ICR Treatment Study
Summary Report

City of Escondido

Escondido-Vista Water Treatment Plant

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July 1999

ICR Treatment Study Summary Report

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

Conducted during the period of 2/26/98 through 1/7/99

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

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°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
$\overline{C}$	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
EC	enhanced coagulation
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 five haloacetic acids: MCAA, DCAA, TCAA, MBAA, DBAA, BCAA
HAA9	sum of five haloacetic acids: MCAA, DCAA, TCAA, MBAA, DBAA, BCAA, DCBAA, CDBAA, TBAA
hr	hour
$_i$	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
MG	million gallons
MGD	million gallons per day
$_{min}$	minimum
min	minute
mL	milliliter
mm	millimeter
MRL	minimum reporting level
MtBE	methyl tert-butyl ether
$_n$	number of contactors
NA	not applicable
NA	not analyzed
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
RSD	relative standard deviation
RSSCT	rapid small-scale column test
RT	run time
$_{SC}$	small column
SDS	simulated distribution system

sec	second
SF	scaling factor
SM	*Standard Methods*
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	total specific ultraviolet absorbance
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 Escondido-Vista Water Treatment Plant, operated by the City of Escondido. 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-400, 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 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 (PDF) 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.

Four quarterly sessions were conducted to evaluate the impact of seasonal variability in source water quality on GAC performance for DBP precursor control. During each session, two empty-bed contact times (EBCTs) were evaluated (10 and 20 minutes). The Escondido-Vista Water Treatment Plant blends three source waters for treatment: Lake Wohlford, Lake Dixon, and purchased water from the San Diego County Water Authority (SDCWA). The percentage of each source water blended varies from day to day, and during different seasons one or two sources may be used exclusively without the third.

Based on compliance with Stage 1 or the placeholders for Stage 2 DBP maximum contaminant levels (MCLs), the formation of total trihalomethane (THM4) was the controlling parameter for determining GAC reactivation frequency. This study showed that by operating GAC contactors to maintain compliance with the placeholder for Stage 2 THM4 MCL (32 µg/L using a 20 percent safety factor), the placeholder for Stage 2 sum of five haloacetic acid (HAA5) MCL (24 µg/L using a 20 percent safety factor) would also be met. To meet the placeholder for Stage 2 THM4 MCL, GAC run times ranged from 23 to 59 days for 10 minute EBCT contactors and 61 to 193 days for 20 minute EBCT contactors. In practice, however, multiple contactors are operated in staggered fashion and their effluents are blended prior to disinfection. Therefore, run times to a given effluent criterion are extended as compared to a single contactor, because the poorer quality water from "older" contactors is blended with water from "newer" contactors. Based on operation of at least 10 contactors in parallel staggered mode, GAC run times for compliance with the placeholder for Stage 2 THM4 MCL were estimated to range from 46 to 154 days for 10 EBCT minute contactors and from 121 to 409 days for 20 minute EBCT contactors.

The total costs for GAC treatment were estimated using an EPA model, which included capital and operation and maintenance (O&M) costs, based on GAC reactivation frequencies. For 10 minute EBCT contactors operated in parallel staggered mode, the estimate for total costs for GAC treatment averaged 31 and 35 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. For 20 minute EBCT contactors operated in parallel staggered mode, total costs averaged 41 and 56 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. The costs for 20 minute EBCT contactors were higher due to the higher capital costs associated with the larger contactors.

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. A correlation has been developed in the literature based on GAC runs for more than 20 source waters at GAC adsorption pH between 7 and 8. 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, correlated to the influent TOC concentration. For 10 minute EBCT contactors, GAC performance based on BV_{50} values was 19 percent higher than predicted for an average water. At a 20 minute EBCT, BV_{50} values averaged 45 percent higher than predicted.

GAC influent TOC concentration varied from 3.1 to 3.7 mg/L during the four sessions evaluated, and bromide concentration varied from 69 to 96 µg/L. GAC treatment does not remove bromide, while TOC is adsorbed, resulting in higher GAC effluent bromide to TOC ratios as compared to the GAC influent. Due to this increase, GAC effluent formed DBPs may undergo shifts in speciation to higher concentrations of the more brominated DBP species. In some cases, such as for bromodichloromethane and bromoform, formed concentrations in the effluent were measured higher that in the influent. 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.

By plotting effluent concentrations divided by their respective influent concentrations, a normalized breakthrough evaluation can be performed. This evaluation yields insight into the relative breakthrough patterns of TOC, UV_{254}, and SDS-DBPs, indicating whether DBP surrogates can serve as direct or conservative indicators of SDS-DBP breakthrough. The evaluation performed during this study showed that TOC breakthrough usually matched SDS-THM4 breakthrough, and sometimes matched SDS-HAA9 breakthrough. In a few instances, normalized SDS-THM4 breakthrough exceeded that for TOC. TOC did serve as a conservative indicator of normalized SDS-HAA5, SDS-HAA6, and SDS-TOX breakthrough. UV_{254} typically served as a direct indicator of SDS-TOX breakthrough.

5 *Background Information*

5 Background Information

5.1 Treatment Plant Description

The City of Escondido operates the Escondido-Vista Water Treatment Plant, a conventional treatment (alum coagulation and filtration) plant that provides water for a population of 122,000 in the City of Escondido. The plant also serves the Vista Irrigation District and the Rincon del Diablo Municipal Water District. The total wholesale equivalent population served averaged 83,000 during 1998. The state approved plant capacity is 90 MGD; average flow during 1998 was 37 MGD, with a range of 22 to 56 MGD (based on monthly average flow). The plant draws on three source waters: Lake Dixon, Lake Wohlford, and purchased water from the San Diego County Water Authority (SDCWA). The water supplied by SDCWA is a blend of State Project Water and Colorado River Water. The ratio of each source used in the plant influent blend varies daily. Lake Dixon is typically a part of the blend, and at times is used as the sole source. When more water is needed, Lake Wohlford and SDCWA water supplement the blend.

Figure 1 shows a simple schematic of the Escondido-Vista Water Treatment Plant. Treatment consists of coagulation with alum and an organic polymer as coagulant aid. Rapid mix is followed by three-stage tapered flocculation, sedimentation, and filtration. The plant prechlorinates prior to rapid mixing, and after sedimentation. Typical alum dose ranges from 5 to 31 mg/L. Organic polymer is added during coagulation as a coagulant aid. Ammonia is added after filtration to yield chloramines for the distribution system residual disinfectant.

5.1.1 Treatment Plant Design Information

Table 1 summarizes the Escondido-Vista Water Treatment 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

The plant does not anticipate difficulties in complying with the Interim Enhanced Surface Water Treatment Rule (IESWTR) or the Stage 1 of the Disinfection Byproduct Rule (DBPR). However, current placeholders for Stage 2 of DBPR will be a challenge to meet. Additional compliance challenges will arise should the requirements for distribution system monitoring change from a geographical average to compliance on a sampling site basis or should MCLs be set for specific THM or HAA constituents. The plant currently practices washwater return. State requirements may become more stringent, but the plant does not anticipate a problem meeting these new requirements by slight operational modifications.

5.2 Tabular Summary of Source and Finished Water Quality

Tables 2 and 3 summarize average source and finished water quality at the Escondido-Vista Water Treatment Plant, based on sampling between August 1997 and December 1998. These data constitute preliminary ICR monitoring results and have not yet undergone EPA review.

The plant blended source water was characterized by moderate TOC levels, averaging 4.6 mg/L. The plant averaged 20 percent TOC removal, yielding an average treated water TOC concentration of 3.6 mg/L. Bromide averaged 100 µg/L ranging from 54 to 150 µg/L. The variability in bromide concentration is likely due to the variability in source water blend, and should impact DBP speciation after chlorination, with greater concentrations of brominated species formed at higher bromide levels. Specific UV absorbance (TSUVA, defined as UV_{254}/TOC) averaged 2.3 L/mg-m, and was reduced to between 1.7 L/mg-m after treatment. Normally, dissolved organic carbon (DOC) is used to calculate SUVA, defined as UV_{254}/DOC. Since DOC is always less than or equal to TOC, TSUVA will always be greater than or equal to SUVA as defined in the IESWTR.

Distribution system (DS) DBP levels varied widely. DS-THM4 levels ranged from 30 to 88 µg/L. DS-THM4 levels averaged 60 µg/L, lower than the Stage 1 MCL of 80 µg/L or 64 µg/L with a 20 percent safety factor, and exceeding the placeholder for Stage 2 MCL of 40 µg/L of 32 µg/L with a 20 percent safety factor. DS-HAA5 averaged 39 µg/L, lower than the Stage 1 MCL of 60 µg/L or 48 µg/L with a 20 percent safety factor, but exceeding the placeholder for Stage 2 HAA5 MCL of 30 µg/L or 24 µg/L with a 20 percent safety factor. DS-HAA5 concentrations also showed a wide seasonal variability.

Unit Process	Process Description
Disinfectant Addition	Chemical: Chlorine gas Chemical Code: CL2 Measurement Formula: Cl_2 Dose rate (mg/L): 1.95
Rapid Mix	Type of Mixer: Mechanical Baffling Type: Perfect (Plug Flow) Liquid Volume (gal): 62,500 Short Circuiting Factor: NA_V Mean Velocity Gradient (sec^{-1}): 750 Coagulant Addition: Aluminum sulfate (alum) Coagulant Dose (mg/L): 20 Coagulant Aid Addition: Organic polymer Measurement Formula: 20% CLARIFLOC C-318P Dose Rate (mg/L): 1.8
Washwater Return	Washwater Treated: No 24 hr Average Water Flow Returned (MGD): 0.6
Flocculation	Type of Mixer: Mechanical Liquid Volume (gal): 1,089,000 Short Circuiting Factor: 0.2 Baffling Type: Perfect (Plug Flow) Stage Sequence Number: 1 Stage Mean Velocity Gradient (sec^{-1}): 70 Stage Liquid Volume (gal): 311,200 Stage Sequence Number: 2 Stage Mean Velocity Gradient (sec^{-1}): 70 Stage Liquid Volume (gal): 311,200 Stage Sequence Number: 3 Stage Mean Velocity Gradient (sec^{-1}): 35 Stage Liquid Volume (gal): 466,800
Sedimentation	Surface Area (ft^2): 43,200 Liquid Volume (gal): 4,524,000 Baffling Type: Perfect (Plug Flow) Short Circuiting Factor: 0.71
Disinfectant Addition	Chemical: Chlorine gas Chemical Code: CL2 Measurement Formula: Cl_2 Dose rate (mg/L): 2.8
Filtration	Surface Area (ft^2): 8,700 Liquid Volume (gal): 320,000 Total Media Depth (in): 48 Media Type: Dual Minimum Water Depth to Top of Media (ft): 3.0 Depth from Top of Media to Top of Backwash Trough (ft): 1.5
Disinfectant Addition	Chemical Type: Chlorine gas Chemical Code: CL2 Measurement Formula: Cl_2 Dose Rate (mg/L): 1.2

(Table continued on next page)

Unit Process (continued)	Process Description (continued)
Disinfectant Addition	Chemical Type: Ammonium hydroxide Chemical Code: NH3N Measurement Formula: 25% NH_4OH Dose Rate (mg/L): 2.2
Clearwell	Surface Area (ft^2): 34,060 Liquid Volume (gal): 5,400,000 Minimum Liquid Volume (gal): NA_V Baffling Type: Poor (Unbaffled) Short Circuiting Factor: 0.41 Covered Indicator Code: No

NA_V: Not available

Table 1 Summary of treatment plant design data

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	21	4	16	26	18
pH	7.9	0.2	7.4	8.2	18
Alkalinity (mg/L as $CaCO_3$)	116	8	100	126	18
Total hardness (mg/L as $CaCO_3$)	190	44	127	281	18
Calcium hardness (mg/L as $CaCO_3$)	119	26	80	173	18
TOC (mg/L)	4.6	1.0	2.6	6.2	18
UV_{254} (1/cm)	0.111	0.041	0.042	0.182	18
TSUVA (L/mg-m)	2.3	0.5	1.6	3.1	18
Bromide (µg/L)	100	32	54	150	18

Table 2 Summary of source water quality at the Escondido-Vista Water Treatment Plant between July 1997 and December 1998

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	20	5	14	28	18
pH	7.2	0.3	6.8	7.8	18
Turbidity (ntu)	0.12	0.06	0.07	0.34	18
TOC (mg/L)	3.6	0.5	2.5	4.5	18
UV_{254} (1/cm)	0.062	0.013	0.041	0.080	18
TSUVA (L/mg-m)	1.7	0.3	1.1	2.1	18
DS-THM4 (µg/L)	60	17	30	88	24
DS-HAA5 (µg/L)	39	18	14	75	24
DS-HAA6 (µg/L)	49	20	19	89	24

DS: distribution system; average of all distribution system sampling points

Table 3 Summary of finished and distribution system water quality at the Escondido-Vista Water Treatment Plant between July 1997 and December 1998

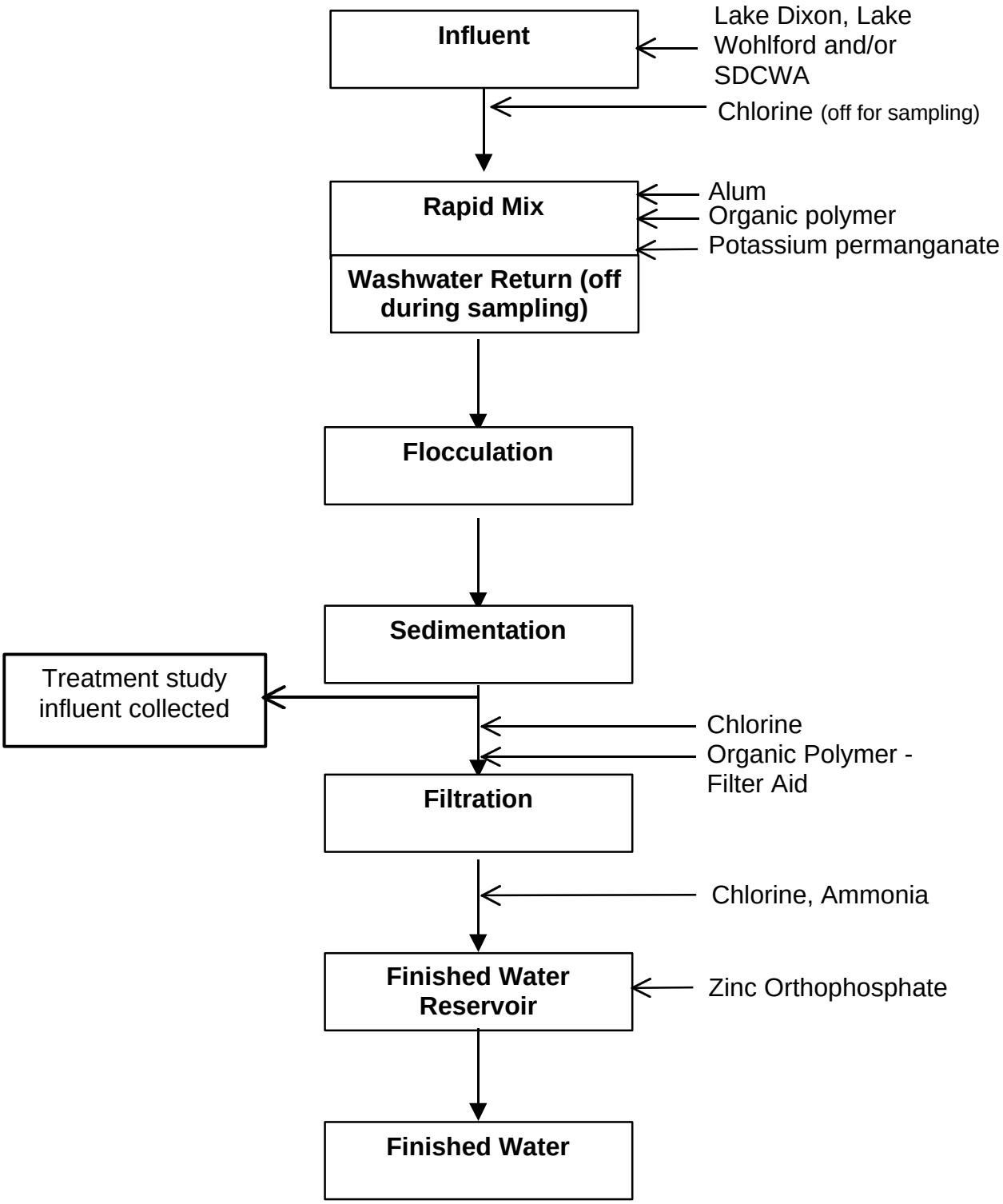

Figure 1 Treatment plant schematic

6 *Materials and Methods*

6 Materials and Methods

6.1 Treatment Study Influent Sampling Procedures

Four samples were taken throughout the year to capture seasonal variability. The sample dates are summarized in Table 4. The four samples represent the spring, summer, fall, and winter seasons. During all sessions, water was sampled after sedimentation.

Under normal plant operation, chlorine is added prior to rapid mix. At least eight hours prior to sampling, the chlorine feed was turned off. The settled water was sampled to ensure that free chlorine concentration was below detectable levels. During the first three quarters of sampling (February, May, and August) free chlorine levels were below detectable limits. During the fourth quarter, however, a detectable free chlorine concentration of 0.1 mg/L was measured. This was attributed to the interference of potassium permanganate during the free chlorine measurement test. Samples for instantaneous THMs and HAAs were taken and analyzed to ensure that formed DBPs were not present in the sample. All instantaneous DBPs were not measured above the minimum reporting levels (MRLs). Although filter washwater is normally returned to a point in the plant just after rapid mix, the washwater return feed (which likely contained formed DBPs) was off eight hours prior to sampling and remained off during sampling.

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

Due to the wide daily variability in source water composition, TOC sampling was not performed on the day prior to treatment study influent sampling to verify sample representativeness. Plant operation and treatment parameters (e.g., chemical doses) were confirmed as within acceptable normal variation prior to drum sampling. Table 4 summarizes the plant source water composition on each sampling date.

For all sessions, the water sampled for the treatment study was shipped by refrigerated carrier the day of sampling and arrived at S&H after five to six days. During shipment and upon arrival, the drums were maintained at 4°C. 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 5. The two measured values did not differ by more than 0.1 mg/L. In addition, Table 5 lists the blended source water and plant filtered water on the treatment study sampling day. The blended source water TOC concentration ranged between 3.8 and 4.8 mg/L. As described in Section 6.2, the plant settled water was cartridge filtered prior to RSSCT testing. The measured TOC concentration of the cartridge filtered water is also reported in Table 5 for comparison with plant filtered water on the day of sampling.

6.2 Pretreatment Processes to the Advanced Treatment Processes

The full-scale and bench-scale pretreatment processes in place prior to bench-scale GAC during all sessions are described in Figure 2. Bench-scale filtration through a 1.0-µm glass fiber cartridge filter, which simulates full-scale sand filtration, was performed as a required pretreatment step prior to RSSCT testing. As shown in Table 5, there was a 0.1 to 0.2 mg/L drop in TOC concentration measured before and after bench-scale filtration.

During all RSSCT runs, the settled water pH measured at the plant was maintained in the influent to the RSSCTs. During the operation of the RSSCTs, the pH was maintained within 0.1 pH units of the target pH by the addition of dilute solutions of sulfuric acid and sodium hydroxide.

Table 6 summarizes the design data for each pretreatment process prior to GAC adsorption. Bench-scale cartridge filtration was 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 10 minute EBCT contactors is shown in Figure 3. For these RSSCTs, the entire GAC bed was packed in a single column. 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. Minimal backwashing was required 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 support system shown in Figure 5 was used 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 7. During each session, two RSSCTs were operated to simulate full-scale equivalent EBCTs of 10 and 20 minutes. Other than the EBCT, the design for the two RSSCTs operated during each session was identical. The scaling factor used for all sessions, based on the ratio of full-scale to bench-scale GAC particle size, was 13. Therefore, 13 days of full-scale operation were simulated with each day of RSSCT operation. Columns with inner diameters ranging between 9.0 and 10.0 mm were used. Reynolds numbers used ranged from 0.42 to 0.51.

6.3.3 Procedures Specific to the Treatment Study

6.3.3.1 GAC Preparation Procedures

A representative batch of Filtrasorb 400 (F-400), a bituminous-coal based GAC, was obtained from the manufacturer, Calgon Carbon Corporation. The GAC is a 12x40 mesh size (average particle diameter, d_p = 1.06 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 140x230 mesh size, which yielded GAC with average particle diameter, d_p, of 0.085 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 upper mesh size sieve. Usually, a recovery of 25 to 30 percent was obtained, as defined by the amount of GAC retained between the two mesh size sieves and 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 to 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 RSSCT column support is detailed in Figure 5. The GAC support for the 9.0 and 10.0 mm inner diameter columns consisted of a stainless steel screen (60 or 100 mesh size), Teflon beads, glass wool, a 325 mesh size stainless steel screen, and a 200 mesh size stainless steel screen. 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

Prior to RSSCT testing, all water samples were filtered through a 1.0-µm nominal pore size glass fiber cartridge filter. The cartridge filter was pre-rinsed with deionized water. 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 three times 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.

6.3.3.5 Headloss Buildup

Problematic headloss buildup only affected the 20 minute EBCT contactor during the second RSSCT session. The column was backwashed once, after 135 full-scale equivalent days of operation. Typically, when the pressure required to maintain a constant flow rate through the RSSCT exceeds 50 psi, a column backwashing procedure is performed to mitigate the headloss problem.

The procedure utilized minimizes the disturbance of the GAC bed. The column is taken off line, and the top opened so that the GAC inside is accessible. A clean small rod (18 gauge galvanized steel wire) is inserted into the column. The top layer (0.2 to 1.0 cm) of GAC is carefully mixed

to break apart the particles that are bound together. Once the top layer is sufficiently loosened, the column is placed on line, and the head pressure necessary to maintain the design flow rate is usually 20 to 40 percent of the pressure before mixing the top layer.

6.4 Experimental Design

The treatment study was designed to evaluate the impact of seasonal variability on the performance of bituminous coal-based GAC at two EBCTs, 10 and 20 minutes. Four sessions were conducted to perform this evaluation. The experimental design is summarized in Table 8. The fourth session, designed to be sampled in November 1998, was instead postponed to January 1999. However, the average November SDS chlorination temperature was used during the January session.

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, UV_{254}, and SDS chlorination for THMs, HAAs, and TOX.

During each session, both the 10 and 20 minute EBCT RSSCTs were operated in parallel, with a single batch influent container. Therefore, only two influent A (alkalinity, calcium hardness, total hardness, ammonia, and bromide) and three influent B (pH, temperature, turbidity, TOC, $UV_{254,}$ SDS chlorination) samples were taken during the course of each study, and the data from these applied to both the 10 and 20 minute EBCT 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 the equivalent full-scale of one year

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. Typically, the twelfth and last RSSCT effluent sample was taken at this point. A thirteenth 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. Table 9 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 10. Two holding times were used during the treatment study: during the fall and winter sessions, a 24-hour hold time was used, while during the spring and summer sessions, an 18-hour hold time was used. The 18-hour hold time reflected higher demand during the summer months, resulting in a shorter average distribution system residence time. All samples were buffered at pH 7.4 using a borate/phosphate buffer combination, based on the pH maintained in the distribution system. The incubation temperature varied seasonally, from 15 to 27°C, based on average distribution system temperatures. The SDS temperature used during the January session was 18°C, reflecting the average November distribution system temperature (see Section 7.2). The target free chlorine residual after the incubation period was 0.80 mg/L as Cl_2.

For GAC influent water, during all four sessions, the average and standard deviation obtained for each parameter are summarized in Table 11. The same data are summarized in Table 12 for the effluent samples from the 10 minute EBCT columns, and in Table 13 for the effluent samples taken from the 20 minute EBCT columns.

6.7 Analytical Methods

A list of all analytical methods and minimum reporting levels (MRLs) used during the study are 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	Source water composition (%)		
		Lake Dixon	Lake Wohlford	SDCWA
1	February 26, 1998	100	0	0
2	May 28, 1998	10	90	0
3	August 20, 1998	36	64	0
4	January 7, 1999	45	34	21

Table 4 Sampling dates and source water composition for quarterly GAC bench-scale treatment study sessions

Session	Blended source water TOC concentration (mg/L)	Settled water TOC concentration (mg/L)		Percent change (%)	Filtered water TOC concentration (mg/L)	
		On day of sampling	Upon arrival at S&H		Plant	S&H
February	3.8	3.7	3.6	-2.7	3.3	3.5
May	4.8	3.7	3.8	+2.7	3.7	3.7
August	3.9	3.6	3.5	-2.8	3.3	3.4
January	4.3	3.3	3.3	0.0	3.0	3.1

Table 5 Summary of TOC sampling before and after water shipment

Unit Process	Process Description
Rapid Mix (Full-Scale)	Type of Mixer: Mechanical Baffling Type: Perfect (Plug Flow) Liquid Volume (gal): 62,500 Short Circuiting Factor: NA_V Mean Velocity Gradient (sec^{-1}): 750 Coagulant Addition: Aluminum sulfate (alum) Coagulant Dose (mg/L): 20 Coagulant Aid Addition: Organic polymer Measurement Formula: 20% CLARIFLOC C-318P Dose Rate (mg/L): 1.8
Flocculation (Full-Scale)	Type of Mixer: Mechanical Liquid Volume (gal): 1,089,000 Short Circuiting Factor: 0.2 Baffling Type: Perfect (Plug Flow) Stage Sequence Number: 1 Stage Mean Velocity Gradient (sec^{-1}): 70 Stage Liquid Volume (gal): 311,200 Stage Sequence Number: 2 Stage Mean Velocity Gradient (sec^{-1}): 70 Stage Liquid Volume (gal): 311,200 Stage Sequence Number: 3 Stage Mean Velocity Gradient (sec^{-1}): 35 Stage Liquid Volume (gal): 466,800
Sedimentation (Full-Scale)	Surface Area (ft^2): 43,200 Liquid Volume (gal): 4,524,000 Baffling Type: Perfect (Plug Flow) Short Circuiting Factor: 0.71
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): 150- 200

Table 6 Summary of design data for each pretreatment process prior to GAC

Design parameter	Design value during session			
	1 February	2 May	3 August	4 January
GAC manufacturer	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.
GAC brand name	F-400	F-400	F-400	F-400
GAC type	Bituminous	Bituminous	Bituminous	Bituminous
GAC mesh size	12x40	12x40	12x40	12x40
Average particle diameter, d_{LC} (mm)	1.063	1.063	1.063	1.063
General design parameters				
Minimum Reynold's number, $Re_{SC, min}$ (-)	0.42	0.51	0.50	0.48
Full-scale operating temperature (°C)	13	17	27	18
Kinematic viscosity, ν_{LC} (m^2/s)	1.20E-06	1.08E-06	8.54E-07	1.05E-06
Bed porosity, ε_{LC} (-)	0.45	0.45	0.45	0.45
Measured dry bed density, ρ_{SC} (g/cm^3)	0.510	0.516	0.447	0.468
RSSCT design parameters				
RSSCT mesh size	140x230	140x230	140x230	140x230
Particle diameter, d_{SC} (mm)	0.085	0.085	0.085	0.085
Scaling factor, SF	12.57	12.57	12.57	12.57
Hydraulic loading rate, v_{SC} (m/hr)	9.63	10.58	8.19	9.62
Column diameter, D_{SC} (mm)	9.0	9.0	10.0	10.0
Flow rate, Q_{SC} (mL/min)	10.2	11.2	10.7	12.6
Estimated run length				
RSSCT Influent TOC concentration (mg/L)	3.2	3.5	3.3	3.1
Bed volumes to 50% TOC breakthrough, BV_{50}	4784	4258	4596	4985
Estimated total run time, BV_T	16743	14902	16086	17448
RSSCT 1				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	10	10	10	10
Estimated full-scale run time, t_{LC}^T (days)	116	103	112	121
Estimated RSSCT run time, t_{SC}^T (days)	9.2	8.2	8.9	9.6
Volume water required, V_{SC} (L)	136	133	137	175
Mass GAC required, m_{SC} (g)	4.14	4.60	3.81	4.69
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	0.80	0.80	0.80	0.80
Bed length, l_{SC} (cm)	12.8	14.0	10.9	12.8
RSSCT 2				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	20	20	20	20
Estimated full-scale run time, t_{LC}^T (days)	233	207	223	242
Estimated RSSCT run time, t_{SC}^T (days)	18.5	16.5	17.8	19.3
Volume water required, V_{SC} (L)	272	266	274	350
Mass GAC required, m_{SC} (g)	8.28	9.20	7.62	9.38
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	1.59	1.59	1.59	1.59
Bed length, l_{SC} (cm)	25.5	28.1	21.7	25.5

Table 7 Summary of RSSCT design parameters

Season	Pretreatment	GAC type	EBCT (min)
Winter	Coagulation (alum)	Bituminous	10, 20
Spring	Coagulation (alum)	Bituminous	10, 20
Summer	Coagulation (alum)	Bituminous	10, 20
Fall	Coagulation (alum)	Bituminous	10, 20

Table 8 Experimental design summary

Session	10 minute EBCT			20 minute EBCT		
	Run termination criteria*	Scaled run time (days)	Percent TOC breakthrough	Run termination criteria*	Scaled run time (days)	Percent TOC breakthrough
February	1	64	71	1	172	70
May	1	58	71	1	147	72
August	1	86	73	1	200	72
January	1	105	73	1	264	76

* 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 9 Summary of RSSCT run termination criteria, run time, and percent TOC breakthrough reached

Parameter	Session 1 February		Session 2 May		Session 3 August		Session 4 January	
	Value	Tolerance	Value	Tolerance	Value	Tolerance	Value	Tolerance
Incubation time (hours)	24.0	1.0	18.0	0.9	18.0	0.9	24.0	1.0
Incubation temperature (°C)	15.0	2.0	25.0	2.0	27.0	2.0	18.0	2.0
pH	7.40	0.20	7.40	0.20	7.40	0.20	7.40	0.20
Free chlorine residual (mg/L)	0.80	0.30	0.80	0.30	0.80	0.30	0.80	0.30

Table 10 Simulated distribution system (SDS) chlorination target conditions

Parameter	Session 1 February		Session 2 May		Session 3 August		Session 4 January	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	24.0	0.1	18.2	0.1	18.1	0.2	24.0	0.0
Incubation temperature (°C)	15.1	0.1	25.0	0.7	26.2	0.2	17.8	0.1
pH	7.41	0.03	7.38	0.09	7.36	0.02	7.38	0.03
Free chlorine residual (mg/L)	0.83	0.16	0.99	0.26	0.68	0.12	1.17	0.48

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

Table 11 Summary of experimental SDS chlorination conditions for GAC influent water

Parameter	Session 1 February		Session 2 May		Session 3 August		Session 4 January	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	23.9	0.1	18.0	0.1	18.2	0.1	24.0	0.1
Incubation temperature (°C)	15.1	0.2	24.7	0.1	26.1	0.1	17.7	0.1
pH	7.44	0.05	7.41	0.03	7.44	0.01	7.41	0.02
Free chlorine residual (mg/L)	0.84	0.09	1.12	0.23	0.76	0.12	0.92	0.11

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

Table 12 Summary of experimental SDS chlorination conditions for 10 minute EBCT contactor

Parameter	Session 1 February		Session 2 May		Session 3 August		Session 4 January	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	24.0	0.1	18.3	0.1	18.2	0.2	24.1	0.1
Incubation temperature (°C)	15.1	0.1	24.6	0.1	26.1	0.1	17.9	0.5
pH	7.44	0.02	7.44	0.04	7.44	0.04	7.41	0.03
Free chlorine residual (mg/L)	0.80	0.07	0.77	0.19	0.82	0.10	0.94	0.11

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

Table 13 Summary of experimental SDS chlorination conditions for 20 minute EBCT contactor.

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	1	SM 3500-Ca D	10 mg/L as $CaCO_3$
Calcium hardness	2-4	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 (BCAA, DBAA, DCAA, MBAA, TCAA, DCBAA)	All	SM 6251 B	1.0 µg/L (each analyte)
HAA (MCAA, CDBAA)	All	SM 6251 B	2.0 µg/L (each analyte)
HAA (TBAA)	All	SM 6251 B	4.0 µg/L (each analyte)
pH	All	4500-H^+ B	NA
Temperature	All	SM 2550 B	NA
Total hardness	1	SM 2340 C	5 mg/L as $CaCO_3$
Total hardness	2-4	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 (CHCl3, BDCM, DBCM, CHBr3)	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}

SM: *Standard Methods*
NA: Not applicable

Table 14 Summary of analytical methods and MRLs

Analyses performed	Sessions of service	Laboratory
Alkalinity, chlorine dose, chlorine residual, pH, temperature, THM4, TOC, TOX, turbidity, UV_{254}	All	Summers & Hooper, Inc.
Calcium hardness, total hardness	1	Summers & Hooper, Inc.
Ammonia, bromide, HAA9	All	Montgomery Watson Laboratories
Calcium hardness, total hardness	2-4	Montgomery Watson Laboratories

Table 15 Summary of laboratories conducting analyses

	Summers & Hooper, Inc.	Montgomery Watson Laboratories
ICR lab ID number	ICROH033	ICRCA013
Contact name:	Stuart Hooper	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

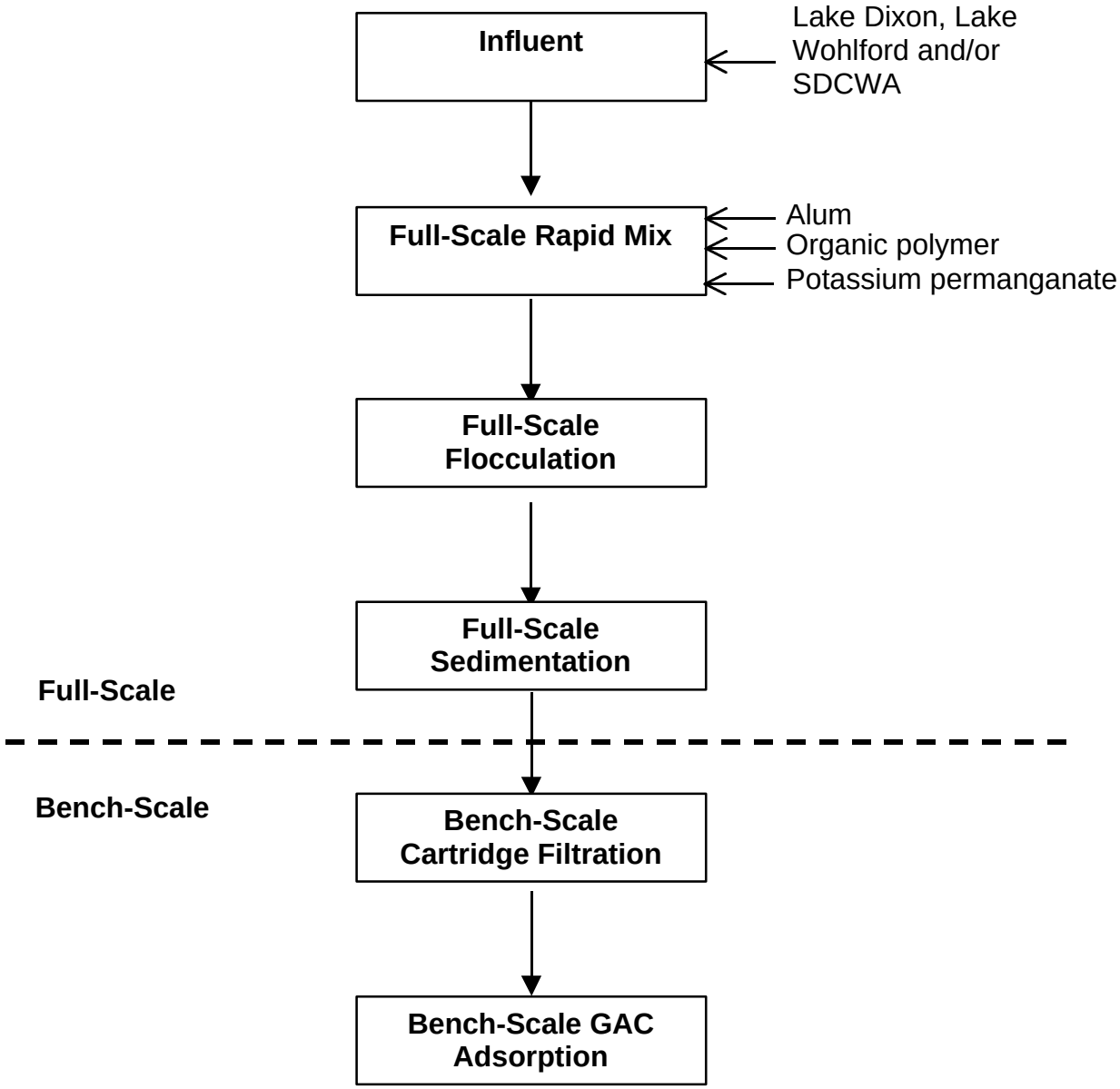

Figure 2 Schematic of pretreatment processes prior to bench-scale GAC

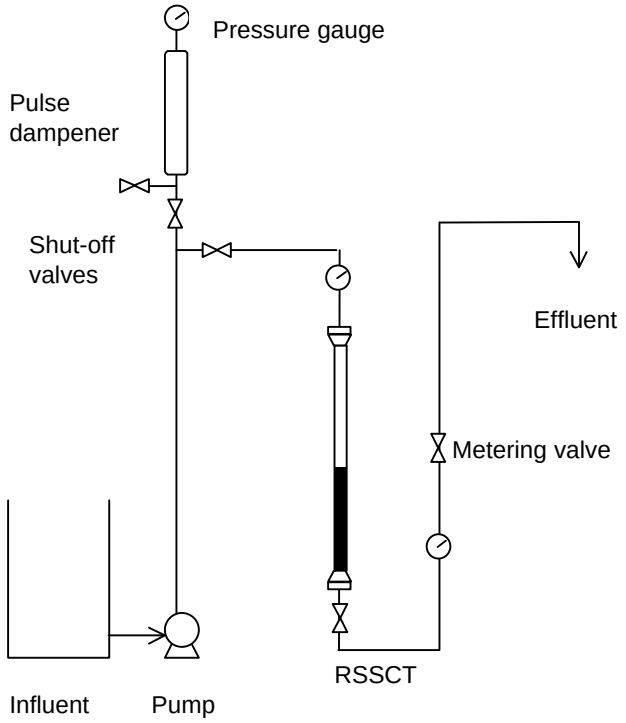

Figure 3 RSSCT system schematic for 10 minute EBCT full-scale equivalent contactors

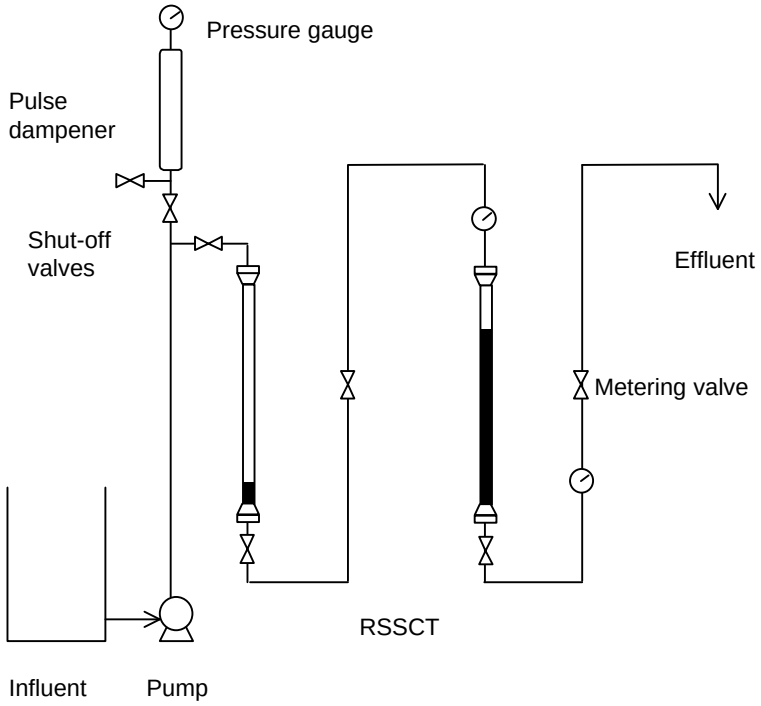

Figure 4 RSSCT system schematic for 20 minute EBCT full-scale equivalent contactor

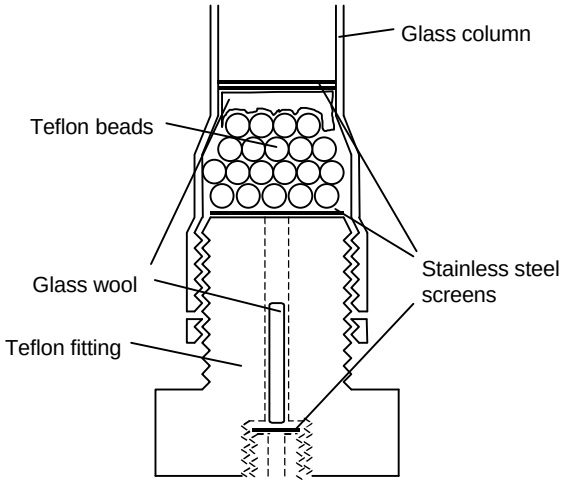

Figure 5 RSSCT column GAC support system for 9.0 and 10.0 mm inner diameter columns

7 *Results and Discussion Overview*

7 Results and Discussion Overview

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 in water quality and contactor EBCT 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 UV_{254} breakthrough served as indicators for DBP precursor breakthrough is analyzed. 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

The fourth session, designed to be sampled in November 1998, was instead postponed to January 1999. The plant source water blend varies daily, and this variability in water quality can outweigh seasonal effects, other than temperature. The average November SDS chlorination temperature (18°C) was used during the January session instead of the average January SDS temperature (15°C).

