38	3.0	7.4	4.9	6.3	21.6	ND	1	ND	ND	2	1	ND	ND	ND	5	5					
7	9804-39	105.10.Eff-13	33	0.81	49	3.5	8.5	5.7	7.4	25.1	ND	2	ND	ND	2	2	1	ND	ND	6	7					
7d	9804-40	105.10.Eff-13d	33	0.80	43	3.5	8.3	5.7	7.4	24.9	ND	1	ND	ND	2	2	1	ND	ND	5	6					
8	9804-67	105.10.Eff-17	47	0.96	56	5.1	10.7	7.8	8.4	32.0	ND	2	ND	ND	3	2	1	ND	ND	7	8					
9	9804-70	105.10.Eff-19	52	1.04	62	6.0	11.8	8.9	8.4	35.2	ND	2	ND	ND	3	2	1	ND	ND	7	8					
10	9804-88	105.10.Eff-24	65	1.16	67	7.6	13.6	11.0	8.9	41.1	ND	3	1	ND	3	3	2	ND	ND	10	11					
10d	9804-89	105.10.Eff-24d	65	1.14	68	7.2	12.9	10.3	8.4	38.8	ND	2	1	ND	3	2	1	ND	ND	9	11					
11	9804-108	105.10.Eff-29	85	1.27	82	8.3	14.6	12.0	8.7	43.5	ND	3	1	ND	3	3	1	ND	ND	10	11					
12	9804-123	105.10.Eff-31	98	1.36	80	7.7	15.0	11.8	8.2	42.7	ND	3	1	ND	4	3	2	ND	ND	11	13					
13	9804-135	105.10.Eff-33	114	1.39																						
Effluent C		EBCT: 20 min	Carbon Type: Bituminous			Influent pH: 9.4				Scaling Factor: 13.2																
1	9803-362	105.20.Eff-1	2	0.17		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND			
2	9804-43	105.20.Eff-6	31	0.28	12	ND	2.5	1.5	3.4	7.3	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1					
3	9804-58	105.20.Eff-10	41	0.38	19	ND	3.7	2.1	4.6	10.3	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1					
4	9804-71	105.20.Eff-11	52	0.51	24	1.5	5.2	2.9	5.8	15.4	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2					
4d	9804-72	105.20.Eff-11d	52	0.55	25	1.5	5.8	3.3	6.2	16.8	ND	ND	ND	ND	2	1	ND	ND	ND	3	3					
5	9804-81	105.20.Eff-12	59	0.62	32	2.3	7.2	4.3	7.2	20.9	ND	1	ND	ND	2	1	ND	ND	ND	4	4					
6	9804-84	105.20.Eff-14	64	0.71	33	2.6	7.8	4.8	7.5	22.8	ND	1	ND	ND	2	1	ND	ND	ND	5	5					
7	9804-111	105.20.Eff-22	85	0.85	50	3.6	9.7	6.6	8.3	28.2	ND	1	ND	ND	3	2	ND	ND	ND	6	6					
7d	9804-112	105.20.Eff-22d	85	0.85	44	3.5	9.5	6.5	8.0	27.4	ND	1	ND	ND	2	2	1	ND	ND	5	7					
8	9804-138	105.20.Eff-28	110		53	4.3	11.3	7.6	8.7	32.0	ND	2	ND	ND	4	2	1	ND	ND	8	9					
9	9804-169	105.20.Eff-30	132	1.03	52	4.3	11.9	7.8	8.6	32.6	ND	2	ND	ND	2	2	ND	ND	ND	6	6					
10	9804-187	105.20.Eff-31	161	1.15	62	5.4	12.9	9.2	8.4	36.0	ND	2	ND	ND	3	2	1	ND	ND	7	9					
11	9804-222	105.20.Eff-35	195	1.16	70	6.5	13.5	10.3	8.8	39.2	ND	3	ND	ND	4	3	2	ND	ND	9	11					
11d	9804-223	105.20.Eff-35d	195	1.15	68	6.3	13.2	10.2	8.0	37.7	ND	3	1	ND	4	3	2	ND	ND	12	14					
12	9804-293	105.20.Eff-39	226	1.22	65	7.8	14.6	11.9	8.2	42.5	ND	3	2	ND	4	4	2	ND	ND	12	15					

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

																	SDS Chlorination Conditions*							
No.	Sample ID	Client Sample ID	Start Date/Time		End Date/Time		Stop T	Run L	F-S L	TOC	UV254	Temp	pH	Dose	Res.	Dem	Temp	pH	Time	Alk.	Hard-Tot	Hard-CA	Turb.	
			(days)	(days)	(days)	(days)	(mg/L)	(1/cm)	(°C)					(mg/L)	(mg/L)	(mg/L)	(°C)	hrs	(mg/L)	(mg/L as CaCO3)	(ntu)			
13	9804-312	105.20.Eff-41	4/18/98	17:30	4/18/98	20:00	18.36	242	1.25		21.5	9.4												
Effluent C		EBCT: 5 min		Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9804-153	105.5.Eff-1	4/9/98	10:31	4/9/98	15:14	0.10	1	0.17	0.003	23.1	9.1	3.53	0.81	2.72	8.6	9.01	23.8						
2	9804-158	105.5.Eff-2	4/9/98	17:48	4/9/98	20:20	0.36	5	0.28	0.004	22.3	9.1	3.58	0.82	2.76	8.6	9.15	23.8						
3	9804-159	105.5.Eff-3	4/9/98	20:20	4/9/98	22:50	0.46	6	0.36	0.005	21.7	9.3	3.64	0.83	2.81	8.6	9.11	23.9						
4	9804-160	105.5.Eff-4	4/9/98	22:50	4/10/98	3:31	0.61	8	0.52	0.007	20.7	9.3	3.73	0.88	2.85	8.5	9.09	23.7						
4d	9804-161	105.5.Eff-4d	4/9/98	22:50	4/10/98	3:31	0.61	8	0.52	0.008	20.7	9.3	3.73	0.84	2.89	8.5	9.08	23.8						
5	9804-162	105.5.Eff-5	4/10/98	3:36	4/10/98	8:22	0.81	11	0.68	0.010	20.3	9.2	3.83	0.83	3.00	8.5	9.07	24.0						
6	9804-165	105.5.Eff-6	4/10/98	8:27	4/10/98	11:05	0.97	13	0.81	0.012	21.4	9.0	3.92	0.86	3.06	8.5	9.08	24.0						
7	9804-168	105.5.Eff-7	4/10/98	11:05	4/10/98	13:38	1.08	14	0.90	0.014	22.4	9.2	3.97	0.84	3.13	8.5	9.06	24.0						
8	9804-173	105.5.Eff-9	4/10/98	18:16	4/10/98	22:56	1.42	19	1.02	0.017	22.3	9.3	4.05	0.90	3.15	8.5	8.99	24.0						
8d	9804-174	105.5.Eff-9d	4/10/98	18:16	4/10/98	22:56	1.42	19	1.00	0.017	22.2	9.2	4.03	0.84	3.19	8.5	9.05	24.0						
9	9804-176	105.5.Eff-11	4/11/98	3:51	4/11/98	8:39	1.82	24	1.10	0.018	20.0	9.3	4.10	0.80	3.30	8.5	9.09	24.1						
10	9804-179	105.5.Eff-12	4/11/98	8:44	4/11/98	13:31	2.03	27	1.19	0.020	21.1	9.3	4.16	0.88	3.28	8.5	9.09	24.1						
10d	9804-180	105.5.Eff-12d	4/11/98	8:44	4/11/98	13:31	2.03	27	1.19	0.020	21.1	9.2	4.15	0.83	3.32	8.5	9.11	24.1						
11	9804-183	105.5.Eff-13	4/11/98	13:36	4/11/98	18:20	2.23	29	1.27	0.021	22.5	9.2	4.20	0.87	3.33	8.5	9.06	24.2						
12	9804-186	105.5.Eff-16	4/12/98	8:42	4/12/98	13:31	3.03	40	1.38		21.3	9.3	4.27	0.84	3.43	8.5	9.11	24.2						
13	9804-205	105.5.Eff-17	4/13/98	12:56	4/13/98	17:40	4.20	55	1.38		22.9	8.7												
Effluent C		EBCT: 7.5 min		Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9804-224	105.7.5.Eff-1	4/14/98	13:23	4/14/98	17:54	0.10	1	0.10	0.002	22.5	8.9	3.45	0.71	2.74	8.8	8.99	24.4						
2	9804-227	105.7.5.Eff-4	4/15/98	1:13	4/15/98	3:47	0.55	7	0.17	0.003	22.2	9.0	3.50	0.71	2.79	8.8	9.12	24.5						
3	9804-237	105.7.5.Eff-5	4/15/98	3:47	4/15/98	10:58	0.75	10	0.26	0.004	22.8	9.0	3.55	0.66	2.89	8.8	9.02	24.5						
4	9804-244	105.7.5.Eff-6	4/15/98	11:03	4/15/98	15:39	1.00	13	0.41	0.006	22.9	9.0	3.64	0.82	2.82	8.8	9.10	24.5						
4d	9804-245	105.7.5.Eff-6d	4/15/98	11:03	4/15/98	15:39	1.00	13	0.39	0.006	22.9	9.0	3.62	0.63	2.99	8.8	9.13	24.5						
5	9804-248	105.7.5.Eff-7	4/15/98	15:39	4/15/98	20:16	1.19	16	0.53	0.008	22.8	8.9	3.71	0.87	2.84	8.8	9.11	24.5						
6	9804-255	105.7.5.Eff-9	4/16/98	1:07	4/16/98	5:52	1.59	21	0.69	0.011	22.1	9.1	3.80	0.80	3.00	8.7	9.16	23.8						
7	9804-256	105.7.5.Eff-10	4/16/98	5:52	4/16/98	10:33	1.79	24	0.79	0.013	23.0	8.9	3.86	0.82	3.04	8.7	9.07	23.8						
7d	9804-257	105.7.5.Eff-10d	4/16/98	5:52	4/16/98	10:33	1.79	24	0.80	0.013	23.0	9.0	3.87	0.82	3.05	8.7	9.09	23.9						
8	9804-273	105.7.5.Eff-13	4/16/98	20:02	4/17/98	0:43	2.38	31		0.016	22.7	8.9	3.94	0.79	3.15	8.8	9.11	24.0						
9	9804-291	105.7.5.Eff-16	4/17/98	10:31	4/17/98	15:05	2.98	39	1.03	0.018	22.6	9.0	4.02	0.81	3.21	8.8	9.08	24.3						
10	9804-301	105.7.5.Eff-19	4/18/98	5:15	4/18/98	10:08	3.76	50	1.15	0.020	20.6	9.2	4.09	0.83	3.26	8.8	9.15	24.3						
10d	9804-302	105.7.5.Eff-19d	4/18/98	5:15	4/18/98	10:08	3.76	50	1.17	0.020	20.7	9.2	4.10	0.80	3.30	8.8	9.12	24.4						

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

#	SamplesID	ClientSampleID	F-S L	TOC	TOX	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom	
			(days)	(mg/L)	(µg Cl-/L)	CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
13	9804-312	105.20.Eff-41	242	1.25																			
Effluent C			EBCT: 5 min	Carbon Type: Bituminous		Influent pH: 9.4			Scaling Factor: 13.2														
1	9804-153	105.5.Eff-1	1	0.17	3	ND	1.0	ND	1.4	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2	9804-158	105.5.Eff-2	5	0.28	10	ND	2.2	1.3	3.5	7.0	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1		
3	9804-159	105.5.Eff-3	6	0.36	12	ND	3.3	1.9	4.4	9.6	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1		
4	9804-160	105.5.Eff-4	8	0.52	22	1.4	4.9	2.7	5.8	14.8	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2		
4d	9804-161	105.5.Eff-4d	8	0.52	23	1.4	4.8	2.7	5.7	14.6	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2		
5	9804-162	105.5.Eff-5	11	0.68	34	2.2	7.5	4.3	7.8	21.8	ND	1	ND	ND	3	1	ND	ND	ND	5	5		
6	9804-165	105.5.Eff-6	13	0.81	40	2.9	8.9	5.4	8.2	25.5	ND	2	ND	ND	3	2	ND	ND	ND	6	6		
7	9804-168	105.5.Eff-7	14	0.90	47	3.2	9.4	5.8	8.3	26.7	ND	2	ND	ND	3	2	ND	ND	ND	7	7		
8	9804-173	105.5.Eff-9	19	1.02	55	3.9	11.0	7.2	7.9	30.0	ND	2	ND	ND	3	2	1	ND	ND	7	9		
8d	9804-174	105.5.Eff-9d	19	1.00	56	4.1	11.2	7.1	8.4	30.8	ND	2	ND	ND	4	3	1	ND	ND	9	10		
9	9804-176	105.5.Eff-11	24	1.10	60	5.1	12.2	8.3	8.6	34.1	ND	2	1	ND	4	3	2	ND	ND	10	12		
10	9804-179	105.5.Eff-12	27	1.19	66	5.8	12.8	9.1	8.2	35.8	ND	2	ND	ND	4	3	1	ND	ND	9	11		
10d	9804-180	105.5.Eff-12d	27	1.19	65	6.0	13.1	9.4	8.4	36.9	ND	2	ND	ND	3	3	1	ND	ND	8	10		
11	9804-183	105.5.Eff-13	29	1.27	71	6.3	13.8	10.1	8.5	38.7	ND	3	ND	ND	3	3	1	ND	ND	9	10		
12	9804-186	105.5.Eff-16	40	1.38	80	7.5	14.7	11.3	8.2	41.7	ND	3	1	ND	3	3	2	ND	ND	10	11		
13	9804-205	105.5.Eff-17	55	1.38																			
Effluent C			EBCT: 7.5 min	Carbon Type: Bituminous		Influent pH: 9.4			Scaling Factor: 13.2														
1	9804-224	105.7.5.Eff-1	1	0.10	4	ND	ND	ND	1.0	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
2	9804-227	105.7.5.Eff-4	7	0.17	9	ND	2.4	1.3	3.2	6.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
3	9804-237	105.7.5.Eff-5	10	0.26	8	ND	3.3	1.8	4.4	9.5	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1		
4	9804-244	105.7.5.Eff-6	13	0.41	17	1.3	4.8	2.7	5.6	14.3	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2		
4d	9804-245	105.7.5.Eff-6d	13	0.39	18	1.2	4.5	2.6	5.5	13.8	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2		
5	9804-248	105.7.5.Eff-7	16	0.53	23	1.8	5.9	3.5	6.3	17.3	ND	ND	ND	ND	2	1	ND	ND	ND	4	4		
6	9804-255	105.7.5.Eff-9	21	0.69	41	3.1	8.3	5.4	7.5	24.3	ND	1	ND	ND	3	2	ND	ND	ND	5	5		
7	9804-256	105.7.5.Eff-10	24	0.79	41	3.3	8.9	5.8	8.2	26.2	ND	1	ND	ND	3	2	ND	ND	ND	5	5		
7d	9804-257	105.7.5.Eff-10d	24	0.80	43	3.2	8.7	5.8	8.1	25.9	ND	1	ND	ND	3	2	ND	ND	ND	6	6		
8	9804-273	105.7.5.Eff-13	31		55	4.5	11.3	7.6	9.0	32.4	ND	1	ND	ND	4	2	1	ND	ND	8	9		
9	9804-291	105.7.5.Eff-16	39	1.03	54	5.1	11.8	8.4	8.6	33.9	ND	2	1	ND	4	3	2	ND	ND	9	11		
10	9804-301	105.7.5.Eff-19	50	1.15	61	6.3	12.8	9.6	8.8	37.5	ND	2	1	ND	4	3	1	ND	ND	11	12		
10d	9804-302	105.7.5.Eff-19d	50	1.17	62	6.2	12.6	9.3	8.5	36.7	ND	2	1	ND	4	3	2	ND	ND	11	12		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

														SDS Chlorination Conditions*									
No.	Sample ID	Client Sample ID	Start Date/Time		End Date/Time		Stop T	Run L	F-S L	TOC	UV254	Temp	pH	Dose	Res.	Dem	Temp	pH	Time	Alk.	Hard-Tot	Hard-CA	Turb.
					(days)	(days)	(days)	(mg/L)	(1/cm)	(°C)			(mg/L)	(mg/L)	(mg/L)	(°C)		hrs	(mg/L)	(mg/L as CaCO3)		(ntu)	
11	9804-319	105.7.5.Eff-23	4/19/98	4:51	4/19/98	9:37		4.75	62	1.24	0.023	20.8	8.9	4.14	0.80	3.34	7.7	9.14	23.6				
12	9804-334	105.7.5.Eff-26	4/20/98	9:27	4/20/98	14:08		5.94	78	1.37	0.025	22.1	8.8	4.21	0.86	3.35	7.7	9.02	23.7				
13	9804-368	105.7.5.Eff-27	4/21/98	13:39	4/22/98	18:23		7.61	100	1.38		21.2	9.0										

Influent A **EBCT:** **Carbon Type:** **Influent pH:** 9.4 **Scaling Factor:** 13.2

1	9803-359	105.INF.A-1	3/31/98	14:00	3/31/98	14:00		0.17	2												72	120	30
2	9804-145	105.INF.A-2	4/9/98	13:30	4/9/98	13:30		9.15	120												69	139	32
3	9804-201	105.INF.A-3	4/13/98	16:00	4/13/98	16:00		13.25	174												65	139	32
4	9804-356	105.INF.A-4	4/21/98	15:55	4/21/98	15:55		21.25	280												72	143	32

Influent B **EBCT:** **Carbon Type:** **Influent pH:** 9.4 **Scaling Factor:** 13.2

1	9803-360	105.INF.B-1	3/31/98	14:05	3/31/98	14:05		0.17	2	1.96	0.039	19.9	9.4	4.80	0.76	4.04	8.7	9.06	24.2				0.15
2	9804-28	105.INF.B-2	4/2/98	9:00	4/2/98	9:00		1.96	26	1.89		16.3	9.4										
3	9804-90	105.INF.B-3	4/5/98	17:00	4/5/98	17:00		5.29	70	1.88		16.7	9.4										
4	9804-136	105.INF.B-4	4/9/98	9:30	4/9/98	9:30		8.98	118	1.84	0.037	17.6	9.4	4.70	0.78	3.92	8.6	9.10	24.0				0.15
5	9804-170	105.INF.B-5	4/10/98	16:00	4/10/98	16:00		10.25	135	1.99	0.037	16.9	9.4	4.80	1.05	3.75	8.6	9.14	23.9				0.10
6	9804-202	105.INF.B-6	4/13/98	15:50	4/13/98	15:50		13.24	174	1.82	0.037	17.1	9.4	4.46	0.62	3.84	8.8	9.16	24.5				0.10
7	9804-289	105.INF.B-7	4/17/98	14:30	4/17/98	14:30		17.19	226	1.81	0.038	16.8	9.4	4.55	0.65	3.90	8.8	9.15	24.2				0.10
8	9804-369	105.INF.B-8	4/22/98	12:15	4/22/98	12:15		22.09	291	1.82	0.038	18.2	9.4	4.65	0.81	3.84	7.7	9.05	23.7				0.15

PreStudy **EBCT:** **Carbon Type:** **Influent pH:** **Scaling Factor:**

1	9803-279	Raw	3/23/98	9:15	3/23/98	9:15																	3.15
2	9803-280	Settled	3/23/98	9:20	3/23/98	9:20																	2.21
3	9803-324	Settled Day 2	3/25/98	8:05	3/25/98	8:05																	1.92
4	9803-325	Filtered Day 2	3/25/98	8:25	3/25/98	8:25																	1.96
5	9803-326	Post 1 Micron Filter	3/27/98	12:10	3/27/98	12:10																	1.90
6	9803-327	Pre 1 Micron Filter	3/27/98	13:50	3/27/98	13:50																	2.01

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 9.1 **Temperature:** 8.0 °C **Holding time:** 24.0 hrs

Study Comments

Sample ID 9704-138 and 9704-273 TOC analysis: Sample not analyzed.
Sample ID 9804-186 UV254 analysis: Sample not analyzed.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Aurora

Study#: 105

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N (mg/L)	Brom (µg/L)	
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6			HAA9
11	9804-319	105.7.5.Eff-23	62	1.24	71	7.0	13.5	10.7	8.2	39.4	ND	3	1	ND	4	3	1	ND	ND	11	12		
12	9804-334	105.7.5.Eff-26	78	1.37	83	7.9	14.1	12.0	7.1	41.2	ND	4	1	ND	4	4	1	ND	ND	12	14		
13	9804-368	105.7.5.Eff-27	100	1.38																			

Influent A **EBCT:** **Carbon Type:** **Influent pH:** 9.4 **Scaling Factor:** 13.2

1	9803-359	105.INF.A-1	2																			0.31	68
2	9804-145	105.INF.A-2	120																			0.30	76
3	9804-201	105.INF.A-3	174																			0.28	75
4	9804-356	105.INF.A-4	280																			0.28	70

Influent B **EBCT:** **Carbon Type:** **Influent pH:** 9.4 **Scaling Factor:** 13.2

1	9803-360	105.INF.B-1	2	1.96		18.2	14.8	17.7	5.3	56.0	ND	6	2	ND	3	4	2	ND	ND	14	17		
2	9804-28	105.INF.B-2	26	1.89																			
3	9804-90	105.INF.B-3	70	1.88																			
4	9804-136	105.INF.B-4	118	1.84	132	16.4	15.6	17.0	5.1	54.1	ND	7	3	ND	4	5	3	ND	ND	19	22		
5	9804-170	105.INF.B-5	135	1.99	125	16.6	16.2	17.2	5.4	55.3	ND	6	3	ND	4	4	3	ND	ND	17	20		
6	9804-202	105.INF.B-6	174	1.82	136	17.8	16.1	18.0	5.8	57.7	ND	6	2	ND	3	4	2	ND	ND	16	18		
7	9804-289	105.INF.B-7	226	1.81	121	17.0	15.7	17.5	5.6	55.8	ND	6	3	ND	4	5	4	ND	ND	19	22		
8	9804-369	105.INF.B-8	291	1.82	122	15.6	14.1	16.6	4.9	51.2	ND	7	3	ND	3	5	2	ND	ND	18	20		

PreStudy **EBCT:** **Carbon Type:** **Influent pH:** **Scaling Factor:**

1	9803-279	Raw	3.15																				
2	9803-280	Settled	2.21																				
3	9803-324	Settled Day 2	1.92																				
4	9803-325	Filtered Day 2	1.96																				
5	9803-326	Post 1 Micron Filter	1.90																				
6	9803-327	Pre 1 Micron Filter	2.01																				

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

																	SDS Chlorination Conditions*							
No.	Sample ID	Client Sample ID	Start Date/Time	End Date/Time	Stop T	Run L	F-S L	TOC	UV254	Temp	pH	Dose	Res.	Dem	Temp	pH	Time	Alk.	Hard-Tot	Hard-CA	Turb.			
					(days)	(days)	(days)	(mg/L)	(1/cm)	(°C)		(mg/L)	(mg/L)	(mg/L)	(°C)		hrs	(mg/L)	(mg/L as CaCO3)		(ntu)			
Effluent C		EBCT: 10 min	Carbon Type: Bituminous			Influent pH: 8.4		Scaling Factor: 13.2																
1	9809-556	148.8.4.10.Eff-1	9/25/98	15:36	9/25/98	22:00	0.18	2	0.11	0.000	22.3	8.3	3.60	0.86	2.74	11.7	9.06	23.8						
2	9809-559	148.8.4.10.Eff-4	9/26/98	14:08	9/26/98	20:22	1.12	15	0.29	0.004	23.4	8.2	3.81	1.08	2.73	11.7	9.11	23.8						
3	9809-561	148.8.4.10.Eff-6	9/26/98	23:40	9/27/98	5:57	1.52	20	0.51	0.007	21.6	8.2	4.06	1.23	2.83	11.7	9.07	23.8						
4	9809-562	148.8.4.10.Eff-7	9/27/98	5:57	9/27/98	9:20	1.72	23	0.67	0.010	21.7	8.2	3.82	0.89	2.93	19.8	9.11	24.1						
5	9809-563	148.8.4.10.Eff-8	9/27/98	9:20	9/27/98	15:39	1.92	25	0.83	0.012	22.4	8.2	3.89	0.93	2.96	19.8	9.09	24.1						
5d	9809-587	148.8.4.10.Eff-8d	9/27/98	9:20	9/27/98	15:39	1.92	25	0.87	0.012	22.4	8.2	3.89	0.91	2.98	19.8	9.12	24.1						
6	9809-564	148.8.4.10.Eff-9	9/27/98	15:39	9/27/98	21:40	2.18	29	1.02	0.014	21.7	8.2	3.95	0.84	3.11	19.8	9.14	24.2						
7	9809-566	148.8.4.10.Eff-11	9/28/98	4:00	9/28/98	10:23	2.70	36	1.21	0.018	21.6	8.1	4.02	1.00	3.02	20.0	9.11	24.0						
7d	9809-588	148.8.4.10.Eff-11d	9/28/98	4:00	9/28/98	10:23	2.70	36	1.19	0.018	21.3	8.1	4.02	1.02	3.00	20.0	9.12	24.0						
8	9809-569	148.8.4.10.Eff-14	9/28/98	23:08	9/29/98	5:33	3.50	46	1.37	0.022	20.9	8.1	4.07	1.28	2.79	20.0	9.13	24.0						
9	9809-571	148.8.4.10.Eff-16	9/29/98	11:59	9/29/98	18:17	4.03	53	1.57	0.027	22.1	8.0	3.95	1.38	2.57	20.0	9.12	24.0						
10	9809-574	148.8.4.10.Eff-19	9/30/98	13:34	9/30/98	20:34	5.11	67	1.69	0.030	22.6	8.0	3.62	1.35	2.27	19.8	9.11	24.0						
10d	9809-590	148.8.4.10.Eff-19d	9/30/98	13:34	9/30/98	20:34	5.11	67	1.69	0.030	22.6	7.9	3.62	1.35	2.27	19.8	9.10	24.0						
11	9809-579	148.8.4.10.Eff-24	10/3/98	3:27	10/3/98	7:03	7.62	100	1.86	0.034	21.6	8.1	2.96	0.88	2.08	19.9	9.02	23.9						
12	9809-580	148.8.4.10.Eff-25	10/4/98	7:44	10/4/98	11:52	8.81	116	1.99	0.036	22.5	8.1	3.09	1.10	1.99	19.9	9.05	23.9						
Effluent C		EBCT: 10 min	Carbon Type: Bituminous			Influent pH: 8.9		Scaling Factor: 13.2																
1	9809-602	148.8.9.10.Eff-1	9/25/98	15:28	9/25/98	23:01	0.20	3	0.12	0.000	22.3	8.6	3.60	0.72	2.88	11.7	9.09	23.7						
2	9809-603	148.8.9.10.Eff-2	9/26/98	6:41	9/26/98	14:13	0.84	11	0.26	0.003	22.3	8.6	3.77	0.73	3.04	11.7	9.09	23.8						
3	9809-604	148.8.9.10.Eff-3	9/26/98	14:13	9/26/98	18:11	1.08	14	0.38	0.005	23.5	8.6	3.91	0.78	3.13	11.7	9.08	23.8						
4	9809-605	148.8.9.10.Eff-4	9/26/98	18:11	9/27/98	1:37	1.32	17	0.59	0.008	22.6	8.6	4.13	0.80	3.33	19.8	9.06	24.1						
4d	9809-632	148.8.9.10.Eff-4d	9/26/98	18:11	9/27/98	1:37	1.32	17	0.55	0.008	22.5	8.6	4.13	0.75	3.38	19.8	9.07	24.1						
5	9809-606	148.8.9.10.Eff-5	9/27/98	1:37	9/27/98	5:33	1.55	20	0.73	0.010	22.1	8.6	4.27	0.88	3.39	19.8	9.08	24.1						
6	9809-607	148.8.9.10.Eff-6	9/27/98	5:33	9/27/98	12:58	1.79	24	0.89	0.013	22.6	8.7	4.43	0.91	3.52	19.8	9.08	24.1						
7	9809-608	148.8.9.10.Eff-7	9/27/98	12:58	9/27/98	16:56	2.03	27	1.02	0.016	22.6	8.6	4.56	0.97	3.59	19.8	9.10	24.1						
8	9809-609	148.8.9.10.Eff-8	9/27/98	16:56	9/28/98	0:25	2.26	30	1.13	0.017	22.3	8.6	4.66	1.07	3.59	20.0	9.09	23.9						
8d	9809-633	148.8.9.10.Eff-8d	9/27/98	16:56	9/28/98	0:25	2.26	30	1.14	0.017	22.3	8.6	4.66	1.08	3.58	20.0	9.09	23.9						
9	9809-611	148.8.9.10.Eff-10	9/28/98	8:01	9/28/98	15:38	2.90	38	1.34	0.021	22.1	8.5	4.85	1.23	3.62	20.0	9.11	23.9						
10	9809-612	148.8.9.10.Eff-11	9/28/98	23:12	9/29/98	6:52	3.53	46	1.48	0.025	20.9	8.6	5.00	1.34	3.66	20.0	9.13	23.9						
10d	9809-634	148.8.9.10.Eff-11d	9/28/98	23:12	9/29/98	6:52	3.53	46	1.50	0.025	21.3	8.6	5.00	1.35	3.65	20.0	9.12	23.9						
11	9809-616	148.8.9.10.Eff-15	9/30/98	13:18	9/30/98	20:47	5.11	67	1.69	0.031	23.3	8.3	4.28	0.88	3.40	19.8	9.11	23.9						
12	9809-619	148.8.9.10.Eff-18	10/1/98	19:25	10/2/98	2:56	6.37	84	1.85	0.033	22.1	8.5	4.38	1.16	3.22	19.8	9.13	24.0						
13	9809-620	148.8.9.10.Eff-19	10/3/98	1:21	10/3/98	5:15	7.54	99	1.91	0.036	22.3	8.5												

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N (mg/L)	Brom (µg/L)	
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6			HAA9
Effluent C		EBCT: 10 min	Carbon Type: Bituminous		Influent pH: 8.4		Scaling Factor: 13.2																
1	9809-556	148.8.4.10.Eff-1	2	0.11	3	ND	ND	ND	1.2	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	9809-559	148.8.4.10.Eff-4	15	0.29	16	ND	3.9	1.7	6.9	12.5	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1	1	1
3	9809-561	148.8.4.10.Eff-6	20	0.51	29	1.3	7.6	3.9	7.9	20.7	ND	ND	ND	ND	3	1	ND	ND	ND	4	4	4	4
4	9809-562	148.8.4.10.Eff-7	23	0.67	40	2.1	12.1	5.8	10.9	30.9	ND	1	ND	ND	4	2	ND	ND	ND	8	8	8	8
5	9809-563	148.8.4.10.Eff-8	25	0.83	52	2.8	15.4	8.1	11.8	38.1	ND	2	ND	ND	4	3	ND	ND	ND	9	9	9	9
5d	9809-587	148.8.4.10.Eff-8d	25	0.87	50	3.2	16.3	8.8	12.3	40.7	ND	2	ND	ND	4	3	ND	ND	ND	8	8	8	8
6	9809-564	148.8.4.10.Eff-9	29	1.02	60	4.9	20.7	12.3	13.9	51.8	ND	2	ND	ND	5	3	ND	ND	ND	10	10	10	10
7	9809-566	148.8.4.10.Eff-11	36	1.21	86	6.7	22.2	14.8	12.1	55.8	ND	3	ND	ND	6	5	1	ND	ND	14	15	14	15
7d	9809-588	148.8.4.10.Eff-11d	36	1.19	77	6.1	19.7	13.8	10.0	49.5	ND	3	ND	ND	6	5	1	ND	ND	13	14	13	14
8	9809-569	148.8.4.10.Eff-14	46	1.37	96	10.1	23.2	18.4	9.7	61.3	ND	4	1	ND	6	6	1	ND	ND	17	19	17	19
9	9809-571	148.8.4.10.Eff-16	53	1.57	113	13.4	23.4	21.3	7.2	65.2	ND	5	2	ND	5	5	2	ND	ND	17	18	17	18
10	9809-574	148.8.4.10.Eff-19	67	1.69	130	16.2	23.0	21.8	6.6	67.7	ND	6	2	ND	7	7	2	1	ND	23	26	23	26
10d	9809-590	148.8.4.10.Eff-19d	67	1.69	123	16.5	23.7	22.2	6.8	69.3	ND	6	2	ND	7	7	2	2	ND	22	26	22	26
11	9809-579	148.8.4.10.Eff-24	100	1.86	136	18.0	22.4	23.2	6.0	69.6	ND	6	2	ND	5	6	2	ND	ND	19	21	19	21
12	9809-580	148.8.4.10.Eff-25	116	1.99	151	21.7	22.6	24.9	6.2	75.4	ND	7	2	ND	5	7	2	ND	ND	21	23	21	23
Effluent C		EBCT: 10 min	Carbon Type: Bituminous		Influent pH: 8.9		Scaling Factor: 13.2																
1	9809-602	148.8.9.10.Eff-1	3	0.12	4	ND	1.2	ND	1.8	3.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2	9809-603	148.8.9.10.Eff-2	11	0.26	12	ND	3.2	1.5	7.9	12.6	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1	1	1
3	9809-604	148.8.9.10.Eff-3	14	0.38	20	1.3	5.3	2.5	8.8	17.9	ND	ND	ND	ND	2	1	ND	ND	ND	3	3	3	3
4	9809-605	148.8.9.10.Eff-4	17	0.59	35	2.1	10.7	5.4	11.5	29.7	ND	1	ND	ND	3	2	ND	ND	ND	6	6	6	6
4d	9809-632	148.8.9.10.Eff-4d	17	0.55	34	2.2	10.4	5.4	12.5	30.5	ND	1	ND	ND	4	2	ND	ND	ND	7	7	7	7
5	9809-606	148.8.9.10.Eff-5	20	0.73	42	2.9	13.2	7.1	11.7	34.9	ND	2	ND	ND	4	3	ND	ND	ND	8	8	8	8
6	9809-607	148.8.9.10.Eff-6	24	0.89	60	4.4	16.9	10.3	12.6	44.3	ND	3	ND	ND	6	4	1	ND	ND	13	14	13	14
7	9809-608	148.8.9.10.Eff-7	27	1.02	69	6.0	19.6	13.0	12.1	50.7	ND	3	ND	ND	6	5	2	ND	ND	14	16	14	16
8	9809-609	148.8.9.10.Eff-8	30	1.13	74	6.3	20.2	14.2	10.0	50.7	ND	3	ND	ND	4	4	1	ND	ND	11	12	11	12
8d	9809-633	148.8.9.10.Eff-8d	30	1.14	76	6.4	20.3	14.3	10.4	51.3	ND	3	ND	ND	5	4	1	ND	ND	11	13	11	13
9	9809-611	148.8.9.10.Eff-10	38	1.34	95	9.9	23.0	18.8	8.9	60.7	ND	4	2	ND	6	5	2	ND	ND	17	19	17	19
10	9809-612	148.8.9.10.Eff-11	46	1.48	110	12.2	22.9	20.8	7.8	63.6	ND	5	2	ND	6	6	2	ND	ND	20	23	20	23
10d	9809-634	148.8.9.10.Eff-11d	46	1.50	112	13.5	23.0	20.9	8.8	66.3	ND	5	2	ND	6	6	2	ND	ND	18	21	18	21
11	9809-616	148.8.9.10.Eff-15	67	1.69	129	19.0	25.8	25.8	7.4	78.0	ND	6	2	ND	6	7	2	ND	ND	22	25	22	25
12	9809-619	148.8.9.10.Eff-18	84	1.85	143	22.7	24.8	27.3	6.2	81.0	ND	7	2	ND	6	7	2	ND	ND	23	26	23	26
13	9809-620	148.8.9.10.Eff-19	99	1.91																			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

																	SDS Chlorination Conditions*							
No.	Sample ID	Client Sample ID	Start Date/Time	End Date/Time	Stop T	Run L	F-S L	TOC	UV254	Temp	pH	Dose	Res.	Dem	Temp	pH	Time	Alk.	Hard-Tot	Hard-CA	Turb.			
					(days)	(days)	(days)	(mg/L)	(1/cm)	(°C)		(mg/L)	(mg/L)	(mg/L)	(°C)		hrs	(mg/L)	(mg/L as CaCO3)		(ntu)			
Effluent C		EBCT: 10 min		Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9809-468	148.10.Eff-1	9/25/98 15:00	9/25/98 22:01		0.19	3	0.12	0.000	22.1	9.1	3.61	0.73	2.88	11.7	9.11	23.6							
2	9809-469	148.10.Eff-2	9/26/98 5:32	9/26/98 12:52		0.81	11	0.29	0.004	21.7	9.1	3.82	0.74	3.08	11.7	9.12	23.6							
3	9809-470	148.10.Eff-3	9/26/98 12:52	9/26/98 16:13		1.03	14	0.45	0.006	22.5	9.1	3.99	0.85	3.14	11.7	9.12	23.6							
4	9809-471	148.10.Eff-4	9/26/98 16:13	9/26/98 23:31		1.25	16	0.62	0.009	22.7	9.1	4.19	0.00	4.19	11.7	9.12	23.6							
4d	9809-498	148.10.Eff-4d	9/26/98 16:13	9/26/98 23:31		1.25	16	0.60	0.009	22.6	9.0	4.19	1.00	3.19	11.7	9.09	23.7							
5	9809-472	148.10.Eff-5	9/26/98 23:31	9/27/98 2:51		1.47	19	0.77	0.011	21.6	9.1	4.16	0.72	3.44	19.8	9.06	24.1							
6	9809-473	148.10.Eff-6	9/27/98 2:51	9/27/98 10:23		1.70	22	0.89	0.014	21.8	9.1	4.25	0.74	3.51	19.8	9.12	24.1							
7	9809-474	148.10.Eff-7	9/27/98 10:23	9/27/98 13:43		1.93	25	1.10	0.018	22.0	9.2	4.42	0.78	3.64	19.8	9.14	24.1							
8	9809-475	148.10.Eff-8	9/27/98 13:43	9/27/98 21:04		2.15	28	1.17	0.019	21.7	9.2	4.49	0.81	3.68	19.8	9.13	24.1							
8d	9809-499	148.10.Eff-8d	9/27/98 13:43	9/27/98 21:04		2.15	28	1.19	0.019	21.7	9.1	4.49	0.80	3.69	19.8	9.07	24.1							
9	9809-478	148.10.Eff-11	9/28/98 11:58	9/28/98 19:42		3.08	41	1.39	0.024	21.8	9.0	4.43	0.65	3.78	20.0	9.11	23.8							
10	9809-479	148.10.Eff-12	9/29/98 3:02	9/29/98 10:22		3.70	49	1.56	0.027	20.9	9.2	4.77	0.86	3.91	20.0	9.17	23.7							
10d	9809-501	148.10.Eff-12d	9/29/98 3:02	9/29/98 10:22		3.70	49	1.54	0.027	20.9	9.2	4.77	0.80	3.97	20.0	9.15	23.7							
11	9809-480	148.10.Eff-13	9/29/98 17:33	9/30/98 0:36		4.30	57	1.65	0.030	21.6	9.1	4.85	0.83	4.02	19.8	9.15	23.8							
12	9809-486	148.10.Eff-19	10/1/98 20:07	10/2/98 3:32		6.42	84	1.85	0.034	21.7	9.1	4.99	1.00	3.99	19.8	9.18	23.8							
13	9809-487	148.10.Eff-20	10/3/98 1:28	10/3/98 4:43		7.55	99	1.93	0.037	21.7	9.3													
Effluent C		EBCT: 20 min		Carbon Type: Bituminous		Influent pH: 9.4		Scaling Factor: 13.2																
1	9809-508	148.20.Eff-1	9/25/98 15:00	9/25/98 22:02		0.20	3	0.13	0.001	22.1	9.1	3.62	0.85	2.77	11.7	9.14	23.7							
2	9809-511	148.20.Eff-4	9/27/98 3:02	9/27/98 10:32		1.71	22	0.27	0.003	21.8	9.1	3.78	0.85	2.93	11.7	9.11	23.7							
3	9809-513	148.20.Eff-6	9/27/98 17:46	9/28/98 1:02		2.32	30	0.49	0.007	22.0	9.0	3.94	0.73	3.21	20.0	9.11	23.7							
3d	9809-538	148.20.Eff-6d	9/27/98 17:46	9/28/98 1:02		2.32	30	0.49	0.007	22.0	9.1	3.94	0.73	3.21	20.0	9.10	23.8							
4	9809-515	148.20.Eff-8	9/28/98 8:26	9/28/98 15:43		2.93	39	0.65	0.009	21.5	8.8	4.06	0.78	3.28	20.0	9.09	23.8							
5	9809-517	148.20.Eff-10	9/28/98 22:59	9/29/98 6:28		3.54	47	0.88	0.014	20.9	9.2	4.24	0.90	3.34	20.0	9.15	23.8							
6	9809-519	148.20.Eff-12	9/29/98 13:55	9/29/98 21:05		4.15	55	1.04	0.017	22.2	9.1	4.39	1.00	3.39	20.0	9.13	23.8							
7	9809-522	148.20.Eff-15	9/30/98 11:43	9/30/98 18:53		5.06	67	1.15	0.020	22.6	9.0	4.45	1.07	3.38	19.8	9.10	23.9							
7d	9809-540	148.20.Eff-15d	9/30/98 11:43	9/30/98 18:53		5.06	67	1.13	0.019	22.5	9.0	4.45	1.06	3.39	19.8	9.11	23.9							
8	9809-525	148.20.Eff-18	10/2/98 0:04	10/2/98 7:26		6.58	87	1.27	0.022	21.2	9.2	4.55	1.22	3.33	19.8	9.18	23.9							
9	9809-527	148.20.Eff-20	10/3/98 19:42	10/4/98 2:58		8.40	110	1.45	0.026	21.8	9.2	3.89	0.79	3.10	20.0	9.12	24.1							
10	9809-530	148.20.Eff-23	10/6/98 6:40	10/6/98 14:00		10.85	143	1.63	0.029	22.0	9.1	4.02	1.31	2.71	20.0	9.06	24.2							
11	9809-532	148.20.Eff-25	10/9/98 0:41	10/9/98 8:09		13.61	179	1.75	0.031	20.8	9.2	3.53	1.26	2.27	20.0	9.15	23.7							
11d	9809-545	148.20.Eff-25d	10/9/98 0:41	10/9/98 8:09		13.61	179	1.76	0.031	20.8	9.2	3.53	1.26	2.27	20.0	9.16	23.7							

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

#	SamplesID	ClientSampleID	F-S L	TOC	TOX	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom		
			(days)	(mg/L)	(µg Cl-/L)	CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)	
Effluent C		EBCT: 10 min	Carbon Type: Bituminous			Influent pH: 9.4					Scaling Factor: 13.2													
1	9809-468	148.10.Eff-1	3	0.12	0	ND	1.3	ND	1.5	2.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2	9809-469	148.10.Eff-2	11	0.29	18	ND	4.1	2.0	7.7	13.8	ND	ND	ND	ND	1	ND	ND	ND	ND	1	1			
3	9809-470	148.10.Eff-3	14	0.45	20	1.4	6.6	3.4	9.9	21.3	ND	ND	ND	ND	2	1	ND	ND	ND	3	3			
4	9809-471	148.10.Eff-4	16	0.62	22	2.2	4.9	4.1	1.7	12.9	ND	1	ND	ND	2	2	ND	ND	ND	5	5			
4d	9809-498	148.10.Eff-4d	16	0.60	35	2.2	9.7	5.3	10.3	27.5	ND	1	ND	ND	2	2	ND	ND	ND	5	5			
5	9809-472	148.10.Eff-5	19	0.77	48	3.3	13.5	7.6	12.4	36.9	ND	2	ND	ND	3	2	ND	ND	ND	7	7			
6	9809-473	148.10.Eff-6	22	0.89	53	4.4	16.2	9.8	11.9	42.2	ND	2	ND	ND	4	3	ND	ND	ND	9	9			
7	9809-474	148.10.Eff-7	25	1.10	71	7.3	20.1	14.4	11.3	53.1	ND	3	ND	ND	5	4	1	ND	ND	13	14			
8	9809-475	148.10.Eff-8	28	1.17	78	7.7	20.4	14.9	11.7	54.7	ND	4	ND	ND	6	5	1	ND	ND	15	16			
8d	9809-499	148.10.Eff-8d	28	1.19	76	7.2	20.0	14.5	10.7	52.4	ND	4	ND	ND	6	5	1	ND	ND	15	16			
9	9809-478	148.10.Eff-11	41	1.39	99	10.6	21.9	18.6	9.5	60.5	ND	5	2	ND	6	5	2	ND	ND	17	19			
10	9809-479	148.10.Eff-12	49	1.56	121	15.3	24.5	23.5	8.3	71.6	ND	6	2	ND	6	6	2	ND	ND	20	22			
10d	9809-501	148.10.Eff-12d	49	1.54	117	15.3	23.8	22.9	8.6	70.5	ND	5	2	ND	5	5	2	ND	ND	18	19			
11	9809-480	148.10.Eff-13	57	1.65	126	18.2	23.8	24.4	7.6	73.9	ND	7	3	ND	6	7	2	ND	ND	22	24			
12	9809-486	148.10.Eff-19	84	1.85	153	23.8	24.1	27.6	6.2	81.7	ND	7	3	ND	6	7	2	ND	ND	23	25			
13	9809-487	148.10.Eff-20	99	1.93																				
Effluent C		EBCT: 20 min	Carbon Type: Bituminous			Influent pH: 9.4					Scaling Factor: 13.2													
1	9809-508	148.20.Eff-1	3	0.13	1	ND	ND	ND	1.2	1.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
2	9809-511	148.20.Eff-4	22	0.27	14	ND	3.9	1.8	7.6	13.2	ND	ND	ND	ND	2	ND	ND	ND	ND	2	2			
3	9809-513	148.20.Eff-6	30	0.49	26	1.8	8.8	4.3	10.1	24.9	ND	ND	ND	ND	3	1	ND	ND	ND	4	4			
3d	9809-538	148.20.Eff-6d	30	0.49	29	1.8	8.7	4.3	9.9	24.6	ND	ND	ND	ND	2	1	ND	ND	ND	4	4			
4	9809-515	148.20.Eff-8	39	0.65	39	2.5	11.8	6.0	11.7	32.0	ND	1	ND	ND	3	2	ND	ND	ND	7	7			
5	9809-517	148.20.Eff-10	47	0.88	52	4.2	17.1	10.1	11.5	42.9	ND	2	ND	ND	4	3	1	ND	ND	9	10			
6	9809-519	148.20.Eff-12	55	1.04	68	5.7	19.1	13.3	9.0	47.2	ND	3	ND	ND	5	4	1	ND	ND	11	13			
7	9809-522	148.20.Eff-15	67	1.15	80	8.0	21.9	15.7	10.7	56.3	ND	3	1	ND	6	5	2	ND	ND	16	17			
7d	9809-540	148.20.Eff-15d	67	1.13	81	7.9	21.4	15.6	10.1	55.0	ND	4	1	ND	6	5	1	ND	ND	15	17			
8	9809-525	148.20.Eff-18	87	1.27	94	10.7	23.2	18.8	9.5	62.2	ND	4	2	ND	6	5	2	ND	ND	18	20			
9	9809-527	148.20.Eff-20	110	1.45	111	12.4	24.8	21.8	9.1	68.1	ND	5	2	ND	6	6	2	ND	ND	18	20			
10	9809-530	148.20.Eff-23	143	1.63	126	15.6	23.7	23.2	7.0	69.6	ND	6	2	ND	6	7	2	2	ND	21	25			
11	9809-532	148.20.Eff-25	179	1.75	130	18.6	24.3	23.9	7.6	74.3	ND	7	2	ND	7	8	2	2	ND	23	27			
11d	9809-545	148.20.Eff-25d	179	1.76	133	19.7	25.7	25.1	8.0	78.5	ND	7	2	ND	6	7	2	2	ND	21	25			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

													SDS Chlorination Conditions*						Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)												
No.	Sample ID	Client Sample ID	Start Date/Time		End Date/Time		Stop T (days)	Run L (days)	F-S L (days)	TOC (mg/L)	UV254 (1/cm)	Temp (°C)	pH	Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (°C)	pH					Time hrs											
12	9809-534	148.20.Eff-27	10/10/98	20:22	10/11/98	3:26			15.42	203	1.85	0.035	21.8	9.1																				
13	9809-535	148.20.Eff-28	10/12/98	0:42	10/12/98	7:48			16.60	218	1.90	0.036	21.4	9.4	3.20	1.22	1.98	20.0	9.15	24.1														
Influent A		EBCT:	Carbon Type:		Influent pH: 8.4		Scaling Factor: 13.2																											
1	9809-596	148.8.4.Inf.A-1	9/29/98	9:15	9/29/98	9:15			3.78	50													54	133	30									
2	9809-597	148.8.4.Inf.A-2	10/1/98	9:45	10/1/98	9:45			5.81	76													53											
Influent A		EBCT:	Carbon Type:		Influent pH: 8.9		Scaling Factor: 13.2																											
1	9809-642	148.8.9.Inf.A-1	9/29/98	9:15	9/29/98	9:15			3.79	50													54	133	30									
2	9809-643	148.8.9.Inf.A-2	10/1/98	9:45	10/1/98	9:45			5.81	76													53											
Influent A		EBCT:	Carbon Type:		Influent pH: 9.4		Scaling Factor: 13.2																											
1	9809-548	148.Inf.A-1	9/25/98	18:20	9/25/98	18:20			0.19	2													57	129	30									
2	9809-549	148.Inf.A-2	9/30/98	15:10	9/30/98	15:10			5.06	67													59	133	30									
Influent B		EBCT:	Carbon Type:		Influent pH: 8.4		Scaling Factor: 13.2																											
1	9809-598	148.8.4.Inf.B-1	9/25/98	15:35	9/25/98	15:35			0.05	1	2.67	0.055	21.2	8.5	5.90	0.98	4.92	11.7	9.08	23.8						0.15								
2	9809-599	148.8.4.Inf.B-2	9/26/98	18:10	9/26/98	18:10			1.16	15	2.59		20.2	8.4																				
3	9809-600	148.8.4.Inf.B-3	9/29/98	9:15	9/29/98	9:15			3.78	50	2.59		18.7																					
4	9809-601	148.8.4.Inf.B-4	10/4/98	9:25	10/4/98	9:25			8.79	116	2.54	0.054	18.4	8.5	5.90	0.81	5.09	19.9	9.05	23.9						0.15								
Influent B		EBCT:	Carbon Type:		Influent pH: 8.9		Scaling Factor: 13.2																											
1	9809-644	148.8.9.Inf.B-1	9/25/98	15:35	9/25/98	15:35			0.05	1	2.62	0.055	20.9	8.9	5.90	0.96	4.94	11.7	9.11	23.8						0.15								
2	9809-645	148.8.9.Inf.B-2	9/25/98	18:05	9/26/98	18:05			0.66	9	2.58		20.1	8.8																				
3	9809-646	148.8.9.Inf.B-3	9/28/98	22:10	9/28/98	22:10			3.33	44	2.59		19.7	8.8																				
4	9809-647	148.8.9.Inf.B-4	10/1/98	11:00	10/1/98	11:00			5.86	77	2.54	0.055	17.8	8.9	5.70	0.61	5.09	19.8	9.09	24.0						0.15								
Influent B		EBCT:	Carbon Type:		Influent pH: 9.4		Scaling Factor: 13.2																											
1	9809-550	148.Inf.B-1	9/25/98	15:30	9/25/98	15:30			0.07	1	2.65	0.055	21.4	9.4	5.90	1.00	4.90	11.7	9.14	23.7						0.15								
2	9809-551	148.Inf.B-2	9/26/98	18:00	9/26/98	18:00			1.17	15	2.61		18.6	9.3																				
3	9809-552	148.Inf.B-3	9/28/98	22:15	9/28/98	22:15			3.35	44	2.58		18.6	9.4																				
4	9809-553	148.Inf.B-4	10/1/98	11:00	10/1/98	11:00			5.88	77	2.56	0.055	16.8	9.4	5.70	0.57	5.13	19.8	9.18	23.9						0.15								
5	9809-554	148.Inf.B-5	10/7/98	11:05	10/7/98	11:05			11.89	156	2.55		19.5	9.5																				
6	9809-555	148.Inf.B-6	10/12/98	10:15	10/12/98	10:15			16.85	222	2.56	0.054	19.4	9.5	5.90	0.80	5.10	20.0	9.15	24.1						0.10								

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N (mg/L)	Brom (µg/L)	
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6			HAA9
12	9809-534	148.20.Eff-27	203	1.85																			
13	9809-535	148.20.Eff-28	218	1.90	150	23.5	23.0	25.4	5.8	77.7	ND	9	2	ND	6	8	2	ND	ND	26	28		
Influent A			EBCT:	Carbon Type:		Influent pH: 8.4				Scaling Factor: 13.2													
1	9809-596	148.8.4.Inf.A-1	50																			0.29	100
2	9809-597	148.8.4.Inf.A-2	76																				
Influent A			EBCT:	Carbon Type:		Influent pH: 8.9				Scaling Factor: 13.2													
1	9809-642	148.8.9.Inf.A-1	50																			0.30	110
2	9809-643	148.8.9.Inf.A-2	76																				
Influent A			EBCT:	Carbon Type:		Influent pH: 9.4				Scaling Factor: 13.2													
1	9809-548	148.Inf.A-1	2																			0.28	110
2	9809-549	148.Inf.A-2	67																			0.29	100
Influent B			EBCT:	Carbon Type:		Influent pH: 8.4				Scaling Factor: 13.2													
1	9809-598	148.8.4.Inf.B-1	1	2.67	211	38.8	18.9	30.1	3.6	91.3	ND	15	5	ND	5	9	3	ND	ND	35	38		
2	9809-599	148.8.4.Inf.B-2	15	2.59																			
3	9809-600	148.8.4.Inf.B-3	50	2.59																			
4	9809-601	148.8.4.Inf.B-4	116	2.54	229	45.0	20.7	33.3	3.8	102.9	ND	13	5	ND	5	9	3	ND	ND	32	35		
Influent B			EBCT:	Carbon Type:		Influent pH: 8.9				Scaling Factor: 13.2													
1	9809-644	148.8.9.Inf.B-1	1	2.62	228	39.6	20.2	31.1	3.6	94.5	ND	14	5	ND	5	9	3	ND	ND	32	35		
2	9809-645	148.8.9.Inf.B-2	9	2.58																			
3	9809-646	148.8.9.Inf.B-3	44	2.59																			
4	9809-647	148.8.9.Inf.B-4	77	2.54	220	48.4	22.8	35.5	4.1	110.8	ND	15	5	ND	5	10	3	2	ND	35	40		
Influent B			EBCT:	Carbon Type:		Influent pH: 9.4				Scaling Factor: 13.2													
1	9809-550	148.Inf.B-1	1	2.65	212	37.3	20.4	30.3	4.3	92.3	ND	14	5	ND	5	9	3	ND	ND	32	36		
2	9809-551	148.Inf.B-2	15	2.61																			
3	9809-552	148.Inf.B-3	44	2.58																			
4	9809-553	148.Inf.B-4	77	2.56	215	49.6	21.9	35.6	4.1	111.1	ND	16	5	ND	6	10	3	ND	ND	37	40		
5	9809-554	148.Inf.B-5	156	2.55																			
6	9809-555	148.Inf.B-6	222	2.56	226	45.9	20.8	33.6	4.0	104.3	ND	16	6	ND	5	10	4	ND	ND	37	40		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

												SDS Chlorination Conditions*									
No.	Sample ID	Client Sample ID	Start Date/Time	End Date/Time	Stop T (days)	Run L (days)	F-S L (days)	TOC (mg/L)	UV254 (1/cm)	Temp (°C)	pH	Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (°C)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA (ntu)	Turb. (ntu)
PreStudy		EBCT:		Carbon Type:		Influent pH:		Scaling Factor:													
1	9809-418	Settled Drum Aurora	9/22/98	8:15				2.75													
2	9809-410	Settled Aurora	9/21/98	11:50				2.74													
3	9809-419	Raw Aurora	9/22/98	8:00				3.63													
4	9809-432	SettledOnArrival.Auro	9/24/98	0:00				2.67													
5	9809-420	Filtered Aurora	9/22/98	8:20				4.19													
6	9809-433	FilteredS&H.Aurora	9/24/98	0:00				2.73													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 9.1 **Temperature:** 20.0 °C **Holding time:** 24.0 hrs

Study Comments

After a short power outage on 9/30/98, the incubation bath circulator did not restart, affecting the SDS temperature of the first chlorination batch dated 10/1(16 samples). A time-weighted average temperature (11.7°C) was reported as the incubation temperature for the affected samples. Note that during the first 8 hours of reaction, the incubation temperature was 20°C. The free chlorine residual values measured for the affected samples were near the target free chlorine residual, indicating that the decrease in temperature after 8 hours did not significantly affect free chlorine demand.