Under normal plant operation, chlorine is added prior to rapid mix. At least eight hours prior to sampling, the chlorine feed was turned off. The settled water was sampled to ensure that free chlorine concentration was below detectable levels. During the first three quarters of sampling (February, May, and August) free chlorine levels were below detectable limits. During the fourth quarter (January), however, a detectable free chlorine concentration of 0.1 mg/L was measured. This was attributed to the interference of potassium permanganate during the free chlorine measurement test. Samples for instantaneous THMs and HAAs were taken and analyzed to ensure that formed DBPs were not present in the sample. All instantaneous DBPs were not measured above the MRLs. Therefore, the run was performed on the water sampled.

7.3 Pretreated Influent Water Quality Data

The average pretreated influent to GAC water quality for each quarterly sample is summarized in Table 17. The water was pretreated by full-scale alum coagulation, flocculation, sedimentation, and bench-scale cartridge filtration. The plant source water composition varied widely as shown in Table 4.

GAC influent TOC concentration was not highly variable over the four sampling events. Treated TOC concentration ranged from 3.1 to 3.7 mg/L, and the mean TOC concentration for all four

sampling events was 3.3 ± 0.3 mg/L (relative standard deviation [RSD] = 8%). The mean UV_{254} for the four treated waters was 0.069 ± 0.016 cm^{-1} (RSD = 24%). The TSUVA averaged 2.0 L/mg-m (RSD = 16%). The influent pH ranged from 7.2 to 7.8. Alkalinity averaged 101 mg/L as $CaCO_3$ (RSD = 12%); calcium hardness averaged 140 mg/L as $CaCO_3$ (RSD = 45%); total hardness averaged 197 mg/L as $CaCO_3$ (RSD = 25%). Ammonia levels ranged from BMRL to 0.075 mg/L. Moderate bromide levels were measured, ranging from 69 to 96 µg/L.

Seasonal variability in treated water SDS-DBP formation was relatively high for all DBPs analyzed. SDS-THM4 concentrations averaged 84 µg/L (RSD = 37%); SDS-HAA5, SDS-HAA6, and SDS-HAA9 levels averaged 42, 52, and 74 µg/L, respectively, and varied seasonally as evidenced by RSDs between 35 and 41 percent. SDS-TOX levels averaged 272 µg/L as Cl^-, with a RSD of 30 percent. SDS chlorine demand (CLD) averaged 2.7 mg/L (RSD = 23%).

Water Quality Parameter	Session 1 February		Session 2 May		Session 3 August		Session 4 January	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Temperature (°C)	18.5	1.2	20.1	3.2	18.5	2.1	18.9	1.4
pH	7.77	0.02	7.22	0.10	7.59	0.04	7.44	0.05
Turbidity (ntu)	0.10	0.00	0.23	0.08	0.23	0.10	0.23	0.06
Alkalinity (mg/L as $CaCO_3$)	112	1	86	3	95	2	109	1
Calcium hardness (mg/L as $CaCO_3$)	228	9	89	2	103	4	143	2
Total hardness (mg/L as $CaCO_3$)	253	7	146	1	165	4	225	1
Ammonia (mg/L)	0.030	0.042	0.075	0.021	BMRL	NA	BMRL	NA
Bromide (mg/L)	0.069	0.001	0.084	0.003	0.096	0.000	0.070	0.000
TOC (mg/L)	3.16	0.02	3.69	0.02	3.45	0.06	3.08	0.05
UV_{254} (1/cm)	0.061	0.000	0.087	0.002	0.078	0.000	0.051	0.001
TSUVA (L/mg-m)	1.9	--	2.4	--	2.3	--	1.6	--
SDS-THM4 (µg/L)	58	3	117	8	105	3	58	8
SDS-HAA5 (µg/L)	30	2	63	2	49	5	27	3
SDS-HAA6 (µg/L)	39	1	76	2	60	6	34	3
SDS-HAA9 (µg/L)	59	2	107	8	80	1	48	4
SDS-TOX (µg Cl^-/L)	201	6	364	7	317	12	205	5
SDS-chlorine demand (mg/L)	1.9	0.1	3.1	0.1	3.3	0.0	2.6	0.1

BMRL: below minimum reporting level
NA: not applicable

Table 17 Summary of GAC influent water quality

8 *Impact of Seasonal Variability*

8 Impact of Seasonal Variability

During each quarterly session, both 10 minute and 20 minute full-scale equivalent EBCTs were evaluated using RSSCTs. Table 4 lists the sampling date for each session.

Figure 6 shows the RSSCT effluent TOC breakthrough profiles for the 10 minute EBCT contactors during each session. A wide range in TOC breakthrough behavior was observed. In general, GAC performance improves with decreasing influent TOC concentration. The earliest TOC breakthrough occurred during the May session, which also had the highest GAC influent concentration. The best performance occurred during the January session, which had the lowest GAC influent TOC concentration (3.1 mg/L). The relatively early breakthrough during the February session with a low influent TOC concentration of 3.2 mg/L is likely attributable to the relatively high influent pH, 7.8. Run times to an effluent TOC concentration of 2.0 mg/L ranged from 38 to 88 days for the 10 minute EBCT contactors. Run times to 70 percent TOC breakthrough ranged from 57 to 98 days. The patterns displayed by TOC breakthrough were also observed for effluent UV_{254} breakthrough, shown in Figure 7.

The GAC effluent breakthrough profiles for SDS-DBPs are plotted in Figures 8 through 12. Influent SDS-THM4 levels were highest during the May session, and like TOC and UV_{254} breakthrough, SDS-THM4 breakthrough also occurred earliest during the May session. Influent SDS-THM4 levels were lowest during the February and January runs. These runs also resulted in better control of THM4 precursors. Figures 9 through 11 show the 10 minute EBCT contactor breakthrough curves for SDS-HAA5, SDS-HAA6, and SDS-HAA9. Again, the poorest control of HAA precursors occurred during the May session. The January session showed the best overall SDS-HAA control. SDS-HAA breakthrough curves for the February and August runs was similar. Effluent SDS-TOX breakthrough patterns (Figure 12) followed the relative order seen for SDS-THM4 and SDS-HAA breakthrough. The May session, with the highest influent SDS-TOX, yielded the earliest breakthrough of effluent SDS-TOX.

The GAC effluent SDS-CLD, Figure 13, displayed a relatively high immediate breakthrough, which ranged from 0.4 to 0.8 mg/L as Cl_2. The immediate breakthrough was likely caused by inorganic chlorine demand. Effluent SDS-CLD increased over time, as organic chlorine demand increased due to TOC breakthrough. In general, effluent SDS-CLD was highest during the May and August sessions, when influent SDS-CLD was highest, and the SDS incubation temperatures used was also highest.

The RSSCT effluent TOC breakthrough profiles for the 20 minute EBCT contactors are shown in Figure 14. The relative order of breakthrough was the same as that observed for the 10 minute EBCT contactors. Run times to an effluent TOC concentration of 2.0 mg/L ranged from 94 to 216 days. Run times to 70 percent TOC breakthrough ranged from 140 to 232 days. These run times are longer than those observed for the 10 minute EBCT contactor results due to the longer EBCT. Results for UV_{254} breakthrough are shown in Figure 15. The GAC effluent breakthrough profiles for SDS-DBP formation are plotted in Figures 16 through 20. In general, the breakthrough trends for UV_{254} and DBPs observed for the 10 minute EBCT contactor were also evident in the 20 minute EBCT contactor breakthrough. Figure 21 shows the measured GAC effluent SDS-CLD.

In summary, improved GAC performance was observed for the February and January runs. Trends observed for TOC and UV_{254} were typically reflected by SDS-DBP breakthrough. Settled water pH ranged from 7.2 to 7.8 and did not have a large impact on DBP precursor control. The effluent pH and temperature for each EBCT during each session were also monitored, and the results, summarized in Tables 18 and 19, were fairly consistent with a RSD not exceeding 6 percent.

Table 20 summarizes run times to various GAC effluent criteria for the 10 minute EBCT contactors. The mean, standard deviation, and RSD of the run times for the four sessions are also tabulated, along with the length of each study. For the 20 minute EBCT contactors, a summary of the same information is given in Table 21. The THM and HAA run time criteria chosen are based on Stage 1 and the placeholder for Stage 2 MCLs, with a 20 percent safety factor. The TOC, UV_{254}, 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 UV_{254}. The calculated RSD provides a measure of the degree of seasonal variability evident in GAC performance. For example, the run time to a GAC effluent TOC concentration of 2.0 mg/L for 10 minute EBCT contactors ranged from 38 to 88 days, with a RSD of 35 percent. Run times to meet the placeholder for Stage 2 THM4 MCL (32 µg/L with a 20 percent safety factor) ranged from 23 to 59 days, with a RSD of 39 percent.

For a visual comparison of the impact of seasonal variability on GAC run times, bar graph plots of the data were generated. For a 10 minute EBCT, Figures 22 and 23 summarize run times to effluent TOC and UV_{254} 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. Bar graph GAC run time summaries are shown in Figures 26 through 29 for the 20 minute EBCT contactors.

Based on the calculated run times for all four quarters and both EBCTs, the corresponding concentration of other measured parameters (DBP precursor surrogates and SDS-DBPs) at that run time were also calculated. For each session and EBCT, these data are summarized in Tables 22 through 29. For example, Table 22 shows that when the placeholder for Stage 2 MCL for THM4 (with a 20 percent safety factor) was exceeded, the TOC concentration was 1.8 mg/L, the SDS-HAA5 concentration was 11 µg/L, and the SDS-TOX concentration was 94 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. In some cases, effluent SDS-DBP concentration are measured higher than influent SDS-DBP levels.

For both the 10 and 20 minute EBCT contactors and all sessions, Figures 30, 31, 32 and 33 show the breakthrough behavior of the formed THMs: chloroform ($CHCl_3$), bromodichloromethane (BDCM), dibromochloromethane (DBCM), and bromoform ($CHBr_3$), respectively. For all runs, THM formation was about equally distributed between SDS-$CHCl_3$, SDS-BDCM, and SDS-DBCM, with a lesser contribution of SDS-BDCM and still less of SDS-$CHBr_3$. Due to the higher bromide to TOC ratio, GAC effluent levels of SDS-BDCM and SDS-$CHBr_3$ exceeded the

measured GAC influent concentration. Effluent SDS-$CHBr_3$ exhibited a peak concentration, after which levels decreased. 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 during all seasons and for both EBCTs are shown in Figures 34 through 42. The HAA species are 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). All species were formed in the GAC effluent at significant levels except MCAA, MBAA, TBAA, which were measured between 1 and 5 µg/L in the GAC effluent. Effluent formed levels of DCAA and TCAA usually reached about 50 to 60 percent of formed influent levels. GAC effluent formed concentrations of the brominated species in many cases reached levels that were 90 to 110 percent of GAC influent concentrations. For SDS-DBAA, effluent concentrations reached 125 to 200 percent of influent levels. Again, the relatively poor control of the brominated HAA species in the GAC effluent can be attributed to the increase in bromide to TOC ratio in the GAC effluent. The three species not included in the summation of SDS-HAA6 (DCBAA, CDBAA, and TBAA) accounted for about 30 percent of SDS-HAA9.

Effluent sample number	Effluent pH				Effluent temperature (°C)			
	February	May	August	January	February	May	August	January
1	8.1	7.9	8.2	8.1	22	23	22	22
2	8.0	7.8	8.0	7.8	22	27	20	21
3	8.0	7.8	8.0	8.0	22	21	21	22
4	8.1	7.9	8.0	8.0	22	22	22	21
5	8.1	7.9	8.0	7.9	22	23	21	22
6	8.0	7.9	8.0	7.9	22	24	21	23
7	8.0	7.9	8.0	8.0	22	23	22	21
8	8.0	7.9	8.0	8.0	22	22	21	22
9	8.1	7.8	8.0	8.0	22	24	22	22
10	8.1	7.8	8.0	8.0	21	23	21	21
11	8.0	7.8	8.0	7.9	22	24	21	21
12	8.0	7.9	8.0	8.0	22	23	22	22
13	8.0	7.8	8.0	7.9	22	23	21	22
Mean	8.0	7.9	8.0	8.0	22	23	21	22
Standard deviation	±0.0	±0.1	±0.1	±0.1	±0.3	±1.4	±0.6	±0.6
Relative percent error	1	1	1	1	1	6	3	3

Table 18 GAC effluent pH and temperature data for 10 minute EBCT contactors

Effluent sample number	Effluent pH				Effluent temperature (°C)			
	February	May	August	January	February	May	August	January
1	8.2	8.2	8.5	8.4	21	24	22	22
2	7.9	7.9	8.1	8.0	21	23	21	21
3	8.0	7.8	8.1	7.9	22	24	21	22
4	8.0	8.0	8.1	8.0	21	23	21	21
5	8.0	8.0	8.1	8.0	22	23	23	21
6	8.0	7.9	8.1	7.8	21	24	21	22
7	8.0	7.8	8.1	7.9	22	23	22	22
8	8.0	7.9	8.1	8.0	21	23	21	22
9	8.0	7.8	8.1	7.9	21	24	21	22
10	8.0	7.9	8.0	7.8	22	24	21	22
11	8.2	7.8	8.0	8.0	22	24	22	22
12	8.4	7.8	8.0	8.0	22	24	22	24
13	8.5	7.7	8.1	7.8	21	25	21	23
Mean	8.1	7.9	8.1	8.0	22	24	21	22
Standard deviation	±0.2	±0.1	±0.1	±0.1	±0.3	±0.6	±0.5	±0.7
Relative percent error	2	1	2	2	2	3	2	3

Table 19 GAC effluent pH and temperature data for 20 minute EBCT contactors

Parameter	Units	Value	Run time (days) Session 1 February	2 May	3 August	4 January	Mean	Standard deviation	Relative standard deviation (%)
TOC	(mg/L)	2.0	53	38	61	88	60	±21	35%
		1.0	24	24	31	37	29	±7	23%
		c/c_0 = 50%†	37	35	49	59	45	±11	25%
UV-254	(1/cm)	0.040	*	47	78	*	62	±22	36%
		0.020	35	27	39	72	43	±20	46%
		c/c_0 = 50%†	55	52	76	97	70	±21	30%
SDS-THM4	(µg/L)	80	*	*	*	*			
		64	*	42	66	*	54	±17	31%
		32	45	23	33	59	40	±16	39%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	*	48	71	*	60	±16	27%
SDS-HAA6	(µg/L)	48	*	*	*	*			
		24	63	33	51	*	49	±15	31%
SDS-HAA9	(µg/L)	48	*	32	69	*	51	±26	51%
		24	36	22	35	67	40	±19	47%
SDS-TOX	(µg Cl^-/L)	120	*	33	50	*	41	±12	28%
		70	34	26	35	57	38	±14	35%
Study length	(days)	--	64	58	86	105	78	±21	27%

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 20 Run times to selected GAC effluent criteria (10 minute EBCT)

Parameter	Units	Value	Run time (days) Session 1 February	2 May	3 August	4 January	Mean	Standard deviation	Relative standard deviation (%)
TOC	(mg/L)	2.0	137	94	149	216	149	±50	34%
		1.0	58	57	67	90	68	±15	22%
		c/c_0 = 50%†	91	86	121	140	109	±25	23%
UV-254	(1/cm)	0.040	*	120	186	*	153	±47	30%
		0.020	92	72	91	173	107	±45	42%
		c/c_0 = 50%†	149	132	182	228	173	±42	24%
SDS-THM4	(µg/L)	80	*	*	*	*			
		64	*	100	143	*	122	±30	25%
		32	96	61	73	193	106	±60	57%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	*	117	163	*	140	±33	23%
SDS-HAA6	(µg/L)	48	*	*	*	*			
		24	*	85	120	*	103	±25	24%
SDS-HAA9	(µg/L)	48	*	105	*	*	105		
		24	95	60	74	144	93	±37	40%
SDS-TOX	(µg Cl^-/L)	120	*	91	120	249	153	±84	55%
		70	98	68	77	139	95	±32	33%
Study length	(days)	--	172	147	200	287	202	±61	30%

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 21 Run times to selected GAC effluent criteria (20 minute EBCT)

Parameter	Units	Influent concen-tration	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)	3.2	2.0	53	7,590	2.0	0.029	37	13	19	33	102
			1.0	24	3,390	1.0	0.011	17	4	7	13	34
			1.6†	37	5,270	1.6	0.021	30	9	14	24	85
UV_{254}	(1/cm)	0.061	0.040	*	*							
			0.020	35	5,010	1.5	0.020	28	8	13	23	74
			0.030†	55	7,940	2.0	0.030	40	13	20	34	106
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	45	6,530	1.8	0.025	32	11	17	30	94
SDS-HAA5	(µg/L)	30	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	39	48	*	*							
			24	63	9,040	2.2	0.032	41	17	24	39	114
SDS-HAA9	(µg/L)	59	48	*	*							
			24	36	5,230	1.6	0.021	29	9	14	24	83
SDS-TOX	(µg Cl^-/L)	201	120	*	*							
			70	34	4,920	1.5	0.020	28	8	13	23	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 1, February

Parameter	Units	Influent concen-tration	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)	3.2	2.0	137	9,860	2.0	0.029	39	12	18	30	94
			1.0	58	4,210	1.0	0.011	17	4	7	13	32
			1.6†	91	6,540	1.6	0.020	30	8	13	22	62
UV_{254}	(1/cm)	0.061	0.040	*	*							
			0.020	92	6,640	1.6	0.020	30	8	13	23	64
			0.030†	149	10,730	2.1	0.030	41	13	19	33	105
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	96	6,910	1.7	0.021	32	9	14	24	68
SDS-HAA5	(µg/L)	30	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	39	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	59	48	*	*							
			24	95	6,840	1.6	0.021	32	9	14	24	67
SDS-TOX	(µg Cl^-/L)	201	120	*	*							
			70	98	7,030	1.7	0.021	33	10	15	25	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 1, February

Parameter	Units	Influent concen-tration	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)	3.7	2.0	38	5,470	2.0	0.033	62	21	30	58	144
			1.0	24	3,440	1.0	0.014	34	9	13	29	56
			1.8†	35	5,060	1.8	0.030	56	18	27	53	130
UV_{254}	(1/cm)	0.087	0.040	47	6,710	2.3	0.040	68	23	34	52	169
			0.020	27	3,920	1.3	0.020	45	12	19	39	80
			0.043†	52	7,480	2.5	0.043	73	26	37	56	180
SDS-THM4	(µg/L)	117	80	*	*							
			64	42	6,090	2.2	0.036	64	21	31	51	157
			32	23	3,370	0.9	0.013	32	8	13	27	52
SDS-HAA5	(µg/L)	63	48	*	*							
			24	48	6,920	2.4	0.041	70	24	35	53	173
SDS-HAA6	(µg/L)	76	48	*	*							
			24	33	4,710	1.7	0.028	54	16	24	49	117
SDS-HAA9	(µg/L)	107	48	32	4,640	1.7	0.027	54	15	24	48	114
			24	22	3,230	0.8	0.012	28	8	12	24	44
SDS-TOX	(µg Cl^-/L)	364	120	33	4,770	1.7	0.028	54	16	24	50	120
			70	26	3,710	1.2	0.017	40	11	16	35	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 24 Run times to selected GAC effluent criteria (10 minute EBCT) during session 2, May

Parameter	Units	Influent concen-tration	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)	3.7	2.0	94	6,770	2.0	0.031	63	19	27	43	127
			1.0	57	4,110	1.0	0.011	25	6	10	16	42
			1.8†	86	6,230	1.8	0.028	56	16	24	39	112
UV_{254}	(1/cm)	0.087	0.040	120	8,630	2.3	0.040	71	25	35	55	175
			0.020	72	5,200	1.5	0.020	43	13	19	36	80
			0.043†	132	9,530	2.5	0.043	73	26	37	55	182
SDS-THM4	(µg/L)	117	80	*	*							
			64	100	7,230	2.1	0.034	64	20	29	46	140
			32	61	4,390	1.2	0.015	32	9	14	27	56
SDS-HAA5	(µg/L)	63	48	*	*							
			24	117	8,430	2.3	0.039	70	24	34	53	170
SDS-HAA6	(µg/L)	76	48	*	*							
			24	85	6,140	1.8	0.027	55	16	24	38	110
SDS-HAA9	(µg/L)	107	48	105	7,530	2.1	0.036	65	21	31	48	149
			24	60	4,310	1.2	0.014	30	8	13	24	52
SDS-TOX	(µg Cl^-/L)	364	120	91	6,530	1.9	0.030	61	18	26	41	120
			70	68	4,860	1.4	0.018	39	11	17	33	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 (20 minute EBCT) during session 2, May

Parameter	Units	Influent concen-tration	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)	3.5	2.0	61	8,740	2.0	0.032	61	20	28	42	147
			1.0	31	4,420	1.0	0.013	28	7	11	20	53
			1.7†	49	7,010	1.7	0.026	50	15	23	39	117
UV_{254}	(1/cm)	0.078	0.040	78	11,260	2.4	0.040	67	28	37	55	177
			0.020	39	5,650	1.4	0.020	41	13	19	32	88
			0.039†	76	10,950	2.3	0.039	67	27	36	53	174
SDS-THM4	(µg/L)	105	80	*	*							
			64	66	9,510	2.1	0.035	64	22	31	46	157
			32	33	4,690	1.1	0.014	32	8	12	20	58
SDS-HAA5	(µg/L)	49	48	*	*							
			24	71	10,220	2.2	0.037	66	24	33	49	166
SDS-HAA6	(µg/L)	60	48	*	*							
			24	51	7,360	1.8	0.027	52	16	24	41	124
SDS-HAA9	(µg/L)	80	48	69	9,960	2.2	0.036	66	23	32	48	163
			24	35	4,990	1.2	0.016	35	10	15	24	68
SDS-TOX	(µg Cl^-/L)	317	120	50	7,170	1.8	0.027	51	16	23	41	120
			70	35	5,060	1.2	0.017	36	10	15	25	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 (10 minute EBCT) during session 3, August

Parameter	Units	Influent concen-tration	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)	3.5	2.0	149	10,720	2.0	0.031	68	21	30	#	151
			1.0	67	4,830	1.0	0.013	28	7	11	19	51
			1.7†	121	8,700	1.7	0.026	50	16	24	#	120
UV_{254}	(1/cm)	0.078	0.040	186	13,380	2.4	0.040	73	28	39	#	180
			0.020	91	6,520	1.4	0.020	41	13	20	32	87
			0.039†	182	13,070	2.4	0.039	73	27	38	#	178
SDS-THM4	(µg/L)	105	80	*	*							
			64	143	10,280	1.9	0.030	64	20	29	#	144
			32	73	5,230	1.1	0.015	32	9	14	23	60
SDS-HAA5	(µg/L)	49	48	*	*							
			24	163	11,740	2.2	0.035	73	24	34	#	169
SDS-HAA6	(µg/L)	60	48	*	*							
			24	120	8,660	1.7	0.026	49	16	24	#	120
SDS-HAA9	(µg/L)	80	48	*	*							
			24	74	5,330	1.2	0.015	33	10	15	24	63
SDS-TOX	(µg Cl^-/L)	317	120	120	8,660	1.7	0.026	49	16	24	#	120
			70	77	5,550	1.3	0.017	36	11	17	27	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 27 Run times to selected GAC effluent criteria (20 minute EBCT) during session 3, August

Parameter	Units	Influent concen-tration	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)	3.1	2.0	88	12,620	2.0	0.024	41	14	19	29	105
			1.0	37	5,370	1.0	0.009	18	8	10	14	37
			1.5†	59	8,460	1.5	0.017	32	9	13	21	72
UV_{254}	(1/cm)	0.051	0.040	*	*							
			0.020	72	10,370	1.8	0.020	39	11	16	25	87
			0.025†	97	14,010	2.1	0.025	38	15	21	32	110
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	59	8,530	1.5	0.017	32	9	14	21	72
SDS-HAA5	(µg/L)	27	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	34	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	48	48	*	*							
			24	67	9,620	1.7	0.019	36	11	16	24	81
SDS-TOX	(µg Cl^-/L)	205	120	*	*							
			70	57	8,270	1.5	0.016	31	9	13	20	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 (10 minute EBCT) during session 4, January

Parameter	Units	Influent concen-tration	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)	3.1	2.0	216	15,530	2.0	0.024	35	12	18	30	101
			1.0	90	6,470	1.0	0.009	16	5	8	12	37
			1.5†	140	10,050	1.5	0.017	26	10	15	24	70
UV_{254}	(1/cm)	0.051	0.040	*	*							
			0.020	173	12,420	1.7	0.020	30	10	15	26	84
			0.025†	228	16,420	2.1	0.025	38	13	19	31	108
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	193	13,900	1.9	0.022	32	11	17	28	92
SDS-HAA5	(µg/L)	27	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	34	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	48	48	*	*							
			24	144	10,400	1.6	0.017	27	10	15	24	73
SDS-TOX	(µg Cl^-/L)	205	120	249	17,900	2.3	0.028	43	14	21	33	120
			70	139	9,990	1.5	0.016	26	10	15	24	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 (20 minute EBCT) during session 4, January