Sample 9809-471 returned a non-detect SDS free chlorine residual. Upon investigation, it was found that the sample had been improperly dosed. The actual chlorine dose could not be determined.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3,4

Client: City of Aurora

Study#: 148

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N (mg/L)	Brom (µg/L)	
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6			HAA9
PreStudy			EBCT:		Carbon Type:		Influent pH:			Scaling Factor:													
1	9809-418	Settled Drum Aurora		2.75																			
2	9809-410	Settled Aurora		2.74																			
3	9809-419	Raw Aurora		3.63																			
4	9809-432	SettledOnArrival.Aurora		2.67																			
5	9809-420	Filtered Aurora		4.19																			
6	9809-433	FilteredS&H.Aurora		2.73																			

Laboratory Report

Client:

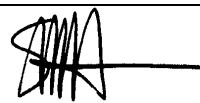
Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study Title: ICR RSSCT #1

Study #: 105

Reviewed By: _____



Stuart M. Hooper

Date Reviewed: 7/12/99

Laboratory Test ResultsPage 1 of 70
Printed on 7/7/99Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study#: 105
Study Title: ICR RSSCT #1

Sample ID: Raw		S&H ID: 9803-279		Date Sampled: 3/23/98 9:15:00 AM						
#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR TOC	3.14	mg/L	SM 5310 C	1	0.50	3/23/98		3/24/98	7-0-220
2	TOC-ICR TOC (Dupl)	3.15	mg/L	SM 5310 C	1	0.50	3/23/98		3/24/98	7-0-220
		3.15	mg/L	0.3 % RPD						

Sample ID: Settled		S&H ID: 9803-280		Date Sampled: 3/23/98 9:20:00 AM						
#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR TOC	2.22	mg/L	SM 5310 C	1	0.50	3/23/98		3/24/98	7-0-220
4	TOC-ICR TOC (Dupl)	2.19	mg/L	SM 5310 C	1	0.50	3/23/98		3/24/98	7-0-220
		2.21	mg/L	1.4 % RPD						

Sample ID: Settled Day 2			S&H ID: 9803-324		Date Sampled: 3/25/98 8:05:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR	TOC	1.92	mg/L	SM 5310 C	1	0.50	3/25/98		3/27/98	7-0-223
6	TOC-ICR	TOC (Dupl)	1.93	mg/L	SM 5310 C	1	0.50	3/25/98		3/27/98	7-0-223
			1.92	mg/L	0.5 % RPD						

Sample ID: Filtered Day 2			S&H ID: 9803-325		Date Sampled: 3/25/98 8:25:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR	TOC	2.00	mg/L	SM 5310 C	1	0.50	3/25/98		3/27/98	7-0-223
8	TOC-ICR	TOC (Dupl)	1.93	mg/L	SM 5310 C	1	0.50	3/25/98		3/27/98	7-0-223
			1.96	mg/L	3.6 % RPD						

Sample ID: Post 1 Micron Filter		S&H ID: 9803-326		Date Sampled: 3/27/98 12:10:00 PM						
#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR TOC	1.92	mg/L	SM 5310 C	1	0.50	3/27/98		3/27/98	7-0-223
10	TOC-ICR TOC (Dupl)	1.89	mg/L	SM 5310 C	1	0.50	3/27/98		3/27/98	7-0-223
		1.90	mg/L	1.6 % RPD						

Sample ID: Pre 1 Micron Filter			S&H ID: 9803-327		Date Sampled: 3/27/98 1:50:00 PM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	TOC-ICR	TOC	2.00	mg/L	SM 5310 C	1	0.50	3/27/98		3/27/98	7-0-223
12	TOC-ICR	TOC (Dupl)	2.03	mg/L	SM 5310 C	1	0.50	3/27/98		3/27/98	7-0-223
			2.01	mg/L	1.5 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

Sample ID: 105.INF.A-1

S&H ID: 9803-359

Date Sampled: 3/31/98 2:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
13	ALK	Alkalinity	69	mg/L	SM 2320 B	1	5	3/31/98		4/1/98	1-0-17
14	ALK	Alkalinity (Dupl)	74	mg/L	SM 2320 B	1	5	3/31/98		4/1/98	1-0-17
			72	mg/L	6.9 % RPD						
15	NH3	Ammonia Nitrogen	0.31	mg/L	EPA 350.1	1	0.05	3/31/98		4/14/98	MW75858
16	BR	Bromide	0.068	mg/L	EPA 300.0 A	1	0.020	3/31/98		4/8/98	MW75802
17	CaHardM	Calcium Hardness	30	mg/L CaCO3	EPA 200.7	1	5	3/31/98		4/10/98	MW n/a
18	CaMW	Calcium, Total, ICAP	12	mg/L	EPA 200.7	1	1	3/31/98	4/8/98	4/8/98	MW75683
19	MgMW	Magnesium, Total, ICAP	22	mg/L	EPA 200.7	1	0	3/31/98	4/8/98	4/8/98	MW75685
20	TotHard	Total Hardness as CaCO3 by ICP	120	mg/L CaCO3	SM 2340B	1	5	3/31/98		4/10/98	MW n/a

Sample ID: 105.INF.B-1

S&H ID: 9803-360

Date Sampled: 3/31/98 2:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
21	Cl2Dose	Chlorine Dose	4.80	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
22	Cl2Res	Chlorine Residual	0.76	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
23	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
24	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
25	HAA-ICR	Bromochloroacetic acid	3.7	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
26	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
27	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
28	HAA-ICR	Dibromoacetic acid	2.8	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
29	HAA-ICR	Dichloroacetic acid	5.7	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
30	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
31	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
32	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
33	HAA-ICR	Trichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
34	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
35	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
36	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	3/31/98		3/31/98	n/a
37	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
38	TEMP	Temperature	19.9	°C	SM 2550 B	1	n/a	3/31/98		3/31/98	n/a
39	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
40	TOC-ICR	TOC	1.97	mg/L	SM 5310 C	1	0.50	3/31/98		3/31/98	7-0-225
41	TOC-ICR	TOC (Dupl)	1.94	mg/L	SM 5310 C	1	0.50	3/31/98		3/31/98	7-0-225

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		1.96 mg/L	1.5 % RPD						
42	THM-ICR 1,2,3-Trichloropropane (Surrogate)	96.0 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
43	THM-ICR Bromodichloromethane	17.7 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
44	THM-ICR Bromoform	5.3 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
45	THM-ICR Chloroform	18.2 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
46	THM-ICR Dibromochloromethane	14.8 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
47	TURB Turbidity	0.15 ntu	SM 2130 B	1	0.05	3/31/98		3/31/98	9-0-9
48	UV-ICR UV	0.039 1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
49	UV-ICR UV (Dupl)	0.039 1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
		0.039 1/cm	0.0 % RPD						

Sample ID: 105.10.Eff-1

S&H ID: 9803-361

Date Sampled: 3/31/98 3:59:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
50	Cl2Dose Chlorine Dose	3.50 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
51	Cl2Res Chlorine Residual	0.73 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
52	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	100.4 %	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
53	HAA-ICR 2-Bromopropionic acid (Surrogate)	102.8 %	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
54	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
55	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
56	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
57	HAA-ICR Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
58	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
59	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
60	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
61	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
62	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
63	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
64	pH Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
65	pH pH	8.1 Unit	SM 4500-H+ B	1	n/a	3/31/98		3/31/98	n/a
66	TEMP Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
67	TEMP Temperature	22.9 °C	SM 2550 B	1	n/a	3/31/98		3/31/98	n/a
68	TIME Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
69	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	3/31/98		4/1/98	7-0-226
70	TOC-ICR TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	3/31/98		4/1/98	7-0-226
		ND mg/L							
71	THM-ICR 1,2,3-Trichloropropane (Surrogate)	95.2 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

72	THM-ICR Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
73	THM-ICR Bromoform	1.0 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
74	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
75	THM-ICR Dibromochloromethane	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
76	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
77	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
		ND 1/cm							

Sample ID: 105.20.Eff-1

S&H ID: 9803-362

Date Sampled: 3/31/98 3:49:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
78	Cl2Dose Chlorine Dose	3.50 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
79	Cl2Res Chlorine Residual	0.82 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
80	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	100.8 %	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
81	HAA-ICR 2-Bromopropionic acid (Surrogate)	103.2 %	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
82	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
83	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
84	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
85	HAA-ICR Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
86	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
87	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
88	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
89	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
90	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
91	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
92	pH Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
93	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	3/31/98		3/31/98	n/a
94	TEMP Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
95	TEMP Temperature	22.7 °C	SM 2550 B	1	n/a	3/31/98		3/31/98	n/a
96	TIME Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
97	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	3/31/98		4/1/98	7-0-226
98	TOC-ICR TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	3/31/98		4/1/98	7-0-226
		ND mg/L							
99	THM-ICR 1,2,3-Trichloropropane (Surrogate)	95.6 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
100	THM-ICR Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
101	THM-ICR Bromoform	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
102	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
103	THM-ICR Dibromochloromethane	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

104	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
105	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/31/98		4/1/98	8-0-154
			ND	1/cm							
<hr/>											
Sample ID: 105.10.Eff-4			S&H ID: 9804-11		Date Sampled: 4/1/98 11:06:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
106	Cl2Dose	Chlorine Dose	3.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
107	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
108	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
109	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
110	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
111	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
112	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
113	HAA-ICR	Dibromoacetic acid	1.0	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
114	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
115	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
116	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
117	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
118	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
119	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
120	pH	Cl2 pH - Initial	9.0	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
121	pH	pH	8.6	Unit	SM 4500-H+ B	1	n/a	4/1/98		4/1/98	n/a
122	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
123	TEMP	Temperature	22.7	°C	SM 2550 B	1	n/a	4/1/98		4/1/98	n/a
124	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
125	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	4/1/98		4/1/98	7-0-226
126	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	4/1/98		4/1/98	7-0-226
			ND	mg/L							
127	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
128	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			ND	µg Cl-/L							
129	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
130	THM-ICR	Bromodichloromethane	1.3	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
131	THM-ICR	Bromoform	3.1	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
132	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
133	THM-ICR	Dibromochloromethane	2.3	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
134	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
135	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

ND 1/cm

Sample ID: 105.10.Eff-5

S&H ID: 9804-19

Date Sampled: 4/1/98 3:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
136	Cl2Dose	Chlorine Dose	3.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
137	Cl2Res	Chlorine Residual	0.89	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
138	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
139	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
140	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
141	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
142	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
143	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
144	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
145	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
146	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
147	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
148	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
149	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
150	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
151	pH	pH	8.6	Unit	SM 4500-H+ B	1	n/a	4/1/98		4/1/98	n/a
152	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
153	TEMP	Temperature	22.6	°C	SM 2550 B	1	n/a	4/1/98		4/1/98	n/a
154	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
155	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
156	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
			ND	mg/L							
157	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
158	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			ND	µg Cl-/L							
159	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
160	THM-ICR	Bromodichloromethane	1.7	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
161	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
162	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
163	THM-ICR	Dibromochloromethane	2.9	µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
164	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
165	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
			ND	1/cm							

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

Sample ID: 105.10.Eff-5d

S&H ID: 9804-20

Date Sampled: 4/1/98 3:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
166	Cl2Dose	Chlorine Dose	3.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
167	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
168	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.8	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
169	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	104.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			103.6	%	1.5 % RPD						
170	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
171	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	98.8	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			100.4	%	3.2 % RPD						
172	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
173	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
174	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
175	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
176	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
177	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
178	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
179	HAA-ICR	Dibromoacetic acid (Lab Dupl)	1.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			1.3	µg/L	0.0 % RPD						
180	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
181	HAA-ICR	Dichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
182	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
183	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
184	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
185	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
186	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
187	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND	µg/L							
188	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

189	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/13/98	0-110-0
			ND µg/L							
190	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
191	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
192	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	4/1/98		4/1/98	n/a
193	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
194	TEMP	Temperature	22.8 °C	SM 2550 B	1	n/a	4/1/98		4/1/98	n/a
195	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
196	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
197	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
			ND mg/L							
198	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
199	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			ND µg Cl-/L							
200	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
201	THM-ICR	Bromodichloromethane	1.7 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
202	THM-ICR	Bromoform	3.8 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
203	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
204	THM-ICR	Dibromochloromethane	3.0 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
205	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
206	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
			ND 1/cm							

Sample ID: 105.10.Eff-7

S&H ID: 9804-22

Date Sampled: 4/1/98 11:06:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
207	Cl2Dose	Chlorine Dose	4.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
208	Cl2Res	Chlorine Residual	1.12	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
209	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.8	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
210	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
211	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
212	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
213	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0
214	HAA-ICR	Dibromoacetic acid	1.8	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
215	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
216	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
217	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0
218	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

219	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
220	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
221	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
222	pH	pH	8.7 Unit	SM 4500-H+ B	1	n/a	4/1/98		4/1/98	n/a
223	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
224	TEMP	Temperature	22.2 °C	SM 2550 B	1	n/a	4/1/98		4/1/98	n/a
225	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
226	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
227	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/1/98		4/2/98	7-0-227
			ND mg/L							
228	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
229	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			ND µg Cl-/L							
230	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
231	THM-ICR	Bromodichloromethane	2.8 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
232	THM-ICR	Bromoform	4.8 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
233	THM-ICR	Chloroform	1.5 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
234	THM-ICR	Dibromochloromethane	4.5 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
235	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
236	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/1/98		4/3/98	8-0-156
			ND 1/cm							

Sample ID: 105.INF.B-2

S&H ID: 9804-28

Date Sampled: 4/2/98 9:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
237	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	4/2/98		4/2/98	n/a
238	TEMP	Temperature	16.3	°C	SM 2550 B	1	n/a	4/2/98		4/2/98	n/a
239	TOC-ICR	TOC	1.85	mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
240	TOC-ICR	TOC (Dupl)	1.92	mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
			1.89	mg/L	3.7 % RPD						

Sample ID: 105.10.Eff-10

S&H ID: 9804-34

Date Sampled: 4/2/98 11:17:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
241	Cl2Dose	Chlorine Dose	4.15	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
242	Cl2Res	Chlorine Residual	1.11	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
243	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.4	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
244	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
245	HAA-ICR	Bromochloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

246	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
247	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0
248	HAA-ICR	Dibromoacetic acid	2.3 µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
249	HAA-ICR	Dichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
250	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
251	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0
252	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/14/98	0-110-0
253	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
254	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
255	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
256	pH	pH	8.4 Unit	SM 4500-H+ B	1	n/a	4/2/98		4/2/98	n/a
257	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
258	TEMP	Temperature	20.9 °C	SM 2550 B	1	n/a	4/2/98		4/2/98	n/a
259	TIME	Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
260	TOC-ICR	TOC	0.62 mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
261	TOC-ICR	TOC (Dupl)	0.62 mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
			0.62 mg/L	0.0 % RPD						
262	TOX-ICR	TOX	32 µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
263	TOX-ICR	TOX (Dupl)	34 µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			33 µg Cl-/L	6.1 % RPD						
264	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
265	THM-ICR	Bromodichloromethane	4.0 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
266	THM-ICR	Bromoform	5.9 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
267	THM-ICR	Chloroform	2.3 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
268	THM-ICR	Dibromochloromethane	6.3 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
269	UV-ICR	UV	0.010 1/cm	SM 5910 B	1	0.009	4/2/98		4/3/98	8-0-156
270	UV-ICR	UV (Dupl)	0.010 1/cm	SM 5910 B	1	0.009	4/2/98		4/3/98	8-0-156
			0.010 1/cm	0.0 % RPD						

Sample ID: 105.10.Eff-11

S&H ID: 9804-35

Date Sampled: 4/2/98 4:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
271	Cl2Dose	Chlorine Dose	4.25	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/3/98		4/3/98	n/a
272	Cl2Res	Chlorine Residual	1.12	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/3/98		4/4/98	n/a
273	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.6	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
274	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
275	HAA-ICR	Bromochloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
276	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
277	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

278	HAA-ICR	Dibromoacetic acid	2.2 µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
279	HAA-ICR	Dichloroacetic acid	1.3 µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
280	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
281	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/4/98	4/13/98	4/14/98	0-110-0
282	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/4/98	4/13/98	4/14/98	0-110-0
283	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/4/98	4/13/98	4/14/98	0-110-0
284	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/4/98	n/a
285	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
286	pH	pH	8.4 Unit	SM 4500-H+ B	1	n/a	4/2/98		4/2/98	n/a
287	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/3/98		4/4/98	n/a
288	TEMP	Temperature	22.7 °C	SM 2550 B	1	n/a	4/2/98		4/2/98	n/a
289	TIME	Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/3/98		4/4/98	n/a
290	TOC-ICR	TOC	0.74 mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
291	TOC-ICR	TOC (Dupl)	0.71 mg/L	SM 5310 C	1	0.50	4/2/98		4/2/98	7-0-227
			0.72 mg/L	4.2 % RPD						
292	TOX-ICR	TOX	38 µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
293	TOX-ICR	TOX (Dupl)	39 µg Cl-/L	SM 5320 B	1	25	4/4/98		4/8/98	12-0-113
			39 µg Cl-/L	2.6 % RPD						
294	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2 %	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
295	THM-ICR	Bromodichloromethane	4.9 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
296	THM-ICR	Bromoform	6.3 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
297	THM-ICR	Chloroform	3.0 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
298	THM-ICR	Dibromochloromethane	7.4 µg/L	EPA 551.1	1	1.0	4/4/98	4/9/98	4/9/98	0-104-0
299	UV-ICR	UV	0.012 1/cm	SM 5910 B	1	0.009	4/2/98		4/3/98	8-0-156
300	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	4/2/98		4/3/98	8-0-156
			0.012 1/cm	0.0 % RPD						

Sample ID: 105.10.Eff-13**S&H ID:** 9804-39**Date Sampled:** 4/3/98 1:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
301	Cl2Dose	Chlorine Dose	3.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
302	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
303	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
304	HAA-ICR	2-Bromopropionic acid (Surrogate)	105.2	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
305	HAA-ICR	Bromochloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
306	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
307	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
308	HAA-ICR	Dibromoacetic acid	2.5	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
309	HAA-ICR	Dichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

310	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
311	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
312	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
313	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
314	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
315	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
316	pH	pH	8.5 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
317	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
318	TEMP	Temperature	22.2 °C	SM 2550 B	1	n/a	4/3/98		4/3/98	n/a
319	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	4/6/98		4/7/98	n/a
320	TOC-ICR	TOC	0.81 mg/L	SM 5310 C	1	0.50	4/3/98		4/3/98	7-0-228
321	TOC-ICR	TOC (Dupl)	0.82 mg/L	SM 5310 C	1	0.50	4/3/98		4/3/98	7-0-228
			0.81 mg/L	1.2 % RPD						
322	TOX-ICR	TOX	52 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
323	TOX-ICR	TOX (Dupl)	46 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
			49 µg Cl-/L	12.2 % RPD						
324	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
325	THM-ICR	Bromodichloromethane	5.7 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
326	THM-ICR	Bromoform	7.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
327	THM-ICR	Chloroform	3.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
328	THM-ICR	Dibromochloromethane	8.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
329	UV-ICR	UV	0.012 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
330	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
			0.012 1/cm	0.0 % RPD						

Sample ID: 105.10.Eff-13d

S&H ID: 9804-40

Date Sampled: 4/3/98 1:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
331	Cl2Dose	Chlorine Dose	3.97	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
332	Cl2Res	Chlorine Residual	0.89	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
333	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
334	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
335	HAA-ICR	Bromochloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
336	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
337	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
338	HAA-ICR	Dibromoacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
339	HAA-ICR	Dichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
340	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
341	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

342	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
343	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
344	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
345	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
346	pH	pH	8.7 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
347	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
348	TEMP	Temperature	22.2 °C	SM 2550 B	1	n/a	4/3/98		4/3/98	n/a
349	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/6/98		4/7/98	n/a
350	TOC-ICR	TOC	0.79 mg/L	SM 5310 C	1	0.50	4/3/98		4/3/98	7-0-228
351	TOC-ICR	TOC (Dupl)	0.81 mg/L	SM 5310 C	1	0.50	4/3/98		4/3/98	7-0-228
			0.80 mg/L	2.5 % RPD						
352	TOX-ICR	TOX	45 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
353	TOX-ICR	TOX (Dupl)	41 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
			43 µg Cl-/L	9.3 % RPD						
354	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
355	THM-ICR	Bromodichloromethane	5.7 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
356	THM-ICR	Bromoform	7.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
357	THM-ICR	Chloroform	3.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
358	THM-ICR	Dibromochloromethane	8.3 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
359	UV-ICR	UV	0.012 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
360	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
			0.012 1/cm	0.0 % RPD						

Sample ID: 105.20.Eff-6

S&H ID: 9804-43

Date Sampled: 4/2/98 8:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
361	Cl2Dose	Chlorine Dose	3.61	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
362	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
363	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
364	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
365	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
366	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
367	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
368	HAA-ICR	Dibromoacetic acid	1.0	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
369	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
370	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
371	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
372	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
373	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

374	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/6/98	4/7/98	n/a
375	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98	4/6/98	n/a
376	pH	pH	8.7 Unit	SM 4500-H+ B	1	n/a	4/2/98	4/2/98	n/a
377	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98	4/7/98	n/a
378	TEMP	Temperature	22.7 °C	SM 2550 B	1	n/a	4/2/98	4/2/98	n/a
379	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
380	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/2/98	4/3/98	7-0-228
381	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/2/98	4/3/98	7-0-228
			ND mg/L						
382	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
383	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
			ND µg Cl-/L						
384	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
385	THM-ICR	Bromodichloromethane	1.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
386	THM-ICR	Bromoform	3.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
387	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
388	THM-ICR	Dibromochloromethane	2.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
389	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/2/98	4/4/98	8-0-157
390	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/2/98	4/4/98	8-0-157
			ND 1/cm						

Sample ID: 105.20.Eff-10

S&H ID: 9804-58

Date Sampled: 4/3/98 3:13:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
391	Cl2Dose	Chlorine Dose	3.68	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
392	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
393	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.2	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
394	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
395	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
396	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
397	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
398	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
399	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
400	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
401	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
402	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
403	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
404	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
405	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

406	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	4/3/98	4/3/98	n/a
407	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/6/98	4/7/98	n/a
408	TEMP	Temperature	21.5	°C	SM 2550 B	1	n/a	4/3/98	4/3/98	n/a
409	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
410	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	4/3/98	4/3/98	7-0-228
411	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	4/3/98	4/3/98	7-0-228
			ND	mg/L						
412	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
413	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
			ND	µg Cl-/L						
414	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
415	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	102.0	%	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
			101.4	%	1.2 % RPD					
416	THM-ICR	Bromodichloromethane	2.1	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
417	THM-ICR	Bromodichloromethane (Lab Dupl)	2.0	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
			2.0	µg/L	5.0 % RPD					
418	THM-ICR	Bromoform	4.5	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
419	THM-ICR	Bromoform (Lab Dupl)	4.7	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
			4.6	µg/L	4.3 % RPD					
420	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
421	THM-ICR	Chloroform (Lab Dupl)	ND	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
			ND	µg/L						
422	THM-ICR	Dibromochloromethane	3.6	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
423	THM-ICR	Dibromochloromethane (Lab Dupl)	3.7	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
			3.7	µg/L	2.7 % RPD					
424	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	4/3/98	4/4/98	8-0-157
425	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	4/3/98	4/4/98	8-0-157
			ND	1/cm						

Sample ID: 105.10.Eff-17**S&H ID:** 9804-67**Date Sampled:** 4/4/98 1:13:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
426	Cl2Dose	Chlorine Dose	4.09	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
427	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
428	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
429	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
430	HAA-ICR	Bromochloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
431	HAA-ICR	Bromodichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
432	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

433	HAA-ICR	Dibromoacetic acid	3.0 µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
434	HAA-ICR	Dichloroacetic acid	2.0 µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
435	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
436	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
437	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
438	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
439	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
440	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
441	pH	pH	8.5 Unit	SM 4500-H+ B	1	n/a	4/3/98		4/3/98	n/a
442	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
443	TEMP	Temperature	20.8 °C	SM 2550 B	1	n/a	4/3/98		4/3/98	n/a
444	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/6/98		4/7/98	n/a
445	TOC-ICR	TOC	0.96 mg/L	SM 5310 C	1	0.50	4/3/98		4/4/98	7-0-229
446	TOC-ICR	TOC (Dupl)	0.97 mg/L	SM 5310 C	1	0.50	4/3/98		4/4/98	7-0-229
			0.96 mg/L	1.0 % RPD						
447	TOX-ICR	TOX	57 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
448	TOX-ICR	TOX (Dupl)	55 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
			56 µg Cl-/L	3.6 % RPD						
449	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
450	THM-ICR	Bromodichloromethane	7.8 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
451	THM-ICR	Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
452	THM-ICR	Chloroform	5.1 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
453	THM-ICR	Dibromochloromethane	10.7 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
454	UV-ICR	UV	0.015 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
455	UV-ICR	UV (Dupl)	0.015 1/cm	SM 5910 B	1	0.009	4/3/98		4/4/98	8-0-157
			0.015 1/cm	0.0 % RPD						

Sample ID: 105.10.Eff-19**S&H ID:** 9804-70**Date Sampled:** 4/4/98 10:47:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
456	Cl2Dose	Chlorine Dose	4.14	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
457	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
458	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
459	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
460	HAA-ICR	Bromochloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
461	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
462	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
463	HAA-ICR	Dibromoacetic acid	2.7	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
464	HAA-ICR	Dichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

465	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
466	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
467	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
468	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
469	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
470	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
471	pH	pH	8.5 Unit	SM 4500-H+ B	1	n/a	4/4/98		4/4/98	n/a
472	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
473	TEMP	Temperature	21.3 °C	SM 2550 B	1	n/a	4/4/98		4/4/98	n/a
474	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/6/98		4/7/98	n/a
475	TOC-ICR	TOC	1.04 mg/L	SM 5310 C	1	0.50	4/4/98		4/4/98	7-0-229
476	TOC-ICR	TOC (Dupl)	1.04 mg/L	SM 5310 C	1	0.50	4/4/98		4/4/98	7-0-229
			1.04 mg/L	0.0 % RPD						
477	TOX-ICR	TOX	63 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
478	TOX-ICR	TOX (Dupl)	61 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/9/98	12-0-114
			62 µg Cl-/L	3.2 % RPD						
479	THM-ICR	1,2,3-Trichloropropane (Surrogate)	85.6 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
480	THM-ICR	Bromodichloromethane	8.9 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
481	THM-ICR	Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
482	THM-ICR	Chloroform	6.0 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
483	THM-ICR	Dibromochloromethane	11.8 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
484	UV-ICR	UV	0.018 1/cm	SM 5910 B	1	0.009	4/4/98		4/6/98	8-0-158
485	UV-ICR	UV (Dupl)	0.018 1/cm	SM 5910 B	1	0.009	4/4/98		4/6/98	8-0-158
			0.018 1/cm	0.0 % RPD						

Sample ID: 105.20.Eff-11

S&H ID: 9804-71

Date Sampled: 4/4/98 10:34:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
486	Cl2Dose	Chlorine Dose	3.77	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
487	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
488	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.4	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
489	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
490	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
491	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
492	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
493	HAA-ICR	Dibromoacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
494	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
495	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
496	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

497	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
498	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
499	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
500	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
501	pH	pH	8.9 Unit	SM 4500-H+ B	1	n/a	4/4/98		4/4/98	n/a
502	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
503	TEMP	Temperature	20.3 °C	SM 2550 B	1	n/a	4/4/98		4/4/98	n/a
504	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/6/98		4/7/98	n/a
505	TOC-ICR	TOC	0.51 mg/L	SM 5310 C	1	0.50	4/4/98		4/4/98	7-0-229
506	TOC-ICR	TOC (Dupl)	0.50 mg/L	SM 5310 C	1	0.50	4/4/98		4/4/98	7-0-229
			0.51 mg/L	2.0 % RPD						
507	TOX-ICR	TOX	25 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/10/98	12-0-115
508	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/7/98		4/10/98	12-0-115
			ND µg Cl-/L							
509	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
510	THM-ICR	Bromodichloromethane	2.9 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
511	THM-ICR	Bromoform	5.8 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
512	THM-ICR	Chloroform	1.5 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
513	THM-ICR	Dibromochloromethane	5.2 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
514	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/4/98		4/6/98	8-0-158
515	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/4/98		4/6/98	8-0-158
			ND 1/cm							

Sample ID: 105.20.Eff-11d

S&H ID: 9804-72

Date Sampled: 4/4/98 10:34:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
516	Cl2Dose	Chlorine Dose	3.80	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
517	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
518	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
519	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
520	HAA-ICR	Bromochloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
521	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
522	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
523	HAA-ICR	Dibromoacetic acid	1.9	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
524	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
525	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
526	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
527	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
528	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

529	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/6/98	4/7/98	n/a
530	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98	4/6/98	n/a
531	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	4/4/98	4/4/98	n/a
532	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/6/98	4/7/98	n/a
533	TEMP	Temperature	21.2	°C	SM 2550 B	1	n/a	4/4/98	4/4/98	n/a
534	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
535	TOC-ICR	TOC	0.53	mg/L	SM 5310 C	1	0.50	4/4/98	4/4/98	7-0-229
536	TOC-ICR	TOC (Dupl)	0.57	mg/L	SM 5310 C	1	0.50	4/4/98	4/4/98	7-0-229
			0.55	mg/L	7.3 % RPD					
537	TOX-ICR	TOX	28	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
538	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
			26	µg Cl-/L						
539	THM-ICR	1,2,3-Trichloropropane (Surrogate)	82.4	%	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
540	THM-ICR	Bromodichloromethane	3.3	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
541	THM-ICR	Bromoform	6.2	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
542	THM-ICR	Chloroform	1.5	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
543	THM-ICR	Dibromochloromethane	5.8	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
544	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	4/4/98	4/6/98	8-0-158
545	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	4/4/98	4/6/98	8-0-158
			0.009	1/cm	0.0 % RPD					

Sample ID: 105.20.Eff-12

S&H ID: 9804-81

Date Sampled: 4/5/98 12:29:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
546	Cl2Dose	Chlorine Dose	3.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
547	Cl2Res	Chlorine Residual	0.92	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
548	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
549	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
550	HAA-ICR	Bromochloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
551	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
552	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
553	HAA-ICR	Dibromoacetic acid	2.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
554	HAA-ICR	Dichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
555	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
556	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
557	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
558	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
559	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
560	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

561	pH	pH	8.4	Unit	SM 4500-H+ B	1	n/a	4/5/98	4/5/98	n/a
562	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/6/98	4/7/98	n/a
563	TEMP	Temperature	20.9	°C	SM 2550 B	1	n/a	4/5/98	4/5/98	n/a
564	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
565	TOC-ICR	TOC	0.61	mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
566	TOC-ICR	TOC (Dupl)	0.63	mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
			0.62	mg/L	3.2 % RPD					
567	TOX-ICR	TOX	32	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
568	TOX-ICR	TOX (Dupl)	32	µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
			32	µg Cl-/L	0.0 % RPD					
569	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.2	%	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
570	THM-ICR	Bromodichloromethane	4.3	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
571	THM-ICR	Bromoform	7.2	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
572	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
573	THM-ICR	Dibromochloromethane	7.2	µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
574	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
575	UV-ICR	UV (Dupl)	0.011	1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
			0.010	1/cm	10.0 % RPD					

Sample ID: 105.20.Eff-14

S&H ID: 9804-84

Date Sampled: 4/5/98 9:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
576	Cl2Dose	Chlorine Dose	3.91	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
577	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
578	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
579	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
580	HAA-ICR	Bromochloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
581	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
582	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
583	HAA-ICR	Dibromoacetic acid	2.2	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
584	HAA-ICR	Dichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
585	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
586	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
587	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
588	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
589	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
590	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
591	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	4/5/98		4/5/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

592	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/6/98	4/7/98	n/a
593	TEMP	Temperature	21.1 °C	SM 2550 B	1	n/a	4/5/98	4/5/98	n/a
594	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
595	TOC-ICR	TOC	0.72 mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
596	TOC-ICR	TOC (Dupl)	0.70 mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
			0.71 mg/L	2.8 % RPD					
597	TOX-ICR	TOX	34 µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
598	TOX-ICR	TOX (Dupl)	33 µg Cl-/L	SM 5320 B	1	25	4/7/98	4/10/98	12-0-115
			34 µg Cl-/L	2.9 % RPD					
599	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
600	THM-ICR	Bromodichloromethane	4.8 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
601	THM-ICR	Bromoform	7.6 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
602	THM-ICR	Chloroform	2.6 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
603	THM-ICR	Dibromochloromethane	7.8 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
604	UV-ICR	UV	0.011 1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
605	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
			0.012 1/cm	8.3 % RPD					

Sample ID: 105.10.Eff-24

S&H ID: 9804-88

Date Sampled: 4/5/98 10:21:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
606	Cl2Dose	Chlorine Dose	4.23	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
607	Cl2Res	Chlorine Residual	0.93	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
608	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
609	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
610	HAA-ICR	Bromochloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
611	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
612	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
613	HAA-ICR	Dibromoacetic acid	3.4	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
614	HAA-ICR	Dichloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
615	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
616	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
617	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
618	HAA-ICR	Trichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
619	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
620	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
621	pH	pH	9.5	Unit	SM 4500-H+ B	1	n/a	4/5/98		4/5/98	n/a
622	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
623	TEMP	Temperature	21.0	°C	SM 2550 B	1	n/a	4/5/98		4/5/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

624	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/6/98	4/7/98	n/a
625	TOC-ICR	TOC	1.16 mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
626	TOC-ICR	TOC (Dupl)	1.16 mg/L	SM 5310 C	1	0.50	4/5/98	4/5/98	7-0-230
			1.16 mg/L	0.0 % RPD					
627	TOX-ICR	TOX	65 µg Cl-/L	SM 5320 B	1	25	4/7/98	4/9/98	12-0-114
628	TOX-ICR	TOX (Dupl)	70 µg Cl-/L	SM 5320 B	1	25	4/7/98	4/9/98	12-0-114
			68 µg Cl-/L	7.4 % RPD					
629	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
630	THM-ICR	Bromodichloromethane	11.0 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
631	THM-ICR	Bromoform	8.9 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
632	THM-ICR	Chloroform	7.6 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
633	THM-ICR	Dibromochloromethane	13.6 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98 0-104-0
634	UV-ICR	UV	0.021 1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
635	UV-ICR	UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/5/98	4/6/98	8-0-158
			0.021 1/cm	4.8 % RPD					

Sample ID: 105.10.Eff-24d**S&H ID:** 9804-89**Date Sampled:** 4/5/98 10:21:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
636	Cl2Dose	Chlorine Dose	4.21	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/6/98		4/6/98	n/a
637	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/6/98		4/7/98	n/a
638	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.0	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
639	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
640	HAA-ICR	Bromochloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
641	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
642	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
643	HAA-ICR	Dibromoacetic acid	3.2	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
644	HAA-ICR	Dichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
645	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
646	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/7/98	4/13/98	4/14/98	0-110-0
647	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/7/98	4/13/98	4/14/98	0-110-0
648	HAA-ICR	Trichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/7/98	4/13/98	4/14/98	0-110-0
649	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/7/98	n/a
650	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
651	pH	pH	9.5	Unit	SM 4500-H+ B	1	n/a	4/5/98		4/5/98	n/a
652	TEMP	Cl2 Temperature	8.7	°C	SM 2550 B	1	n/a	4/6/98		4/7/98	n/a
653	TEMP	Temperature	21.1	°C	SM 2550 B	1	n/a	4/5/98		4/5/98	n/a
654	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	4/6/98		4/7/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

655	TOC-ICR TOC	1.14 mg/L	SM 5310 C	1	0.50	4/5/98		4/5/98	7-0-230
656	TOC-ICR TOC (Dupl)	1.14 mg/L	SM 5310 C	1	0.50	4/5/98		4/5/98	7-0-230
		1.14 mg/L	0.0 % RPD						
657	TOX-ICR TOX	67 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/10/98	12-0-115
658	TOX-ICR TOX (Dupl)	70 µg Cl-/L	SM 5320 B	1	25	4/7/98		4/10/98	12-0-115
		69 µg Cl-/L	4.3 % RPD						
659	THM-ICR 1,2,3-Trichloropropane (Surrogate)	94.4 %	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
660	THM-ICR Bromodichloromethane	10.3 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
661	THM-ICR Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
662	THM-ICR Chloroform	7.2 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
663	THM-ICR Dibromochloromethane	12.9 µg/L	EPA 551.1	1	1.0	4/7/98	4/9/98	4/9/98	0-104-0
664	UV-ICR UV	0.020 1/cm	SM 5910 B	1	0.009	4/5/98		4/6/98	8-0-158
665	UV-ICR UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/5/98		4/6/98	8-0-158
		0.020 1/cm	0.0 % RPD						

Sample ID: 105.INF.B-3

S&H ID: 9804-90

Date Sampled: 4/5/98 5:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
666	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	4/5/98		4/5/98	n/a
667	TEMP	Temperature	16.7	°C	SM 2550 B	1	n/a	4/5/98		4/5/98	n/a
668	TOC-ICR TOC		1.89	mg/L	SM 5310 C	1	0.50	4/5/98		4/7/98	7-0-231
669	TOC-ICR TOC (Dupl)		1.88	mg/L	SM 5310 C	1	0.50	4/5/98		4/7/98	7-0-231
			1.88 mg/L		0.5 % RPD						

Sample ID: 105.10.Eff-29

S&H ID: 9804-108

Date Sampled: 4/6/98 11:59:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
670	Cl2Dose	Chlorine Dose	4.18	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/7/98		4/7/98	n/a
671	Cl2Res	Chlorine Residual	0.64	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/7/98		4/8/98	n/a
672	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)		102.0	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
673	HAA-ICR 2-Bromopropionic acid (Surrogate)		99.6	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
674	HAA-ICR Bromochloroacetic acid		2.7	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
675	HAA-ICR Bromodichloroacetic acid		1.4	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
676	HAA-ICR Chlorodibromoacetic acid		ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
677	HAA-ICR Dibromoacetic acid		3.1	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
678	HAA-ICR Dichloroacetic acid		2.8	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
679	HAA-ICR Monobromoacetic acid		ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
680	HAA-ICR Monochloroacetic acid		ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
681	HAA-ICR Tribromoacetic acid		ND	µg/L	EPA 552.2	1	4.0	4/8/98	4/13/98	4/14/98	0-110-0
682	HAA-ICR Trichloroacetic acid		1.1	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

683	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/7/98	4/8/98	n/a
684	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/7/98	4/7/98	n/a
685	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	4/6/98	4/6/98	n/a
686	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/7/98	4/8/98	n/a
687	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	4/6/98	4/6/98	n/a
688	TIME	Cl2 Incubation Time	24.3 hrs	n/a	1	n/a	4/7/98	4/8/98	n/a
689	TOC-ICR	TOC	1.26 mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
690	TOC-ICR	TOC (Dupl)	1.29 mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
			1.27 mg/L	2.4 % RPD					
691	TOX-ICR	TOX	85 µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
692	TOX-ICR	TOX (Dupl)	78 µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
			82 µg Cl-/L	8.5 % RPD					
693	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	4/8/98	4/9/98	4/9/98 0-104-0
694	THM-ICR	Bromodichloromethane	12.0 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/9/98 0-104-0
695	THM-ICR	Bromoform	8.6 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/9/98 0-104-0
696	THM-ICR	Chloroform	8.3 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/9/98 0-104-0
697	THM-ICR	Dibromochloromethane	14.6 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/9/98 0-104-0
698	UV-ICR	UV	0.023 1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
699	UV-ICR	UV (Dupl)	0.023 1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
			0.023 1/cm	0.0 % RPD					

Sample ID: 105.20.Eff-22**S&H ID:** 9804-111**Date Sampled:** 4/6/98 11:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
700	Cl2Dose	Chlorine Dose	3.93	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/7/98		4/7/98	n/a
701	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/7/98		4/8/98	n/a
702	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
703	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
704	HAA-ICR	Bromochloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
705	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
706	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
707	HAA-ICR	Dibromoacetic acid	2.6	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
708	HAA-ICR	Dichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
709	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
710	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
711	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/8/98	4/13/98	4/14/98	0-110-0
712	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
713	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/7/98		4/8/98	n/a
714	pH	Cl2 pH - Initial	9.0	Unit	SM 4500-H+ B	1	n/a	4/7/98		4/7/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

715	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	4/6/98	4/6/98	n/a
716	TEMP	Cl2 Temperature	8.6	°C	SM 2550 B	1	n/a	4/7/98	4/8/98	n/a
717	TEMP	Temperature	22.3	°C	SM 2550 B	1	n/a	4/6/98	4/6/98	n/a
718	TIME	Cl2 Incubation Time	24.3	hrs	n/a	1	n/a	4/7/98	4/8/98	n/a
719	TOC-ICR	TOC	0.84	mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
720	TOC-ICR	TOC (Dupl)	0.86	mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
			0.85	mg/L	2.4 % RPD					
721	TOX-ICR	TOX	46	µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
722	TOX-ICR	TOX (Dupl)	54	µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
			50	µg Cl-/L	16.0 % RPD					
723	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
724	THM-ICR	Bromodichloromethane	6.6	µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
725	THM-ICR	Bromoform	8.3	µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
726	THM-ICR	Chloroform	3.6	µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
727	THM-ICR	Dibromochloromethane	9.7	µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
728	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
729	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
			0.014	1/cm	0.0 % RPD					

Sample ID: 105.20.Eff-22d

S&H ID: 9804-112

Date Sampled: 4/6/98 11:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
730	Cl2Dose	Chlorine Dose	3.93	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/7/98		4/7/98	n/a
731	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/7/98		4/8/98	n/a
732	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
733	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
734	HAA-ICR	Bromochloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
735	HAA-ICR	Bromodichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
736	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
737	HAA-ICR	Dibromoacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
738	HAA-ICR	Dichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
739	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
740	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/8/98	4/13/98	4/14/98	0-110-0
741	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/8/98	4/13/98	4/14/98	0-110-0
742	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/8/98	4/13/98	4/14/98	0-110-0
743	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/7/98		4/8/98	n/a
744	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/7/98		4/7/98	n/a
745	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	4/6/98		4/6/98	n/a
746	TEMP	Cl2 Temperature	8.6	°C	SM 2550 B	1	n/a	4/7/98		4/8/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

747	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	4/6/98	4/6/98	n/a
748	TIME	Cl2 Incubation Time	24.4 hrs	n/a	1	n/a	4/7/98	4/8/98	n/a
749	TOC-ICR	TOC	0.86 mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
750	TOC-ICR	TOC (Dupl)	0.85 mg/L	SM 5310 C	1	0.50	4/6/98	4/7/98	7-0-231
			0.85 mg/L	1.2 % RPD					
751	TOX-ICR	TOX	48 µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
752	TOX-ICR	TOX (Dupl)	41 µg Cl-/L	SM 5320 B	1	25	4/8/98	4/13/98	12-0-116
			45 µg Cl-/L	15.6 % RPD					
753	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
754	THM-ICR	Bromodichloromethane	6.5 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
755	THM-ICR	Bromoform	8.0 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
756	THM-ICR	Chloroform	3.5 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
757	THM-ICR	Dibromochloromethane	9.5 µg/L	EPA 551.1	1	1.0	4/8/98	4/9/98	4/10/98 0-104-0
758	UV-ICR	UV	0.014 1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
759	UV-ICR	UV (Dupl)	0.014 1/cm	SM 5910 B	1	0.009	4/6/98	4/8/98	8-0-159
			0.014 1/cm	0.0 % RPD					

Sample ID: 105.10.Eff-31

S&H ID: 9804-123

Date Sampled: 4/7/98 11:41:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
760	Cl2Dose Chlorine Dose	4.26 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/9/98		4/9/98	n/a
761	Cl2Res Chlorine Residual	0.78 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/9/98		4/10/98	n/a
762	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	106.0 %	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
763	HAA-ICR 2-Bromopropionic acid (Surrogate)	104.4 %	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
764	HAA-ICR Bromochloroacetic acid	3.2 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
765	HAA-ICR Bromodichloroacetic acid	1.8 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
766	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
767	HAA-ICR Dibromoacetic acid	3.8 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
768	HAA-ICR Dichloroacetic acid	3.0 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
769	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
770	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
771	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/10/98	4/23/98	4/23/98	0-115-0
772	HAA-ICR Trichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
773	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/10/98	n/a
774	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
775	pH pH	9.6 Unit	SM 4500-H+ B	1	n/a	4/7/98		4/7/98	n/a
776	TEMP Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/9/98		4/10/98	n/a
777	TEMP Temperature	22.4 °C	SM 2550 B	1	n/a	4/7/98		4/7/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

778	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/9/98	4/10/98	n/a
779	TOC-ICR	TOC	1.35 mg/L	SM 5310 C	1	0.50	4/7/98	4/8/98	7-0-232
780	TOC-ICR	TOC (Dupl)	1.37 mg/L	SM 5310 C	1	0.50	4/7/98	4/8/98	7-0-232
			1.36 mg/L	1.5 % RPD					
781	TOX-ICR	TOX	82 µg Cl-/L	SM 5320 B	1	25	4/10/98	4/13/98	12-0-116
782	TOX-ICR	TOX (Dupl)	78 µg Cl-/L	SM 5320 B	1	25	4/10/98	4/13/98	12-0-116
			80 µg Cl-/L	5.0 % RPD					
783	THM-ICR	1,2,3-Trichloropropane (Surrogate)	107.2 %	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
784	THM-ICR	Bromodichloromethane	11.8 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
785	THM-ICR	Bromoform	8.2 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
786	THM-ICR	Chloroform	7.7 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
787	THM-ICR	Dibromochloromethane	15.0 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
788	UV-ICR	UV	0.024 1/cm	SM 5910 B	1	0.009	4/7/98	4/8/98	8-0-159
789	UV-ICR	UV (Dupl)	0.024 1/cm	SM 5910 B	1	0.009	4/7/98	4/8/98	8-0-159
			0.024 1/cm	0.0 % RPD					

Sample ID: 105.10.Eff-33**S&H ID:** 9804-135**Date Sampled:** 4/9/98 4:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
790	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
791	TEMP	Temperature	22.7	°C	SM 2550 B	1	n/a	4/9/98		4/9/98	n/a
792	TOC-ICR	TOC	1.38	mg/L	SM 5310 C	1	0.50	4/9/98		4/9/98	7-0-233
793	TOC-ICR	TOC (Dupl)	1.40	mg/L	SM 5310 C	1	0.50	4/9/98		4/9/98	7-0-233
			1.39 mg/L		1.4 % RPD						

Sample ID: 105.INF.B-4**S&H ID:** 9804-136**Date Sampled:** 4/9/98 9:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
794	Cl2Dose	Chlorine Dose	4.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/9/98		4/9/98	n/a
795	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/9/98		4/10/98	n/a
796	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
797	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0	%	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
798	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
799	HAA-ICR	Bromodichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
800	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
801	HAA-ICR	Dibromoacetic acid	4.2	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
802	HAA-ICR	Dichloroacetic acid	6.6	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
803	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
804	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
805	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/10/98	4/23/98	4/23/98	0-115-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

806	HAA-ICR	Trichloroacetic acid	3.0 µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
807	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/10/98	n/a
808	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
809	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
810	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/9/98		4/10/98	n/a
811	TEMP	Temperature	17.6 °C	SM 2550 B	1	n/a	4/9/98		4/9/98	n/a
812	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/9/98		4/10/98	n/a
813	TOC-ICR	TOC	1.81 mg/L	SM 5310 C	1	0.50	4/9/98		4/9/98	7-0-233
814	TOC-ICR	TOC (Dupl)	1.86 mg/L	SM 5310 C	1	0.50	4/9/98		4/9/98	7-0-233
			1.84 mg/L	2.7 % RPD						
815	TOX-ICR	TOX	132 µg Cl-/L	SM 5320 B	1	25	4/10/98		4/13/98	12-0-116
816	TOX-ICR	TOX (Dupl)	132 µg Cl-/L	SM 5320 B	1	25	4/10/98		4/13/98	12-0-116
			132 µg Cl-/L	0.0 % RPD						
817	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.4 %	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98	0-112-0
818	THM-ICR	Bromodichloromethane	17.0 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98	0-112-0
819	THM-ICR	Bromoform	5.1 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98	0-112-0
820	THM-ICR	Chloroform	16.4 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98	0-112-0
821	THM-ICR	Dibromochloromethane	15.6 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98	0-112-0
822	TURB	Turbidity	0.15 ntu	SM 2130 B	1	0.05	4/9/98		4/9/98	9-0-9
823	UV-ICR	UV	0.037 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160
824	UV-ICR	UV (Dupl)	0.037 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160
			0.037 1/cm	0.0 % RPD						

Sample ID: 105.20.Eff-28

S&H ID: 9804-138

Date Sampled: 4/8/98 10:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
825	Cl2Dose	Chlorine Dose	4.01	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/9/98		4/9/98	n/a
826	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/9/98		4/10/98	n/a
827	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
828	HAA-ICR	2-Bromopropionic acid (Surrogate)	105.2	%	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
829	HAA-ICR	Bromochloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
830	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
831	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
832	HAA-ICR	Dibromoacetic acid	3.8	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
833	HAA-ICR	Dichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
834	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0
835	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/10/98	4/23/98	4/23/98	0-115-0
836	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/10/98	4/23/98	4/23/98	0-115-0
837	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/10/98	4/23/98	4/23/98	0-115-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

838	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/9/98	4/10/98	n/a
839	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/9/98	4/9/98	n/a
840	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/8/98	4/8/98	n/a
841	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/9/98	4/10/98	n/a
842	TEMP	Temperature	22.2 °C	SM 2550 B	1	n/a	4/8/98	4/8/98	n/a
843	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/9/98	4/10/98	n/a
844	TOX-ICR	TOX	54 µg Cl-/L	SM 5320 B	1	25	4/10/98	4/13/98	12-0-116
845	TOX-ICR	TOX (Dupl)	52 µg Cl-/L	SM 5320 B	1	25	4/10/98	4/13/98	12-0-116
			53 µg Cl-/L	3.8 % RPD					
846	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
847	THM-ICR	Bromodichloromethane	7.6 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
848	THM-ICR	Bromoform	8.7 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
849	THM-ICR	Chloroform	4.3 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
850	THM-ICR	Dibromochloromethane	11.3 µg/L	EPA 551.1	1	1.0	4/10/98	4/21/98	4/21/98 0-112-0
851	UV-ICR	UV	0.016 1/cm	SM 5910 B	1	0.009	4/8/98	4/10/98	8-0-160
852	UV-ICR	UV (Dupl)	0.016 1/cm	SM 5910 B	1	0.009	4/8/98	4/10/98	8-0-160
			0.016 1/cm	0.0 % RPD					

Sample ID: 105.INF.A-2

S&H ID: 9804-145

Date Sampled: 4/9/98 1:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
853	ALK	Alkalinity	68	mg/L	SM 2320 B	1	5	4/9/98		4/9/98	1-0-17
854	ALK	Alkalinity (Dupl)	70	mg/L	SM 2320 B	1	5	4/9/98		4/9/98	1-0-17
			69 mg/L		2.9 % RPD						
855	NH3	Ammonia Nitrogen	0.30	mg/L	EPA 350.1	1	0.05	4/9/98		4/27/98	MW76574
856	BR	Bromide	0.076	mg/L	EPA 300.0 A	1	0.020	4/9/98		4/23/98	MW76458
857	CaHardM	Calcium Hardness	32	mg/L CaCO3	EPA 200.7	1	5	4/9/98		4/20/98	MW n/a
858	CaMW	Calcium, Total, ICAP	13	mg/L	EPA 200.7	1	1	4/9/98	4/14/98	4/15/98	MW76028
859	MgMW	Magnesium, Total, ICAP	26	mg/L	EPA 200.7	1	0	4/9/98	4/14/98	4/15/98	MW76029
860	TotHard	Total Hardness as CaCO3 by ICP	139	mg/L CaCO3	SM 2340B	1	5	4/9/98		4/20/98	MW n/a

Sample ID: 105.5.Eff-1

S&H ID: 9804-153

Date Sampled: 4/9/98 3:14:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
861	Cl2Dose	Chlorine Dose	3.53	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/13/98		4/13/98	n/a
862	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/13/98		4/14/98	n/a
863	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.6	%	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

864	HAA-ICR	2-Bromopropionic acid (Surrogate)	106.0 %	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
865	HAA-ICR	Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
866	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
867	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/23/98	0-115-0
868	HAA-ICR	Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
869	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
870	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
871	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/23/98	0-115-0
872	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/14/98	4/23/98	4/23/98	0-115-0
873	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/23/98	0-115-0
874	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/14/98	n/a
875	pH	Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
876	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
877	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/13/98		4/14/98	n/a
878	TEMP	Temperature	23.1 °C	SM 2550 B	1	n/a	4/9/98		4/9/98	n/a
879	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/13/98		4/14/98	n/a
880	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234
881	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234
			ND mg/L							
882	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117
883	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117
			ND µg Cl-/L							
884	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2 %	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
885	THM-ICR	Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
886	THM-ICR	Bromoform	1.4 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
887	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
888	THM-ICR	Dibromochloromethane	1.0 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
889	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160
890	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160
			ND 1/cm							

Sample ID: 105.5.Eff-2

S&H ID: 9804-158

Date Sampled: 4/9/98 8:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
891	Cl2Dose	Chlorine Dose	3.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/13/98		4/13/98	n/a
892	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/13/98		4/14/98	n/a
893	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.4	%	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
894	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0	%	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

895	HAA-ICR	Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
896	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
897	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
898	HAA-ICR	Dibromoacetic acid	1.1 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
899	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
900	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
901	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
902	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/14/98	4/23/98	4/24/98	0-115-0
903	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
904	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/14/98	n/a
905	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
906	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
907	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/13/98		4/14/98	n/a
908	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	4/9/98		4/9/98	n/a
909	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/13/98		4/14/98	n/a
910	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234
911	TOC-ICR	TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234
912	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117
913	TOX-ICR	TOX (Dupl)	ND µg Cl-/L ND µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117
914	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4 %	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
915	THM-ICR	Bromodichloromethane	1.3 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
916	THM-ICR	Bromoform	3.5 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
917	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
918	THM-ICR	Dibromochloromethane	2.2 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
919	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160
920	UV-ICR	UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	4/9/98		4/10/98	8-0-160

Sample ID: 105.5.Eff-3

S&H ID: 9804-159

Date Sampled: 4/9/98 10:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
921	Cl2Dose	Chlorine Dose	3.64	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/13/98		4/13/98	n/a
922	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/13/98		4/14/98	n/a
923	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.8	%	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
924	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	109.2	%	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			108.0	%	2.2 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

925	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0 %	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
926	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	106.0 %	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			105.0 %	1.9 % RPD						
927	HAA-ICR	Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
928	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
929	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
930	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
931	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
932	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
933	HAA-ICR	Dibromoacetic acid	1.5 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
934	HAA-ICR	Dibromoacetic acid (Lab Dupl)	1.4 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			1.5 µg/L	6.7 % RPD						
935	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
936	HAA-ICR	Dichloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
937	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
938	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
939	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
940	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
941	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/14/98	4/23/98	4/24/98	0-115-0
942	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	4.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
943	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
944	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
			ND µg/L							
945	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/14/98	n/a
946	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
947	pH	pH	9.3 Unit	SM 4500-H+ B	1	n/a	4/9/98		4/9/98	n/a
948	TEMP	Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/13/98		4/14/98	n/a
949	TEMP	Temperature	21.7 °C	SM 2550 B	1	n/a	4/9/98		4/9/98	n/a
950	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/13/98		4/14/98	n/a
951	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234
952	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/9/98		4/10/98	7-0-234

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		ND mg/L							
953	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	4/14/98	4/15/98	12-0-117	
954	TOX-ICR TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/14/98	4/15/98	12-0-117	
		ND µg Cl-/L							
955	THM-ICR 1,2,3-Trichloropropane (Surrogate)	98.0 %	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
956	THM-ICR 1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	92.8 %	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
		95.4 %	5.5 % RPD						
957	THM-ICR Bromodichloromethane	1.9 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
958	THM-ICR Bromodichloromethane (Lab Dupl)	1.8 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
		1.9 µg/L	5.3 % RPD						
959	THM-ICR Bromoform	4.4 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
960	THM-ICR Bromoform (Lab Dupl)	4.3 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
		4.3 µg/L	2.3 % RPD						
961	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
962	THM-ICR Chloroform (Lab Dupl)	ND µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
		ND µg/L							
963	THM-ICR Dibromochloromethane	3.4 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
964	THM-ICR Dibromochloromethane (Lab Dupl)	3.3 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
		3.3 µg/L	3.0 % RPD						
965	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/9/98	4/10/98	8-0-160	
966	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/9/98	4/10/98	8-0-160	
		ND 1/cm							

Sample ID: 105.5.Eff-4

S&H ID: 9804-160

Date Sampled: 4/10/98 3:31:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
967	Cl2Dose	Chlorine Dose	3.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
968	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
969	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.8	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
970	HAA-ICR	2-Bromopropionic acid (Surrogate)	105.6	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
971	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
972	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
973	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
974	HAA-ICR	Dibromoacetic acid	2.0	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
975	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
976	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
977	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
978	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
979	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

980	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98	4/15/98	n/a
981	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98	4/14/98	n/a
982	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/10/98	4/10/98	n/a
983	TEMP	Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98	4/15/98	n/a
984	TEMP	Temperature	20.7 °C	SM 2550 B	1	n/a	4/10/98	4/10/98	n/a
985	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	4/14/98	4/15/98	n/a
986	TOC-ICR	TOC	0.50 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
987	TOC-ICR	TOC (Dupl)	0.53 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
			0.52 mg/L	5.8 % RPD					
988	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
989	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
			ND µg Cl-/L						
990	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
991	THM-ICR	Bromodichloromethane	2.7 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
992	THM-ICR	Bromoform	5.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
993	THM-ICR	Chloroform	1.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
994	THM-ICR	Dibromochloromethane	4.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
995	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
996	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
			ND 1/cm						

Sample ID: 105.5.Eff-4d**S&H ID:** 9804-161**Date Sampled:** 4/10/98 3:31:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
997	Cl2Dose	Chlorine Dose	3.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
998	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
999	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1000	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1001	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1002	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1003	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1004	HAA-ICR	Dibromoacetic acid	1.8	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1005	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1006	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1007	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1008	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1009	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1010	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1011	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1012	pH	pH	9.3 Unit	SM 4500-H+ B	1	n/a	4/10/98	4/10/98	n/a
1013	TEMP	Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98	4/15/98	n/a
1014	TEMP	Temperature	20.7 °C	SM 2550 B	1	n/a	4/10/98	4/10/98	n/a
1015	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/14/98	4/15/98	n/a
1016	TOC-ICR	TOC	0.51 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
1017	TOC-ICR	TOC (Dupl)	0.52 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
			0.52 mg/L	1.9 % RPD					
1018	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
1019	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
			ND µg Cl-/L						
1020	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1021	THM-ICR	Bromodichloromethane	2.7 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1022	THM-ICR	Bromoform	5.7 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1023	THM-ICR	Chloroform	1.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1024	THM-ICR	Dibromochloromethane	4.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1025	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
1026	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
			ND 1/cm						

Sample ID: 105.5.Eff-5

S&H ID: 9804-162

Date Sampled: 4/10/98 8:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1027	Cl2Dose	Chlorine Dose	3.83	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1028	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1029	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1030	HAA-ICR	2-Bromopropionic acid (Surrogate)	106.0	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1031	HAA-ICR	Bromochloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1032	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1033	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1034	HAA-ICR	Dibromoacetic acid	2.5	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1035	HAA-ICR	Dichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1036	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1037	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1038	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1039	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1040	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1041	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1042	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1043	TEMP	Cl2 Temperature	8.5	°C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1044	TEMP	Temperature	20.3 °C	SM 2550 B	1	n/a	4/10/98	4/10/98	n/a
1045	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/14/98	4/15/98	n/a
1046	TOC-ICR	TOC	0.66 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
1047	TOC-ICR	TOC (Dupl)	0.69 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
			0.68 mg/L	4.4 % RPD					
1048	TOX-ICR	TOX	34 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
1049	TOX-ICR	TOX (Dupl)	34 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
			34 µg Cl-/L	0.0 % RPD					
1050	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1051	THM-ICR	Bromodichloromethane	4.3 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1052	THM-ICR	Bromoform	7.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1053	THM-ICR	Chloroform	2.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1054	THM-ICR	Dibromochloromethane	7.5 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1055	UV-ICR	UV	0.010 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
1056	UV-ICR	UV (Dupl)	0.010 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
			0.010 1/cm	0.0 % RPD					

Sample ID: 105.5.Eff-6

S&H ID: 9804-165

Date Sampled: 4/10/98 11:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1057	Cl2Dose	Chlorine Dose	3.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1058	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1059	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.2	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1060	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.8	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1061	HAA-ICR	Bromochloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1062	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1063	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1064	HAA-ICR	Dibromoacetic acid	3.1	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1065	HAA-ICR	Dichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1066	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1067	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1068	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1069	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1070	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1071	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1072	pH	pH	9.0	Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1073	TEMP	Cl2 Temperature	8.5	°C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1074	TEMP	Temperature	21.4	°C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1075	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/14/98	4/15/98	n/a
1076	TOC-ICR	TOC	0.80 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
1077	TOC-ICR	TOC (Dupl)	0.81 mg/L	SM 5310 C	1	0.50	4/10/98	4/10/98	7-0-234
			0.81 mg/L	1.2 % RPD					
1078	TOX-ICR	TOX	42 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
1079	TOX-ICR	TOX (Dupl)	37 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
			40 µg Cl-/L	12.5 % RPD					
1080	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1081	THM-ICR	Bromodichloromethane	5.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1082	THM-ICR	Bromoform	8.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1083	THM-ICR	Chloroform	2.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1084	THM-ICR	Dibromochloromethane	8.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1085	UV-ICR	UV	0.012 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
1086	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	4/10/98	4/10/98	8-0-160
			0.012 1/cm	0.0 % RPD					

Sample ID: 105.5.Eff-7

S&H ID: 9804-168

Date Sampled: 4/10/98 1:38:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1087	Cl2Dose	Chlorine Dose	3.97	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1088	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1089	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.0	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1090	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.8	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1091	HAA-ICR	Bromochloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1092	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1093	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1094	HAA-ICR	Dibromoacetic acid	3.2	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1095	HAA-ICR	Dichloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1096	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1097	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1098	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1099	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1100	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1101	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1102	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1103	TEMP	Cl2 Temperature	8.5	°C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1104	TEMP	Temperature	22.4	°C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a
1105	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1106	TOC-ICR	TOC	0.89	mg/L	SM 5310 C	1	0.50	4/10/98		4/10/98	7-0-234

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1107	TOC-ICR TOC (Dupl)	0.91 mg/L 0.90 mg/L	SM 5310 C 2.2 % RPD	1	0.50	4/10/98	4/10/98	7-0-234
1108	TOX-ICR TOX	48 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/16/98	12-0-118
1109	TOX-ICR TOX (Dupl)	47 µg Cl-/L 48 µg Cl-/L	SM 5320 B 2.1 % RPD	1	25	4/15/98	4/16/98	12-0-118
1110	THM-ICR 1,2,3-Trichloropropane (Surrogate)	95.6 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1111	THM-ICR Bromodichloromethane	5.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1112	THM-ICR Bromoform	8.3 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1113	THM-ICR Chloroform	3.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1114	THM-ICR Dibromochloromethane	9.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1115	UV-ICR UV	0.013 1/cm	SM 5910 B	1	0.009	4/10/98	4/11/98	8-0-161
1116	UV-ICR UV (Dupl)	0.014 1/cm 0.014 1/cm	SM 5910 B 7.1 % RPD	1	0.009	4/10/98	4/11/98	8-0-161

Sample ID: 105.20.Eff-30

S&H ID: 9804-169

Date Sampled: 4/10/98 1:04:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1117	Cl2Dose Chlorine Dose	4.05 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1118	Cl2Res Chlorine Residual	0.85 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1119	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	104.8 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1120	HAA-ICR 2-Bromopropionic acid (Surrogate)	102.4 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1121	HAA-ICR Bromochloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1122	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1123	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1124	HAA-ICR Dibromoacetic acid	2.5 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1125	HAA-ICR Dichloroacetic acid	1.8 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1126	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1127	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1128	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1129	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1130	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1131	pH Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1132	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1133	TEMP Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1134	TEMP Temperature	21.5 °C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a
1135	TIME Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1136	TOC-ICR TOC	1.04 mg/L	SM 5310 C	1	0.50	4/10/98		4/10/98	7-0-234
1137	TOC-ICR TOC (Dupl)	1.02 mg/L 1.03 mg/L	SM 5310 C 1.9 % RPD	1	0.50	4/10/98		4/10/98	7-0-234

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1138	TOX-ICR TOX	52 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/15/98	12-0-117
1139	TOX-ICR TOX (Dupl)	52 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/15/98	12-0-117
		52 µg Cl-/L	0.0 % RPD					
1140	THM-ICR 1,2,3-Trichloropropane (Surrogate)	93.2 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1141	THM-ICR Bromodichloromethane	7.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1142	THM-ICR Bromoform	8.6 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1143	THM-ICR Chloroform	4.3 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1144	THM-ICR Dibromochloromethane	11.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/21/98 0-112-0
1145	UV-ICR UV	0.017 1/cm	SM 5910 B	1	0.009	4/10/98	4/11/98	8-0-161
1146	UV-ICR UV (Dupl)	0.016 1/cm	SM 5910 B	1	0.009	4/10/98	4/11/98	8-0-161
		0.017 1/cm	5.9 % RPD					

Sample ID: 105.INF.B-5

S&H ID: 9804-170

Date Sampled: 4/10/98 4:00:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1147	Cl2Dose Chlorine Dose	4.80 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/13/98		4/13/98	n/a
1148	Cl2Res Chlorine Residual	1.05 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/13/98		4/14/98	n/a
1149	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	106.4 %	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1150	HAA-ICR 2-Bromopropionic acid (Surrogate)	105.2 %	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1151	HAA-ICR Bromochloroacetic acid	4.4 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1152	HAA-ICR Bromodichloroacetic acid	2.8 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1153	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
1154	HAA-ICR Dibromoacetic acid	3.7 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1155	HAA-ICR Dichloroacetic acid	6.1 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1156	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1157	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/14/98	4/23/98	4/24/98	0-115-0
1158	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/14/98	4/23/98	4/24/98	0-115-0
1159	HAA-ICR Trichloroacetic acid	2.7 µg/L	EPA 552.2	1	1.0	4/14/98	4/23/98	4/24/98	0-115-0
1160	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/14/98	n/a
1161	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
1162	pH pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1163	TEMP Cl2 Temperature	8.6 °C	SM 2550 B	1	n/a	4/13/98		4/14/98	n/a
1164	TEMP Temperature	16.9 °C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a
1165	TIME Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/13/98		4/14/98	n/a
1166	TOC-ICR TOC	1.98 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
1167	TOC-ICR TOC (Dupl)	2.00 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
		1.99 mg/L	1.0 % RPD						
1168	TOX-ICR TOX	129 µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117
1169	TOX-ICR TOX (Dupl)	122 µg Cl-/L	SM 5320 B	1	25	4/14/98		4/15/98	12-0-117

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		126 µg Cl-/L	5.6 % RPD						
1170	THM-ICR 1,2,3-Trichloropropane (Surrogate)	97.6 %	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
1171	THM-ICR Bromodichloromethane	17.2 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
1172	THM-ICR Bromoform	5.4 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
1173	THM-ICR Chloroform	16.6 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
1174	THM-ICR Dibromochloromethane	16.2 µg/L	EPA 551.1	1	1.0	4/14/98	4/21/98	4/21/98	0-112-0
1175	TURB Turbidity	0.10 ntu	SM 2130 B	1	0.05	4/10/98		4/10/98	9-0-9
1176	UV-ICR UV	0.037 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
1177	UV-ICR UV (Dupl)	0.037 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
		0.037 1/cm	0.0 % RPD						

Sample ID: 105.5.Eff-9

S&H ID: 9804-173

Date Sampled: 4/10/98 10:56:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1178	Cl2Dose Chlorine Dose	4.05 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1179	Cl2Res Chlorine Residual	0.90 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1180	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	106.0 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1181	HAA-ICR 2-Bromopropionic acid (Surrogate)	103.2 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1182	HAA-ICR Bromochloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1183	HAA-ICR Bromodichloroacetic acid	1.4 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1184	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1185	HAA-ICR Dibromoacetic acid	3.4 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1186	HAA-ICR Dichloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1187	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1188	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1189	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1190	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1191	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1192	pH Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1193	pH pH	9.3 Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1194	TEMP Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1195	TEMP Temperature	22.3 °C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a
1196	TIME Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1197	TOC-ICR TOC	1.04 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
1198	TOC-ICR TOC (Dupl)	1.00 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
		1.02 mg/L	3.9 % RPD						
1199	TOX-ICR TOX	55 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/16/98	12-0-118
1200	TOX-ICR TOX (Dupl)	56 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/16/98	12-0-118

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		56 µg Cl-/L	1.8 % RPD						
1201	THM-ICR 1,2,3-Trichloropropane (Surrogate)	88.0 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1202	THM-ICR Bromodichloromethane	7.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1203	THM-ICR Bromoform	7.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1204	THM-ICR Chloroform	3.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1205	THM-ICR Dibromochloromethane	11.0 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1206	UV-ICR UV	0.016 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
1207	UV-ICR UV (Dupl)	0.017 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
		0.017 1/cm	5.9 % RPD						

Sample ID: 105.5.Eff-9d		S&H ID: 9804-174		Date Sampled: 4/10/98 10:56:00 PM					
#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1208	Cl2Dose Chlorine Dose	4.03 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1209	Cl2Res Chlorine Residual	0.84 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1210	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	94.0 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1211	HAA-ICR 2-Bromopropionic acid (Surrogate)	109.2 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1212	HAA-ICR Bromochloroacetic acid	2.5 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1213	HAA-ICR Bromodichloroacetic acid	1.1 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1214	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1215	HAA-ICR Dibromoacetic acid	3.9 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1216	HAA-ICR Dichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1217	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1218	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1219	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1220	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1221	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1222	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1223	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	4/10/98		4/10/98	n/a
1224	TEMP Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1225	TEMP Temperature	22.2 °C	SM 2550 B	1	n/a	4/10/98		4/10/98	n/a
1226	TIME Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1227	TOC-ICR TOC	1.00 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
1228	TOC-ICR TOC (Dupl)	1.00 mg/L	SM 5310 C	1	0.50	4/10/98		4/12/98	7-0-235
		1.00 mg/L	0.0 % RPD						
1229	TOX-ICR TOX	56 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
1230	TOX-ICR TOX (Dupl)	56 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
		56 µg Cl-/L	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1231	THM-ICR 1,2,3-Trichloropropane (Surrogate)	88.4 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1232	THM-ICR Bromodichloromethane	7.1 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1233	THM-ICR Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1234	THM-ICR Chloroform	4.1 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1235	THM-ICR Dibromochloromethane	11.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1236	UV-ICR UV	0.016 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
1237	UV-ICR UV (Dupl)	0.017 1/cm	SM 5910 B	1	0.009	4/10/98		4/11/98	8-0-161
		0.017 1/cm	5.9 % RPD						

Sample ID: 105.5.Eff-11

S&H ID: 9804-176

Date Sampled: 4/11/98 8:39:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1238	Cl2Dose Chlorine Dose	4.10 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1239	Cl2Res Chlorine Residual	0.80 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1240	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	88.8 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1241	HAA-ICR 2-Bromopropionic acid (Surrogate)	114.0 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1242	HAA-ICR Bromochloroacetic acid	2.9 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1243	HAA-ICR Bromodichloroacetic acid	1.6 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1244	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1245	HAA-ICR Dibromoacetic acid	4.3 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1246	HAA-ICR Dichloroacetic acid	2.3 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1247	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1248	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1249	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1250	HAA-ICR Trichloroacetic acid	1.0 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1251	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1252	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1253	pH pH	9.3 Unit	SM 4500-H+ B	1	n/a	4/11/98		4/11/98	n/a
1254	TEMP Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1255	TEMP Temperature	20.0 °C	SM 2550 B	1	n/a	4/11/98		4/11/98	n/a
1256	TIME Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1257	TOC-ICR TOC	1.10 mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
1258	TOC-ICR TOC (Dupl)	1.10 mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
		1.10 mg/L	0.0 % RPD						
1259	TOX-ICR TOX	60 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
1260	TOX-ICR TOX (Dupl)	60 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
		60 µg Cl-/L	0.0 % RPD						
1261	THM-ICR 1,2,3-Trichloropropane (Surrogate)	89.6 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1262	THM-ICR Bromodichloromethane	8.3 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1263	THM-ICR Bromoform	8.6 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1264	THM-ICR Chloroform	5.1 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1265	THM-ICR Dibromochloromethane	12.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1266	UV-ICR UV	0.018 1/cm	SM 5910 B	1	0.009	4/11/98		4/11/98	8-0-161
1267	UV-ICR UV (Dupl)	0.019 1/cm	SM 5910 B	1	0.009	4/11/98		4/11/98	8-0-161
		0.018 1/cm	5.6 % RPD						

Sample ID: 105.5.Eff-12

S&H ID: 9804-179

Date Sampled: 4/11/98 1:31:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1268	Cl2Dose	Chlorine Dose	4.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1269	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1270	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	93.6	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1271	HAA-ICR	2-Bromopropionic acid (Surrogate)	111.2	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1272	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1273	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1274	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1275	HAA-ICR	Dibromoacetic acid	4.1	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1276	HAA-ICR	Dichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1277	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1278	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1279	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1280	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1281	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1282	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1283	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	4/11/98		4/11/98	n/a
1284	TEMP	Cl2 Temperature	8.5	°C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1285	TEMP	Temperature	21.1	°C	SM 2550 B	1	n/a	4/11/98		4/11/98	n/a
1286	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1287	TOC-ICR	TOC	1.18	mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
1288	TOC-ICR	TOC (Dupl)	1.21	mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
			1.19 mg/L		2.5 % RPD						
1289	TOX-ICR	TOX	68	µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
1290	TOX-ICR	TOX (Dupl)	63	µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
			66 µg Cl-/L		7.6 % RPD						
1291	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.4	%	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1292	THM-ICR	Bromodichloromethane	9.1	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1293	THM-ICR	Bromoform	8.2	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1294	THM-ICR Chloroform	5.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1295	THM-ICR Dibromochloromethane	12.8 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1296	UV-ICR UV	0.020 1/cm	SM 5910 B	1	0.009	4/11/98		4/13/98	8-0-162
1297	UV-ICR UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/11/98		4/13/98	8-0-162
		0.020 1/cm	0.0 % RPD						

Sample ID: 105.5.Eff-12d

S&H ID: 9804-180

Date Sampled: 4/11/98 1:31:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1298	Cl2Dose Chlorine Dose	4.15 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1299	Cl2Res Chlorine Residual	0.83 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1300	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	99.2 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1301	HAA-ICR 2-Bromopropionic acid (Surrogate)	106.4 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1302	HAA-ICR Bromochloroacetic acid	2.6 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1303	HAA-ICR Bromodichloroacetic acid	1.3 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1304	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1305	HAA-ICR Dibromoacetic acid	3.4 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1306	HAA-ICR Dichloroacetic acid	2.4 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1307	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1308	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1309	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1310	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1311	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1312	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1313	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	4/11/98		4/11/98	n/a
1314	TEMP Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1315	TEMP Temperature	21.1 °C	SM 2550 B	1	n/a	4/11/98		4/11/98	n/a
1316	TIME Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1317	TOC-ICR TOC	1.19 mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
1318	TOC-ICR TOC (Dupl)	1.19 mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
		1.19 mg/L	0.0 % RPD						
1319	TOX-ICR TOX	68 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
1320	TOX-ICR TOX (Dupl)	62 µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
		65 µg Cl-/L	9.2 % RPD						
1321	THM-ICR 1,2,3-Trichloropropane (Surrogate)	98.8 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1322	THM-ICR Bromodichloromethane	9.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1323	THM-ICR Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1324	THM-ICR Chloroform	6.0 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1325	THM-ICR Dibromochloromethane	13.1 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1326	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	4/11/98	4/13/98	8-0-162
1327	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	4/11/98	4/13/98	8-0-162
			0.020	1/cm	0.0 % RPD					

Sample ID: 105.5.Eff-13

S&H ID: 9804-183

Date Sampled: 4/11/98 6:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1328	Cl2Dose	Chlorine Dose	4.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98		4/14/98	n/a
1329	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98		4/15/98	n/a
1330	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.6	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1331	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.4	%	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1332	HAA-ICR	Bromochloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1333	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1334	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1335	HAA-ICR	Dibromoacetic acid	3.5	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1336	HAA-ICR	Dichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1337	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1338	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98	0-115-0
1339	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98	0-115-0
1340	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98	0-115-0
1341	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/15/98	n/a
1342	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1343	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	4/11/98		4/11/98	n/a
1344	TEMP	Cl2 Temperature	8.5	°C	SM 2550 B	1	n/a	4/14/98		4/15/98	n/a
1345	TEMP	Temperature	22.5	°C	SM 2550 B	1	n/a	4/11/98		4/11/98	n/a
1346	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	4/14/98		4/15/98	n/a
1347	TOC-ICR	TOC	1.26	mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
1348	TOC-ICR	TOC (Dupl)	1.27	mg/L	SM 5310 C	1	0.50	4/11/98		4/12/98	7-0-235
			1.27	mg/L	0.8 % RPD						
1349	TOX-ICR	TOX	72	µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
1350	TOX-ICR	TOX (Dupl)	70	µg Cl-/L	SM 5320 B	1	25	4/15/98		4/17/98	12-0-119
			71	µg Cl-/L	2.8 % RPD						
1351	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1352	THM-ICR	Bromodichloromethane	10.1	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1353	THM-ICR	Bromoform	8.5	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1354	THM-ICR	Chloroform	6.3	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1355	THM-ICR	Dibromochloromethane	13.8	µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98	0-112-0
1356	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	4/11/98		4/13/98	8-0-162
1357	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	4/11/98		4/13/98	8-0-162

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1386	Cl2Dose	Chlorine Dose	4.13 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/14/98	4/14/98	n/a
1387	Cl2Res	Chlorine Residual	0.77 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/14/98	4/15/98	n/a
1388	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1389	HAA-ICR	2-Bromopropionic acid (Surrogate)	103.2 %	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1390	HAA-ICR	Bromochloroacetic acid	2.2 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1391	HAA-ICR	Bromodichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1392	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98 0-115-0
1393	HAA-ICR	Dibromoacetic acid	3.0 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1394	HAA-ICR	Dichloroacetic acid	2.2 µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1395	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1396	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/15/98	4/23/98	4/24/98 0-115-0
1397	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/15/98	4/23/98	4/24/98 0-115-0
1398	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/15/98	4/23/98	4/24/98 0-115-0
1399	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98	4/15/98	n/a
1400	pH	Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/14/98	4/14/98	n/a
1401	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/12/98	4/12/98	n/a
1402	TEMP	Cl2 Temperature	8.5 °C	SM 2550 B	1	n/a	4/14/98	4/15/98	n/a
1403	TEMP	Temperature	23.3 °C	SM 2550 B	1	n/a	4/12/98	4/12/98	n/a
1404	TIME	Cl2 Incubation Time	23.5 hrs	n/a	1	n/a	4/14/98	4/15/98	n/a
1405	TOC-ICR	TOC	1.14 mg/L	SM 5310 C	1	0.50	4/12/98	4/13/98	7-0-236
1406	TOC-ICR	TOC (Dupl)	1.15 mg/L	SM 5310 C	1	0.50	4/12/98	4/13/98	7-0-236
			1.15 mg/L	0.9 % RPD					
1407	TOX-ICR	TOX	64 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/15/98	12-0-117
1408	TOX-ICR	TOX (Dupl)	60 µg Cl-/L	SM 5320 B	1	25	4/15/98	4/15/98	12-0-117
			62 µg Cl-/L	6.5 % RPD					
1409	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8 %	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98 0-112-0
1410	THM-ICR	Bromodichloromethane	9.2 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98 0-112-0
1411	THM-ICR	Bromoform	8.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98 0-112-0
1412	THM-ICR	Chloroform	5.4 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98 0-112-0
1413	THM-ICR	Dibromochloromethane	12.9 µg/L	EPA 551.1	1	1.0	4/15/98	4/21/98	4/22/98 0-112-0
1414	UV-ICR	UV	0.020 1/cm	SM 5910 B	1	0.009	4/12/98	4/13/98	8-0-162
1415	UV-ICR	UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/12/98	4/13/98	8-0-162
			0.020 1/cm	0.0 % RPD					

Sample ID: 105.INF.A-3

S&H ID: 9804-201

Date Sampled: 4/13/98 4:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1416	ALK	Alkalinity	66	mg/L	SM 2320 B	1	5	4/13/98		4/14/98	1-0-18
1417	ALK	Alkalinity (Dupl)	64	mg/L	SM 2320 B	1	5	4/13/98		4/14/98	1-0-18

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

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			65 mg/L	3.1 % RPD					
1418	NH3	Ammonia Nitrogen	0.28 mg/L	EPA 350.1	1	0.05	4/13/98	4/27/98	MW76574
1419	BR	Bromide	0.075 mg/L	EPA 300.0 A	1	0.020	4/13/98	4/23/98	MW76459
1420	CaHardM	Calcium Hardness	32 mg/L CaCO3	EPA 200.7	1	5	4/13/98	4/20/98	MW n/a
1421	CaMW	Calcium, Total, ICAP	13 mg/L	EPA 200.7	1	1	4/13/98	4/14/98	4/15/98 MW76028
1422	MgMW	Magnesium, Total, ICAP	26 mg/L	EPA 200.7	1	0	4/13/98	4/14/98	4/15/98 MW76029
1423	TotHard	Total Hardness as CaCO3 by ICP	139 mg/L CaCO3	SM 2340B	1	5	4/13/98	4/20/98	MW n/a

Sample ID: 105.INF.B-6

S&H ID: 9804-202

Date Sampled: 4/13/98 3:50:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1424	Cl2Dose Chlorine Dose	4.46 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1425	Cl2Res Chlorine Residual	0.62 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1426	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	103.2 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1427	HAA-ICR 2-Bromopropionic acid (Surrogate)	97.2 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1428	HAA-ICR Bromochloroacetic acid	4.3 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1429	HAA-ICR Bromodichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1430	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/29/98	0-119-0
1431	HAA-ICR Dibromoacetic acid	3.4 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1432	HAA-ICR Dichloroacetic acid	6.2 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1433	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1434	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/29/98	0-119-0
1435	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/29/98	0-119-0
1436	HAA-ICR Trichloroacetic acid	2.2 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/29/98	0-119-0
1437	pH Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1438	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1439	pH pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
1440	TEMP Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1441	TEMP Temperature	17.1 °C	SM 2550 B	1	n/a	4/13/98		4/13/98	n/a
1442	TIME Cl2 Incubation Time	24.5 hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1443	TOC-ICR TOC	1.76 mg/L	SM 5310 C	1	0.50	4/13/98		4/15/98	7-0-239
1444	TOC-ICR TOC (Dupl)	1.88 mg/L	SM 5310 C	1	0.50	4/13/98		4/15/98	7-0-239
		1.82 mg/L	6.6 % RPD						
1445	TOX-ICR TOX	139 µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
1446	TOX-ICR TOX (Dupl)	134 µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
		137 µg Cl-/L	3.6 % RPD						
1447	THM-ICR 1,2,3-Trichloropropane (Surrogate)	104.0 %	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

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Study Title: ICR RSSCT #1

1448	THM-ICR Bromodichloromethane	18.0 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1449	THM-ICR Bromoform	5.8 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1450	THM-ICR Chloroform	17.8 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1451	THM-ICR Dibromochloromethane	16.1 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1452	TURB Turbidity	0.10 ntu	SM 2130 B	1	0.05	4/13/98		4/13/98	9-0-9
1453	UV-ICR UV	0.037 1/cm	SM 5910 B	1	0.009	4/13/98		4/15/98	8-0-163
1454	UV-ICR UV (Dupl)	0.037 1/cm	SM 5910 B	1	0.009	4/13/98		4/15/98	8-0-163
		0.037 1/cm	0.0 % RPD						

Sample ID: 105.5.Eff-17

S&H ID: 9804-205

Date Sampled: 4/13/98 5:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1455	pH	pH	8.7	Unit	SM 4500-H+ B	1	n/a	4/13/98		4/13/98	n/a
1456	TEMP	Temperature	22.9	°C	SM 2550 B	1	n/a	4/13/98		4/13/98	n/a
1457	TOC-ICR	TOC	1.37	mg/L	SM 5310 C	1	0.50	4/13/98		4/14/98	7-0-237
1458	TOC-ICR	TOC (Dupl)	1.39	mg/L	SM 5310 C	1	0.50	4/13/98		4/14/98	7-0-237
			1.38	mg/L	1.4 % RPD						

Sample ID: 105.20.Eff-35

S&H ID: 9804-222

Date Sampled: 4/15/98 7:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1459	Cl2Dose	Chlorine Dose	4.10	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1460	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1461	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1462	HAA-ICR	2-Bromopropionic acid (Surrogate)	101.6	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1463	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1464	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1465	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1466	HAA-ICR	Dibromoacetic acid	3.8	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1467	HAA-ICR	Dichloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1468	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1469	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1470	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1471	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1472	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1473	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1474	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1475	TEMP	Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1476	TEMP	Temperature	21.6	°C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1477	TIME	Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/20/98	4/21/98	n/a
1478	TOC-ICR	TOC	1.16 mg/L	SM 5310 C	1	0.50	4/15/98	4/16/98	7-0-239
1479	TOC-ICR	TOC (Dupl)	1.16 mg/L	SM 5310 C	1	0.50	4/15/98	4/16/98	7-0-239
			1.16 mg/L	0.0 % RPD					
1480	TOX-ICR	TOX	70 µg Cl-/L	SM 5320 B	1	25	4/21/98	4/23/98	12-0-122
1481	TOX-ICR	TOX (Dupl)	70 µg Cl-/L	SM 5320 B	1	25	4/21/98	4/23/98	12-0-122
			70 µg Cl-/L	0.0 % RPD					
1482	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1483	THM-ICR	Bromodichloromethane	10.3 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1484	THM-ICR	Bromoform	8.8 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1485	THM-ICR	Chloroform	6.5 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1486	THM-ICR	Dibromochloromethane	13.5 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1487	UV-ICR	UV	0.020 1/cm	SM 5910 B	1	0.009	4/15/98	4/15/98	8-0-163
1488	UV-ICR	UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/15/98	4/15/98	8-0-163
			0.020 1/cm	0.0 % RPD					

Sample ID: 105.20.Eff-35d

S&H ID: 9804-223

Date Sampled: 4/15/98 7:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1489	Cl2Dose	Chlorine Dose	4.10	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1490	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1491	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	112.0	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1492	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1493	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1494	HAA-ICR	Bromodichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1495	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1496	HAA-ICR	Dibromoacetic acid	4.4	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1497	HAA-ICR	Dichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1498	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1499	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1500	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1501	HAA-ICR	Trichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1502	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1503	pH	Cl2 pH - Initial	9.0	Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1504	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1505	TEMP	Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1506	TEMP	Temperature	21.7	°C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1507	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1508	TOC-ICR	TOC	1.12	mg/L	SM 5310 C	1	0.50	4/15/98		4/16/98	7-0-239

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
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1509	TOC-ICR TOC (Dupl)	1.18 mg/L 1.15 mg/L	SM 5310 C 5.2 % RPD	1	0.50	4/15/98	4/16/98	7-0-239
1510	TOX-ICR TOX (Dupl)	74 µg Cl-/L	SM 5320 B	1	25	4/21/98	4/27/98	12-0-123
1511	TOX-ICR TOX (Dupl)	61 µg Cl-/L 68 µg Cl-/L	SM 5320 B 19.1 % RPD	1	25	4/21/98	4/27/98	12-0-123
1512	THM-ICR 1,2,3-Trichloropropane (Surrogate)	96.8 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1513	THM-ICR Bromodichloromethane	10.2 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1514	THM-ICR Bromoform	8.0 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1515	THM-ICR Chloroform	6.3 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1516	THM-ICR Dibromochloromethane	13.2 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1517	UV-ICR UV	0.021 1/cm	SM 5910 B	1	0.009	4/15/98	4/15/98	8-0-163
1518	UV-ICR UV (Dupl)	0.020 1/cm 0.021 1/cm	SM 5910 B 4.8 % RPD	1	0.009	4/15/98	4/15/98	8-0-163

Sample ID: 105.7.5.Eff-1

S&H ID: 9804-224

Date Sampled: 4/14/98 5:54:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1519	Cl2Dose Chlorine Dose	3.45 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1520	Cl2Res Chlorine Residual	0.71 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1521	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	113.2 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1522	HAA-ICR 2-Bromopropionic acid (Surrogate)	96.4 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1523	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1524	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1525	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1526	HAA-ICR Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1527	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1528	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1529	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1530	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1531	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1532	pH Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1533	pH Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1534	pH pH	8.9 Unit	SM 4500-H+ B	1	n/a	4/14/98		4/14/98	n/a
1535	TEMP Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1536	TEMP Temperature	22.5 °C	SM 2550 B	1	n/a	4/14/98		4/14/98	n/a
1537	TIME Cl2 Incubation Time	24.4 hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1538	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	4/14/98		4/15/98	7-0-239
1539	TOC-ICR TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	4/14/98		4/15/98	7-0-239

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1540	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	4/17/98	4/20/98	12-0-120
1541	TOX-ICR TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/17/98	4/20/98	12-0-120
		ND µg Cl-/L						
1542	THM-ICR 1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98 0-117-0
1543	THM-ICR Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98 0-117-0
1544	THM-ICR Bromoform	1.0 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98 0-117-0
1545	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98 0-117-0
1546	THM-ICR Dibromochloromethane	ND µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98 0-117-0
1547	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/14/98	4/15/98	8-0-163
1548	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/14/98	4/15/98	8-0-163
		ND 1/cm						

Sample ID: 105.7.5.Eff-4

S&H ID: 9804-227

Date Sampled: 4/15/98 3:47:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1549	Cl2Dose Chlorine Dose	3.50 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1550	Cl2Res Chlorine Residual	0.71 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1551	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	110.0 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1552	HAA-ICR 2-Bromopropionic acid (Surrogate)	101.6 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1553	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1554	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1555	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1556	HAA-ICR Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1557	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1558	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1559	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1560	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1561	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1562	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1563	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1564	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1565	TEMP Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1566	TEMP Temperature	22.2 °C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1567	TIME Cl2 Incubation Time	24.5 hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1568	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
1569	TOC-ICR TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
		ND mg/L							
1570	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
1571	TOX-ICR TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		ND	µg Cl-/L							
1572	THM-ICR 1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1573	THM-ICR Bromodichloromethane	1.3	µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1574	THM-ICR Bromoform	3.2	µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1575	THM-ICR Chloroform	ND	µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1576	THM-ICR Dibromochloromethane	2.4	µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/27/98	0-117-0
1577	UV-ICR UV	ND	1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
1578	UV-ICR UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
		ND	1/cm							

Sample ID: 105.7.5.Eff-5		S&H ID: 9804-237		Date Sampled: 4/15/98 10:58:00 AM						
#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1579	Cl2Dose Chlorine Dose	3.55	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1580	Cl2Res Chlorine Residual	0.66	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1581	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	110.0	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1582	HAA-ICR 2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1583	HAA-ICR Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1584	HAA-ICR Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1585	HAA-ICR Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1586	HAA-ICR Dibromoacetic acid	1.2	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1587	HAA-ICR Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1588	HAA-ICR Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1589	HAA-ICR Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1590	HAA-ICR Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1591	HAA-ICR Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1592	pH Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1593	pH Cl2 pH - Initial	9.0	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1594	pH pH	9.0	Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1595	TEMP Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1596	TEMP Temperature	22.8	°C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1597	TIME Cl2 Incubation Time	24.5	hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1598	TOC-ICR TOC	ND	mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
1599	TOC-ICR TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
		ND	mg/L							
1600	TOX-ICR TOX	ND	µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
1601	TOX-ICR TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
		ND	µg Cl-/L							

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1602	THM-ICR 1,2,3-Trichloropropane (Surrogate)	103.2 %	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1603	THM-ICR Bromodichloromethane	1.8 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1604	THM-ICR Bromoform	4.4 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1605	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1606	THM-ICR Dibromochloromethane	3.3 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1607	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
1608	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
		ND 1/cm							

Sample ID: 105.7.5.Eff-6

S&H ID: 9804-244

Date Sampled: 4/15/98 3:39:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1609	Cl2Dose Chlorine Dose	3.64 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1610	Cl2Res Chlorine Residual	0.82 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1611	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	105.6 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1612	HAA-ICR 2-Bromopropionic acid (Surrogate)	97.2 %	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1613	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1614	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1615	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1616	HAA-ICR Dibromoacetic acid	1.9 µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1617	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1618	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1619	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1620	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1621	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1622	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1623	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1624	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1625	TEMP Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1626	TEMP Temperature	22.9 °C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1627	TIME Cl2 Incubation Time	24.5 hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1628	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
1629	TOC-ICR TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
		ND mg/L							
1630	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
1631	TOX-ICR TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
		ND µg Cl-/L							
1632	THM-ICR 1,2,3-Trichloropropane (Surrogate)	102.8 %	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1633	THM-ICR Bromodichloromethane	2.7 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1634	THM-ICR Bromoform	5.6 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1635	THM-ICR Chloroform	1.3 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1636	THM-ICR Dibromochloromethane	4.8 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1637	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
1638	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
		ND 1/cm							

Sample ID: 105.7.5.Eff-6d

S&H ID: 9804-245

Date Sampled: 4/15/98 3:39:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1639	Cl2Dose	Chlorine Dose	3.62	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1640	Cl2Res	Chlorine Residual	0.63	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1641	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1642	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1643	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1644	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1645	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1646	HAA-ICR	Dibromoacetic acid	1.8	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1647	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1648	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1649	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1650	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1651	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1652	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1653	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1654	pH	pH	9.0	Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1655	TEMP	Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1656	TEMP	Temperature	22.9	°C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1657	TIME	Cl2 Incubation Time	24.5	hrs	n/a	1	n/a	4/16/98		4/17/98	n/a
1658	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
1659	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	4/15/98		4/15/98	7-0-239
			ND	mg/L							
1660	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
1661	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	4/17/98		4/20/98	12-0-120
			ND	µg Cl-/L							
1662	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1663	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	96.4	%	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		95.6 %	1.7 % RPD						
1664	THM-ICR Bromodichloromethane	2.6 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1665	THM-ICR Bromodichloromethane (Lab Dupl)	2.5 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
		2.5 µg/L	4.0 % RPD						
1666	THM-ICR Bromoform	5.4 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1667	THM-ICR Bromoform (Lab Dupl)	5.6 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
		5.5 µg/L	3.6 % RPD						
1668	THM-ICR Chloroform	1.3 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1669	THM-ICR Chloroform (Lab Dupl)	1.2 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
		1.3 µg/L	7.7 % RPD						
1670	THM-ICR Dibromochloromethane	4.4 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
1671	THM-ICR Dibromochloromethane (Lab Dupl)	4.5 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98	0-117-0
		4.5 µg/L	2.2 % RPD						
1672	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
1673	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/15/98		4/16/98	8-0-164
		ND 1/cm							

Sample ID: 105.7.5.Eff-7

S&H ID: 9804-248

Date Sampled: 4/15/98 8:16:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1674	Cl2Dose	Chlorine Dose	3.71	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/16/98		4/16/98	n/a
1675	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/16/98		4/17/98	n/a
1676	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1677	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1678	HAA-ICR	Bromochloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1679	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1680	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1681	HAA-ICR	Dibromoacetic acid	2.5	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1682	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1683	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1684	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/17/98	4/29/98	4/30/98	0-119-0
1685	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/17/98	4/29/98	4/30/98	0-119-0
1686	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/17/98	4/29/98	4/30/98	0-119-0
1687	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/17/98	n/a
1688	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1689	pH	pH	9.0	Unit	SM 4500-H+ B	1	n/a	4/15/98		4/15/98	n/a
1690	TEMP	Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/16/98		4/17/98	n/a
1691	TEMP	Temperature	22.8	°C	SM 2550 B	1	n/a	4/15/98		4/15/98	n/a
1692	TIME	Cl2 Incubation Time	24.5	hrs	n/a	1	n/a	4/16/98		4/17/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1693	TOC-ICR TOC	0.52 mg/L	SM 5310 C	1	0.50	4/15/98	4/16/98	7-0-239
1694	TOC-ICR TOC (Dupl)	0.53 mg/L	SM 5310 C	1	0.50	4/15/98	4/16/98	7-0-239
		0.53 mg/L	1.9 % RPD					
1695	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	4/17/98	4/20/98	12-0-120
1696	TOX-ICR TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	4/17/98	4/20/98	12-0-120
		ND µg Cl-/L						
1697	THM-ICR 1,2,3-Trichloropropane (Surrogate)	102.8 %	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98 0-117-0
1698	THM-ICR Bromodichloromethane	3.5 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98 0-117-0
1699	THM-ICR Bromoform	6.3 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98 0-117-0
1700	THM-ICR Chloroform	1.8 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98 0-117-0
1701	THM-ICR Dibromochloromethane	5.9 µg/L	EPA 551.1	1	1.0	4/17/98	4/27/98	4/28/98 0-117-0
1702	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	4/15/98	4/16/98	8-0-164
1703	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	4/15/98	4/16/98	8-0-164
		ND 1/cm						

Sample ID: 105.7.5.Eff-9

S&H ID: 9804-255

Date Sampled: 4/16/98 5:52:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1704	Cl2Dose Chlorine Dose	3.80 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/17/98		4/17/98	n/a
1705	Cl2Res Chlorine Residual	0.80 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/17/98		4/18/98	n/a
1706	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	110.4 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1707	HAA-ICR 2-Bromopropionic acid (Surrogate)	97.6 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1708	HAA-ICR Bromochloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1709	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1710	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1711	HAA-ICR Dibromoacetic acid	2.6 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1712	HAA-ICR Dichloroacetic acid	1.1 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1713	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1714	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1715	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/18/98	4/29/98	4/30/98	0-119-0
1716	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1717	pH Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/18/98	n/a
1718	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1719	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1720	TEMP Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/17/98		4/18/98	n/a
1721	TEMP Temperature	22.1 °C	SM 2550 B	1	n/a	4/16/98		4/16/98	n/a
1722	TIME Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/17/98		4/18/98	n/a
1723	TOC-ICR TOC	0.72 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238
1724	TOC-ICR TOC (Dupl)	0.65 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

		0.69 mg/L	10.1 % RPD						
1725	TOX-ICR TOX	41 µg Cl-/L	SM 5320 B	1	25	4/18/98		4/22/98	12-0-121
1726	TOX-ICR TOX (Dupl)	42 µg Cl-/L	SM 5320 B	1	25	4/18/98		4/22/98	12-0-121
		42 µg Cl-/L	2.4 % RPD						
1727	THM-ICR 1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1728	THM-ICR Bromodichloromethane	5.4 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1729	THM-ICR Bromoform	7.5 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1730	THM-ICR Chloroform	3.1 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1731	THM-ICR Dibromochloromethane	8.3 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1732	UV-ICR UV	0.011 1/cm	SM 5910 B	1	0.009	4/16/98		4/16/98	8-0-164
1733	UV-ICR UV (Dupl)	0.011 1/cm	SM 5910 B	1	0.009	4/16/98		4/16/98	8-0-164
		0.011 1/cm	0.0 % RPD						

Sample ID: 105.7.5.Eff-10

S&H ID: 9804-256

Date Sampled: 4/16/98 10:33:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1734	Cl2Dose Chlorine Dose	3.86 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/17/98		4/17/98	n/a
1735	Cl2Res Chlorine Residual	0.82 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/17/98		4/18/98	n/a
1736	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	108.4 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1737	HAA-ICR 2-Bromopropionic acid (Surrogate)	95.6 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1738	HAA-ICR Bromochloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1739	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1740	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1741	HAA-ICR Dibromoacetic acid	2.7 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1742	HAA-ICR Dichloroacetic acid	1.1 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1743	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1744	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1745	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/18/98	4/29/98	4/30/98	0-119-0
1746	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1747	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/18/98	n/a
1748	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1749	pH pH	8.9 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1750	TEMP Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/17/98		4/18/98	n/a
1751	TEMP Temperature	23.0 °C	SM 2550 B	1	n/a	4/16/98		4/16/98	n/a
1752	TIME Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	4/17/98		4/18/98	n/a
1753	TOC-ICR TOC	0.78 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238
1754	TOC-ICR TOC (Dupl)	0.79 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238
		0.79 mg/L	1.3 % RPD						
1755	TOX-ICR TOX	40 µg Cl-/L	SM 5320 B	1	25	4/18/98		4/22/98	12-0-121

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1756	TOX-ICR TOX (Dupl)	42 µg Cl-/L 41 µg Cl-/L	SM 5320 B 4.9 % RPD	1	25	4/18/98	4/22/98	12-0-121
1757	THM-ICR 1,2,3-Trichloropropane (Surrogate)	97.6 %	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98 0-117-0
1758	THM-ICR Bromodichloromethane	5.8 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98 0-117-0
1759	THM-ICR Bromoform	8.2 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98 0-117-0
1760	THM-ICR Chloroform	3.3 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98 0-117-0
1761	THM-ICR Dibromochloromethane	8.9 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98 0-117-0
1762	UV-ICR UV	0.013 1/cm	SM 5910 B	1	0.009	4/16/98	4/17/98	8-0-165
1763	UV-ICR UV (Dupl)	0.013 1/cm 0.013 1/cm	SM 5910 B 0.0 % RPD	1	0.009	4/16/98	4/17/98	8-0-165

Sample ID: 105.7.5.Eff-10d

S&H ID: 9804-257

Date Sampled: 4/16/98 10:33:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1764	Cl2Dose Chlorine Dose	3.87 mg/L as Cl2	SM 4500-Cl B	1	n/a	4/17/98		4/17/98	n/a
1765	Cl2Res Chlorine Residual	0.82 mg/L as Cl2	SM 4500-Cl F	1	0.10	4/17/98		4/18/98	n/a
1766	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	108.4 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1767	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	108.4 % 108.4 %	EPA 552.2 0.0 % RPD	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1768	HAA-ICR 2-Bromopropionic acid (Surrogate)	99.2 %	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1769	HAA-ICR 2-Bromopropionic acid (Surrogate) (Lab Dupl)	99.6 % 99.4 %	EPA 552.2 0.4 % RPD	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1770	HAA-ICR Bromochloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1771	HAA-ICR Bromochloroacetic acid (Lab Dupl)	1.9 µg/L 1.9 µg/L	EPA 552.2 0.0 % RPD	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1772	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1773	HAA-ICR Bromodichloroacetic acid (Lab Dupl)	ND µg/L ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1774	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1775	HAA-ICR Chlorodibromoacetic acid (Lab Dupl)	ND µg/L ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1776	HAA-ICR Dibromoacetic acid	3.1 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1777	HAA-ICR Dibromoacetic acid (Lab Dupl)	3.2 µg/L 3.2 µg/L	EPA 552.2 3.1 % RPD	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1778	HAA-ICR Dichloroacetic acid	1.4 µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1779	HAA-ICR Dichloroacetic acid (Lab Dupl)	1.3 µg/L 1.4 µg/L	EPA 552.2 7.1 % RPD	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1780	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1781	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
			ND µg/L							
1782	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
1783	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	4/18/98	4/29/98	4/30/98	0-119-0
			ND µg/L							
1784	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/18/98	4/29/98	4/30/98	0-119-0
1785	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	4.0	4/18/98	4/29/98	4/30/98	0-119-0
			ND µg/L							
1786	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
1787	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	4/18/98	4/29/98	4/30/98	0-119-0
			ND µg/L							
1788	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/18/98	n/a
1789	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1790	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/16/98		4/16/98	n/a
1791	TEMP	Cl2 Temperature	8.7 °C	SM 2550 B	1	n/a	4/17/98		4/18/98	n/a
1792	TEMP	Temperature	23.0 °C	SM 2550 B	1	n/a	4/16/98		4/16/98	n/a
1793	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	4/17/98		4/18/98	n/a
1794	TOC-ICR	TOC	0.80 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238
1795	TOC-ICR	TOC (Dupl)	0.80 mg/L	SM 5310 C	1	0.50	4/16/98		4/16/98	7-0-238
			0.80 mg/L	0.0 % RPD						
1796	TOX-ICR	TOX	49 µg Cl-/L	SM 5320 B	1	25	4/18/98		4/22/98	12-0-121
1797	TOX-ICR	TOX (Dupl)	37 µg Cl-/L	SM 5320 B	1	25	4/18/98		4/22/98	12-0-121
			43 µg Cl-/L	27.9 % RPD						
1798	THM-ICR	1,2,3-Trichloropropane (Surrogate)	88.0 %	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1799	THM-ICR	Bromodichloromethane	5.8 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1800	THM-ICR	Bromoform	8.1 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1801	THM-ICR	Chloroform	3.2 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1802	THM-ICR	Dibromochloromethane	8.7 µg/L	EPA 551.1	1	1.0	4/18/98	4/27/98	4/28/98	0-117-0
1803	UV-ICR	UV	0.014 1/cm	SM 5910 B	1	0.009	4/16/98		4/17/98	8-0-165
1804	UV-ICR	UV (Dupl)	0.013 1/cm	SM 5910 B	1	0.009	4/16/98		4/17/98	8-0-165
			0.014 1/cm	7.1 % RPD						

Sample ID: 105.7.5.Eff-13 S&H ID: 9804-273 Date Sampled: 4/17/98 12:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
1805	Cl2Dose	Chlorine Dose	3.94	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1806	Cl2Res	Chlorine Residual	0.79	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1807	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	109.6	%	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1808	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.4 %	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1809	HAA-ICR	Bromochloroacetic acid	2.4 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1810	HAA-ICR	Bromodichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1811	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	5/2/98	0-119-0
1812	HAA-ICR	Dibromoacetic acid	4.0 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1813	HAA-ICR	Dichloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1814	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1815	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	5/2/98	0-119-0
1816	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	5/2/98	0-119-0
1817	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	5/2/98	0-119-0
1818	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1819	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1820	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1821	TEMP	Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1822	TEMP	Temperature	22.7 °C	SM 2550 B	1	n/a	4/17/98		4/17/98	n/a
1823	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1824	TOX-ICR	TOX	56 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/23/98	12-0-122
1825	TOX-ICR	TOX (Dupl)	54 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/23/98	12-0-122
			55 µg Cl-/L	3.6 % RPD						
1826	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1827	THM-ICR	Bromodichloromethane	7.6 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1828	THM-ICR	Bromoform	9.0 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1829	THM-ICR	Chloroform	4.5 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1830	THM-ICR	Dibromochloromethane	11.3 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1831	UV-ICR	UV	0.016 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
1832	UV-ICR	UV (Dupl)	0.015 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
			0.016 1/cm	6.3 % RPD						

Sample ID: 105.INF.B-7

S&H ID: 9804-289

Date Sampled: 4/17/98 2:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1833	Cl2Dose	Chlorine Dose	4.55	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1834	Cl2Res	Chlorine Residual	0.65	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1835	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	109.2	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1836	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1837	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1838	HAA-ICR	Bromodichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1839	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1840	HAA-ICR	Dibromoacetic acid	4.5 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1841	HAA-ICR	Dichloroacetic acid	6.5 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1842	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1843	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1844	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1845	HAA-ICR	Trichloroacetic acid	3.0 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1846	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1847	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1848	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1849	TEMP	Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1850	TEMP	Temperature	16.8 °C	SM 2550 B	1	n/a	4/17/98		4/17/98	n/a
1851	TIME	Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1852	TOC-ICR	TOC	1.79 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
1853	TOC-ICR	TOC (Dupl)	1.83 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
			1.81 mg/L	2.2 % RPD						
1854	TOX-ICR	TOX	122 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
1855	TOX-ICR	TOX (Dupl)	120 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
			121 µg Cl-/L	1.7 % RPD						
1856	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1857	THM-ICR	Bromodichloromethane	17.5 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1858	THM-ICR	Bromoform	5.6 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1859	THM-ICR	Chloroform	17.0 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1860	THM-ICR	Dibromochloromethane	15.7 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1861	TURB	Turbidity	0.10 ntu	SM 2130 B	1	0.05	4/17/98		4/17/98	9-0-9
1862	UV-ICR	UV	0.037 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
1863	UV-ICR	UV (Dupl)	0.038 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
			0.037 1/cm	2.7 % RPD						

Sample ID: 105.7.5.Eff-16

S&H ID: 9804-291

Date Sampled: 4/17/98 3:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1864	Cl2Dose	Chlorine Dose	4.02	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1865	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1866	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1867	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1868	HAA-ICR	Bromochloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1869	HAA-ICR	Bromodichloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1870	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

1871	HAA-ICR	Dibromoacetic acid	3.8 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1872	HAA-ICR	Dichloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1873	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1874	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1875	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1876	HAA-ICR	Trichloroacetic acid	1.0 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1877	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1878	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1879	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1880	TEMP	Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1881	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	4/17/98		4/17/98	n/a
1882	TIME	Cl2 Incubation Time	24.3 hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1883	TOC-ICR	TOC	1.04 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
1884	TOC-ICR	TOC (Dupl)	1.02 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
			1.03 mg/L	1.9 % RPD						
1885	TOX-ICR	TOX	53 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
1886	TOX-ICR	TOX (Dupl)	54 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
			54 µg Cl-/L	1.9 % RPD						
1887	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1888	THM-ICR	Bromodichloromethane	8.4 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1889	THM-ICR	Bromoform	8.6 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1890	THM-ICR	Chloroform	5.1 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1891	THM-ICR	Dibromochloromethane	11.8 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1892	UV-ICR	UV	0.018 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
1893	UV-ICR	UV (Dupl)	0.019 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
			0.018 1/cm	5.6 % RPD						

Sample ID: 105.20.Eff-39**S&H ID:** 9804-293**Date Sampled:** 4/17/98 3:12:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1894	Cl2Dose	Chlorine Dose	4.17	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1895	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1896	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.0	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1897	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1898	HAA-ICR	Bromochloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1899	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1900	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1901	HAA-ICR	Dibromoacetic acid	4.3	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1902	HAA-ICR	Dichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1903	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1904	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1905	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1906	HAA-ICR	Trichloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1907	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1908	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1909	pH	pH	9.3 Unit	SM 4500-H+ B	1	n/a	4/17/98		4/17/98	n/a
1910	TEMP	Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1911	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	4/17/98		4/17/98	n/a
1912	TIME	Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1913	TOC-ICR	TOC	1.19 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
1914	TOC-ICR	TOC (Dupl)	1.25 mg/L	SM 5310 C	1	0.50	4/17/98		4/17/98	7-0-240
			1.22 mg/L	4.9 % RPD						
1915	TOX-ICR	TOX	68 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
1916	TOX-ICR	TOX (Dupl)	63 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
			66 µg Cl-/L	7.6 % RPD						
1917	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1918	THM-ICR	Bromodichloromethane	11.9 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1919	THM-ICR	Bromoform	8.2 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1920	THM-ICR	Chloroform	7.8 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1921	THM-ICR	Dibromochloromethane	14.6 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1922	UV-ICR	UV	0.022 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
1923	UV-ICR	UV (Dupl)	0.023 1/cm	SM 5910 B	1	0.009	4/17/98		4/17/98	8-0-165
			0.022 1/cm	4.5 % RPD						

Sample ID: 105.7.5.Eff-19

S&H ID: 9804-301

Date Sampled: 4/18/98 10:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1924	Cl2Dose	Chlorine Dose	4.09	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1925	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1926	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1927	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1928	HAA-ICR	Bromochloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1929	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1930	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1931	HAA-ICR	Dibromoacetic acid	4.1	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1932	HAA-ICR	Dichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1933	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1934	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1935	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1936	HAA-ICR	Trichloroacetic acid	1.0 µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1937	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/21/98	n/a
1938	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
1939	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	4/18/98		4/18/98	n/a
1940	TEMP	Cl2 Temperature	8.8 °C	SM 2550 B	1	n/a	4/20/98		4/21/98	n/a
1941	TEMP	Temperature	20.6 °C	SM 2550 B	1	n/a	4/18/98		4/18/98	n/a
1942	TIME	Cl2 Incubation Time	24.3 hrs	n/a	1	n/a	4/20/98		4/21/98	n/a
1943	TOC-ICR	TOC	1.13 mg/L	SM 5310 C	1	0.50	4/18/98		4/18/98	7-0-241
1944	TOC-ICR	TOC (Dupl)	1.16 mg/L	SM 5310 C	1	0.50	4/18/98		4/18/98	7-0-241
			1.15 mg/L	2.6 % RPD						
1945	TOX-ICR	TOX	59 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
1946	TOX-ICR	TOX (Dupl)	64 µg Cl-/L	SM 5320 B	1	25	4/21/98		4/27/98	12-0-123
			62 µg Cl-/L	8.1 % RPD						
1947	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0 %	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1948	THM-ICR	Bromodichloromethane	9.6 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1949	THM-ICR	Bromoform	8.8 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1950	THM-ICR	Chloroform	6.3 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1951	THM-ICR	Dibromochloromethane	12.8 µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98	0-117-0
1952	UV-ICR	UV	0.020 1/cm	SM 5910 B	1	0.009	4/18/98		4/18/98	8-0-166
1953	UV-ICR	UV (Dupl)	0.020 1/cm	SM 5910 B	1	0.009	4/18/98		4/18/98	8-0-166
			0.020 1/cm	0.0 % RPD						

Sample ID: 105.7.5.Eff-19d

S&H ID: 9804-302

Date Sampled: 4/18/98 10:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1954	Cl2Dose	Chlorine Dose	4.10	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/20/98		4/20/98	n/a
1955	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/20/98		4/21/98	n/a
1956	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1957	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1958	HAA-ICR	Bromochloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1959	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1960	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1961	HAA-ICR	Dibromoacetic acid	3.9	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1962	HAA-ICR	Dichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1963	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0
1964	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/21/98	4/29/98	4/30/98	0-119-0
1965	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	4/21/98	4/29/98	4/30/98	0-119-0
1966	HAA-ICR	Trichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	4/21/98	4/29/98	4/30/98	0-119-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1967	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	4/20/98	4/21/98	n/a
1968	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	4/20/98	4/20/98	n/a
1969	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	4/18/98	4/18/98	n/a
1970	TEMP	Cl2 Temperature	8.8	°C	SM 2550 B	1	n/a	4/20/98	4/21/98	n/a
1971	TEMP	Temperature	20.7	°C	SM 2550 B	1	n/a	4/18/98	4/18/98	n/a
1972	TIME	Cl2 Incubation Time	24.4	hrs	n/a	1	n/a	4/20/98	4/21/98	n/a
1973	TOC-ICR	TOC	1.18	mg/L	SM 5310 C	1	0.50	4/18/98	4/18/98	7-0-241
1974	TOC-ICR	TOC (Dupl)	1.16	mg/L	SM 5310 C	1	0.50	4/18/98	4/18/98	7-0-241
			1.17	mg/L	1.7 % RPD					
1975	TOX-ICR	TOX	61	µg Cl-/L	SM 5320 B	1	25	4/21/98	4/27/98	12-0-123
1976	TOX-ICR	TOX (Dupl)	64	µg Cl-/L	SM 5320 B	1	25	4/21/98	4/27/98	12-0-123
			63	µg Cl-/L	4.8 % RPD					
1977	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1978	THM-ICR	Bromodichloromethane	9.3	µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1979	THM-ICR	Bromoform	8.5	µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1980	THM-ICR	Chloroform	6.2	µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1981	THM-ICR	Dibromochloromethane	12.6	µg/L	EPA 551.1	1	1.0	4/21/98	4/27/98	4/28/98 0-117-0
1982	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	4/18/98	4/18/98	8-0-166
1983	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	4/18/98	4/18/98	8-0-166
			0.020	1/cm	0.0 % RPD					

Sample ID: 105.20.Eff-41

S&H ID: 9804-312

Date Sampled: 4/18/98 8:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1984	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	4/18/98		4/18/98	n/a
1985	TEMP	Temperature	21.5	°C	SM 2550 B	1	n/a	4/18/98		4/18/98	n/a
1986	TOC-ICR	TOC	1.25	mg/L	SM 5310 C	1	0.50	4/18/98		4/20/98	7-0-242
1987	TOC-ICR	TOC (Dupl)	1.24	mg/L	SM 5310 C	1	0.50	4/18/98		4/21/98	7-0-242
			1.25	mg/L	0.8 % RPD						

Sample ID: 105.7.5.Eff-23

S&H ID: 9804-319

Date Sampled: 4/19/98 9:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1988	Cl2Dose	Chlorine Dose	4.14	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/23/98		4/23/98	n/a
1989	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/23/98		4/24/98	n/a
1990	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.6	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1991	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1992	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1993	HAA-ICR	Bromodichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

1994	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
1995	HAA-ICR	Dibromoacetic acid	3.7 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1996	HAA-ICR	Dichloroacetic acid	3.2 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1997	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
1998	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
1999	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/24/98	5/4/98	5/5/98	0-121-0
2000	HAA-ICR	Trichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2001	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/24/98	n/a
2002	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/23/98	n/a
2003	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	4/19/98		4/19/98	n/a
2004	TEMP	Cl2 Temperature	7.7 °C	SM 2550 B	1	n/a	4/23/98		4/24/98	n/a
2005	TEMP	Temperature	20.8 °C	SM 2550 B	1	n/a	4/19/98		4/19/98	n/a
2006	TIME	Cl2 Incubation Time	23.6 hrs	n/a	1	n/a	4/23/98		4/24/98	n/a
2007	TOC-ICR	TOC	1.24 mg/L	SM 5310 C	1	0.50	4/19/98		4/20/98	7-0-242
2008	TOC-ICR	TOC (Dupl)	1.24 mg/L	SM 5310 C	1	0.50	4/19/98		4/20/98	7-0-242
			1.24 mg/L	0.0 % RPD						
2009	TOX-ICR	TOX	68 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
2010	TOX-ICR	TOX (Dupl)	74 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
			71 µg Cl-/L	8.5 % RPD						
2011	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6 %	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2012	THM-ICR	Bromodichloromethane	10.7 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2013	THM-ICR	Bromoform	8.2 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2014	THM-ICR	Chloroform	7.0 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2015	THM-ICR	Dibromochloromethane	13.5 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2016	UV-ICR	UV	0.023 1/cm	SM 5910 B	1	0.009	4/19/98		4/20/98	8-0-167
2017	UV-ICR	UV (Dupl)	0.023 1/cm	SM 5910 B	1	0.009	4/19/98		4/20/98	8-0-167
			0.023 1/cm	0.0 % RPD						