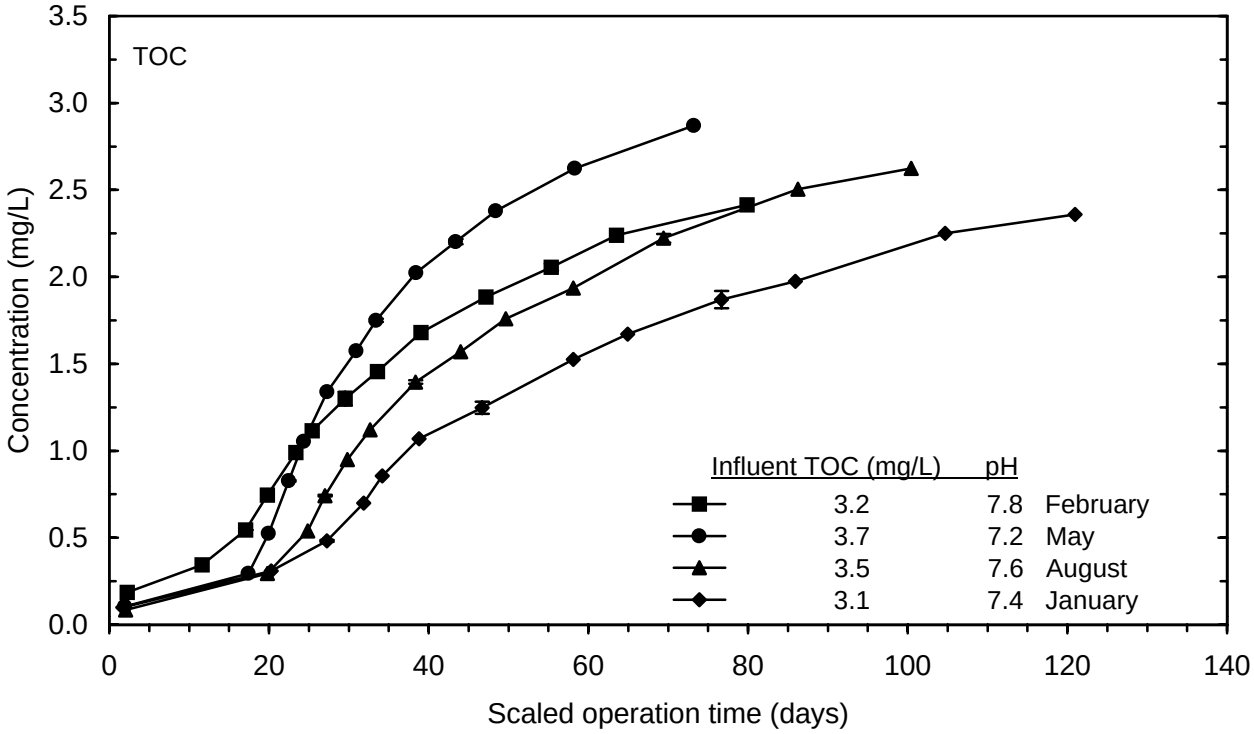

Figure 6 TOC breakthrough for 10 minute EBCT contactors for each session

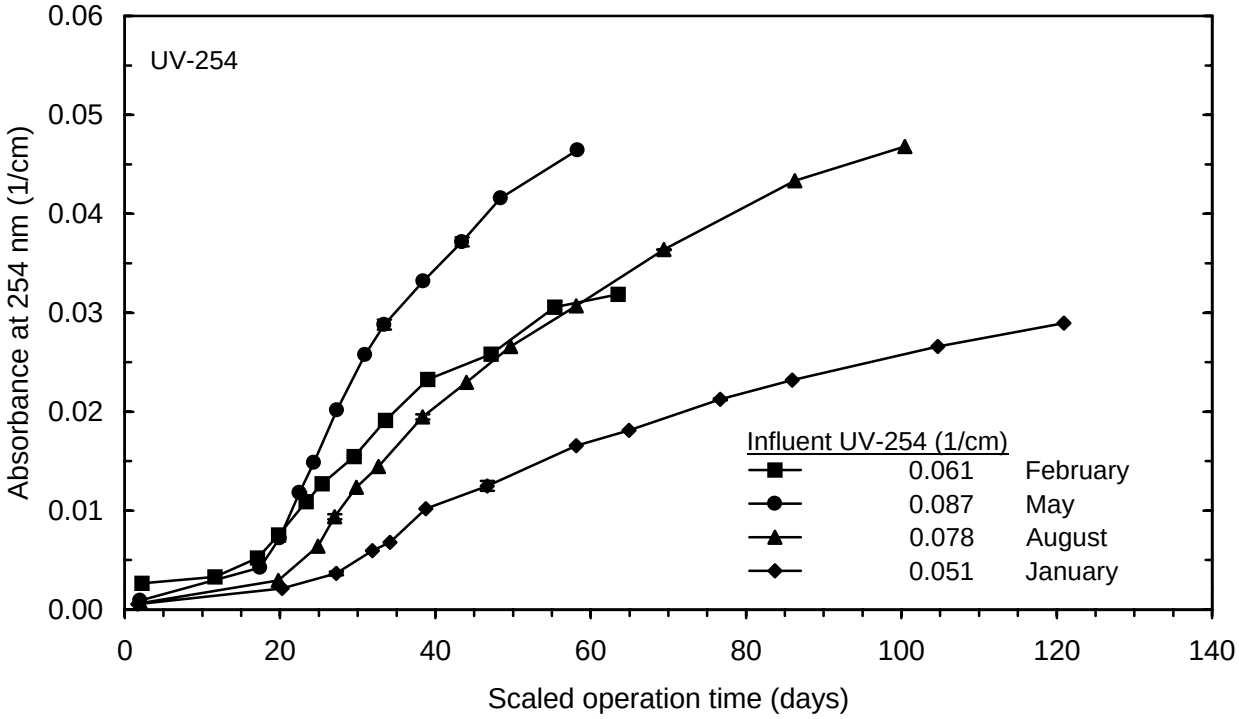

Figure 7 UV-254 breakthrough for 10 minute EBCT contactors for each session

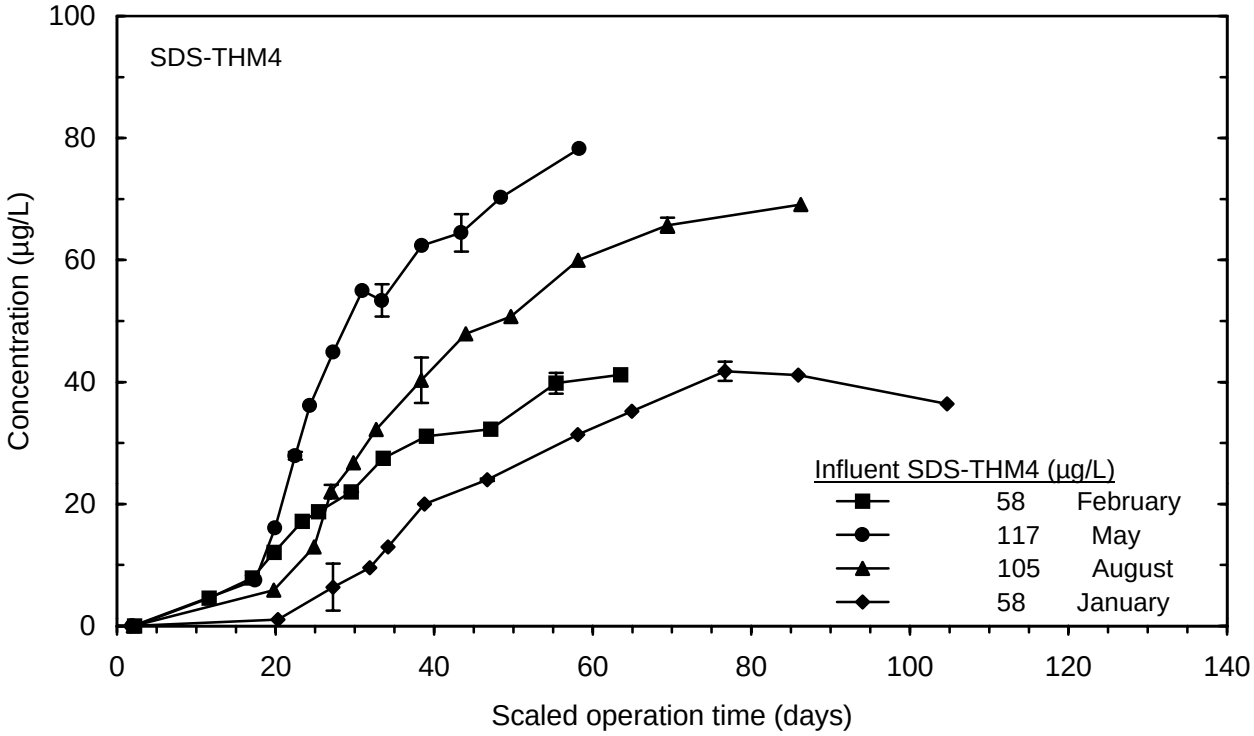

Figure 8 SDS-THM4 breakthrough for 10 minute EBCT contactors for each session

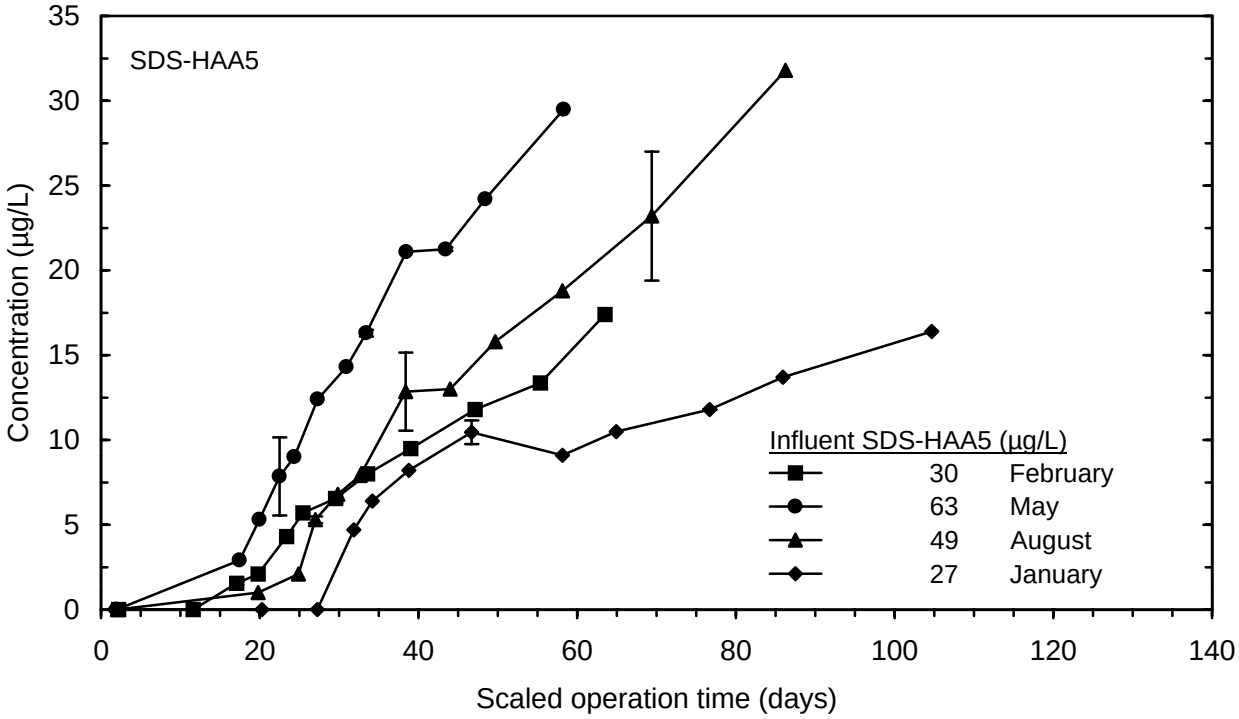

Figure 9 SDS-HAA5 breakthrough for 10 minute EBCT contactors for each session

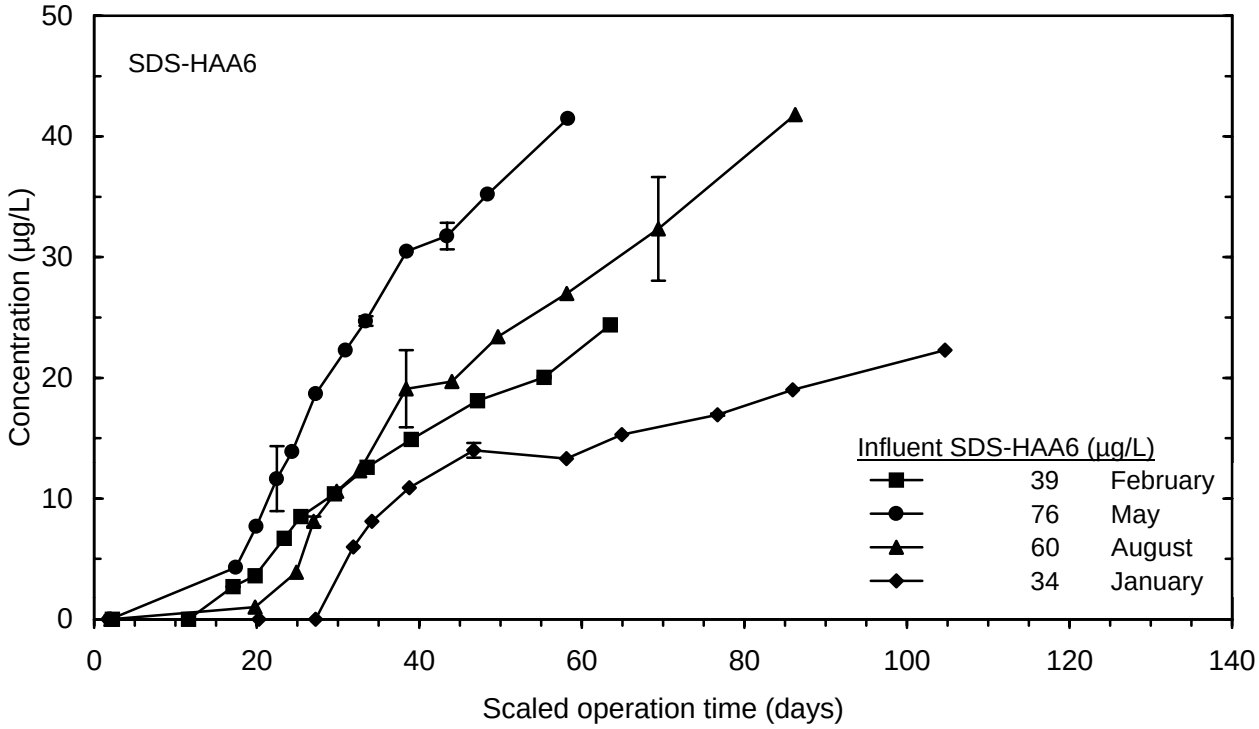

Figure 10 SDS-HAA6 breakthrough for 10 minute EBCT contactors for each session

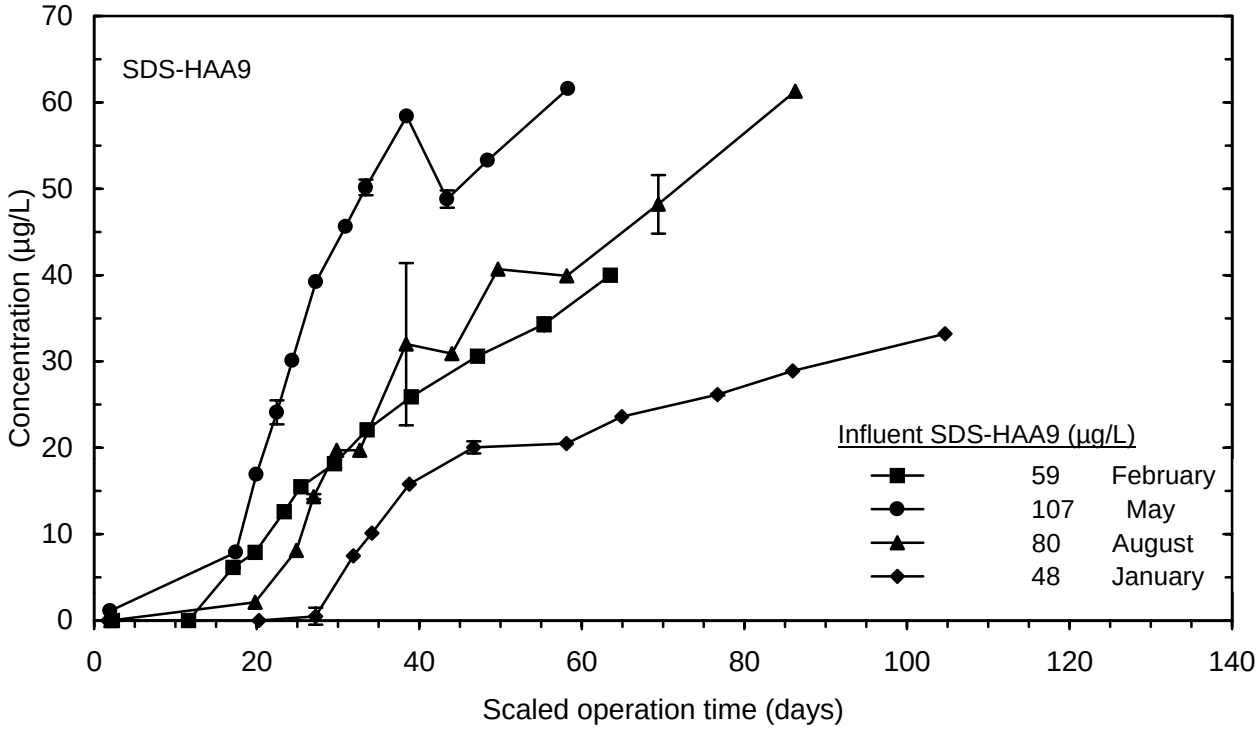

Figure 11 SDS-HAA9 breakthrough for 10 minute EBCT contactors for each session

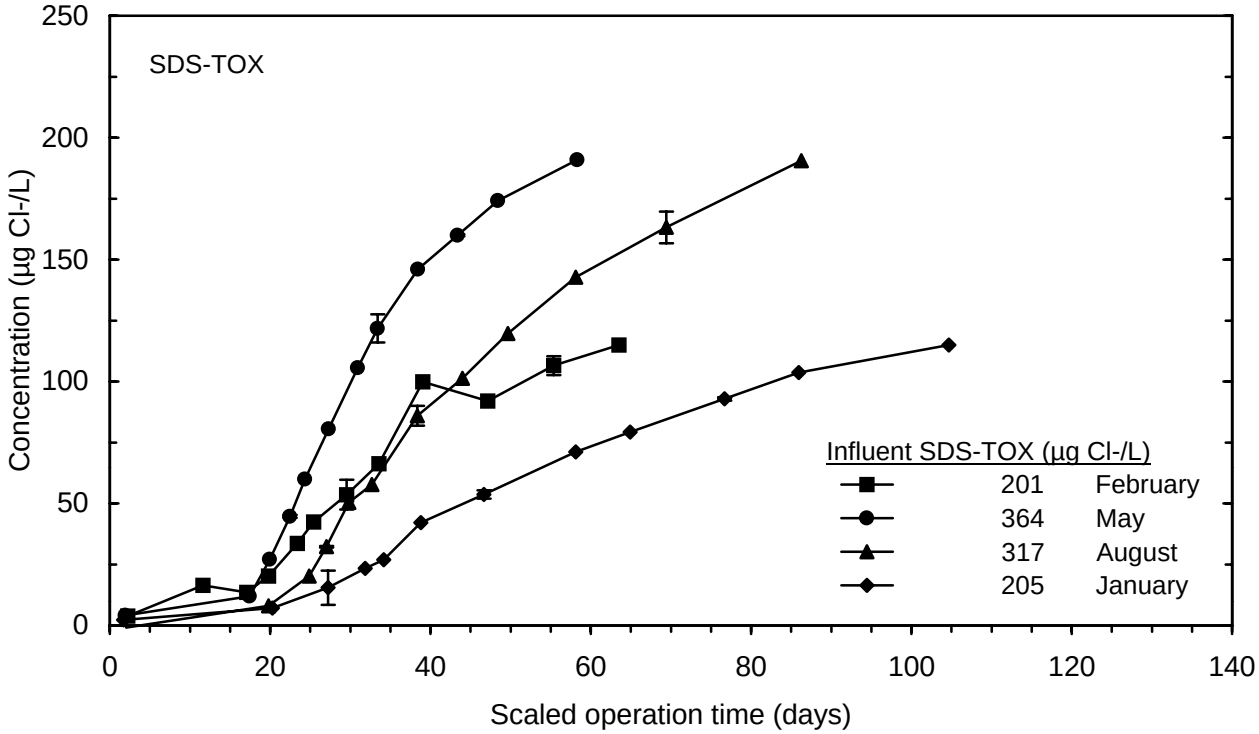

Figure 12 SDS-TOX breakthrough for 10 minute EBCT contactors for each session

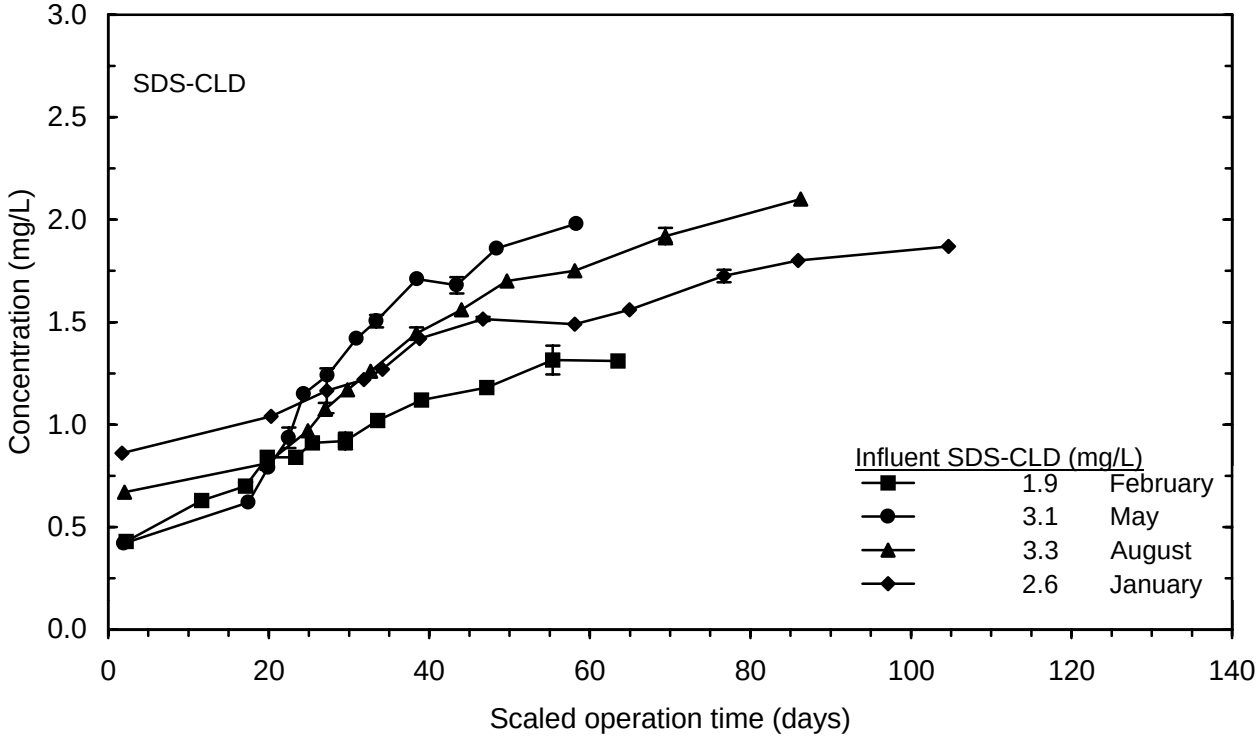

Figure 13 SDS-CLD breakthrough for 10 minute EBCT contactors for each session

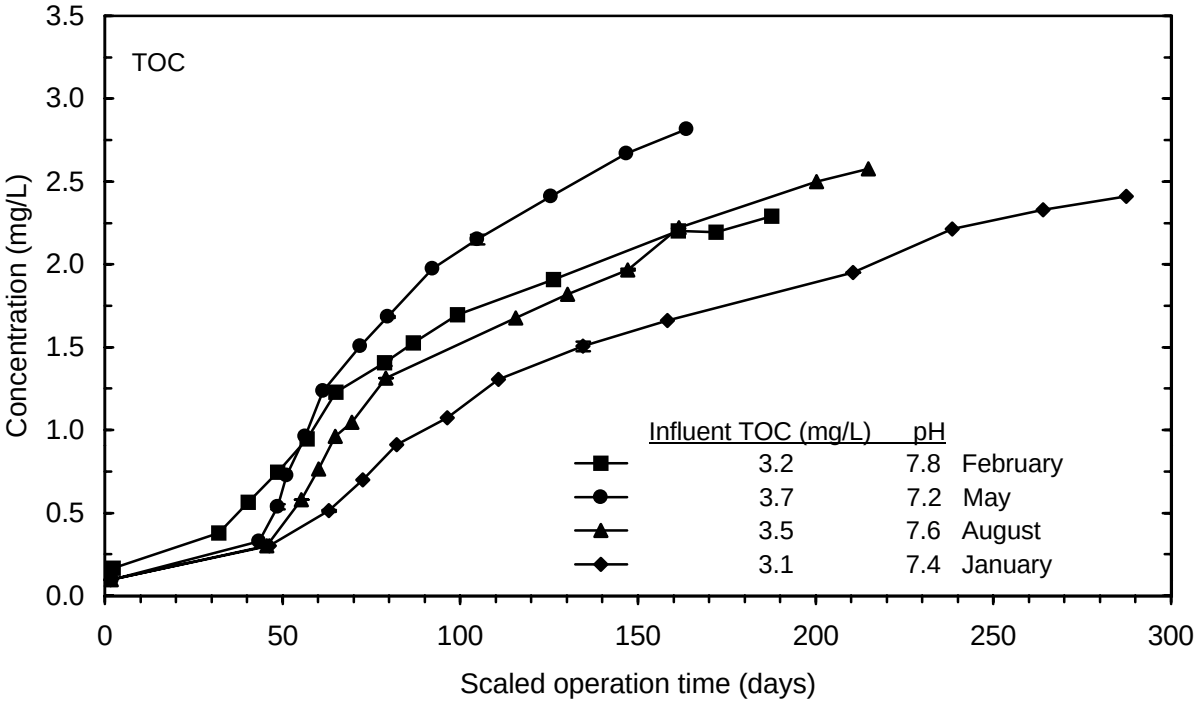

Figure 14 TOC breakthrough for 20 minute EBCT contactors for each session

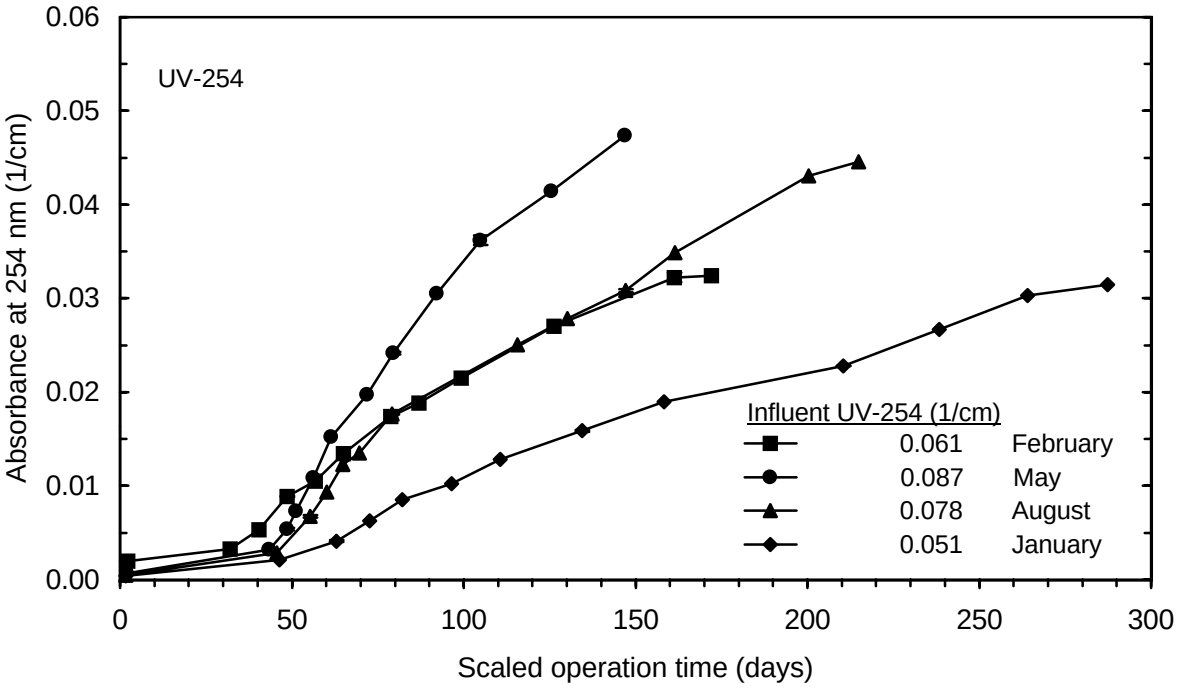

Figure 15 UV-254 breakthrough for 20 minute EBCT contactors for each session

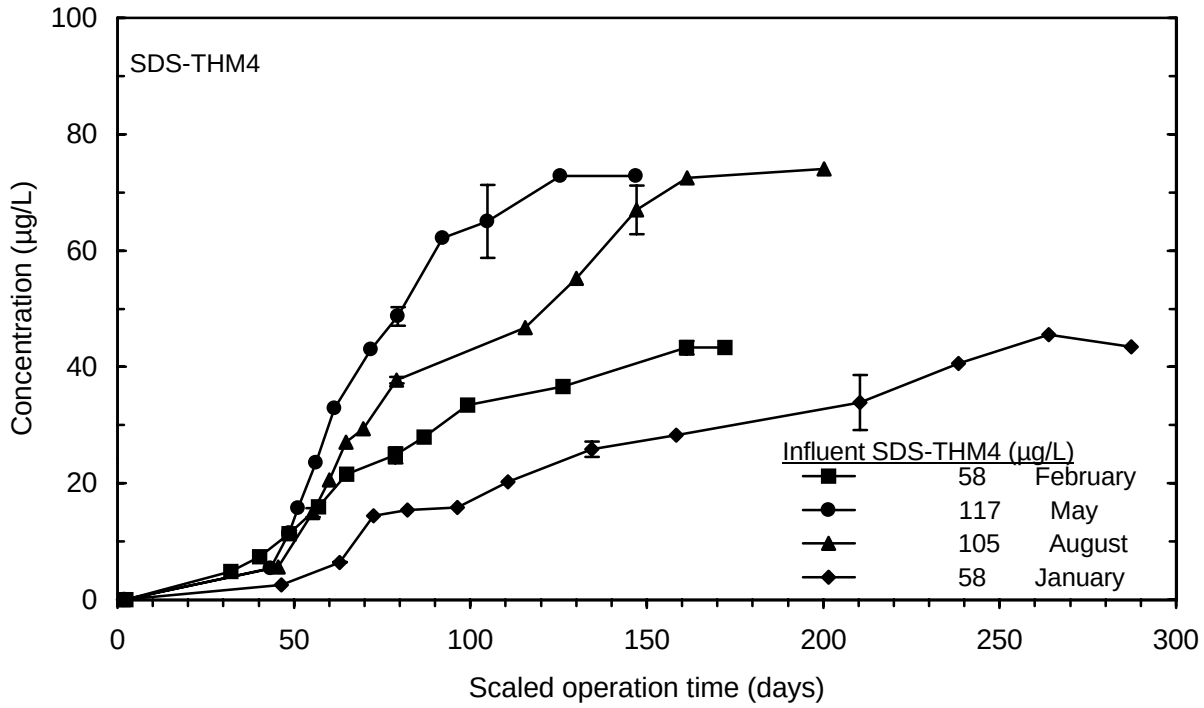

Figure 16 SDS-THM4 breakthrough for 20 minute EBCT contactors for each session

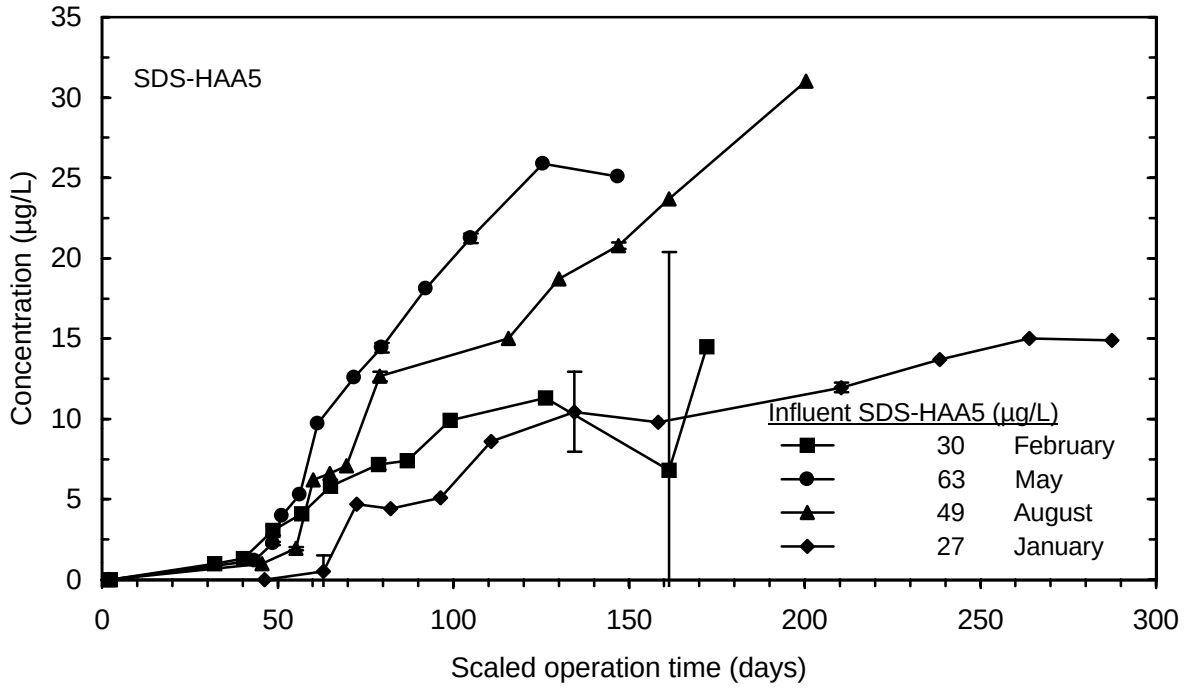

Figure 17 SDS-HAA5 breakthrough for 20 minute EBCT contactors for each session

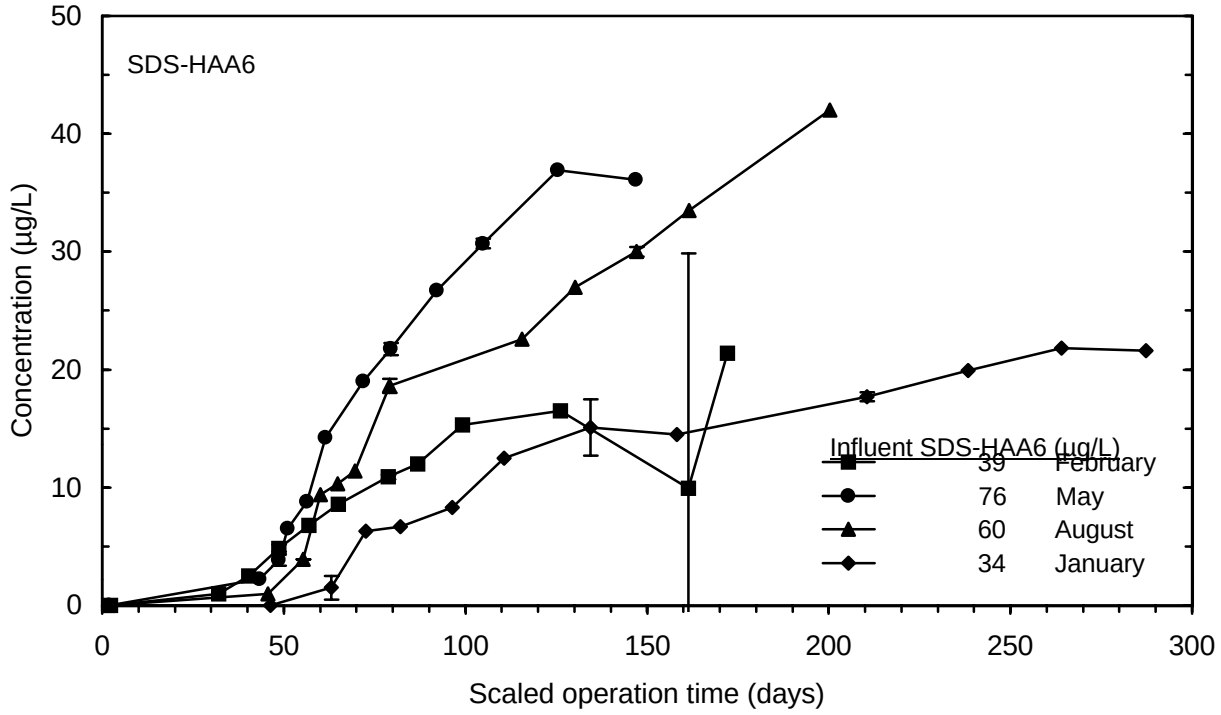

Figure 18 SDS-HAA6 breakthrough for 20 minute EBCT contactors for each session

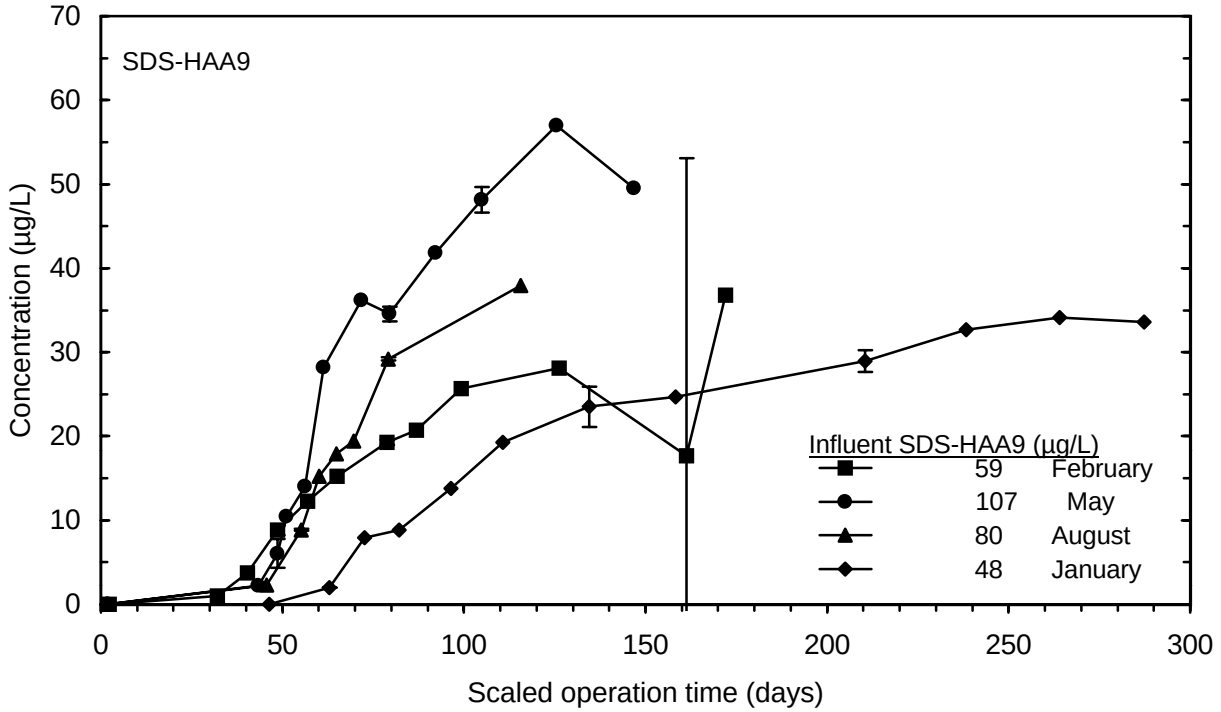

Figure 19 SDS-HAA9 breakthrough for 20 minute EBCT contactors for each session

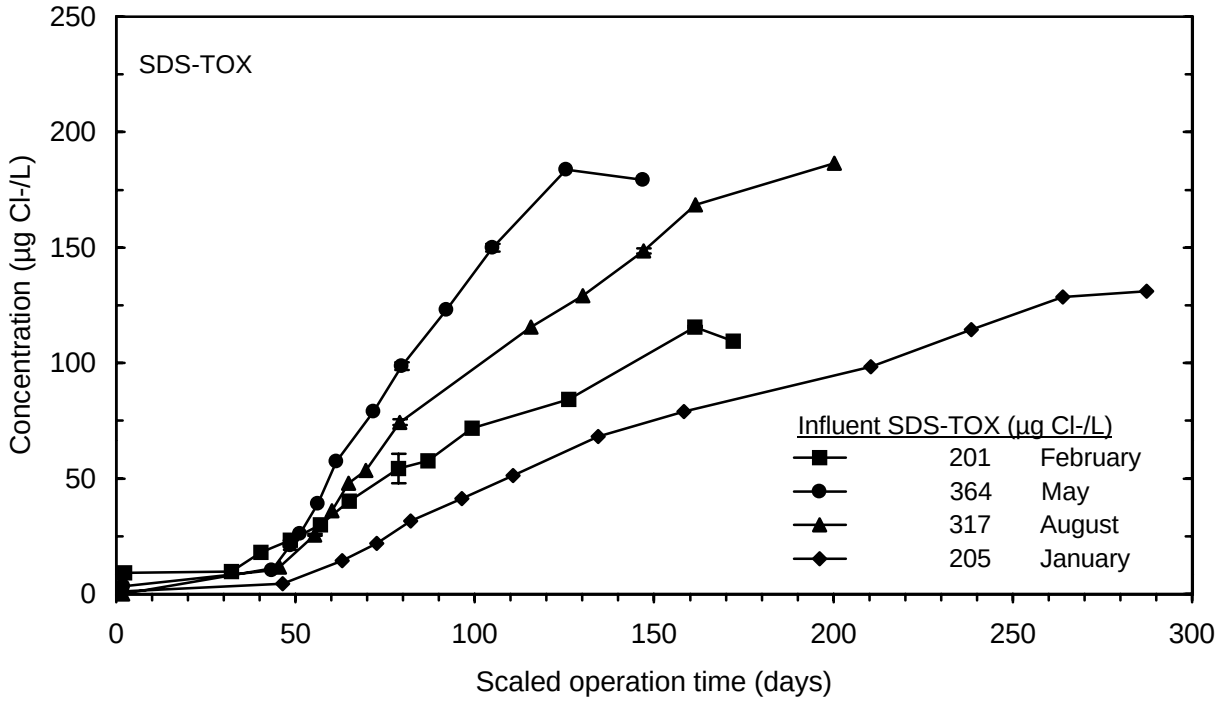

Figure 20 SDS-TOX breakthrough for 20 minute EBCT contactors for each session

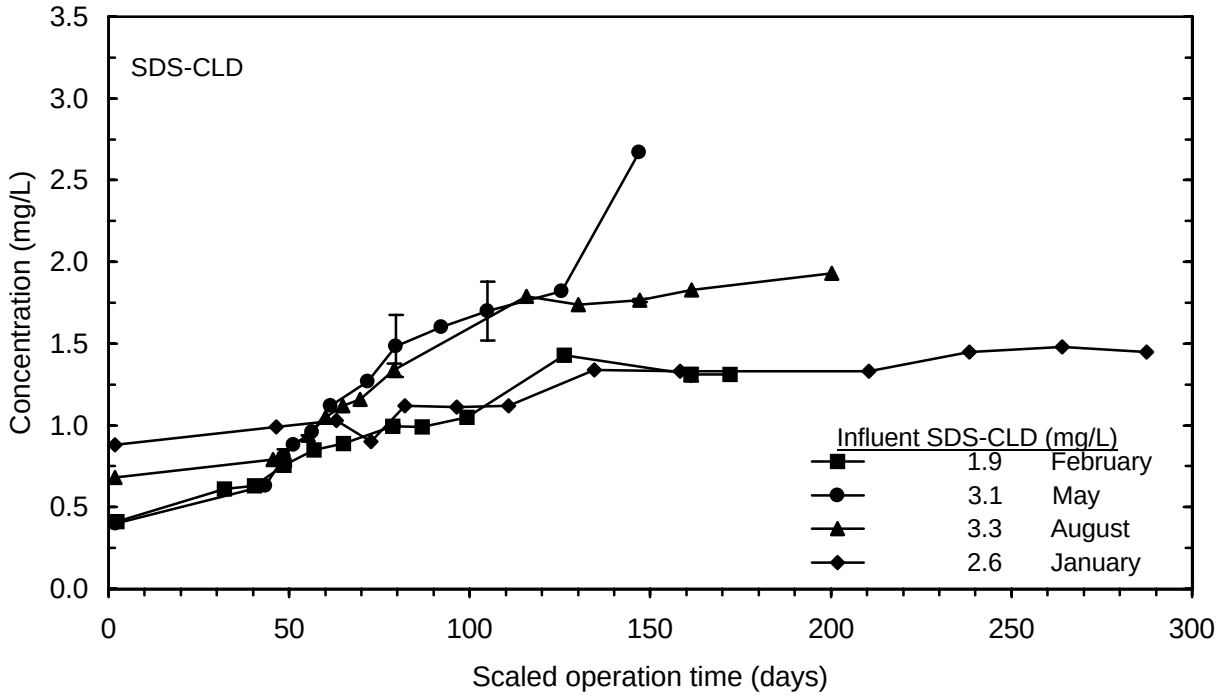

Figure 21 SDS-CLD breakthrough for 20 minute EBCT contactors for each session

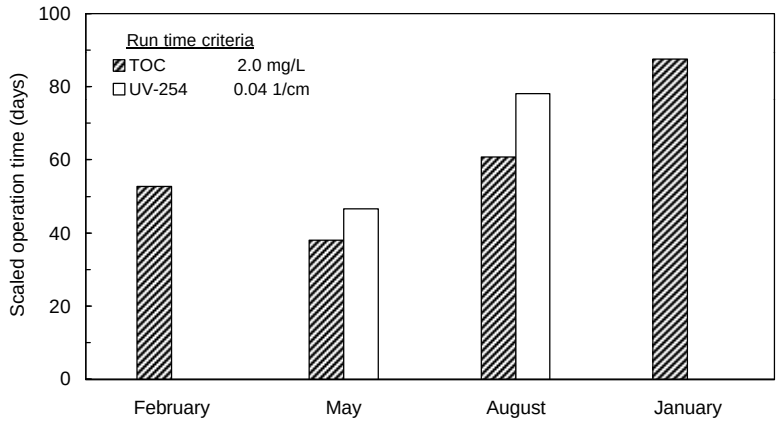

Figure 22 GAC run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (high) for each session (10 minute EBCT)

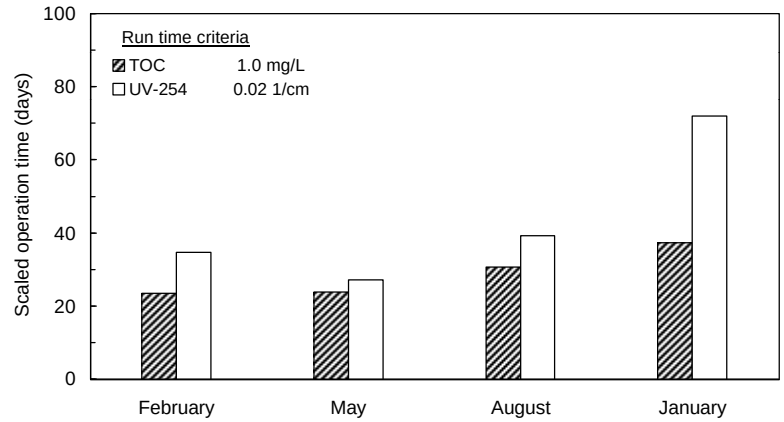

Figure 23 GAC run times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (low) for each session (10 minute EBCT)

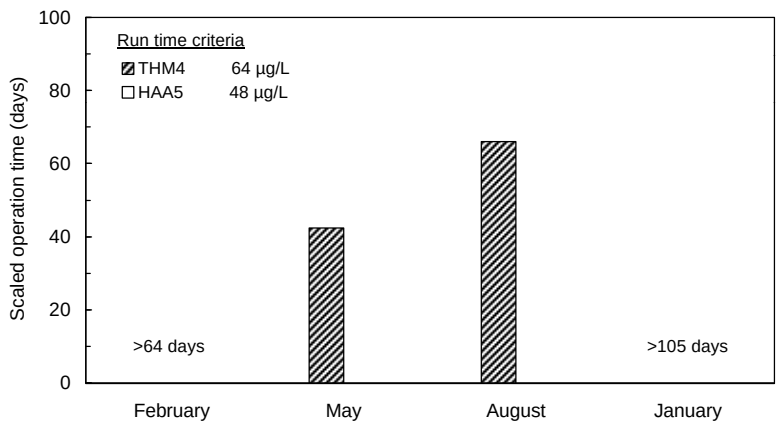

Figure 24 GAC run times based on single contactor breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria for each session (10 minute EBCT)

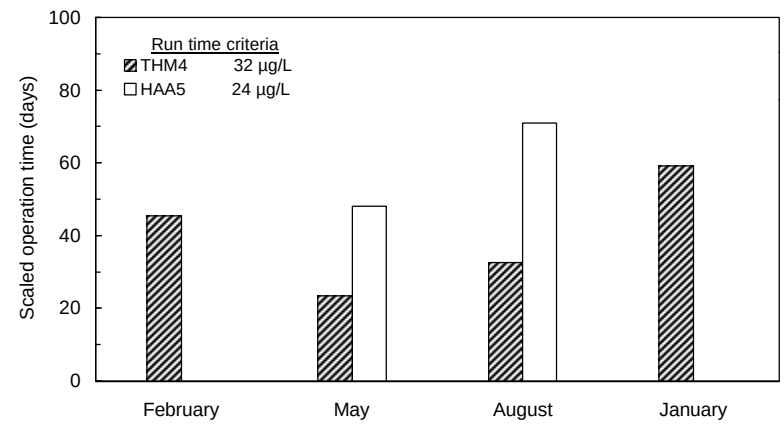

Figure 25 GAC run times based on single contactor breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria for each session (10 minute EBCT)

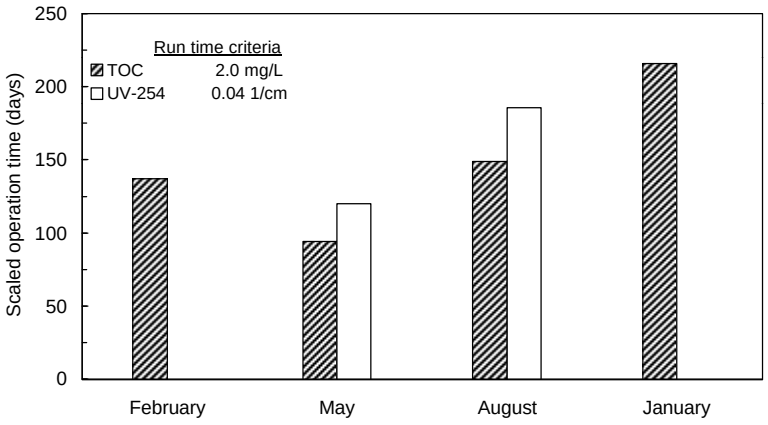

Figure 26 GAC run times based on single breakthrough curves for TOC and UV-254 effluent criteria for each session (20 minute EBCT)

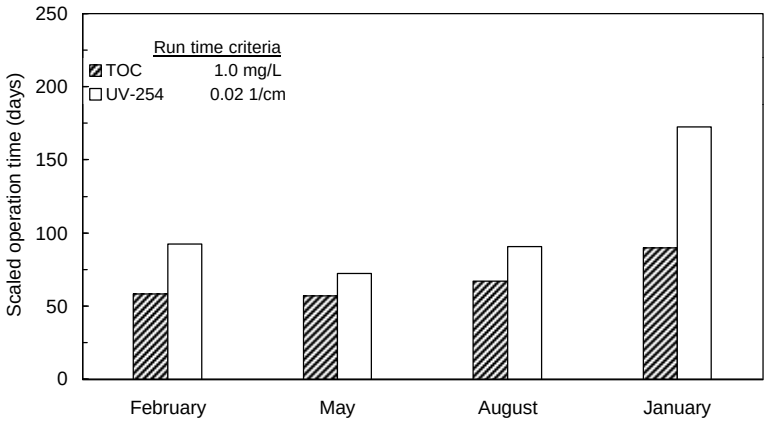

Figure 27 GAC run times based on single breakthrough curves for TOC and UV-254 effluent criteria for each session (20 minute EBCT)

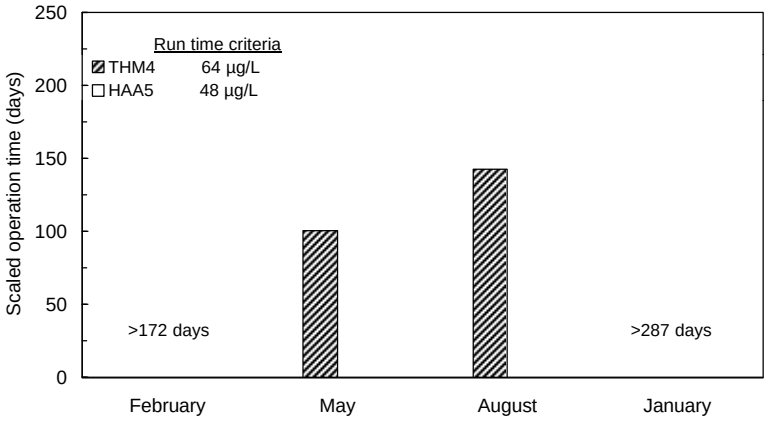

Figure 28 GAC run times based on single breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria for each session (20 minute EBCT)

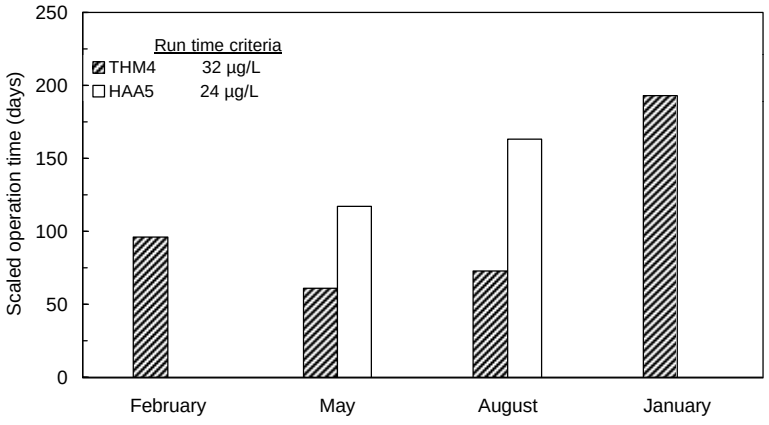

Figure 29 GAC run times based on single breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria for each session (20 minute EBCT)

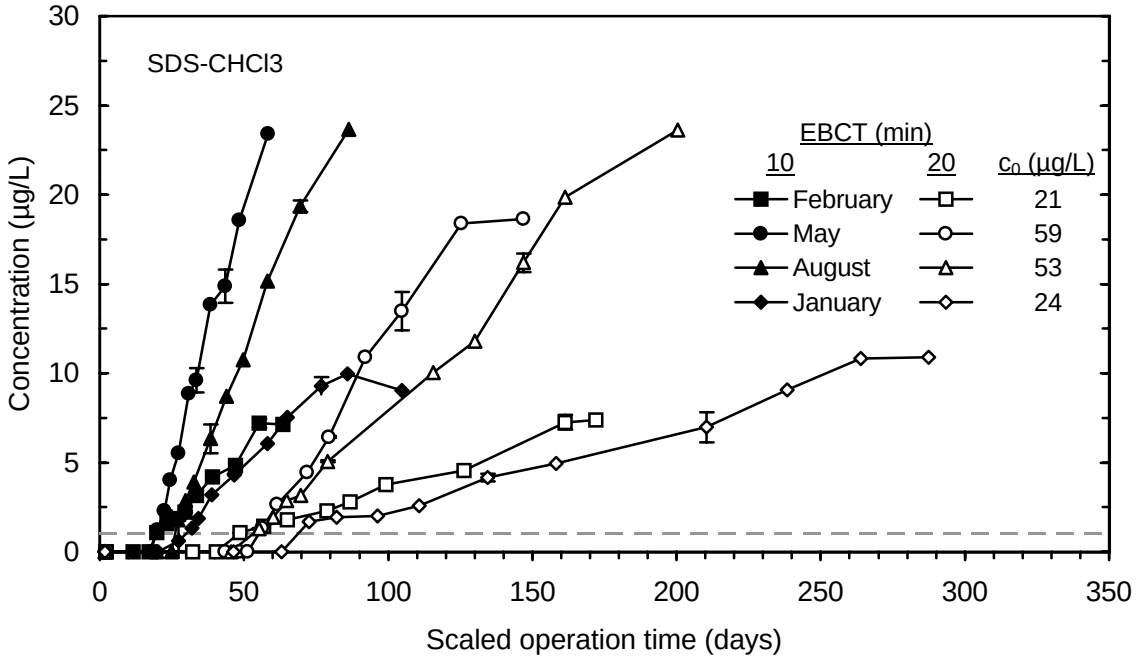

Figure 30 SDS-CHCl3 breakthrough for 10 and 20 minute EBCT contactors for each session

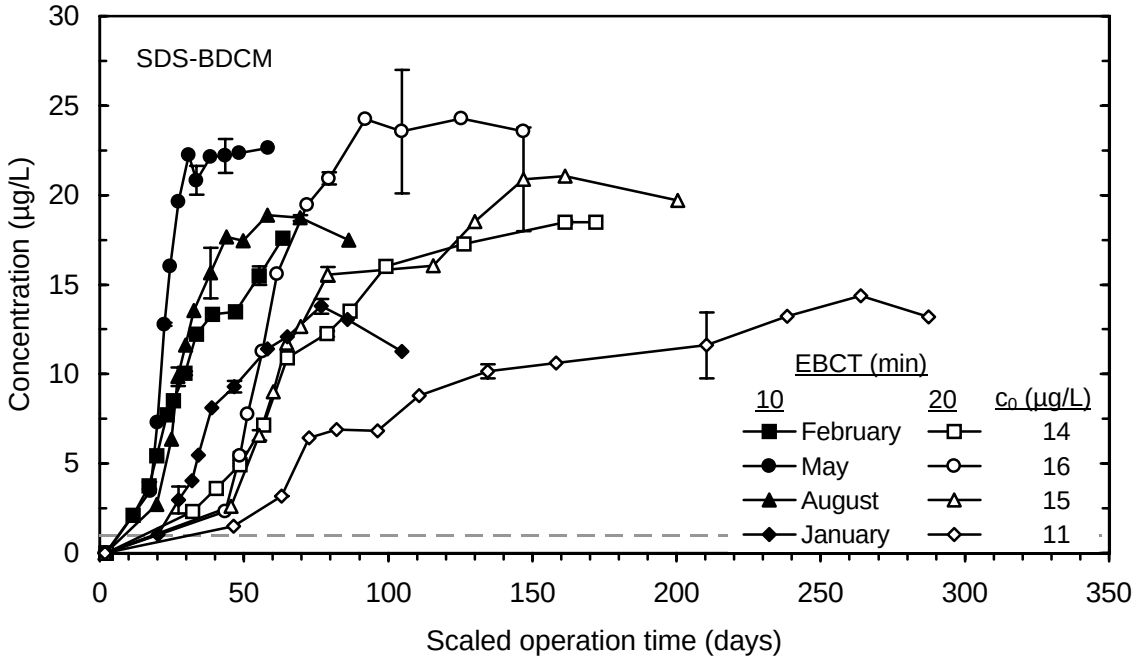

Figure 31 SDS-BDCM breakthrough for 10 and 20 minute EBCT contactors for each session

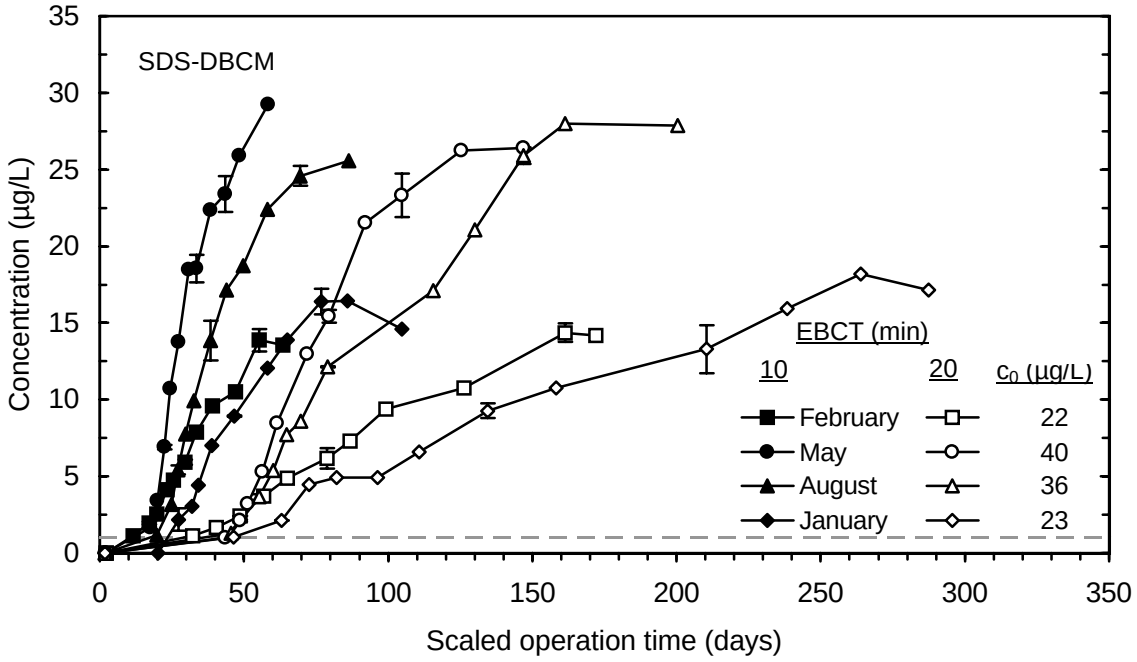

Figure 32 SDS-DBCM breakthrough for 10 and 20 minute EBCT contactors for each session

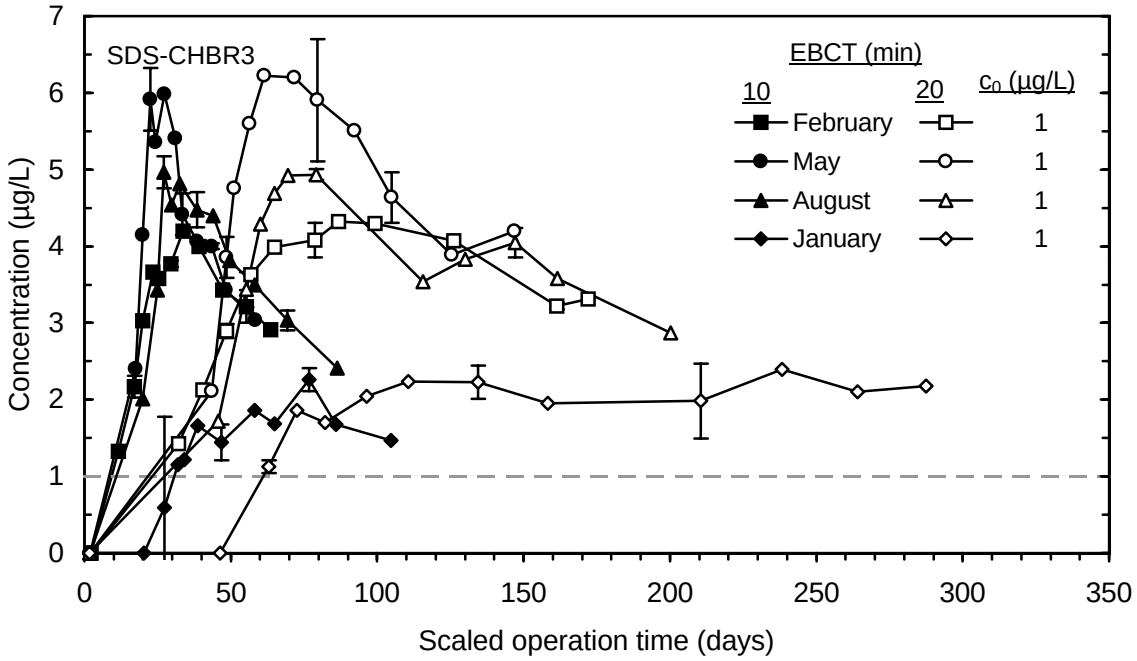

Figure 33 SDS-CHBR3 breakthrough for 10 and 20 minute EBCT contactors for each session

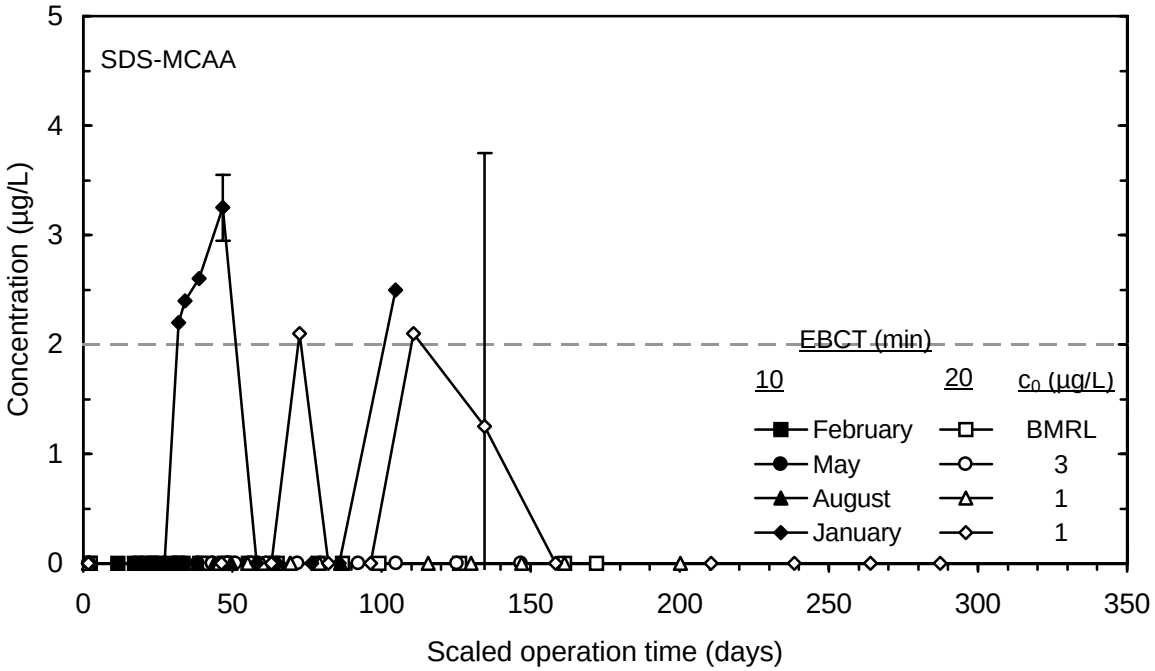

Figure 34 SDS-MCAA breakthrough for 10 and 20 minute EBCT contactors for each session

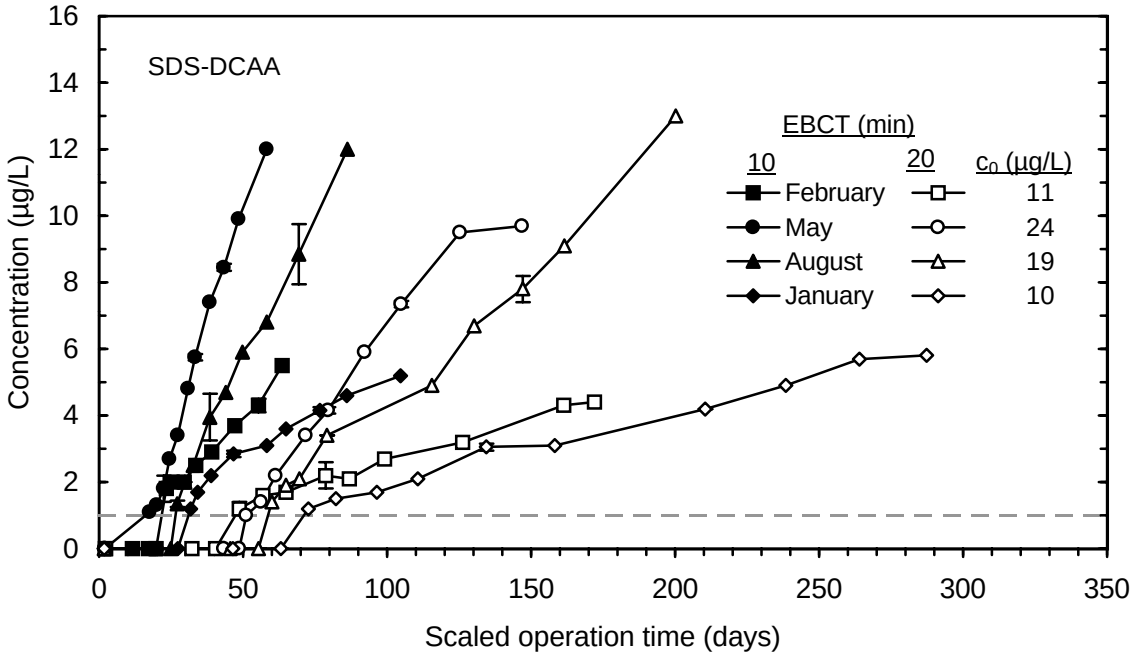

Figure 35 SDS-DCAA breakthrough for 10 and 20 minute EBCT contactors for each session

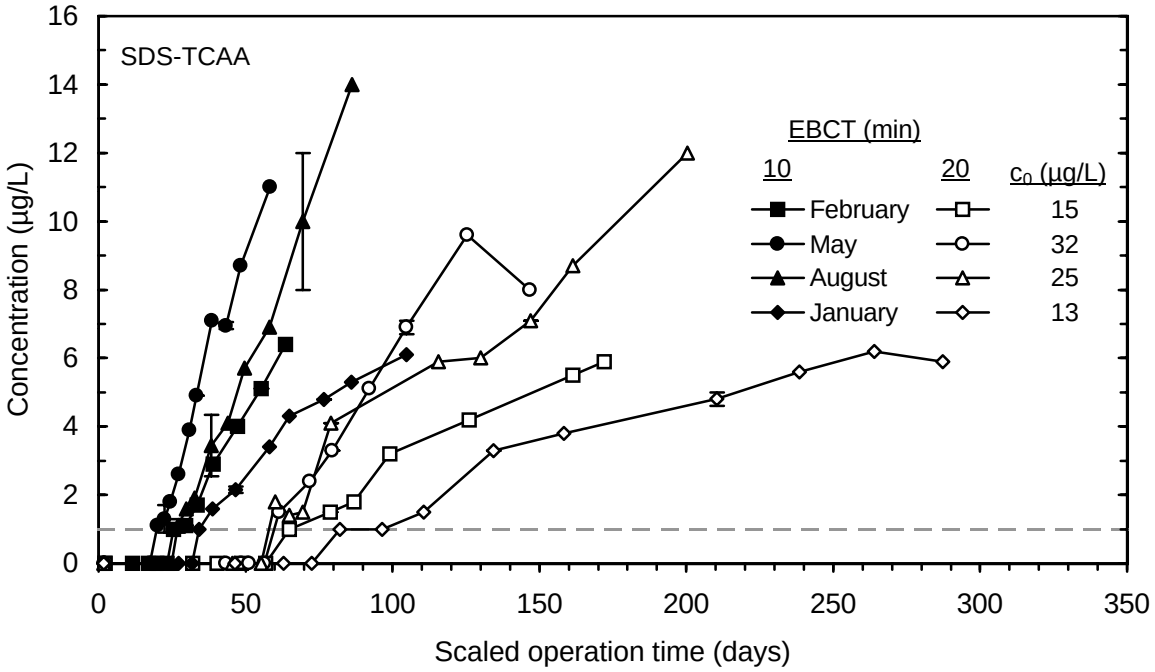

Figure 36 SDS-TCAA breakthrough for 10 and 20 minute EBCT contactors for each session

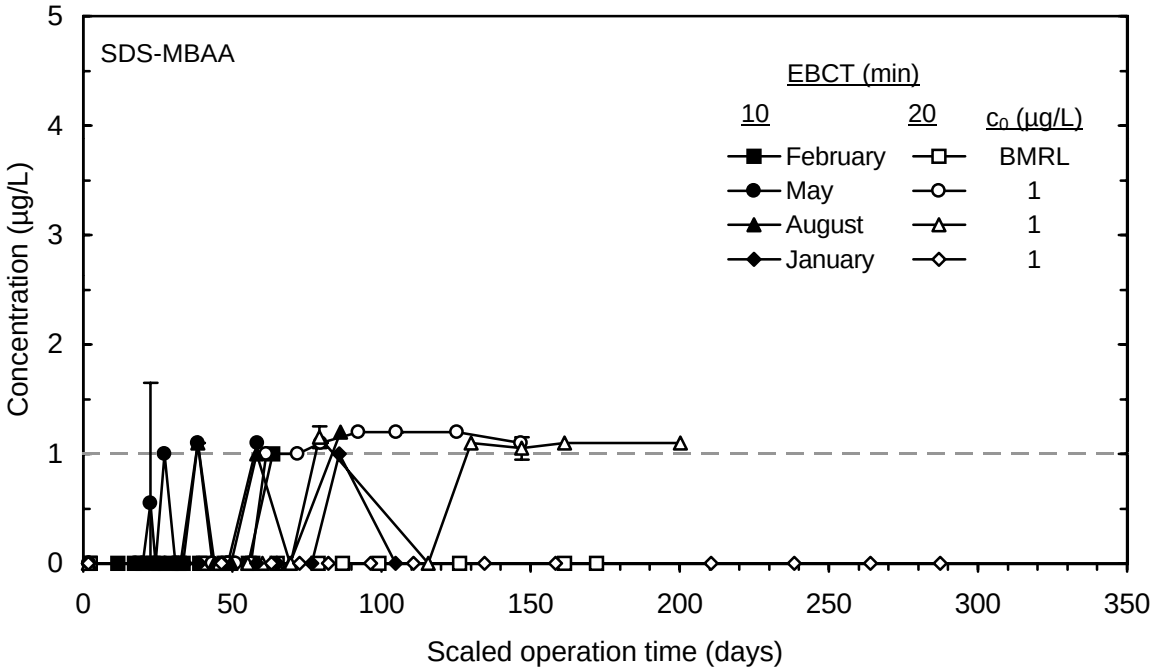

Figure 37 SDS-MBAA breakthrough for 10 and 20 minute EBCT contactors for each session

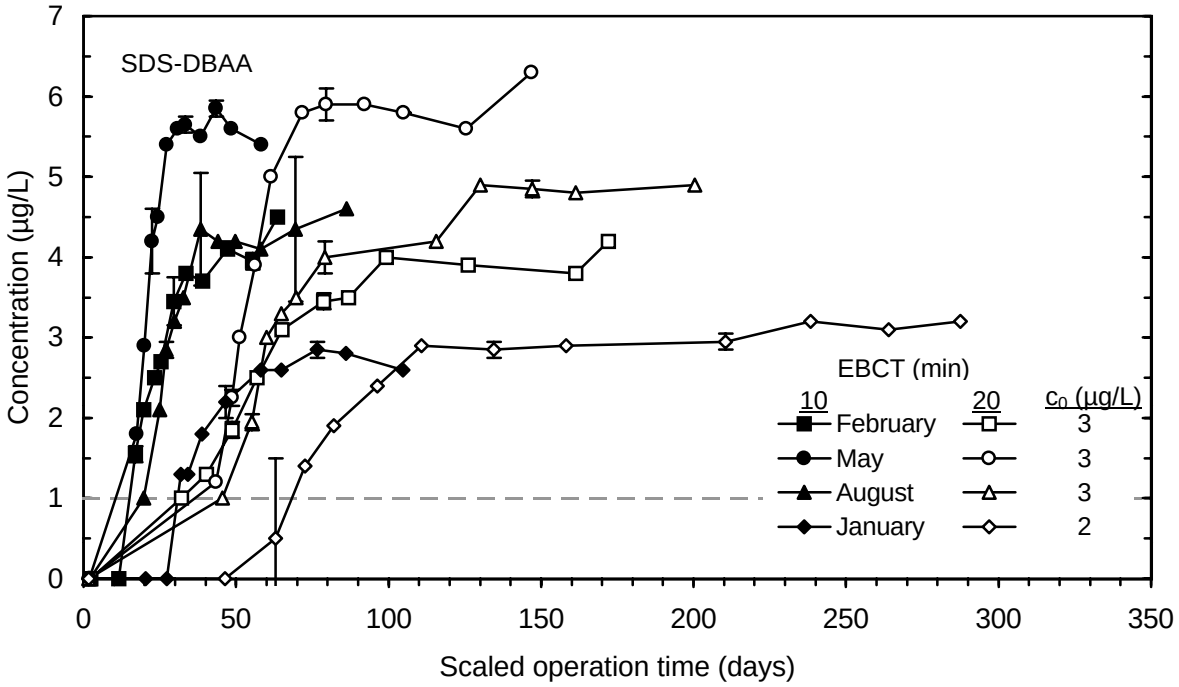

Figure 38 SDS-DBAA breakthrough for 10 and 20 minute EBCT contactors for each session

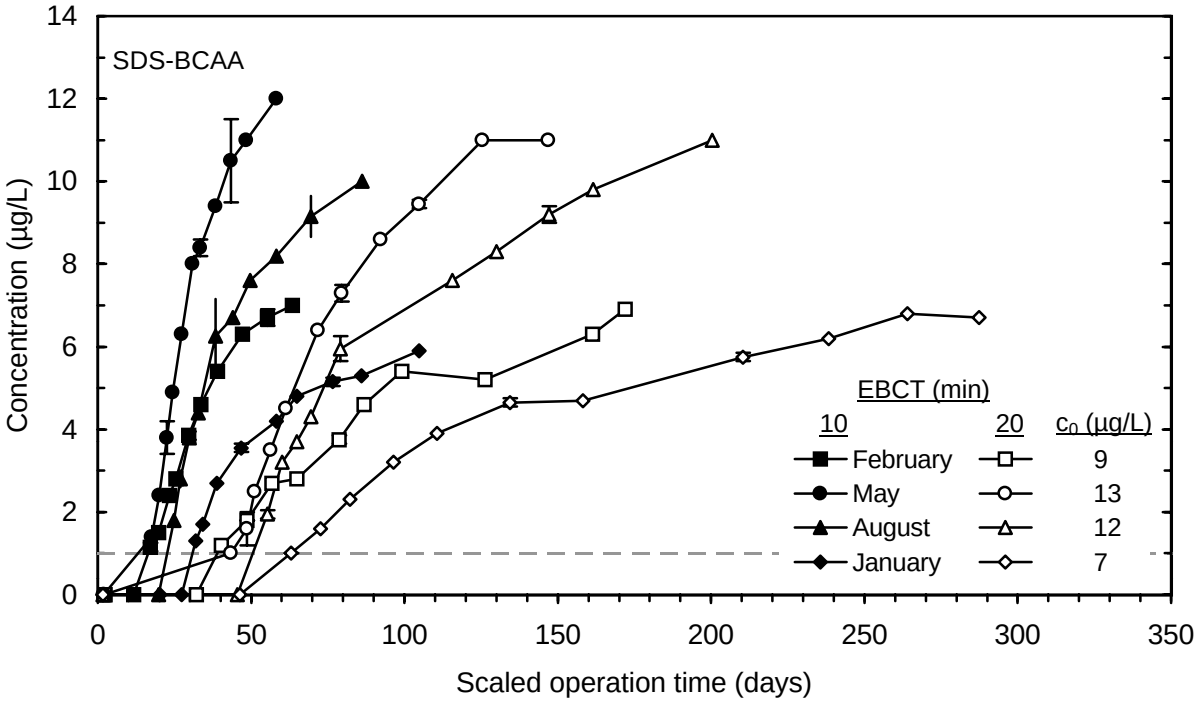

Figure 39 SDS-BCAA breakthrough for 10 and 20 minute EBCT contactors for each session

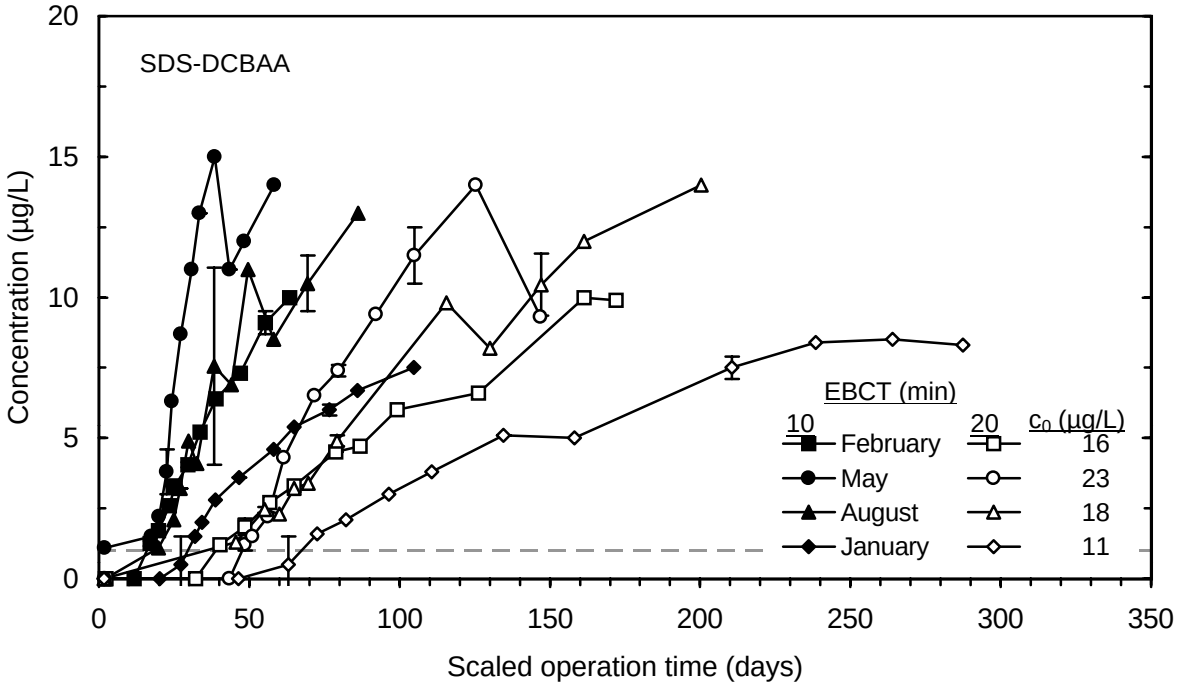

Figure 40 SDS-DCBAA breakthrough for 10 and 20 minute EBCT contactors for each session

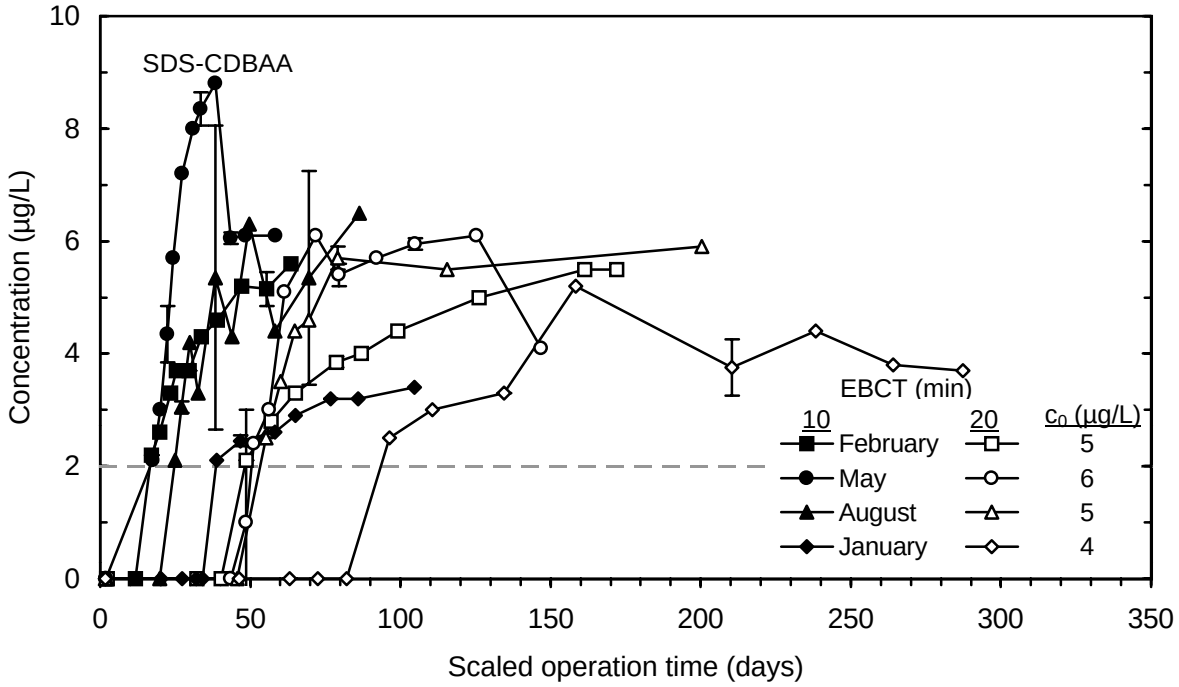

Figure 41 SDS-CDBAA breakthrough for 10 and 20 minute EBCT contactors for each session

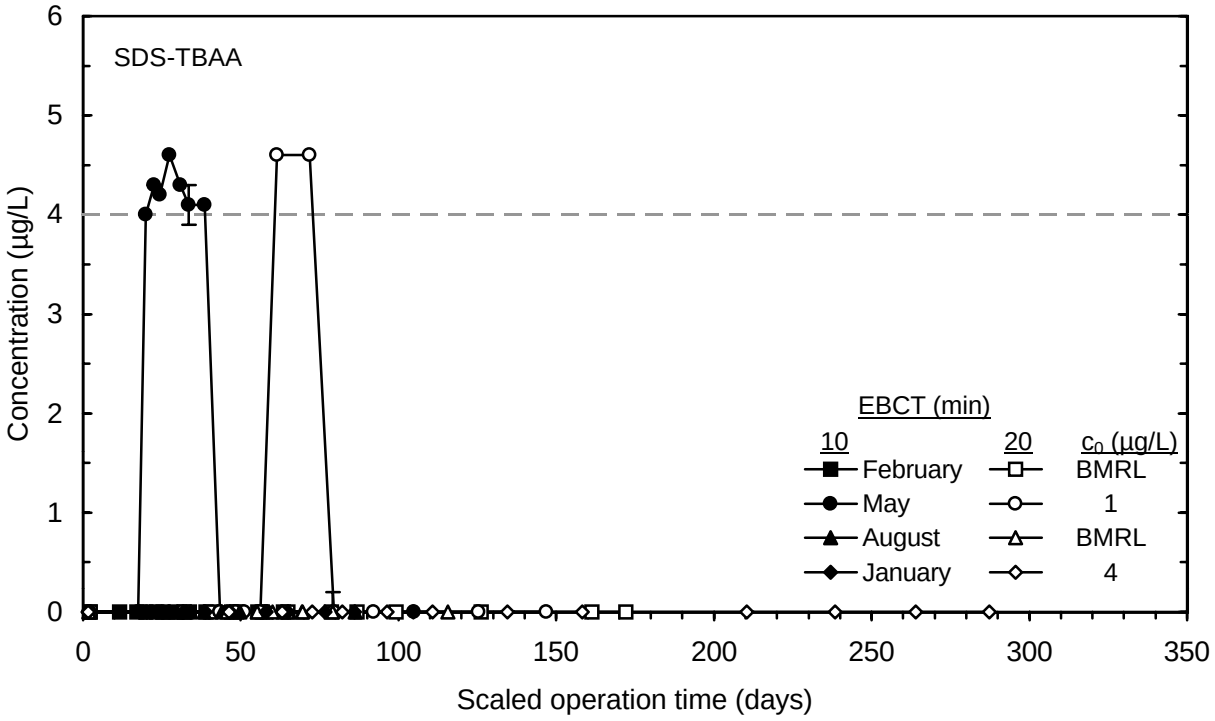

Figure 42 SDS-TBAA breakthrough for 10 and 20 minute EBCT contactors for each session

9 *Impact of Empty-Bed Contact Time (EBCT)*

9 Impact of Empty-Bed Contact Time (EBCT)

During all RSSCT sessions, as required by the ICR, two EBCTs were evaluated: 10 and 20 minutes. The breakthrough data generated were then used to evaluate the impact of EBCT on DBP precursor removal by GAC. To do so, the GAC breakthrough curves for each EBCT are plotted on a throughput basis, with units of bed volumes. This transformation normalizes for the difference in amount of EBCT between the two columns to be compared. The following equation is used to convert from run time to throughput in bed volumes:

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

For the February session, Figures 43 through 50 compare the 10 and 20 minute EBCT contactor performance for the breakthrough of TOC, UV_{254}, SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, SDS-TOX, and SDS-CLD. The same data are presented for the May, August, and January sessions in Figures 51 through 74. In general, all sessions showed that the 20 minute EBCT contactor outperformed the 10 minute EBCT contactor on a throughput basis, as seen by a shift to the right in the breakthrough curve. For example, throughput to placeholder for Stage 2 THM4 MCL was 6, 30, 12, and 63 percent longer during the February, May, August, and January sessions, respectively, for the 20 minute EBCT contactor over the 10 minute EBCT contactor.

For all parameters analyzed, the throughput in bed volumes for both EBCTs to various run time criteria are summarized in Tables 30 through 33. These tables also include throughput based on blended effluent of multiple contactors, as explained in Section 10 below.

The throughput comparison data are summarized in graphical format in Figures 75 through 78 for the February session. On a throughput basis and for all run time criteria, the 20 minute EBCT contactor outperformed the 10 minute EBCT contactor. The same data are presented for the May, August, and January sessions in Figures 79 through 90. Also shown in the figures is the throughput based on blended effluent of multiple contactors, which is explained below in Section 10.

Parameter	Units	Influent concen-tration	Value	Throughput (BV) at given EBCT (min)				Throughput change from 10 to 20 min EBCT (%)	
				10		20			
				Contactor configuration				Single contactor	Multiple contactors
				Single	Multiple	Single	Multiple		
TOC	(mg/L)	3.2	2.0	7,590	19,160	9,860	25,230	30	32
			1.0	3,390	6,850	4,210	8,440	24	23
			1.6†	5,270	12,000	6,540	15,350	24	28
UV-254	(1/cm)	0.061	0.040	*	*	*	*		
			0.020	5,010	10,670	6,640	14,020	33	31
			0.030†	7,940	17,570	10,730	23,340	35	33
SDS-THM4	(µg/L)	58	80	*	*	*	*		
			64	*	*	*	*		
			32	6,530	14,350	6,910	17,110	6	19
SDS-HAA5	(µg/L)	30	48	*	*	*	*		
			24	*	*	*	*		
SDS-HAA6	(µg/L)	39	48	*	*	*	*		
			24	9,040	*	*	*		
SDS-HAA9	(µg/L)	59	48	*	*	*	*		
			24	5,230	11,070	6,840	17,840	31	61
SDS-TOX	(µg Cl^-/L)	201	120	*	*	*	*		
			70	4,920	10,410	7,030	14,930	43	43

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 30 Summary of throughput to selected GAC effluent criteria during session 1, February

Parameter	Units	Influent concen-tration	Value	Throughput (BV) at given EBCT (min)				Throughput change from 10 to 20 min EBCT (%)	
				10		20			
				Contactor configuration					
				Single	Multiple	Single	Multiple	Single contactor	Multiple contactors
TOC	(mg/L)	3.7	2.0	5,470	13,250	6,770	16,340	24	23
			1.0	3,440	6,460	4,110	7,820	19	21
			1.8†	5,060	11,640	6,230	14,370	23	23
UV-254	(1/cm)	0.087	0.040	6,710	14,410	8,630	18,390	29	28
			0.020	3,920	7,690	5,200	9,960	33	30
			0.043†	7,480	16,260	9,530	20,690	27	27
SDS-THM4	(µg/L)	117	80	*	*	*	*		
			64	6,090	14,380	7,230	18,930	19	32
			32	3,370	6,620	4,390	8,730	30	32
SDS-HAA5	(µg/L)	63	48	*	*	*	*		
			24	6,920	13,350	8,430	17,730	22	33
SDS-HAA6	(µg/L)	76	48	*	*	*	*		
			24	4,710	9,620	6,140	12,880	30	34
SDS-HAA9	(µg/L)	107	48	4,640	11,650	7,530	17,400	62	49
			24	3,230	6,010	4,310	8,940	33	49
SDS-TOX	(µg Cl^-/L)	364	120	4,770	10,060	6,530	13,330	37	33
			70	3,710	6,780	4,860	8,980	31	32

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 31 Summary of throughput to selected GAC effluent criteria during session 2, May

Parameter	Units	Influent concen-tration	Value	Throughput (BV) at given EBCT (min)				Throughput change from 10 to 20 min EBCT (%)	
				10		20			
				Contactor configuration				Single contactor	Multiple contactors
				Single	Multiple	Single	Multiple		
TOC	(mg/L)	3.5	2.0	8,740	20,690	10,720	24,530	23	19
			1.0	4,420	8,790	4,830	10,120	9	15
			1.7†	7,010	15,990	8,700	19,130	24	20
UV-254	(1/cm)	0.078	0.040	11,260	25,090	13,380	29,540	19	18
			0.020	5,650	11,490	6,520	13,950	15	21
			0.039†	10,950	24,210	13,070	28,530	19	18
SDS-THM4	(µg/L)	105	80	*	*	*	*		
			64	9,510	25,440	10,280	27,120	8	7
			32	4,690	9,700	5,230	11,030	12	14
SDS-HAA5	(µg/L)	49	48	*	*	*	*		
			24	10,220	21,280	11,740	24,960	15	17
SDS-HAA6	(µg/L)	60	48	*	*	*	*		
			24	7,360	14,950	8,660	17,250	18	15
SDS-HAA9	(µg/L)	80	48	9,960	23,270	*	*		
			24	4,990	9,990	5,330	10,830	7	8
SDS-TOX	(µg Cl^-/L)	317	120	7,170	15,130	8,660	17,890	21	18
			70	5,060	9,640	5,550	11,250	10	17

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 32 Summary of throughput to selected GAC effluent criteria during session 3, August

Parameter	Units	Influent concen-tration	Value	Throughput (BV) at given EBCT (min)				Throughput change from 10 to 20 min EBCT (%)	
				10		20			
				Contactor configuration				Single contactor	Multiple contactors
				Single	Multiple	Single	Multiple		
TOC	(mg/L)	3.1	2.0	12,620	32,750	15,530	38,720	23	18
			1.0	5,370	11,420	6,470	13,310	20	17
			1.5†	8,460	19,170	10,050	22,880	19	19
UV-254	(1/cm)	0.051	0.040	*	*	*	*		
			0.020	10,370	22,240	12,420	25,940	20	17
			0.025†	14,010	30,340	16,420	34,910	17	15
SDS-THM4	(µg/L)	58	80	*	*	*	*		
			64	*	*	*	*		
			32	8,530	22,180	13,900	29,460	63	33
SDS-HAA5	(µg/L)	27	48	*	*	*	*		
			24	*	*	*	*		
SDS-HAA6	(µg/L)	34	48	*	*	*	*		
			24	*	*	*	*		
SDS-HAA9	(µg/L)	48	48	*	*	*	*		
			24	9,620	21,880	10,400	25,800	8	18
SDS-TOX	(µg Cl^-/L)	205	120	*	37,430	17,900	44,820		20
			70	8,270	17,410	9,990	21,680	21	25

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, calculated values are left blank.