Sample ID: 105.7.5.Eff-26

S&H ID: 9804-334

Date Sampled: 4/20/98 2:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2018	Cl2Dose	Chlorine Dose	4.21	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/23/98		4/23/98	n/a
2019	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/23/98		4/24/98	n/a
2020	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	114.4	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2021	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2022	HAA-ICR	Bromochloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2023	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2024	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
2025	HAA-ICR	Dibromoacetic acid	3.6	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

2026	HAA-ICR	Dichloroacetic acid	3.9 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2027	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2028	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
2029	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/24/98	5/4/98	5/5/98	0-121-0
2030	HAA-ICR	Trichloroacetic acid	1.3 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2031	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/24/98	n/a
2032	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/23/98	n/a
2033	pH	pH	8.8 Unit	SM 4500-H+ B	1	n/a	4/20/98		4/20/98	n/a
2034	TEMP	Cl2 Temperature	7.7 °C	SM 2550 B	1	n/a	4/23/98		4/24/98	n/a
2035	TEMP	Temperature	22.1 °C	SM 2550 B	1	n/a	4/20/98		4/20/98	n/a
2036	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	4/23/98		4/24/98	n/a
2037	TOC-ICR	TOC	1.38 mg/L	SM 5310 C	1	0.50	4/20/98		4/20/98	7-0-242
2038	TOC-ICR	TOC (Dupl)	1.36 mg/L	SM 5310 C	1	0.50	4/20/98		4/20/98	7-0-242
			1.37 mg/L	1.5 % RPD						
2039	TOX-ICR	TOX	83 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
2040	TOX-ICR	TOX (Dupl)	83 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
			83 µg Cl-/L	0.0 % RPD						
2041	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2 %	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2042	THM-ICR	Bromodichloromethane	12.0 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2043	THM-ICR	Bromoform	7.1 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2044	THM-ICR	Chloroform	7.9 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2045	THM-ICR	Dibromochloromethane	14.1 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2046	UV-ICR	UV	0.024 1/cm	SM 5910 B	1	0.009	4/20/98		4/22/98	8-0-168
2047	UV-ICR	UV (Dupl)	0.025 1/cm	SM 5910 B	1	0.009	4/20/98		4/22/98	8-0-168
			0.025 1/cm	4.0 % RPD						

Sample ID: 105.INF.A-4

S&H ID: 9804-356

Date Sampled: 4/21/98 3:55:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2048	ALK	Alkalinity	74	mg/L	SM 2320 B	1	5	4/21/98		4/22/98	1-0-18
2049	ALK	Alkalinity (Dupl)	71	mg/L	SM 2320 B	1	5	4/21/98		4/22/98	1-0-18
			73 mg/L		4.1 % RPD						
2050	NH3	Ammonia Nitrogen	0.28	mg/L	EPA 350.1	1	0.05	4/21/98		5/7/98	MW77103
2051	BR	Bromide	0.070	mg/L	EPA 300.0 A	1	0.020	4/21/98		5/11/98	MW77255
2052	CaHardM	Calcium Hardness	32	mg/L CaCO3	EPA 200.7	1	5	4/21/98		5/5/98	MW n/a
2053	CaMW	Calcium, Total, ICAP	13	mg/L	EPA 200.7	1	1	4/21/98	5/4/98	5/4/98	MW76928
2054	MgMW	Magnesium, Total, ICAP	27	mg/L	EPA 200.7	1	0	4/21/98	5/4/98	5/4/98	MW76929
2055	TotHard	Total Hardness as CaCO3 by ICP	143	mg/L CaCO3	SM 2340B	1	5	4/21/98		5/5/98	MW n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

Sample ID: 105.7.5.Eff-27

S&H ID: 9804-368

Date Sampled: 4/22/98 6:23:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2056	pH	pH	9.0	Unit	SM 4500-H+ B	1	n/a	4/22/98		4/22/98	n/a
2057	TEMP	Temperature	21.2	°C	SM 2550 B	1	n/a	4/22/98		4/22/98	n/a
2058	TOC-ICR	TOC	1.38	mg/L	SM 5310 C	1	0.50	4/22/98		4/22/98	7-0-244
2059	TOC-ICR	TOC (Dupl)	1.39	mg/L	SM 5310 C	1	0.50	4/22/98		4/22/98	7-0-244
			1.38	mg/L	0.7 % RPD						

Sample ID: 105.INF.B-8

S&H ID: 9804-369

Date Sampled: 4/22/98 12:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2060	Cl2Dose	Chlorine Dose	4.65	mg/L as Cl2	SM 4500-Cl B	1	n/a	4/23/98		4/23/98	n/a
2061	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	4/23/98		4/24/98	n/a
2062	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2063	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	108.4	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			107.4	%	1.9 % RPD						
2064	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2065	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	96.8	%	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			96.8	%	0.0 % RPD						
2066	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2067	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	4.6	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			4.8	µg/L	6.3 % RPD						
2068	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2069	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	2.3	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			2.3	µg/L	0.0 % RPD						
2070	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
2071	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
			ND	µg/L							
2072	HAA-ICR	Dibromoacetic acid	3.5	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2073	HAA-ICR	Dibromoacetic acid (Lab Dupl)	3.4	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			3.5	µg/L	2.9 % RPD						
2074	HAA-ICR	Dichloroacetic acid	7.1	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2075	HAA-ICR	Dichloroacetic acid (Lab Dupl)	6.6	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			6.8	µg/L	7.4 % RPD						
2076	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2077	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

			ND µg/L							
2078	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
2079	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	4/24/98	5/4/98	5/5/98	0-121-0
			ND µg/L							
2080	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	4/24/98	5/4/98	5/5/98	0-121-0
2081	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	4.0	4/24/98	5/4/98	5/5/98	0-121-0
			ND µg/L							
2082	HAA-ICR	Trichloroacetic acid	3.1 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
2083	HAA-ICR	Trichloroacetic acid (Lab Dupl)	3.3 µg/L	EPA 552.2	1	1.0	4/24/98	5/4/98	5/5/98	0-121-0
			3.2 µg/L	6.2 % RPD						
2084	pH	Cl ₂ pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/24/98	n/a
2085	pH	Cl ₂ pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	4/23/98		4/23/98	n/a
2086	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	4/22/98		4/22/98	n/a
2087	TEMP	Cl ₂ Temperature	7.7 °C	SM 2550 B	1	n/a	4/23/98		4/24/98	n/a
2088	TEMP	Temperature	18.2 °C	SM 2550 B	1	n/a	4/22/98		4/22/98	n/a
2089	TIME	Cl ₂ Incubation Time	23.7 hrs	n/a	1	n/a	4/23/98		4/24/98	n/a
2090	TOC-ICR	TOC	1.83 mg/L	SM 5310 C	1	0.50	4/22/98		4/22/98	7-0-244
2091	TOC-ICR	TOC (Dupl)	1.81 mg/L	SM 5310 C	1	0.50	4/22/98		4/22/98	7-0-244
			1.82 mg/L	1.1 % RPD						
2092	TOX-ICR	TOX	124 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
2093	TOX-ICR	TOX (Dupl)	120 µg Cl-/L	SM 5320 B	1	25	4/24/98		4/29/98	12-0-125
			122 µg Cl-/L	3.3 % RPD						
2094	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.8 %	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2095	THM-ICR	Bromodichloromethane	16.6 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2096	THM-ICR	Bromoform	4.9 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2097	THM-ICR	Chloroform	15.6 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2098	THM-ICR	Dibromochloromethane	14.1 µg/L	EPA 551.1	1	1.0	4/24/98	4/30/98	4/30/98	0-120-0
2099	TURB	Turbidity	0.15 ntu	SM 2130 B	1	0.05	4/22/98		4/22/98	9-0-9
2100	UV-ICR	UV	0.038 1/cm	SM 5910 B	1	0.009	4/22/98		4/23/98	8-0-169
2101	UV-ICR	UV (Dupl)	0.038 1/cm	SM 5910 B	1	0.009	4/22/98		4/23/98	8-0-169
			0.038 1/cm	0.0 % RPD						

End of laboratory test results

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Quality Control Report

Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study#: 105
Study Title: ICR RSSCT #1

Analysis: ALK (Alkalinity)

Method: SM 2320 B

QC Batch ID: 1-0-17

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	100	94	mg/L	94%		04/01/98	9803-359	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		04/01/98	9803-359	5		
		100	96	mg/L	96%	3.1 %					
Method Blank	Method Blank		ND*	mg/L			04/01/98	9804-5	5		
Standard	Standard	100	99	mg/L	99%		04/01/98	9804-4	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		04/01/98	9804-4	5		
		100	100	mg/L	100%	2.0 %					
Matrix Spike	Matrix Spike	100	97	mg/L	97%		04/09/98	9804-145	5		
Matrix Spike (Dupl)	Matrix Spike	100	94	mg/L	94%		04/09/98	9804-145	5		
		100	96	mg/L	96%	3.1 %					
Method Blank	Method Blank		ND*	mg/L			04/09/98	9804-151	5		
Standard	Standard	100	99	mg/L	99%		04/09/98	9804-152	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		04/09/98	9804-152	5		
		100	100	mg/L	100%	1.0 %					

Analysis: ALK (Alkalinity)

Method: SM 2320 B

QC Batch ID: 1-0-18

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	100	101	mg/L	101%		04/14/98	9804-201	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		04/14/98	9804-201	5		
		100	100	mg/L	100%	3.0 %					
Method Blank	Method Blank		ND*	mg/L			04/14/98	9804-211	5		
Standard	Standard	100	101	mg/L	101%		04/14/98	9804-212	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		04/14/98	9804-212	5		
		100	101	mg/L	101%	0.0 %					
Matrix Spike	Matrix Spike	100	95	mg/L	95%		04/22/98	9804-356	5		
Matrix Spike (Dupl)	Matrix Spike	100	93	mg/L	93%		04/22/98	9804-356	5		
		100	94	mg/L	94%	2.1 %					
Method Blank	Method Blank		ND*	mg/L			04/22/98	9804-359	5		
Standard	Standard	100	100	mg/L	100%		04/22/98	9804-360	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		04/22/98	9804-360	5		
		100	100	mg/L	100%	0.0 %					

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-220

C Batch ID: 7-0-220

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.45	mg/L	111%		9803-296	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.38	mg/L	110%		9803-296	0.5		
		4.00	4.41	mg/L	110%	1.6 %				
Method Blank	Method Blank		ND*	mg/L			9803-281	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-281	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.60	mg/L	120%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.64	mg/L	128%		9803-143	0.5	50-150%	
		0.50	0.62	mg/L	124%	6.5 %			50-150%	20%
Standard	Standard	4.00	4.17	mg/L	104%		9803-236	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.09	mg/L	102%		9803-236	0.5	90-110%	
		4.00	4.13	mg/L	103%	1.9 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-223

C Batch ID: 7-0-223

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.23	mg/L	106%		9803-312	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.19	mg/L	105%		9803-312	0.5		
		4.00	4.21	mg/L	105%	0.7 %				
Method Blank	Method Blank		ND*	mg/L			9803-314	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-314	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.56	mg/L	112%		9803-235	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.57	mg/L	114%		9803-235	0.5	50-150%	
		0.50	0.57	mg/L	114%	1.8 %			50-150%	20%
Standard	Standard	4.00	4.10	mg/L	102%		9803-236	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9803-236	0.5	90-110%	
		4.00	4.07	mg/L	102%	1.2 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-225

C Batch ID: 7-0-225									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.12	mg/L	103%		9803-344	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.21	mg/L	105%		9803-344	0.5		
		4.00	4.17	mg/L	104%	2.4 %				
Method Blank	Method Blank		ND*	mg/L			9803-353	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-353	0.5		
			ND*	mg/L						

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

Standard	Standard	0.50	0.55 mg/L	110%	9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52 mg/L	104%	9803-143	0.5	50-150%	
		0.50	0.53 mg/L	106%			50-150%	20%
Standard	Standard	4.00	3.94 mg/L	98%	9803-236	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02 mg/L	100%	9803-236	0.5	90-110%	
		4.00	3.98 mg/L	100%			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-226

C Batch ID: 7-0-226								Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.27	mg/L	107%		9804-3	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.28	mg/L	107%		9804-3	0.5		
		4.00	4.28	mg/L	107%	0.2 %				
Method Blank	Method Blank		ND*	mg/L			9804-1	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-1	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.56	mg/L	112%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9803-143	0.5	50-150%	
		0.50	0.55	mg/L	110%	3.6 %			50-150%	20%
Standard	Standard	4.00	3.84	mg/L	96%		9803-236	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9803-236	0.5	90-110%	
		4.00	3.92	mg/L	98%	3.8 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-227

C Batch ID: 7-0-227									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.23	mg/L	106%		9804-21	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.41	mg/L	110%		9804-21	0.5		
		4.00	4.32	mg/L	108%	4.2 %				
Method Blank	Method Blank		ND*	mg/L			9804-33	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-33	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.59	mg/L	118%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.59	mg/L	118%		9803-143	0.5	50-150%	
		0.50	0.59	mg/L	118%	0.0 %			50-150%	20%
Standard	Standard	4.00	4.07	mg/L	102%		9803-236	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9803-236	0.5	90-110%	
		4.00	4.03	mg/L	101%	1.7 %			90-110%	10%
Standard	Standard	10.00	10.10	mg/L	101%		9803-173	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.10	mg/L	101%		9803-173	0.5	90-110%	
		10.00	10.10	mg/L	101%	0.0 %			90-110%	10%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-228

C Batch ID: 7-0-228

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Matrix Spike	Matrix Spike	4.00	4.11	mg/L	103%		9804-44	0.5			
Matrix Spike (Dupl)	Matrix Spike	4.00	4.07	mg/L	102%		9804-44	0.5			
		4.00	4.09	mg/L	102%	1.0 %					
Method Blank	Method Blank		ND*	mg/L			9804-49	0.5			
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-49	0.5			
			ND*	mg/L							
Standard	Standard	0.50	0.60	mg/L	120%		9803-143	0.5	50-150%		
Standard (Dupl)	Standard	0.50	0.59	mg/L	118%		9803-143	0.5	50-150%		
		0.50	0.59	mg/L	118%	1.7 %			50-150%	20%	
Standard	Standard	4.00	4.01	mg/L	100%		9803-236	0.5	90-110%		
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9803-236	0.5	90-110%		
		4.00	4.02	mg/L	100%	0.7 %			90-110%	10%	
Standard	Standard	10.00	9.95	mg/L	99%		9803-173	0.5	90-110%		
Standard (Dupl)	Standard	10.00	9.96	mg/L	100%		9803-173	0.5	90-110%		
		10.00	9.95	mg/L	99%	0.1 %			90-110%	10%	

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-229

C Batch ID: 7-0-229

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Matrix Spike	Matrix Spike	4.00	4.34	mg/L	109%		9804-67	0.5			
Matrix Spike (Dupl)	Matrix Spike	4.00	4.17	mg/L	104%		9804-67	0.5			
		4.00	4.26	mg/L	106%	4.0 %					
Method Blank	Method Blank		ND*	mg/L			9804-64	0.5			
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-64	0.5			
			ND*	mg/L							
Standard	Standard	0.50	0.55	mg/L	110%		9804-59	0.5	50-150%		
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9804-59	0.5	50-150%		
		0.50	0.53	mg/L	106%	7.5 %			50-150%	20%	
Standard	Standard	4.00	3.92	mg/L	98%		9804-60	0.5	90-110%		
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9804-60	0.5	90-110%		
		4.00	3.95	mg/L	99%	1.3 %			90-110%	10%	
Standard	Standard	10.00	9.96	mg/L	100%		9804-73	0.5	90-110%		
Standard (Dupl)	Standard	10.00	10.10	mg/L	101%		9804-73	0.5	90-110%		
		10.00	10.03	mg/L	100%	1.4 %			90-110%	10%	

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-230

C Batch ID: 7-0-230										Acceptance Criteria		
QC Type		Spike	Recovery	Unit		Yield	RPD		S&H ID	MRL	Range	RPD

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Matrix Spike	Matrix Spike	4.00	4.12 mg/L	103%	9804-78	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.24 mg/L	106%	9804-78	0.5		
		4.00	4.18 mg/L	104%	2.9 %			
Method Blank	Method Blank		ND* mg/L		9804-83	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L		9804-83	0.5		
			ND* mg/L					
Standard	Standard	0.50	0.51 mg/L	102%	9804-59	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50 mg/L	100%	9804-59	0.5	50-150%	
		0.50	0.50 mg/L	100%	2.0 %		50-150%	20%
Standard	Standard	4.00	3.98 mg/L	100%	9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98 mg/L	100%	9804-60	0.5	90-110%	
		4.00	3.98 mg/L	100%	0.0 %		90-110%	10%
Standard	Standard	10.00	9.80 mg/L	98%	9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.90 mg/L	99%	9804-73	0.5	90-110%	
		10.00	9.85 mg/L	98%	1.0 %		90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-231

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
Matrix Spike	Matrix Spike	4.00	4.27 mg/L	107%			9804-109	0.5	Range	RPD
Matrix Spike (Dupl)	Matrix Spike	4.00	4.32 mg/L	108%			9804-109	0.5		
		4.00	4.30 mg/L	108%	0.9 %					
Method Blank	Method Blank		ND* mg/L				9804-114	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L				9804-114	0.5		
			ND* mg/L							
Standard	Standard	0.50	0.49 mg/L	98%			9804-59	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48 mg/L	96%			9804-59	0.5	50-150%	
		0.50	0.49 mg/L	98%	2.0 %				50-150%	20%
Standard	Standard	4.00	4.08 mg/L	102%			9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96 mg/L	99%			9804-60	0.5	90-110%	
		4.00	4.02 mg/L	100%	3.0 %				90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-232

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
Matrix Spike	Matrix Spike	4.00	4.30 mg/L	108%			9804-123	0.5	Range	RPD
Matrix Spike (Dupl)	Matrix Spike	4.00	4.23 mg/L	106%			9804-123	0.5		
		4.00	4.27 mg/L	107%	1.6 %					
Method Blank	Method Blank		ND* mg/L				9804-130	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L				9804-130	0.5		
			ND* mg/L							
Standard	Standard	0.50	0.49 mg/L	98%			9804-59	0.5	50-150%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard (Dupl)	Standard	0.50	0.51 mg/L	102%		9804-59	0.5	50-150%	
		0.50	0.50 mg/L	100%	4.0 %			50-150%	20%
Standard	Standard	4.00	4.01 mg/L	100%		9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99 mg/L	100%		9804-60	0.5	90-110%	
		4.00	4.00 mg/L	100%	0.5 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-233

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Matrix Spike	Matrix Spike	4.00	4.25	mg/L	106%		9804-135	0.5	
Matrix Spike (Dupl)	Matrix Spike	4.00	4.24	mg/L	106%		9804-135	0.5	
		4.00	4.25	mg/L	106%	0.2 %			
Method Blank	Method Blank		ND*	mg/L			9804-146	0.5	
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-146	0.5	
			ND*	mg/L					
Standard	Standard	0.50	0.51	mg/L	102%		9804-59	0.5	50-150%
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9804-59	0.5	50-150%
		0.50	0.51	mg/L	102%	2.0 %			50-150% 20%
Standard	Standard	4.00	4.05	mg/L	101%		9804-60	0.5	90-110%
Standard (Dupl)	Standard	4.00	4.12	mg/L	103%		9804-60	0.5	90-110%
		4.00	4.09	mg/L	102%	1.7 %			90-110% 10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-234

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Matrix Spike	Matrix Spike	4.00	4.36	mg/L	109%		9804-161	0.5	
Matrix Spike (Dupl)	Matrix Spike	4.00	4.22	mg/L	105%		9804-161	0.5	
		4.00	4.29	mg/L	107%	3.5 %			
Method Blank	Method Blank		ND*	mg/L			9804-166	0.5	
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-166	0.5	
			ND*	mg/L					
Standard	Standard	0.50	0.52	mg/L	104%		9804-59	0.5	50-150%
Standard (Dupl)	Standard	0.50	0.63	mg/L	126%		9804-59	0.5	50-150%
		0.50	0.57	mg/L	114%	19.3 %			50-150% 20%
Standard	Standard	4.00	4.06	mg/L	101%		9804-60	0.5	90-110%
Standard (Dupl)	Standard	4.00	4.10	mg/L	102%		9804-60	0.5	90-110%
		4.00	4.08	mg/L	102%	1.0 %			90-110% 10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-235

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Matrix Spike	Matrix Spike	4.00	4.19 mg/L	105%	9804-183	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.25 mg/L	106%	9804-183	0.5		
		4.00	4.22 mg/L	105%	1.4 %			
Method Blank	Method Blank		ND* mg/L		9804-181	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L		9804-181	0.5		
			ND* mg/L					
Standard	Standard	0.50	0.51 mg/L	102%	9804-59	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51 mg/L	102%	9804-59	0.5	50-150%	
		0.50	0.51 mg/L	102%	0.0 %		50-150%	20%
Standard	Standard	4.00	4.01 mg/L	100%	9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04 mg/L	101%	9804-60	0.5	90-110%	
		4.00	4.02 mg/L	100%	0.7 %		90-110%	10%
Standard	Standard	10.00	10.30 mg/L	103%	9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.25 mg/L	102%	9804-73	0.5	90-110%	
		10.00	10.28 mg/L	103%	0.5 %		90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-236

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
Matrix Spike	Matrix Spike	4.00	4.37	mg/L	109%		9804-187	0.5	Range	RPD
Matrix Spike (Dupl)	Matrix Spike	4.00	4.22	mg/L	105%		9804-187	0.5		
		4.00	4.30	mg/L	108%	3.5 %				
Method Blank	Method Blank		ND*	mg/L			9804-195	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-195	0.5		
			ND* mg/L							
Standard	Standard	0.50	0.50	mg/L	100%		9804-59	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9804-59	0.5	50-150%	
		0.50	0.51	mg/L	102%	2.0 %			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9804-60	0.5	90-110%	
		4.00	3.96	mg/L	99%	0.3 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-237

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
Matrix Spike	Matrix Spike	4.00	4.20	mg/L	105%		9804-213	0.5	Range	RPD
Matrix Spike (Dupl)	Matrix Spike	4.00	4.26	mg/L	106%		9804-213	0.5		
		4.00	4.23	mg/L	106%	1.4 %				
Method Blank	Method Blank		ND*	mg/L			9804-210	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-210	0.5		
			ND* mg/L							
Standard	Standard	0.50	0.52	mg/L	104%		9804-59	0.5	50-150%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard (Dupl)	Standard	0.50	0.52 mg/L	104%		9804-59	0.5	50-150%	
		0.50	0.52 mg/L	104%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.91 mg/L	98%		9804-60	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.07 mg/L	102%		9804-60	0.5	90-110%	
		4.00	3.99 mg/L	100%	4.0 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-238

		Acceptance Criteria							
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u> <u>RPD</u>
Matrix Spike	Matrix Spike	4.00	4.29	mg/L	107%		9804-252	0.5	
Matrix Spike (Dupl)	Matrix Spike	4.00	4.43	mg/L	111%		9804-252	0.5	
		4.00	4.36	mg/L	109%	3.0 %			
Method Blank	Method Blank		ND*	mg/L			9804-262	0.5	
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-262	0.5	
			ND*	mg/L					
Standard	Standard	0.50	0.49	mg/L	98%		9804-59	0.5	50-150%
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9804-59	0.5	50-150%
		0.50	0.49	mg/L	98%	0.0 %			50-150% 20%
Standard	Standard	4.00	4.02	mg/L	100%		9804-60	0.5	90-110%
Standard (Dupl)	Standard	4.00	4.07	mg/L	102%		9804-60	0.5	90-110%
		4.00	4.04	mg/L	101%	1.2 %			90-110% 10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-239

		Acceptance Criteria							
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u> <u>RPD</u>
Matrix Spike	Matrix Spike	4.00	4.83	mg/L	121%		9804-223	0.5	
Matrix Spike (Dupl)	Matrix Spike	4.00	4.83	mg/L	121%		9804-223	0.5	
		4.00	4.83	mg/L	121%	0.2 %			
Matrix Spike	Matrix Spike	4.00	4.55	mg/L	114%		9804-248	0.5	
Matrix Spike (Dupl)	Matrix Spike	4.00	4.48	mg/L	112%		9804-248	0.5	
		4.00	4.52	mg/L	113%	1.3 %			
Method Blank	Method Blank		ND*	mg/L			9804-210	0.5	
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-210	0.5	
			ND*	mg/L					
Standard	Standard	0.50	0.56	mg/L	112%		9804-59	0.5	50-150%
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9804-59	0.5	50-150%
		0.50	0.52	mg/L	104%	15.4 %			50-150% 20%
Standard	Standard	4.00	4.23	mg/L	106%		9804-60	0.5	90-110%
Standard (Dupl)	Standard	4.00	4.16	mg/L	104%		9804-60	0.5	90-110%
		4.00	4.19	mg/L	105%	1.7 %			90-110% 10%
Standard	Standard	4.00	4.13	mg/L	103%		9804-60	0.5	90-110%
Standard (Dupl)	Standard	4.00	4.20	mg/L	105%		9804-60	0.5	90-110%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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		4.00	4.17 mg/L	104%	1.7 %			90-110%	10%
Standard	Standard	10.00	10.93 mg/L	109%		9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	11.01 mg/L	110%		9804-73	0.5	90-110%	
		10.00	10.97 mg/L	110%	0.7 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-240

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9804-276	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9804-276	0.5		
		4.00	4.01	mg/L	100%	0.2 %				
Method Blank	Method Blank		ND*	mg/L			9804-284	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-284	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.50	mg/L	100%		9804-267	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9804-267	0.5	50-150%	
		0.50	0.49	mg/L	98%	4.1 %			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9804-268	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.92	mg/L	98%		9804-268	0.5	90-110%	
		4.00	3.94	mg/L	98%	1.0 %			90-110%	10%
Standard	Standard	10.00	9.83	mg/L	98%		9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.00	mg/L	100%		9804-73	0.5	90-110%	
		10.00	9.91	mg/L	99%	1.7 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-241

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	4.00	4.04	mg/L	101%		9804-299	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.07	mg/L	102%		9804-299	0.5		
		4.00	4.06	mg/L	101%	0.7 %				
Method Blank	Method Blank		ND*	mg/L			9804-303	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-303	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.53	mg/L	106%		9804-267	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9804-267	0.5	50-150%	
		0.50	0.53	mg/L	106%	0.0 %			50-150%	20%
Standard	Standard	4.00	4.09	mg/L	102%		9804-268	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9804-268	0.5	90-110%	
		4.00	4.06	mg/L	101%	1.5 %			90-110%	10%
Standard	Standard	10.00	10.19	mg/L	102%		9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.20	mg/L	102%		9804-73	0.5	90-110%	
		10.00	10.20	mg/L	102%	0.1 %			90-110%	10%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Study Title: ICR RSSCT #1

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-242

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.97	mg/L	99%		9804-317	0.5		
Method Blank	Method Blank		ND*	mg/L			9804-326	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-326	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.51	mg/L	102%		9804-267	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9804-267	0.5	50-150%	
		0.50	0.51	mg/L	102%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9804-268	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9804-268	0.5	90-110%	
		4.00	3.95	mg/L	99%	1.5 %			90-110%	10%
Standard	Standard	10.00	10.13	mg/L	101%		9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.19	mg/L	102%		9804-73	0.5	90-110%	
		10.00	10.16	mg/L	102%	0.6 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-244

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.87	mg/L	97%		9804-365	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.92	mg/L	98%		9804-365	0.5		
		4.00	3.89	mg/L	97%	1.5 %				
Method Blank	Method Blank		ND*	mg/L			9804-357	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9804-357	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.42	mg/L	84%		9804-267	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.43	mg/L	86%		9804-267	0.5	50-150%	
		0.50	0.43	mg/L	86%	2.3 %			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9804-268	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.93	mg/L	98%		9804-268	0.5	90-110%	
		4.00	3.94	mg/L	98%	0.3 %			90-110%	10%
Standard	Standard	10.00	10.02	mg/L	100%		9804-73	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.00	mg/L	100%		9804-73	0.5	90-110%	
		10.00	10.01	mg/L	100%	0.2 %			90-110%	10%

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-154

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9804-6	0.009		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Method Blank (Dupl)	Method Blank	ND*	1/cm			9804-6	0.009		
		ND*	1/cm						
Method Blank	Method Blank	ND*	1/cm			9804-6	0.009		
Method Blank (Dupl)	Method Blank	ND*	1/cm			9804-6	0.009		
		ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%	9803-237	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%	9803-237	0.009	75-125%	
		0.009	0.008	1/cm	89%			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%	9803-238	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%	9803-238	0.009	85-115%	
		0.088	0.086	1/cm	98%			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-156

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank	ND*	1/cm				9804-50	0.009			
Method Blank (Dupl)	Method Blank	ND*	1/cm				9804-50	0.009			
		ND*	1/cm								
Method Blank	Method Blank	ND*	1/cm				9804-50	0.009			
Method Blank (Dupl)	Method Blank	ND*	1/cm				9804-50	0.009			
		ND*	1/cm								
Standard	Standard	0.009	0.008	1/cm	89%		9803-237	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-237	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.085	1/cm	97%		9803-238	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9803-238	0.009	85-115%		
		0.088	0.085	1/cm	97%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-157

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank	ND*	1/cm				9804-65	0.009			
Method Blank (Dupl)	Method Blank	ND*	1/cm				9804-65	0.009			
		ND*	1/cm								
Method Blank	Method Blank	ND*	1/cm				9804-65	0.009			
Method Blank (Dupl)	Method Blank	ND*	1/cm				9804-65	0.009			
		ND*	1/cm								
Standard	Standard	0.009	0.007	1/cm	78%		9803-237	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9803-237	0.009	75-125%		
		0.009	0.007	1/cm	78%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.085	1/cm	97%		9803-238	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9803-238	0.009	85-115%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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0.088	0.085	1/cm	97%	0.0 %	85-115%	10%
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Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-158

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9804-99	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-99	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-99	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-99	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
		0.088	0.086	1/cm	98%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-159

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9804-131	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-131	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-131	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-131	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
		0.088	0.086	1/cm	98%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-160

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9804-167	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-167	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-167	0.009			

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Method Blank (Dupl)	Method Blank	ND*	1/cm			9804-167	0.009		
		ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%	9804-61	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%	9804-61	0.009	75-125%	
		0.009	0.008	1/cm	89%			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%	9804-62	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%	9804-62	0.009	85-115%	
		0.088	0.085	1/cm	97%			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-161

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank		ND*	1/cm			9804-182	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-182	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-182	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-182	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%		
		0.088	0.085	1/cm	97%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-162

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank		ND*	1/cm			9804-196	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-196	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-196	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-196	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9804-62	0.009	85-115%		
		0.088	0.086	1/cm	98%	0.0 %			85-115%	10%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Study Title: ICR RSSCT #1**Analysis:** UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-163

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Method Blank	Method Blank		ND*	1/cm			9804-241	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-241	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9804-241	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-241	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-61	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%	
		0.088	0.085	1/cm	97%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-164

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Method Blank	Method Blank		ND*	1/cm			9804-263	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-263	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9804-263	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-263	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.007	1/cm	78%		9804-61	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9804-61	0.009	75-125%	
		0.009	0.007	1/cm	78%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9804-62	0.009	85-115%	
		0.088	0.085	1/cm	97%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-165

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Method Blank	Method Blank		ND*	1/cm			9804-290	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-290	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9804-290	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-290	0.009		
			ND*	1/cm						

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard	Standard	0.009	0.007	1/cm	78%	9804-269	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%	9804-269	0.009	75-125%	
		0.009	0.008	1/cm	89%			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%	9804-270	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%	9804-270	0.009	85-115%	
		0.088	0.086	1/cm	98%			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-166

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Method Blank	Method Blank		ND*	1/cm			9804-306	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-306	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9804-306	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-306	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.087	1/cm	99%		9804-270	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9804-270	0.009	85-115%	
		0.088	0.087	1/cm	99%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-167

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Method Blank	Method Blank		ND*	1/cm			9804-331	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-331	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9804-331	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-331	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9804-270	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9804-270	0.009	85-115%	
		0.088	0.086	1/cm	98%	0.0 %			85-115%	10%

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Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-168

C Batch ID: 8-0-168

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9804-358	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-358	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-358	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-358	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.007	1/cm	78%		9804-269	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9804-269	0.009	75-125%		
		0.009	0.007	1/cm	78%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.084	1/cm	95%		9804-270	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9804-270	0.009	85-115%		
		0.088	0.084	1/cm	95%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-169

C Batch ID: 8-0-169										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9804-390	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-390	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9804-390	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9804-390	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-269	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.085	1/cm	97%		9804-270	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9804-270	0.009	85-115%		
		0.088	0.085	1/cm	97%	0.0 %			85-115%	10%	

Analysis: TURB (Turbidity)

Method: SM 2130 B

QC Batch ID: 9-0-9

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Range	RPD
Standard	Standard	4.51	4.61	ntu	102%		03/31/98	9902-79	0.05		
Standard	Standard	4.51	4.57	ntu	101%		04/04/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		04/09/98	9902-79	0.05		
Standard	Standard	4.51	4.57	ntu	101%		04/10/98	9902-79	0.05		
Standard	Standard	4.51	4.59	ntu	102%		04/13/98	9902-79	0.05		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard	Standard	4.51	4.59	ntu	102%	04/13/98	9902-79	0.05
Standard	Standard	4.51	4.62	ntu	102%	04/17/98	9902-79	0.05
Standard	Standard	4.51	4.58	ntu	102%	04/22/98	9902-79	0.05

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-113

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9804-128	25	75-125%	
Standard - TCP Aqueous	Standard	200	225	µg Cl-/L	113%		9804-127	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-129	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-114

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	222	µg Cl-/L	111%		9804-88	25		
Matrix Spike (Dupl)	Matrix Spike	200	210	µg Cl-/L	105%		9804-88	25		
		200	216	µg Cl-/L	108%	5.6 %				
Standard - TCP Aqueous	Standard	25	27	µg Cl-/L	108%		9804-143	25	75-125%	
Standard - TCP Aqueous	Standard	200	214	µg Cl-/L	107%		9804-142	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-144	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-115

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9804-156	25	75-125%	
Standard - TCP Aqueous	Standard	200	217	µg Cl-/L	109%		9804-155	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-157	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-116

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	220	µg Cl-/L	110%		9804-112	25		
Matrix Spike (Dupl)	Matrix Spike	200	223	µg Cl-/L	112%		9804-112	25		
		200	221	µg Cl-/L	111%	1.4 %				
Standard - TCP Aqueous	Standard	25	28	µg Cl-/L	112%		9804-192	25	75-125%	
Standard - TCP Aqueous	Standard	200	210	µg Cl-/L	105%		9804-191	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-193	25		

Acceptance
Criteria

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-117

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9804-232	25	75-125%	
Standard - TCP Aqueous	Standard	200	212	µg Cl-/L	106%		9804-231	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-233	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-118

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	223	µg Cl-/L	112%		9804-162	25		
Matrix Spike (Dupl)	Matrix Spike	200	223	µg Cl-/L	112%		9804-162	25		
		200	223	µg Cl-/L	112%	0.0 %				
Standard - TCP Aqueous	Standard	25	28	µg Cl-/L	112%		9804-260	25	75-125%	
Standard - TCP Aqueous	Standard	200	222	µg Cl-/L	111%		9804-259	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-261	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-119

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9804-282	25	75-125%	
Standard - TCP Aqueous	Standard	200	218	µg Cl-/L	109%		9804-281	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-283	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-120

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous (Dupl)	Standard	25	27	µg Cl-/L	108%		9804-329	25	75-125%	
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9804-328	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9804-330	25		

Acceptance
Criteria**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-121

<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	213	µg Cl-/L	106%		9804-257	25		
Matrix Spike (Dupl)	Matrix Spike	200	205	µg Cl-/L	102%		9804-257	25		

Acceptance
Criteria

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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		200	209	µg Cl-/L	104%	3.8 %		
Standard - TCP Aqueous	Standard	25	31	µg Cl-/L	124%		9804-379	25 75-125%
Standard - TCP Aqueous	Standard	200	220	µg Cl-/L	110%		9804-378	25 85-115%
System Blank	Blank		ND*	µg Cl-/L			9804-380	25

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-122

							Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9804-383	25	75-125%
Standard - TCP Aqueous (Dupl)	Standard	200	202	µg Cl-/L	101%		9804-382	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9804-384	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-123

							Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Standard - TCP Aqueous	Standard	25	21	µg Cl-/L	84%		9804-450	25	75-125%
Standard - TCP Aqueous	Standard	200	208	µg Cl-/L	104%		9804-449	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9804-451	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-125

							Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9804-497	25	75-125%
Standard - TCP Aqueous	Standard	200	207	µg Cl-/L	103%		9804-496	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9804-498	25	

Analysis: THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-104-0

							Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Bromodichloromethane	Duplicate	2.1	2.0	µg/L		4.9%	9804-58	1	
Bromodichloromethane	Matrix Spike	40.0	42.7	µg/L	107%		9804-81	1	
Bromodichloromethane	Method Blank		ND*	µg/L			9804-147	1	
Bromodichloromethane	Secondary Source Std	20.0	21.6	µg/L	108%		9804-148	1	70-130%
Bromodichloromethane	Standard	20.0	20.8	µg/L	104%		9804-149	1	80-120%
Bromodichloromethane	Standard	20.0	21.3	µg/L	106%		9804-149	1	80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Bromodichloromethane	Standard	40.0	42.5	µg/L	106%	9804-150	1	80-120%
Bromoform	Duplicate	4.5	4.7	µg/L	4.3%	9804-58	1	
Bromoform	Matrix Spike	40.0	44.7	µg/L	112%	9804-81	1	
Bromoform	Method Blank		ND*	µg/L		9804-147	1	
Bromoform	Secondary Source Std	20.0	20.4	µg/L	102%	9804-148	1	70-130%
Bromoform	Standard	20.0	20.5	µg/L	102%	9804-149	1	80-120%
Bromoform	Standard	20.0	20.0	µg/L	100%	9804-149	1	80-120%
Bromoform	Standard	40.0	42.5	µg/L	106%	9804-150	1	80-120%
Chloroform	Duplicate	ND	ND	µg/L	NA	9804-58	1	
Chloroform	Matrix Spike	40.0	40.5	µg/L	101%	9804-81	1	
Chloroform	Method Blank		ND*	µg/L		9804-147	1	
Chloroform	Secondary Source Std	20.0	22.1	µg/L	111%	9804-148	1	70-130%
Chloroform	Standard	20.0	20.4	µg/L	102%	9804-149	1	80-120%
Chloroform	Standard	20.0	21.5	µg/L	108%	9804-149	1	80-120%
Chloroform	Standard	40.0	41.1	µg/L	103%	9804-150	1	80-120%
Dibromochloromethane	Duplicate	3.6	3.7	µg/L	2.7%	9804-58	1	
Dibromochloromethane	Matrix Spike	40.0	40.9	µg/L	102%	9804-81	1	
Dibromochloromethane	Method Blank		ND*	µg/L		9804-147	1	
Dibromochloromethane	Secondary Source Std	20.0	21.1	µg/L	106%	9804-148	1	70-130%
Dibromochloromethane	Standard	20.0	20.8	µg/L	104%	9804-149	1	80-120%
Dibromochloromethane	Standard	20.0	21.0	µg/L	105%	9804-149	1	80-120%
Dibromochloromethane	Standard	40.0	42.7	µg/L	107%	9804-150	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-112-0

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Bromodichloromethane	Duplicate	1.9	1.8	µg/L		5.4%	9804-159	1		
Bromodichloromethane	Matrix Spike	40.0	42.8	µg/L	107%		9804-169	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9804-352	1		
Bromodichloromethane	Secondary Source Std	20.0	20.7	µg/L	103%		9804-353	1	70-130%	
Bromodichloromethane	Standard	20.0	20.3	µg/L	102%		9804-354	1	80-120%	
Bromodichloromethane	Standard	20.0	21.4	µg/L	107%		9804-354	1	80-120%	
Bromodichloromethane	Standard	40.0	42.6	µg/L	106%		9804-355	1	80-120%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

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City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

Bromoform	Duplicate	4.4	4.3 µg/L	2.3%	9804-159	1
Bromoform	Matrix Spike	40.0	39.3 µg/L	98%	9804-169	1
Bromoform	Method Blank		ND* µg/L		9804-352	1
Bromoform	Secondary Source Std	20.0	20.7 µg/L	103%	9804-353	1 70-130%
Bromoform	Standard	20.0	20.9 µg/L	104%	9804-354	1 80-120%
Bromoform	Standard	20.0	21.7 µg/L	109%	9804-354	1 80-120%
Bromoform	Standard	40.0	41.3 µg/L	103%	9804-355	1 80-120%
Chloroform	Duplicate	ND	ND µg/L	NA	9804-159	1
Chloroform	Matrix Spike	40.0	39.9 µg/L	100%	9804-169	1
Chloroform	Method Blank		ND* µg/L		9804-352	1
Chloroform	Secondary Source Std	20.0	20.9 µg/L	104%	9804-353	1 70-130%
Chloroform	Standard	20.0	19.8 µg/L	99%	9804-354	1 80-120%
Chloroform	Standard	20.0	21.1 µg/L	106%	9804-354	1 80-120%
Chloroform	Standard	40.0	42.2 µg/L	106%	9804-355	1 80-120%
Dibromochloromethane	Duplicate	3.4	3.3 µg/L	3.0%	9804-159	1
Dibromochloromethane	Matrix Spike	40.0	41.9 µg/L	105%	9804-169	1
Dibromochloromethane	Method Blank		ND* µg/L		9804-352	1
Dibromochloromethane	Secondary Source Std	20.0	21.5 µg/L	108%	9804-353	1 70-130%
Dibromochloromethane	Standard	20.0	21.4 µg/L	107%	9804-354	1 80-120%
Dibromochloromethane	Standard	20.0	22.5 µg/L	113%	9804-354	1 80-120%
Dibromochloromethane	Standard	40.0	42.5 µg/L	106%	9804-355	1 80-120%

Analysis: THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-117-0

								Acceptance Criteria		
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Bromodichloromethane	Duplicate	2.6	2.5	µg/L		3.9%	9804-245	1		
Bromodichloromethane	Matrix Spike	40.0	42.0	µg/L	105%		9804-288	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9804-436	1		
Bromodichloromethane	Secondary Source Std	20.0	22.2	µg/L	111%		9804-437	1	70-130%	
Bromodichloromethane	Standard	20.0	18.4	µg/L	92%		9804-438	1	80-120%	
Bromodichloromethane	Standard	20.0	18.4	µg/L	92%		9804-438	1	80-120%	
Bromodichloromethane	Standard	40.0	41.6	µg/L	104%		9804-439	1	80-120%	
Bromoform	Duplicate	5.4	5.6	µg/L		3.6%	9804-245	1		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

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City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

Bromoform	Matrix Spike	40.0	40.4 µg/L	101%	9804-288	1
Bromoform	Method Blank		ND* µg/L		9804-436	1
Bromoform	Secondary Source Std	20.0	20.7 µg/L	103%	9804-437	1 70-130%
Bromoform	Standard	20.0	18.4 µg/L	92%	9804-438	1 80-120%
Bromoform	Standard	20.0	18.0 µg/L	90%	9804-438	1 80-120%
Bromoform	Standard	40.0	40.2 µg/L	101%	9804-439	1 80-120%
Chloroform	Duplicate	1.3	1.2 µg/L	8.0%	9804-245	1
Chloroform	Matrix Spike	40.0	40.8 µg/L	102%	9804-288	1
Chloroform	Method Blank		ND* µg/L		9804-436	1
Chloroform	Secondary Source Std	20.0	22.8 µg/L	114%	9804-437	1 70-130%
Chloroform	Standard	20.0	18.5 µg/L	93%	9804-438	1 80-120%
Chloroform	Standard	20.0	18.1 µg/L	91%	9804-438	1 80-120%
Chloroform	Standard	40.0	41.5 µg/L	104%	9804-439	1 80-120%
Dibromochloromethane	Duplicate	4.4	4.5 µg/L	2.2%	9804-245	1
Dibromochloromethane	Matrix Spike	40.0	41.5 µg/L	104%	9804-288	1
Dibromochloromethane	Method Blank		ND* µg/L		9804-436	1
Dibromochloromethane	Secondary Source Std	20.0	20.6 µg/L	103%	9804-437	1 70-130%
Dibromochloromethane	Standard	20.0	18.6 µg/L	93%	9804-438	1 80-120%
Dibromochloromethane	Standard	20.0	18.6 µg/L	93%	9804-438	1 80-120%
Dibromochloromethane	Standard	40.0	41.4 µg/L	103%	9804-439	1 80-120%

Analysis: THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-120-0

									Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Bromodichloromethane	Duplicate	ND	ND	µg/L		NA	9804-333	1		
Bromodichloromethane	Matrix Spike	40.0	41.6	µg/L	104%		9804-387	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9804-522	1		
Bromodichloromethane	Secondary Source Std	20.0	22.4	µg/L	112%		9804-523	1	70-130%	
Bromodichloromethane	Standard	20.0	19.4	µg/L	97%		9804-524	1	80-120%	
Bromodichloromethane	Standard	20.0	22.3	µg/L	112%		9804-524	1	80-120%	
Bromodichloromethane	Standard	40.0	39.9	µg/L	100%		9804-525	1	80-120%	
Bromoform	Duplicate	2.2	2.4	µg/L		8.7%	9804-333	1		
Bromoform	Matrix Spike	40.0	37.3	µg/L	93%		9804-387	1		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Bromoform	Method Blank		ND*	µg/L		9804-522	1
Bromoform	Secondary Source Std	20.0	21.4	µg/L	107%	9804-523	1 70-130%
Bromoform	Standard	20.0	19.5	µg/L	97%	9804-524	1 80-120%
Bromoform	Standard	20.0	19.7	µg/L	98%	9804-524	1 80-120%
Bromoform	Standard	40.0	37.1	µg/L	93%	9804-525	1 80-120%
Chloroform	Duplicate	ND	ND	µg/L	NA	9804-333	1
Chloroform	Matrix Spike	40.0	40.6	µg/L	102%	9804-387	1
Chloroform	Method Blank		ND*	µg/L		9804-522	1
Chloroform	Secondary Source Std	20.0	22.9	µg/L	115%	9804-523	1 70-130%
Chloroform	Standard	20.0	19.1	µg/L	96%	9804-524	1 80-120%
Chloroform	Standard	20.0	21.4	µg/L	107%	9804-524	1 80-120%
Chloroform	Standard	40.0	38.7	µg/L	97%	9804-525	1 80-120%
Dibromochloromethane	Duplicate	ND	ND	µg/L	NA	9804-333	1
Dibromochloromethane	Matrix Spike	40.0	41.3	µg/L	103%	9804-387	1
Dibromochloromethane	Method Blank		ND*	µg/L		9804-522	1
Dibromochloromethane	Secondary Source Std	20.0	22.0	µg/L	110%	9804-523	1 70-130%
Dibromochloromethane	Standard	20.0	19.8	µg/L	99%	9804-524	1 80-120%
Dibromochloromethane	Standard	20.0	22.7	µg/L	114%	9804-524	1 80-120%
Dibromochloromethane	Standard	40.0	40.3	µg/L	101%	9804-525	1 80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-110-0

								Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9804-20	1	
Bromochloroacetic acid	Matrix Spike	40.0	37.7	µg/L	94%		9804-67	1	
Bromochloroacetic acid	Method Blank		ND*	µg/L			9804-197	1	
Bromochloroacetic acid	Secondary Source Std	20.0	17.2	µg/L	86%		9804-198	1	70-130%
Bromochloroacetic acid	Standard	20.0	21.1	µg/L	106%		9804-199	1	80-120%
Bromochloroacetic acid	Standard	20.0	20.3	µg/L	102%		9804-199	1	80-120%
Bromochloroacetic acid	Standard	40.0	39.5	µg/L	99%		9804-200	1	80-120%
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9804-20	1	
Bromodichloroacetic acid	Matrix Spike	40.0	37.5	µg/L	94%		9804-67	1	
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9804-197	1	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

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City of Aurora**Study#:** 105
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Bromodichloroacetic acid	Secondary Source Std		ND	µg/L		9804-198	1
Bromodichloroacetic acid	Standard	20.0	21.3	µg/L	106%	9804-199	1 80-120%
Bromodichloroacetic acid	Standard	20.0	20.9	µg/L	104%	9804-199	1 80-120%
Bromodichloroacetic acid	Standard	40.0	40.0	µg/L	100%	9804-200	1 80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	2
Chlorodibromoacetic acid	Matrix Spike	40.0	40.5	µg/L	101%	9804-67	2
Chlorodibromoacetic acid	Method Blank		ND*	µg/L		9804-197	2
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L		9804-198	2
Chlorodibromoacetic acid	Standard	20.0	21.6	µg/L	108%	9804-199	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	21.8	µg/L	109%	9804-199	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	40.5	µg/L	101%	9804-200	2 80-120%
Dibromoacetic acid	Duplicate	1.3	1.3	µg/L	0.0%	9804-20	1
Dibromoacetic acid	Matrix Spike	40.0	35.4	µg/L	89%	9804-67	1
Dibromoacetic acid	Method Blank		ND*	µg/L		9804-197	1
Dibromoacetic acid	Secondary Source Std	20.0	18.2	µg/L	91%	9804-198	1 70-130%
Dibromoacetic acid	Standard	20.0	21.1	µg/L	106%	9804-199	1 80-120%
Dibromoacetic acid	Standard	20.0	20.9	µg/L	104%	9804-199	1 80-120%
Dibromoacetic acid	Standard	40.0	39.7	µg/L	99%	9804-200	1 80-120%
Dichloroacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	1
Dichloroacetic acid	Matrix Spike	40.0	39.9	µg/L	100%	9804-67	1
Dichloroacetic acid	Method Blank		ND*	µg/L		9804-197	1
Dichloroacetic acid	Secondary Source Std	20.0	18.0	µg/L	90%	9804-198	1 70-130%
Dichloroacetic acid	Standard	20.0	21.4	µg/L	107%	9804-199	1 80-120%
Dichloroacetic acid	Standard	20.0	20.5	µg/L	102%	9804-199	1 80-120%
Dichloroacetic acid	Standard	40.0	39.2	µg/L	98%	9804-200	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	1
Monobromoacetic acid	Matrix Spike	40.0	40.9	µg/L	102%	9804-67	1
Monobromoacetic acid	Method Blank		ND*	µg/L		9804-197	1
Monobromoacetic acid	Secondary Source Std	20.0	17.5	µg/L	88%	9804-198	1 70-130%
Monobromoacetic acid	Standard	20.0	20.8	µg/L	104%	9804-199	1 80-120%
Monobromoacetic acid	Standard	20.0	20.5	µg/L	102%	9804-199	1 80-120%
Monobromoacetic acid	Standard	40.0	39.0	µg/L	97%	9804-200	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Monochloroacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	2
Monochloroacetic acid	Matrix Spike	40.0	41.3	µg/L	103%	9804-67	2
Monochloroacetic acid	Method Blank		ND*	µg/L		9804-197	2
Monochloroacetic acid	Secondary Source Std	20.0	19.0	µg/L	95%	9804-198	2 70-130%
Monochloroacetic acid	Standard	20.0	21.5	µg/L	108%	9804-199	2 80-120%
Monochloroacetic acid	Standard	20.0	22.6	µg/L	113%	9804-199	2 80-120%
Monochloroacetic acid	Standard	40.0	39.5	µg/L	99%	9804-200	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	4
Tribromoacetic acid	Matrix Spike	40.0	41.7	µg/L	104%	9804-67	4
Tribromoacetic acid	Method Blank		ND*	µg/L		9804-197	4
Tribromoacetic acid	Secondary Source Std		ND	µg/L		9804-198	4
Tribromoacetic acid	Standard	20.0	21.7	µg/L	109%	9804-199	4 80-120%
Tribromoacetic acid	Standard	20.0	21.4	µg/L	107%	9804-199	4 80-120%
Tribromoacetic acid	Standard	40.0	38.6	µg/L	97%	9804-200	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L	NA	9804-20	1
Trichloroacetic acid	Matrix Spike	40.0	36.0	µg/L	90%	9804-67	1
Trichloroacetic acid	Method Blank		ND*	µg/L		9804-197	1
Trichloroacetic acid	Secondary Source Std	20.0	18.3	µg/L	92%	9804-198	1 70-130%
Trichloroacetic acid	Standard	20.0	21.2	µg/L	106%	9804-199	1 80-120%
Trichloroacetic acid	Standard	20.0	20.8	µg/L	104%	9804-199	1 80-120%
Trichloroacetic acid	Standard	40.0	39.0	µg/L	97%	9804-200	1 80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-115-0

								Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9804-159	1	
Bromochloroacetic acid	Matrix Spike	40.0	43.3	µg/L	108%		9804-173	1	
Bromochloroacetic acid	Method Blank		ND*	µg/L			9804-391	1	
Bromochloroacetic acid	Secondary Source Std	20.0	16.7	µg/L	83%		9804-392	1	70-130%
Bromochloroacetic acid	Standard	20.0	20.1	µg/L	101%		9804-393	1	80-120%
Bromochloroacetic acid	Standard	20.0	21.9	µg/L	110%		9804-393	1	80-120%
Bromochloroacetic acid	Standard	40.0	40.9	µg/L	102%		9804-394	1	80-120%
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9804-159	1	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

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Bromodichloroacetic acid	Matrix Spike	40.0	43.6 µg/L	109%	9804-173	1
Bromodichloroacetic acid	Method Blank		ND* µg/L		9804-391	1
Bromodichloroacetic acid	Secondary Source Std		ND µg/L		9804-392	1
Bromodichloroacetic acid	Standard	20.0	21.3 µg/L	106%	9804-393	1 80-120%
Bromodichloroacetic acid	Standard	20.0	23.1 µg/L	116%	9804-393	1 80-120%
Bromodichloroacetic acid	Standard	40.0	41.0 µg/L	102%	9804-394	1 80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	2
Chlorodibromoacetic acid	Matrix Spike	40.0	43.9 µg/L	110%	9804-173	2
Chlorodibromoacetic acid	Method Blank		ND* µg/L		9804-391	2
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L		9804-392	2
Chlorodibromoacetic acid	Standard	20.0	22.1 µg/L	111%	9804-393	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	23.4 µg/L	117%	9804-393	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	40.4 µg/L	101%	9804-394	2 80-120%
Dibromoacetic acid	Duplicate	1.5	1.4 µg/L	6.9%	9804-159	1
Dibromoacetic acid	Matrix Spike	40.0	43.6 µg/L	109%	9804-173	1
Dibromoacetic acid	Method Blank		ND* µg/L		9804-391	1
Dibromoacetic acid	Secondary Source Std	20.0	17.2 µg/L	86%	9804-392	1 70-130%
Dibromoacetic acid	Standard	20.0	20.2 µg/L	101%	9804-393	1 80-120%
Dibromoacetic acid	Standard	20.0	22.3 µg/L	112%	9804-393	1 80-120%
Dibromoacetic acid	Standard	40.0	41.5 µg/L	104%	9804-394	1 80-120%
Dichloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	1
Dichloroacetic acid	Matrix Spike	40.0	42.0 µg/L	105%	9804-173	1
Dichloroacetic acid	Method Blank		ND* µg/L		9804-391	1
Dichloroacetic acid	Secondary Source Std	20.0	17.6 µg/L	88%	9804-392	1 70-130%
Dichloroacetic acid	Standard	20.0	20.9 µg/L	104%	9804-393	1 80-120%
Dichloroacetic acid	Standard	20.0	21.2 µg/L	106%	9804-393	1 80-120%
Dichloroacetic acid	Standard	40.0	40.0 µg/L	100%	9804-394	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	1
Monobromoacetic acid	Matrix Spike	40.0	39.7 µg/L	99%	9804-173	1
Monobromoacetic acid	Method Blank		ND* µg/L		9804-391	1
Monobromoacetic acid	Secondary Source Std	20.0	17.2 µg/L	86%	9804-392	1 70-130%
Monobromoacetic acid	Standard	20.0	20.3 µg/L	102%	9804-393	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Monobromoacetic acid	Standard	20.0	20.9 µg/L	104%	9804-393	1	80-120%
Monobromoacetic acid	Standard	40.0	39.3 µg/L	98%	9804-394	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	2	
Monochloroacetic acid	Matrix Spike	40.0	42.2 µg/L	106%	9804-173	2	
Monochloroacetic acid	Method Blank		ND* µg/L		9804-391	2	
Monochloroacetic acid	Secondary Source Std	20.0	21.2 µg/L	106%	9804-392	2	70-130%
Monochloroacetic acid	Standard	20.0	18.6 µg/L	93%	9804-393	2	80-120%
Monochloroacetic acid	Standard	20.0	18.4 µg/L	92%	9804-393	2	80-120%
Monochloroacetic acid	Standard	40.0	39.9 µg/L	100%	9804-394	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	4	
Tribromoacetic acid	Matrix Spike	40.0	43.2 µg/L	108%	9804-173	4	
Tribromoacetic acid	Method Blank		ND* µg/L		9804-391	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L		9804-392	4	
Tribromoacetic acid	Standard	20.0	21.8 µg/L	109%	9804-393	4	80-120%
Tribromoacetic acid	Standard	20.0	22.6 µg/L	113%	9804-393	4	80-120%
Tribromoacetic acid	Standard	40.0	40.2 µg/L	101%	9804-394	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-159	1	
Trichloroacetic acid	Matrix Spike	40.0	43.9 µg/L	110%	9804-173	1	
Trichloroacetic acid	Method Blank		ND* µg/L		9804-391	1	
Trichloroacetic acid	Secondary Source Std	20.0	17.2 µg/L	86%	9804-392	1	70-130%
Trichloroacetic acid	Standard	20.0	20.7 µg/L	103%	9804-393	1	80-120%
Trichloroacetic acid	Standard	20.0	21.7 µg/L	109%	9804-393	1	80-120%
Trichloroacetic acid	Standard	40.0	40.9 µg/L	102%	9804-394	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-119-0

								Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL Range	RPD
Bromochloroacetic acid	Duplicate	1.9	1.9	µg/L		0.0%	9804-257	1	
Bromochloroacetic acid	Matrix Spike	40.0	40.7	µg/L	102%		9804-223	1	
Bromochloroacetic acid	Method Blank		ND*	µg/L			9804-491	1	
Bromochloroacetic acid	Standard	20.0	20.7	µg/L	103%		9804-493	1	80-120%
Bromochloroacetic acid	Standard	20.0	19.7	µg/L	98%		9804-493	1	80-120%
Bromochloroacetic acid	Standard	20.0	21.2	µg/L	106%		9804-493	1	80-120%
Bromochloroacetic acid	Standard	40.0	42.7	µg/L	107%		9804-494	1	80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

Bromochloroacetic acid	Standard	40.0	37.5 µg/L	94%	9804-494	1 80-120%
Bromochloroacetic acid	Standard	40.0	43.3 µg/L	108%	9804-494	1 80-120%
Bromodichloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	1
Bromodichloroacetic acid	Matrix Spike	40.0	38.1 µg/L	95%	9804-223	1
Bromodichloroacetic acid	Method Blank		ND* µg/L		9804-491	1
Bromodichloroacetic acid	Standard	20.0	21.4 µg/L	107%	9804-493	1 80-120%
Bromodichloroacetic acid	Standard	20.0	21.4 µg/L	107%	9804-493	1 80-120%
Bromodichloroacetic acid	Standard	20.0	20.4 µg/L	102%	9804-493	1 80-120%
Bromodichloroacetic acid	Standard	40.0	47.1 µg/L	118%	9804-494	1 80-120%
Bromodichloroacetic acid	Standard	40.0	41.4 µg/L	103%	9804-494	1 80-120%
Bromodichloroacetic acid	Standard	40.0	41.2 µg/L	103%	9804-494	1 80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	2
Chlorodibromoacetic acid	Matrix Spike	40.0	41.3 µg/L	103%	9804-223	2
Chlorodibromoacetic acid	Method Blank		ND* µg/L		9804-491	2
Chlorodibromoacetic acid	Standard	20.0	21.1 µg/L	106%	9804-493	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	22.7 µg/L	114%	9804-493	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	20.2 µg/L	101%	9804-493	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	45.4 µg/L	114%	9804-494	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	39.9 µg/L	100%	9804-494	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	40.4 µg/L	101%	9804-494	2 80-120%
Dibromoacetic acid	Duplicate	3.1	3.2 µg/L	3.2%	9804-257	1
Dibromoacetic acid	Matrix Spike	40.0	38.0 µg/L	95%	9804-223	1
Dibromoacetic acid	Method Blank		ND* µg/L		9804-491	1
Dibromoacetic acid	Standard	20.0	21.0 µg/L	105%	9804-493	1 80-120%
Dibromoacetic acid	Standard	20.0	20.8 µg/L	104%	9804-493	1 80-120%
Dibromoacetic acid	Standard	20.0	21.2 µg/L	106%	9804-493	1 80-120%
Dibromoacetic acid	Standard	40.0	45.4 µg/L	114%	9804-494	1 80-120%
Dibromoacetic acid	Standard	40.0	40.9 µg/L	102%	9804-494	1 80-120%
Dibromoacetic acid	Standard	40.0	44.7 µg/L	112%	9804-494	1 80-120%
Dichloroacetic acid	Duplicate	1.4	1.3 µg/L	7.4%	9804-257	1
Dichloroacetic acid	Matrix Spike	40.0	40.4 µg/L	101%	9804-223	1
Dichloroacetic acid	Method Blank		ND* µg/L		9804-491	1
Dichloroacetic acid	Standard	20.0	20.3 µg/L	102%	9804-493	1 80-120%
Dichloroacetic acid	Standard	20.0	18.9 µg/L	94%	9804-493	1 80-120%
Dichloroacetic acid	Standard	20.0	21.7 µg/L	109%	9804-493	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Dichloroacetic acid	Standard	40.0	39.7 µg/L	99%	9804-494	1 80-120%
Dichloroacetic acid	Standard	40.0	33.4 µg/L	83%	9804-494	1 80-120%
Dichloroacetic acid	Standard	40.0	41.5 µg/L	104%	9804-494	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	1
Monobromoacetic acid	Matrix Spike	40.0	42.3 µg/L	106%	9804-223	1
Monobromoacetic acid	Method Blank		ND* µg/L		9804-491	1
Monobromoacetic acid	Standard	20.0	20.1 µg/L	101%	9804-493	1 80-120%
Monobromoacetic acid	Standard	20.0	20.2 µg/L	101%	9804-493	1 80-120%
Monobromoacetic acid	Standard	20.0	21.7 µg/L	109%	9804-493	1 80-120%
Monobromoacetic acid	Standard	40.0	35.9 µg/L	90%	9804-494	1 80-120%
Monobromoacetic acid	Standard	40.0	34.9 µg/L	87%	9804-494	1 80-120%
Monobromoacetic acid	Standard	40.0	40.5 µg/L	101%	9804-494	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	2
Monochloroacetic acid	Matrix Spike	40.0	39.3 µg/L	98%	9804-223	2
Monochloroacetic acid	Method Blank		ND* µg/L		9804-491	2
Monochloroacetic acid	Standard	20.0	19.2 µg/L	96%	9804-493	2 80-120%
Monochloroacetic acid	Standard	20.0	21.2 µg/L	106%	9804-493	2 80-120%
Monochloroacetic acid	Standard	20.0	20.7 µg/L	103%	9804-493	2 80-120%
Monochloroacetic acid	Standard	40.0	42.5 µg/L	106%	9804-494	2 80-120%
Monochloroacetic acid	Standard	40.0	34.1 µg/L	85%	9804-494	2 80-120%
Monochloroacetic acid	Standard	40.0	42.3 µg/L	106%	9804-494	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	4
Tribromoacetic acid	Matrix Spike	40.0	40.7 µg/L	102%	9804-223	4
Tribromoacetic acid	Method Blank		ND* µg/L		9804-491	4
Tribromoacetic acid	Standard	20.0	22.1 µg/L	111%	9804-493	4 80-120%
Tribromoacetic acid	Standard	20.0	22.3 µg/L	112%	9804-493	4 80-120%
Tribromoacetic acid	Standard	20.0	21.1 µg/L	106%	9804-493	4 80-120%
Tribromoacetic acid	Standard	40.0	46.4 µg/L	116%	9804-494	4 80-120%
Tribromoacetic acid	Standard	40.0	42.0 µg/L	105%	9804-494	4 80-120%
Tribromoacetic acid	Standard	40.0	41.9 µg/L	105%	9804-494	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-257	1
Trichloroacetic acid	Matrix Spike	40.0	36.2 µg/L	91%	9804-223	1
Trichloroacetic acid	Method Blank		ND* µg/L		9804-491	1
Trichloroacetic acid	Standard	20.0	21.2 µg/L	106%	9804-493	1 80-120%
Trichloroacetic acid	Standard	20.0	19.9 µg/L	99%	9804-493	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Trichloroacetic acid	Standard	20.0	21.7	µg/L	109%	9804-493	1	80-120%
Trichloroacetic acid	Standard	40.0	46.7	µg/L	117%	9804-494	1	80-120%
Trichloroacetic acid	Standard	40.0	38.9	µg/L	97%	9804-494	1	80-120%
Trichloroacetic acid	Standard	40.0	41.6	µg/L	104%	9804-494	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-121-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromochloroacetic acid	Duplicate	4.9	4.6	µg/L		6.3%	9804-369	1			
Bromochloroacetic acid	Matrix Spike	40.0	38.3	µg/L	96%		9804-387	1			
Bromochloroacetic acid	Method Blank		ND*	µg/L			9805-84	1			
Bromochloroacetic acid	Secondary Source Std	20.0	23.9	µg/L	119%		9805-85	1	70-130%		
Bromochloroacetic acid	Standard	20.0	21.3	µg/L	106%		9805-86	1	80-120%		
Bromochloroacetic acid	Standard	20.0	20.8	µg/L	104%		9805-86	1	80-120%		
Bromochloroacetic acid	Standard	40.0	37.3	µg/L	93%		9805-87	1	80-120%		
Bromodichloroacetic acid	Duplicate	2.3	2.3	µg/L		0.0%	9804-369	1			
Bromodichloroacetic acid	Matrix Spike	40.0	46.7	µg/L	117%		9804-387	1			
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9805-84	1			
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9805-85	1			
Bromodichloroacetic acid	Standard	20.0	23.4	µg/L	117%		9805-86	1	80-120%		
Bromodichloroacetic acid	Standard	20.0	23.5	µg/L	118%		9805-86	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	37.5	µg/L	94%		9805-87	1	80-120%		
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9804-369	2			
Chlorodibromoacetic acid	Matrix Spike	40.0	47.9	µg/L	120%		9804-387	2			
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9805-84	2			
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9805-85	2			
Chlorodibromoacetic acid	Standard	20.0	23.7	µg/L	119%		9805-86	2	80-120%		
Chlorodibromoacetic acid	Standard	20.0	23.7	µg/L	119%		9805-86	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	37.6	µg/L	94%		9805-87	2	80-120%		
Dibromoacetic acid	Duplicate	3.5	3.4	µg/L		2.9%	9804-369	1			
Dibromoacetic acid	Matrix Spike	40.0	41.0	µg/L	102%		9804-387	1			
Dibromoacetic acid	Method Blank		ND*	µg/L			9805-84	1			
Dibromoacetic acid	Secondary Source Std	20.0	24.5	µg/L	123%		9805-85	1	70-130%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Dibromoacetic acid	Standard	20.0	22.0 µg/L	110%	9805-86	1 80-120%
Dibromoacetic acid	Standard	20.0	21.9 µg/L	110%	9805-86	1 80-120%
Dibromoacetic acid	Standard	40.0	38.5 µg/L	96%	9805-87	1 80-120%
Dichloroacetic acid	Duplicate	7.1	6.6 µg/L	7.3%	9804-369	1
Dichloroacetic acid	Matrix Spike	40.0	36.2 µg/L	91%	9804-387	1
Dichloroacetic acid	Method Blank		ND* µg/L		9805-84	1
Dichloroacetic acid	Secondary Source Std	20.0	24.0 µg/L	120%	9805-85	1 70-130%
Dichloroacetic acid	Standard	20.0	21.4 µg/L	107%	9805-86	1 80-120%
Dichloroacetic acid	Standard	20.0	21.4 µg/L	107%	9805-86	1 80-120%
Dichloroacetic acid	Standard	40.0	37.1 µg/L	93%	9805-87	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-369	1
Monobromoacetic acid	Matrix Spike	40.0	35.6 µg/L	89%	9804-387	1
Monobromoacetic acid	Method Blank		ND* µg/L		9805-84	1
Monobromoacetic acid	Secondary Source Std	20.0	24.6 µg/L	123%	9805-85	1 70-130%
Monobromoacetic acid	Standard	20.0	20.2 µg/L	101%	9805-86	1 80-120%
Monobromoacetic acid	Standard	20.0	19.7 µg/L	98%	9805-86	1 80-120%
Monobromoacetic acid	Standard	40.0	38.4 µg/L	96%	9805-87	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9804-369	2
Monochloroacetic acid	Matrix Spike	40.0	36.2 µg/L	91%	9804-387	2
Monochloroacetic acid	Method Blank		ND* µg/L		9805-84	2
Monochloroacetic acid	Secondary Source Std	20.0	20.3 µg/L	102%	9805-85	2 70-130%
Monochloroacetic acid	Standard	20.0	20.8 µg/L	104%	9805-86	2 80-120%
Monochloroacetic acid	Standard	20.0	19.2 µg/L	96%	9805-86	2 80-120%
Monochloroacetic acid	Standard	40.0	37.8 µg/L	94%	9805-87	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9804-369	4
Tribromoacetic acid	Matrix Spike	40.0	49.3 µg/L	123%	9804-387	4
Tribromoacetic acid	Method Blank		ND* µg/L		9805-84	4
Tribromoacetic acid	Secondary Source Std		ND µg/L		9805-85	4
Tribromoacetic acid	Standard	20.0	23.4 µg/L	117%	9805-86	4 80-120%
Tribromoacetic acid	Standard	20.0	23.7 µg/L	119%	9805-86	4 80-120%
Tribromoacetic acid	Standard	40.0	36.8 µg/L	92%	9805-87	4 80-120%
Trichloroacetic acid	Duplicate	3.1	3.3 µg/L	6.2%	9804-369	1
Trichloroacetic acid	Matrix Spike	40.0	43.5 µg/L	109%	9804-387	1

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 105
Study Title: ICR RSSCT #1

Trichloroacetic acid	Method Blank		ND*	µg/L		9805-84	1
Trichloroacetic acid	Secondary Source Std	20.0	25.7	µg/L	128%	9805-85	1 70-130%
Trichloroacetic acid	Standard	20.0	22.8	µg/L	114%	9805-86	1 80-120%
Trichloroacetic acid	Standard	20.0	22.9	µg/L	115%	9805-86	1 80-120%
Trichloroacetic acid	Standard	40.0	37.2	µg/L	93%	9805-87	1 80-120%

End of quality control report

QC Results from Montgomery Watson Laboratories

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Printed on 7/7/99 6:31:14 PM

Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Study#: 105
Study Title: ICR RSSCT #1

Phone: 630-844-3632 Fax: 630-892-8980

QC Batch ID: 75683 **Report #:** 41919**Analysis:** CA **Method:** EPA/ML 200.7

<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Acceptance Criteria Range</u>
LCS1	Calcium, Total, ICAP	50	52.6	105.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	52.1	104.0%		(90 - 110)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	48.6	97.0%		(80 - 120)

QC Batch ID: 75685 **Report #:** 41919**Analysis:** MG **Method:** ML/EPA 200.7

<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Acceptance Criteria Range</u>
LCS1	Magnesium, Total, ICAP	20	18.8	94.0%		(80 - 120)
LCS2	Magnesium, Total, ICAP	20	18.8	94.0%		(80 - 120)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	20.1	100.0%		(80 - 120)

QC Batch ID: 75802 **Report #:** 41919**Analysis:** BR **Method:** ML/EPA 300

<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Acceptance Criteria Range</u>
LCS1	Bromide	0.02	0.021	105.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.109	109.0%		(70 - 130)
MSD	Bromide	0.1	0.109	109.0%		(70 - 130)

QC Batch ID: 75858 **Report #:** 41919**Analysis:** NH3 **Method:** ML/EPA 350.1

<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Acceptance Criteria Range</u>
LCS1	Ammonia Nitrogen	1	1.02	102.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.04	104.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson LaboratoriesMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

QC Batch ID: 76028

Report #: 42152

Analysis: CA

Method: EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	52.7	105.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	52.9	106.0%		(90 - 110)
MS	Calcium, Total, ICAP	50	53.2	106.0%		(80 - 120)

QC Batch ID: 76029

Report #: 42152

Analysis: MG

Method: ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	18.1	90.0%		(80 - 120)
LCS2	Magnesium, Total, ICAP	20	17.9	90.0%		(80 - 120)
MS	Magnesium, Total, ICAP	20	20.4	102.0%		(80 - 120)

QC Batch ID: 76458

Report #: 42152

Analysis: BR

Method: ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.015	75.0%		(50 - 150)
LCS2	Bromide	0.1	0.096	96.0%		(90 - 110)
MS	Bromide	0.093	0.093	100.0%		(70 - 130)
MSD	Bromide	0.093	0.093	100.0%		(70 - 130)

QC Batch ID: 76459

Report #: 42152

Analysis: BR

Method: ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.015	75.0%		(50 - 150)
LCS2	Bromide	0.1	0.095	95.0%		(90 - 110)
MS	Bromide	0.3	0.299	100.0%		(70 - 130)
MSD	Bromide	0.3	0.299	100.0%		(70 - 130)

QC Batch ID: 76574

Report #: 42152

Analysis: NH3

Method: ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.01	101.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.02	102.0%		(80 - 120)
MS	Ammonia Nitrogen	1	1.13	113.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.12	112.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson LaboratoriesMr. Arnold Eggleston
City of AuroraStudy#: 105
Study Title: ICR RSSCT #1

QC Batch ID: 76928

Report #: 42488

Analysis: CA

Method: EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	48.7	97.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	48.6	97.0%		(90 - 110)
MS	Calcium, Total, ICAP	50	46.1	92.0%		(80 - 120)

QC Batch ID: 76929

Report #: 42488

Analysis: MG

Method: ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	19.5	98.0%		(80 - 120)
LCS2	Magnesium, Total, ICAP	20	19.7	98.0%		(80 - 120)
MS	Magnesium, Total, ICAP	20	19.2	96.0%		(80 - 120)

QC Batch ID: 77103

Report #: 42488

Analysis: NH3

Method: ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	0.98	98.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.04	104.0%		(80 - 120)
MS	Ammonia Nitrogen	1	1.04	104.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.03	103.0%		(80 - 120)

QC Batch ID: 77255

Report #: 42488

Analysis: BR

Method: ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.021	105.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MS	Bromide	0.1	0.114	114.0%		(70 - 130)
MSD	Bromide	0.1	0.114	114.0%		(70 - 130)

End of MW QC report

CommentsPage 1 of 1
Printed on 7/7/99

Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study#: 105
Study Title: ICR RSSCT #1

Study comments

Sample ID 9704-138 and 9704-273 TOC analysis: Sample not analyzed.
Sample ID 9804-186 UV254 analysis: Sample not analyzed.

Analysis comments

Analysis: Turbidity
Method: SM 2130 B

Reported turbidity data has been rounded following the requirements of SM 2130 B, reproduced in the table below (Standard Methods, 1995). Note that the reported digits are not necessarily significant.

Turbidity Range	Report to Nearest
0-1.0	0.05
1-10	0.1
10-40	1
40-100	5
100-400	10
400-1000	50
> 1000	100

End of comments

Laboratory Report

Client:

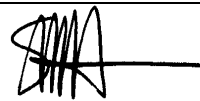
Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study Title: ICR RSSCT #3,4

Study #: 148

Reviewed By: _____



Stuart M. Hooper

Date Reviewed: 7/12/99

Laboratory Test ResultsPage 1 of 72
Printed on 7/7/99Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study#: 148
Study Title: ICR RSSCT #3,4**Sample ID:** Settled Aurora **S&H ID:** 9809-410 **Date Sampled:** 9/21/98 11:50:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR TOC	2.74	mg/L	SM 5310 C	1	0.50	9/21/98		9/22/98	7-0-410
2	TOC-ICR TOC (Dupl)	2.73	mg/L	SM 5310 C	1	0.50	9/21/98		9/22/98	7-0-410
		2.74	mg/L	0.4 % RPD						

Sample ID: Settled Drum Aurora **S&H ID:** 9809-418 **Date Sampled:** 9/22/98 8:15:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR TOC	2.73	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
4	TOC-ICR TOC (Dupl)	2.76	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
		2.75	mg/L	1.1 % RPD						

Sample ID: Raw Aurora **S&H ID:** 9809-419 **Date Sampled:** 9/22/98 8:00:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR TOC	3.62	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
6	TOC-ICR TOC (Dupl)	3.64	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
		3.63	mg/L	0.6 % RPD						

Sample ID: Filtered Aurora **S&H ID:** 9809-420 **Date Sampled:** 9/22/98 8:20:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR TOC	4.16	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
8	TOC-ICR TOC (Dupl)	4.21	mg/L	SM 5310 C	1	0.50	9/22/98		9/24/98	7-0-412
		4.19	mg/L	1.2 % RPD						

Sample ID: SettledOnArrival.Aurora **S&H ID:** 9809-432 **Date Sampled:** 9/24/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR TOC	2.68	mg/L	SM 5310 C	1	0.50	9/24/98		9/24/98	7-0-412
10	TOC-ICR TOC (Dupl)	2.66	mg/L	SM 5310 C	1	0.50	9/24/98		9/24/98	7-0-412
		2.67	mg/L	0.7 % RPD						

Sample ID: FilteredS&H.Aurora **S&H ID:** 9809-433 **Date Sampled:** 9/24/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	TOC-ICR TOC	2.70	mg/L	SM 5310 C	1	0.50	9/24/98		9/24/98	7-0-412
12	TOC-ICR TOC (Dupl)	2.75	mg/L	SM 5310 C	1	0.50	9/24/98		9/24/98	7-0-412
		2.73	mg/L	1.8 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.10.Eff-1

S&H ID: 9809-468

Date Sampled: 9/25/98 10:01:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
13	Cl2Dose	Chlorine Dose	3.61	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
14	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
15	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.2	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
16	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
17	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
18	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
19	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
20	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
21	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
22	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
23	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
24	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
25	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
26	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
27	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
28	pH	pH	9.1	Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a
29	TEMP	Cl2 Temperature	11.7	°C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
30	TEMP	Temperature	22.1	°C	SM 2550 B	1	n/a	9/25/98		9/25/98	n/a
31	TIME	Cl2 Incubation Time	23.6	hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
32	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
33	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
			ND	mg/L							
34	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
35	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
			ND	µg Cl-/L							
36	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2	%	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
37	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
38	THM-ICR	Bromoform	1.5	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
39	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
40	THM-ICR	Dibromochloromethane	1.3	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
41	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
42	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
			ND	1/cm							

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.10.Eff-2

S&H ID: 9809-469

Date Sampled: 9/26/98 12:52:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
43	Cl2Dose Chlorine Dose	3.82 mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
44	Cl2Res Chlorine Residual	0.74 mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
45	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	96.8 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
46	HAA-ICR 2-Bromopropionic acid (Surrogate)	96.0 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
47	HAA-ICR Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
48	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
49	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
50	HAA-ICR Dibromoacetic acid	1.4 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
51	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
52	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
53	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
54	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
55	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
56	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
57	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
58	pH pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
59	TEMP Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
60	TEMP Temperature	21.7 °C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
61	TIME Cl2 Incubation Time	23.6 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
62	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
63	TOC-ICR TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
64	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
65	TOX-ICR TOX (Dupl)	ND µg Cl-/L ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
66	THM-ICR 1,2,3-Trichloropropane (Surrogate)	98.0 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
67	THM-ICR Bromodichloromethane	2.0 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
68	THM-ICR Bromoform	7.7 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
69	THM-ICR Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
70	THM-ICR Dibromochloromethane	4.1 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
71	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303
72	UV-ICR UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.10.Eff-3

S&H ID: 9809-470

Date Sampled: 9/26/98 4:13:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
73	Cl2Dose Chlorine Dose	3.99 mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
74	Cl2Res Chlorine Residual	0.85 mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
75	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	98.4 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
76	HAA-ICR 2-Bromopropionic acid (Surrogate)	95.6 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
77	HAA-ICR Bromochloroacetic acid	1.3 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
78	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
79	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
80	HAA-ICR Dibromoacetic acid	2.1 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
81	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
82	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
83	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
84	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
85	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
86	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
87	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
88	pH pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
89	TEMP Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
90	TEMP Temperature	22.5 °C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
91	TIME Cl2 Incubation Time	23.6 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
92	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
93	TOC-ICR TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
94	TOX-ICR TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
95	TOX-ICR TOX (Dupl)	ND µg Cl-/L ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
96	THM-ICR 1,2,3-Trichloropropane (Surrogate)	104.0 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
97	THM-ICR Bromodichloromethane	3.4 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
98	THM-ICR Bromoform	9.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
99	THM-ICR Chloroform	1.4 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
100	THM-ICR Dibromochloromethane	6.6 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
101	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303
102	UV-ICR UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.10.Eff-4

S&H ID: 9809-471

Date Sampled: 9/26/98 11:31:00 PM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
103	Cl2Dose Chlorine Dose	4.19	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
104	Cl2Res Chlorine Residual	ND	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
105	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	93.6	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
106	HAA-ICR 2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
107	HAA-ICR Bromochloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
108	HAA-ICR Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
109	HAA-ICR Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
110	HAA-ICR Dibromoacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
111	HAA-ICR Dichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
112	HAA-ICR Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
113	HAA-ICR Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
114	HAA-ICR Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
115	HAA-ICR Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
116	pH Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
117	pH Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
118	pH pH	9.1	Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
119	TEMP Cl2 Temperature	11.7	°C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
120	TEMP Temperature	22.7	°C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
121	TIME Cl2 Incubation Time	23.6	hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
122	TOC-ICR TOC	0.63	mg/L	SM 5310 C	1	0.50	9/26/98		9/27/98	7-0-415
123	TOC-ICR TOC (Dupl)	0.60	mg/L	SM 5310 C	1	0.50	9/26/98		9/27/98	7-0-415
		0.61	mg/L	4.9 % RPD						
124	TOX-ICR TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
125	TOX-ICR TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
		ND	µg Cl-/L							
126	THM-ICR 1,2,3-Trichloropropane (Surrogate)	110.4	%	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
127	THM-ICR Bromodichloromethane	4.1	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
128	THM-ICR Bromoform	1.7	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
129	THM-ICR Chloroform	2.2	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
130	THM-ICR Dibromochloromethane	4.9	µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
131	UV-ICR UV	0.009	1/cm	SM 5910 B	1	0.009	9/26/98		9/28/98	8-0-305
132	UV-ICR UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	9/26/98		9/28/98	8-0-305
		0.009	1/cm	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.10.Eff-5

S&H ID: 9809-472

Date Sampled: 9/27/98 2:51:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
133	Cl2Dose	Chlorine Dose	4.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
134	Cl2Res	Chlorine Residual	0.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
135	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.0	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
136	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	91.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			92.6	%	3.0 % RPD						
137	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
138	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	99.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			99.4	%	0.4 % RPD						
139	HAA-ICR	Bromochloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
140	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	2.3	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			2.3	µg/L	4.3 % RPD						
141	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
142	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			ND	µg/L							
143	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
144	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
			ND	µg/L							
145	HAA-ICR	Dibromoacetic acid	3.4	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
146	HAA-ICR	Dibromoacetic acid (Lab Dupl)	3.4	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			3.4	µg/L	0.0 % RPD						
147	HAA-ICR	Dichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
148	HAA-ICR	Dichloroacetic acid (Lab Dupl)	1.8	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			1.8	µg/L	5.6 % RPD						
149	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
150	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
			ND	µg/L							
151	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
152	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
			ND	µg/L							
153	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
154	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
			ND	µg/L							
155	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
156	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

			ND µg/L						
157	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98	10/2/98	n/a
158	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98	10/1/98	n/a
159	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/27/98	9/27/98	n/a
160	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98	10/2/98	n/a
161	TEMP	Temperature	21.6 °C	SM 2550 B	1	n/a	9/27/98	9/27/98	n/a
162	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98	10/2/98	n/a
163	TOC-ICR	TOC	0.77 mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
164	TOC-ICR	TOC (Dupl)	0.77 mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
			0.77 mg/L	0.0 % RPD					
165	TOX-ICR	TOX	47 µg Cl-/L	SM 5320 B	1	25	10/2/98	10/5/98	12-0-218
166	TOX-ICR	TOX (Dupl)	48 µg Cl-/L	SM 5320 B	1	25	10/2/98	10/5/98	12-0-218
			48 µg Cl-/L	2.1 % RPD					
167	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
168	THM-ICR	Bromodichloromethane	7.6 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
169	THM-ICR	Bromoform	12.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
170	THM-ICR	Chloroform	3.3 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
171	THM-ICR	Dibromochloromethane	13.5 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
172	UV-ICR	UV	0.011 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-306
173	UV-ICR	UV (Dupl)	0.012 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-306
			0.012 1/cm	8.3 % RPD					

Sample ID: 148.10.Eff-6

S&H ID: 9809-473

Date Sampled: 9/27/98 10:23:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
174	Cl2Dose	Chlorine Dose	4.25	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
175	Cl2Res	Chlorine Residual	0.74	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
176	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.4	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
177	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
178	HAA-ICR	Bromochloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
179	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
180	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
181	HAA-ICR	Dibromoacetic acid	4.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
182	HAA-ICR	Dichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
183	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
184	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
185	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
186	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
187	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

188	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/1/98	10/1/98	n/a
189	pH	pH	9.1	Unit	SM 4500-H+ B	1	n/a	9/27/98	9/27/98	n/a
190	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/1/98	10/2/98	n/a
191	TEMP	Temperature	21.8	°C	SM 2550 B	1	n/a	9/27/98	9/27/98	n/a
192	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	10/1/98	10/2/98	n/a
193	TOC-ICR	TOC	0.90	mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
194	TOC-ICR	TOC (Dupl)	0.87	mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
			0.89	mg/L	3.4 % RPD					
195	TOX-ICR	TOX	54	µg Cl-/L	SM 5320 B	1	25	10/2/98	10/5/98	12-0-218
196	TOX-ICR	TOX (Dupl)	52	µg Cl-/L	SM 5320 B	1	25	10/2/98	10/5/98	12-0-218
			53	µg Cl-/L	3.8 % RPD					
197	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
198	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	92.4	%	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
			95.0	%	5.5 % RPD					
199	THM-ICR	Bromodichloromethane	9.9	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
200	THM-ICR	Bromodichloromethane (Lab Dupl)	9.7	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
			9.8	µg/L	2.0 % RPD					
201	THM-ICR	Bromoform	11.9	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
202	THM-ICR	Bromoform (Lab Dupl)	11.8	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
			11.9	µg/L	0.8 % RPD					
203	THM-ICR	Chloroform	4.3	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
204	THM-ICR	Chloroform (Lab Dupl)	4.4	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
			4.3	µg/L	2.3 % RPD					
205	THM-ICR	Dibromochloromethane	16.3	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
206	THM-ICR	Dibromochloromethane (Lab Dupl)	16.0	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98 0-228-0
			16.1	µg/L	1.9 % RPD					
207	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-305
208	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-305
			0.014	1/cm	0.0 % RPD					

Sample ID: 148.10.Eff-7

S&H ID: 9809-474

Date Sampled: 9/27/98 1:43:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
209	Cl2Dose	Chlorine Dose	4.42	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
210	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
211	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	93.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
212	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
213	HAA-ICR	Bromochloroacetic acid	4.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
214	HAA-ICR	Bromodichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

215	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
216	HAA-ICR	Dibromoacetic acid	5.2 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
217	HAA-ICR	Dichloroacetic acid	3.4 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
218	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
219	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
220	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
221	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
222	pH	Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
223	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
224	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
225	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
226	TEMP	Temperature	22.0 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
227	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
228	TOC-ICR	TOC	1.09 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
229	TOC-ICR	TOC (Dupl)	1.10 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			1.10 mg/L	0.9 % RPD						
230	TOX-ICR	TOX	74 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
231	TOX-ICR	TOX (Dupl)	68 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
			71 µg Cl-/L	8.5 % RPD						
232	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
233	THM-ICR	Bromodichloromethane	14.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
234	THM-ICR	Bromoform	11.3 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
235	THM-ICR	Chloroform	7.3 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
236	THM-ICR	Dibromochloromethane	20.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
237	UV-ICR	UV	0.018 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
238	UV-ICR	UV (Dupl)	0.018 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
			0.018 1/cm	0.0 % RPD						

Sample ID: 148.10.Eff-8

S&H ID: 9809-475

Date Sampled: 9/27/98 9:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
239	Cl2Dose	Chlorine Dose	4.49	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
240	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
241	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	93.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
242	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.8	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
243	HAA-ICR	Bromochloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
244	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
245	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
246	HAA-ICR	Dibromoacetic acid	6.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

247	HAA-ICR	Dichloroacetic acid	3.9 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
248	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
249	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
250	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
251	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
252	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
253	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
254	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
255	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
256	TEMP	Temperature	21.7 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
257	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
258	TOC-ICR	TOC	1.17 mg/L	SM 5310 C	1	0.50	9/27/98		9/28/98	7-0-416
259	TOC-ICR	TOC (Dupl)	1.18 mg/L	SM 5310 C	1	0.50	9/27/98		9/28/98	7-0-416
			1.17 mg/L	0.9 % RPD						
260	TOX-ICR	TOX	75 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
261	TOX-ICR	TOX (Dupl)	82 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
			79 µg Cl-/L	8.9 % RPD						
262	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
263	THM-ICR	Bromodichloromethane	14.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
264	THM-ICR	Bromoform	11.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
265	THM-ICR	Chloroform	7.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
266	THM-ICR	Dibromochloromethane	20.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
267	UV-ICR	UV	0.019 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
268	UV-ICR	UV (Dupl)	0.018 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
			0.018 1/cm	5.6 % RPD						

Sample ID: 148.10.Eff-11

S&H ID: 9809-478

Date Sampled: 9/28/98 7:42:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
269	Cl2Dose	Chlorine Dose	4.43	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
270	Cl2Res	Chlorine Residual	0.65	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
271	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.2	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
272	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
273	HAA-ICR	Bromochloroacetic acid	5.2	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
274	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
275	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
276	HAA-ICR	Dibromoacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
277	HAA-ICR	Dichloroacetic acid	4.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
278	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

279	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
280	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
281	HAA-ICR	Trichloroacetic acid	1.6 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
282	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
283	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
284	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
285	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
286	TEMP	Temperature	21.8 °C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
287	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
288	TOC-ICR	TOC	1.39 mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
289	TOC-ICR	TOC (Dupl)	1.39 mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
			1.39 mg/L	0.0 % RPD						
290	TOX-ICR	TOX	97 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
291	TOX-ICR	TOX (Dupl)	101 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
			99 µg Cl-/L	4.0 % RPD						
292	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
293	THM-ICR	Bromodichloromethane	18.6 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
294	THM-ICR	Bromoform	9.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
295	THM-ICR	Chloroform	10.6 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
296	THM-ICR	Dibromochloromethane	21.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
297	UV-ICR	UV	0.024 1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
298	UV-ICR	UV (Dupl)	0.024 1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
			0.024 1/cm	0.0 % RPD						

Sample ID: 148.10.Eff-12

S&H ID: 9809-479

Date Sampled: 9/29/98 10:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
299	Cl2Dose	Chlorine Dose	4.77	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
300	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
301	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
302	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.8	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
303	HAA-ICR	Bromochloroacetic acid	6.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
304	HAA-ICR	Bromodichloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
305	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
306	HAA-ICR	Dibromoacetic acid	5.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
307	HAA-ICR	Dichloroacetic acid	5.9	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
308	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
309	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
310	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

311	HAA-ICR	Trichloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
312	pH	Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
313	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
314	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
315	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
316	TEMP	Temperature	20.9 °C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
317	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
318	TOC-ICR	TOC	1.56 mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
319	TOC-ICR	TOC (Dupl)	1.57 mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
			1.56 mg/L	0.6 % RPD						
320	TOX-ICR	TOX	116 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
321	TOX-ICR	TOX (Dupl)	126 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
			121 µg Cl-/L	8.3 % RPD						
322	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
323	THM-ICR	Bromodichloromethane	23.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
324	THM-ICR	Bromoform	8.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
325	THM-ICR	Chloroform	15.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
326	THM-ICR	Dibromochloromethane	24.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
327	UV-ICR	UV	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
328	UV-ICR	UV (Dupl)	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
			0.027 1/cm	0.0 % RPD						

Sample ID: 148.10.Eff-13**S&H ID:** 9809-480**Date Sampled:** 9/30/98 12:36:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
329	Cl2Dose	Chlorine Dose	4.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
330	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
331	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.0	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
332	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
333	HAA-ICR	Bromochloroacetic acid	6.8	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
334	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
335	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
336	HAA-ICR	Dibromoacetic acid	6.4	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
337	HAA-ICR	Dichloroacetic acid	6.6	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
338	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
339	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
340	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
341	HAA-ICR	Trichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
342	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

343	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/4/98	10/4/98	n/a
344	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98	9/30/98	n/a
345	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98	10/5/98	n/a
346	TEMP	Temperature	21.6 °C	SM 2550 B	1	n/a	9/30/98	9/30/98	n/a
347	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/4/98	10/5/98	n/a
348	TOC-ICR	TOC	1.67 mg/L	SM 5310 C	1	0.50	9/30/98	10/2/98	7-0-419
349	TOC-ICR	TOC (Dupl)	1.63 mg/L	SM 5310 C	1	0.50	9/30/98	10/2/98	7-0-419
			1.65 mg/L	2.4 % RPD					
350	TOX-ICR	TOX	126 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/9/98	12-0-222
351	TOX-ICR	TOX (Dupl)	127 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/9/98	12-0-222
			127 µg Cl-/L	0.8 % RPD					
352	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
353	THM-ICR	Bromodichloromethane	24.4 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
354	THM-ICR	Bromoform	7.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
355	THM-ICR	Chloroform	18.2 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
356	THM-ICR	Dibromochloromethane	23.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
357	UV-ICR	UV	0.030 1/cm	SM 5910 B	1	0.009	9/30/98	9/30/98	8-0-309
358	UV-ICR	UV (Dupl)	0.030 1/cm	SM 5910 B	1	0.009	9/30/98	9/30/98	8-0-309
			0.030 1/cm	0.0 % RPD					

Sample ID: 148.10.Eff-19

S&H ID: 9809-486

Date Sampled: 10/2/98 3:32:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
359	Cl2Dose	Chlorine Dose	4.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
360	Cl2Res	Chlorine Residual	1.00	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
361	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
362	HAA-ICR	2-Bromopropionic acid (Surrogate)	90.8	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
363	HAA-ICR	Bromochloroacetic acid	6.9	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
364	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
365	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
366	HAA-ICR	Dibromoacetic acid	5.6	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
367	HAA-ICR	Dichloroacetic acid	7.4	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
368	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
369	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
370	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
371	HAA-ICR	Trichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
372	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
373	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
374	pH	pH	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

375	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98	10/5/98	n/a
376	TEMP	Temperature	21.7 °C	SM 2550 B	1	n/a	10/2/98	10/2/98	n/a
377	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/4/98	10/5/98	n/a
378	TOC-ICR	TOC	1.87 mg/L	SM 5310 C	1	0.50	10/2/98	10/2/98	7-0-419
379	TOC-ICR	TOC (Dupl)	1.82 mg/L	SM 5310 C	1	0.50	10/2/98	10/2/98	7-0-419
			1.85 mg/L	2.7 % RPD					
380	TOX-ICR	TOX	156 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/9/98	12-0-222
381	TOX-ICR	TOX (Dupl)	151 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/9/98	12-0-222
			154 µg Cl-/L	3.2 % RPD					
382	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
383	THM-ICR	Bromodichloromethane	27.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
384	THM-ICR	Bromoform	6.2 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
385	THM-ICR	Chloroform	23.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
386	THM-ICR	Dibromochloromethane	24.1 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
387	UV-ICR	UV	0.034 1/cm	SM 5910 B	1	0.009	10/2/98	10/2/98	8-0-313
388	UV-ICR	UV (Dupl)	0.034 1/cm	SM 5910 B	1	0.009	10/2/98	10/2/98	8-0-313
			0.034 1/cm	0.0 % RPD					

Sample ID: 148.10.Eff-20

S&H ID: 9809-487

Date Sampled: 10/3/98 4:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
389	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	10/3/98		10/3/98	n/a
390	TEMP	Temperature	21.7	°C	SM 2550 B	1	n/a	10/3/98		10/3/98	n/a
391	TOC-ICR	TOC	1.92	mg/L	SM 5310 C	1	0.50	10/3/98		10/3/98	7-0-420
392	TOC-ICR	TOC (Dupl)	1.94	mg/L	SM 5310 C	1	0.50	10/3/98		10/3/98	7-0-420
			1.93 mg/L		1.0 % RPD						
393	UV-ICR	UV	0.037	1/cm	SM 5910 B	1	0.009	10/3/98		10/3/98	8-0-314
394	UV-ICR	UV (Dupl)	0.037	1/cm	SM 5910 B	1	0.009	10/3/98		10/3/98	8-0-314
			0.037 1/cm		0.0 % RPD						

Sample ID: 148.10.Eff-4d

S&H ID: 9809-498

Date Sampled: 9/26/98 11:31:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
395	Cl2Dose	Chlorine Dose	4.19	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
396	Cl2Res	Chlorine Residual	1.00	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
397	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
398	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.0	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
399	HAA-ICR	Bromochloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
400	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

401	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
402	HAA-ICR	Dibromoacetic acid	2.4 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
403	HAA-ICR	Dichloroacetic acid	1.3 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
404	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
405	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
406	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
407	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
408	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
409	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
410	pH	pH	9.0 Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
411	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
412	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
413	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
414	TOC-ICR	TOC	0.60 mg/L	SM 5310 C	1	0.50	9/26/98		9/27/98	7-0-415
415	TOC-ICR	TOC (Dupl)	0.61 mg/L 0.60 mg/L	SM 5310 C 1.7 % RPD	1	0.50	9/26/98		9/27/98	7-0-415
416	TOX-ICR	TOX	35 µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
417	TOX-ICR	TOX (Dupl)	36 µg Cl-/L 36 µg Cl-/L	SM 5320 B 2.8 % RPD	1	25	10/1/98		10/1/98	12-0-215
418	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
419	THM-ICR	Bromodichloromethane	5.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
420	THM-ICR	Bromoform	10.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
421	THM-ICR	Chloroform	2.2 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
422	THM-ICR	Dibromochloromethane	9.7 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
423	UV-ICR	UV	0.009 1/cm	SM 5910 B	1	0.009	9/26/98		9/28/98	8-0-305
424	UV-ICR	UV (Dupl)	0.009 1/cm 0.009 1/cm	SM 5910 B 0.0 % RPD	1	0.009	9/26/98		9/28/98	8-0-305

Sample ID: 148.10.Eff-8d

S&H ID: 9809-499

Date Sampled: 9/27/98 9:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
425	Cl2Dose	Chlorine Dose	4.49	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
426	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
427	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.8	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
428	HAA-ICR	2-Bromopropionic acid (Surrogate)	101.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
429	HAA-ICR	Bromochloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
430	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
431	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
432	HAA-ICR	Dibromoacetic acid	6.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

433	HAA-ICR	Dichloroacetic acid	3.8 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
434	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
435	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
436	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
437	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
438	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
439	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
440	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
441	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
442	TEMP	Temperature	21.7 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
443	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
444	TOC-ICR	TOC	1.19 mg/L	SM 5310 C	1	0.50	9/27/98		9/28/98	7-0-416
445	TOC-ICR	TOC (Dupl)	1.19 mg/L	SM 5310 C	1	0.50	9/27/98		9/28/98	7-0-416
			1.19 mg/L	0.0 % RPD						
446	TOX-ICR	TOX	76 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
447	TOX-ICR	TOX (Dupl)	76 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
			76 µg Cl-/L	0.0 % RPD						
448	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
449	THM-ICR	Bromodichloromethane	14.5 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
450	THM-ICR	Bromoform	10.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
451	THM-ICR	Chloroform	7.2 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
452	THM-ICR	Dibromochloromethane	20.0 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
453	UV-ICR	UV	0.019 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
454	UV-ICR	UV (Dupl)	0.019 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
			0.019 1/cm	0.0 % RPD						

Sample ID: 148.10.Eff-12d

S&H ID: 9809-501

Date Sampled: 9/29/98 10:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
455	Cl2Dose	Chlorine Dose	4.77	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
456	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
457	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
458	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
459	HAA-ICR	Bromochloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
460	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
461	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
462	HAA-ICR	Dibromoacetic acid	5.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
463	HAA-ICR	Dichloroacetic acid	5.3	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
464	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

465	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
466	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
467	HAA-ICR	Trichloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
468	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
469	pH	Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
470	pH	pH	9.2 Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
471	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
472	TEMP	Temperature	20.9 °C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
473	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
474	TOC-ICR	TOC	1.53 mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
475	TOC-ICR	TOC (Dupl)	1.55 mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
			1.54 mg/L	1.3 % RPD						
476	TOX-ICR	TOX	120 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
477	TOX-ICR	TOX (Dupl)	113 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220
			117 µg Cl-/L	6.0 % RPD						
478	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
479	THM-ICR	Bromodichloromethane	22.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
480	THM-ICR	Bromoform	8.6 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
481	THM-ICR	Chloroform	15.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
482	THM-ICR	Dibromochloromethane	23.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98	0-232-0
483	UV-ICR	UV	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
484	UV-ICR	UV (Dupl)	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
			0.027 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-1

S&H ID: 9809-508

Date Sampled: 9/25/98 10:02:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
485	Cl2Dose	Chlorine Dose	3.62	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
486	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
487	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.8	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
488	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
489	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
490	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
491	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
492	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
493	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
494	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
495	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
496	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

497	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
498	pH	Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
499	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
500	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a
501	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
502	TEMP	Temperature	22.1 °C	SM 2550 B	1	n/a	9/25/98		9/25/98	n/a
503	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
504	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
505	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
			ND mg/L							
506	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
507	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
			ND µg Cl-/L							
508	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
509	THM-ICR	Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
510	THM-ICR	Bromoform	1.2 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
511	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
512	THM-ICR	Dibromochloromethane	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
513	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
514	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
			ND 1/cm							

Sample ID: 148.20.Eff-4

S&H ID: 9809-511

Date Sampled: 9/27/98 10:32:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
515	Cl2Dose	Chlorine Dose	3.78	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
516	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
517	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
518	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
519	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
520	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
521	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
522	HAA-ICR	Dibromoacetic acid	1.6	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
523	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
524	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
525	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
526	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
527	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
528	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

529	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98	9/30/98	n/a
530	pH	pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/27/98	9/27/98	n/a
531	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98	10/1/98	n/a
532	TEMP	Temperature	21.8 °C	SM 2550 B	1	n/a	9/27/98	9/27/98	n/a
533	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	9/30/98	10/1/98	n/a
534	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
535	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
			ND mg/L						
536	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
537	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
			ND µg Cl-/L						
538	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
539	THM-ICR	Bromodichloromethane	1.8 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
540	THM-ICR	Bromoform	7.6 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
541	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
542	THM-ICR	Dibromochloromethane	3.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
543	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-305
544	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-305
			ND 1/cm						

Sample ID: 148.20.Eff-6

S&H ID: 9809-513

Date Sampled: 9/28/98 1:02:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
545	Cl2Dose	Chlorine Dose	3.94	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
546	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
547	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
548	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
549	HAA-ICR	Bromochloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
550	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
551	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
552	HAA-ICR	Dibromoacetic acid	2.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
553	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
554	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
555	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
556	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
557	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
558	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
559	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
560	pH	pH	9.0	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

561	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98	10/3/98	n/a
562	TEMP	Temperature	22.0 °C	SM 2550 B	1	n/a	9/28/98	9/28/98	n/a
563	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
564	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
565	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
			ND mg/L						
566	TOX-ICR	TOX	26 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
567	TOX-ICR	TOX (Dupl)	27 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
			27 µg Cl-/L						
			3.7 % RPD						
568	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
569	THM-ICR	Bromodichloromethane	4.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
570	THM-ICR	Bromoform	10.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
571	THM-ICR	Chloroform	1.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
572	THM-ICR	Dibromochloromethane	8.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
573	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-304
574	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-304
			ND 1/cm						

Sample ID: 148.20.Eff-8

S&H ID: 9809-515

Date Sampled: 9/28/98 3:43:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
575	Cl2Dose	Chlorine Dose	4.06	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
576	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
577	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.8	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
578	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
579	HAA-ICR	Bromochloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
580	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
581	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
582	HAA-ICR	Dibromoacetic acid	3.3	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
583	HAA-ICR	Dichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
584	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
585	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
586	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
587	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
588	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
589	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
590	pH	pH	8.8	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
591	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

592	TEMP	Temperature	21.5 °C	SM 2550 B	1	n/a	9/28/98	9/28/98	n/a
593	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
594	TOC-ICR	TOC	0.64 mg/L	SM 5310 C	1	0.50	9/28/98	9/29/98	7-0-416
595	TOC-ICR	TOC (Dupl)	0.65 mg/L	SM 5310 C	1	0.50	9/28/98	9/29/98	7-0-416
			0.65 mg/L	1.5 % RPD					
596	TOX-ICR	TOX	39 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
597	TOX-ICR	TOX (Dupl)	39 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
			39 µg Cl-/L	0.0 % RPD					
598	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
599	THM-ICR	Bromodichloromethane	6.0 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
600	THM-ICR	Bromoform	11.7 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
601	THM-ICR	Chloroform	2.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
602	THM-ICR	Dibromochloromethane	11.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
603	UV-ICR	UV	0.009 1/cm	SM 5910 B	1	0.009	9/28/98	9/29/98	8-0-307
604	UV-ICR	UV (Dupl)	0.009 1/cm	SM 5910 B	1	0.009	9/28/98	9/29/98	8-0-307
			0.009 1/cm	0.0 % RPD					

Sample ID: 148.20.Eff-10

S&H ID: 9809-517

Date Sampled: 9/29/98 6:28:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
605	Cl2Dose	Chlorine Dose	4.24	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
606	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
607	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
608	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
609	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
610	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
611	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
612	HAA-ICR	Dibromoacetic acid	3.9	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
613	HAA-ICR	Dichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
614	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
615	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
616	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
617	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
618	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
619	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
620	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
621	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
622	TEMP	Temperature	20.9	°C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
623	TIME	Cl2 Incubation Time	23.8	hrs	n/a	1	n/a	10/2/98		10/3/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

624	TOC-ICR TOC	0.87 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
625	TOC-ICR TOC (Dupl)	0.88 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
		0.88 mg/L	1.1 % RPD					
626	TOX-ICR TOX	53 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
627	TOX-ICR TOX (Dupl)	52 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/7/98	12-0-220
		53 µg Cl-/L	1.9 % RPD					
628	THM-ICR 1,2,3-Trichloropropane (Surrogate)	93.2 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
629	THM-ICR Bromodichloromethane	10.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
630	THM-ICR Bromoform	11.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
631	THM-ICR Chloroform	4.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
632	THM-ICR Dibromochloromethane	17.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/9/98 0-232-0
633	UV-ICR UV	0.014 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
634	UV-ICR UV (Dupl)	0.014 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
		0.014 1/cm	0.0 % RPD					

Sample ID: 148.20.Eff-12

S&H ID: 9809-519

Date Sampled: 9/29/98 9:05:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
635	Cl2Dose Chlorine Dose	4.39 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
636	Cl2Res Chlorine Residual	1.00 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
637	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	100.8 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
638	HAA-ICR 2-Bromopropionic acid (Surrogate)	98.4 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
639	HAA-ICR Bromochloroacetic acid	3.6 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
640	HAA-ICR Bromodichloroacetic acid	1.4 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
641	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
642	HAA-ICR Dibromoacetic acid	5.0 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
643	HAA-ICR Dichloroacetic acid	2.6 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
644	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
645	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
646	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
647	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
648	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
649	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
650	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
651	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
652	TEMP Temperature	22.2 °C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
653	TIME Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
654	TOC-ICR TOC	1.04 mg/L	SM 5310 C	1	0.50	9/29/98		10/2/98	7-0-419
655	TOC-ICR TOC (Dupl)	1.05 mg/L	SM 5310 C	1	0.50	9/29/98		10/2/98	7-0-419

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

		1.04 mg/L	1.0 % RPD						
656	TOX-ICR TOX	70 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
657	TOX-ICR TOX (Dupl)	66 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
		68 µg Cl-/L	5.9 % RPD						
658	THM-ICR 1,2,3-Trichloropropane (Surrogate)	99.6 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
659	THM-ICR Bromodichloromethane	13.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
660	THM-ICR Bromoform	9.0 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
661	THM-ICR Chloroform	5.7 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
662	THM-ICR Dibromochloromethane	19.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
663	UV-ICR UV	0.017 1/cm	SM 5910 B	1	0.009	9/29/98		9/30/98	8-0-309
664	UV-ICR UV (Dupl)	0.017 1/cm	SM 5910 B	1	0.009	9/29/98		9/30/98	8-0-309
		0.017 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-15

S&H ID: 9809-522

Date Sampled: 9/30/98 6:53:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
665	Cl2Dose Chlorine Dose	4.45 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
666	Cl2Res Chlorine Residual	1.07 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
667	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	88.4 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
668	HAA-ICR 2-Bromopropionic acid (Surrogate)	93.6 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
669	HAA-ICR Bromochloroacetic acid	4.8 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
670	HAA-ICR Bromodichloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
671	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
672	HAA-ICR Dibromoacetic acid	6.1 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
673	HAA-ICR Dichloroacetic acid	3.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
674	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
675	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
676	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
677	HAA-ICR Trichloroacetic acid	1.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
678	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
679	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
680	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
681	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
682	TEMP Temperature	22.6 °C	SM 2550 B	1	n/a	9/30/98		9/30/98	n/a
683	TIME Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
684	TOC-ICR TOC	1.14 mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
685	TOC-ICR TOC (Dupl)	1.15 mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
		1.15 mg/L	0.9 % RPD						
686	TOX-ICR TOX	79 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/9/98	12-0-222

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

687	TOX-ICR TOX (Dupl)	81 µg Cl-/L 80 µg Cl-/L	SM 5320 B 2.5 % RPD	1	25	10/5/98	10/9/98	12-0-222
688	THM-ICR 1,2,3-Trichloropropane (Surrogate)	95.6 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
689	THM-ICR Bromodichloromethane	15.7 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
690	THM-ICR Bromoform	10.7 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
691	THM-ICR Chloroform	8.0 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
692	THM-ICR Dibromochloromethane	21.9 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
693	UV-ICR UV	0.020 1/cm	SM 5910 B	1	0.009	9/30/98	10/1/98	8-0-312
694	UV-ICR UV (Dupl)	0.020 1/cm 0.020 1/cm	SM 5910 B 0.0 % RPD	1	0.009	9/30/98	10/1/98	8-0-312

Sample ID: 148.20.Eff-18

S&H ID: 9809-525

Date Sampled: 10/2/98 7:26:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
695	Cl2Dose Chlorine Dose	4.55 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
696	Cl2Res Chlorine Residual	1.22 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
697	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	86.4 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
698	HAA-ICR 2-Bromopropionic acid (Surrogate)	99.6 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
699	HAA-ICR Bromochloroacetic acid	5.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
700	HAA-ICR Bromodichloroacetic acid	1.6 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
701	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
702	HAA-ICR Dibromoacetic acid	6.2 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
703	HAA-ICR Dichloroacetic acid	4.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
704	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
705	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
706	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
707	HAA-ICR Trichloroacetic acid	2.0 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
708	pH Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
709	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
710	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
711	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
712	TEMP Temperature	21.2 °C	SM 2550 B	1	n/a	10/2/98		10/2/98	n/a
713	TIME Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
714	TOC-ICR TOC	1.27 mg/L	SM 5310 C	1	0.50	10/2/98		10/2/98	7-0-419
715	TOC-ICR TOC (Dupl)	1.27 mg/L 1.27 mg/L	SM 5310 C 0.0 % RPD	1	0.50	10/2/98		10/2/98	7-0-419
716	TOX-ICR TOX	95 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
717	TOX-ICR TOX (Dupl)	93 µg Cl-/L 94 µg Cl-/L	SM 5320 B 2.1 % RPD	1	25	10/5/98		10/13/98	12-0-224

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

718	THM-ICR 1,2,3-Trichloropropane (Surrogate)	93.6 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
719	THM-ICR Bromodichloromethane	18.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
720	THM-ICR Bromoform	9.5 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
721	THM-ICR Chloroform	10.7 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
722	THM-ICR Dibromochloromethane	23.2 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
723	UV-ICR UV	0.022 1/cm	SM 5910 B	1	0.009	10/2/98		10/2/98	8-0-313
724	UV-ICR UV (Dupl)	0.022 1/cm	SM 5910 B	1	0.009	10/2/98		10/2/98	8-0-313
		0.022 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-20**S&H ID:** 9809-527**Date Sampled:** 10/4/98 2:58:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
725	Cl2Dose Chlorine Dose	3.89 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/8/98		10/8/98	n/a
726	Cl2Res Chlorine Residual	0.79 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/8/98		10/9/98	n/a
727	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	95.6 %	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
728	HAA-ICR 2-Bromopropionic acid (Surrogate)	102.4 %	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
729	HAA-ICR Bromochloroacetic acid	5.8 µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
730	HAA-ICR Bromodichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
731	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/9/98	10/15/98	10/15/98	0-237-0
732	HAA-ICR Dibromoacetic acid	5.6 µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
733	HAA-ICR Dichloroacetic acid	5.2 µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
734	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
735	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/9/98	10/15/98	10/15/98	0-237-0
736	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/9/98	10/15/98	10/15/98	0-237-0
737	HAA-ICR Trichloroacetic acid	1.8 µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
738	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/8/98		10/9/98	n/a
739	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/8/98		10/8/98	n/a
740	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
741	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/8/98		10/9/98	n/a
742	TEMP Temperature	21.8 °C	SM 2550 B	1	n/a	10/4/98		10/4/98	n/a
743	TIME Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/8/98		10/9/98	n/a
744	TOC-ICR TOC	1.46 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
745	TOC-ICR TOC (Dupl)	1.44 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
		1.45 mg/L	1.4 % RPD						
746	TOX-ICR TOX	111 µg Cl-/L	SM 5320 B	1	25	10/9/98		10/15/98	12-0-226
747	TOX-ICR TOX (Dupl)	112 µg Cl-/L	SM 5320 B	1	25	10/9/98		10/15/98	12-0-226
		112 µg Cl-/L	0.9 % RPD						
748	THM-ICR 1,2,3-Trichloropropane (Surrogate)	96.0 %	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

749	THM-ICR Bromodichloromethane	21.8 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
750	THM-ICR Bromoform	9.1 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
751	THM-ICR Chloroform	12.4 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
752	THM-ICR Dibromochloromethane	24.8 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
753	UV-ICR UV	0.026 1/cm	SM 5910 B	1	0.009	10/4/98		10/4/98	8-0-315
754	UV-ICR UV (Dupl)	0.026 1/cm	SM 5910 B	1	0.009	10/4/98		10/4/98	8-0-315
		0.026 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-23

S&H ID: 9809-530

Date Sampled: 10/6/98 2:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
755	Cl2Dose	Chlorine Dose	4.02	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/8/98		10/8/98	n/a
756	Cl2Res	Chlorine Residual	1.31	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/8/98		10/9/98	n/a
757	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.4	%	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
758	HAA-ICR	2-Bromopropionic acid (Surrogate)	101.2	%	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
759	HAA-ICR	Bromochloroacetic acid	6.5	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
760	HAA-ICR	Bromodichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
761	HAA-ICR	Chlorodibromoacetic acid	2.0	µg/L	EPA 552.2	1	2.0	10/9/98	10/15/98	10/15/98	0-237-0
762	HAA-ICR	Dibromoacetic acid	5.8	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
763	HAA-ICR	Dichloroacetic acid	6.2	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
764	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
765	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/9/98	10/15/98	10/15/98	0-237-0
766	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/9/98	10/15/98	10/15/98	0-237-0
767	HAA-ICR	Trichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/9/98	10/15/98	10/15/98	0-237-0
768	pH	Cl2 pH - Final	9.0	Unit	SM 4500-H+ B	1	n/a	10/8/98		10/9/98	n/a
769	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/8/98		10/8/98	n/a
770	pH	pH	9.1	Unit	SM 4500-H+ B	1	n/a	10/6/98		10/6/98	n/a
771	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/8/98		10/9/98	n/a
772	TEMP	Temperature	22.0	°C	SM 2550 B	1	n/a	10/6/98		10/6/98	n/a
773	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	10/8/98		10/9/98	n/a
774	TOC-ICR	TOC	1.63	mg/L	SM 5310 C	1	0.50	10/6/98		10/6/98	7-0-423
775	TOC-ICR	TOC (Dupl)	1.62	mg/L	SM 5310 C	1	0.50	10/6/98		10/6/98	7-0-423
			1.63 mg/L		0.6 % RPD						
776	TOX-ICR	TOX	124	µg Cl-/L	SM 5320 B	1	25	10/9/98		10/15/98	12-0-226
777	TOX-ICR	TOX (Dupl)	127	µg Cl-/L	SM 5320 B	1	25	10/9/98		10/15/98	12-0-226
			126 µg Cl-/L		2.4 % RPD						
778	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
779	THM-ICR	Bromodichloromethane	23.2	µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
780	THM-ICR	Bromoform	7.0	µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