Table 33 Summary of throughput to selected GAC effluent criteria during session 4, January

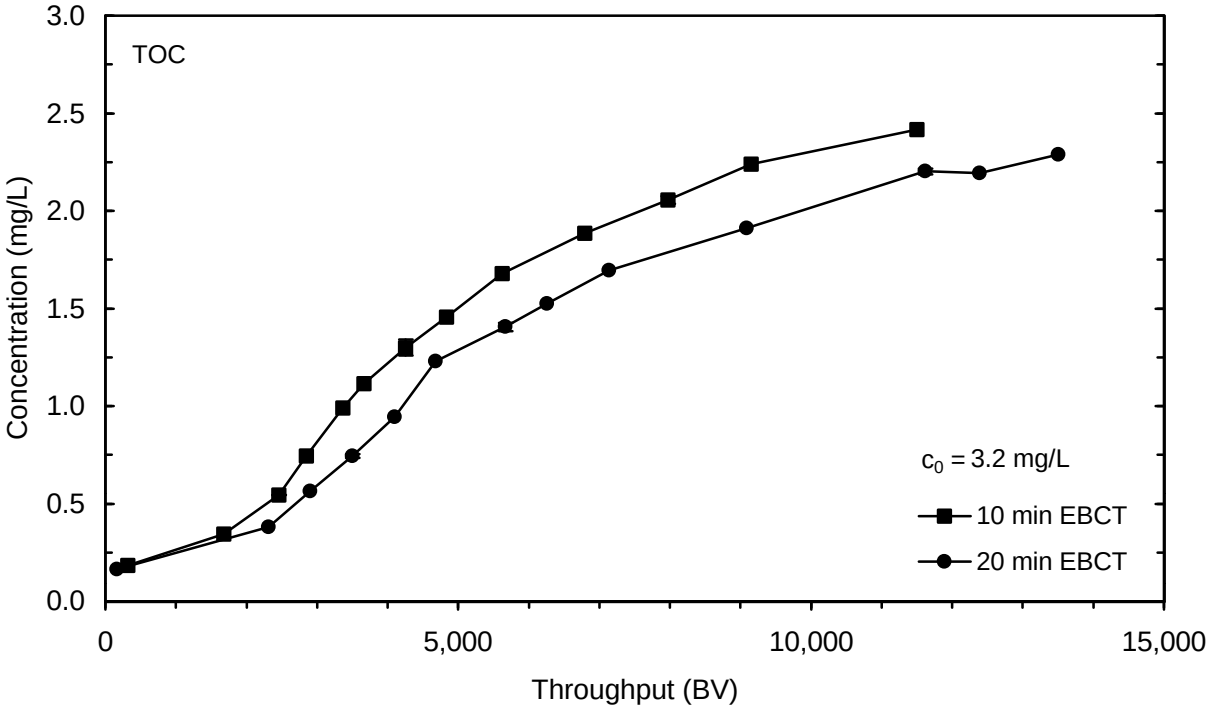

Figure 43 TOC breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

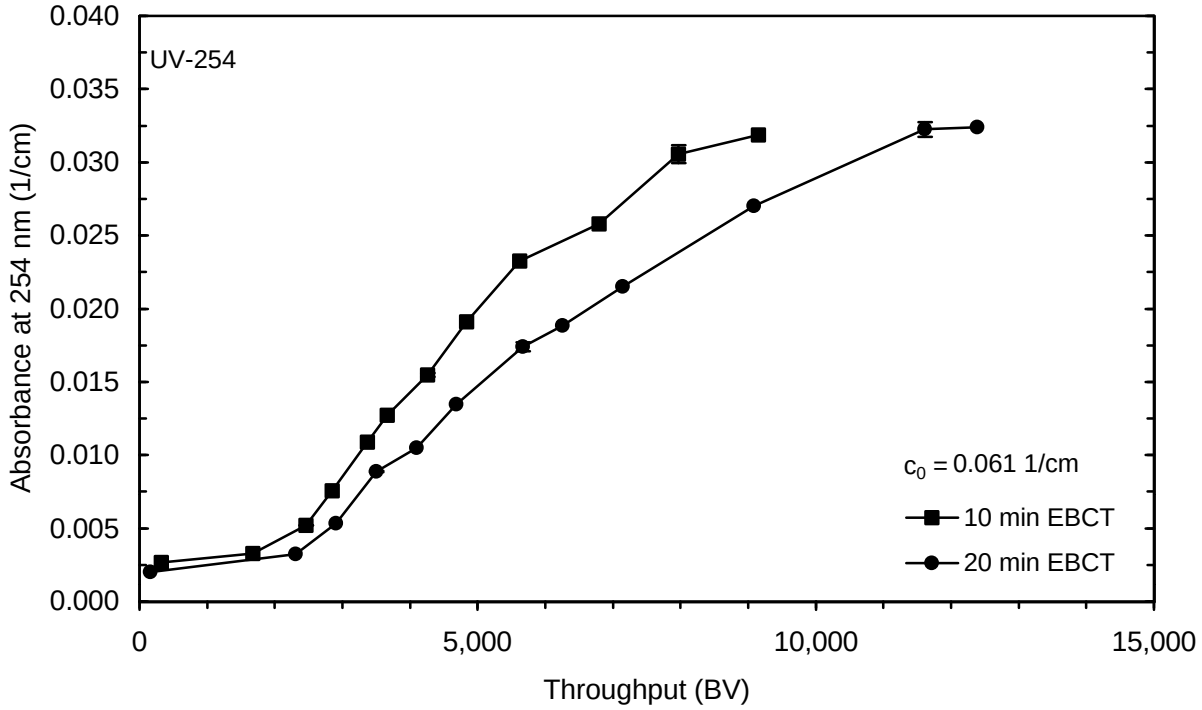

Figure 44 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

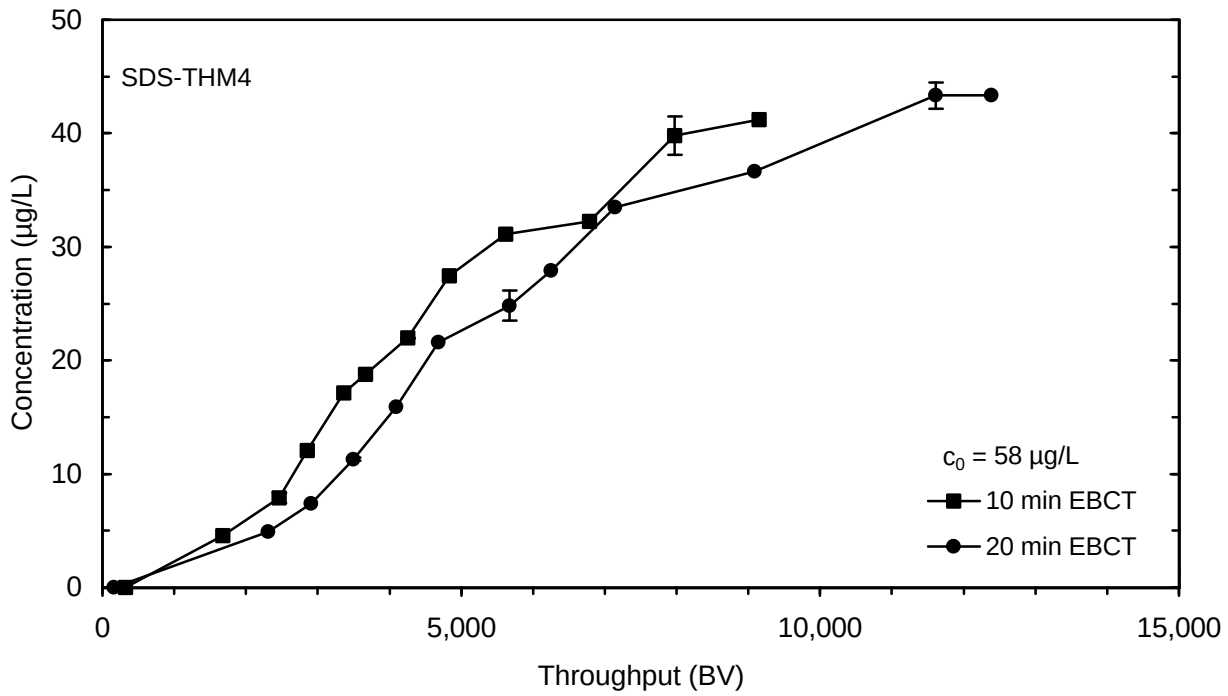

Figure 45 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

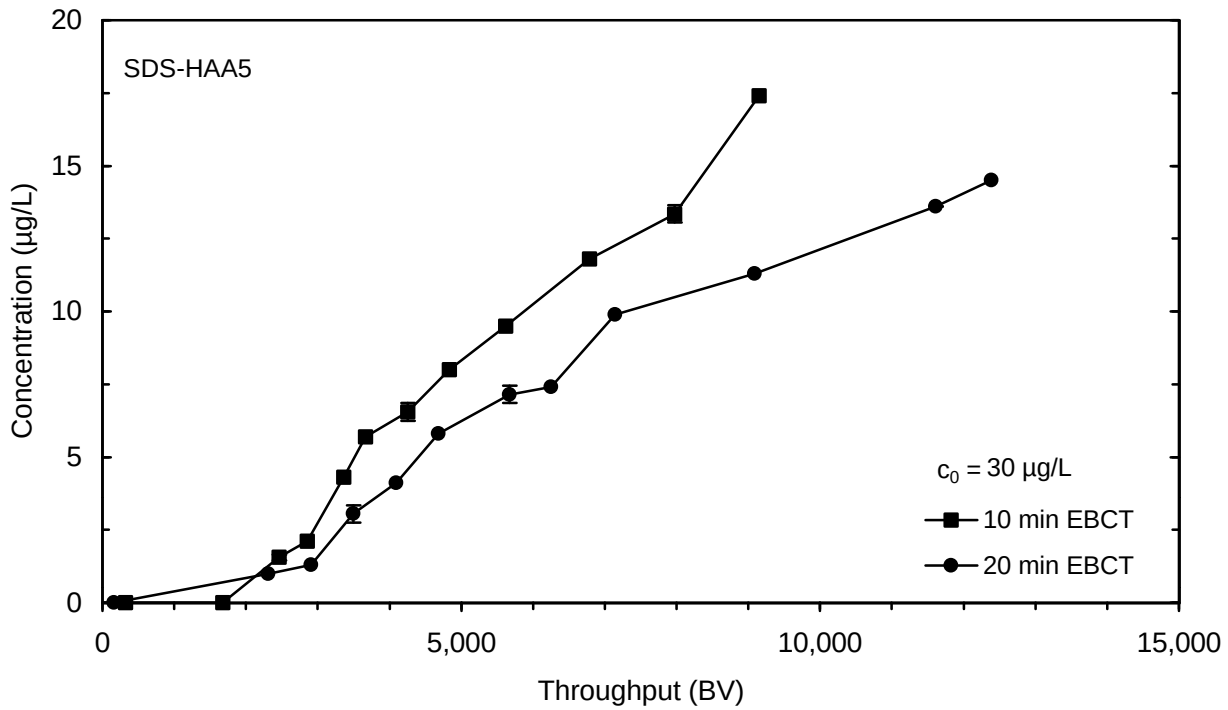

Figure 46 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

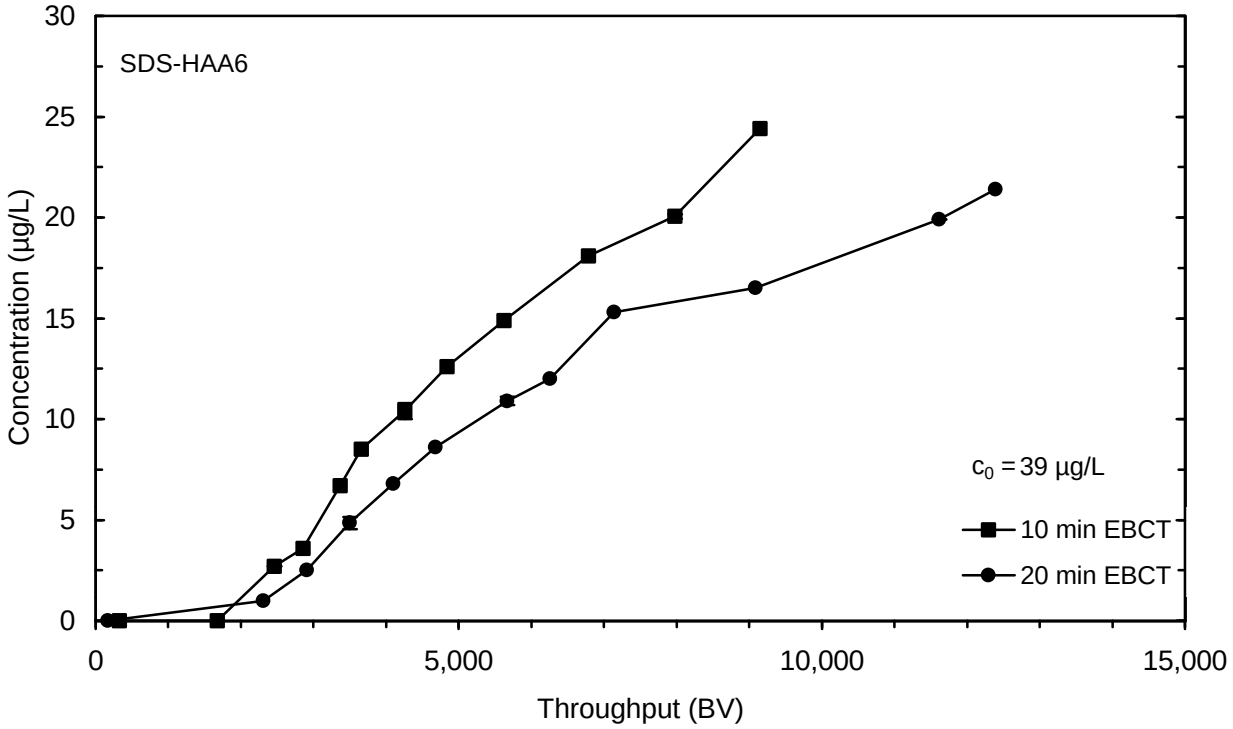

Figure 47 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

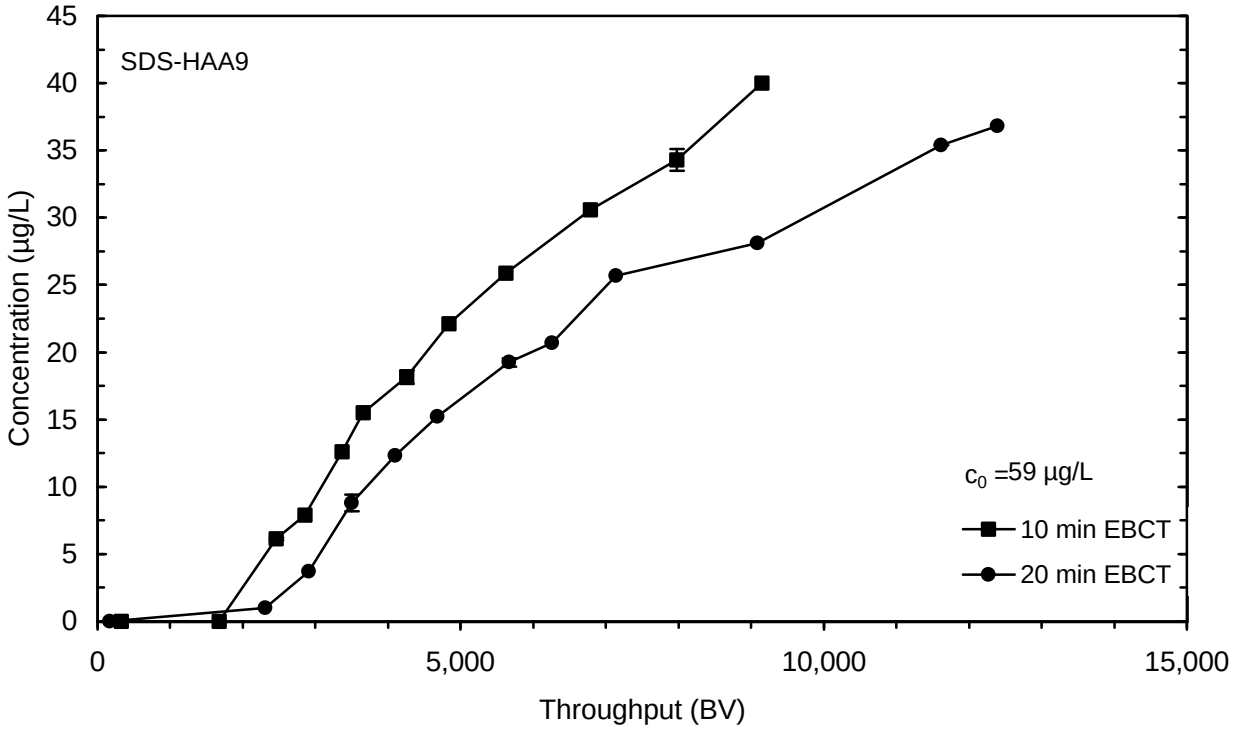

Figure 48 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

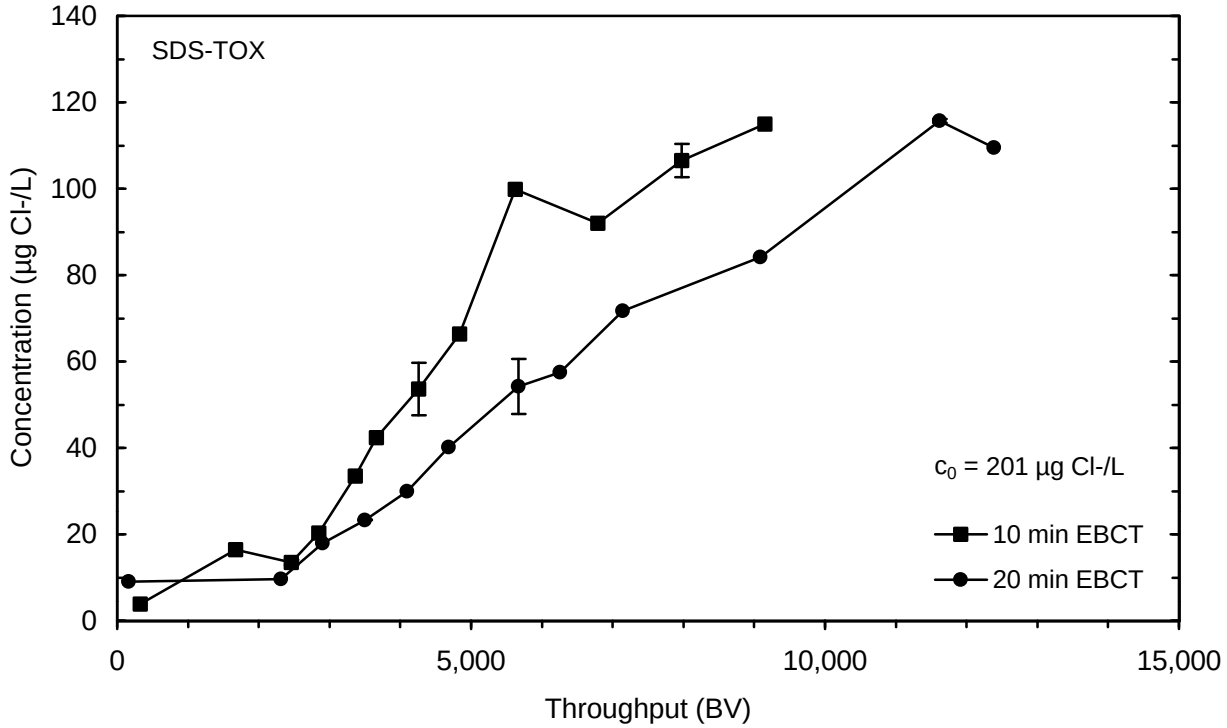

Figure 49 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

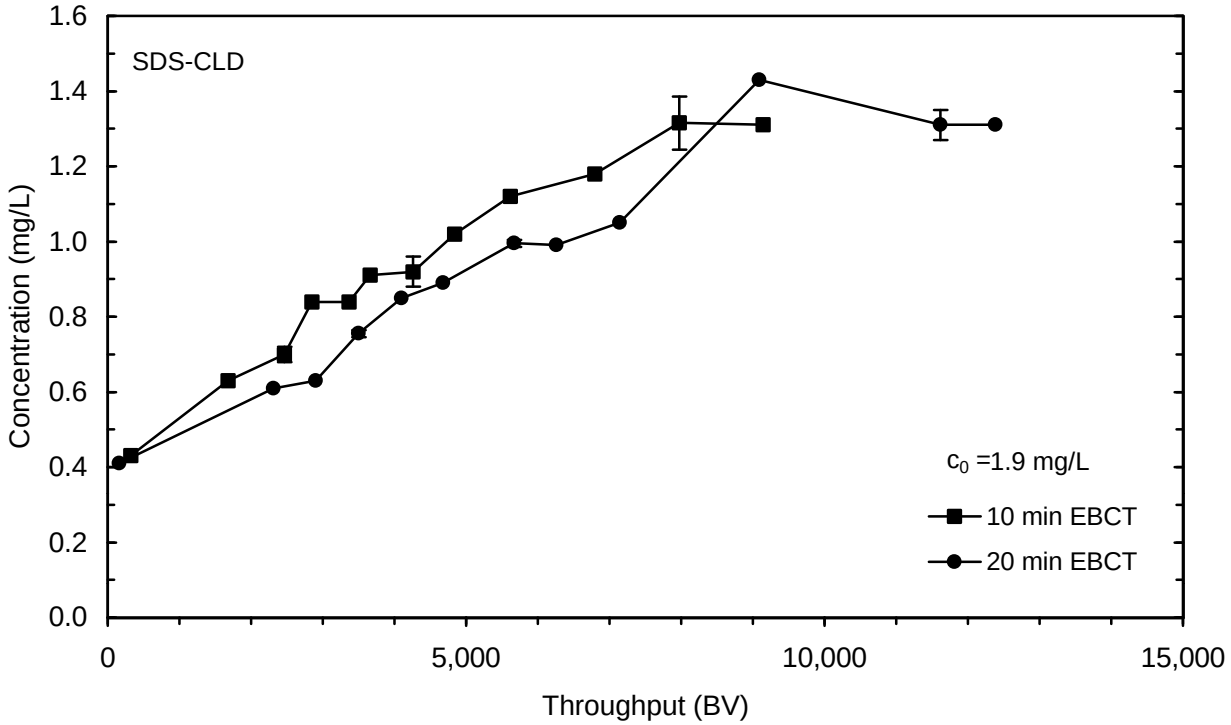

Figure 50 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 1 (February), plotted as throughput in bed volumes treated

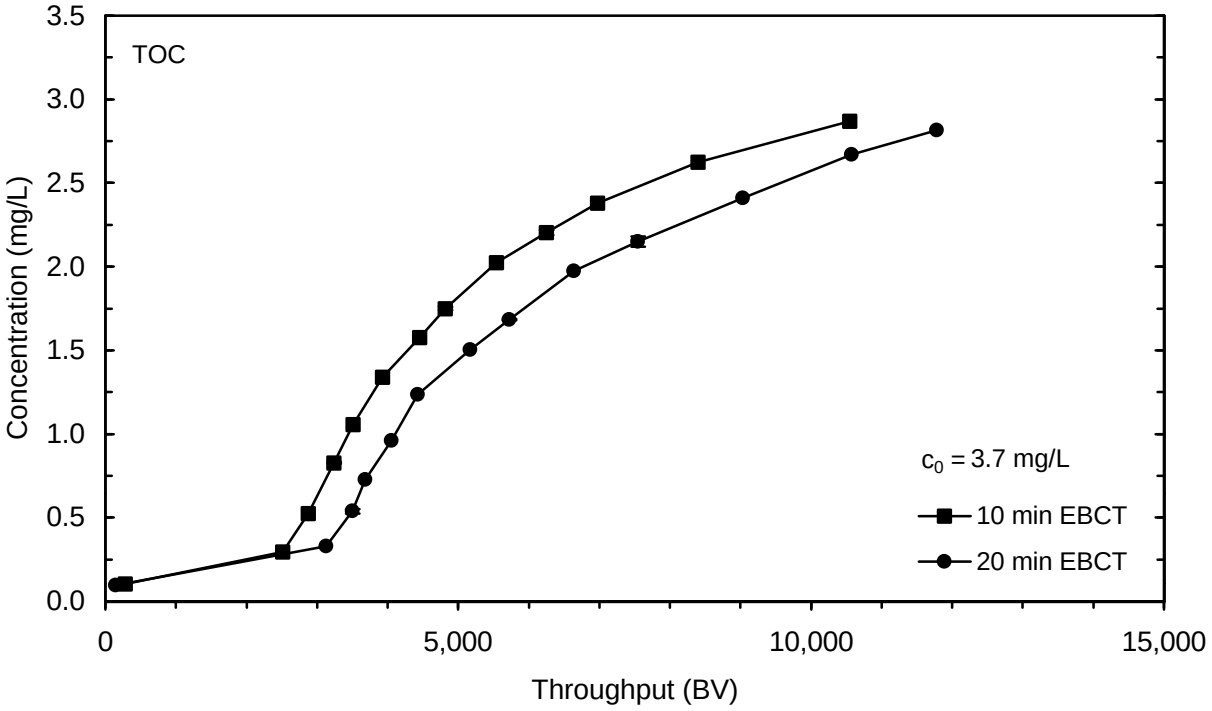

Figure 51 TOC breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

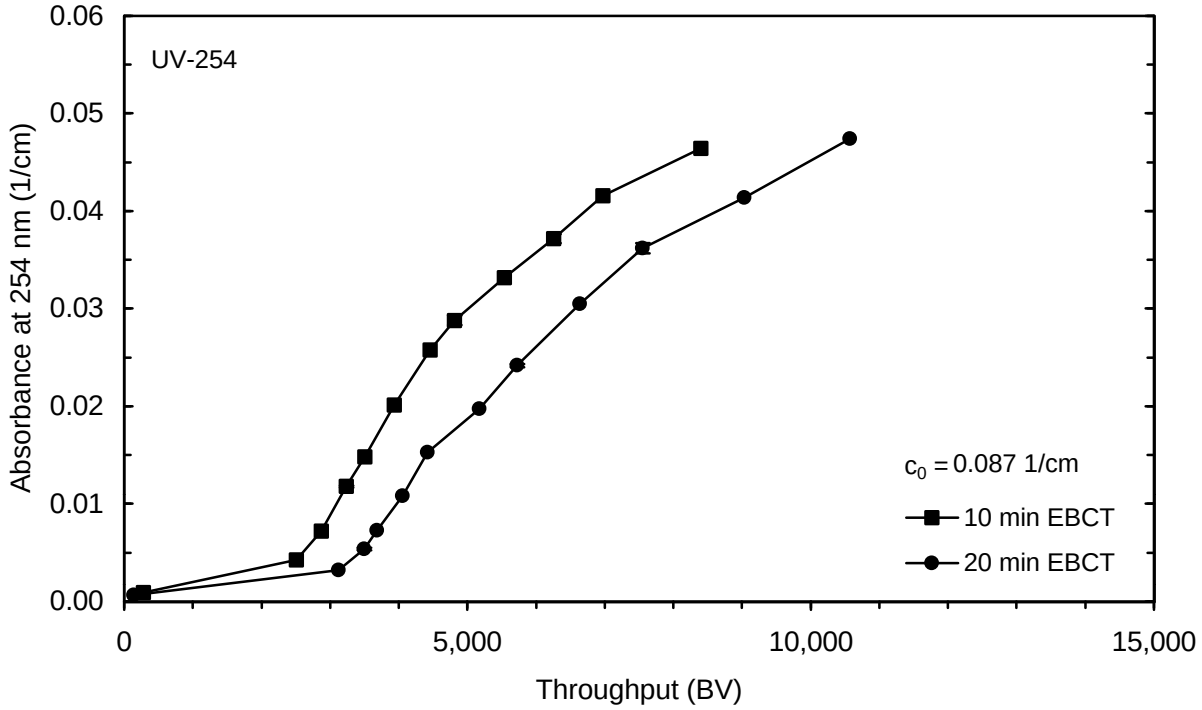

Figure 52 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

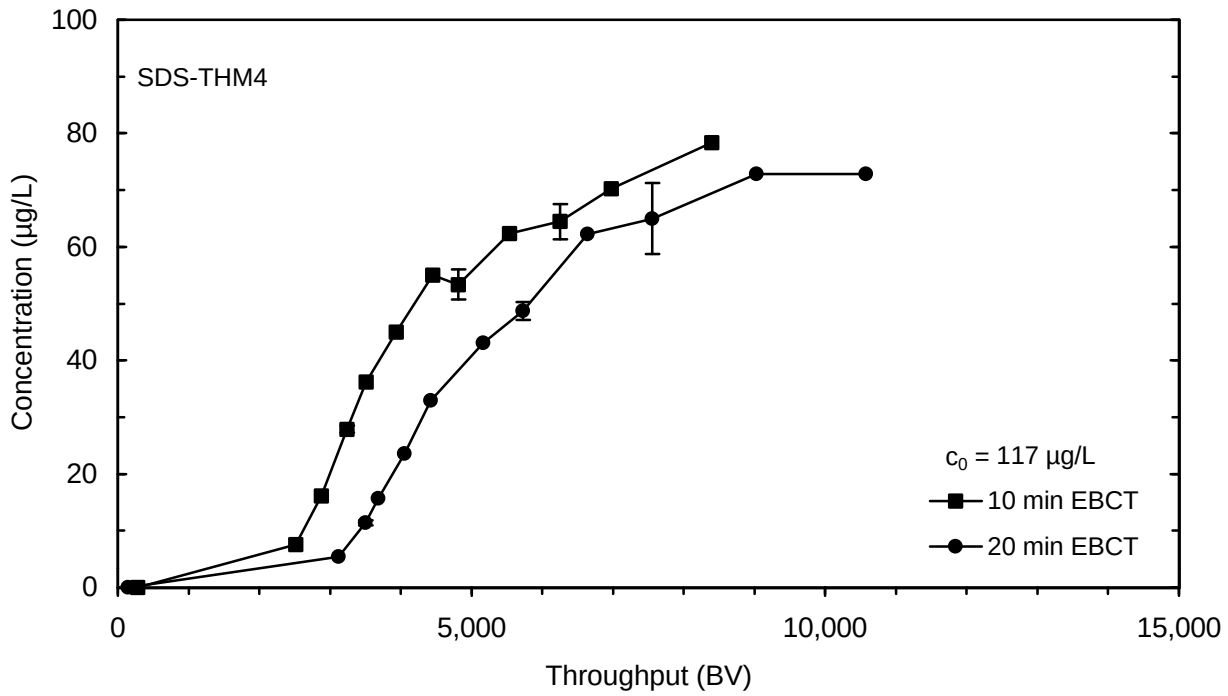

Figure 53 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

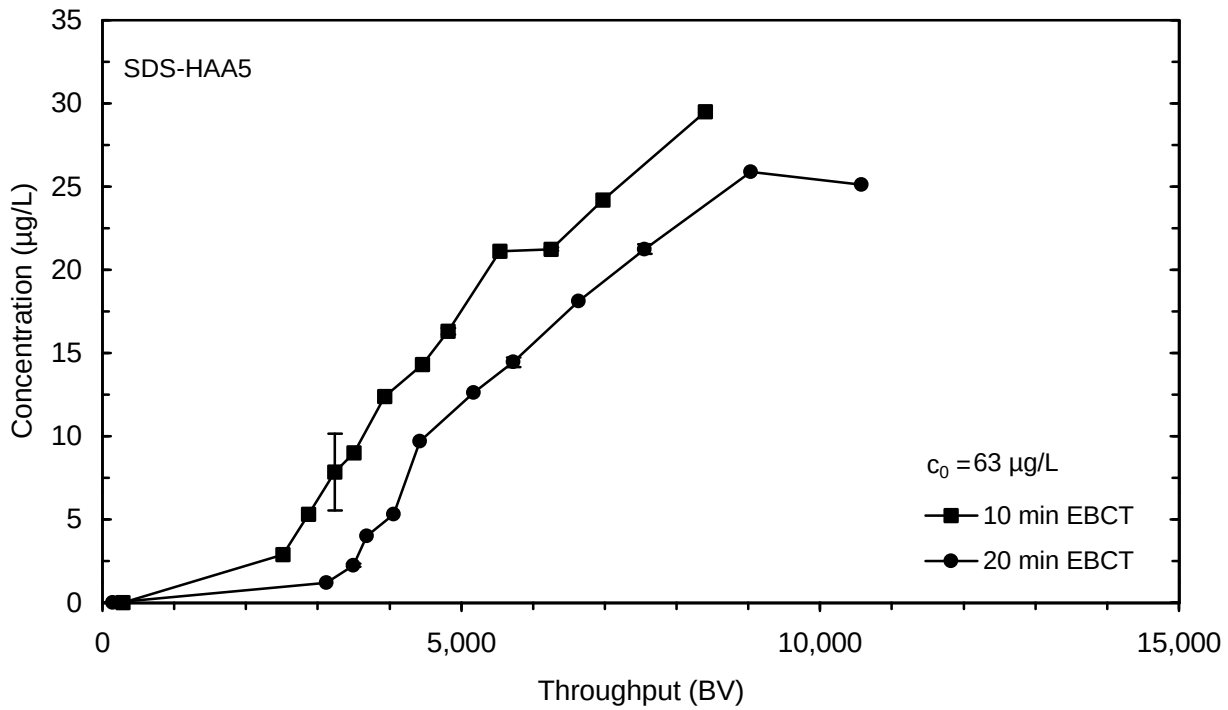

Figure 54 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

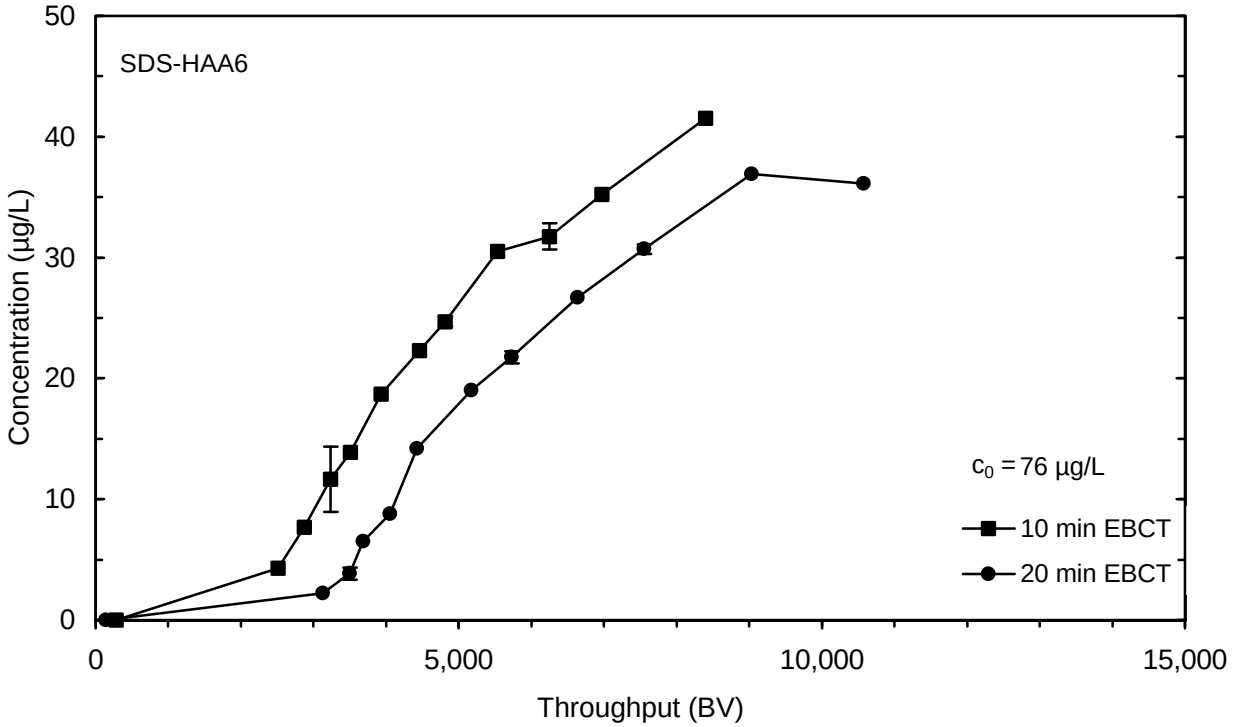

Figure 55 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

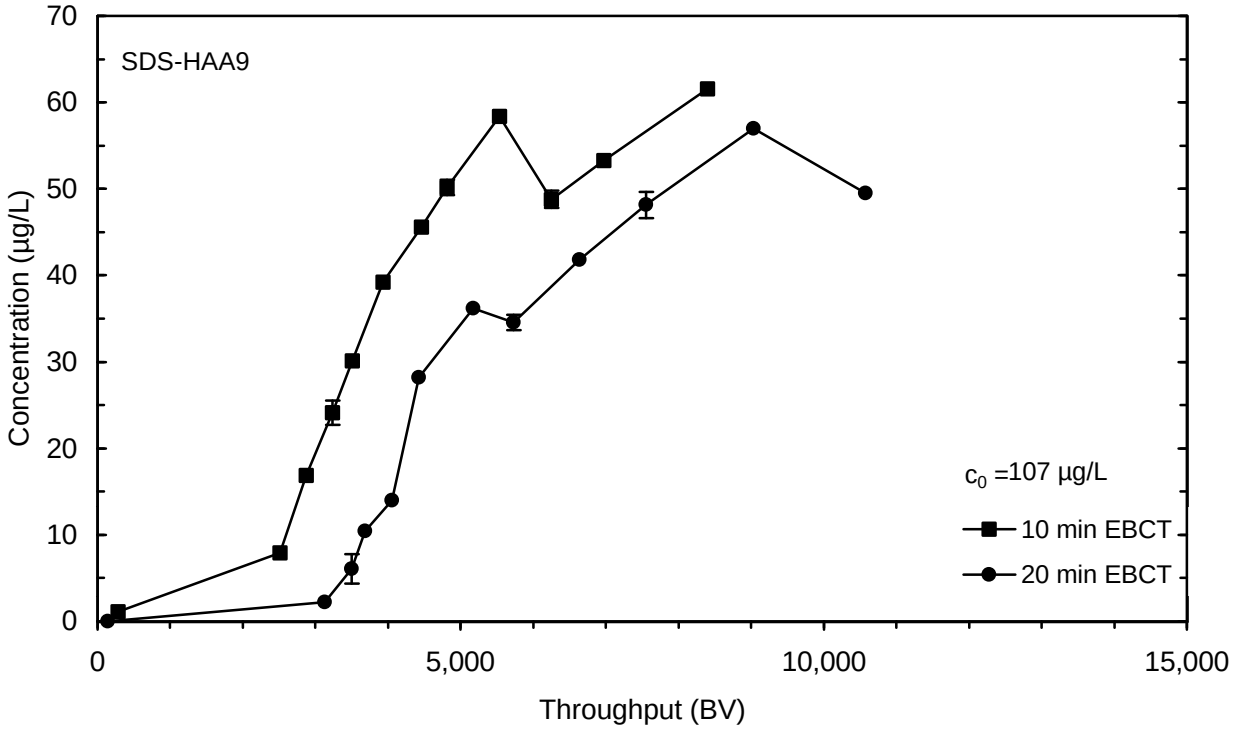

Figure 56 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

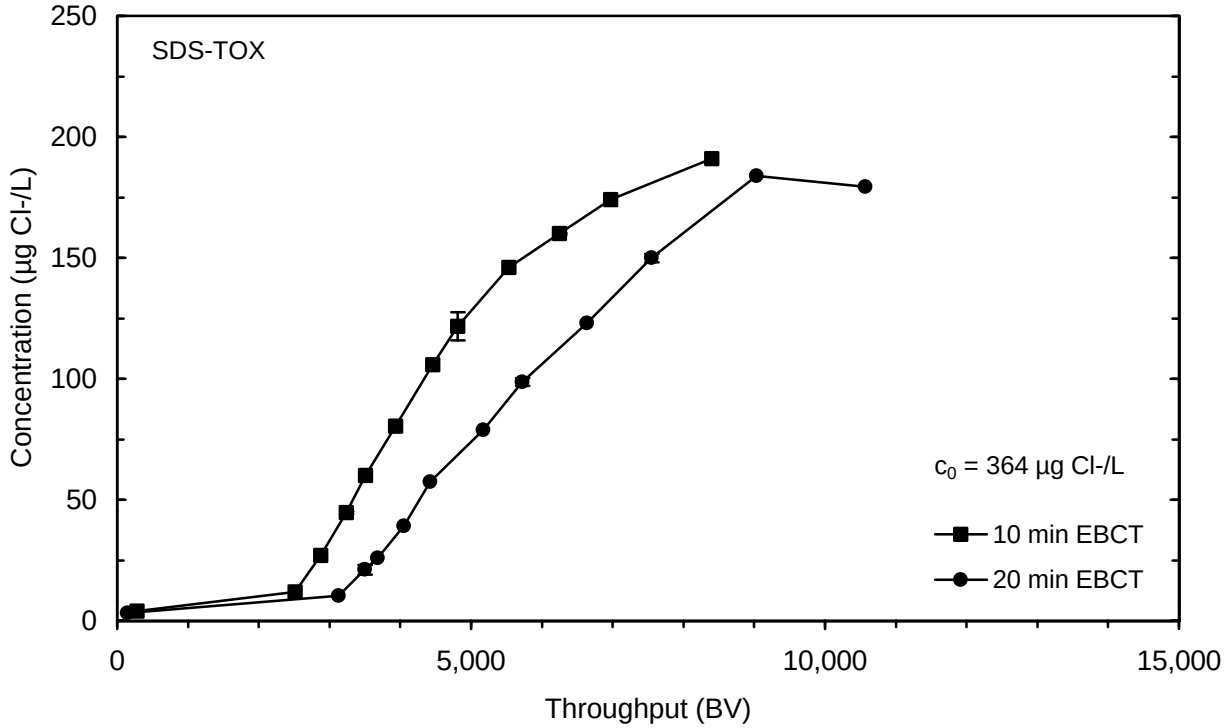

Figure 57 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

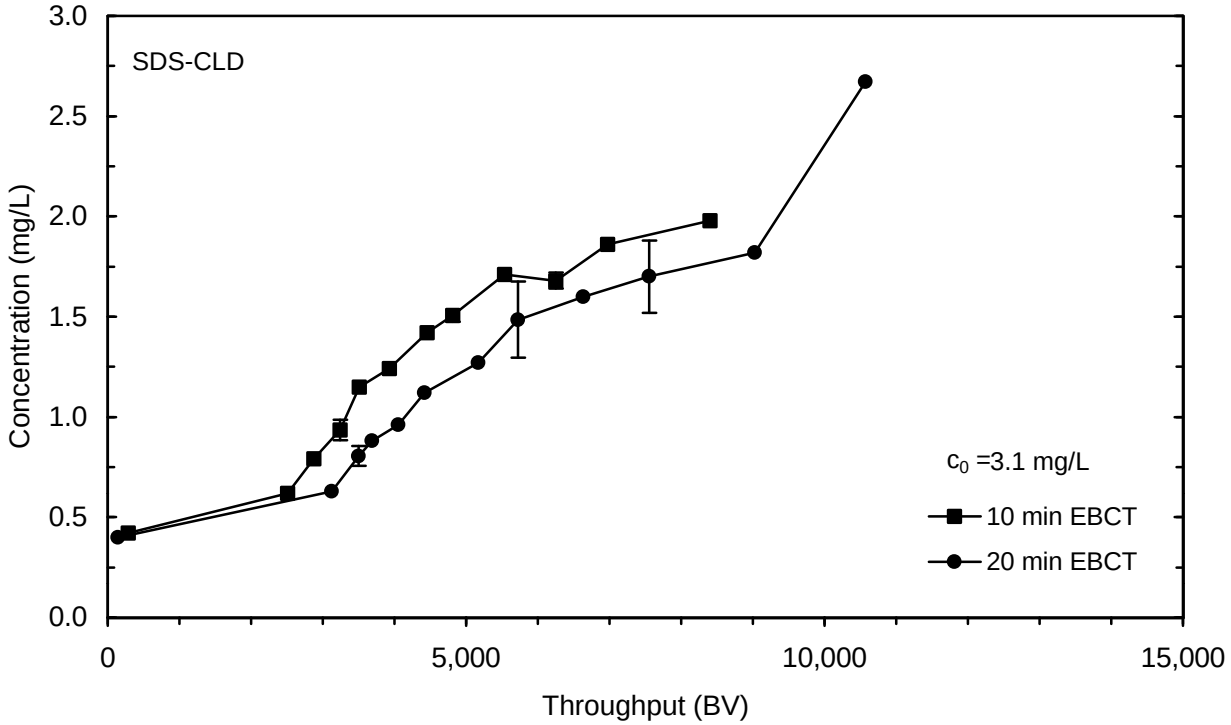

Figure 58 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 2 (May), plotted as throughput in bed volumes treated