781	THM-ICR Chloroform	15.6 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
782	THM-ICR Dibromochloromethane	23.7 µg/L	EPA 551.1	1	1.0	10/9/98	10/16/98	10/16/98	0-238-0
783	UV-ICR UV	0.029 1/cm	SM 5910 B	1	0.009	10/6/98		10/7/98	8-0-319
784	UV-ICR UV (Dupl)	0.029 1/cm	SM 5910 B	1	0.009	10/6/98		10/7/98	8-0-319
		0.029 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-25

S&H ID: 9809-532

Date Sampled: 10/9/98 8:09:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
785	Cl2Dose Chlorine Dose	3.53 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/12/98		10/12/98	n/a
786	Cl2Res Chlorine Residual	1.26 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/12/98		10/13/98	n/a
787	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	95.6 %	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
788	HAA-ICR 2-Bromopropionic acid (Surrogate)	100.8 %	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
789	HAA-ICR Bromochloroacetic acid	7.5 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
790	HAA-ICR Bromodichloroacetic acid	2.3 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
791	HAA-ICR Chlorodibromoacetic acid	2.0 µg/L	EPA 552.2	1	2.0	10/13/98	10/15/98	10/16/98	0-237-0
792	HAA-ICR Dibromoacetic acid	6.5 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
793	HAA-ICR Dichloroacetic acid	6.7 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
794	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
795	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/13/98	10/15/98	10/16/98	0-237-0
796	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/13/98	10/15/98	10/16/98	0-237-0
797	HAA-ICR Trichloroacetic acid	2.2 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
798	pH Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	10/12/98		10/13/98	n/a
799	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/12/98		10/12/98	n/a
800	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	10/9/98		10/9/98	n/a
801	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/12/98		10/13/98	n/a
802	TEMP Temperature	20.8 °C	SM 2550 B	1	n/a	10/9/98		10/9/98	n/a
803	TIME Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	10/12/98		10/13/98	n/a
804	TOC-ICR TOC	1.74 mg/L	SM 5310 C	1	0.50	10/9/98		10/9/98	7-0-426
805	TOC-ICR TOC (Dupl)	1.77 mg/L	SM 5310 C	1	0.50	10/9/98		10/9/98	7-0-426
		1.75 mg/L	1.7 % RPD						
806	TOX-ICR TOX	134 µg Cl-/L	SM 5320 B	1	25	10/13/98		10/19/98	12-0-228
807	TOX-ICR TOX (Dupl)	127 µg Cl-/L	SM 5320 B	1	25	10/13/98		10/19/98	12-0-228
		131 µg Cl-/L	5.3 % RPD						
808	THM-ICR 1,2,3-Trichloropropane (Surrogate)	99.6 %	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
809	THM-ICR Bromodichloromethane	23.9 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
810	THM-ICR Bromoform	7.6 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
811	THM-ICR Chloroform	18.6 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
812	THM-ICR Dibromochloromethane	24.3 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

813	UV-ICR	UV	0.031	1/cm	SM 5910 B	1	0.009	10/9/98	10/9/98	8-0-320
814	UV-ICR	UV (Dupl)	0.031	1/cm	SM 5910 B	1	0.009	10/9/98	10/9/98	8-0-320
			0.031	1/cm	0.0 % RPD					

Sample ID: 148.20.Eff-27

S&H ID: 9809-534

Date Sampled: 10/11/98 3:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
815	pH	pH	9.1	Unit	SM 4500-H+ B	1	n/a	10/11/98		10/11/98	n/a
816	TEMP	Temperature	21.8	°C	SM 2550 B	1	n/a	10/11/98		10/11/98	n/a
817	TOC-ICR	TOC	1.86	mg/L	SM 5310 C	1	0.50	10/11/98		10/11/98	7-0-428
818	TOC-ICR	TOC (Dupl)	1.84	mg/L	SM 5310 C	1	0.50	10/11/98		10/11/98	7-0-428
			1.85	mg/L	1.1 % RPD						
819	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	10/11/98		10/11/98	8-0-323
820	UV-ICR	UV (Dupl)	0.034	1/cm	SM 5910 B	1	0.009	10/11/98		10/11/98	8-0-323
			0.035	1/cm	2.9 % RPD						

Sample ID: 148.20.Eff-28

S&H ID: 9809-535

Date Sampled: 10/12/98 7:48:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
821	Cl2Dose	Chlorine Dose	3.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/14/98		10/14/98	n/a
822	Cl2Res	Chlorine Residual	1.22	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/14/98		10/15/98	n/a
823	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.8	%	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
824	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
825	HAA-ICR	Bromochloroacetic acid	8.2	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
826	HAA-ICR	Bromodichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
827	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/15/98	10/20/98	10/21/98	0-247-0
828	HAA-ICR	Dibromoacetic acid	6.5	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
829	HAA-ICR	Dichloroacetic acid	8.5	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
830	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
831	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/15/98	10/20/98	10/21/98	0-247-0
832	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/15/98	10/20/98	10/21/98	0-247-0
833	HAA-ICR	Trichloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
834	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/14/98		10/15/98	n/a
835	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	10/14/98		10/14/98	n/a
836	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	10/12/98		10/12/98	n/a
837	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/14/98		10/15/98	n/a
838	TEMP	Temperature	21.4	°C	SM 2550 B	1	n/a	10/12/98		10/12/98	n/a
839	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	10/14/98		10/15/98	n/a
840	TOC-ICR	TOC	1.88	mg/L	SM 5310 C	1	0.50	10/12/98		10/12/98	7-0-429
841	TOC-ICR	TOC (Dupl)	1.91	mg/L	SM 5310 C	1	0.50	10/12/98		10/12/98	7-0-429

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

		1.90 mg/L	1.6 % RPD						
842	TOX-ICR TOX	151 µg Cl-/L	SM 5320 B	1	25	10/15/98	10/20/98	12-0-229	
843	TOX-ICR TOX (Dupl)	149 µg Cl-/L	SM 5320 B	1	25	10/15/98	10/20/98	12-0-229	
		150 µg Cl-/L	1.3 % RPD						
844	THM-ICR 1,2,3-Trichloropropane (Surrogate)	100.4 %	EPA 551.1	1	1.0	10/15/98	10/21/98	10/21/98	0-246-0
845	THM-ICR Bromodichloromethane	25.4 µg/L	EPA 551.1	1	1.0	10/15/98	10/21/98	10/21/98	0-246-0
846	THM-ICR Bromoform	5.8 µg/L	EPA 551.1	1	1.0	10/15/98	10/21/98	10/21/98	0-246-0
847	THM-ICR Chloroform	23.5 µg/L	EPA 551.1	1	1.0	10/15/98	10/21/98	10/21/98	0-246-0
848	THM-ICR Dibromochloromethane	23.0 µg/L	EPA 551.1	1	1.0	10/15/98	10/21/98	10/21/98	0-246-0
849	UV-ICR UV	0.036 1/cm	SM 5910 B	1	0.009	10/12/98	10/12/98	8-0-324	
850	UV-ICR UV (Dupl)	0.036 1/cm	SM 5910 B	1	0.009	10/12/98	10/12/98	8-0-324	
		0.036 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-6d

S&H ID: 9809-538

Date Sampled: 9/28/98 1:02:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
851	Cl2Dose Chlorine Dose	3.94 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
852	Cl2Res Chlorine Residual	0.73 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
853	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	98.0 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
854	HAA-ICR 2-Bromopropionic acid (Surrogate)	100.4 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
855	HAA-ICR Bromochloroacetic acid	1.4 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
856	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
857	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
858	HAA-ICR Dibromoacetic acid	2.3 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
859	HAA-ICR Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
860	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
861	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
862	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
863	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
864	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
865	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
866	pH pH	9.1 Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
867	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
868	TEMP Temperature	22.0 °C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
869	TIME Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
870	TOC-ICR TOC	ND mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
871	TOC-ICR TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
		ND mg/L							
872	TOX-ICR TOX	30 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/7/98	12-0-220

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

873	TOX-ICR TOX (Dupl)	29 µg Cl-/L 30 µg Cl-/L	SM 5320 B 3.3 % RPD	1	25	10/3/98		10/7/98	12-0-220
874	THM-ICR 1,2,3-Trichloropropane (Surrogate)	100.8 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
875	THM-ICR Bromodichloromethane	4.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
876	THM-ICR Bromoform	9.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
877	THM-ICR Chloroform	1.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
878	THM-ICR Dibromochloromethane	8.7 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
879	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	9/28/98		9/28/98	8-0-304
880	UV-ICR UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	9/28/98		9/28/98	8-0-304

Sample ID: 148.20.Eff-15d

S&H ID: 9809-540

Date Sampled: 9/30/98 6:53:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
881	Cl2Dose Chlorine Dose	4.45 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
882	Cl2Res Chlorine Residual	1.06 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
883	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	86.0 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
884	HAA-ICR 2-Bromopropionic acid (Surrogate)	100.4 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
885	HAA-ICR Bromochloroacetic acid	4.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
886	HAA-ICR Bromodichloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
887	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
888	HAA-ICR Dibromoacetic acid	5.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
889	HAA-ICR Dichloroacetic acid	3.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
890	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
891	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
892	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
893	HAA-ICR Trichloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
894	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
895	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
896	pH pH	9.0 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
897	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
898	TEMP Temperature	22.5 °C	SM 2550 B	1	n/a	9/30/98		9/30/98	n/a
899	TIME Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
900	TOC-ICR TOC	1.13 mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
901	TOC-ICR TOC (Dupl)	1.13 mg/L 1.13 mg/L	SM 5310 C 0.0 % RPD	1	0.50	9/30/98		10/1/98	7-0-418
902	TOX-ICR TOX	82 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/9/98	12-0-222
903	TOX-ICR TOX (Dupl)	80 µg Cl-/L 81 µg Cl-/L	SM 5320 B 2.5 % RPD	1	25	10/5/98		10/9/98	12-0-222

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

904	THM-ICR 1,2,3-Trichloropropane (Surrogate)	90.8 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
905	THM-ICR Bromodichloromethane	15.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
906	THM-ICR Bromoform	10.1 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
907	THM-ICR Chloroform	7.9 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
908	THM-ICR Dibromochloromethane	21.4 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
909	UV-ICR UV	0.019 1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
910	UV-ICR UV (Dupl)	0.019 1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
		0.019 1/cm	0.0 % RPD						

Sample ID: 148.20.Eff-25d

S&H ID: 9809-545

Date Sampled: 10/9/98 8:09:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
911	Cl2Dose Chlorine Dose	3.53 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/12/98		10/12/98	n/a
912	Cl2Res Chlorine Residual	1.26 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/12/98		10/13/98	n/a
913	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	99.6 %	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
914	HAA-ICR 2-Bromopropionic acid (Surrogate)	100.4 %	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
915	HAA-ICR Bromochloroacetic acid	6.9 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
916	HAA-ICR Bromodichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
917	HAA-ICR Chlorodibromoacetic acid	2.0 µg/L	EPA 552.2	1	2.0	10/13/98	10/15/98	10/16/98	0-237-0
918	HAA-ICR Dibromoacetic acid	5.7 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
919	HAA-ICR Dichloroacetic acid	6.6 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
920	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
921	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/13/98	10/15/98	10/16/98	0-237-0
922	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/13/98	10/15/98	10/16/98	0-237-0
923	HAA-ICR Trichloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	10/13/98	10/15/98	10/16/98	0-237-0
924	pH Cl2 pH - Final	9.2 Unit	SM 4500-H+ B	1	n/a	10/12/98		10/13/98	n/a
925	pH Cl2 pH - Initial	9.2 Unit	SM 4500-H+ B	1	n/a	10/12/98		10/12/98	n/a
926	pH pH	9.2 Unit	SM 4500-H+ B	1	n/a	10/9/98		10/9/98	n/a
927	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/12/98		10/13/98	n/a
928	TEMP Temperature	20.8 °C	SM 2550 B	1	n/a	10/9/98		10/9/98	n/a
929	TIME Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	10/12/98		10/13/98	n/a
930	TOC-ICR TOC	1.76 mg/L	SM 5310 C	1	0.50	10/9/98		10/9/98	7-0-426
931	TOC-ICR TOC (Dupl)	1.76 mg/L	SM 5310 C	1	0.50	10/9/98		10/9/98	7-0-426
		1.76 mg/L	0.0 % RPD						
932	TOX-ICR TOX	133 µg Cl-/L	SM 5320 B	1	25	10/13/98		10/19/98	12-0-228
933	TOX-ICR TOX (Dupl)	133 µg Cl-/L	SM 5320 B	1	25	10/13/98		10/19/98	12-0-228
		133 µg Cl-/L	0.0 % RPD						
934	THM-ICR 1,2,3-Trichloropropane (Surrogate)	97.6 %	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

935	THM-ICR Bromodichloromethane	25.1 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
936	THM-ICR Bromoform	8.0 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
937	THM-ICR Chloroform	19.7 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
938	THM-ICR Dibromochloromethane	25.7 µg/L	EPA 551.1	1	1.0	10/13/98	10/19/98	10/19/98	0-243-0
939	UV-ICR UV	0.031 1/cm	SM 5910 B	1	0.009	10/9/98		10/9/98	8-0-320
940	UV-ICR UV (Dupl)	0.031 1/cm	SM 5910 B	1	0.009	10/9/98		10/9/98	8-0-320
		0.031 1/cm	0.0 % RPD						

Sample ID: 148.Inf.A-1

S&H ID: 9809-548

Date Sampled: 9/25/98 6:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
941	ALK	Alkalinity	57	mg/L	SM 2320 B	1	5	9/25/98		9/26/98	1-0-33
942	ALK	Alkalinity (Dupl)	57	mg/L	SM 2320 B	1	5	9/25/98		9/26/98	1-0-33
			57	mg/L	0.0 % RPD						
943	NH3	Ammonia Nitrogen	0.28	mg/L	EPA 350.1	1	0.05	9/25/98		10/13/98	MW85650
944	BR	Bromide	0.110	mg/L	EPA 300.0 A	1	0.020	9/25/98		10/5/98	MW85225
945	CaHardM	Calcium Hardness	30	mg/L CaCO3	EPA 200.7	1	5	9/25/98		10/13/98	MW n/a
946	CaMW	Calcium, Total, ICAP	12	mg/L	EPA 200.7	1	1	9/25/98	10/13/98	10/13/98	MW85613
947	MgMW	Magnesium, Total, ICAP	24	mg/L	EPA 200.7	1	0	9/25/98	10/13/98	10/13/98	MW85616
948	TotHard	Total Hardness as CaCO3 by ICP	129	mg/L CaCO3	SM 2340B	1	7	9/25/98		10/13/98	MW n/a

Sample ID: 148.Inf.A-2

S&H ID: 9809-549

Date Sampled: 9/30/98 3:10:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
949	ALK	Alkalinity	58	mg/L	SM 2320 B	1	5	9/30/98		10/1/98	1-0-34
950	ALK	Alkalinity (Dupl)	60	mg/L	SM 2320 B	1	5	9/30/98		10/1/98	1-0-34
			59	mg/L	3.4 % RPD						
951	NH3	Ammonia Nitrogen	0.29	mg/L	EPA 350.1	1	0.05	9/30/98		10/16/98	MW85827
952	BR	Bromide	0.100	mg/L	EPA 300.0 A	1	0.020	9/30/98		10/13/98	MW85806
953	CaHardM	Calcium Hardness	30	mg/L CaCO3	EPA 200.7	1	5	9/30/98		10/7/98	MW n/a
954	CaMW	Calcium, Total, ICAP	12	mg/L	EPA 200.7	1	1	9/30/98	10/7/98	10/7/98	MW85263
955	MgMW	Magnesium, Total, ICAP	25	mg/L	EPA 200.7	1	0	9/30/98	10/7/98	10/7/98	MW85264
956	TotHard	Total Hardness as CaCO3 by ICP	133	mg/L CaCO3	SM 2340B	1	7	9/30/98		10/7/98	MW n/a

Sample ID: 148.Inf.B-1

S&H ID: 9809-550

Date Sampled: 9/25/98 3:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
957	Cl2Dose	Chlorine Dose	5.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
958	Cl2Res	Chlorine Residual	1.00	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

959	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.0 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
960	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
961	HAA-ICR	Bromochloroacetic acid	9.0 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
962	HAA-ICR	Bromodichloroacetic acid	3.2 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
963	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
964	HAA-ICR	Dibromoacetic acid	4.9 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
965	HAA-ICR	Dichloroacetic acid	13.6 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
966	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
967	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
968	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
969	HAA-ICR	Trichloroacetic acid	4.9 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
970	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
971	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
972	pH	pH	9.4 Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a
973	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
974	TEMP	Temperature	21.4 °C	SM 2550 B	1	n/a	9/25/98		9/25/98	n/a
975	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
976	TOC-ICR	TOC	2.64 mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
977	TOC-ICR	TOC (Dupl)	2.65 mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
			2.65 mg/L	0.4 % RPD						
978	TOX-ICR	TOX	214 µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
979	TOX-ICR	TOX (Dupl)	211 µg Cl-/L	SM 5320 B	1	25	10/1/98		10/1/98	12-0-215
			213 µg Cl-/L	1.4 % RPD						
980	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
981	THM-ICR	Bromodichloromethane	30.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
982	THM-ICR	Bromoform	4.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
983	THM-ICR	Chloroform	37.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
984	THM-ICR	Dibromochloromethane	20.4 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
985	TURB	Turbidity	0.15 ntu	SM 2130 B	1	0.05	9/25/98		9/25/98	9-0-17
986	UV-ICR	UV	0.055 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
987	UV-ICR	UV (Dupl)	0.055 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
			0.055 1/cm	0.0 % RPD						

Sample ID: 148.Inf.B-2

S&H ID: 9809-551

Date Sampled: 9/26/98 6:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
988	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
989	TEMP	Temperature	18.6	°C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

990	TOC-ICR TOC	2.64 mg/L	SM 5310 C	1	0.50	9/26/98	9/28/98	7-0-415
991	TOC-ICR TOC (Dupl)	2.57 mg/L	SM 5310 C	1	0.50	9/26/98	9/28/98	7-0-415
		2.61 mg/L	2.7 % RPD					

Sample ID: 148.Inf.B-3 S&H ID: 9809-552 Date Sampled: 9/28/98 10:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
992	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
993	TEMP	Temperature	18.6	°C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
994	TOC-ICR TOC		2.57	mg/L	SM 5310 C	1	0.50	9/28/98		9/29/98	7-0-417
995	TOC-ICR TOC (Dupl)		2.58	mg/L	SM 5310 C	1	0.50	9/28/98		9/29/98	7-0-417
			2.58 mg/L		0.4 % RPD						

Sample ID: 148.Inf.B-4 S&H ID: 9809-553 Date Sampled: 10/1/98 11:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
996	Cl2Dose	Chlorine Dose	5.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
997	Cl2Res	Chlorine Residual	0.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
998	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.2	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
999	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1000	HAA-ICR	Bromochloroacetic acid	10.2	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1001	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1002	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1003	HAA-ICR	Dibromoacetic acid	5.6	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1004	HAA-ICR	Dichloroacetic acid	15.5	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1005	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1006	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1007	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
1008	HAA-ICR	Trichloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1009	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
1010	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1011	pH	pH	9.4	Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1012	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
1013	TEMP	Temperature	16.8	°C	SM 2550 B	1	n/a	10/1/98		10/1/98	n/a
1014	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
1015	TOC-ICR TOC		2.56	mg/L	SM 5310 C	1	0.50	10/1/98		10/2/98	7-0-419
1016	TOC-ICR TOC (Dupl)		2.55	mg/L	SM 5310 C	1	0.50	10/1/98		10/2/98	7-0-419
			2.55 mg/L		0.4 % RPD						
1017	TOX-ICR TOX		213	µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
1018	TOX-ICR TOX (Dupl)		218	µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

		216 µg Cl-/L	2.3 % RPD						
1019	THM-ICR 1,2,3-Trichloropropane (Surrogate)	93.2 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1020	THM-ICR Bromodichloromethane	35.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1021	THM-ICR Bromoform	4.1 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1022	THM-ICR Chloroform	49.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1023	THM-ICR Dibromochloromethane	21.9 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1024	TURB Turbidity	0.15 ntu	SM 2130 B	1	0.05	10/1/98		10/1/98	9-0-18
1025	UV-ICR UV	0.055 1/cm	SM 5910 B	1	0.009	10/1/98		10/1/98	8-0-311
1026	UV-ICR UV (Dupl)	0.055 1/cm	SM 5910 B	1	0.009	10/1/98		10/1/98	8-0-311
		0.055 1/cm	0.0 % RPD						

Sample ID: 148.Inf.B-5 S&H ID: 9809-554 Date Sampled: 10/7/98 11:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1027	pH	pH	9.5	Unit	SM 4500-H+ B	1	n/a	10/7/98		10/7/98	n/a
1028	TEMP	Temperature	19.5	°C	SM 2550 B	1	n/a	10/7/98		10/7/98	n/a
1029	TOC-ICR	TOC	2.54	mg/L	SM 5310 C	1	0.50	10/7/98		10/7/98	7-0-424
1030	TOC-ICR	TOC (Dupl)	2.56	mg/L	SM 5310 C	1	0.50	10/7/98		10/7/98	7-0-424
			2.55	mg/L	0.8 % RPD						

Sample ID: 148.Inf.B-6 S&H ID: 9809-555 Date Sampled: 10/12/98 10:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1031	Cl2Dose	Chlorine Dose	5.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/14/98		10/14/98	n/a
1032	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/14/98		10/15/98	n/a
1033	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.4	%	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1034	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1035	HAA-ICR	Bromochloroacetic acid	10.3	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1036	HAA-ICR	Bromodichloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1037	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/15/98	10/20/98	10/21/98	0-247-0
1038	HAA-ICR	Dibromoacetic acid	5.4	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1039	HAA-ICR	Dichloroacetic acid	15.5	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1040	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1041	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/15/98	10/20/98	10/21/98	0-247-0
1042	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/15/98	10/20/98	10/21/98	0-247-0
1043	HAA-ICR	Trichloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/15/98	10/20/98	10/21/98	0-247-0
1044	pH	Cl2 pH - Final	9.2	Unit	SM 4500-H+ B	1	n/a	10/14/98		10/15/98	n/a
1045	pH	Cl2 pH - Initial	9.2	Unit	SM 4500-H+ B	1	n/a	10/14/98		10/14/98	n/a
1046	pH	pH	9.5	Unit	SM 4500-H+ B	1	n/a	10/12/98		10/12/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1047	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/14/98	10/15/98	n/a
1048	TEMP	Temperature	19.4 °C	SM 2550 B	1	n/a	10/12/98	10/12/98	n/a
1049	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/14/98	10/15/98	n/a
1050	TOC-ICR	TOC	2.56 mg/L	SM 5310 C	1	0.50	10/12/98	10/12/98	7-0-429
1051	TOC-ICR	TOC (Dupl)	2.57 mg/L	SM 5310 C	1	0.50	10/12/98	10/12/98	7-0-429
			2.56 mg/L	0.4 % RPD					
1052	TOX-ICR	TOX	229 µg Cl-/L	SM 5320 B	1	25	10/15/98	10/20/98	12-0-229
1053	TOX-ICR	TOX (Dupl)	222 µg Cl-/L	SM 5320 B	1	25	10/15/98	10/20/98	12-0-229
			226 µg Cl-/L	3.1 % RPD					
1054	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2 %	EPA 551.1	1	1.0	10/15/98 10/21/98	10/21/98	0-246-0
1055	THM-ICR	Bromodichloromethane	33.6 µg/L	EPA 551.1	1	1.0	10/15/98 10/21/98	10/21/98	0-246-0
1056	THM-ICR	Bromoform	4.0 µg/L	EPA 551.1	1	1.0	10/15/98 10/21/98	10/21/98	0-246-0
1057	THM-ICR	Chloroform	45.9 µg/L	EPA 551.1	1	1.0	10/15/98 10/21/98	10/21/98	0-246-0
1058	THM-ICR	Dibromochloromethane	20.8 µg/L	EPA 551.1	1	1.0	10/15/98 10/21/98	10/21/98	0-246-0
1059	TURB	Turbidity	0.10 ntu	SM 2130 B	1	0.05	10/12/98	10/12/98	9-0-18
1060	UV-ICR	UV	0.054 1/cm	SM 5910 B	1	0.009	10/12/98	10/12/98	8-0-324
1061	UV-ICR	UV (Dupl)	0.054 1/cm	SM 5910 B	1	0.009	10/12/98	10/12/98	8-0-324
			0.054 1/cm	0.0 % RPD					

Sample ID: 148.8.4.10.Eff-1

S&H ID: 9809-556

Date Sampled: 9/25/98 10:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1062	Cl2Dose	Chlorine Dose	3.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1063	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1064	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.4	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1065	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1066	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1067	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1068	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1069	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1070	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1071	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1072	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1073	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
1074	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1075	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1076	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1077	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1078	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98	10/1/98	n/a
1079	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	9/25/98	9/25/98	n/a
1080	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	9/30/98	10/1/98	n/a
1081	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/25/98	9/26/98	7-0-414
1082	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/25/98	9/26/98	7-0-414
			ND mg/L						
1083	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
1084	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
			ND µg Cl-/L						
1085	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
1086	THM-ICR	Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
1087	THM-ICR	Bromoform	1.2 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
1088	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
1089	THM-ICR	Dibromochloromethane	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98 0-223-0
1090	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/25/98	9/26/98	8-0-302
1091	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/25/98	9/26/98	8-0-302
			ND 1/cm						

Sample ID: 148.8.4.10.Eff-4

S&H ID: 9809-559

Date Sampled: 9/26/98 8:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1092	Cl2Dose	Chlorine Dose	3.81	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1093	Cl2Res	Chlorine Residual	1.08	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1094	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.4	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1095	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1096	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1097	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1098	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1099	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1100	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1101	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1102	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1103	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/8/98	10/8/98	0-230-0
1104	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1105	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1106	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1107	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
1108	TEMP	Cl2 Temperature	11.7	°C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
1109	TEMP	Temperature	23.4	°C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1110	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	9/30/98	10/1/98	n/a
1111	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/26/98	9/27/98	7-0-415
1112	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/26/98	9/27/98	7-0-415
			ND mg/L						
1113	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/3/98	12-0-217
1114	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98	10/3/98	12-0-217
			ND µg Cl-/L						
1115	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4 %	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1116	THM-ICR	Bromodichloromethane	1.7 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1117	THM-ICR	Bromoform	6.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1118	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1119	THM-ICR	Dibromochloromethane	3.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1120	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/26/98	9/28/98	8-0-305
1121	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/26/98	9/28/98	8-0-305
			ND 1/cm						

Sample ID: 148.8.4.10.Eff-6

S&H ID: 9809-561

Date Sampled: 9/27/98 5:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1122	Cl2Dose	Chlorine Dose	4.06	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1123	Cl2Res	Chlorine Residual	1.23	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1124	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.0	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1125	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1126	HAA-ICR	Bromochloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1127	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1128	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1129	HAA-ICR	Dibromoacetic acid	2.9	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1130	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1131	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1132	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1133	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/8/98	10/8/98	0-230-0
1134	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1135	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1136	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1137	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1138	TEMP	Cl2 Temperature	11.7	°C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
1139	TEMP	Temperature	21.6	°C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1140	TIME	Cl2 Incubation Time	23.8	hrs	n/a	1	n/a	9/30/98		10/1/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1141	TOC-ICR TOC	0.52 mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
1142	TOC-ICR TOC (Dupl)	0.50 mg/L	SM 5310 C	1	0.50	9/27/98	9/27/98	7-0-415
		0.51 mg/L	3.9 % RPD					
1143	TOX-ICR TOX	32 µg Cl-/L	SM 5320 B	1	25	10/1/98	10/3/98	12-0-217
1144	TOX-ICR TOX (Dupl)	27 µg Cl-/L	SM 5320 B	1	25	10/1/98	10/3/98	12-0-217
		30 µg Cl-/L	16.7 % RPD					
1145	THM-ICR 1,2,3-Trichloropropane (Surrogate)	103.2 %	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1146	THM-ICR Bromodichloromethane	3.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1147	THM-ICR Bromoform	7.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1148	THM-ICR Chloroform	1.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1149	THM-ICR Dibromochloromethane	7.6 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1150	UV-ICR UV	ND 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-306
1151	UV-ICR UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/27/98	9/28/98	8-0-306
		ND 1/cm						

Sample ID: 148.8.4.10.Eff-7

S&H ID: 9809-562

Date Sampled: 9/27/98 9:20:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1152	Cl2Dose Chlorine Dose	3.82 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1153	Cl2Res Chlorine Residual	0.89 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1154	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	98.4 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1155	HAA-ICR 2-Bromopropionic acid (Surrogate)	96.0 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1156	HAA-ICR Bromochloroacetic acid	2.4 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1157	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1158	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1159	HAA-ICR Dibromoacetic acid	4.1 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1160	HAA-ICR Dichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1161	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1162	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1163	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1164	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1165	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1166	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1167	pH pH	8.2 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1168	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1169	TEMP Temperature	21.7 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1170	TIME Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1171	TOC-ICR TOC	0.67 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1172	TOC-ICR TOC (Dupl)	0.66 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

		0.67 mg/L	1.5 % RPD						
1173	TOX-ICR TOX	40 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
1174	TOX-ICR TOX (Dupl)	40 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
		40 µg Cl-/L	0.0 % RPD						
1175	THM-ICR 1,2,3-Trichloropropane (Surrogate)	95.2 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1176	THM-ICR Bromodichloromethane	5.8 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1177	THM-ICR Bromoform	10.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1178	THM-ICR Chloroform	2.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1179	THM-ICR Dibromochloromethane	12.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1180	UV-ICR UV	0.010 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-306
1181	UV-ICR UV (Dupl)	0.010 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-306
		0.010 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-8

S&H ID: 9809-563

Date Sampled: 9/27/98 3:39:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1182	Cl2Dose Chlorine Dose	3.89 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1183	Cl2Res Chlorine Residual	0.93 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1184	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	92.4 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1185	HAA-ICR 2-Bromopropionic acid (Surrogate)	99.2 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1186	HAA-ICR Bromochloroacetic acid	2.9 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1187	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1188	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1189	HAA-ICR Dibromoacetic acid	4.4 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1190	HAA-ICR Dichloroacetic acid	1.8 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1191	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1192	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1193	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1194	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1195	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1196	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1197	pH pH	8.2 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1198	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1199	TEMP Temperature	22.4 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1200	TIME Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1201	TOC-ICR TOC	0.84 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1202	TOC-ICR TOC (Dupl)	0.83 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
		0.83 mg/L	1.2 % RPD						
1203	TOX-ICR TOX	53 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1204	TOX-ICR TOX (Dupl)	51 µg Cl-/L 52 µg Cl-/L	SM 5320 B 3.8 % RPD	1	25	10/2/98		10/6/98	12-0-219
1205	THM-ICR 1,2,3-Trichloropropane (Surrogate)	96.0 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1206	THM-ICR Bromodichloromethane	8.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1207	THM-ICR Bromoform	11.8 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1208	THM-ICR Chloroform	2.8 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1209	THM-ICR Dibromochloromethane	15.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1210	UV-ICR UV	0.012 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-306
1211	UV-ICR UV (Dupl)	0.012 1/cm 0.012 1/cm	SM 5910 B 0.0 % RPD	1	0.009	9/27/98		9/28/98	8-0-306

Sample ID: 148.8.4.10.Eff-9

S&H ID: 9809-564

Date Sampled: 9/27/98 9:40:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1212	Cl2Dose Chlorine Dose	3.95 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1213	Cl2Res Chlorine Residual	0.84 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1214	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	92.0 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1215	HAA-ICR 2-Bromopropionic acid (Surrogate)	96.4 %	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1216	HAA-ICR Bromochloroacetic acid	3.4 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1217	HAA-ICR Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1218	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1219	HAA-ICR Dibromoacetic acid	4.7 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1220	HAA-ICR Dichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1221	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1222	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1223	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1224	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1225	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1226	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1227	pH pH	8.2 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1228	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1229	TEMP Temperature	21.7 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1230	TIME Cl2 Incubation Time	24.2 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1231	TOC-ICR TOC	1.02 mg/L	SM 5310 C	1	0.50	9/27/98		9/28/98	7-0-416
1232	TOC-ICR TOC (Dupl)	1.03 mg/L 1.02 mg/L	SM 5310 C 1.0 % RPD	1	0.50	9/27/98		9/28/98	7-0-416
1233	TOX-ICR TOX	66 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
1234	TOX-ICR TOX (Dupl)	54 µg Cl-/L 60 µg Cl-/L	SM 5320 B 20.0 % RPD	1	25	10/2/98		10/5/98	12-0-218

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1235	THM-ICR 1,2,3-Trichloropropane (Surrogate)	98.4 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1236	THM-ICR Bromodichloromethane	12.3 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1237	THM-ICR Bromoform	13.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1238	THM-ICR Chloroform	4.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1239	THM-ICR Dibromochloromethane	20.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1240	UV-ICR UV	0.014 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
1241	UV-ICR UV (Dupl)	0.014 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-304
		0.014 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-11

S&H ID: 9809-566

Date Sampled: 9/28/98 10:23:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1242	Cl2Dose Chlorine Dose	4.02 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1243	Cl2Res Chlorine Residual	1.00 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1244	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	98.0 %	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1245	HAA-ICR 2-Bromopropionic acid (Surrogate)	101.2 %	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1246	HAA-ICR Bromochloroacetic acid	4.9 µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1247	HAA-ICR Bromodichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1248	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1249	HAA-ICR Dibromoacetic acid	6.2 µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1250	HAA-ICR Dichloroacetic acid	3.0 µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1251	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1252	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1253	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/8/98	10/9/98	0-230-0
1254	HAA-ICR Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1255	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1256	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1257	pH pH	8.1 Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
1258	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
1259	TEMP Temperature	21.6 °C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
1260	TIME Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
1261	TOC-ICR TOC	1.23 mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
1262	TOC-ICR TOC (Dupl)	1.20 mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
		1.21 mg/L	2.5 % RPD						
1263	TOX-ICR TOX	90 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/9/98	12-0-222
1264	TOX-ICR TOX (Dupl)	83 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/9/98	12-0-222
		87 µg Cl-/L	8.0 % RPD						
1265	THM-ICR 1,2,3-Trichloropropane (Surrogate)	97.2 %	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1266	THM-ICR Bromodichloromethane	14.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1267	THM-ICR Bromoform	12.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1268	THM-ICR Chloroform	6.7 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1269	THM-ICR Dibromochloromethane	22.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1270	UV-ICR UV	0.018 1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
1271	UV-ICR UV (Dupl)	0.018 1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
		0.018 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-14

S&H ID: 9809-569

Date Sampled: 9/29/98 5:33:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1272	Cl2Dose	Chlorine Dose	4.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1273	Cl2Res	Chlorine Residual	1.28	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1274	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.4	%	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1275	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.8	%	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1276	HAA-ICR	Bromochloroacetic acid	5.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1277	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1278	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1279	HAA-ICR	Dibromoacetic acid	6.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1280	HAA-ICR	Dichloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1281	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1282	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1283	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/8/98	10/9/98	0-230-0
1284	HAA-ICR	Trichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1285	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1286	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1287	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
1288	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
1289	TEMP	Temperature	20.9	°C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
1290	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
1291	TOC-ICR	TOC	1.35	mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
1292	TOC-ICR	TOC (Dupl)	1.38	mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
			1.37 mg/L		2.2 % RPD						
1293	TOX-ICR	TOX	98	µg Cl-/L	SM 5320 B	1	25	10/3/98		10/9/98	12-0-222
1294	TOX-ICR	TOX (Dupl)	94	µg Cl-/L	SM 5320 B	1	25	10/3/98		10/9/98	12-0-222
			96 µg Cl-/L		4.2 % RPD						
1295	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1296	THM-ICR	Bromodichloromethane	18.4	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1297	THM-ICR	Bromoform	9.7	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1298	THM-ICR Chloroform	10.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1299	THM-ICR Dibromochloromethane	23.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/7/98	0-228-0
1300	UV-ICR UV	0.022 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
1301	UV-ICR UV (Dupl)	0.022 1/cm	SM 5910 B	1	0.009	9/29/98		9/29/98	8-0-308
		0.022 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-16

S&H ID: 9809-571

Date Sampled: 9/29/98 6:17:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1302	Cl2Dose Chlorine Dose	3.95 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1303	Cl2Res Chlorine Residual	1.38 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1304	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	99.2 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1305	HAA-ICR 2-Bromopropionic acid (Surrogate)	97.6 %	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1306	HAA-ICR Bromochloroacetic acid	5.3 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1307	HAA-ICR Bromodichloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1308	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
1309	HAA-ICR Dibromoacetic acid	5.2 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1310	HAA-ICR Dichloroacetic acid	4.7 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1311	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1312	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/13/98	0-233-0
1313	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/13/98	0-233-0
1314	HAA-ICR Trichloroacetic acid	1.5 µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/13/98	0-233-0
1315	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1316	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1317	pH pH	8.0 Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
1318	TEMP Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
1319	TEMP Temperature	22.1 °C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
1320	TIME Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
1321	TOC-ICR TOC	1.59 mg/L	SM 5310 C	1	0.50	9/29/98		10/2/98	7-0-419
1322	TOC-ICR TOC (Dupl)	1.55 mg/L	SM 5310 C	1	0.50	9/29/98		10/2/98	7-0-419
		1.57 mg/L	2.5 % RPD						
1323	TOX-ICR TOX	112 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
1324	TOX-ICR TOX (Dupl)	114 µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
		113 µg Cl-/L	1.8 % RPD						
1325	THM-ICR 1,2,3-Trichloropropane (Surrogate)	93.2 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
1326	THM-ICR 1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	98.4 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
		95.8 %	5.4 % RPD						
1327	THM-ICR Bromodichloromethane	21.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1328	THM-ICR Bromodichloromethane (Lab Dupl)	21.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
		21.3 µg/L	0.5 % RPD						
1329	THM-ICR Bromoform	7.1 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
1330	THM-ICR Bromoform (Lab Dupl)	7.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
		7.2 µg/L	1.4 % RPD						
1331	THM-ICR Chloroform	13.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
1332	THM-ICR Chloroform (Lab Dupl)	13.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
		13.4 µg/L	1.5 % RPD						
1333	THM-ICR Dibromochloromethane	23.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
1334	THM-ICR Dibromochloromethane (Lab Dupl)	23.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98	0-232-0
		23.4 µg/L	0.9 % RPD						
1335	UV-ICR UV	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/30/98	8-0-309
1336	UV-ICR UV (Dupl)	0.027 1/cm	SM 5910 B	1	0.009	9/29/98		9/30/98	8-0-309
		0.027 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-19

S&H ID: 9809-574

Date Sampled: 9/30/98 8:34:00 PM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1337	Cl2Dose Chlorine Dose	3.62 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
1338	Cl2Res Chlorine Residual	1.35 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
1339	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	87.6 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1340	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	85.2 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
		86.4 %	2.8 % RPD						
1341	HAA-ICR 2-Bromopropionic acid (Surrogate)	99.2 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1342	HAA-ICR 2-Bromopropionic acid (Surrogate) (Lab Dupl)	97.6 %	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
		98.4 %	1.6 % RPD						
1343	HAA-ICR Bromochloroacetic acid	7.3 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1344	HAA-ICR Bromochloroacetic acid (Lab Dupl)	6.8 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
		7.0 µg/L	7.1 % RPD						
1345	HAA-ICR Bromodichloroacetic acid	2.3 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1346	HAA-ICR Bromodichloroacetic acid (Lab Dupl)	2.0 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
		2.1 µg/L	14.3 % RPD						
1347	HAA-ICR Chlorodibromoacetic acid	2.1 µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1348	HAA-ICR Chlorodibromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
		ND µg/L							
1349	HAA-ICR Dibromoacetic acid	7.3 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1350	HAA-ICR Dibromoacetic acid (Lab Dupl)	6.8 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
		7.0 µg/L	7.1 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1351	HAA-ICR	Dichloroacetic acid	6.2 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1352	HAA-ICR	Dichloroacetic acid (Lab Dupl)	6.1 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
			6.2 µg/L	1.6 % RPD						
1353	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1354	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
			ND µg/L							
1355	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1356	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
			ND µg/L							
1357	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
1358	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
			ND µg/L							
1359	HAA-ICR	Trichloroacetic acid	2.5 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1360	HAA-ICR	Trichloroacetic acid (Lab Dupl)	2.3 µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
			2.4 µg/L	8.3 % RPD						
1361	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
1362	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1363	pH	pH	8.0 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1364	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
1365	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	9/30/98		9/30/98	n/a
1366	TIME	Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
1367	TOC-ICR	TOC	1.68 mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
1368	TOC-ICR	TOC (Dupl)	1.69 mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
			1.69 mg/L	0.6 % RPD						
1369	TOX-ICR	TOX	133 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
1370	TOX-ICR	TOX (Dupl)	126 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
			130 µg Cl-/L	5.4 % RPD						
1371	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1372	THM-ICR	Bromodichloromethane	21.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1373	THM-ICR	Bromoform	6.6 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1374	THM-ICR	Chloroform	16.2 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1375	THM-ICR	Dibromochloromethane	23.0 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1376	UV-ICR	UV	0.030 1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
1377	UV-ICR	UV (Dupl)	0.030 1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
			0.030 1/cm	0.0 % RPD						

Sample ID: 148.8.4.10.Eff-24

S&H ID: 9809-579

Date Sampled: 10/3/98 7:03:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Sampl.	Prep.	Anal.	QC Batch
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ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1378	Cl2Dose	Chlorine Dose	2.96 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/7/98	10/7/98	n/a
1379	Cl2Res	Chlorine Residual	0.88 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/7/98	10/8/98	n/a
1380	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	83.6 %	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1381	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4 %	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1382	HAA-ICR	Bromochloroacetic acid	6.3 µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1383	HAA-ICR	Bromodichloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1384	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98 10/13/98	10/15/98	0-236-0
1385	HAA-ICR	Dibromoacetic acid	5.2 µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1386	HAA-ICR	Dichloroacetic acid	5.8 µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1387	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1388	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98 10/13/98	10/15/98	0-236-0
1389	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/8/98 10/13/98	10/15/98	0-236-0
1390	HAA-ICR	Trichloroacetic acid	2.1 µg/L	EPA 552.2	1	1.0	10/8/98 10/13/98	10/15/98	0-236-0
1391	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	10/7/98	10/8/98	n/a
1392	pH	Cl2 pH - Initial	9.0 Unit	SM 4500-H+ B	1	n/a	10/7/98	10/7/98	n/a
1393	pH	pH	8.1 Unit	SM 4500-H+ B	1	n/a	10/3/98	10/3/98	n/a
1394	TEMP	Cl2 Temperature	19.9 °C	SM 2550 B	1	n/a	10/7/98	10/8/98	n/a
1395	TEMP	Temperature	21.6 °C	SM 2550 B	1	n/a	10/3/98	10/3/98	n/a
1396	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/7/98	10/8/98	n/a
1397	TOC-ICR	TOC	1.85 mg/L	SM 5310 C	1	0.50	10/3/98	10/3/98	7-0-420
1398	TOC-ICR	TOC (Dupl)	1.87 mg/L 1.86 mg/L	SM 5310 C 1.1 % RPD	1	0.50	10/3/98	10/3/98	7-0-420
1399	TOX-ICR	TOX	136 µg Cl-/L	SM 5320 B	1	25	10/8/98	10/13/98	12-0-224
1400	TOX-ICR	TOX (Dupl)	136 µg Cl-/L 136 µg Cl-/L	SM 5320 B 0.0 % RPD	1	25	10/8/98	10/13/98	12-0-224
1401	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6 %	EPA 551.1	1	1.0	10/8/98 10/16/98	10/16/98	0-238-0
1402	THM-ICR	Bromodichloromethane	23.2 µg/L	EPA 551.1	1	1.0	10/8/98 10/16/98	10/16/98	0-238-0
1403	THM-ICR	Bromoform	6.0 µg/L	EPA 551.1	1	1.0	10/8/98 10/16/98	10/16/98	0-238-0
1404	THM-ICR	Chloroform	18.0 µg/L	EPA 551.1	1	1.0	10/8/98 10/16/98	10/16/98	0-238-0
1405	THM-ICR	Dibromochloromethane	22.4 µg/L	EPA 551.1	1	1.0	10/8/98 10/16/98	10/16/98	0-238-0
1406	UV-ICR	UV	0.034 1/cm	SM 5910 B	1	0.009	10/3/98	10/3/98	8-0-314
1407	UV-ICR	UV (Dupl)	0.034 1/cm 0.034 1/cm	SM 5910 B 0.0 % RPD	1	0.009	10/3/98	10/3/98	8-0-314

Sample ID: 148.8.4.10.Eff-25

S&H ID: 9809-580

Date Sampled: 10/4/98 11:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1408	Cl2Dose	Chlorine Dose	3.09	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/7/98		10/7/98	n/a
1409	Cl2Res	Chlorine Residual	1.10	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/7/98		10/8/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1410	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	82.0 %	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1411	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2 %	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1412	HAA-ICR	Bromochloroacetic acid	6.9 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1413	HAA-ICR	Bromodichloroacetic acid	1.9 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1414	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98	10/13/98	10/15/98	0-236-0
1415	HAA-ICR	Dibromoacetic acid	5.2 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1416	HAA-ICR	Dichloroacetic acid	7.2 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1417	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1418	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98	10/13/98	10/15/98	0-236-0
1419	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/8/98	10/13/98	10/15/98	0-236-0
1420	HAA-ICR	Trichloroacetic acid	2.2 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1421	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	10/7/98		10/8/98	n/a
1422	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/7/98		10/7/98	n/a
1423	pH	pH	8.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1424	TEMP	Cl2 Temperature	19.9 °C	SM 2550 B	1	n/a	10/7/98		10/8/98	n/a
1425	TEMP	Temperature	22.5 °C	SM 2550 B	1	n/a	10/4/98		10/4/98	n/a
1426	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/7/98		10/8/98	n/a
1427	TOC-ICR	TOC	1.97 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
1428	TOC-ICR	TOC (Dupl)	2.01 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
			1.99 mg/L	2.0 % RPD						
1429	TOX-ICR	TOX	154 µg Cl-/L	SM 5320 B	1	25	10/8/98		10/14/98	12-0-225
1430	TOX-ICR	TOX (Dupl)	148 µg Cl-/L	SM 5320 B	1	25	10/8/98		10/14/98	12-0-225
			151 µg Cl-/L	4.0 % RPD						
1431	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0 %	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1432	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	95.2 %	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
			98.6 %	6.9 % RPD						
1433	THM-ICR	Bromodichloromethane	24.9 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1434	THM-ICR	Bromodichloromethane (Lab Dupl)	24.9 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
			24.9 µg/L	0.0 % RPD						
1435	THM-ICR	Bromoform	6.3 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1436	THM-ICR	Bromoform (Lab Dupl)	6.1 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
			6.2 µg/L	3.2 % RPD						
1437	THM-ICR	Chloroform	21.7 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1438	THM-ICR	Chloroform (Lab Dupl)	21.6 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
			21.6 µg/L	0.5 % RPD						
1439	THM-ICR	Dibromochloromethane	22.5 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1440	THM-ICR	Dibromochloromethane (Lab Dupl)	22.7 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
			22.6 µg/L	0.9 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1441	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	10/4/98	10/4/98	8-0-316
1442	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	10/4/98	10/4/98	8-0-316
			0.036	1/cm	0.0 % RPD					

Sample ID: 148.8.4.10.Eff-8d

S&H ID: 9809-587

Date Sampled: 9/27/98 3:39:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1443	Cl2Dose	Chlorine Dose	3.89	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1444	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1445	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	91.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1446	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1447	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1448	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1449	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1450	HAA-ICR	Dibromoacetic acid	4.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1451	HAA-ICR	Dichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1452	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1453	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1454	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1455	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1456	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1457	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1458	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1459	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1460	TEMP	Temperature	22.4	°C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1461	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1462	TOC-ICR	TOC	0.88	mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1463	TOC-ICR	TOC (Dupl)	0.86	mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			0.87	mg/L	2.3 % RPD						
1464	TOX-ICR	TOX	48	µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
1465	TOX-ICR	TOX (Dupl)	51	µg Cl-/L	SM 5320 B	1	25	10/2/98		10/5/98	12-0-218
			50	µg Cl-/L	6.0 % RPD						
1466	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1467	THM-ICR	Bromodichloromethane	8.8	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1468	THM-ICR	Bromoform	12.3	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1469	THM-ICR	Chloroform	3.2	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1470	THM-ICR	Dibromochloromethane	16.3	µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1471	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
1472	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

0.012 1/cm

0.0 % RPD

Sample ID: 148.8.4.10.Eff-11d

S&H ID: 9809-588

Date Sampled: 9/28/98 10:23:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1473	Cl2Dose	Chlorine Dose	4.02	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1474	Cl2Res	Chlorine Residual	1.02	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1475	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.6	%	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1476	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1477	HAA-ICR	Bromochloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1478	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1479	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1480	HAA-ICR	Dibromoacetic acid	5.7	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1481	HAA-ICR	Dichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1482	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1483	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/8/98	10/9/98	0-230-0
1484	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/8/98	10/9/98	0-230-0
1485	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/8/98	10/9/98	0-230-0
1486	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1487	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1488	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
1489	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a
1490	TEMP	Temperature	21.3	°C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
1491	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	10/2/98		10/3/98	n/a
1492	TOC-ICR	TOC	1.17	mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
1493	TOC-ICR	TOC (Dupl)	1.20	mg/L	SM 5310 C	1	0.50	9/28/98		9/28/98	7-0-416
			1.19	mg/L	2.5 % RPD						
1494	TOX-ICR	TOX	77	µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
1495	TOX-ICR	TOX (Dupl)	77	µg Cl-/L	SM 5320 B	1	25	10/3/98		10/8/98	12-0-221
			77	µg Cl-/L	0.0 % RPD						
1496	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.8	%	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98	0-228-0
1497	THM-ICR	Bromodichloromethane	13.8	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98	0-228-0
1498	THM-ICR	Bromoform	10.0	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98	0-228-0
1499	THM-ICR	Chloroform	6.1	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98	0-228-0
1500	THM-ICR	Dibromochloromethane	19.7	µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98	0-228-0
1501	UV-ICR	UV	0.018	1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
1502	UV-ICR	UV (Dupl)	0.018	1/cm	SM 5910 B	1	0.009	9/28/98		9/29/98	8-0-307
			0.018	1/cm	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.8.4.10.Eff-19d

S&H ID: 9809-590

Date Sampled: 9/30/98 8:34:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1503	Cl2Dose	Chlorine Dose	3.62	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
1504	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
1505	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	88.4	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1506	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1507	HAA-ICR	Bromochloroacetic acid	7.0	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1508	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1509	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1510	HAA-ICR	Dibromoacetic acid	6.7	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1511	HAA-ICR	Dichloroacetic acid	6.2	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1512	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1513	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
1514	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
1515	HAA-ICR	Trichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
1516	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
1517	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1518	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1519	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
1520	TEMP	Temperature	22.6	°C	SM 2550 B	1	n/a	9/30/98		9/30/98	n/a
1521	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
1522	TOC-ICR	TOC	1.70	mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
1523	TOC-ICR	TOC (Dupl)	1.67	mg/L	SM 5310 C	1	0.50	9/30/98		10/1/98	7-0-418
			1.69	mg/L	1.8 % RPD						
1524	TOX-ICR	TOX	123	µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
1525	TOX-ICR	TOX (Dupl)	124	µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
			124	µg Cl-/L	0.8 % RPD						
1526	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.4	%	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1527	THM-ICR	Bromodichloromethane	22.2	µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1528	THM-ICR	Bromoform	6.8	µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1529	THM-ICR	Chloroform	16.5	µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1530	THM-ICR	Dibromochloromethane	23.7	µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1531	UV-ICR	UV	0.030	1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
1532	UV-ICR	UV (Dupl)	0.030	1/cm	SM 5910 B	1	0.009	9/30/98		10/1/98	8-0-311
			0.030	1/cm	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.8.4.Inf.A-1			S&H ID: 9809-596		Date Sampled: 9/29/98 9:15:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1533	ALK	Alkalinity	54	mg/L	SM 2320 B	1	5	9/29/98		9/29/98	1-0-33
1534	ALK	Alkalinity (Dupl)	54	mg/L	SM 2320 B	1	5	9/29/98		9/29/98	1-0-33
			54	mg/L	0.0 % RPD						
1535	NH3	Ammonia Nitrogen	0.29	mg/L	EPA 350.1	1	0.05	9/29/98		10/13/98	MW85650
1536	BR	Bromide	0.100	mg/L	EPA 300.0 A	1	0.020	9/29/98		10/8/98	MW85463
1537	CaHardM	Calcium Hardness	30	mg/L CaCO3	EPA 200.7	1	5	9/29/98		10/7/98	MW n/a
1538	CaMW	Calcium, Total, ICAP	12	mg/L	EPA 200.7	1	1	9/29/98	10/7/98	10/7/98	MW85263
1539	MgMW	Magnesium, Total, ICAP	25	mg/L	EPA 200.7	1	0	9/29/98	10/7/98	10/7/98	MW85264
1540	TotHard	Total Hardness as CaCO3 by ICP	133	mg/L CaCO3	SM 2340B	1	7	9/29/98		10/7/98	MW n/a

Sample ID: 148.8.4.Inf.A-2			S&H ID: 9809-597		Date Sampled: 10/1/98 9:45:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1541	ALK	Alkalinity	53	mg/L	SM 2320 B	1	5	10/1/98		10/1/98	1-0-34
1542	ALK	Alkalinity (Dupl)	52	mg/L	SM 2320 B	1	5	10/1/98		10/1/98	1-0-34
			53	mg/L	1.9 % RPD						

Sample ID: 148.8.4.Inf.B-1			S&H ID: 9809-598		Date Sampled: 9/25/98 3:35:00 PM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1543	Cl2Dose	Chlorine Dose	5.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1544	Cl2Res	Chlorine Residual	0.98	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1545	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.8	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1546	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.8	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1547	HAA-ICR	Bromochloroacetic acid	9.5	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1548	HAA-ICR	Bromodichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1549	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1550	HAA-ICR	Dibromoacetic acid	5.0	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1551	HAA-ICR	Dichloroacetic acid	14.9	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1552	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1553	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
1554	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/8/98	10/8/98	0-230-0
1555	HAA-ICR	Trichloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
1556	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1557	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1558	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1559	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98	10/1/98	n/a
1560	TEMP	Temperature	21.2 °C	SM 2550 B	1	n/a	9/25/98	9/25/98	n/a
1561	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	9/30/98	10/1/98	n/a
1562	TOC-ICR	TOC	2.66 mg/L	SM 5310 C	1	0.50	9/25/98	9/26/98	7-0-414
1563	TOC-ICR	TOC (Dupl)	2.67 mg/L	SM 5310 C	1	0.50	9/25/98	9/26/98	7-0-414
			2.67 mg/L	0.4 % RPD					
1564	TOX-ICR	TOX	207 µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
1565	TOX-ICR	TOX (Dupl)	215 µg Cl-/L	SM 5320 B	1	25	10/1/98	10/2/98	12-0-216
			211 µg Cl-/L	3.8 % RPD					
1566	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1567	THM-ICR	Bromodichloromethane	30.1 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1568	THM-ICR	Bromoform	3.6 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1569	THM-ICR	Chloroform	38.8 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1570	THM-ICR	Dibromochloromethane	18.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98 0-228-0
1571	TURB	Turbidity	0.15 ntu	SM 2130 B	1	0.05	9/25/98	9/25/98	9-0-17
1572	UV-ICR	UV	0.055 1/cm	SM 5910 B	1	0.009	9/25/98	9/26/98	8-0-302
1573	UV-ICR	UV (Dupl)	0.055 1/cm	SM 5910 B	1	0.009	9/25/98	9/26/98	8-0-302
			0.055 1/cm	0.0 % RPD					

Sample ID: 148.8.4.Inf.B-2

S&H ID: 9809-599

Date Sampled: 9/26/98 6:10:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1574	pH	pH	8.4	Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
1575	TEMP	Temperature	20.2	°C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
1576	TOC-ICR	TOC	2.60	mg/L	SM 5310 C	1	0.50	9/26/98		9/28/98	7-0-415
1577	TOC-ICR	TOC (Dupl)	2.59	mg/L	SM 5310 C	1	0.50	9/26/98		9/28/98	7-0-415
			2.59 mg/L		0.4 % RPD						

Sample ID: 148.8.4.Inf.B-3

S&H ID: 9809-600

Date Sampled: 9/29/98 9:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1578	TEMP	Temperature	18.7	°C	SM 2550 B	1	n/a	9/29/98		9/29/98	n/a
1579	TOC-ICR	TOC	2.59	mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
1580	TOC-ICR	TOC (Dupl)	2.58	mg/L	SM 5310 C	1	0.50	9/29/98		9/29/98	7-0-417
			2.59 mg/L		0.4 % RPD						