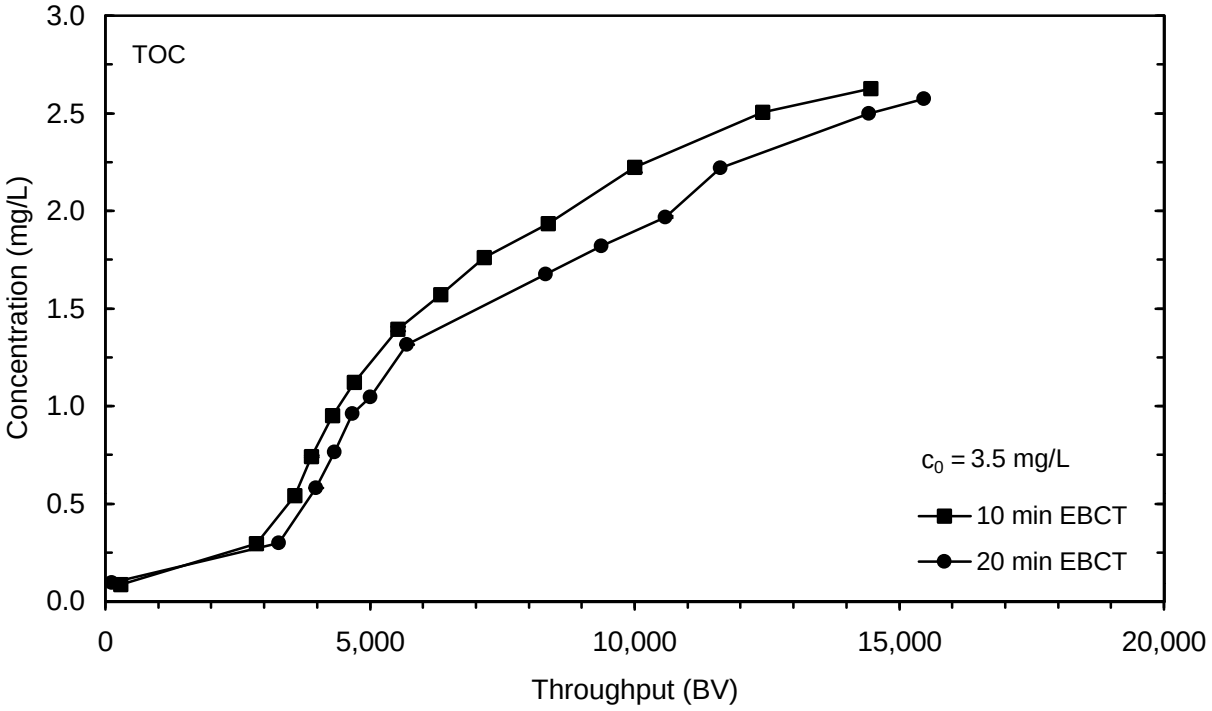

Figure 59 TOC breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

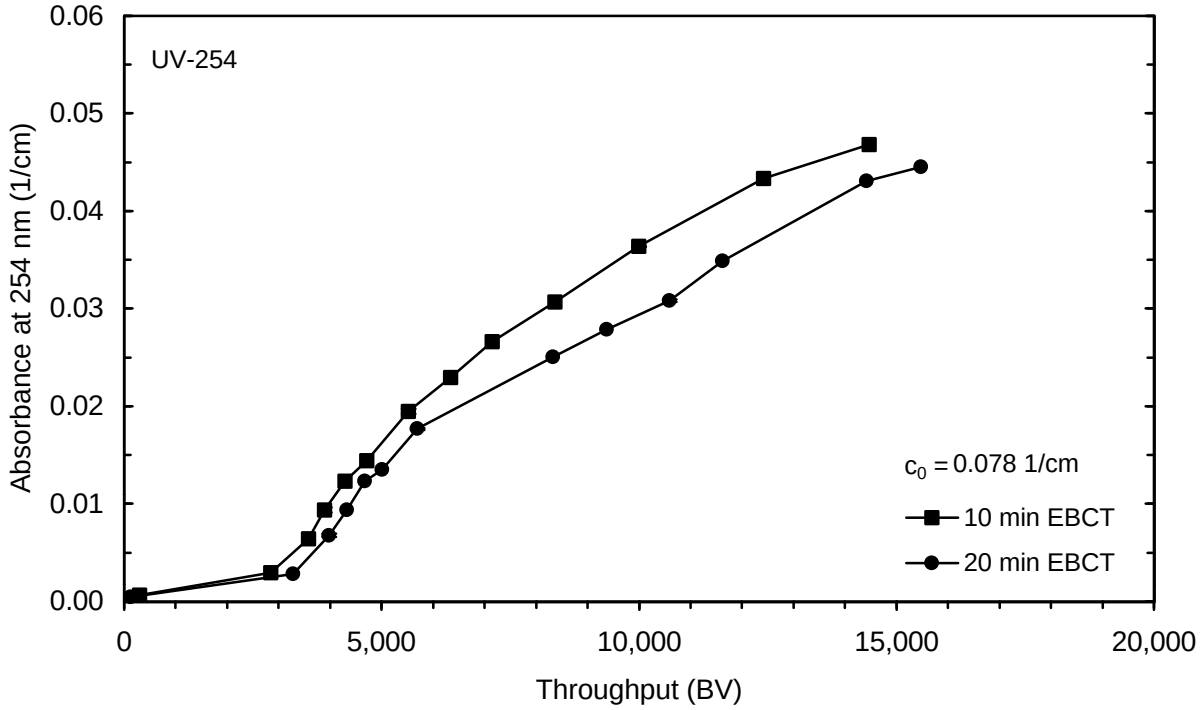

Figure 60 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

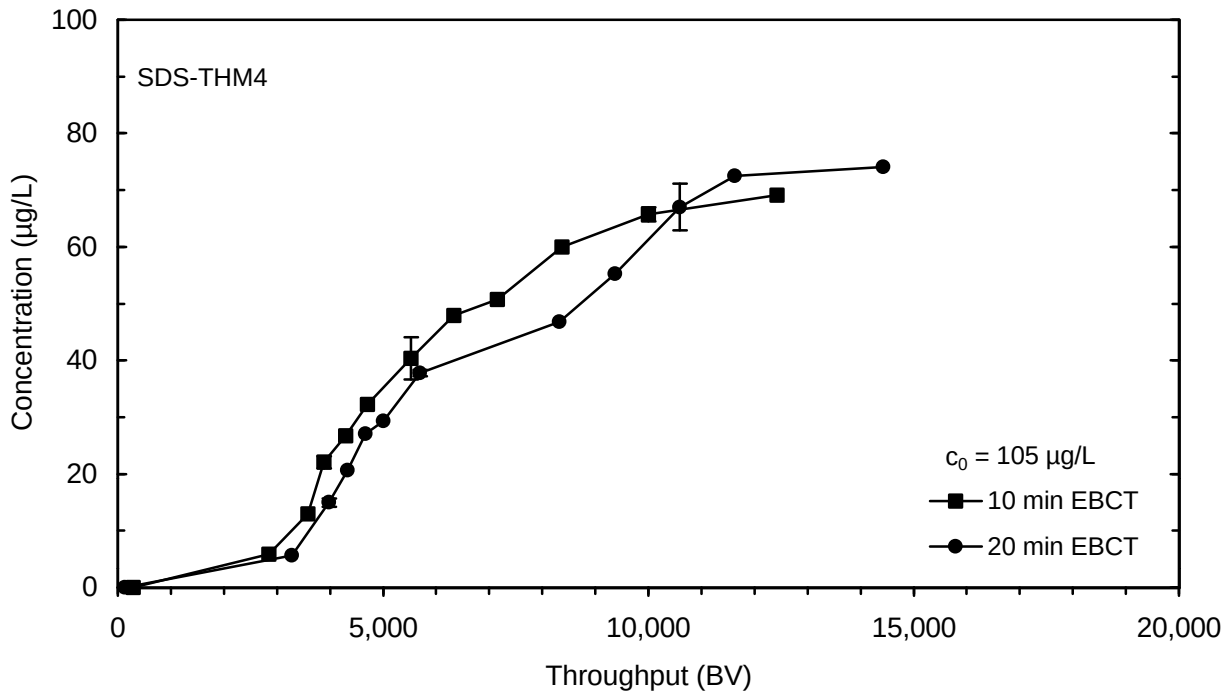

Figure 61 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

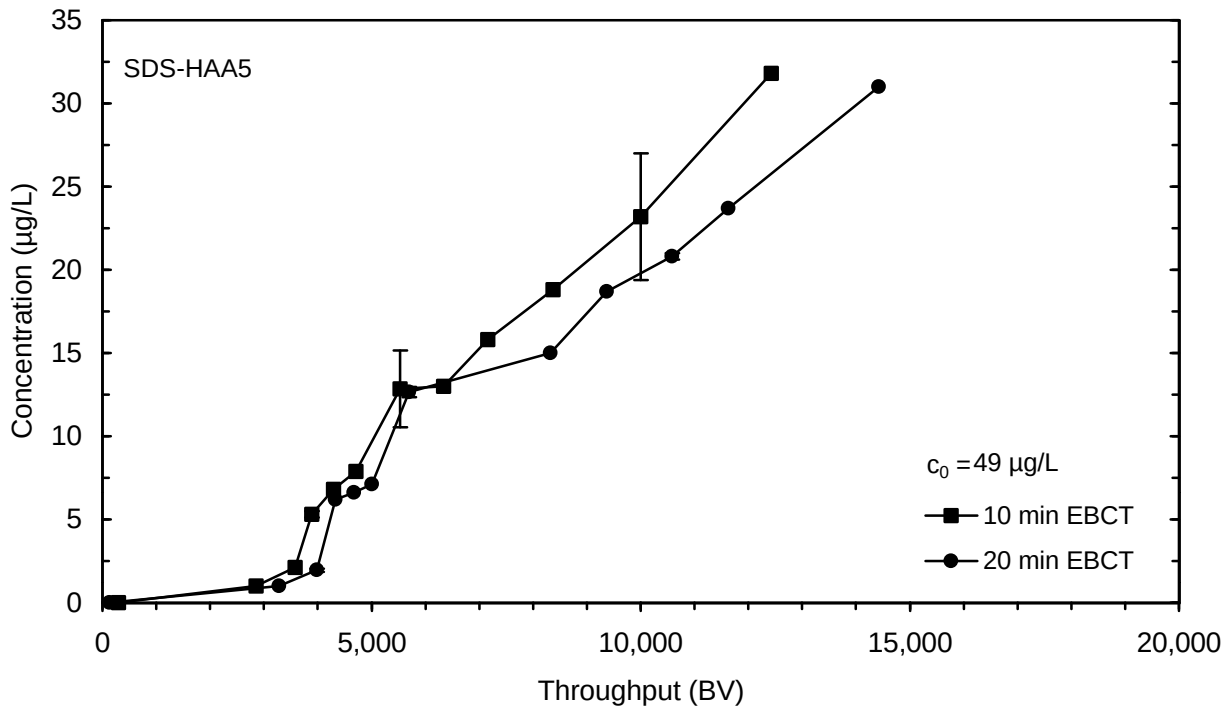

Figure 62 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

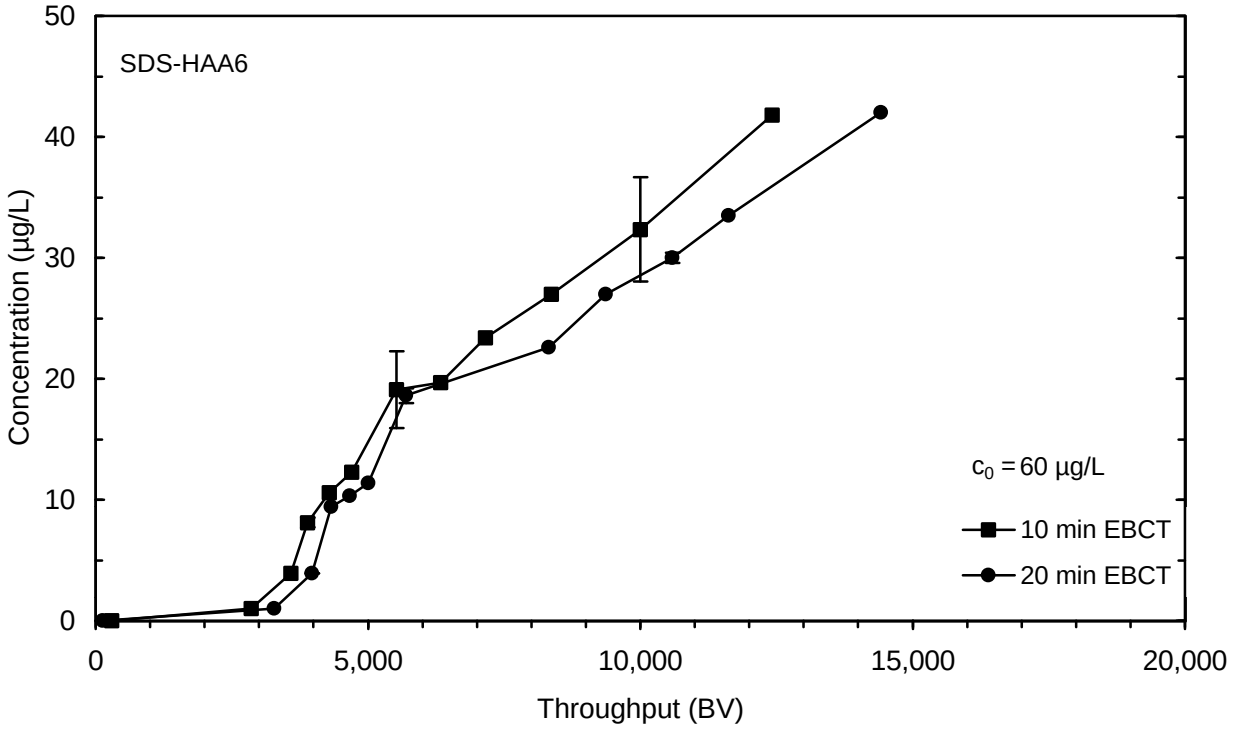

Figure 63 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

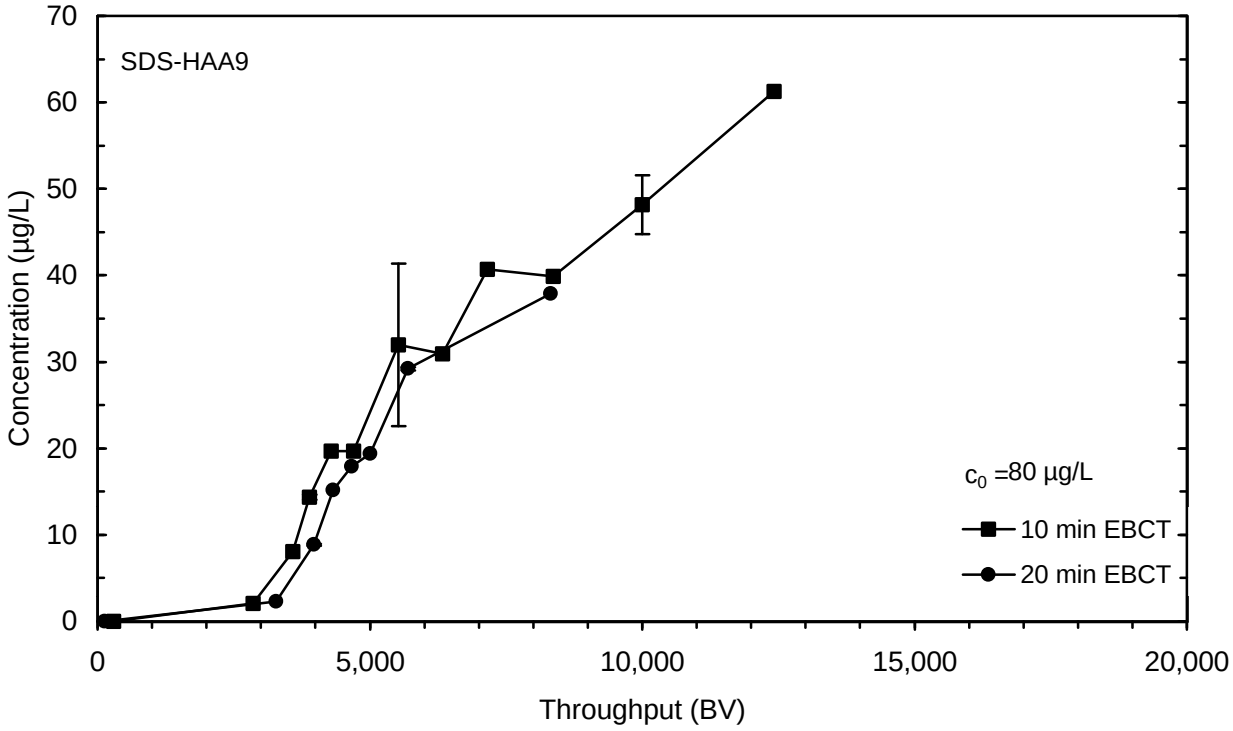

Figure 64 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

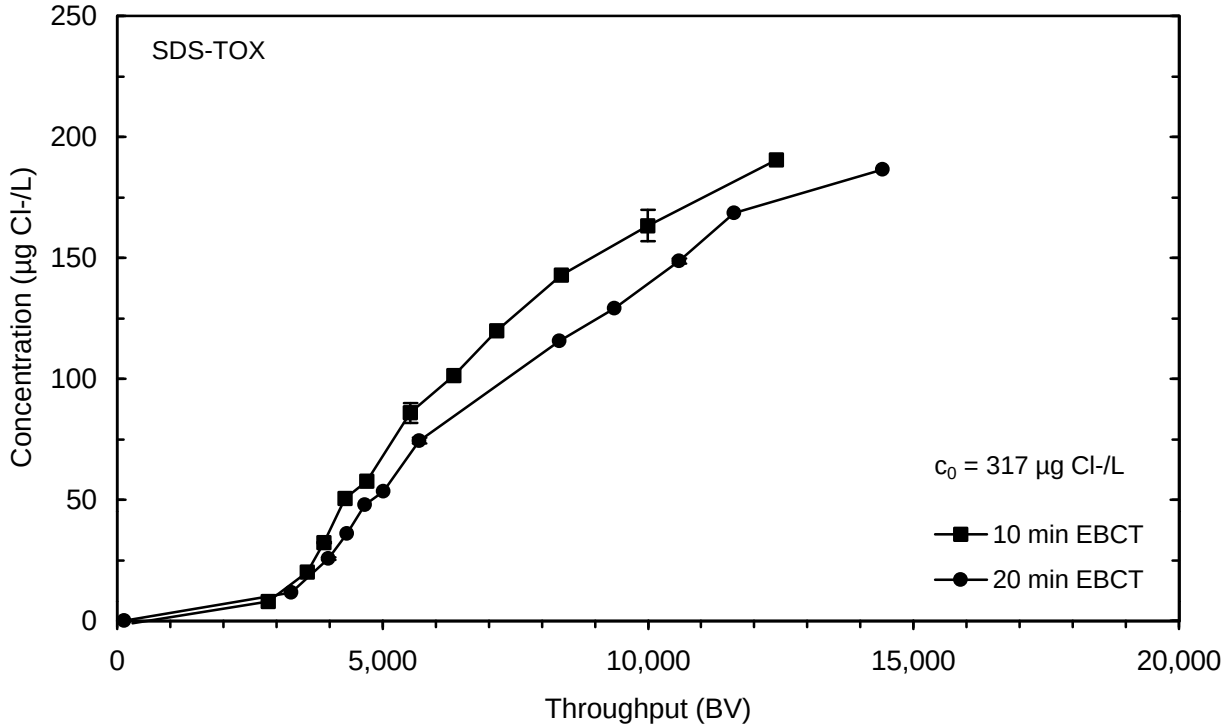

Figure 65 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

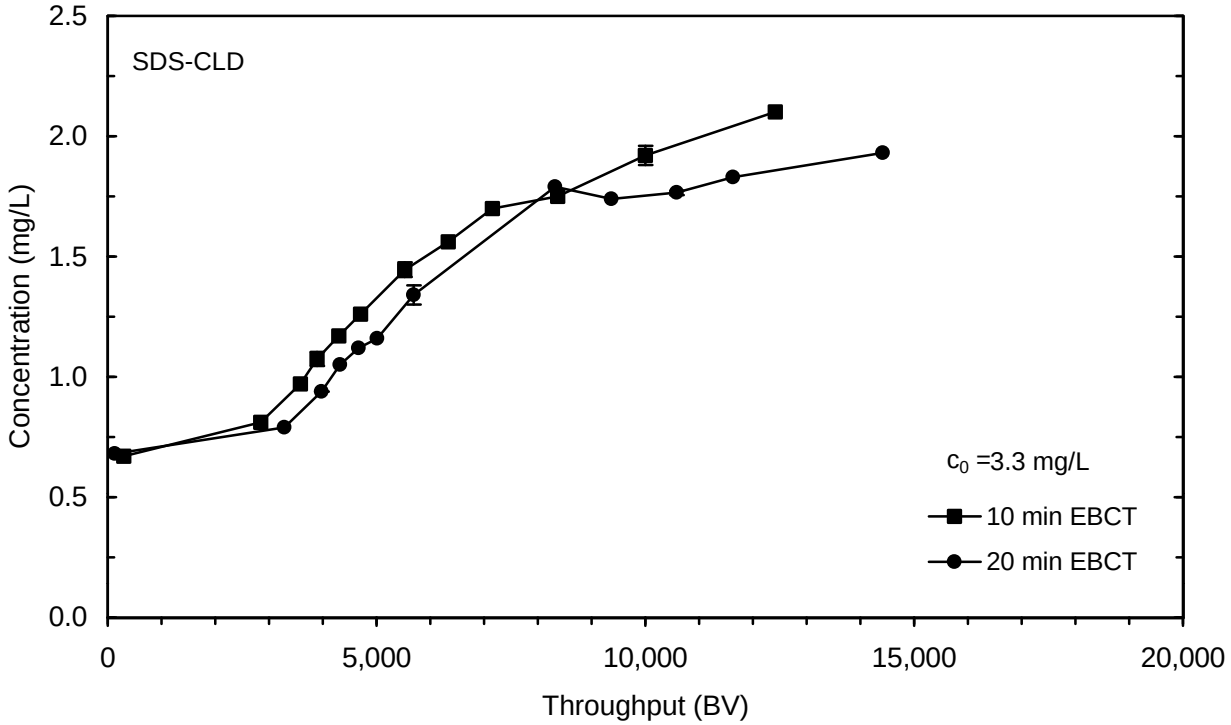

Figure 66 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 3 (August), plotted as throughput in bed volumes treated

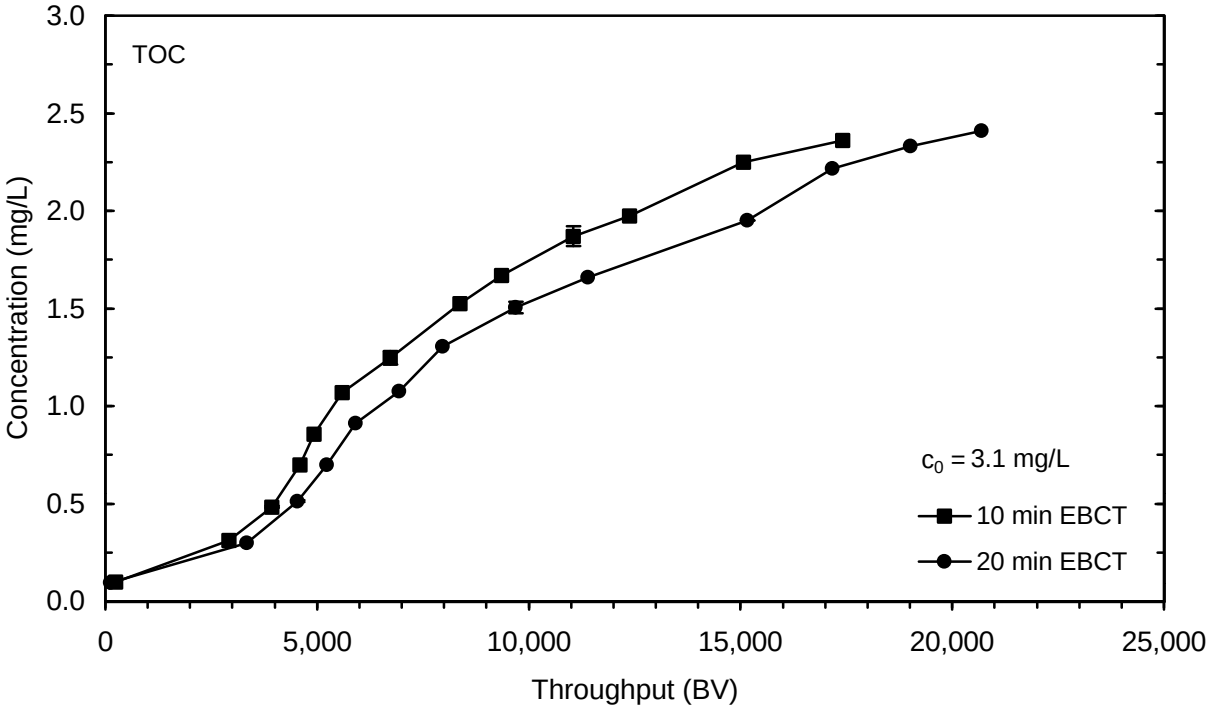

Figure 67 TOC breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

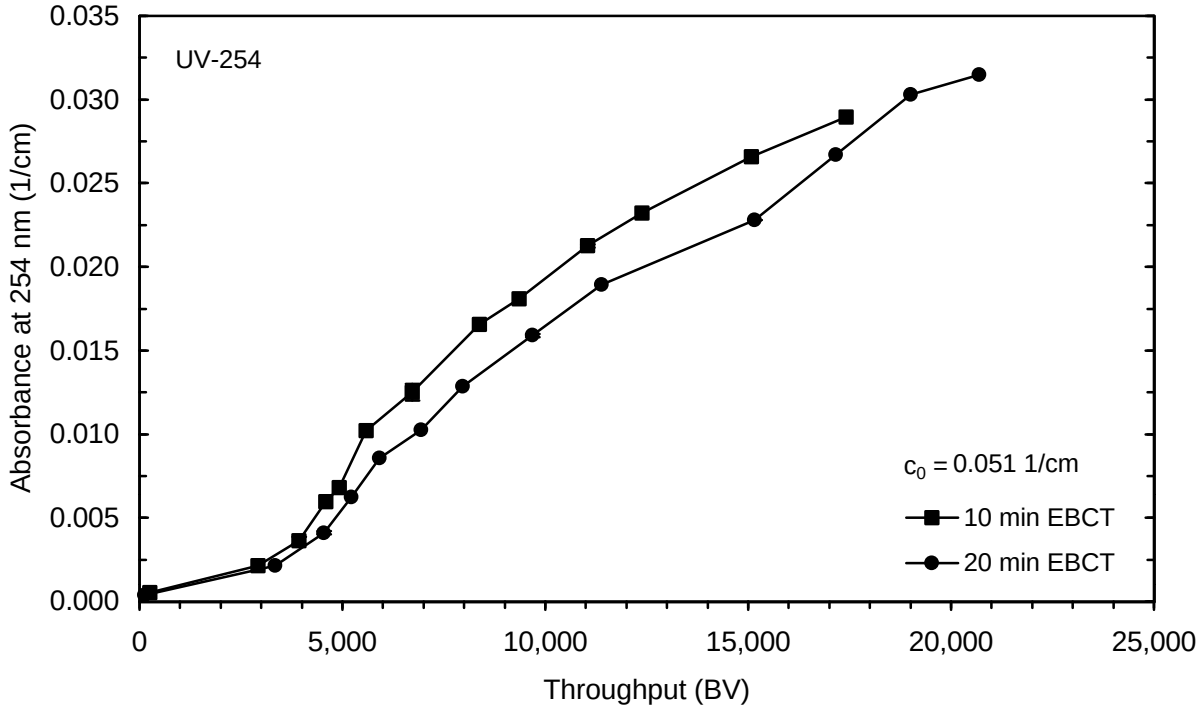

Figure 68 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

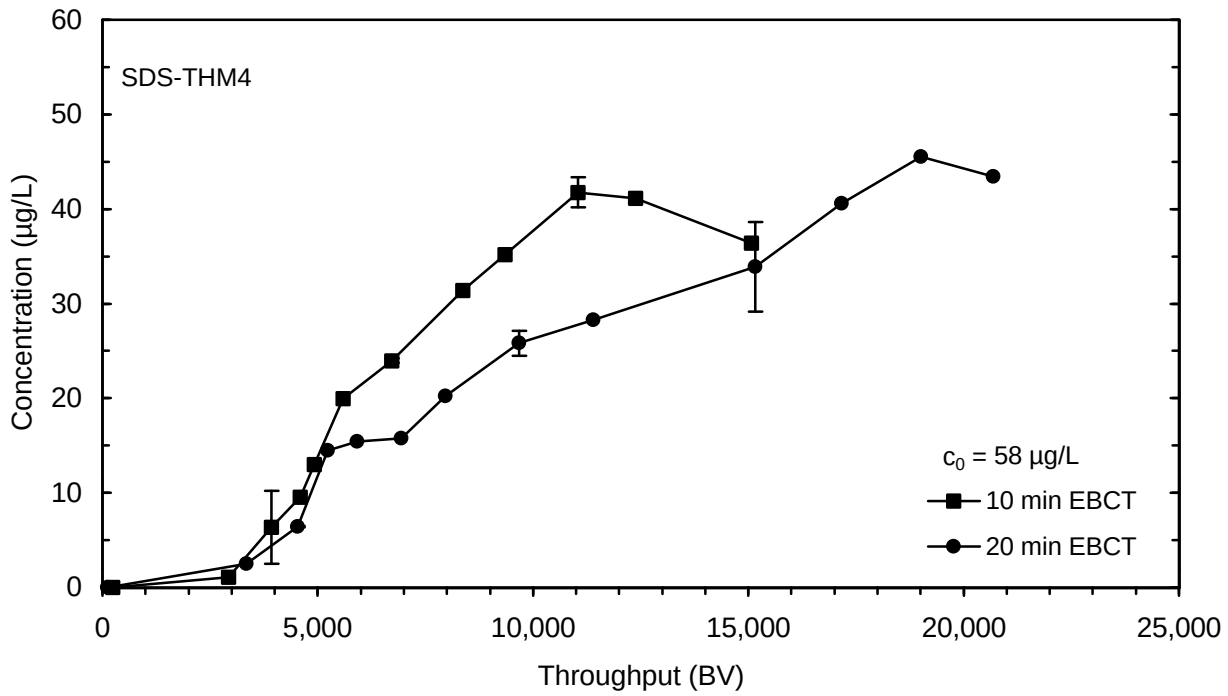

Figure 69 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

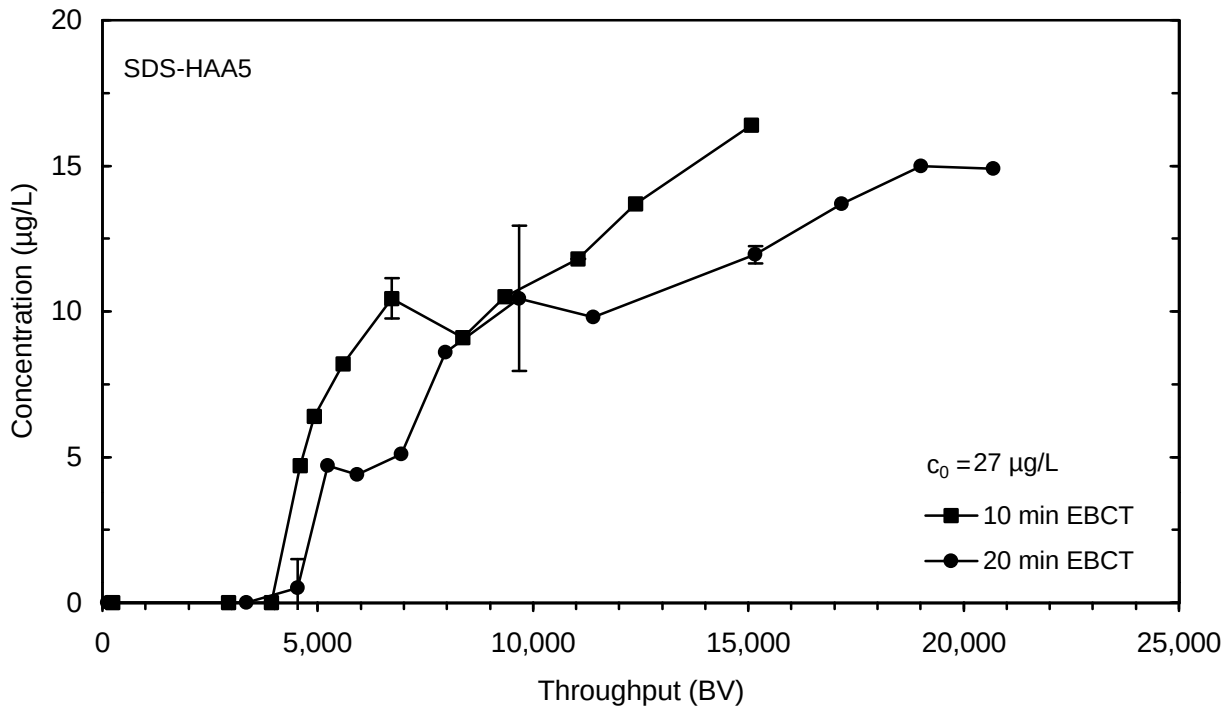

Figure 70 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

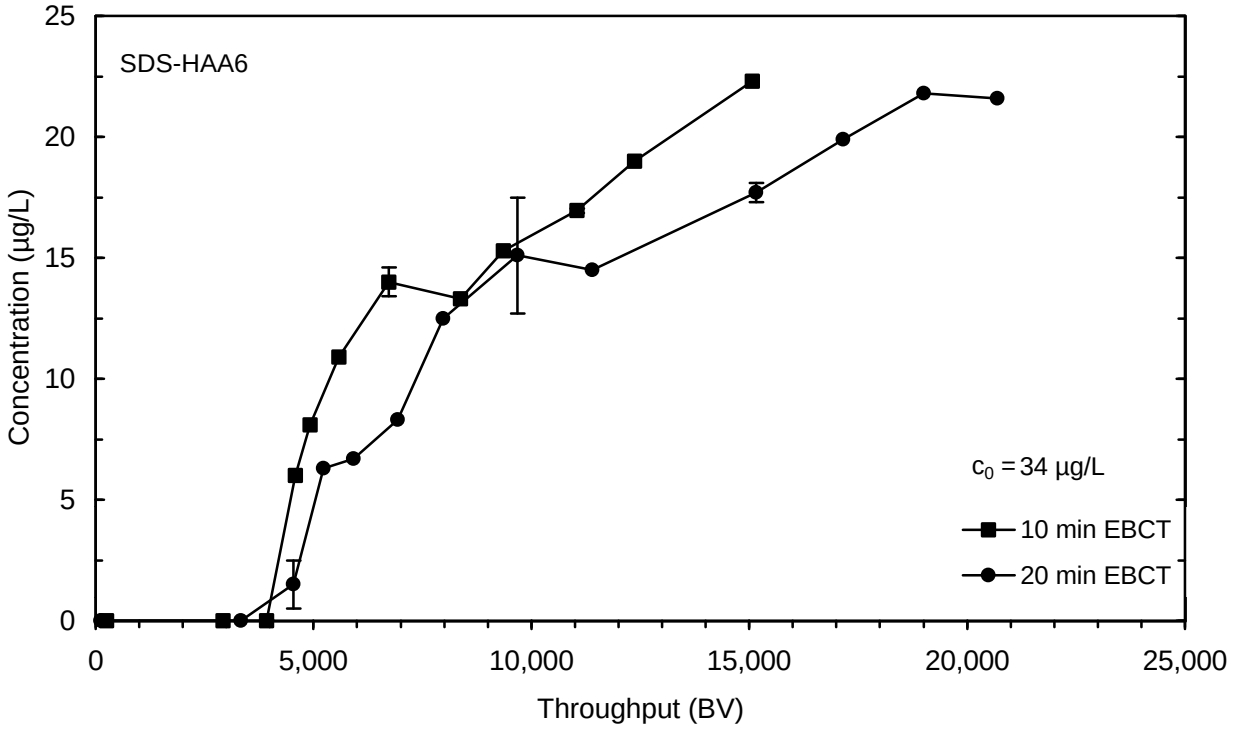

Figure 71 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

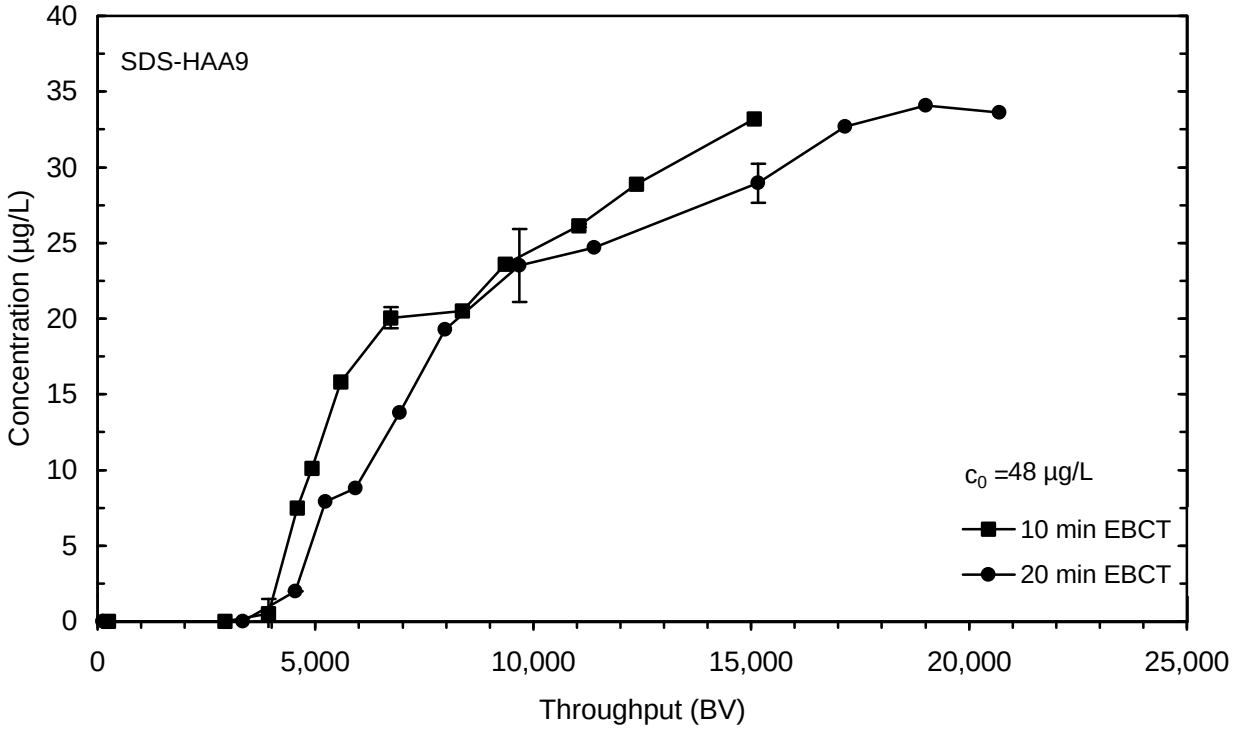

Figure 72 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

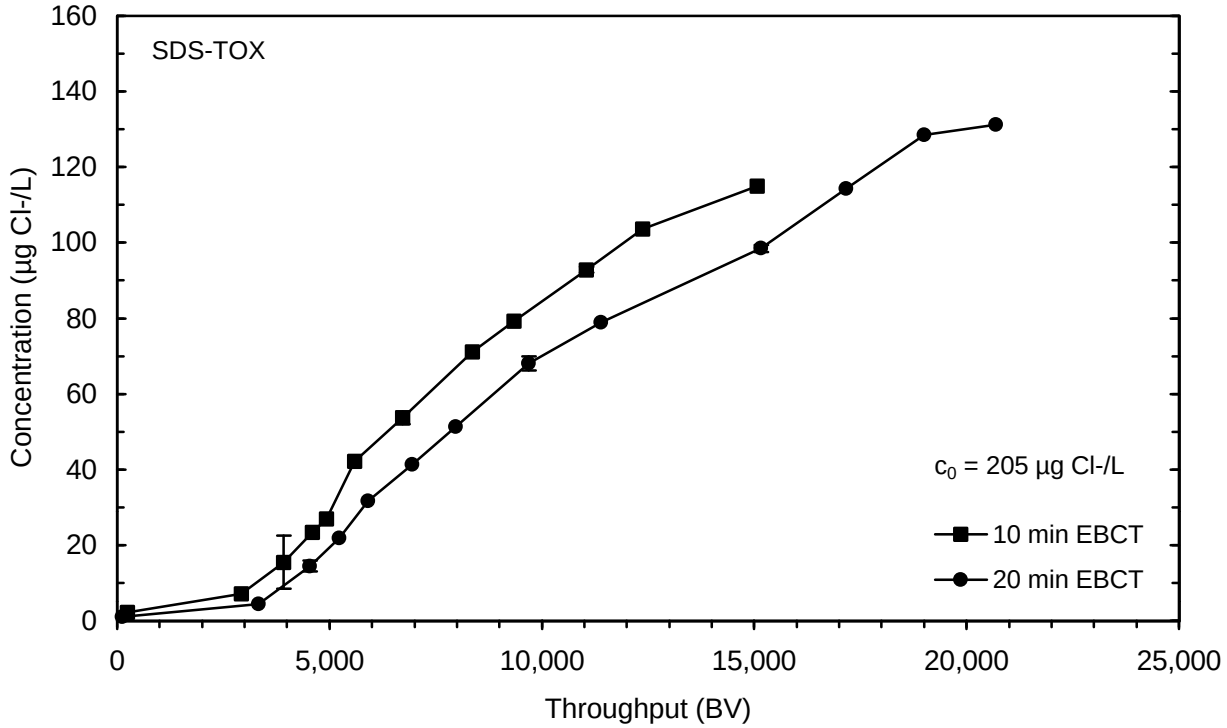

Figure 73 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

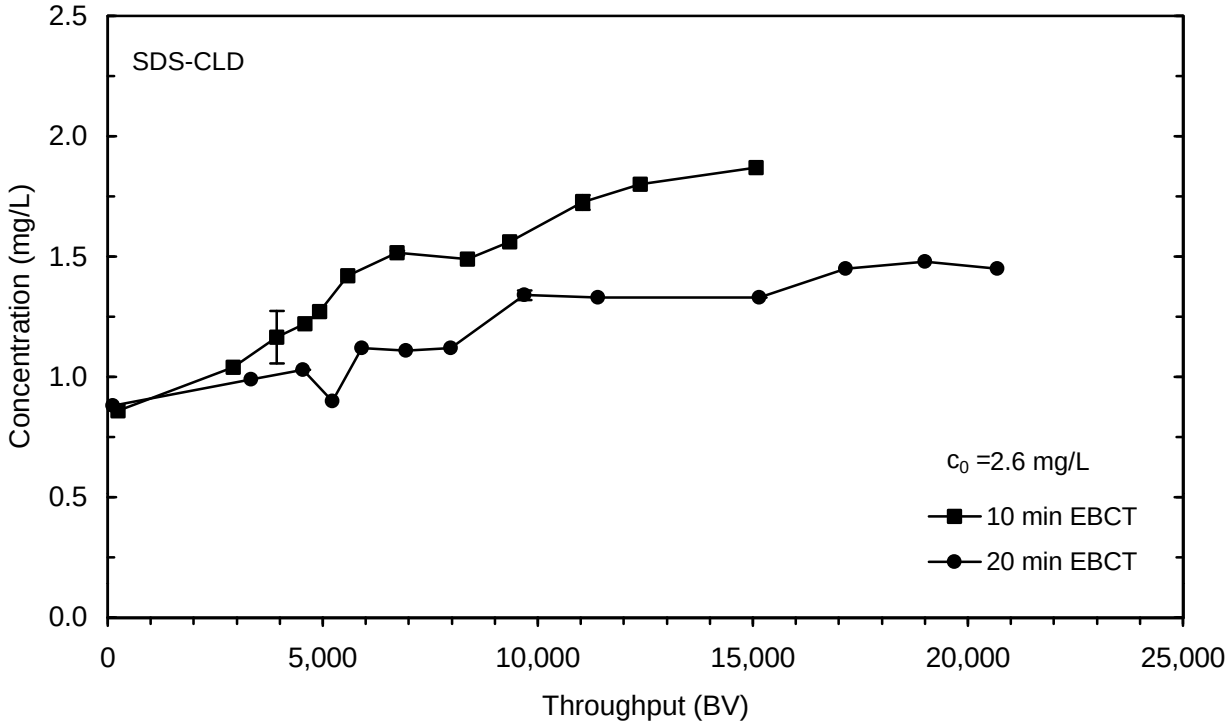

Figure 74 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 4 (January), plotted as throughput in bed volumes treated

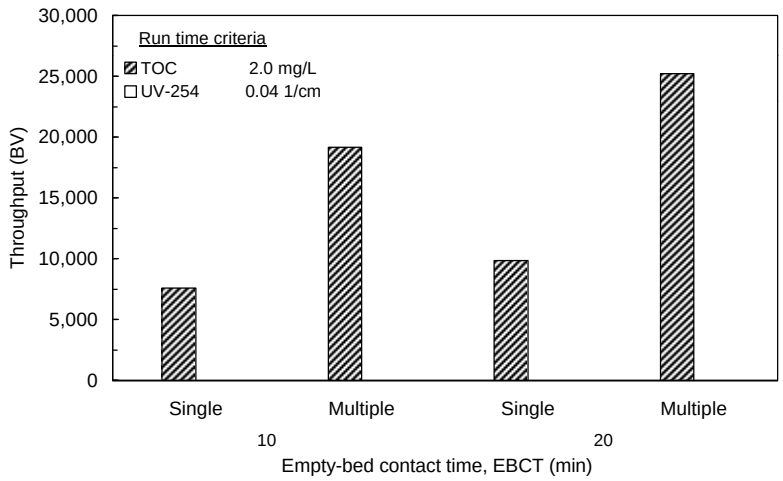

Figure 75 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (February)

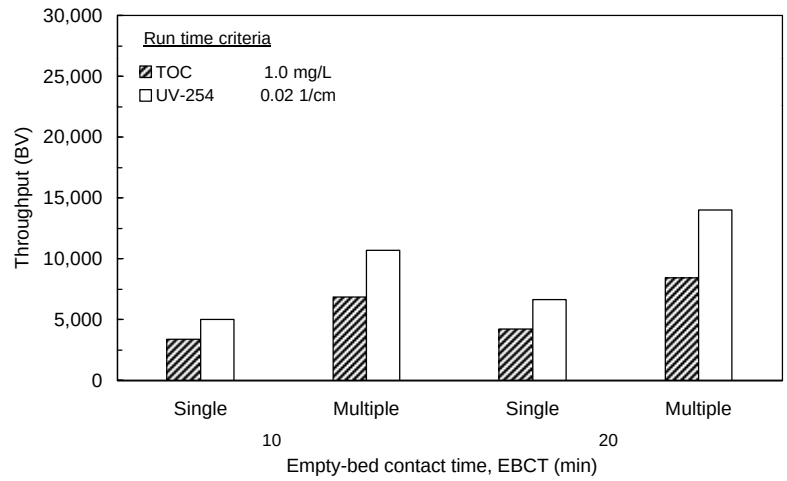

Figure 76 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (February)

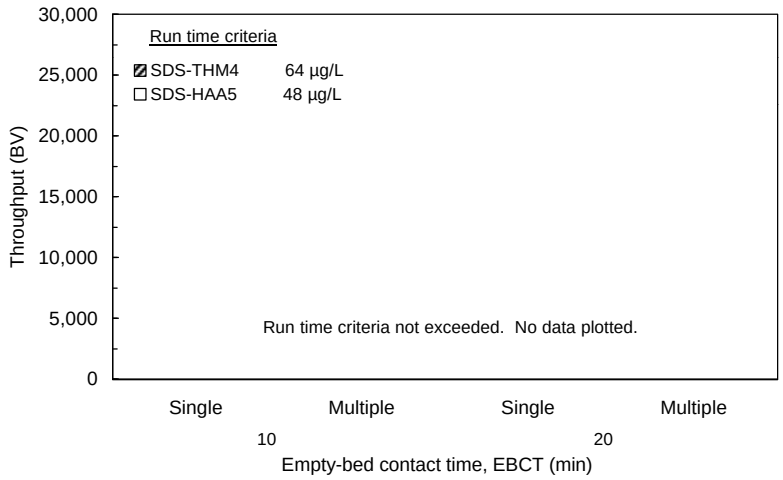

Figure 77 Throughput based on single contactors and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 1 (February)

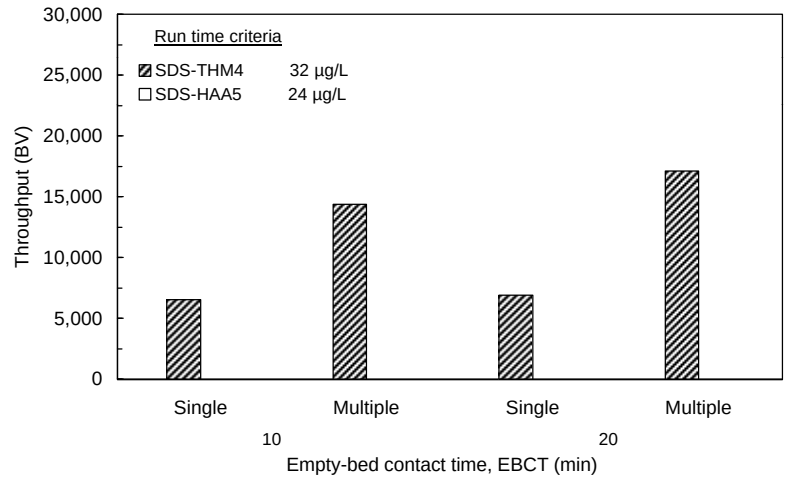

Figure 78 Throughput based on single contactors and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 1 (February)

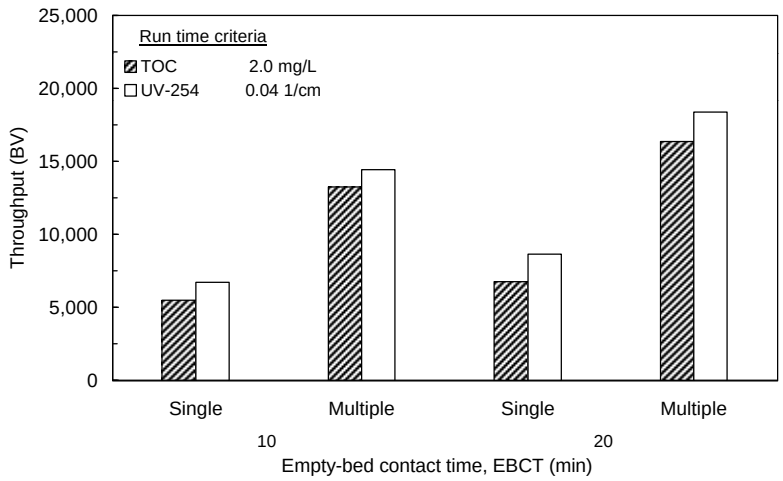

Figure 79 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (May)

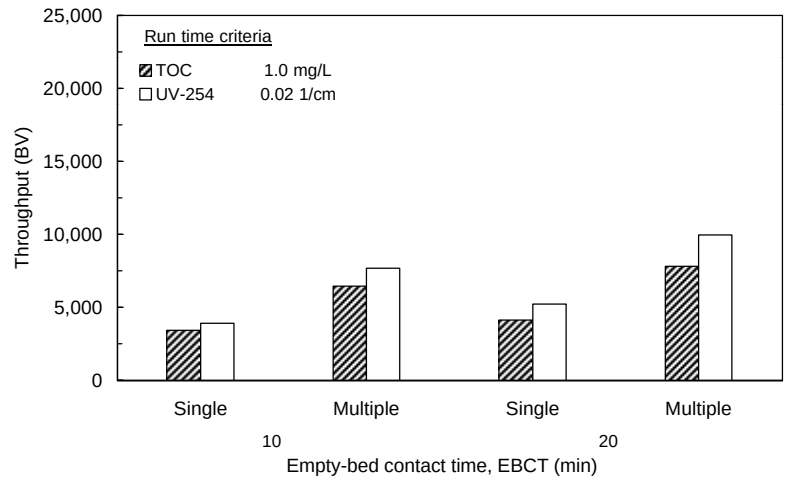

Figure 80 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (May)

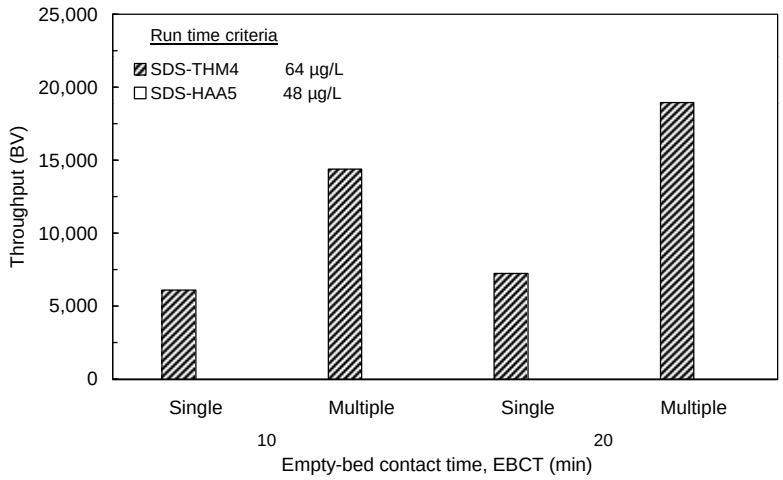

Figure 81 Throughput based on single contactors and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 2 (May)

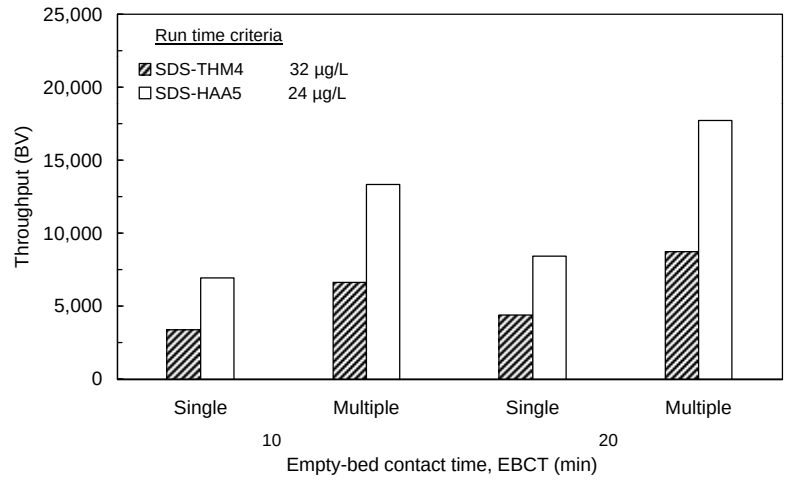

Figure 82 Throughput based on single contactors and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 2 (May)

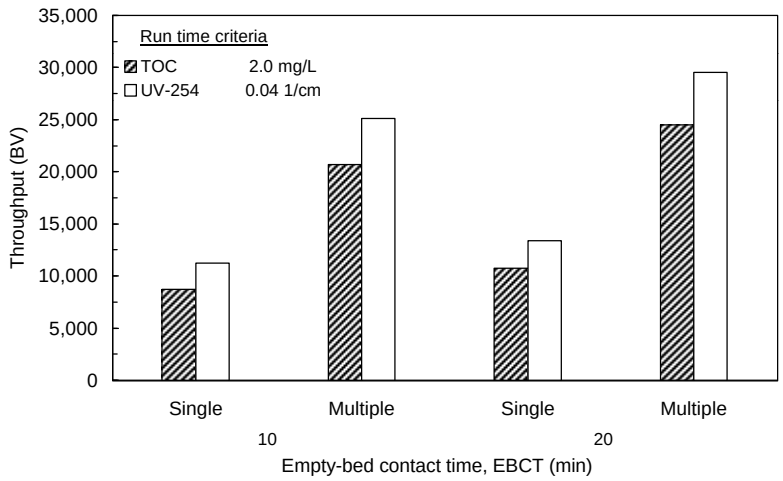

Figure 83 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 3 (August)

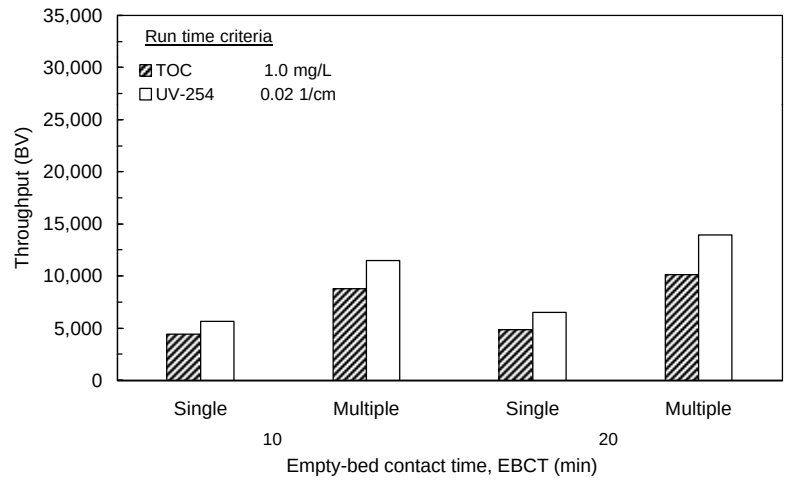

Figure 84 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 3 (August)

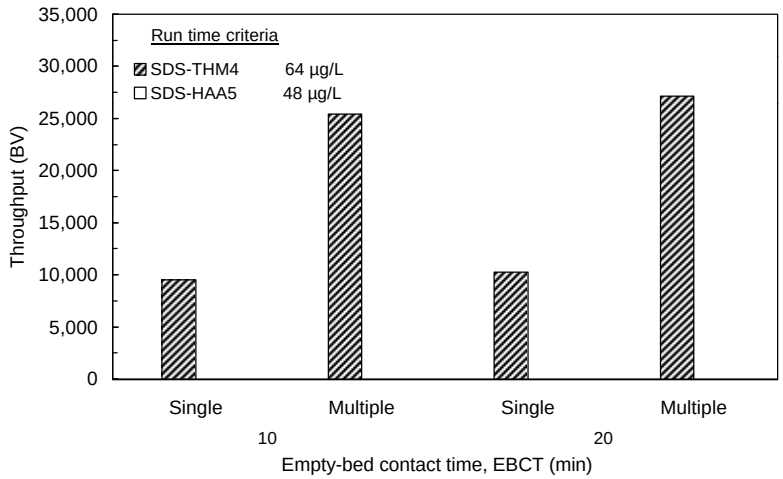

Figure 85 Throughput based on single contactors and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 3 (August)

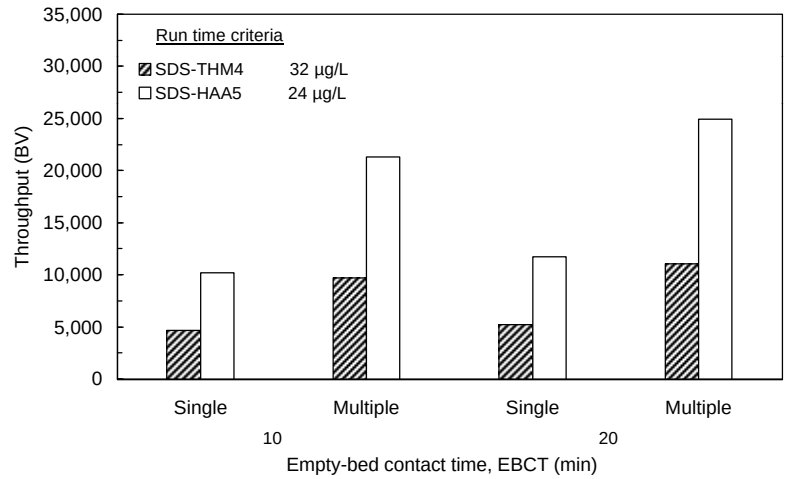

Figure 86 Throughput based on single contactors and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 3 (August)

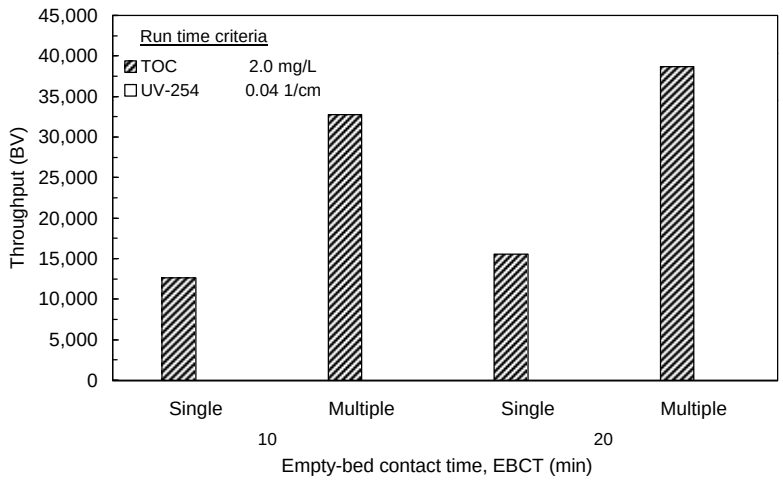

Figure 87 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 4 (January)

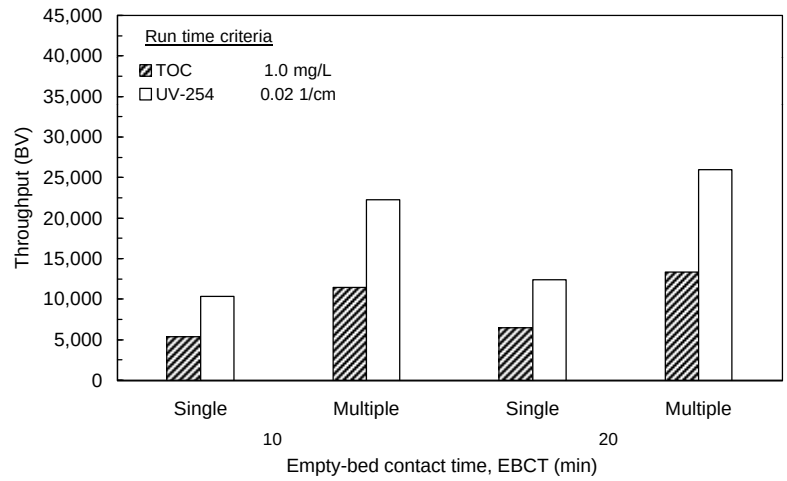

Figure 88 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 4 (January)

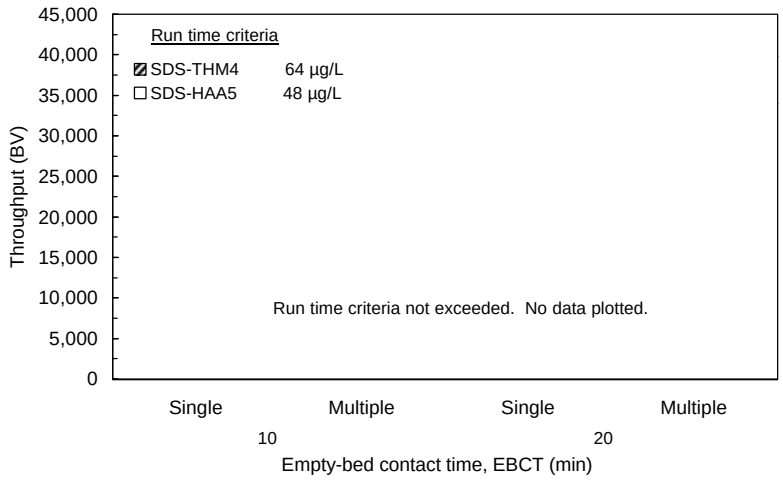

Figure 89 Throughput based on single contactors and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 4 (January)

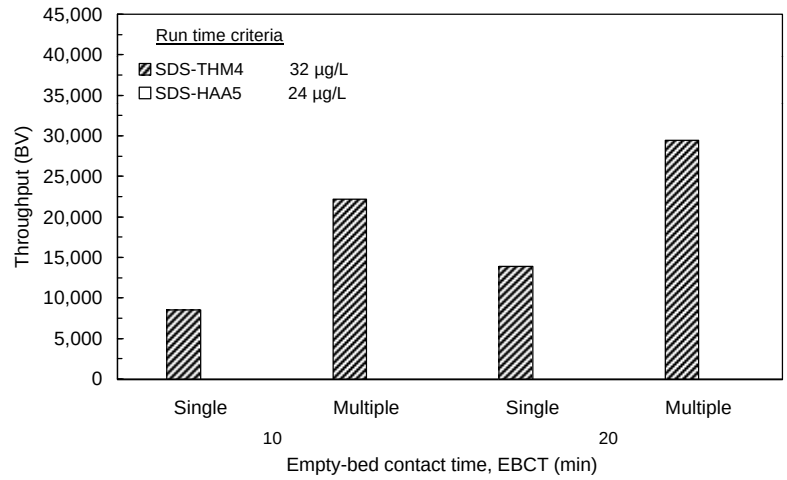

Figure 90 Throughput based on single contactors and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 4 (January)

10 *Blended Effluent Simulation and Breakthrough Curve Extrapolation*

10 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:

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

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:

$$\overline{C}(t) = \frac{1}{t}\int_0^t C(t)dt \qquad (3)$$

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:

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

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 sets is given in Table 34. As can be seen by the high r^2 for curve fits (mean: 0.97, 25th percentile: 0.97, 75th percentile: 0.99), 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.

For the February session, Figures 91 through 98 contain single column and blended effluent breakthrough curves for both 10 and 20 minute EBCT contactors 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 significant impact on overall costs of accounting for a blended effluent situation. For example, the 10 minute EBCT contactor TOC breakthrough curve plotted in Figure 91 reaches an effluent concentration of 1.0 mg/L after 24 days. The multiple contactor blended effluent breakthrough curve does not reach an effluent TOC concentration of 1.0 mg/L until after 48 days of single contactor operation time (a 100 percent increase). Thus, the operation time for each single contactor as a part of multiple GAC contactors operated in parallel staggered mode is about doubled.

The single contactor and blended effluent (multiple contactors) comparisons are presented for the May, August, and January sessions for all parameters in Figures 99 through 122. A blending analysis can be made for the SDS-DBPs. For example, the run time to the placeholder for Stage 2 THM4 MCL based on a 10 minute EBCT contactor during the May session (as shown in Figure 101) is 23 days. After accounting for effluent blending, this run time is estimated to be 46 days, a 100 percent increase.

Table 35 summarizes the run time for a 10 minute EBCT contactor, assuming a blended effluent, for the February session. For each parameter and criterion, the value of other parameters is given when the run time criterion is met. Table 35 also includes, when applicable, run time calculations based on effluent blending of extrapolated breakthrough curves (described below). Tables 36 through 38 summarize the same information for the May, August, and January sessions. Tables 39 through 42 summarize the same information for the 20 minute EBCT contactor for all four sessions.

For single and multiple contactor configurations, Tables 43 through 46 summarize the percent increase in run times observed between a 10 and 20 minute EBCT contactor, for all 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 all sessions was 149 and 151 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.

By accounting for multiple contactor configurations, the estimated contactor run time increased by an average of 120 percent for both EBCTs and over all sessions, as compared to single contactor performance. Thus, when 10 or more contactors are operated in staggered mode, the run time of each contactor more than double 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:

$$\mathrm{CUR} = \frac{\mathrm{EBCT} * r}{\mathrm{RT}} \qquad (5)$$

where *r* is the GAC density and RT is the run time. The CUR is normally reported with units of lbs/MG. Tables 47 through 50 summarize the percent decrease in CUR observed between 10 and 20 minute EBCT contactors for both single and multiple contactor configurations for all sessions. On average, the CUR for 20 minute EBCT contactors was 19 and 20 percent lower than the CUR for 10 minute EBCT contactors, based on single and multiple contactor breakthrough data, respectively. For either the 10 or 20 minute EBCT contactors, the CUR based on effluent blending was on average 54 percent lower than the CUR based on single contactor data, for all sessions.

A seasonal comparison of multiple contactor simulation run times is summarized in Table 51, for a 10 minute EBCT, and in Table 52, for a 20 minute EBCT. The mean, standard deviation, and RSD of run times over the four quarterly sessions are listed in each table, providing a measure of the degree of seasonal variability evident in GAC performance after accounting for multiple contactor operation. For example, the run time to a GAC effluent TOC concentration of 1.0 mg/L for 10 minute EBCT contactors ranged from 45 to 79 days, with a RSD of 27 percent. Run times to meet the placeholder for Stage 2 THM4 MCL ranged from 46 to 154 days, with a RSD of 51 percent.

Bar graph summaries of run times to effluent criteria for single and multiple contactor configurations and for 10 and 20 minute EBCTs for the February session are shown in Figures 123 through 126. The same data are shown for the May, August, and January sessions in Figures 127 through 138.

The calculated CURs are presented in a bar graph format for single and multiple contactor configurations and for both the 10 and 20 minute EBCTs for all sessions in Figures 139 through 154.

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	$1.5t_{max}$	$C(t_{max}) + 0.5[C_{inf} - C(t_{max})]$	(6)
B	$2.0t_{max}$	$C(t_{max}) + 0.6[C_{inf} - C(t_{max})]$	(7)
C	$2.5t_{max}$	$C(t_{max}) + 0.7[C_{inf} - C(t_{max})]$	(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 155 through 210 contain the extrapolated breakthrough curves for all runs. Table 53 summarizes the best fit parameter values and r^2 values for all curve fits.

Parameter	Coefficient	10 minute EBCT				20 minute EBCT			
		February	May	August	January	February	May	August	January
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	2.33	2.71	2.53	2.29	2.23	2.69	2.58	2.33
	B	12.4	39.6	19.8	13.6	12.7	35.3	12.2	12.6
	D	0.090	0.126	0.078	0.057	0.038	0.051	0.027	0.023
	r^2	0.991	0.985	0.983	0.986	0.991	0.982	0.972	0.984
UV_{254}	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.033	0.045	0.046	0.028	0.033	0.046	0.046	0.031
	B	20.0	70.0	25.3	20.0	20.0	77.0	20.0	20.0
	D	0.097	0.142	0.071	0.055	0.038	0.055	0.027	0.022
	r^2	0.993	0.990	0.986	0.988	0.992	0.990	0.978	0.981
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	40.1	71.0	66.8	39.3	42.7	71.6	76.1	44.4
	B	23.3	125.6	42.8	85.3	24.5	173.8	19.5	14.6
	D	0.114	0.191	0.107	0.107	0.045	0.077	0.033	0.021
	r^2	0.984	0.976	0.985	0.982	0.989	0.990	0.967	0.968
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	17.2	29.0	33.8	16.0	14.1	25.4	34.3	13.9
	B	31.8	40.7	30.8	17.0	29.2	144.2	24.7	40.6
	D	0.095	0.118	0.065	0.060	0.042	0.066	0.026	0.034
	r^2	0.969	0.983	0.967	0.877	0.984	0.983	0.960	0.948
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	23.1	39.8	41.2	22.0	20.4	36.2	43.7	20.2
	B	38.2	49.0	30.9	40.0	30.2	132.0	22.3	38.5
	D	0.111	0.131	0.074	0.075	0.045	0.067	0.028	0.034
	r^2	0.978	0.986	0.965	0.891	0.982	0.986	0.957	0.959
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	38.1	55.8	57.0	33.0	35.4	50.5	38.1	32.1
	B	32.1	286.4	29.6	40.0	28.8	357.9	658.1	61.8
	D	0.112	0.238	0.083	0.075	0.044	0.090	0.097	0.038
	r^2	0.980	0.976	0.951	0.926	0.976	0.958	0.988	0.977
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	111	184	183	114	118	185	190	130
	B	57.7	127.7	53.0	31.2	19.4	122.0	28.7	23.0
	D	0.137	0.165	0.094	0.068	0.034	0.061	0.033	0.023
	r^2	0.978	0.993	0.986	0.990	0.987	0.992	0.986	0.984
SDS-CLD	A_o	-0.02	0.33	0.50	0.34	0.24	0.37	0.63	0.86
	A_f	1.42	1.91	2.07	1.97	1.39	3.03	1.84	1.45
	B	2.4	40.5	13.4	2.3	5.9	19.9	66.7	21.1
	D	0.055	0.144	0.075	0.033	0.031	0.030	0.057	0.029
	r^2	0.988	0.985	0.987	0.975	0.956	0.939	0.990	0.926

Table 34 Summary of logistic function curve fit parameters and r2 values

Parameter	Units	Influent concen-tration	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)	3.2	2.0	133#	19,160	2.0	0.032	36	15	21	35	110
			1.0	48	6,850	1.0	0.012	17	5	8	14	43
			1.6†	83#	12,000	1.6	0.022	29	10	15	26	80
UV_{254}	(1/cm)	0.061	0.040	*	*							
			0.020	74#	10,670	1.5	0.020	26	9	14	23	72
			0.030†	122#	17,570	1.9	0.030	35	15	20	33	106
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	100#	14,350	1.8	0.026	32	13	18	30	93
SDS-HAA5	(µg/L)	30	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	39	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	59	48	*	*							
			24	77#	11,070	1.5	0.021	27	9	14	24	74
SDS-TOX	(µg Cl^-/L)	201	120	*	*							
			70	72#	10,410	1.4	0.019	26	9	13	23	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 (10 minute EBCT) during session 1, February

Parameter	Units	Influent concen-tration	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)	3.7	2.0	92#	13,250	2.0	0.037	61	24	33	52	157
			1.0	45	6,460	1.0	0.016	31	10	14	26	65
			1.8†	81#	11,640	1.8	0.033	57	21	29	48	140
UV_{254}	(1/cm)	0.087	0.040	100#	14,410	2.1	0.040	64	26	35	55	167
			0.020	53	7,690	1.2	0.020	37	12	18	31	83
			0.043†	113#	16,260	2.2	0.043	68	28	38	58	181
SDS-THM4	(µg/L)	117	80	*	*							
			64	100#	14,380	2.1	0.040	64	26	35	55	167
			32	46	6,620	1.0	0.016	32	10	15	27	67
SDS-HAA5	(µg/L)	63	48	*	*							
			24	93#	13,350	2.0	0.038	62	24	33	52	158
SDS-HAA6	(µg/L)	76	48	*	*							
			24	67#	9,620	1.6	0.027	49	17	24	41	114
SDS-HAA9	(µg/L)	107	48	81#	11,650	1.8	0.033	57	21	29	48	140
			24	42	6,010	0.9	0.014	28	9	13	24	57
SDS-TOX	(µg Cl^-/L)	364	120	70#	10,060	1.6	0.029	51	17	25	43	120
			70	47	6,780	1.1	0.017	33	10	15	28	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 (10 minute EBCT) during session 2, May

Parameter	Units	Influent concen-tration	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)	3.5	2.0	144#	20,690	2.0	0.035	59	24	31	45	155
			1.0	61	8,790	1.0	0.014	29	8	12	20	61
			1.7†	111#	15,990	1.7	0.028	51	19	26	38	127
UV_{254}	(1/cm)	0.078	0.040	174#	25,090	2.2	0.040	64	27	35	50	174
			0.020	80	11,490	1.3	0.020	37	12	18	28	87
			0.039†	168#	24,210	2.1	0.039	63	26	34	49	170
SDS-THM4	(µg/L)	105	80	*	*							
			64	177#	25,440	2.2	0.040	64	27	35	50	175
			32	67	9,700	1.1	0.016	32	10	14	23	71
SDS-HAA5	(µg/L)	49	48	*	*							
			24	148#	21,280	2.0	0.036	60	24	32	46	158
SDS-HAA6	(µg/L)	60	48	*	*							
			24	104#	14,950	1.6	0.026	49	17	24	36	119
SDS-HAA9	(µg/L)	80	48	162#	23,270	2.1	0.038	62	25	33	48	167
			24	69	9,990	1.1	0.017	33	10	15	24	73
SDS-TOX	(µg Cl^-/L)	317	120	105#	15,130	1.7	0.026	49	18	24	37	120
			70	67	9,640	1.1	0.016	32	10	14	23	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 (10 minute EBCT) during session 3, August

Parameter	Units	Influent concen-tration	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)	3.1	2.0	227#	32,750	2.0	0.026	37	15	20	30	113
			1.0	79	11,420	1.0	0.010	19	7	9	13	43
			1.5†	133#	19,170	1.5	0.017	30	11	15	22	77
UV_{254}	(1/cm)	0.051	0.040	*	*							
			0.020	154#	22,240	1.7	0.020	32	12	17	25	88
			0.025†	211#	30,340	1.9	0.025	36	15	20	29	109
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	154#	22,180	1.7	0.020	32	12	17	25	88
SDS-HAA5	(µg/L)	27	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	34	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	48	48	*	*							
			24	149#	21,430	1.6	0.019	31	12	16	24	86
SDS-TOX	(µg Cl^-/L)	205	120	260#	37,430	2.1	0.028	38	16	21	31	120
			70	121#	17,410	1.4	0.016	28	10	14	20	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 (10 minute EBCT) during session 4, January