Sample ID: 148.8.4.Inf.B-4

S&H ID: 9809-601

Date Sampled: 10/4/98 9:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1581	Cl2Dose	Chlorine Dose	5.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/7/98		10/7/98	n/a
1582	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/7/98		10/8/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1583	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	84.0 %	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1584	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8 %	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1585	HAA-ICR	Bromochloroacetic acid	8.7 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1586	HAA-ICR	Bromodichloroacetic acid	3.1 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1587	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98	10/13/98	10/15/98	0-236-0
1588	HAA-ICR	Dibromoacetic acid	4.6 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1589	HAA-ICR	Dichloroacetic acid	13.3 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1590	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1591	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/8/98	10/13/98	10/15/98	0-236-0
1592	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/8/98	10/13/98	10/15/98	0-236-0
1593	HAA-ICR	Trichloroacetic acid	5.1 µg/L	EPA 552.2	1	1.0	10/8/98	10/13/98	10/15/98	0-236-0
1594	pH	Cl2 pH - Final	9.0 Unit	SM 4500-H+ B	1	n/a	10/7/98		10/8/98	n/a
1595	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/7/98		10/7/98	n/a
1596	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1597	TEMP	Cl2 Temperature	19.9 °C	SM 2550 B	1	n/a	10/7/98		10/8/98	n/a
1598	TEMP	Temperature	18.4 °C	SM 2550 B	1	n/a	10/4/98		10/4/98	n/a
1599	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/7/98		10/8/98	n/a
1600	TOC-ICR	TOC	2.55 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
1601	TOC-ICR	TOC (Dupl)	2.54 mg/L	SM 5310 C	1	0.50	10/4/98		10/4/98	7-0-421
			2.54 mg/L	0.4 % RPD						
1602	TOX-ICR	TOX	232 µg Cl-/L	SM 5320 B	1	25	10/8/98		10/14/98	12-0-225
1603	TOX-ICR	TOX (Dupl)	225 µg Cl-/L	SM 5320 B	1	25	10/8/98		10/14/98	12-0-225
			229 µg Cl-/L	3.1 % RPD						
1604	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2 %	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1605	THM-ICR	Bromodichloromethane	33.3 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1606	THM-ICR	Bromoform	3.8 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1607	THM-ICR	Chloroform	45.0 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1608	THM-ICR	Dibromochloromethane	20.7 µg/L	EPA 551.1	1	1.0	10/8/98	10/16/98	10/16/98	0-238-0
1609	TURB	Turbidity	0.15 ntu	SM 2130 B	1	0.05	10/4/98		10/4/98	9-0-18
1610	UV-ICR	UV	0.054 1/cm	SM 5910 B	1	0.009	10/4/98		10/4/98	8-0-315
1611	UV-ICR	UV (Dupl)	0.055 1/cm	SM 5910 B	1	0.009	10/4/98		10/4/98	8-0-315
			0.055 1/cm	1.8 % RPD						

Sample ID: 148.8.9.10.Eff-1

S&H ID: 9809-602

Date Sampled: 9/25/98 11:01:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1612	Cl2Dose	Chlorine Dose	3.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1613	Cl2Res	Chlorine Residual	0.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1614	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1615	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1616	HAA-ICR	Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1617	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1618	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1619	HAA-ICR	Dibromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1620	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1621	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1622	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1623	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
1624	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1625	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1626	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1627	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a
1628	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
1629	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	9/25/98		9/25/98	n/a
1630	TIME	Cl2 Incubation Time	23.7 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
1631	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
1632	TOC-ICR	TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	9/25/98		9/26/98	7-0-414
1633	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
1634	TOX-ICR	TOX (Dupl)	ND µg Cl-/L ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
1635	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
1636	THM-ICR	Bromodichloromethane	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
1637	THM-ICR	Bromoform	1.8 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
1638	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
1639	THM-ICR	Dibromochloromethane	1.2 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/2/98	0-223-0
1640	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
1641	UV-ICR	UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302

Sample ID: 148.8.9.10.Eff-2

S&H ID: 9809-603

Date Sampled: 9/26/98 2:13:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1642	Cl2Dose	Chlorine Dose	3.77	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1643	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1644	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0 %		EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1645	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6 %	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1646	HAA-ICR	Bromochloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1647	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1648	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1649	HAA-ICR	Dibromoacetic acid	1.2 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1650	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1651	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1652	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1653	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
1654	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1655	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1656	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1657	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
1658	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
1659	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
1660	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
1661	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
1662	TOC-ICR	TOC (Dupl)	ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
			ND mg/L							
1663	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
1664	TOX-ICR	TOX (Dupl)	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
			ND µg Cl-/L							
1665	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1666	THM-ICR	Bromodichloromethane	1.5 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1667	THM-ICR	Bromoform	7.9 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1668	THM-ICR	Chloroform	ND µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1669	THM-ICR	Dibromochloromethane	3.2 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1670	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303
1671	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303
			ND 1/cm							

Sample ID: 148.8.9.10.Eff-3

S&H ID: 9809-604

Date Sampled: 9/26/98 6:11:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1672	Cl2Dose	Chlorine Dose	3.91	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
1673	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
1674	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1675	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1676	HAA-ICR	Bromochloroacetic acid	1.0 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1677	HAA-ICR	Bromodichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1678	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1679	HAA-ICR	Dibromoacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1680	HAA-ICR	Dichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1681	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1682	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/1/98	10/6/98	10/7/98	0-227-0
1683	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/1/98	10/6/98	10/7/98	0-227-0
1684	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/1/98	10/6/98	10/7/98	0-227-0
1685	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
1686	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1687	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
1688	TEMP	Cl2 Temperature	11.7 °C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
1689	TEMP	Temperature	23.5 °C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
1690	TIME	Cl2 Incubation Time	23.8 hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
1691	TOC-ICR	TOC	ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
1692	TOC-ICR	TOC (Dupl)	ND mg/L ND mg/L	SM 5310 C	1	0.50	9/26/98		9/26/98	7-0-414
1693	TOX-ICR	TOX	ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
1694	TOX-ICR	TOX (Dupl)	ND µg Cl-/L ND µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
1695	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2 %	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1696	THM-ICR	Bromodichloromethane	2.5 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1697	THM-ICR	Bromoform	8.8 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1698	THM-ICR	Chloroform	1.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1699	THM-ICR	Dibromochloromethane	5.3 µg/L	EPA 551.1	1	1.0	10/1/98	10/2/98	10/3/98	0-223-0
1700	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303
1701	UV-ICR	UV (Dupl)	ND 1/cm ND 1/cm	SM 5910 B	1	0.009	9/26/98		9/27/98	8-0-303

Sample ID: 148.8.9.10.Eff-4

S&H ID: 9809-605

Date Sampled: 9/27/98 1:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1702	Cl2Dose	Chlorine Dose	4.13	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1703	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1704	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	89.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1705	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1706	HAA-ICR	Bromochloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1707	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1708	HAA-ICR	Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1709	HAA-ICR	Dibromoacetic acid	3.1 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1710	HAA-ICR	Dichloroacetic acid	1.2 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1711	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1712	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1713	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1714	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1715	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1716	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1717	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1718	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1719	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1720	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1721	TOC-ICR	TOC	0.57 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1722	TOC-ICR	TOC (Dupl)	0.62 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			0.59 mg/L	8.5 % RPD						
1723	TOX-ICR	TOX	35 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
1724	TOX-ICR	TOX (Dupl)	34 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
			35 µg Cl-/L	2.9 % RPD						
1725	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1726	THM-ICR	Bromodichloromethane	5.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1727	THM-ICR	Bromoform	11.5 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1728	THM-ICR	Chloroform	2.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1729	THM-ICR	Dibromochloromethane	10.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1730	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/27/98		9/27/98	8-0-303
1731	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/27/98		9/27/98	8-0-303
			ND 1/cm							

Sample ID: 148.8.9.10.Eff-5

S&H ID: 9809-606

Date Sampled: 9/27/98 5:33:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1732	Cl2Dose	Chlorine Dose	4.27	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1733	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1734	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	92.0	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1735	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1736	HAA-ICR	Bromochloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1737	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1738	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1739	HAA-ICR	Dibromoacetic acid	3.8	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1740	HAA-ICR	Dichloroacetic acid	1.7 µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1741	HAA-ICR	Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1742	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1743	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1744	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1745	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1746	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1747	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1748	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1749	TEMP	Temperature	22.1 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1750	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1751	TOC-ICR	TOC	0.73 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1752	TOC-ICR	TOC (Dupl)	0.73 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			0.73 mg/L	0.0 % RPD						
1753	TOX-ICR	TOX	43 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
1754	TOX-ICR	TOX (Dupl)	42 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
			43 µg Cl-/L	2.3 % RPD						
1755	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1756	THM-ICR	Bromodichloromethane	7.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1757	THM-ICR	Bromoform	11.7 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1758	THM-ICR	Chloroform	2.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1759	THM-ICR	Dibromochloromethane	13.2 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1760	UV-ICR	UV	0.010 1/cm	SM 5910 B	1	0.009	9/27/98		9/27/98	8-0-303
1761	UV-ICR	UV (Dupl)	0.010 1/cm	SM 5910 B	1	0.009	9/27/98		9/27/98	8-0-303
			0.010 1/cm	0.0 % RPD						

Sample ID: 148.8.9.10.Eff-6

S&H ID: 9809-607

Date Sampled: 9/27/98 12:58:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Sample	Prep.	Anal.	QC Batch
1762	Cl2Dose	Chlorine Dose	4.43	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1763	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1764	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.8	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1765	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.8	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1766	HAA-ICR	Bromochloroacetic acid	4.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1767	HAA-ICR	Bromodichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1768	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1769	HAA-ICR	Dibromoacetic acid	6.0	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1770	HAA-ICR	Dichloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1771	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1772	HAA-ICR	Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1773	HAA-ICR	Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0
1774	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1775	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1776	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1777	pH	pH	8.7 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1778	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1779	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1780	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1781	TOC-ICR	TOC	0.89 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1782	TOC-ICR	TOC (Dupl)	0.88 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			0.89 mg/L	1.1 % RPD						
1783	TOX-ICR	TOX	61 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
1784	TOX-ICR	TOX (Dupl)	60 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
			61 µg Cl-/L	1.6 % RPD						
1785	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.4 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1786	THM-ICR	Bromodichloromethane	10.3 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1787	THM-ICR	Bromoform	12.6 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1788	THM-ICR	Chloroform	4.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1789	THM-ICR	Dibromochloromethane	16.9 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1790	UV-ICR	UV	0.013 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
1791	UV-ICR	UV (Dupl)	0.013 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
			0.013 1/cm	0.0 % RPD						

Sample ID: 148.8.9.10.Eff-7

S&H ID: 9809-608

Date Sampled: 9/27/98 4:56:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1792	Cl2Dose	Chlorine Dose	4.56	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1793	Cl2Res	Chlorine Residual	0.97	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1794	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	95.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1795	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1796	HAA-ICR	Bromochloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1797	HAA-ICR	Bromodichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1798	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1799	HAA-ICR	Dibromoacetic acid	6.2	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1800	HAA-ICR	Dichloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1801	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1802	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1803	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1804	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1805	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1806	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1807	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1808	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1809	TEMP	Temperature	22.6 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1810	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1811	TOC-ICR	TOC	1.02 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1812	TOC-ICR	TOC (Dupl)	1.03 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			1.02 mg/L	1.0 % RPD						
1813	TOX-ICR	TOX	70 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
1814	TOX-ICR	TOX (Dupl)	68 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
			69 µg Cl-/L	2.9 % RPD						
1815	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1816	THM-ICR	Bromodichloromethane	13.0 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1817	THM-ICR	Bromoform	12.1 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1818	THM-ICR	Chloroform	6.0 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1819	THM-ICR	Dibromochloromethane	19.6 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
1820	UV-ICR	UV	0.016 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-306
1821	UV-ICR	UV (Dupl)	0.016 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-306
			0.016 1/cm	0.0 % RPD						

Sample ID: 148.8.9.10.Eff-8

S&H ID: 9809-609

Date Sampled: 9/28/98 12:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1822	Cl2Dose	Chlorine Dose	4.66	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1823	Cl2Res	Chlorine Residual	1.07	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1824	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1825	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1826	HAA-ICR	Bromochloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1827	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1828	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1829	HAA-ICR	Dibromoacetic acid	4.2	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1830	HAA-ICR	Dichloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1831	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1832	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1833	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/14/98	0-233-0
1834	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1835	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

1836	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98	10/2/98	n/a
1837	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/28/98	9/28/98	n/a
1838	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98	10/3/98	n/a
1839	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	9/28/98	9/28/98	n/a
1840	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
1841	TOC-ICR	TOC	1.12 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
1842	TOC-ICR	TOC (Dupl)	1.13 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
			1.13 mg/L	0.9 % RPD					
1843	TOX-ICR	TOX	72 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
1844	TOX-ICR	TOX (Dupl)	76 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
			74 µg Cl-/L	5.4 % RPD					
1845	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1846	THM-ICR	Bromodichloromethane	14.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1847	THM-ICR	Bromoform	10.0 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1848	THM-ICR	Chloroform	6.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1849	THM-ICR	Dibromochloromethane	20.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1850	UV-ICR	UV	0.017 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-306
1851	UV-ICR	UV (Dupl)	0.017 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-306
			0.017 1/cm	0.0 % RPD					

Sample ID: 148.8.9.10.Eff-10**S&H ID:** 9809-611**Date Sampled:** 9/28/98 3:38:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1852	Cl2Dose	Chlorine Dose	4.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1853	Cl2Res	Chlorine Residual	1.23	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1854	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1855	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1856	HAA-ICR	Bromochloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1857	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1858	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1859	HAA-ICR	Dibromoacetic acid	5.9	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1860	HAA-ICR	Dichloroacetic acid	4.2	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1861	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1862	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1863	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/14/98	0-233-0
1864	HAA-ICR	Trichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1865	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1866	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1867	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1868	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98	10/3/98	n/a
1869	TEMP	Temperature	22.1 °C	SM 2550 B	1	n/a	9/28/98	9/28/98	n/a
1870	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
1871	TOC-ICR	TOC	1.34 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
1872	TOC-ICR	TOC (Dupl)	1.34 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
			1.34 mg/L	0.0 % RPD					
1873	TOX-ICR	TOX	94 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
1874	TOX-ICR	TOX (Dupl)	95 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
			95 µg Cl-/L	1.1 % RPD					
1875	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1876	THM-ICR	Bromodichloromethane	18.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1877	THM-ICR	Bromoform	8.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1878	THM-ICR	Chloroform	9.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1879	THM-ICR	Dibromochloromethane	23.0 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1880	UV-ICR	UV	0.021 1/cm	SM 5910 B	1	0.009	9/28/98	9/29/98	8-0-307
1881	UV-ICR	UV (Dupl)	0.021 1/cm	SM 5910 B	1	0.009	9/28/98	9/29/98	8-0-307
			0.021 1/cm	0.0 % RPD					

Sample ID: 148.8.9.10.Eff-11

S&H ID: 9809-612

Date Sampled: 9/29/98 6:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1882	Cl2Dose	Chlorine Dose	5.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
1883	Cl2Res	Chlorine Residual	1.34	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
1884	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1885	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1886	HAA-ICR	Bromochloroacetic acid	6.4	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1887	HAA-ICR	Bromodichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1888	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1889	HAA-ICR	Dibromoacetic acid	6.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1890	HAA-ICR	Dichloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1891	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1892	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
1893	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/14/98	0-233-0
1894	HAA-ICR	Trichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
1895	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
1896	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1897	pH	pH	8.6	Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a
1898	TEMP	Cl2 Temperature	20.0	°C	SM 2550 B	1	n/a	10/2/98		10/3/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

1899	TEMP	Temperature	20.9 °C	SM 2550 B	1	n/a	9/29/98	9/29/98	n/a
1900	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
1901	TOC-ICR	TOC	1.50 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
1902	TOC-ICR	TOC (Dupl)	1.45 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
			1.48 mg/L	3.4 % RPD					
1903	TOX-ICR	TOX	111 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
1904	TOX-ICR	TOX (Dupl)	109 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
			110 µg Cl-/L	1.8 % RPD					
1905	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1906	THM-ICR	Bromodichloromethane	20.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1907	THM-ICR	Bromoform	7.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1908	THM-ICR	Chloroform	12.2 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1909	THM-ICR	Dibromochloromethane	22.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
1910	UV-ICR	UV	0.025 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
1911	UV-ICR	UV (Dupl)	0.025 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
			0.025 1/cm	0.0 % RPD					

Sample ID: 148.8.9.10.Eff-15**S&H ID:** 9809-616**Date Sampled:** 9/30/98 8:47:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1912	Cl2Dose	Chlorine Dose	4.28	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
1913	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
1914	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.2	%	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1915	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1916	HAA-ICR	Bromochloroacetic acid	7.2	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1917	HAA-ICR	Bromodichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1918	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/12/98	10/14/98	0-233-0
1919	HAA-ICR	Dibromoacetic acid	6.3	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1920	HAA-ICR	Dichloroacetic acid	6.5	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1921	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1922	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/12/98	10/14/98	0-233-0
1923	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/12/98	10/14/98	0-233-0
1924	HAA-ICR	Trichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1925	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
1926	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1927	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
1928	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
1929	TEMP	Temperature	23.3	°C	SM 2550 B	1	n/a	9/30/98		9/30/98	n/a
1930	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	10/4/98		10/5/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1931	TOC-ICR TOC	1.68 mg/L	SM 5310 C	1	0.50	9/30/98	10/1/98	7-0-418
1932	TOC-ICR TOC (Dupl)	1.69 mg/L	SM 5310 C	1	0.50	9/30/98	10/2/98	7-0-418
		1.69 mg/L	0.6 % RPD					
1933	TOX-ICR TOX	131 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/13/98	12-0-224
1934	TOX-ICR TOX (Dupl)	128 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/13/98	12-0-224
		130 µg Cl-/L	2.3 % RPD					
1935	THM-ICR 1,2,3-Trichloropropane (Surrogate)	94.0 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
1936	THM-ICR Bromodichloromethane	25.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
1937	THM-ICR Bromoform	7.4 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
1938	THM-ICR Chloroform	19.0 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
1939	THM-ICR Dibromochloromethane	25.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
1940	UV-ICR UV	0.031 1/cm	SM 5910 B	1	0.009	9/30/98	10/1/98	8-0-311
1941	UV-ICR UV (Dupl)	0.031 1/cm	SM 5910 B	1	0.009	9/30/98	10/1/98	8-0-311
		0.031 1/cm	0.0 % RPD					

Sample ID: 148.8.9.10.Eff-18

S&H ID: 9809-619

Date Sampled: 10/2/98 2:56:00 AM

#	Analysis Type	Result Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1942	Cl2Dose Chlorine Dose	4.38 mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
1943	Cl2Res Chlorine Residual	1.16 mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
1944	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)	102.0 %	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1945	HAA-ICR 2-Bromopropionic acid (Surrogate)	98.8 %	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1946	HAA-ICR Bromochloroacetic acid	7.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1947	HAA-ICR Bromodichloroacetic acid	2.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1948	HAA-ICR Chlorodibromoacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/12/98	10/14/98	0-233-0
1949	HAA-ICR Dibromoacetic acid	6.1 µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1950	HAA-ICR Dichloroacetic acid	7.3 µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1951	HAA-ICR Monobromoacetic acid	ND µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1952	HAA-ICR Monochloroacetic acid	ND µg/L	EPA 552.2	1	2.0	10/5/98	10/12/98	10/14/98	0-233-0
1953	HAA-ICR Tribromoacetic acid	ND µg/L	EPA 552.2	1	4.0	10/5/98	10/12/98	10/14/98	0-233-0
1954	HAA-ICR Trichloroacetic acid	2.4 µg/L	EPA 552.2	1	1.0	10/5/98	10/12/98	10/14/98	0-233-0
1955	pH Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
1956	pH Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
1957	pH pH	8.5 Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
1958	TEMP Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
1959	TEMP Temperature	22.1 °C	SM 2550 B	1	n/a	10/2/98		10/2/98	n/a
1960	TIME Cl2 Incubation Time	24.0 hrs	n/a	1	n/a	10/4/98		10/5/98	n/a
1961	TOC-ICR TOC	1.86 mg/L	SM 5310 C	1	0.50	10/2/98		10/2/98	7-0-419
1962	TOC-ICR TOC (Dupl)	1.84 mg/L	SM 5310 C	1	0.50	10/2/98		10/2/98	7-0-419

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

		1.85 mg/L	1.1 % RPD						
1963	TOX-ICR TOX	143 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
1964	TOX-ICR TOX (Dupl)	142 µg Cl-/L	SM 5320 B	1	25	10/5/98		10/13/98	12-0-224
		143 µg Cl-/L	0.7 % RPD						
1965	THM-ICR 1,2,3-Trichloropropane (Surrogate)	94.4 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1966	THM-ICR Bromodichloromethane	27.3 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1967	THM-ICR Bromoform	6.2 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1968	THM-ICR Chloroform	22.7 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1969	THM-ICR Dibromochloromethane	24.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98	0-232-0
1970	UV-ICR UV	0.033 1/cm	SM 5910 B	1	0.009	10/2/98		10/2/98	8-0-313
1971	UV-ICR UV (Dupl)	0.033 1/cm	SM 5910 B	1	0.009	10/2/98		10/2/98	8-0-313
		0.033 1/cm	0.0 % RPD						

Sample ID: 148.8.9.10.Eff-19

S&H ID: 9809-620

Date Sampled: 10/3/98 5:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1972	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	10/3/98		10/3/98	n/a
1973	TEMP	Temperature	22.3	°C	SM 2550 B	1	n/a	10/3/98		10/3/98	n/a
1974	TOC-ICR TOC		1.91	mg/L	SM 5310 C	1	0.50	10/3/98		10/3/98	7-0-420
1975	TOC-ICR TOC (Dupl)		1.91	mg/L	SM 5310 C	1	0.50	10/3/98		10/3/98	7-0-420
			1.91 mg/L		0.0 % RPD						
1976	UV-ICR UV		0.036	1/cm	SM 5910 B	1	0.009	10/3/98		10/3/98	8-0-314
1977	UV-ICR UV (Dupl)		0.036	1/cm	SM 5910 B	1	0.009	10/3/98		10/3/98	8-0-314
			0.036 1/cm		0.0 % RPD						

Sample ID: 148.8.9.10.Eff-4d

S&H ID: 9809-632

Date Sampled: 9/27/98 1:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1978	Cl2Dose	Chlorine Dose	4.13	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/1/98		10/1/98	n/a
1979	Cl2Res	Chlorine Residual	0.75	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/1/98		10/2/98	n/a
1980	HAA-ICR 1,2,3-Trichloropropane (IS) (Internal Standard)		93.6	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1981	HAA-ICR 2-Bromopropionic acid (Surrogate)		98.8	%	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1982	HAA-ICR Bromochloroacetic acid		2.1	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1983	HAA-ICR Bromodichloroacetic acid		ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1984	HAA-ICR Chlorodibromoacetic acid		ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1985	HAA-ICR Dibromoacetic acid		3.5	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1986	HAA-ICR Dichloroacetic acid		1.2	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1987	HAA-ICR Monobromoacetic acid		ND	µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1988	HAA-ICR Monochloroacetic acid		ND	µg/L	EPA 552.2	1	2.0	10/2/98	10/8/98	10/9/98	0-230-0
1989	HAA-ICR Tribromoacetic acid		ND	µg/L	EPA 552.2	1	4.0	10/2/98	10/8/98	10/9/98	0-230-0

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

1990	HAA-ICR	Trichloroacetic acid	ND µg/L	EPA 552.2	1	1.0	10/2/98	10/8/98	10/9/98	0-230-0
1991	pH	Cl2 pH - Final	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/2/98	n/a
1992	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
1993	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/27/98		9/27/98	n/a
1994	TEMP	Cl2 Temperature	19.8 °C	SM 2550 B	1	n/a	10/1/98		10/2/98	n/a
1995	TEMP	Temperature	22.5 °C	SM 2550 B	1	n/a	9/27/98		9/27/98	n/a
1996	TIME	Cl2 Incubation Time	24.1 hrs	n/a	1	n/a	10/1/98		10/2/98	n/a
1997	TOC-ICR	TOC	0.55 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
1998	TOC-ICR	TOC (Dupl)	0.55 mg/L	SM 5310 C	1	0.50	9/27/98		9/27/98	7-0-415
			0.55 mg/L	0.0 % RPD						
1999	TOX-ICR	TOX	33 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
2000	TOX-ICR	TOX (Dupl)	35 µg Cl-/L	SM 5320 B	1	25	10/2/98		10/6/98	12-0-219
			34 µg Cl-/L	5.9 % RPD						
2001	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6 %	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
2002	THM-ICR	Bromodichloromethane	5.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
2003	THM-ICR	Bromoform	12.5 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
2004	THM-ICR	Chloroform	2.2 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
2005	THM-ICR	Dibromochloromethane	10.4 µg/L	EPA 551.1	1	1.0	10/2/98	10/7/98	10/7/98	0-228-0
2006	UV-ICR	UV	ND 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
2007	UV-ICR	UV (Dupl)	ND 1/cm	SM 5910 B	1	0.009	9/27/98		9/28/98	8-0-305
			ND 1/cm							

Sample ID: 148.8.9.10.Eff-8d

S&H ID: 9809-633

Date Sampled: 9/28/98 12:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2008	Cl2Dose	Chlorine Dose	4.66	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
2009	Cl2Res	Chlorine Residual	1.08	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
2010	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2011	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2012	HAA-ICR	Bromochloroacetic acid	3.7	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2013	HAA-ICR	Bromodichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2014	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
2015	HAA-ICR	Dibromoacetic acid	4.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2016	HAA-ICR	Dichloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2017	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2018	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
2019	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/14/98	0-233-0
2020	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2021	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

2022	pH	Cl2 pH - Initial	9.1 Unit	SM 4500-H+ B	1	n/a	10/2/98	10/2/98	n/a
2023	pH	pH	8.6 Unit	SM 4500-H+ B	1	n/a	9/28/98	9/28/98	n/a
2024	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98	10/3/98	n/a
2025	TEMP	Temperature	22.3 °C	SM 2550 B	1	n/a	9/28/98	9/28/98	n/a
2026	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
2027	TOC-ICR	TOC	1.14 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
2028	TOC-ICR	TOC (Dupl)	1.14 mg/L	SM 5310 C	1	0.50	9/28/98	9/28/98	7-0-416
			1.14 mg/L	0.0 % RPD					
2029	TOX-ICR	TOX	77 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
2030	TOX-ICR	TOX (Dupl)	76 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/8/98	12-0-221
			77 µg Cl-/L	1.3 % RPD					
2031	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8 %	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
2032	THM-ICR	Bromodichloromethane	14.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
2033	THM-ICR	Bromoform	10.4 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
2034	THM-ICR	Chloroform	6.4 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
2035	THM-ICR	Dibromochloromethane	20.3 µg/L	EPA 551.1	1	1.0	10/3/98	10/9/98	10/10/98 0-232-0
2036	UV-ICR	UV	0.017 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-304
2037	UV-ICR	UV (Dupl)	0.017 1/cm	SM 5910 B	1	0.009	9/28/98	9/28/98	8-0-304
			0.017 1/cm	0.0 % RPD					

Sample ID: 148.8.9.10.Eff-11d

S&H ID: 9809-634

Date Sampled: 9/29/98 6:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2038	Cl2Dose	Chlorine Dose	5.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/2/98		10/2/98	n/a
2039	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/2/98		10/3/98	n/a
2040	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.4	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2041	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2042	HAA-ICR	Bromochloroacetic acid	5.8	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2043	HAA-ICR	Bromodichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2044	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
2045	HAA-ICR	Dibromoacetic acid	5.6	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2046	HAA-ICR	Dichloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2047	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2048	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/3/98	10/12/98	10/14/98	0-233-0
2049	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/3/98	10/12/98	10/14/98	0-233-0
2050	HAA-ICR	Trichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	10/3/98	10/12/98	10/14/98	0-233-0
2051	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/3/98	n/a
2052	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/2/98		10/2/98	n/a
2053	pH	pH	8.6	Unit	SM 4500-H+ B	1	n/a	9/29/98		9/29/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

2054	TEMP	Cl2 Temperature	20.0 °C	SM 2550 B	1	n/a	10/2/98	10/3/98	n/a
2055	TEMP	Temperature	21.3 °C	SM 2550 B	1	n/a	9/29/98	9/29/98	n/a
2056	TIME	Cl2 Incubation Time	23.9 hrs	n/a	1	n/a	10/2/98	10/3/98	n/a
2057	TOC-ICR	TOC	1.47 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
2058	TOC-ICR	TOC (Dupl)	1.54 mg/L	SM 5310 C	1	0.50	9/29/98	9/29/98	7-0-417
			1.50 mg/L	4.7 % RPD					
2059	TOX-ICR	TOX	112 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/9/98	12-0-222
2060	TOX-ICR	TOX (Dupl)	111 µg Cl-/L	SM 5320 B	1	25	10/3/98	10/9/98	12-0-222
			112 µg Cl-/L	0.9 % RPD					
2061	THM-ICR	1,2,3-Trichloropropane (Surrogate)	106.0 %	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98 0-228-0
2062	THM-ICR	Bromodichloromethane	20.9 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98 0-228-0
2063	THM-ICR	Bromoform	8.8 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98 0-228-0
2064	THM-ICR	Chloroform	13.5 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98 0-228-0
2065	THM-ICR	Dibromochloromethane	23.0 µg/L	EPA 551.1	1	1.0	10/3/98	10/7/98	10/8/98 0-228-0
2066	UV-ICR	UV	0.025 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
2067	UV-ICR	UV (Dupl)	0.025 1/cm	SM 5910 B	1	0.009	9/29/98	9/29/98	8-0-308
			0.025 1/cm	0.0 % RPD					

Sample ID: 148.8.9.Inf.A-1

S&H ID: 9809-642

Date Sampled: 9/29/98 9:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2068	ALK	Alkalinity	53	mg/L	SM 2320 B	1	5	9/29/98		9/29/98	1-0-33
2069	ALK	Alkalinity (Dupl)	55	mg/L	SM 2320 B	1	5	9/29/98		9/29/98	1-0-33
			54	mg/L	3.7 % RPD						
2070	NH3	Ammonia Nitrogen	0.30	mg/L	EPA 350.1	1	0.05	9/29/98		10/16/98	MW85827
2071	BR	Bromide	0.110	mg/L	EPA 300.0 A	1	0.020	9/29/98		10/8/98	MW85463
2072	CaHardM	Calcium Hardness	30	mg/L CaCO3	EPA 200.7	1	5	9/29/98		10/7/98	MW n/a
2073	CaMW	Calcium, Total, ICAP	12	mg/L	EPA 200.7	1	1	9/29/98	10/7/98	10/7/98	MW85263
2074	MgMW	Magnesium, Total, ICAP	25	mg/L	EPA 200.7	1	0	9/29/98	10/7/98	10/7/98	MW85264
2075	TotHard	Total Hardness as CaCO3 by ICP	133	mg/L CaCO3	SM 2340B	1	7	9/29/98		10/7/98	MW n/a

Sample ID: 148.8.9.Inf.A-2

S&H ID: 9809-643

Date Sampled: 10/1/98 9:45:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2076	ALK	Alkalinity	52	mg/L	SM 2320 B	1	5	10/1/98		10/1/98	1-0-34
2077	ALK	Alkalinity (Dupl)	52	mg/L	SM 2320 B	1	5	10/1/98		10/1/98	1-0-34
			52	mg/L	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.8.9.Inf.B-1			S&H ID: 9809-644		Date Sampled: 9/25/98 3:35:00 PM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2078	Cl2Dose	Chlorine Dose	5.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/30/98		9/30/98	n/a
2079	Cl2Res	Chlorine Residual	0.96	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/30/98		10/1/98	n/a
2080	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	93.6	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2081	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2082	HAA-ICR	Bromochloroacetic acid	8.8	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2083	HAA-ICR	Bromodichloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2084	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
2085	HAA-ICR	Dibromoacetic acid	4.7	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2086	HAA-ICR	Dichloroacetic acid	14.0	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2087	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2088	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/1/98	10/8/98	10/8/98	0-230-0
2089	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/1/98	10/8/98	10/8/98	0-230-0
2090	HAA-ICR	Trichloroacetic acid	4.6	µg/L	EPA 552.2	1	1.0	10/1/98	10/8/98	10/8/98	0-230-0
2091	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		10/1/98	n/a
2092	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	9/30/98		9/30/98	n/a
2093	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	9/25/98		9/25/98	n/a
2094	TEMP	Cl2 Temperature	11.7	°C	SM 2550 B	1	n/a	9/30/98		10/1/98	n/a
2095	TEMP	Temperature	20.9	°C	SM 2550 B	1	n/a	9/25/98		9/25/98	n/a
2096	TIME	Cl2 Incubation Time	23.8	hrs	n/a	1	n/a	9/30/98		10/1/98	n/a
2097	TOC-ICR	TOC	2.61	mg/L	SM 5310 C	1	0.50	9/25/98		9/28/98	7-0-415
2098	TOC-ICR	TOC (Dupl)	2.62	mg/L	SM 5310 C	1	0.50	9/25/98		9/28/98	7-0-415
			2.62	mg/L	0.4 % RPD						
2099	TOX-ICR	TOX	236	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
2100	TOX-ICR	TOX (Dupl)	220	µg Cl-/L	SM 5320 B	1	25	10/1/98		10/2/98	12-0-216
			228	µg Cl-/L	7.0 % RPD						
2101	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98	0-228-0
2102	THM-ICR	Bromodichloromethane	31.1	µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98	0-228-0
2103	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98	0-228-0
2104	THM-ICR	Chloroform	39.6	µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98	0-228-0
2105	THM-ICR	Dibromochloromethane	20.2	µg/L	EPA 551.1	1	1.0	10/1/98	10/7/98	10/7/98	0-228-0
2106	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	9/25/98		9/25/98	9-0-17
2107	UV-ICR	UV	0.055	1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
2108	UV-ICR	UV (Dupl)	0.055	1/cm	SM 5910 B	1	0.009	9/25/98		9/26/98	8-0-302
			0.055	1/cm	0.0 % RPD						

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Sample ID: 148.8.9.Inf.B-2			S&H ID: 9809-645		Date Sampled: 9/26/98 6:05:00 PM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2109	pH	pH	8.8	Unit	SM 4500-H+ B	1	n/a	9/26/98		9/26/98	n/a
2110	TEMP	Temperature	20.1	°C	SM 2550 B	1	n/a	9/26/98		9/26/98	n/a
2111	TOC-ICR	TOC	2.59	mg/L	SM 5310 C	1	0.50	9/26/98		9/28/98	7-0-415
2112	TOC-ICR	TOC (Dupl)	2.57	mg/L	SM 5310 C	1	0.50	9/26/98		9/28/98	7-0-415
			2.58	mg/L	0.8 % RPD						

Sample ID: 148.8.9.Inf.B-3			S&H ID: 9809-646		Date Sampled: 9/28/98 10:10:00 PM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2113	pH	pH	8.8	Unit	SM 4500-H+ B	1	n/a	9/28/98		9/28/98	n/a
2114	TEMP	Temperature	19.7	°C	SM 2550 B	1	n/a	9/28/98		9/28/98	n/a
2115	TOC-ICR	TOC	2.59	mg/L	SM 5310 C	1	0.50	9/28/98		9/29/98	7-0-416
2116	TOC-ICR	TOC (Dupl)	2.58	mg/L	SM 5310 C	1	0.50	9/28/98		9/29/98	7-0-416
			2.59	mg/L	0.4 % RPD						

Sample ID: 148.8.9.Inf.B-4			S&H ID: 9809-647		Date Sampled: 10/1/98 11:00:00 AM						
#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
2117	Cl2Dose	Chlorine Dose	5.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/4/98		10/4/98	n/a
2118	Cl2Res	Chlorine Residual	0.61	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/4/98		10/5/98	n/a
2119	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.6	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2120	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2121	HAA-ICR	Bromochloroacetic acid	9.8	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2122	HAA-ICR	Bromodichloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2123	HAA-ICR	Chlorodibromoacetic acid	2.0	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
2124	HAA-ICR	Dibromoacetic acid	5.3	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2125	HAA-ICR	Dichloroacetic acid	14.8	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2126	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2127	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/5/98	10/13/98	10/14/98	0-236-0
2128	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/5/98	10/13/98	10/14/98	0-236-0
2129	HAA-ICR	Trichloroacetic acid	5.2	µg/L	EPA 552.2	1	1.0	10/5/98	10/13/98	10/14/98	0-236-0
2130	pH	Cl2 pH - Final	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/5/98	n/a
2131	pH	Cl2 pH - Initial	9.1	Unit	SM 4500-H+ B	1	n/a	10/4/98		10/4/98	n/a
2132	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	10/1/98		10/1/98	n/a
2133	TEMP	Cl2 Temperature	19.8	°C	SM 2550 B	1	n/a	10/4/98		10/5/98	n/a
2134	TEMP	Temperature	17.8	°C	SM 2550 B	1	n/a	10/1/98		10/1/98	n/a
2135	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	10/4/98		10/5/98	n/a

ND (non-detect): Result is below minimum reporting level (MRL).

NR (not reportable): Result did not meet QC criteria.

Laboratory Test ResultsMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

2136	TOC-ICR TOC	2.52 mg/L	SM 5310 C	1	0.50	10/1/98	10/2/98	7-0-418
2137	TOC-ICR TOC (Dupl)	2.55 mg/L	SM 5310 C	1	0.50	10/1/98	10/2/98	7-0-418
		2.54 mg/L	1.2 % RPD					
2138	TOX-ICR TOX	217 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/12/98	12-0-223
2139	TOX-ICR TOX (Dupl)	223 µg Cl-/L	SM 5320 B	1	25	10/5/98	10/12/98	12-0-223
		220 µg Cl-/L	2.7 % RPD					
2140	THM-ICR 1,2,3-Trichloropropane (Surrogate)	92.8 %	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
2141	THM-ICR Bromodichloromethane	35.5 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
2142	THM-ICR Bromoform	4.1 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
2143	THM-ICR Chloroform	48.4 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
2144	THM-ICR Dibromochloromethane	22.8 µg/L	EPA 551.1	1	1.0	10/5/98	10/9/98	10/10/98 0-232-0
2145	TURB Turbidity	0.15 ntu	SM 2130 B	1	0.05	10/1/98	10/1/98	9-0-18
2146	UV-ICR UV	0.055 1/cm	SM 5910 B	1	0.009	10/1/98	10/1/98	8-0-311
2147	UV-ICR UV (Dupl)	0.055 1/cm	SM 5910 B	1	0.009	10/1/98	10/1/98	8-0-311
		0.055 1/cm	0.0 % RPD					

End of laboratory test results

Quality Control Report

Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
44 E. Downer Place
Aurora, IL 60507-2067

Phone: 630-844-3632 Fax: 630-892-8980

Study#: 148
Study Title: ICR RSSCT #3,4

Analysis: ALK (Alkalinity)

Method: SM 2320 B

QC Batch ID: 1-0-33

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	100	99	mg/L	99%		09/26/98	9809-548	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		09/26/98	9809-548	5		
		100	98	mg/L	98%	1.0 %					
Method Blank	Method Blank		ND*	mg/L			09/26/98	9809-651	5		
Standard	Standard	100	97	mg/L	97%		09/26/98	9809-652	5		
Standard (Dupl)	Standard	100	98	mg/L	98%		09/26/98	9809-652	5		
		100	97	mg/L	97%	1.0 %					
Matrix Spike	Matrix Spike	100	97	mg/L	97%		09/29/98	9809-642	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		09/29/98	9809-642	5		
		100	97	mg/L	97%	0.0 %					
Method Blank	Method Blank		ND*	mg/L			09/29/98	9809-668	5		
Standard	Standard	100	100	mg/L	100%		09/29/98	9809-669	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		09/29/98	9809-669	5		
		100	100	mg/L	100%	0.0 %					

Analysis: ALK (Alkalinity)

Method: SM 2320 B

QC Batch ID: 1-0-34

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	100	97	mg/L	97%		10/01/98	9809-549	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		10/01/98	9809-549	5		
		100	96	mg/L	96%	1.0 %					
Method Blank	Method Blank		ND*	mg/L			10/01/98	9810-2	5		
Standard	Standard	100	98	mg/L	98%		10/01/98	9810-3	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		10/01/98	9810-3	5		
		100	99	mg/L	99%	2.0 %					
Matrix Spike	Matrix Spike	100	94	mg/L	94%		10/07/98	9809-765	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		10/07/98	9809-765	5		
		100	96	mg/L	96%	4.2 %					
Method Blank	Method Blank		ND*	mg/L			10/07/98	9810-107	5		
Standard	Standard	100	98	mg/L	98%		10/07/98	9810-108	5		
Standard (Dupl)	Standard	100	97	mg/L	97%		10/07/98	9810-108	5		
		100	98	mg/L	98%	1.0 %					

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-410

C Batch ID: 7-0-410

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.08	mg/L	102%		9809-106	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.03	mg/L	101%		9809-106	0.5		
		4.00	4.06	mg/L	101%	1.2 %				
Method Blank	Method Blank		ND*	mg/L			9809-416	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-416	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.49	mg/L	98%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9809-375	0.5	50-150%	
		0.50	0.49	mg/L	98%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9809-163	0.5	90-110%	
		4.00	3.96	mg/L	99%	1.0 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-412

C Batch ID: 7-0-412

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.05	mg/L	101%		9809-110	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.09	mg/L	102%		9809-110	0.5		
		4.00	4.07	mg/L	102%	0.7 %				
Method Blank	Method Blank		ND*	mg/L			9809-431	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-431	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9809-375	0.5	50-150%	
		0.50	0.50	mg/L	100%	2.0 %			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9809-163	0.5	90-110%	
		4.00	3.97	mg/L	99%	1.8 %			90-110%	10%
Standard	Standard	10.00	9.70	mg/L	97%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.86	mg/L	99%		9809-169	0.5	90-110%	
		10.00	9.78	mg/L	98%	1.6 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-414

C Batch ID: 7-0-414									Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	4.00	4.04	mg/L	101%		9809-113	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.13	mg/L	103%		9809-113	0.5		
		4.00	4.08	mg/L	102%	2.2 %				

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Method Blank	Method Blank		ND*	mg/L		9809-649	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L		9809-649	0.5		
			ND*	mg/L					
Standard	Standard	0.50	0.55	mg/L	110%	9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%	9809-375	0.5	50-150%	
		0.50	0.53	mg/L	106%			50-150%	20%
					5.7 %				
Standard	Standard	4.00	4.06	mg/L	101%	9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%	9809-163	0.5	90-110%	
		4.00	4.05	mg/L	101%			90-110%	10%
					0.5 %				
Standard	Standard	10.00	10.04	mg/L	100%	9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.17	mg/L	102%	9809-169	0.5	90-110%	
		10.00	10.10	mg/L	101%			90-110%	10%
					1.3 %				

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-415

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.85	mg/L	96%		9809-605	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.91	mg/L	98%		9809-605	0.5		
		4.00	3.88	mg/L	97%	1.5 %				
Matrix Spike	Matrix Spike	4.00	3.88	mg/L	97%		9809-599	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.87	mg/L	97%		9809-599	0.5		
		4.00	3.87	mg/L	97%	0.3 %				
Method Blank	Method Blank		ND*	mg/L			9809-654	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-654	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%	
		0.50	0.51	mg/L	102%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9809-163	0.5	90-110%	
		4.00	3.96	mg/L	99%	1.0 %			90-110%	10%
Standard	Standard	4.00	3.96	mg/L	99%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9809-163	0.5	90-110%	
		4.00	3.96	mg/L	99%	0.0 %			90-110%	10%
Standard	Standard	10.00	10.09	mg/L	101%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.16	mg/L	102%		9809-169	0.5	90-110%	
		10.00	10.12	mg/L	101%	0.7 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-416

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.06	mg/L	101%		9809-476	0.5		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Matrix Spike (Dupl)	Matrix Spike	4.00	4.09 mg/L	102%		9809-476	0.5		
		4.00	4.07 mg/L	102%	0.7 %				
Matrix Spike	Matrix Spike	4.00	3.91 mg/L	98%		9809-646	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.88 mg/L	97%		9809-646	0.5		
		4.00	3.90 mg/L	97%	0.8 %				
Method Blank	Method Blank		ND* mg/L			9809-660	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L			9809-660	0.5		
			ND* mg/L						
Standard	Standard	0.50	0.53 mg/L	106%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52 mg/L	104%		9809-375	0.5	50-150%	
		0.50	0.53 mg/L	106%	1.9 %			50-150%	20%
Standard	Standard	4.00	4.00 mg/L	100%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03 mg/L	101%		9809-163	0.5	90-110%	
		4.00	4.01 mg/L	100%	0.7 %			90-110%	10%
Standard	Standard	4.00	3.96 mg/L	99%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.93 mg/L	98%		9809-163	0.5	90-110%	
		4.00	3.94 mg/L	98%	0.8 %			90-110%	10%
Standard	Standard	10.00	10.09 mg/L	101%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.16 mg/L	102%		9809-169	0.5	90-110%	
		10.00	10.13 mg/L	101%	0.7 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-417

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	4.00	3.93	mg/L	98%		9809-568	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.97	mg/L	99%		9809-568	0.5		
		4.00	3.95	mg/L	99%	1.3 %				
Method Blank	Method Blank		ND*	mg/L			9809-667	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-667	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.53	mg/L	106%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9809-375	0.5	50-150%	
		0.50	0.53	mg/L	106%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9809-163	0.5	90-110%	
		4.00	4.00	mg/L	100%	1.2 %			90-110%	10%
Standard	Standard	10.00	9.99	mg/L	100%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.95	mg/L	99%		9809-169	0.5	90-110%	
		10.00	9.97	mg/L	100%	0.4 %			90-110%	10%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-418

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.96	mg/L	99%		9809-575	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.93	mg/L	98%		9809-575	0.5		
		4.00	3.94	mg/L	98%	0.5 %				
Method Blank	Method Blank		ND*	mg/L			9810-9	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-9	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.50	mg/L	100%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9809-375	0.5	50-150%	
		0.50	0.50	mg/L	100%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.90	mg/L	97%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9809-163	0.5	90-110%	
		4.00	3.92	mg/L	98%	1.0 %			90-110%	10%
Standard	Standard	10.00	9.82	mg/L	98%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.97	mg/L	100%		9809-169	0.5	90-110%	
		10.00	9.89	mg/L	99%	1.5 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-419

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	4.29	mg/L	107%		9809-619	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.08	mg/L	102%		9809-619	0.5		
		4.00	4.19	mg/L	105%	5.0 %				
Matrix Spike	Matrix Spike	4.00	3.95	mg/L	99%		9809-714	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.96	mg/L	99%		9809-714	0.5		
		4.00	3.96	mg/L	99%	0.3 %				
Method Blank	Method Blank		ND*	mg/L			9810-57	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-57	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.53	mg/L	106%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.59	mg/L	118%		9809-375	0.5	50-150%	
		0.50	0.56	mg/L	112%	10.7 %			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9809-163	0.5	90-110%	
		4.00	3.95	mg/L	99%	0.3 %			90-110%	10%
Standard	Standard	4.00	3.89	mg/L	97%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.93	mg/L	98%		9809-163	0.5	90-110%	
		4.00	3.91	mg/L	98%	1.0 %			90-110%	10%
Standard	Standard	10.00	9.91	mg/L	99%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.08	mg/L	101%		9809-169	0.5	90-110%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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10.00	9.99 mg/L	100%	1.7 %	90-110%	10%
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Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-420

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Matrix Spike	Matrix Spike	4.00	3.82	mg/L	95%		9809-692	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.92	mg/L	98%		9809-692	0.5		
		4.00	3.87	mg/L	97%	2.6 %				
Method Blank	Method Blank		ND*	mg/L			9810-68	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-68	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9809-375	0.5	50-150%	
		0.50	0.51	mg/L	102%	2.0 %			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9810-67	0.5	90-110%	
		4.00	3.95	mg/L	99%	0.8 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-421

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Matrix Spike	Matrix Spike	4.00	3.81	mg/L	95%		9809-527	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.88	mg/L	97%		9809-527	0.5		
		4.00	3.85	mg/L	96%	1.6 %				
Method Blank	Method Blank		ND*	mg/L			9810-74	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-74	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9809-375	0.5	50-150%	
		0.50	0.51	mg/L	102%	2.0 %			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9810-67	0.5	90-110%	
		4.00	3.94	mg/L	98%	0.5 %			90-110%	10%
Standard	Standard	10.00	9.84	mg/L	98%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.90	mg/L	99%		9809-169	0.5	90-110%	
		10.00	9.87	mg/L	99%	0.6 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-423

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria	
									Range	RPD
Matrix Spike	Matrix Spike	4.00	3.99	mg/L	100%		9809-701	0.5		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Matrix Spike (Dupl)	Matrix Spike	4.00	4.02 mg/L	100%		9809-701	0.5		
		4.00	4.01 mg/L	100%	0.5 %				
Method Blank	Method Blank		ND* mg/L			9810-106	0.5		
Method Blank (Dupl)	Method Blank		ND* mg/L			9810-106	0.5		
			ND* mg/L						
Standard	Standard	0.50	0.52 mg/L	104%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52 mg/L	104%		9809-375	0.5	50-150%	
		0.50	0.52 mg/L	104%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.95 mg/L	99%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02 mg/L	100%		9810-67	0.5	90-110%	
		4.00	3.99 mg/L	100%	1.8 %			90-110%	10%
Standard	Standard	4.00	3.81 mg/L	95%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.88 mg/L	97%		9810-67	0.5	90-110%	
		4.00	3.84 mg/L	96%	1.8 %			90-110%	10%
Standard	Standard	10.00	9.70 mg/L	97%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.82 mg/L	98%		9809-169	0.5	90-110%	
		10.00	9.76 mg/L	98%	1.2 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-424

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Matrix Spike	Matrix Spike	4.00	3.92	mg/L	98%		9809-702	0.5			
Matrix Spike (Dupl)	Matrix Spike	4.00	3.93	mg/L	98%		9809-702	0.5			
		4.00	3.93	mg/L	98%	0.5 %					
Method Blank	Method Blank		ND*	mg/L			9810-109	0.5			
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-109	0.5			
			ND* mg/L								
Standard	Standard	0.50	0.48	mg/L	96%		9809-375	0.5	50-150%		
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9809-375	0.5	50-150%		
		0.50	0.49	mg/L	98%	6.1 %			50-150%	20%	
Standard	Standard	4.00	3.95	mg/L	99%		9810-67	0.5	90-110%		
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9810-67	0.5	90-110%		
		4.00	3.98	mg/L	100%	1.8 %			90-110%	10%	

Analysis: TOC-ICR (Total Organic Carbon)**Method:** SM 5310 C**QC Batch ID:** 7-0-426

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Matrix Spike	Matrix Spike	4.00	3.94	mg/L	98%		9810-174	0.5			
Matrix Spike (Dupl)	Matrix Spike	4.00	4.04	mg/L	101%		9810-174	0.5			
		4.00	3.99	mg/L	100%	2.3 %					
Method Blank	Method Blank		ND*	mg/L			9810-222	0.5			
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-222	0.5			

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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		ND* mg/L							
Standard	Standard	0.50	0.53 mg/L	106%		9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53 mg/L	106%		9809-375	0.5	50-150%	
		0.50	0.53 mg/L	106%	0.0 %			50-150%	20%
Standard	Standard	4.00	3.98 mg/L	100%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01 mg/L	100%		9810-67	0.5	90-110%	
		4.00	4.00 mg/L	100%	0.7 %			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-428

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.84	mg/L	96%		9810-136	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9810-136	0.5		
		4.00	3.89	mg/L	97%	2.6 %				
Method Blank	Method Blank		ND*	mg/L			9810-242	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-242	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.52 mg/L	104%			9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53 mg/L	106%			9809-375	0.5	50-150%	
		0.50	0.52 mg/L	104%	1.9 %				50-150%	20%
Standard	Standard	4.00	3.95 mg/L	99%			9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98 mg/L	100%			9810-67	0.5	90-110%	
		4.00	3.97 mg/L	99%	0.8 %				90-110%	10%
Standard	Standard	10.00	9.90 mg/L	99%			9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.97 mg/L	100%			9810-133	0.5	90-110%	
		10.00	9.94 mg/L	99%	0.7 %				90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon)

Method: SM 5310 C

QC Batch ID: 7-0-429

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	4.00	3.92	mg/L	98%		9810-139	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.96	mg/L	99%		9810-139	0.5		
		4.00	3.94	mg/L	98%	1.0 %				
Method Blank	Method Blank		ND*	mg/L			9810-252	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-252	0.5		
			ND*	mg/L						
Standard	Standard	0.50	0.52 mg/L	104%			9809-375	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51 mg/L	102%			9809-375	0.5	50-150%	
		0.50	0.52 mg/L	104%	1.9 %				50-150%	20%
Standard	Standard	4.00	4.01 mg/L	100%			9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00 mg/L	100%			9810-67	0.5	90-110%	
		4.00	4.00 mg/L	100%	0.3 %				90-110%	10%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard	Standard	10.00	10.04	mg/L	100%	9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.09	mg/L	101%	9810-133	0.5	90-110%	
		10.00	10.06	mg/L	101%			90-110%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-302

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-648	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-648	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9809-648	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-648	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.090	1/cm	102%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-303

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-653	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-653	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9809-653	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-653	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.090	1/cm	102%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-304

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-657	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-657	0.009		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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		ND* 1/cm							
Method Blank	Method Blank	ND*	1/cm			9809-657	0.009		
Method Blank (Dupl)	Method Blank	ND*	1/cm			9809-657	0.009		
		ND* 1/cm							
Standard	Standard	0.009	0.008 1/cm	89%		9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008 1/cm	89%		9809-374	0.009	75-125%	
		0.009	0.008 1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.090 1/cm	102%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090 1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.090 1/cm	102%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-305

C Batch ID: 8-0-305									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-658	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-658	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9809-658	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-658	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.090	1/cm	102%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-306

C Batch ID: 8-0-306										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9809-659	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-659	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9809-659	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-659	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.091	1/cm	103%		9809-650	0.009	85-115%		
		0.088	0.090	1/cm	102%	1.1 %			85-115%	10%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-307

C Batch ID: 8-0-307									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-665	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-665	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9809-665	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-665	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.091	1/cm	103%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.091	1/cm	103%	1.1 %			85-115%	10%

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-308

C Batch ID: 8-0-308										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9809-666	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-666	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9809-666	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-666	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-374	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.091	1/cm	103%		9809-650	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.091	1/cm	103%		9809-650	0.009	85-115%		
		0.088	0.091	1/cm	103%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-309

C Batch ID: 8-0-309									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-675	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-675	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9809-675	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-675	0.009		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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		ND* 1/cm							
Standard	Standard	0.009	0.008	1/cm	89%	9809-374	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%	9809-374	0.009	75-125%	
		0.009	0.009	1/cm	100%			75-125%	20%
Standard	Standard	0.088	0.091	1/cm	103%	9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.091	1/cm	103%	9809-650	0.009	85-115%	
		0.088	0.091	1/cm	103%			85-115%	10%

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-311

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-8	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-8	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9810-8	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-8	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%	
		0.088	0.090	1/cm	102%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-312

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-10	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-10	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9810-10	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-10	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%	
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%
Standard	Standard	0.088	0.089	1/cm	101%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%		9809-650	0.009	85-115%	
		0.088	0.089	1/cm	101%	0.0 %			85-115%	10%

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Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-313

C Batch ID: 8-0-313

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9810-58	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-58	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9810-58	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-58	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.089	1/cm	101%		9809-650	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-650	0.009	85-115%		
		0.088	0.090	1/cm	102%	1.1 %			85-115%	10%	

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-314

C Batch ID: 8-0-314

									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-69	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-69	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9810-69	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-69	0.009		
			ND*	1/cm						
Standard	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9809-681	0.009	75-125%	
		0.009	0.008	1/cm	89%	12.5 %			75-125%	20%
Standard	Standard	0.088	0.089	1/cm	101%		9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%		9809-650	0.009	85-115%	
		0.088	0.089	1/cm	101%	0.0 %			85-115%	10%

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-315

C Batch ID: 8-0-315									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-75	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-75	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9810-75	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-75	0.009		
			ND*	1/cm						

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard	Standard	0.009	0.008	1/cm	89%	9809-681	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%	9809-681	0.009	75-125%	
		0.009	0.008	1/cm	89%			75-125%	20%
Standard	Standard	0.088	0.089	1/cm	101%	9809-650	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%	9809-650	0.009	85-115%	
		0.088	0.089	1/cm	101%			85-115%	10%

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-316

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank		ND*	1/cm			9810-75	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-75	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9810-75	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-75	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%		
		0.009	0.008	1/cm	89%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.088	1/cm	100%		9810-76	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9810-76	0.009	85-115%		
		0.088	0.088	1/cm	100%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)**Method:** SM 5910 B**QC Batch ID:** 8-0-319

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Method Blank	Method Blank		ND*	1/cm			9810-114	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-114	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9810-114	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-114	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.007	1/cm	78%		9809-681	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-681	0.009	75-125%		
		0.009	0.008	1/cm	89%	12.5 %			75-125%	20%	
Standard	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%		
		0.088	0.084	1/cm	95%	0.0 %			85-115%	10%	

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Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-320

C Batch ID: 8-0-320

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9810-233	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-233	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9810-233	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-233	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.007	1/cm	78%		9809-681	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9809-681	0.009	75-125%		
		0.009	0.007	1/cm	78%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.083	1/cm	94%		9810-76	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9810-76	0.009	85-115%		
		0.088	0.083	1/cm	94%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-323

C Batch ID: 8-0-323										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Method Blank	Method Blank		ND*	1/cm			9810-251	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-251	0.009			
			ND*	1/cm							
Method Blank	Method Blank		ND*	1/cm			9810-251	0.009			
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-251	0.009			
			ND*	1/cm							
Standard	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%		
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%		
		0.009	0.007	1/cm	78%	0.0 %			75-125%	20%	
Standard	Standard	0.088	0.083	1/cm	94%		9810-76	0.009	85-115%		
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9810-76	0.009	85-115%		
		0.088	0.083	1/cm	94%	0.0 %			85-115%	10%	

Analysis: UV-ICR (UV-254)

Method: SM 5910 B

QC Batch ID: 8-0-324

C Batch ID: 8-0-324									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-257	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-257	0.009		
			ND*	1/cm						
Method Blank	Method Blank		ND*	1/cm			9810-257	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-257	0.009		
			ND*	1/cm						

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%
		0.009	0.008	1/cm	89%	0.0 %			75-125% 20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%
		0.088	0.084	1/cm	95%	0.0 %			85-115% 10%

Analysis: TURB (Turbidity)**Method:** SM 2130 B**QC Batch ID:** 9-0-17

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u> <u>RPD</u>
Standard	Standard	5.41	5.49	ntu	101%		08/28/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		08/31/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		09/07/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		09/08/98	9807-108	0.05	
Standard	Standard	5.41	5.51	ntu	102%		09/14/98	9807-108	0.05	
Standard	Standard	5.41	5.51	ntu	102%		09/17/98	9807-108	0.05	
Standard	Standard	5.41	5.52	ntu	102%		09/20/98	9807-108	0.05	
Standard	Standard	5.41	5.52	ntu	102%		09/25/98	9807-108	0.05	

Analysis: TURB (Turbidity)**Method:** SM 2130 B**QC Batch ID:** 9-0-18

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>Date Run</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u> <u>RPD</u>
Standard	Standard	5.41	5.48	ntu	101%		09/28/98	9807-108	0.05	
Standard	Standard	5.41	5.59	ntu	103%		09/28/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		09/30/98	9807-108	0.05	
Standard	Standard	5.41	5.50	ntu	102%		10/01/98	9807-108	0.05	
Standard	Standard	5.41	5.52	ntu	102%		10/04/98	9807-108	0.05	
Standard	Standard	5.41	5.53	ntu	102%		10/06/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		10/08/98	9807-108	0.05	
Standard	Standard	5.41	5.48	ntu	101%		10/14/98	9807-108	0.05	
Standard	Standard	5.41	5.51	ntu	102%		10/16/98	9807-108	0.05	
Standard	Standard	5.41	5.54	ntu	102%		10/16/98	9807-108	0.05	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-215

C Batch ID: 12-0-215									Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	212	µg Cl-/L	106%		9809-470	25		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Matrix Spike (Dupl)	Matrix Spike	200	194	µg Cl-/L	97%		9809-470	25
		200	203	µg Cl-/L	101%	8.9 %		
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9810-6	25 75-125%
Standard - TCP Aqueous	Standard	200	224	µg Cl-/L	112%		9810-5	25 85-115%
System Blank	Blank		ND*	µg Cl-/L			9810-7	25

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-216

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9810-61	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9810-60	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-62	25		

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-217

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-72	25	75-125%	
Standard - TCP Aqueous	Standard	200	195	µg Cl-/L	97%		9810-71	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-73	25		

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-218

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Matrix Spike	Matrix Spike	200	217	µg Cl-/L	109%		9809-587	25		
Matrix Spike (Dupl)	Matrix Spike	200	195	µg Cl-/L	97%		9809-587	25		
		200	206	µg Cl-/L	103%	10.2 %				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9810-80	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9810-79	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-81	25		

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-219

										Acceptance Criteria
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9810-92	25	75-125%	
Standard - TCP Aqueous	Standard	200	184	µg Cl-/L	92%		9810-91	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-93	25		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-220

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-117	25	75-125%
Standard - TCP Aqueous	Standard	200	200	µg Cl-/L	100%		9810-116	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9810-118	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-221

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Matrix Spike	Matrix Spike	200	203	µg Cl-/L	101%		9809-633	25	
Matrix Spike (Dupl)	Matrix Spike	200	199	µg Cl-/L	100%		9809-633	25	
		200	201	µg Cl-/L	100%	2.0 %			
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-129	25	75-125%
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9810-128	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9810-130	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-222

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9810-231	25	75-125%
Standard - TCP Aqueous	Standard	200	200	µg Cl-/L	100%		9810-230	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9810-232	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-223

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Matrix Spike	Matrix Spike	200	192	µg Cl-/L	96%		9809-114	25	
Matrix Spike (Dupl)	Matrix Spike	200	183	µg Cl-/L	92%		9809-114	25	
		200	188	µg Cl-/L	94%	4.3 %			
Standard - TCP Aqueous (Dupl)	Standard	25	23	µg Cl-/L	92%		9810-260	25	75-125%
Standard - TCP Aqueous	Standard	200	208	µg Cl-/L	104%		9810-259	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9810-261	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-224

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%	9810-268	25	75-125%
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%	9810-267	25	85-115%
System Blank	Blank		ND*	µg Cl-/L		9810-269	25	

Analysis: TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-225

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	200	201	µg Cl-/L	100%		9809-687	25		
Matrix Spike (Dupl)	Matrix Spike	200	200	µg Cl-/L	100%		9809-687	25		
		200	200	µg Cl-/L	100%	0.5 %				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9810-278	25	75-125%	
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9810-277	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-279	25		

**Acceptance
Criteria****Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-226

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9810-288	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9810-287	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-289	25		

**Acceptance
Criteria****Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-228

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Standard - TCP Aqueous	Standard	25	21	µg Cl-/L	84%		9810-415	25	75-125%	
Standard - TCP Aqueous	Standard	200	197	µg Cl-/L	98%		9810-414	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-416	25		

**Acceptance
Criteria****Analysis:** TOX-ICR (Total Organic Halide)**Method:** SM 5320 B**QC Batch ID:** 12-0-229

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Matrix Spike	Matrix Spike	200	194	µg Cl-/L	97%		9809-535	25		
Matrix Spike (Dupl)	Matrix Spike	200	194	µg Cl-/L	97%		9809-535	25		
		200	194	µg Cl-/L	97%	0.0 %				
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-426	25	75-125%	
Standard - TCP Aqueous	Standard	200	190	µg Cl-/L	95%		9810-425	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-427	25		

**Acceptance
Criteria**

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-223-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromodichloromethane	Duplicate	4.7	4.4	µg/L		6.6%	9809-186	1			
Bromodichloromethane	Matrix Spike	40.0	36.8	µg/L	92%		9809-498	1			
Bromodichloromethane	Method Blank		ND*	µg/L			9810-63	1			
Bromodichloromethane	Secondary Source Std	20.0	21.6	µg/L	108%		9810-64	1	70-130%		
Bromodichloromethane	Standard	20.0	18.3	µg/L	92%		9810-65	1	80-120%		
Bromodichloromethane	Standard	20.0	19.3	µg/L	97%		9810-65	1	80-120%		
Bromodichloromethane	Standard	40.0	39.4	µg/L	98%		9810-66	1	80-120%		
Bromoform	Duplicate	26.7	26.2	µg/L		1.9%	9809-186	1			
Bromoform	Matrix Spike	40.0	38.8	µg/L	97%		9809-498	1			
Bromoform	Method Blank		ND*	µg/L			9810-63	1			
Bromoform	Secondary Source Std	20.0	19.1	µg/L	96%		9810-64	1	70-130%		
Bromoform	Standard	20.0	18.0	µg/L	90%		9810-65	1	80-120%		
Bromoform	Standard	20.0	19.9	µg/L	99%		9810-65	1	80-120%		
Bromoform	Standard	40.0	42.0	µg/L	105%		9810-66	1	80-120%		
Chloroform	Duplicate	1.4	1.2	µg/L		15.4%	9809-186	1			
Chloroform	Matrix Spike	40.0	36.8	µg/L	92%		9809-498	1			
Chloroform	Method Blank		ND*	µg/L			9810-63	1			
Chloroform	Secondary Source Std	20.0	22.1	µg/L	111%		9810-64	1	70-130%		
Chloroform	Standard	20.0	17.8	µg/L	89%		9810-65	1	80-120%		
Chloroform	Standard	20.0	18.6	µg/L	93%		9810-65	1	80-120%		
Chloroform	Standard	40.0	38.3	µg/L	96%		9810-66	1	80-120%		
Dibromochloromethane	Duplicate	16.2	15.3	µg/L		5.7%	9809-186	1			
Dibromochloromethane	Matrix Spike	40.0	37.1	µg/L	93%		9809-498	1			
Dibromochloromethane	Method Blank		ND*	µg/L			9810-63	1			
Dibromochloromethane	Secondary Source Std	20.0	20.9	µg/L	104%		9810-64	1	70-130%		
Dibromochloromethane	Standard	20.0	18.5	µg/L	93%		9810-65	1	80-120%		
Dibromochloromethane	Standard	20.0	18.7	µg/L	93%		9810-65	1	80-120%		
Dibromochloromethane	Standard	40.0	40.3	µg/L	101%		9810-66	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-228-0

								Acceptance Criteria		
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>
Bromodichloromethane	Duplicate	9.9	9.7	µg/L		2.0%	9809-473	1		
Bromodichloromethane	Matrix Spike	40.0	39.2	µg/L	98%		9809-606	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9810-110	1		
Bromodichloromethane	Secondary Source Std	20.0	20.6	µg/L	103%		9810-111	1	70-130%	
Bromodichloromethane	Standard	20.0	20.6	µg/L	103%		9810-112	1	80-120%	
Bromodichloromethane	Standard	20.0	19.7	µg/L	98%		9810-112	1	80-120%	
Bromodichloromethane	Standard	40.0	40.4	µg/L	101%		9810-113	1	80-120%	
Bromoform	Duplicate	11.9	11.8	µg/L		0.8%	9809-473	1		
Bromoform	Matrix Spike	40.0	39.3	µg/L	98%		9809-606	1		
Bromoform	Method Blank		ND*	µg/L			9810-110	1		
Bromoform	Secondary Source Std	20.0	17.9	µg/L	89%		9810-111	1	70-130%	
Bromoform	Standard	20.0	18.3	µg/L	92%		9810-112	1	80-120%	
Bromoform	Standard	20.0	18.8	µg/L	94%		9810-112	1	80-120%	
Bromoform	Standard	40.0	38.9	µg/L	97%		9810-113	1	80-120%	
Chloroform	Duplicate	4.3	4.4	µg/L		2.3%	9809-473	1		
Chloroform	Matrix Spike	40.0	40.2	µg/L	101%		9809-606	1		
Chloroform	Method Blank		ND*	µg/L			9810-110	1		
Chloroform	Secondary Source Std	20.0	21.1	µg/L	106%		9810-111	1	70-130%	
Chloroform	Standard	20.0	20.1	µg/L	101%		9810-112	1	80-120%	
Chloroform	Standard	20.0	19.7	µg/L	98%		9810-112	1	80-120%	
Chloroform	Standard	40.0	42.3	µg/L	106%		9810-113	1	80-120%	
Dibromochloromethane	Duplicate	16.3	16.0	µg/L		1.9%	9809-473	1		
Dibromochloromethane	Matrix Spike	40.0	38.8	µg/L	97%		9809-606	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9810-110	1		
Dibromochloromethane	Secondary Source Std	20.0	20.0	µg/L	100%		9810-111	1	70-130%	
Dibromochloromethane	Standard	20.0	21.0	µg/L	105%		9810-112	1	80-120%	
Dibromochloromethane	Standard	20.0	19.7	µg/L	98%		9810-112	1	80-120%	
Dibromochloromethane	Standard	40.0	40.7	µg/L	102%		9810-113	1	80-120%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-232-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromodichloromethane	Duplicate	21.2	21.3	µg/L		0.5%	9809-571	1			
Bromodichloromethane	Matrix Spike	40.0	38.3	µg/L	96%		9809-525	1			
Bromodichloromethane	Method Blank		ND*	µg/L			9810-223	1			
Bromodichloromethane	Secondary Source Std	20.0	20.2	µg/L	101%		9810-224	1	70-130%		
Bromodichloromethane	Standard	20.0	18.9	µg/L	94%		9810-225	1	80-120%		
Bromodichloromethane	Standard	20.0	19.2	µg/L	96%		9810-225	1	80-120%		
Bromodichloromethane	Standard	40.0	42.3	µg/L	106%		9810-226	1	80-120%		
Bromoform	Duplicate	7.1	7.2	µg/L		1.4%	9809-571	1			
Bromoform	Matrix Spike	40.0	38.4	µg/L	96%		9809-525	1			
Bromoform	Method Blank		ND*	µg/L			9810-223	1			
Bromoform	Secondary Source Std	20.0	17.0	µg/L	85%		9810-224	1	70-130%		
Bromoform	Standard	20.0	18.0	µg/L	90%		9810-225	1	80-120%		
Bromoform	Standard	20.0	17.8	µg/L	89%		9810-225	1	80-120%		
Bromoform	Standard	40.0	40.4	µg/L	101%		9810-226	1	80-120%		
Chloroform	Duplicate	13.5	13.3	µg/L		1.5%	9809-571	1			
Chloroform	Matrix Spike	40.0	41.8	µg/L	104%		9809-525	1			
Chloroform	Method Blank		ND*	µg/L			9810-223	1			
Chloroform	Secondary Source Std	20.0	20.0	µg/L	100%		9810-224	1	70-130%		
Chloroform	Standard	20.0	17.9	µg/L	89%		9810-225	1	80-120%		
Chloroform	Standard	20.0	18.6	µg/L	93%		9810-225	1	80-120%		
Chloroform	Standard	40.0	43.4	µg/L	109%		9810-226	1	80-120%		
Dibromochloromethane	Duplicate	23.3	23.5	µg/L		0.9%	9809-571	1			
Dibromochloromethane	Matrix Spike	40.0	39.5	µg/L	99%		9809-525	1			
Dibromochloromethane	Method Blank		ND*	µg/L			9810-223	1			
Dibromochloromethane	Secondary Source Std	20.0	19.4	µg/L	97%		9810-224	1	70-130%		
Dibromochloromethane	Standard	20.0	18.6	µg/L	93%		9810-225	1	80-120%		
Dibromochloromethane	Standard	20.0	19.2	µg/L	96%		9810-225	1	80-120%		
Dibromochloromethane	Standard	40.0	42.8	µg/L	107%		9810-226	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-238-0

C Batch ID: 0-238-0									Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Bromodichloromethane	Duplicate	24.9	24.9	µg/L		0.0%	9809-580	1		
Bromodichloromethane	Matrix Spike	40.0	41.1	µg/L	103%		9809-716	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9810-301	1		
Bromodichloromethane	Secondary Source Std	20.0	20.5	µg/L	102%		9810-302	1	70-130%	
Bromodichloromethane	Standard	20.0	18.7	µg/L	93%		9810-303	1	80-120%	
Bromodichloromethane	Standard	20.0	19.2	µg/L	96%		9810-303	1	80-120%	
Bromodichloromethane	Standard	40.0	41.5	µg/L	104%		9810-304	1	80-120%	
Bromoform	Duplicate	6.3	6.1	µg/L		3.2%	9809-580	1		
Bromoform	Matrix Spike	40.0	43.8	µg/L	110%		9809-716	1		
Bromoform	Method Blank		ND*	µg/L			9810-301	1		
Bromoform	Secondary Source Std	20.0	17.6	µg/L	88%		9810-302	1	70-130%	
Bromoform	Standard	20.0	18.0	µg/L	90%		9810-303	1	80-120%	
Bromoform	Standard	20.0	19.1	µg/L	96%		9810-303	1	80-120%	
Bromoform	Standard	40.0	43.1	µg/L	108%		9810-304	1	80-120%	
Chloroform	Duplicate	21.7	21.6	µg/L		0.5%	9809-580	1		
Chloroform	Matrix Spike	40.0	43.4	µg/L	109%		9809-716	1		
Chloroform	Method Blank		ND*	µg/L			9810-301	1		
Chloroform	Secondary Source Std	20.0	21.1	µg/L	106%		9810-302	1	70-130%	
Chloroform	Standard	20.0	17.2	µg/L	86%		9810-303	1	80-120%	
Chloroform	Standard	20.0	18.6	µg/L	93%		9810-303	1	80-120%	
Chloroform	Standard	40.0	40.8	µg/L	102%		9810-304	1	80-120%	
Dibromochloromethane	Duplicate	22.5	22.7	µg/L		0.9%	9809-580	1		
Dibromochloromethane	Matrix Spike	40.0	40.6	µg/L	102%		9809-716	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9810-301	1		
Dibromochloromethane	Secondary Source Std	20.0	19.4	µg/L	97%		9810-302	1	70-130%	
Dibromochloromethane	Standard	20.0	18.7	µg/L	93%		9810-303	1	80-120%	
Dibromochloromethane	Standard	20.0	19.1	µg/L	96%		9810-303	1	80-120%	
Dibromochloromethane	Standard	40.0	42.1	µg/L	105%		9810-304	1	80-120%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-243-0

								Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>
Bromodichloromethane	Duplicate	15.4	14.6	µg/L		5.3%	9809-769	1	
Bromodichloromethane	Matrix Spike	40.0	41.4	µg/L	103%		9810-99	1	
Bromodichloromethane	Method Blank		ND*	µg/L			9810-409	1	
Bromodichloromethane	Secondary Source Std	20.0	22.2	µg/L	111%		9810-410	1	70-130%
Bromodichloromethane	Standard	20.0	19.2	µg/L	96%		9810-411	1	80-120%
Bromodichloromethane	Standard	20.0	19.9	µg/L	99%		9810-411	1	80-120%
Bromodichloromethane	Standard	40.0	40.2	µg/L	101%		9810-412	1	80-120%
Bromoform	Duplicate	ND	ND	µg/L		NA	9809-769	1	
Bromoform	Matrix Spike	40.0	43.4	µg/L	109%		9810-99	1	
Bromoform	Method Blank		ND*	µg/L			9810-409	1	
Bromoform	Secondary Source Std	20.0	20.2	µg/L	101%		9810-410	1	70-130%
Bromoform	Standard	20.0	19.6	µg/L	98%		9810-411	1	80-120%
Bromoform	Standard	20.0	19.7	µg/L	98%		9810-411	1	80-120%
Bromoform	Standard	40.0	42.4	µg/L	106%		9810-412	1	80-120%
Chloroform	Duplicate	50.5	47.5	µg/L		6.1%	9809-769	1	
Chloroform	Matrix Spike	40.0	42.5	µg/L	106%		9810-99	1	
Chloroform	Method Blank		ND*	µg/L			9810-409	1	
Chloroform	Secondary Source Std	20.0	22.4	µg/L	112%		9810-410	1	70-130%
Chloroform	Standard	20.0	18.6	µg/L	93%		9810-411	1	80-120%
Chloroform	Standard	20.0	19.8	µg/L	99%		9810-411	1	80-120%
Chloroform	Standard	40.0	40.5	µg/L	101%		9810-412	1	80-120%
Dibromochloromethane	Duplicate	2.1	2.1	µg/L		0.0%	9809-769	1	
Dibromochloromethane	Matrix Spike	40.0	42.6	µg/L	106%		9810-99	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9810-409	1	
Dibromochloromethane	Secondary Source Std	20.0	21.2	µg/L	106%		9810-410	1	70-130%
Dibromochloromethane	Standard	20.0	19.8	µg/L	99%		9810-411	1	80-120%
Dibromochloromethane	Standard	20.0	20.1	µg/L	101%		9810-411	1	80-120%
Dibromochloromethane	Standard	40.0	41.4	µg/L	103%		9810-412	1	80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** THM-ICR (Trihalomethanes (ICR))**Method:** EPA 551.1**QC Batch ID:** 0-246-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromodichloromethane	Duplicate	22.1	19.6	µg/L		12.0%	9810-17	1			
Bromodichloromethane	Matrix Spike	40.0	41.1	µg/L	103%		9810-166	1			
Bromodichloromethane	Method Blank		ND*	µg/L			9810-432	1			
Bromodichloromethane	Secondary Source Std	20.0	20.6	µg/L	103%		9810-433	1	70-130%		
Bromodichloromethane	Standard	20.0	20.6	µg/L	103%		9810-434	1	80-120%		
Bromodichloromethane	Standard	20.0	20.8	µg/L	104%		9810-434	1	80-120%		
Bromodichloromethane	Standard	40.0	40.2	µg/L	101%		9810-435	1	80-120%		
Bromoform	Duplicate	9.3	8.6	µg/L		7.8%	9810-17	1			
Bromoform	Matrix Spike	40.0	41.7	µg/L	104%		9810-166	1			
Bromoform	Method Blank		ND*	µg/L			9810-432	1			
Bromoform	Secondary Source Std	20.0	18.2	µg/L	91%		9810-433	1	70-130%		
Bromoform	Standard	20.0	20.6	µg/L	103%		9810-434	1	80-120%		
Bromoform	Standard	20.0	20.5	µg/L	102%		9810-434	1	80-120%		
Bromoform	Standard	40.0	37.6	µg/L	94%		9810-435	1	80-120%		
Chloroform	Duplicate	12.9	11.6	µg/L		10.6%	9810-17	1			
Chloroform	Matrix Spike	40.0	43.1	µg/L	108%		9810-166	1			
Chloroform	Method Blank		ND*	µg/L			9810-432	1			
Chloroform	Secondary Source Std	20.0	21.0	µg/L	105%		9810-433	1	70-130%		
Chloroform	Standard	20.0	19.8	µg/L	99%		9810-434	1	80-120%		
Chloroform	Standard	20.0	20.2	µg/L	101%		9810-434	1	80-120%		
Chloroform	Standard	40.0	41.2	µg/L	103%		9810-435	1	80-120%		
Dibromochloromethane	Duplicate	25.7	22.4	µg/L		13.7%	9810-17	1			
Dibromochloromethane	Matrix Spike	40.0	43.2	µg/L	108%		9810-166	1			
Dibromochloromethane	Method Blank		ND*	µg/L			9810-432	1			
Dibromochloromethane	Secondary Source Std	20.0	19.8	µg/L	99%		9810-433	1	70-130%		
Dibromochloromethane	Standard	20.0	20.6	µg/L	103%		9810-434	1	80-120%		
Dibromochloromethane	Standard	20.0	21.2	µg/L	106%		9810-434	1	80-120%		
Dibromochloromethane	Standard	40.0	40.3	µg/L	101%		9810-435	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4**Analysis:** HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-227-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromochloroacetic acid	Duplicate	2.3	2.3	µg/L		0.0%	9810-56	1			
Bromochloroacetic acid	Matrix Spike	40.0	39.0	µg/L	97%		9809-508	1			
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-94	1			
Bromochloroacetic acid	Secondary Source Std	20.0	17.8	µg/L	89%		9810-95	1	70-130%		
Bromochloroacetic acid	Standard	20.0	18.7	µg/L	93%		9810-96	1	80-120%		
Bromochloroacetic acid	Standard	20.0	18.6	µg/L	93%		9810-96	1	80-120%		
Bromochloroacetic acid	Standard	40.0	41.1	µg/L	103%		9810-97	1	80-120%		
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-56	1			
Bromodichloroacetic acid	Matrix Spike	40.0	42.7	µg/L	107%		9809-508	1			
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-94	1			
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9810-95	1	70-130%		
Bromodichloroacetic acid	Standard	20.0	19.3	µg/L	97%		9810-96	1	80-120%		
Bromodichloroacetic acid	Standard	20.0	19.7	µg/L	98%		9810-96	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	42.6	µg/L	106%		9810-97	1	80-120%		
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9810-56	2			
Chlorodibromoacetic acid	Matrix Spike	40.0	41.5	µg/L	104%		9809-508	2			
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-94	2			
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9810-95	2	70-130%		
Chlorodibromoacetic acid	Standard	20.0	20.4	µg/L	102%		9810-96	2	80-120%		
Chlorodibromoacetic acid	Standard	20.0	20.6	µg/L	103%		9810-96	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	43.6	µg/L	109%		9810-97	2	80-120%		
Dibromoacetic acid	Duplicate	1.9	1.8	µg/L		5.4%	9810-56	1			
Dibromoacetic acid	Matrix Spike	40.0	39.0	µg/L	97%		9809-508	1			
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-94	1			
Dibromoacetic acid	Secondary Source Std	20.0	17.9	µg/L	89%		9810-95	1	70-130%		
Dibromoacetic acid	Standard	20.0	18.7	µg/L	93%		9810-96	1	80-120%		
Dibromoacetic acid	Standard	20.0	18.7	µg/L	93%		9810-96	1	80-120%		
Dibromoacetic acid	Standard	40.0	40.8	µg/L	102%		9810-97	1	80-120%		
Dichloroacetic acid	Duplicate	7.5	7.5	µg/L		0.0%	9810-56	1			
Dichloroacetic acid	Matrix Spike	40.0	38.2	µg/L	96%		9809-508	1			

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Dichloroacetic acid	Method Blank		ND*	µg/L		9810-94	1
Dichloroacetic acid	Secondary Source Std	20.0	19.0	µg/L	95%	9810-95	1 70-130%
Dichloroacetic acid	Standard	20.0	18.5	µg/L	93%	9810-96	1 80-120%
Dichloroacetic acid	Standard	20.0	18.7	µg/L	93%	9810-96	1 80-120%
Dichloroacetic acid	Standard	40.0	40.8	µg/L	102%	9810-97	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND	µg/L	NA	9810-56	1
Monobromoacetic acid	Matrix Spike	40.0	39.3	µg/L	98%	9809-508	1
Monobromoacetic acid	Method Blank		ND*	µg/L		9810-94	1
Monobromoacetic acid	Secondary Source Std	20.0	21.1	µg/L	106%	9810-95	1 70-130%
Monobromoacetic acid	Standard	20.0	18.5	µg/L	93%	9810-96	1 80-120%
Monobromoacetic acid	Standard	20.0	18.5	µg/L	93%	9810-96	1 80-120%
Monobromoacetic acid	Standard	40.0	41.0	µg/L	102%	9810-97	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L	NA	9810-56	2
Monochloroacetic acid	Matrix Spike	40.0	40.5	µg/L	101%	9809-508	2
Monochloroacetic acid	Method Blank		ND*	µg/L		9810-94	2
Monochloroacetic acid	Secondary Source Std	20.0	20.5	µg/L	102%	9810-95	2 70-130%
Monochloroacetic acid	Standard	20.0	19.6	µg/L	98%	9810-96	2 80-120%
Monochloroacetic acid	Standard	20.0	19.5	µg/L	97%	9810-96	2 80-120%
Monochloroacetic acid	Standard	40.0	42.4	µg/L	106%	9810-97	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L	NA	9810-56	4
Tribromoacetic acid	Matrix Spike	40.0	41.7	µg/L	104%	9809-508	4
Tribromoacetic acid	Method Blank		ND*	µg/L		9810-94	4
Tribromoacetic acid	Secondary Source Std		ND	µg/L		9810-95	4 70-130%
Tribromoacetic acid	Standard	20.0	21.7	µg/L	109%	9810-96	4 80-120%
Tribromoacetic acid	Standard	20.0	21.8	µg/L	109%	9810-96	4 80-120%
Tribromoacetic acid	Standard	40.0	44.6	µg/L	112%	9810-97	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L	NA	9810-56	1
Trichloroacetic acid	Matrix Spike	40.0	39.8	µg/L	99%	9809-508	1
Trichloroacetic acid	Method Blank		ND*	µg/L		9810-94	1
Trichloroacetic acid	Secondary Source Std	20.0	17.7	µg/L	89%	9810-95	1 70-130%
Trichloroacetic acid	Standard	20.0	18.9	µg/L	94%	9810-96	1 80-120%
Trichloroacetic acid	Standard	20.0	18.7	µg/L	93%	9810-96	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Trichloroacetic acid	Standard	40.0	40.9	µg/L	102%	9810-97	1	80-120%
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Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-230-0

										Acceptance Criteria
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Bromochloroacetic acid	Duplicate	2.4	2.3	µg/L		4.3%	9809-472	1		
Bromochloroacetic acid	Matrix Spike	40.0	45.1	µg/L	113%		9809-605	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-123	1		
Bromochloroacetic acid	Secondary Source Std	20.0	18.2	µg/L	91%		9810-124	1	70-130%	
Bromochloroacetic acid	Standard	20.0	20.7	µg/L	103%		9810-125	1	80-120%	
Bromochloroacetic acid	Standard	20.0	20.7	µg/L	103%		9810-125	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.4	µg/L	98%		9810-126	1	80-120%	
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9809-472	1		
Bromodichloroacetic acid	Matrix Spike	40.0	44.9	µg/L	112%		9809-605	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-123	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9810-124	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	18.2	µg/L	91%		9810-125	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	18.3	µg/L	92%		9810-125	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	37.4	µg/L	93%		9810-126	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9809-472	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	41.3	µg/L	103%		9809-605	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-123	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9810-124	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	17.1	µg/L	86%		9810-125	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	17.1	µg/L	86%		9810-125	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	36.6	µg/L	92%		9810-126	2	80-120%	
Dibromoacetic acid	Duplicate	3.4	3.4	µg/L		0.0%	9809-472	1		
Dibromoacetic acid	Matrix Spike	40.0	46.5	µg/L	116%		9809-605	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-123	1		
Dibromoacetic acid	Secondary Source Std	20.0	18.1	µg/L	91%		9810-124	1	70-130%	
Dibromoacetic acid	Standard	20.0	20.7	µg/L	103%		9810-125	1	80-120%	
Dibromoacetic acid	Standard	20.0	20.6	µg/L	103%		9810-125	1	80-120%	
Dibromoacetic acid	Standard	40.0	39.3	µg/L	98%		9810-126	1	80-120%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

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Dichloroacetic acid	Duplicate	1.7	1.8 µg/L	5.7%	9809-472	1
Dichloroacetic acid	Matrix Spike	40.0	42.0 µg/L	105%	9809-605	1
Dichloroacetic acid	Method Blank		ND* µg/L		9810-123	1
Dichloroacetic acid	Secondary Source Std	20.0	19.9 µg/L	99%	9810-124	1 70-130%
Dichloroacetic acid	Standard	20.0	20.3 µg/L	102%	9810-125	1 80-120%
Dichloroacetic acid	Standard	20.0	20.6 µg/L	103%	9810-125	1 80-120%
Dichloroacetic acid	Standard	40.0	40.3 µg/L	101%	9810-126	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9809-472	1
Monobromoacetic acid	Matrix Spike	40.0	43.6 µg/L	109%	9809-605	1
Monobromoacetic acid	Method Blank		ND* µg/L		9810-123	1
Monobromoacetic acid	Secondary Source Std	20.0	20.9 µg/L	104%	9810-124	1 70-130%
Monobromoacetic acid	Standard	20.0	20.3 µg/L	102%	9810-125	1 80-120%
Monobromoacetic acid	Standard	20.0	20.4 µg/L	102%	9810-125	1 80-120%
Monobromoacetic acid	Standard	40.0	39.3 µg/L	98%	9810-126	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9809-472	2
Monochloroacetic acid	Matrix Spike	40.0	38.7 µg/L	97%	9809-605	2
Monochloroacetic acid	Method Blank		ND* µg/L		9810-123	2
Monochloroacetic acid	Secondary Source Std	20.0	22.1 µg/L	111%	9810-124	2 70-130%
Monochloroacetic acid	Standard	20.0	19.6 µg/L	98%	9810-125	2 80-120%
Monochloroacetic acid	Standard	20.0	20.9 µg/L	104%	9810-125	2 80-120%
Monochloroacetic acid	Standard	40.0	38.9 µg/L	97%	9810-126	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9809-472	4
Tribromoacetic acid	Matrix Spike	40.0	39.2 µg/L	98%	9809-605	4
Tribromoacetic acid	Method Blank		ND* µg/L		9810-123	4
Tribromoacetic acid	Secondary Source Std		ND µg/L		9810-124	4 70-130%
Tribromoacetic acid	Standard	20.0	16.5 µg/L	82%	9810-125	4 80-120%
Tribromoacetic acid	Standard	20.0	16.8 µg/L	84%	9810-125	4 80-120%
Tribromoacetic acid	Standard	40.0	35.8 µg/L	89%	9810-126	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L	NA	9809-472	1
Trichloroacetic acid	Matrix Spike	40.0	45.7 µg/L	114%	9809-605	1
Trichloroacetic acid	Method Blank		ND* µg/L		9810-123	1
Trichloroacetic acid	Secondary Source Std	20.0	17.7 µg/L	89%	9810-124	1 70-130%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Trichloroacetic acid	Standard	20.0	20.5	µg/L	102%	9810-125	1	80-120%
Trichloroacetic acid	Standard	20.0	20.5	µg/L	102%	9810-125	1	80-120%
Trichloroacetic acid	Standard	40.0	39.1	µg/L	98%	9810-126	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-233-0

										Acceptance Criteria	
<u>QC Type</u>		<u>Spike</u>	<u>Recovery</u>	<u>Unit</u>	<u>Yield</u>	<u>RPD</u>	<u>S&H ID</u>	<u>MRL</u>	<u>Range</u>	<u>RPD</u>	
Bromochloroacetic acid	Duplicate	15.0	14.1	µg/L		6.2%	9810-250	1			
Bromochloroacetic acid	Matrix Spike	40.0	38.5	µg/L	96%		9809-538	1			
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-253	1			
Bromochloroacetic acid	Secondary Source Std	20.0	19.8	µg/L	99%		9810-254	1	70-130%		
Bromochloroacetic acid	Standard	20.0	18.2	µg/L	91%		9810-255	1	80-120%		
Bromochloroacetic acid	Standard	20.0	18.4	µg/L	92%		9810-255	1	80-120%		
Bromochloroacetic acid	Standard	40.0	38.7	µg/L	97%		9810-256	1	80-120%		
Bromodichloroacetic acid	Duplicate	5.4	6.2	µg/L		13.8%	9810-250	1			
Bromodichloroacetic acid	Matrix Spike	40.0	40.7	µg/L	102%		9809-538	1			
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-253	1			
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9810-254	1	70-130%		
Bromodichloroacetic acid	Standard	20.0	17.3	µg/L	86%		9810-255	1	80-120%		
Bromodichloroacetic acid	Standard	20.0	18.7	µg/L	93%		9810-255	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	42.6	µg/L	106%		9810-256	1	80-120%		
Chlorodibromoacetic acid	Duplicate	2.0	2.3	µg/L		14.0%	9810-250	2			
Chlorodibromoacetic acid	Matrix Spike	40.0	35.9	µg/L	90%		9809-538	2			
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-253	2			
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9810-254	2	70-130%		
Chlorodibromoacetic acid	Standard	20.0	17.2	µg/L	86%		9810-255	2	80-120%		
Chlorodibromoacetic acid	Standard	20.0	18.7	µg/L	93%		9810-255	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	43.5	µg/L	109%		9810-256	2	80-120%		
Dibromoacetic acid	Duplicate	6.9	6.5	µg/L		6.0%	9810-250	1			
Dibromoacetic acid	Matrix Spike	40.0	38.3	µg/L	96%		9809-538	1			
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-253	1			
Dibromoacetic acid	Secondary Source Std	20.0	21.9	µg/L	110%		9810-254	1	70-130%		
Dibromoacetic acid	Standard	20.0	17.9	µg/L	89%		9810-255	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Study Title: ICR RSSCT #3,4

Dibromoacetic acid	Standard	20.0	18.2 µg/L	91%	9810-255	1 80-120%
Dibromoacetic acid	Standard	40.0	38.8 µg/L	97%	9810-256	1 80-120%
Dichloroacetic acid	Duplicate	44.7	41.9 µg/L	6.5%	9810-250	1
Dichloroacetic acid	Matrix Spike	40.0	39.1 µg/L	98%	9809-538	1
Dichloroacetic acid	Method Blank		ND* µg/L		9810-253	1
Dichloroacetic acid	Secondary Source Std	20.0	19.6 µg/L	98%	9810-254	1 70-130%
Dichloroacetic acid	Standard	20.0	18.2 µg/L	91%	9810-255	1 80-120%
Dichloroacetic acid	Standard	20.0	18.2 µg/L	91%	9810-255	1 80-120%
Dichloroacetic acid	Standard	40.0	37.8 µg/L	94%	9810-256	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9810-250	1
Monobromoacetic acid	Matrix Spike	40.0	43.2 µg/L	108%	9809-538	1
Monobromoacetic acid	Method Blank		ND* µg/L		9810-253	1
Monobromoacetic acid	Secondary Source Std	20.0	22.2 µg/L	111%	9810-254	1 70-130%
Monobromoacetic acid	Standard	20.0	21.1 µg/L	106%	9810-255	1 80-120%
Monobromoacetic acid	Standard	20.0	20.9 µg/L	104%	9810-255	1 80-120%
Monobromoacetic acid	Standard	40.0	38.0 µg/L	95%	9810-256	1 80-120%
Monochloroacetic acid	Duplicate	4.7	4.9 µg/L	4.2%	9810-250	2
Monochloroacetic acid	Matrix Spike	40.0	41.8 µg/L	104%	9809-538	2
Monochloroacetic acid	Method Blank		ND* µg/L		9810-253	2
Monochloroacetic acid	Secondary Source Std	20.0	22.7 µg/L	114%	9810-254	2 70-130%
Monochloroacetic acid	Standard	20.0	21.5 µg/L	108%	9810-255	2 80-120%
Monochloroacetic acid	Standard	20.0	22.3 µg/L	112%	9810-255	2 80-120%
Monochloroacetic acid	Standard	40.0	38.9 µg/L	97%	9810-256	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9810-250	4
Tribromoacetic acid	Matrix Spike	40.0	35.0 µg/L	88%	9809-538	4
Tribromoacetic acid	Method Blank		ND* µg/L		9810-253	4
Tribromoacetic acid	Secondary Source Std		ND µg/L		9810-254	4 70-130%
Tribromoacetic acid	Standard	20.0	17.9 µg/L	89%	9810-255	4 80-120%
Tribromoacetic acid	Standard	20.0	19.2 µg/L	96%	9810-255	4 80-120%
Tribromoacetic acid	Standard	40.0	43.0 µg/L	108%	9810-256	4 80-120%
Trichloroacetic acid	Duplicate	31.9	30.2 µg/L	5.5%	9810-250	1
Trichloroacetic acid	Matrix Spike	40.0	37.0 µg/L	93%	9809-538	1
Trichloroacetic acid	Method Blank		ND* µg/L		9810-253	1

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Trichloroacetic acid	Secondary Source Std	20.0	23.2	µg/L	116%	9810-254	1	70-130%
Trichloroacetic acid	Standard	20.0	17.4	µg/L	87%	9810-255	1	80-120%
Trichloroacetic acid	Standard	20.0	17.7	µg/L	89%	9810-255	1	80-120%
Trichloroacetic acid	Standard	40.0	38.8	µg/L	97%	9810-256	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-236-0

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Bromochloroacetic acid	Duplicate	7.3	6.8	µg/L		7.1%	9809-574	1			
Bromochloroacetic acid	Matrix Spike	40.0	34.7	µg/L	87%		9810-11	1			
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-271	1			
Bromochloroacetic acid	Standard	20.0	17.3	µg/L	86%		9810-273	1	80-120%		
Bromochloroacetic acid	Standard	20.0	16.7	µg/L	83%		9810-273	1	80-120%		
Bromochloroacetic acid	Standard	40.0	38.8	µg/L	97%		9810-274	1	80-120%		
Bromochloroacetic acid	Standard	40.0	37.0	µg/L	93%		9810-274	1	80-120%		
Bromodichloroacetic acid	Duplicate	2.3	2.0	µg/L		14.0%	9809-574	1			
Bromodichloroacetic acid	Matrix Spike	40.0	33.0	µg/L	82%		9810-11	1			
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-271	1			
Bromodichloroacetic acid	Standard	20.0	18.0	µg/L	90%		9810-273	1	80-120%		
Bromodichloroacetic acid	Standard	20.0	19.3	µg/L	97%		9810-273	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	36.1	µg/L	90%		9810-274	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	35.2	µg/L	88%		9810-274	1	80-120%		
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9809-574	2			
Chlorodibromoacetic acid	Matrix Spike	40.0	40.2	µg/L	101%		9810-11	2			
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-271	2			
Chlorodibromoacetic acid	Standard	20.0	16.9	µg/L	84%		9810-273	2	80-120%		
Chlorodibromoacetic acid	Standard	20.0	21.5	µg/L	108%		9810-273	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	35.6	µg/L	89%		9810-274	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	39.6	µg/L	99%		9810-274	2	80-120%		
Dibromoacetic acid	Duplicate	7.3	6.8	µg/L		7.1%	9809-574	1			
Dibromoacetic acid	Matrix Spike	40.0	37.7	µg/L	94%		9810-11	1			
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-271	1			
Dibromoacetic acid	Standard	20.0	17.9	µg/L	89%		9810-273	1	80-120%		
Dibromoacetic acid	Standard	20.0	21.8	µg/L	109%		9810-273	1	80-120%		
Dibromoacetic acid	Standard	40.0	34.1	µg/L	85%		9810-274	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Dibromoacetic acid	Standard	40.0	33.7 µg/L	84%	9810-274	1 80-120%
Dichloroacetic acid	Duplicate	6.2	6.1 µg/L	1.6%	9809-574	1
Dichloroacetic acid	Matrix Spike	40.0	36.6 µg/L	92%	9810-11	1
Dichloroacetic acid	Method Blank		ND* µg/L		9810-271	1
Dichloroacetic acid	Standard	20.0	19.6 µg/L	98%	9810-273	1 80-120%
Dichloroacetic acid	Standard	20.0	21.2 µg/L	106%	9810-273	1 80-120%
Dichloroacetic acid	Standard	40.0	40.0 µg/L	100%	9810-274	1 80-120%
Dichloroacetic acid	Standard	40.0	41.2 µg/L	103%	9810-274	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9809-574	1
Monobromoacetic acid	Matrix Spike	40.0	41.9 µg/L	105%	9810-11	1
Monobromoacetic acid	Method Blank		ND* µg/L		9810-271	1
Monobromoacetic acid	Standard	20.0	22.9 µg/L	115%	9810-273	1 80-120%
Monobromoacetic acid	Standard	20.0	20.4 µg/L	102%	9810-273	1 80-120%
Monobromoacetic acid	Standard	40.0	41.0 µg/L	102%	9810-274	1 80-120%
Monobromoacetic acid	Standard	40.0	41.8 µg/L	104%	9810-274	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9809-574	2
Monochloroacetic acid	Matrix Spike	40.0	43.1 µg/L	108%	9810-11	2
Monochloroacetic acid	Method Blank		ND* µg/L		9810-271	2
Monochloroacetic acid	Standard	20.0	23.2 µg/L	116%	9810-273	2 80-120%
Monochloroacetic acid	Standard	20.0	18.4 µg/L	92%	9810-273	2 80-120%
Monochloroacetic acid	Standard	40.0	37.9 µg/L	95%	9810-274	2 80-120%
Monochloroacetic acid	Standard	40.0	37.2 µg/L	93%	9810-274	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9809-574	4
Tribromoacetic acid	Matrix Spike	40.0	38.5 µg/L	96%	9810-11	4
Tribromoacetic acid	Method Blank		ND* µg/L		9810-271	4
Tribromoacetic acid	Standard	20.0	18.1 µg/L	91%	9810-273	4 80-120%
Tribromoacetic acid	Standard	20.0	20.1 µg/L	101%	9810-273	4 80-120%
Tribromoacetic acid	Standard	40.0	39.5 µg/L	99%	9810-274	4 80-120%
Tribromoacetic acid	Standard	40.0	39.2 µg/L	98%	9810-274	4 80-120%
Trichloroacetic acid	Duplicate	2.5	2.3 µg/L	8.3%	9809-574	1
Trichloroacetic acid	Matrix Spike	40.0	33.6 µg/L	84%	9810-11	1
Trichloroacetic acid	Method Blank		ND* µg/L		9810-271	1
Trichloroacetic acid	Standard	20.0	17.2 µg/L	86%	9810-273	1 80-120%
Trichloroacetic acid	Standard	20.0	16.7 µg/L	83%	9810-273	1 80-120%
Trichloroacetic acid	Standard	40.0	34.5 µg/L	86%	9810-274	1 80-120%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Trichloroacetic acid	Standard	40.0	33.9 µg/L	85%	9810-274	1	80-120%
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Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-237-0

								Acceptance Criteria		
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9809-725	1		
Bromochloroacetic acid	Matrix Spike	40.0	42.0	µg/L	105%		9809-757	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-282	1		
Bromochloroacetic acid	Secondary Source Std	20.0	20.3	µg/L	102%		9810-283	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.0	µg/L	95%		9810-284	1	80-120%	
Bromochloroacetic acid	Standard	20.0	18.9	µg/L	94%		9810-284	1	80-120%	
Bromochloroacetic acid	Standard	40.0	41.3	µg/L	103%		9810-285	1	80-120%	
Bromodichloroacetic acid	Duplicate	1.2	1.2	µg/L		0.0%	9809-725	1		
Bromodichloroacetic acid	Matrix Spike	40.0	46.2	µg/L	116%		9809-757	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-282	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9810-283	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	16.8	µg/L	84%		9810-284	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	17.7	µg/L	89%		9810-284	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	44.3	µg/L	111%		9810-285	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9809-725	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	44.3	µg/L	111%		9809-757	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-282	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9810-283	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	16.4	µg/L	82%		9810-284	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	17.6	µg/L	88%		9810-284	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	44.6	µg/L	112%		9810-285	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9809-725	1		
Dibromoacetic acid	Matrix Spike	40.0	43.1	µg/L	108%		9809-757	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-282	1		
Dibromoacetic acid	Secondary Source Std	20.0	21.3	µg/L	106%		9810-283	1	70-130%	
Dibromoacetic acid	Standard	20.0	18.5	µg/L	93%		9810-284	1	80-120%	
Dibromoacetic acid	Standard	20.0	18.4	µg/L	92%		9810-284	1	80-120%	
Dibromoacetic acid	Standard	40.0	41.1	µg/L	103%		9810-285	1	80-120%	

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Dichloroacetic acid	Duplicate	ND	ND	µg/L	NA	9809-725	1
Dichloroacetic acid	Matrix Spike	40.0	40.1	µg/L	100%	9809-757	1
Dichloroacetic acid	Method Blank		ND*	µg/L		9810-282	1
Dichloroacetic acid	Secondary Source Std	20.0	21.1	µg/L	106%	9810-283	1 70-130%
Dichloroacetic acid	Standard	20.0	19.8	µg/L	99%	9810-284	1 80-120%
Dichloroacetic acid	Standard	20.0	19.5	µg/L	97%	9810-284	1 80-120%
Dichloroacetic acid	Standard	40.0	40.3	µg/L	101%	9810-285	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND	µg/L	NA	9809-725	1
Monobromoacetic acid	Matrix Spike	40.0	37.0	µg/L	93%	9809-757	1
Monobromoacetic acid	Method Blank		ND*	µg/L		9810-282	1
Monobromoacetic acid	Secondary Source Std	20.0	20.5	µg/L	102%	9810-283	1 70-130%
Monobromoacetic acid	Standard	20.0	19.3	µg/L	97%	9810-284	1 80-120%
Monobromoacetic acid	Standard	20.0	18.8	µg/L	94%	9810-284	1 80-120%
Monobromoacetic acid	Standard	40.0	40.7	µg/L	102%	9810-285	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L	NA	9809-725	2
Monochloroacetic acid	Matrix Spike	40.0	36.0	µg/L	90%	9809-757	2
Monochloroacetic acid	Method Blank		ND*	µg/L		9810-282	2
Monochloroacetic acid	Secondary Source Std	20.0	19.6	µg/L	98%	9810-283	2 70-130%
Monochloroacetic acid	Standard	20.0	19.4	µg/L	97%	9810-284	2 80-120%
Monochloroacetic acid	Standard	20.0	20.4	µg/L	102%	9810-284	2 80-120%
Monochloroacetic acid	Standard	40.0	40.6	µg/L	102%	9810-285	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L	NA	9809-725	4
Tribromoacetic acid	Matrix Spike	40.0	41.5	µg/L	104%	9809-757	4
Tribromoacetic acid	Method Blank		ND*	µg/L		9810-282	4
Tribromoacetic acid	Secondary Source Std		ND	µg/L		9810-283	4 70-130%
Tribromoacetic acid	Standard	20.0	16.4	µg/L	82%	9810-284	4 80-120%
Tribromoacetic acid	Standard	20.0	18.2	µg/L	91%	9810-284	4 80-120%
Tribromoacetic acid	Standard	40.0	43.2	µg/L	108%	9810-285	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L	NA	9809-725	1
Trichloroacetic acid	Matrix Spike	40.0	47.6	µg/L	119%	9809-757	1
Trichloroacetic acid	Method Blank		ND*	µg/L		9810-282	1
Trichloroacetic acid	Secondary Source Std	20.0	21.6	µg/L	108%	9810-283	1 70-130%

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Trichloroacetic acid	Standard	20.0	17.8	µg/L	89%	9810-284	1	80-120%
Trichloroacetic acid	Standard	20.0	17.9	µg/L	89%	9810-284	1	80-120%
Trichloroacetic acid	Standard	40.0	42.3	µg/L	106%	9810-285	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids)**Method:** EPA 552.2**QC Batch ID:** 0-247-0

										Acceptance Criteria	
QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Range	RPD	
Bromochloroacetic acid	Duplicate	3.1	3.0	µg/L		3.3%	9810-216	1			
Bromochloroacetic acid	Matrix Spike	40.0	39.9	µg/L	100%		9810-17	1			
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-420	1			
Bromochloroacetic acid	Secondary Source Std	20.0	21.4	µg/L	107%		9810-421	1	70-130%		
Bromochloroacetic acid	Standard	20.0	19.6	µg/L	98%		9810-422	1	80-120%		
Bromochloroacetic acid	Standard	20.0	19.6	µg/L	98%		9810-422	1	80-120%		
Bromochloroacetic acid	Standard	40.0	40.4	µg/L	101%		9810-423	1	80-120%		
Bromodichloroacetic acid	Duplicate	3.3	2.9	µg/L		12.9%	9810-216	1			
Bromodichloroacetic acid	Matrix Spike	40.0	45.7	µg/L	114%		9810-17	1			
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-420	1			
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9810-421	1	70-130%		
Bromodichloroacetic acid	Standard	20.0	18.1	µg/L	91%		9810-422	1	80-120%		
Bromodichloroacetic acid	Standard	20.0	17.2	µg/L	86%		9810-422	1	80-120%		
Bromodichloroacetic acid	Standard	40.0	41.1	µg/L	103%		9810-423	1	80-120%		
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9810-216	2			
Chlorodibromoacetic acid	Matrix Spike	40.0	43.7	µg/L	109%		9810-17	2			
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9810-420	2			
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9810-421	2	70-130%		
Chlorodibromoacetic acid	Standard	20.0	17.2	µg/L	86%		9810-422	2	80-120%		
Chlorodibromoacetic acid	Standard	20.0	16.0	µg/L	80%		9810-422	2	80-120%		
Chlorodibromoacetic acid	Standard	40.0	41.1	µg/L	103%		9810-423	2	80-120%		
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9810-216	1			
Dibromoacetic acid	Matrix Spike	40.0	40.3	µg/L	101%		9810-17	1			
Dibromoacetic acid	Method Blank		ND*	µg/L			9810-420	1			
Dibromoacetic acid	Secondary Source Std	20.0	22.2	µg/L	111%		9810-421	1	70-130%		
Dibromoacetic acid	Standard	20.0	19.4	µg/L	97%		9810-422	1	80-120%		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable); RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
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Dibromoacetic acid	Standard	20.0	19.2 µg/L	96%	9810-422	1 80-120%
Dibromoacetic acid	Standard	40.0	40.4 µg/L	101%	9810-423	1 80-120%
Dichloroacetic acid	Duplicate	11.5	11.3 µg/L	1.8%	9810-216	1
Dichloroacetic acid	Matrix Spike	40.0	39.0 µg/L	97%	9810-17	1
Dichloroacetic acid	Method Blank		ND* µg/L		9810-420	1
Dichloroacetic acid	Secondary Source Std	20.0	22.2 µg/L	111%	9810-421	1 70-130%
Dichloroacetic acid	Standard	20.0	19.4 µg/L	97%	9810-422	1 80-120%
Dichloroacetic acid	Standard	20.0	19.8 µg/L	99%	9810-422	1 80-120%
Dichloroacetic acid	Standard	40.0	38.9 µg/L	97%	9810-423	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L	NA	9810-216	1
Monobromoacetic acid	Matrix Spike	40.0	39.8 µg/L	99%	9810-17	1
Monobromoacetic acid	Method Blank		ND* µg/L		9810-420	1
Monobromoacetic acid	Secondary Source Std	20.0	22.8 µg/L	114%	9810-421	1 70-130%
Monobromoacetic acid	Standard	20.0	20.4 µg/L	102%	9810-422	1 80-120%
Monobromoacetic acid	Standard	20.0	20.5 µg/L	102%	9810-422	1 80-120%
Monobromoacetic acid	Standard	40.0	39.5 µg/L	99%	9810-423	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L	NA	9810-216	2
Monochloroacetic acid	Matrix Spike	40.0	38.5 µg/L	96%	9810-17	2
Monochloroacetic acid	Method Blank		ND* µg/L		9810-420	2
Monochloroacetic acid	Secondary Source Std	20.0	22.9 µg/L	115%	9810-421	2 70-130%
Monochloroacetic acid	Standard	20.0	21.6 µg/L	108%	9810-422	2 80-120%
Monochloroacetic acid	Standard	20.0	19.9 µg/L	99%	9810-422	2 80-120%
Monochloroacetic acid	Standard	40.0	39.5 µg/L	99%	9810-423	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L	NA	9810-216	4
Tribromoacetic acid	Matrix Spike	40.0	44.0 µg/L	110%	9810-17	4
Tribromoacetic acid	Method Blank		ND* µg/L		9810-420	4
Tribromoacetic acid	Secondary Source Std		ND µg/L		9810-421	4 70-130%
Tribromoacetic acid	Standard	20.0	17.7 µg/L	89%	9810-422	4 80-120%
Tribromoacetic acid	Standard	20.0	16.0 µg/L	80%	9810-422	4 80-120%
Tribromoacetic acid	Standard	40.0	40.5 µg/L	101%	9810-423	4 80-120%
Trichloroacetic acid	Duplicate	12.8	11.5 µg/L	10.7%	9810-216	1
Trichloroacetic acid	Matrix Spike	40.0	44.0 µg/L	110%	9810-17	1
Trichloroacetic acid	Method Blank		ND* µg/L		9810-420	1

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control ReportMr. Arnold Eggleston
City of Aurora**Study#:** 148
Study Title: ICR RSSCT #3,4

Trichloroacetic acid	Secondary Source Std	20.0	22.8 µg/L	114%	9810-421	1	70-130%
Trichloroacetic acid	Standard	20.0	19.1 µg/L	96%	9810-422	1	80-120%
Trichloroacetic acid	Standard	20.0	19.0 µg/L	95%	9810-422	1	80-120%
Trichloroacetic acid	Standard	40.0	40.6 µg/L	102%	9810-423	1	80-120%

End of quality control report

QC Results from Montgomery Watson Laboratories

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 Aurora, IL 60507-2067

Study#: 148
Study Title: ICR RSSCT #3,4

Phone: 630-844-3632 Fax: 630-892-8980

QC Batch ID: 85225**Report #:** 47835**Analysis:** BR**Method:** ML/EPA 300

						Acceptance Criteria
<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Range</u>
LCS1	Bromide	0.02	0.023	115.0%		(50 - 150)
LCS2	Bromide	0.1	0.094	94.0%		(90 - 110)
MS	Bromide	0.1	0.097	97.0%		(80 - 120)
MSD	Bromide	0.1	0.097	97.0%		(80 - 120)

QC Batch ID: 85263**Report #:** 47835

47836

Analysis: CA**Method:** EPA/ML 200.7

						Acceptance Criteria
<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Range</u>
LCS1	Calcium, Total, ICAP	50	50.3	101.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	50.2	100.0%		(85 - 115)
MS	Calcium, Total, ICAP	50	52	104.0%		(70 - 130)

QC Batch ID: 85264**Report #:** 47835

47836

Analysis: MG**Method:** ML/EPA 200.7

						Acceptance Criteria
<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Range</u>
LCS1	Magnesium, Total, ICAP	20	19.8	99.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	19.8	99.0%		(85 - 115)
MS	Magnesium, Total, ICAP	20	20.6	103.0%		(70 - 130)

QC Batch ID: 85463**Report #:** 47835**Analysis:** BR**Method:** ML/EPA 300

						Acceptance Criteria
<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Range</u>
LCS1	Bromide	0.02	0.02	100.0%		(50 - 150)
LCS2	Bromide	0.1	0.092	92.0%		(90 - 110)
MS	Bromide	0.3	0.31	103.0%		(80 - 120)
MSD	Bromide	0.3	0.305	102.0%		(80 - 120)

QC Batch ID: 85613**Report #:** 47835**Analysis:** CA**Method:** EPA/ML 200.7

<u>QC</u>	<u>Analyte</u>	<u>Spike</u>	<u>Recovery</u>	<u>Yield</u>	<u>RPD</u>	<u>Range</u>
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ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson LaboratoriesMr. Arnold Eggleston
City of AuroraStudy#: 148
Study Title: ICR RSSCT #3,4

LCS1	Calcium, Total, ICAP	50	52.9	106.0%	(85 - 115)
LCS2	Calcium, Total, ICAP	50	52.9	106.0%	(85 - 115)
MS	Calcium, Total, ICAP	50	48.4	97.0%	(70 - 130)

QC Batch ID: 85616

Report #: 47835

Analysis: MG

Method: ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	21	105.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	20.8	104.0%		(85 - 115)
MS	Magnesium, Total, ICAP	20	19.4	97.0%		(70 - 130)

QC Batch ID: 85650

Report #: 47835

Analysis: NH3

Method: ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.01	101.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	0.996	100.0%		(80 - 120)
MS	Ammonia Nitrogen	1	1.1	110.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.09	109.0%		(80 - 120)

QC Batch ID: 85806

Report #: 47835
47836

Analysis: BR

Method: ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.023	115.0%		(50 - 150)
LCS2	Bromide	0.1	0.092	92.0%		(90 - 110)
MS	Bromide	0.1	0.109	109.0%		(80 - 120)
MSD	Bromide	0.1	0.108	108.0%		(80 - 120)

QC Batch ID: 85827

Report #: 47835
47836

Analysis: NH3

Method: ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.11	111.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.09	109.0%		(80 - 120)
MS	Ammonia Nitrogen	1	1.15	115.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.15	115.0%		(80 - 120)

End of MW QC report

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

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Mr. Arnold Eggleston
Superintendent of Water Production
City of Aurora
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Phone: 630-844-3632 Fax: 630-892-8980

Study#: 148
Study Title: ICR RSSCT #3,4

Study comments

After a short power outage on 9/30/98, the incubation bath circulator did not restart, affecting the SDS temperature of the first chlorination batch dated 10/1(16 samples). A time-weighted average temperature (11.7°C) was reported as the incubation temperature for the affected samples. Note that during the first 8 hours of reaction, the incubation temperature was 20°C. The free chlorine residual values measured for the affected samples were near the target free chlorine residual, indicating that the decrease in temperature after 8 hours did not significantly affect free chlorine demand.

Sample 9809-471 returned a non-detect SDS free chlorine residual. Upon investigation, it was found that the sample had been improperly dosed. The actual chlorine dose could not be determined.

Analysis comments**Analysis:** Turbidity**Method:** SM 2130 B

Reported turbidity data has been rounded following the requirements of SM 2130 B, reproduced in the table below (Standard Methods, 1995). Note that the reported digits are not necessarily significant.

Turbidity Range	Report to Nearest
0-1.0	0.05
1-10	0.1
10-40	1
40-100	5
100-400	10
400-1000	50
> 1000	100

End of comments