Parameter	Units	Influent concen-tration	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)	3.2	2.0	350#	25,230	2.0	0.032	38	14	20	33	106
			1.0	117	8,440	1.0	0.012	18	5	8	13	37
			1.6†	213#	15,350	1.6	0.022	30	9	14	24	72
UV_{254}	(1/cm)	0.061	0.040	*	*							
			0.020	195#	14,020	1.5	0.020	28	8	13	22	66
			0.030†	324#	23,340	1.9	0.030	37	14	19	32	101
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	238#	17,110	1.7	0.024	32	10	15	26	80
SDS-HAA5	(µg/L)	30	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	39	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	59	48	*	*							
			24	213#	15,360	1.6	0.022	30	9	14	24	72
SDS-TOX	(µg Cl^-/L)	201	120	*	*							
			70	207#	14,930	1.6	0.021	30	9	14	23	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 39 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 1, February

Parameter	Units	Influent concen-tration	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)	3.7	2.0	227#	16,340	2.0	0.036	59	22	31	46	148
			1.0	109	7,820	1.0	0.014	28	8	12	20	55
			1.8†	200#	14,370	1.8	0.032	54	19	27	41	131
UV_{254}	(1/cm)	0.087	0.040	255#	18,390	2.1	0.040	63	25	34	50	164
			0.020	138	9,960	1.3	0.020	37	12	17	27	81
			0.043†	287#	20,690	2.2	0.043	67	27	37	54	178
SDS-THM4	(µg/L)	117	80	*	*							
			64	263#	18,930	2.2	0.041	64	25	35	51	167
			32	121	8,730	1.1	0.017	32	10	15	23	67
SDS-HAA5	(µg/L)	63	48	*	*							
			24	246#	17,730	2.1	0.039	62	24	33	49	159
SDS-HAA6	(µg/L)	76	48	*	*							
			24	179#	12,880	1.7	0.028	50	17	24	37	115
SDS-HAA9	(µg/L)	107	48	242#	17,400	2.1	0.038	61	24	32	48	157
			24	124	8,940	1.2	0.017	33	10	15	24	70
SDS-TOX	(µg Cl^-/L)	364	120	185#	13,330	1.7	0.030	51	17	25	38	120
			70	125	8,980	1.2	0.017	33	10	15	24	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 40 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 2, May

Parameter	Units	Influent concen-tration	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)	3.5	2.0	341#	24,530	2.0	0.035	61	24	32	*	156
			1.0	141	10,120	1.0	0.013	29	8	13	22	61
			1.7†	266#	19,130	1.7	0.028	53	19	26	41	128
UV_{254}	(1/cm)	0.078	0.040	410#	29,540	2.2	0.040	66	27	35	*	174
			0.020	194	13,950	1.3	0.020	40	13	19	32	90
			0.039†	396#	28,530	2.1	0.039	65	26	35	*	171
SDS-THM4	(µg/L)	105	80	*	*							
			64	377#	27,120	2.1	0.038	64	25	34	*	166
			32	153	11,030	1.1	0.015	32	9	14	25	68
SDS-HAA5	(µg/L)	49	48	*	*							
			24	347#	24,960	2.0	0.036	62	24	32	*	158
SDS-HAA6	(µg/L)	60	48	*	*							
			24	240#	17,250	1.6	0.025	49	17	24	38	116
SDS-HAA9	(µg/L)	80	48	*	*							
			24	150#	10,830	1.1	0.015	31	9	14	24	65
SDS-TOX	(µg Cl^-/L)	317	120	248#	17,890	1.6	0.026	50	18	25	39	120
			70	156	11,250	1.1	0.015	33	10	15	26	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 41 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 3, August

Parameter	Units	Influent concen-tration	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)	3.1	2.0	538#	38,720	2.0	0.027	37	14	19	29	112
			1.0	185	13,310	1.0	0.010	16	6	9	14	41
			1.5†	318#	22,880	1.5	0.018	27	9	14	22	74
UV_{254}	(1/cm)	0.051	0.040	*	*							
			0.020	360#	25,940	1.7	0.020	30	10	15	24	84
			0.025†	485#	34,910	1.9	0.025	35	13	18	28	105
SDS-THM4	(µg/L)	58	80	*	*							
			64	*	*							
			32	409#	29,460	1.8	0.022	32	11	16	26	93
SDS-HAA5	(µg/L)	27	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	34	48	*	*							
			24	*	*							
SDS-HAA9	(µg/L)	48	48	*	*							
			24	358#	25,800	1.7	0.020	29	10	15	24	83
SDS-TOX	(µg Cl^-/L)	205	120	623#	44,820	2.1	0.029	39	15	20	30	120
			70	301#	21,680	1.5	0.017	26	9	13	21	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 42 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 4, January

Parameter	Units	Influent concen-tration	Breakthrough criterion	Run time (days) at given EBCT (min)				Increase in run time (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.2	2.0	53	133	137	350	160	163	152	156
			1.0	24	48	58	117	148	146	102	101
			1.6†	37	83	91	213	148	156	128	135
UV-254	(1/cm)	0.061	0.040	*	*	*	*				
			0.020	35	74	92	195	165	163	113	111
			0.030†	55	122	149	324	170	166	121	118
SDS-THM4	(µg/L)	58	80	*	*	*	*				
			64	*	*	*	*				
			32	45	100	96	238	111	138	120	148
SDS-HAA5	(µg/L)	30	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	39	48	*	*	*	*				
			24	63	*	*	*				
SDS-HAA9	(µg/L)	59	48	*	*	*	*				
			24	36	77	95	213	162	177	112	125
SDS-TOX	(µg Cl^-/L)	201	120	*	*	*	*				
			70	34	72	98	207	186	187	112	112

†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 43 Summary of GAC run times to selected GAC effluent criteria during session 1, February

Parameter	Units	Influent concen-tration	Breakthrough criterion	Run time (days) at given EBCT (min)				Increase in run time (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.7	2.0	38	92	94	227	147	147	142	141
			1.0	24	45	57	109	139	142	88	90
			1.8†	35	81	86	200	146	147	130	131
UV-254	(1/cm)	0.087	0.040	47	100	120	255	157	155	115	113
			0.020	27	53	72	138	165	159	96	91
			0.043†	52	113	132	287	155	154	117	117
SDS-THM4	(µg/L)	117	80	*	*	*	*				
			64	42	100	100	263	137	163	136	162
			32	23	46	61	121	160	163	96	99
SDS-HAA5	(µg/L)	63	48	*	*	*	*				
			24	48	93	117	246	143	166	93	110
SDS-HAA6	(µg/L)	76	48	*	*	*	*				
			24	33	67	85	179	161	168	104	110
SDS-HAA9	(µg/L)	107	48	32	81	105	242	224	199	151	131
			24	22	42	60	124	167	198	86	107
SDS-TOX	(µg Cl^-/L)	364	120	33	70	91	185	173	165	111	104
			70	26	47	68	125	162	165	83	85

†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 44 Summary of GAC run times to selected GAC effluent criteria during session 2, May

Parameter	Units	Influent concen-tration	Breakthrough criterion	Run time (days) at given EBCT (min)				Increase in run time (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.5	2.0	61	144	149	341	145	137	137	129
			1.0	31	61	67	141	119	130	99	110
			1.7†	49	111	121	266	148	139	128	120
UV-254	(1/cm)	0.078	0.040	78	174	186	410	138	135	123	121
			0.020	39	80	91	194	131	143	103	114
			0.039†	76	168	182	396	139	136	121	118
SDS-THM4	(µg/L)	105	80	*	*	*	*				
			64	66	177	143	377	116	113	167	164
			32	33	67	73	153	123	127	107	111
SDS-HAA5	(µg/L)	49	48	*	*	*	*				
			24	71	148	163	347	130	135	108	113
SDS-HAA6	(µg/L)	60	48	*	*	*	*				
			24	51	104	120	240	135	131	103	99
SDS-HAA9	(µg/L)	80	48	69	162	*	*			134	
			24	35	69	74	150	114	117	100	103
SDS-TOX	(µg Cl^-/L)	317	120	50	105	120	248	142	136	111	107
			70	35	67	77	156	119	133	91	103

†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 45 Summary of GAC run times to selected GAC effluent criteria during session 3, August

Parameter	Units	Influent concen-tration	Breakthrough criterion	Run time (days) at given EBCT (min)				Increase in run time (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.1	2.0	88	227	216	538	146	136	160	149
			1.0	37	79	90	185	141	133	113	106
			1.5†	59	133	140	318	138	139	127	128
UV-254	(1/cm)	0.051	0.040	*	*	*	*				
			0.020	72	154	173	360	140	133	114	109
			0.025†	97	211	228	485	134	130	117	113
SDS-THM4	(µg/L)	58	80	*	*	*	*				
			64	*	*	*	*				
			32	59	154	193	409	226	166	160	112
SDS-HAA5	(µg/L)	27	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	34	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	48	48	*	*	*	*				
			24	67	149	144	358	116	141	123	148
SDS-TOX	(µg Cl^-/L)	205	120	*	260	249	623		139		150
			70	57	121	139	301	142	149	111	117

†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 46 Summary of GAC run times to selected GAC effluent criteria during session 4, January

Parameter	Units	Influent concen-tration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.2	2.0	550	220	420	160	24	27	60	62
			1.0	1,220	600	980	490	20	18	51	50
			1.6†	790	350	630	270	20	23	56	57
UV-254	(1/cm)	0.061	0.040	*	*	*	*				
			0.020	830	390	620	300	25	23	53	52
			0.030†	520	240	390	180	25	25	54	54
SDS-THM4	(µg/L)	58	80	*	*	*	*				
			64	*	*	*	*				
			32	630	290	600	240	5	17	54	60
SDS-HAA5	(µg/L)	30	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	39	48	*	*	*	*				
			24	460	*	*	*				
SDS-HAA9	(µg/L)	59	48	*	*	*	*				
			24	790	370	610	270	23	27	53	56
SDS-TOX	(µg Cl^-/L)	201	120	*	*	*	*				
			70	840	400	590	280	30	30	52	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 47 Summary of carbon usage rates to selected GAC effluent criteria during session 1, February

Parameter	Units	Influent concen-tration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.7	2.0	760	310	610	250	20	19	59	59
			1.0	1,200	640	1,010	530	16	17	47	48
			1.8†	820	360	670	290	18	19	56	57
UV-254	(1/cm)	0.087	0.040	620	290	480	230	23	21	53	52
			0.020	1,060	540	800	420	25	22	49	48
			0.043†	550	250	430	200	22	20	55	53
SDS-THM4	(µg/L)	117	80	*	*	*	*				
			64	680	290	570	220	16	24	57	61
			32	1,230	630	940	470	24	25	49	50
SDS-HAA5	(µg/L)	63	48	*	*	*	*				
			24	600	310	490	230	18	26	48	53
SDS-HAA6	(µg/L)	76	48	*	*	*	*				
			24	880	430	680	320	23	26	51	53
SDS-HAA9	(µg/L)	107	48	890	360	550	240	38	33	60	56
			24	1,280	690	960	460	25	33	46	52
SDS-TOX	(µg Cl^-/L)	364	120	870	410	640	310	26	24	53	52
			70	1,120	610	850	460	24	25	46	46

†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 48 Summary of carbon usage rates to selected GAC effluent criteria during session 2, May

Parameter	Units	Influent concen-tration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.5	2.0	470	200	390	170	17	15	57	56
			1.0	940	470	860	410	9	13	50	52
			1.7†	590	260	480	220	19	15	56	54
UV-254	(1/cm)	0.078	0.040	370	170	310	140	16	18	54	55
			0.020	730	360	640	300	12	17	51	53
			0.039†	380	170	320	150	16	12	55	53
SDS-THM4	(µg/L)	105	80	*	*	*	*				
			64	440	160	400	150	9	6	64	63
			32	880	430	790	380	10	12	51	52
SDS-HAA5	(µg/L)	49	48	*	*	*	*				
			24	410	190	350	170	15	11	54	51
SDS-HAA6	(µg/L)	60	48	*	*	*	*				
			24	560	280	480	240	14	14	50	50
SDS-HAA9	(µg/L)	80	48	420	180	*	*			57	
			24	830	410	780	380	6	7	51	51
SDS-TOX	(µg Cl^-/L)	317	120	580	270	480	230	17	15	53	52
			70	820	430	750	370	9	14	48	51

†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 49 Summary of carbon usage rates to selected GAC effluent criteria during session 3, August

Parameter	Units	Influent concen-tration	Breakthrough criterion	Carbon usage rate, CUR (lbs/MG) at given EBCT (min)				Decrease in CUR (%)			
				10		20		10 to 20 min EBCT		Single to multiple contactors EBCT (min)	
				Contactor configuration				Contactor configuration			
				Single	Multiple	Single	Multiple	Single	Multiple	10	20
TOC	(mg/L)	3.1	2.0	330	130	270	110	18	15	61	59
			1.0	770	360	640	310	17	14	53	52
			1.5†	490	220	410	180	16	18	55	56
UV-254	(1/cm)	0.051	0.040	*	*	*	*				
			0.020	400	190	330	160	18	16	53	52
			0.025†	300	140	250	120	17	14	53	52
SDS-THM4	(µg/L)	58	80	*	*	*	*				
			64	*	*	*	*				
			32	490	190	300	140	39	26	61	53
SDS-HAA5	(µg/L)	27	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	34	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA9	(µg/L)	48	48	*	*	*	*				
			24	430	190	400	160	7	16	56	60
SDS-TOX	(µg Cl^-/L)	205	120	*	110	230	90		18		61
			70	500	240	410	190	18	21	52	54

†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 50 Summary of carbon usage rates to selected GAC effluent criteria during session 4, January

Parameter	Units	Value	Run time (days) Session 1 February	2 May	3 August	4 January	Mean	Standard deviation	Relative standard deviation (%)
TOC	(mg/L)	2.0	133#	92#	144#	227#	149	±57	38%
		1.0	48	45	61	79	58	±16	27%
		c/c_0 = 50%†	83#	81#	111#	133#	102	±25	24%
UV-254	(1/cm)	0.040	*	100#	174#	*	137	±52	38%
		0.020	74#	53	80	154#	90	±44	49%
		c/c_0 = 50%†	122#	113#	168#	211#	153	±45	29%
SDS-THM4	(µg/L)	80	*	*	*	*			
		64	*	100#	177#	*	138	±54	39%
		32	100#	46	67	154#	92	±47	51%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	*	93#	148#	*	120	±39	32%
SDS-HAA6	(µg/L)	48	*	*	*	*			
		24	*	67#	104#	*	85	±26	31%
SDS-HAA9	(µg/L)	48	*	81#	162#	*	121	±57	47%
		24	77#	42	69	152#	85	±47	55%
SDS-TOX	(µg Cl^-/L)	120	*	70#	105#	260#	145	±101	70%
		70	72#	47	67	121#	77	±31	41%
Extrapolated run time (days)		--	159	146	216	262	195	±54	27%

†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 51 Run times to selected GAC effluent criteria based on effluent blending (10 minute EBCT)

Parameter	Units	Value	Run time (days) Session 1 February	2 May	3 August	4 January	Mean	Standard deviation	Relative standard deviation (%)
TOC	(mg/L)	2.0	350#	227#	341#	538#	364	±129	35%
		1.0	117	109	141	185	138	±34	25%
		c/c_0 = 50%†	213#	200#	266#	318#	249	±54	22%
UV-254	(1/cm)	0.040	*	255#	410#	*	333	±110	33%
		0.020	195#	138	194	360#	222	±96	43%
		c/c_0 = 50%†	324#	287#	396#	485#	373	±87	23%
SDS-THM4	(µg/L)	80	*	*	*	*			
		64	*	263#	377#	*	320	±81	25%
		32	238#	121	153	409#	230	±129	56%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	*	246#	347#	*	296	±71	24%
SDS-HAA6	(µg/L)	48	*	*	*	*			
		24	*	179#	240#	*	209	±43	20%
SDS-HAA9	(µg/L)	48	*	242#	*	*	242		
		24	248#	124	150#	358#	220	±106	48%
SDS-TOX	(µg Cl^-/L)	120	*	185#	248#	623#	352	±236	67%
		70	207#	125	156	301#	197	±77	39%
Extrapolated run time (days)		--	430	367	501	718	504	±153	30%

†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 52 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT)

Parameter	Coefficient	10 minute EBCT				20 minute EBCT			
		February	May	August	January	February	May	August	January
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	2.74	2.80	2.89	2.68	2.69	2.75	2.98	2.70
	B	8.6	7.2	6.7	9.8	7.4	9.2	6.3	8.7
	D	0.063	0.057	0.058	0.041	0.024	0.028	0.023	0.016
	r^2	0.972	0.946	0.949	0.970	0.959	0.956	0.967	0.970
UV_{254}	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.050	0.055	0.055	0.042	0.051	0.055	0.055	0.043
	B	12.7	10.5	10.0	12.4	10.8	12.6	10.7	12.5
	D	0.054	0.056	0.051	0.031	0.019	0.024	0.022	0.013
	r^2	0.950	0.937	0.945	0.942	0.947	0.946	0.939	0.968
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	49.4	49.2	100.3	46.9	49.5	49.5	103.1	51.3
	B	12.9	8.8	9.3	31.4	14.8	12.2	10.7	11.1
	D	0.075	0.069	0.057	0.071	0.033	0.033	0.025	0.016
	r^2	0.961	0.904	0.939	0.953	0.970	0.939	0.960	0.959
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	24.8	27.2	29.0	22.3	24.4	27.2	29.4	21.6
	B	21.8	9.5	9.5	12.1	13.6	9.8	11.0	10.5
	D	0.062	0.055	0.050	0.036	0.019	0.023	0.022	0.012
	r^2	0.955	0.892	0.871	0.841	0.923	0.806	0.914	0.878
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	32.1	31.7	33.8	28.7	31.6	31.6	34.2	27.8
	B	19.5	8.3	9.6	13.4	12.1	9.3	10.0	10.6
	D	0.068	0.057	0.059	0.040	0.020	0.025	0.024	0.015
	r^2	0.954	0.901	0.886	0.866	0.921	0.830	0.904	0.903
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	50.0	34.0	37.1	41.0	49.2	33.5	37.2	39.0
	B	17.2	5.8	7.4	16.4	12.8	5.4	8.6	16.9
	D	0.071	0.055	0.057	0.046	0.023	0.024	0.025	0.021
	r^2	0.957	0.877	0.873	0.897	0.932	0.799	0.914	0.939
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	164	183	223	168	168	184	224	174
	B	15.1	10.6	10.6	16.1	13.2	14.0	11.0	14.6
	D	0.064	0.052	0.051	0.038	0.020	0.024	0.022	0.014
	r^2	0.918	0.898	0.924	0.951	0.963	0.915	0.928	0.966

Table 53 Summary of logistic function curve fit parameters and r2 values for curve fits after breakthrough curve extrapolation

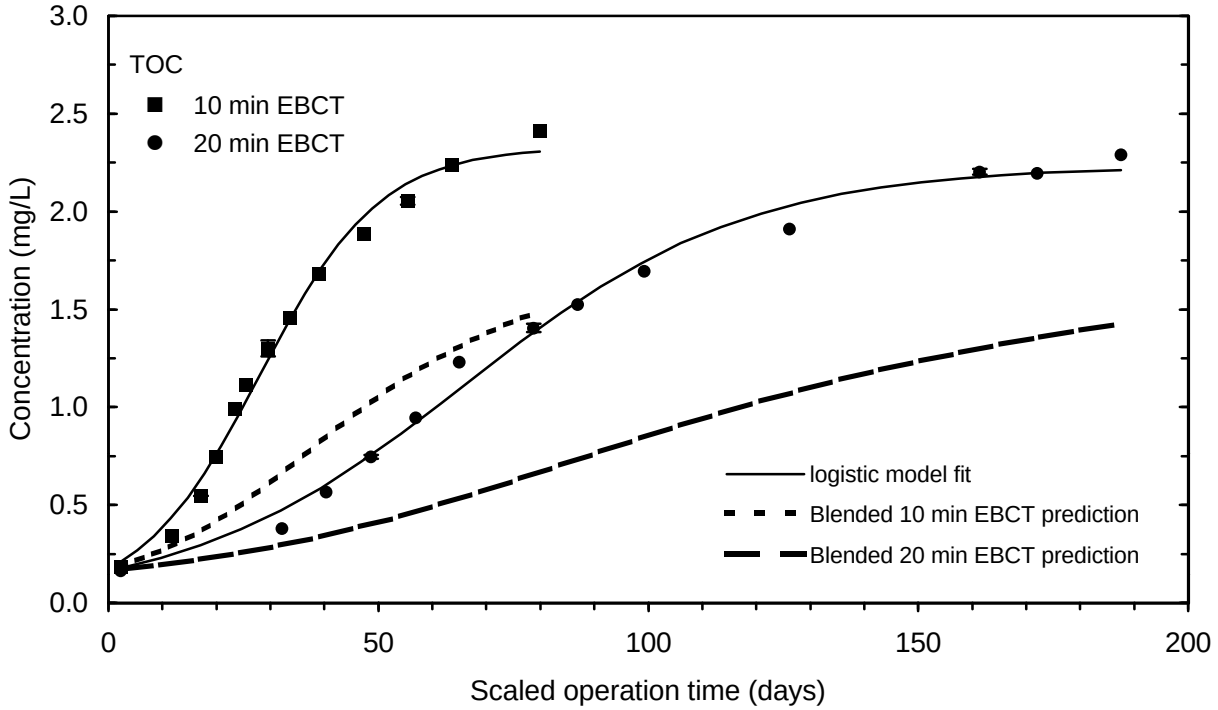

Figure 91 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

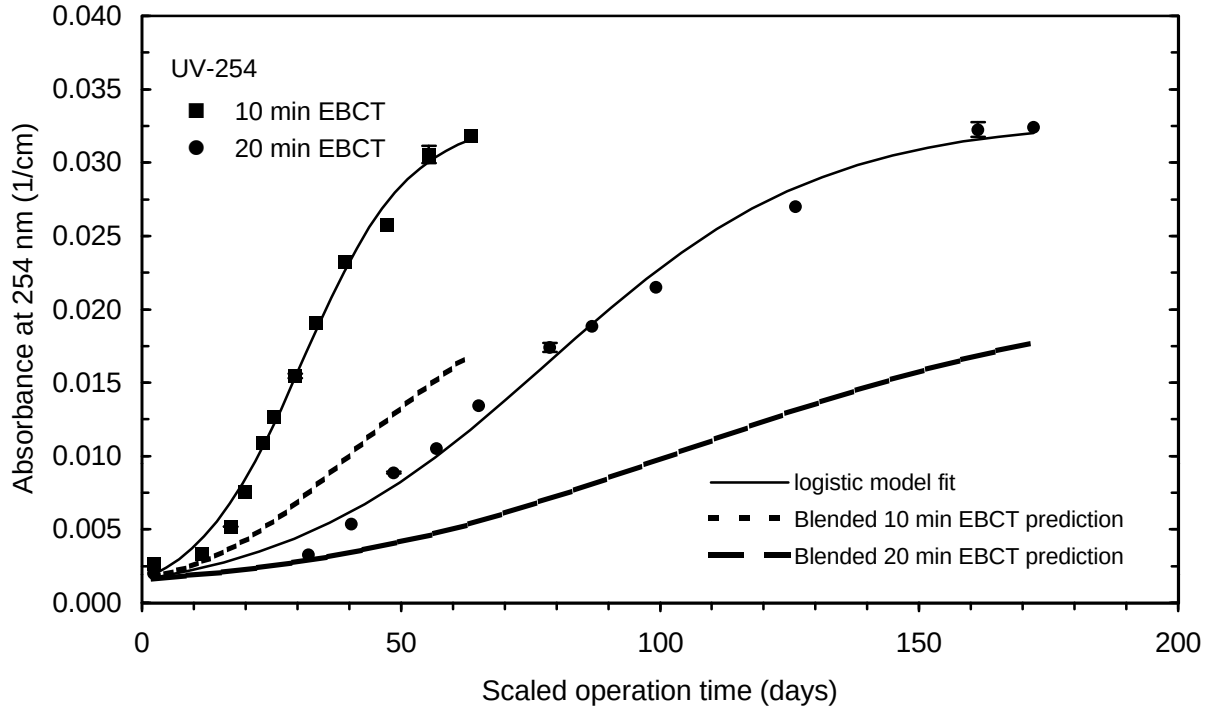

Figure 92 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

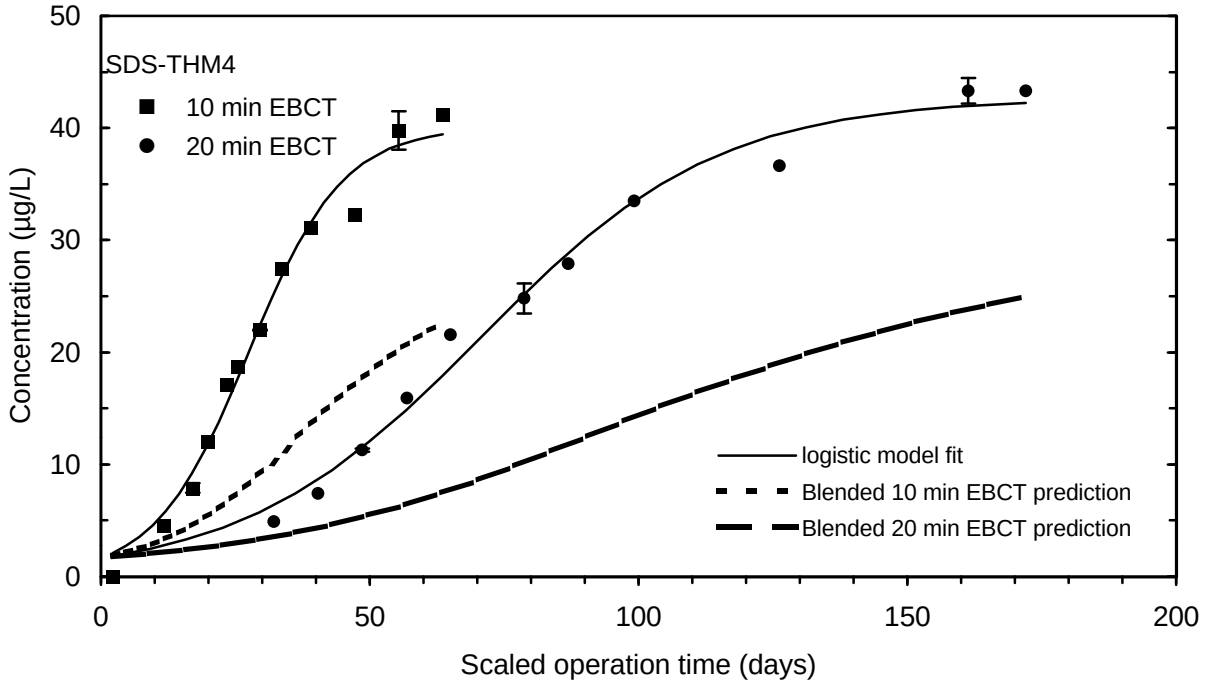

Figure 93 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

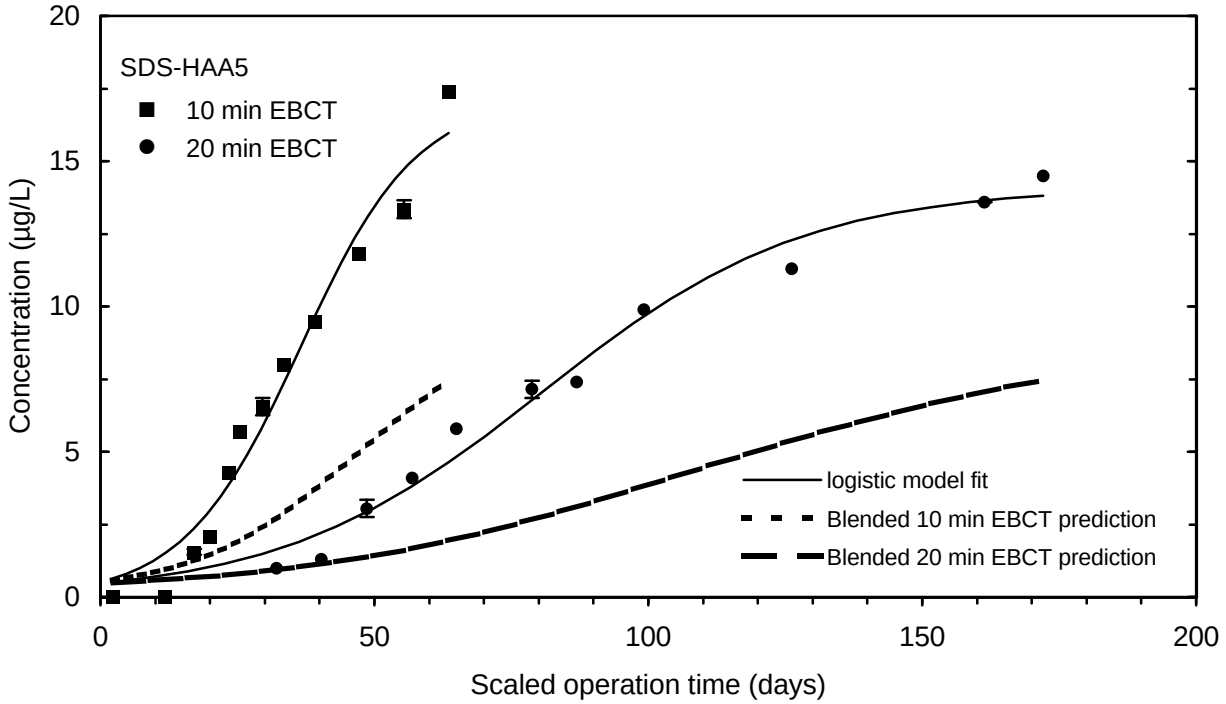

Figure 94 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

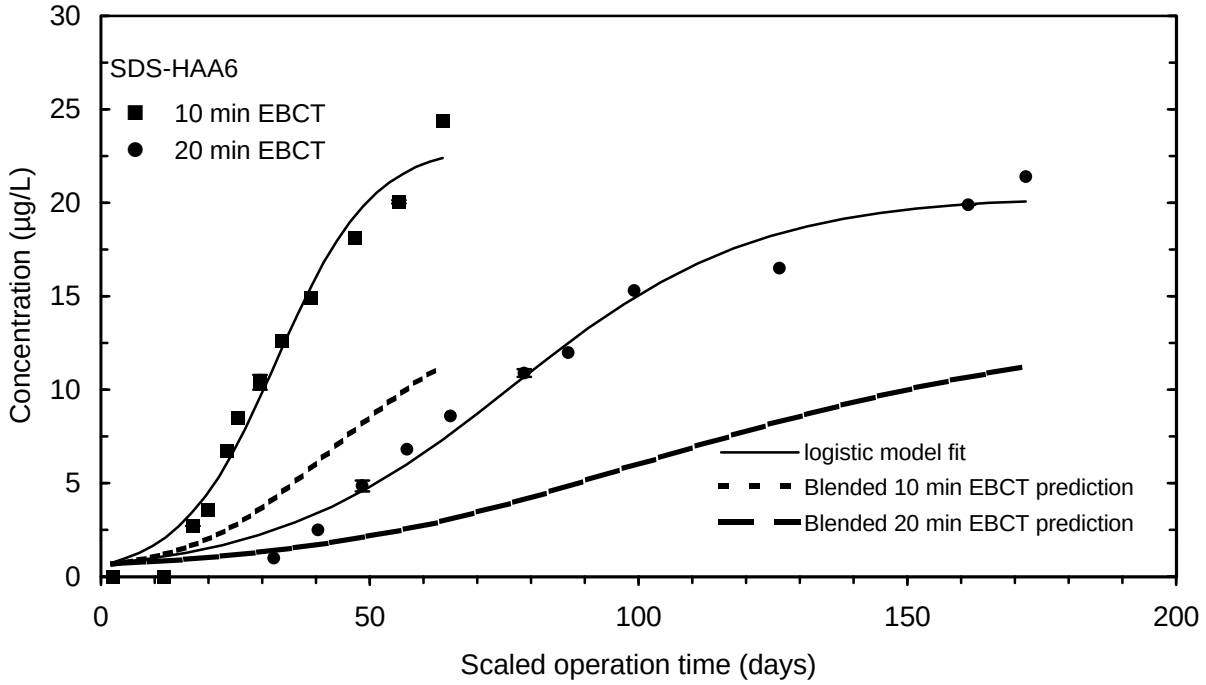

Figure 95 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

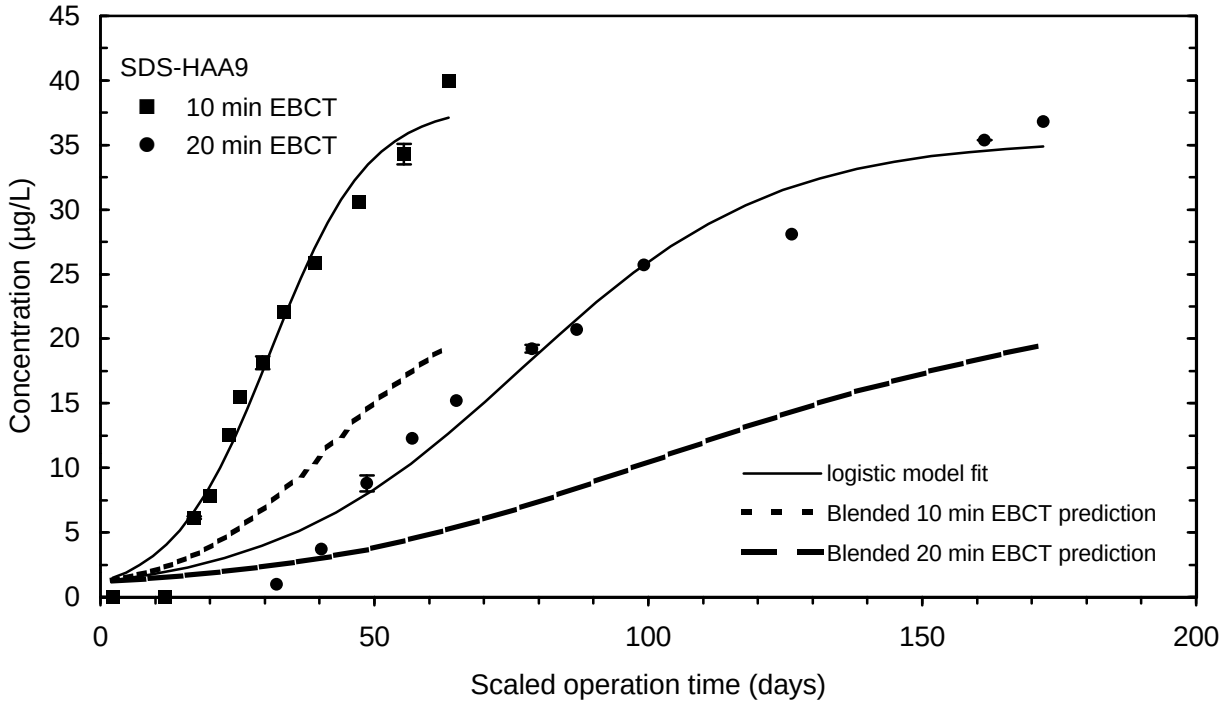

Figure 96 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

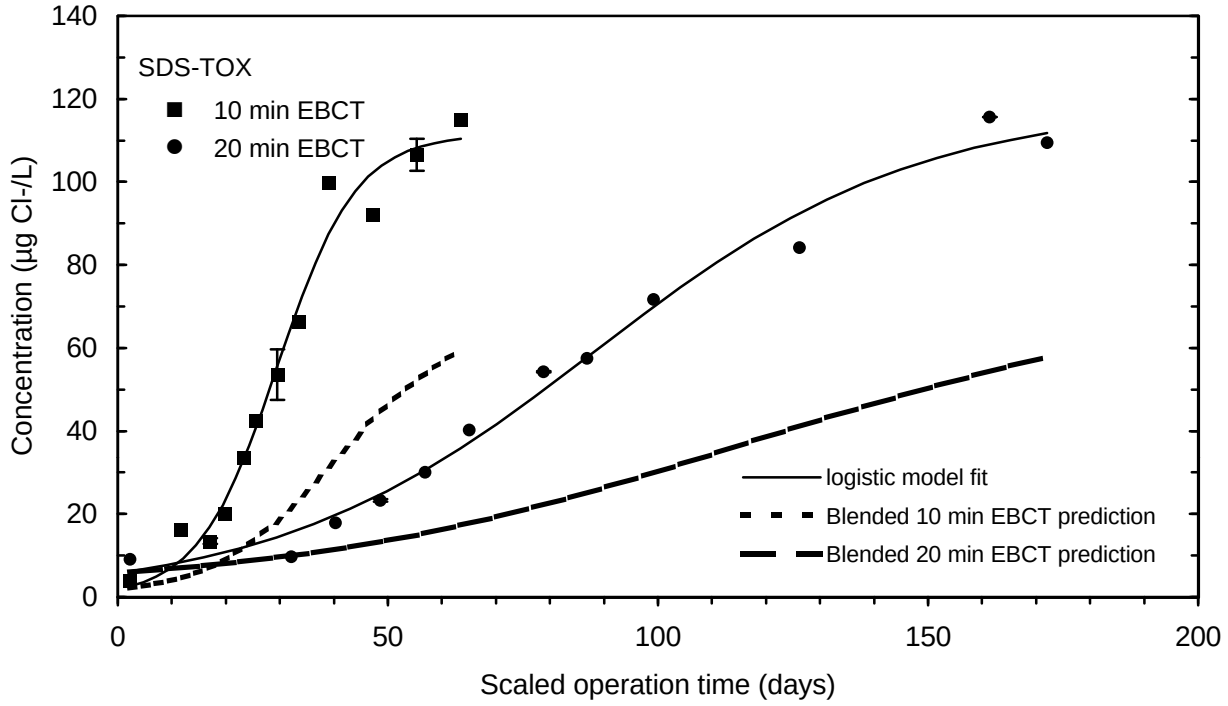

Figure 97 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

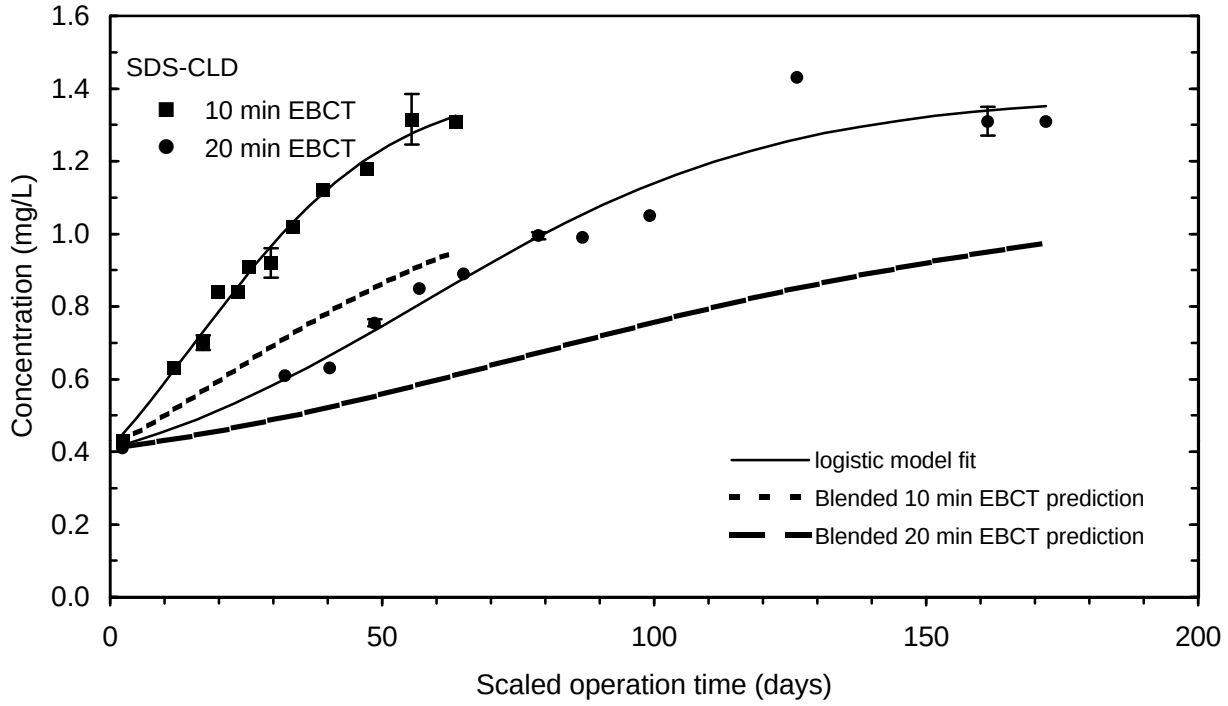

Figure 98 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (February)

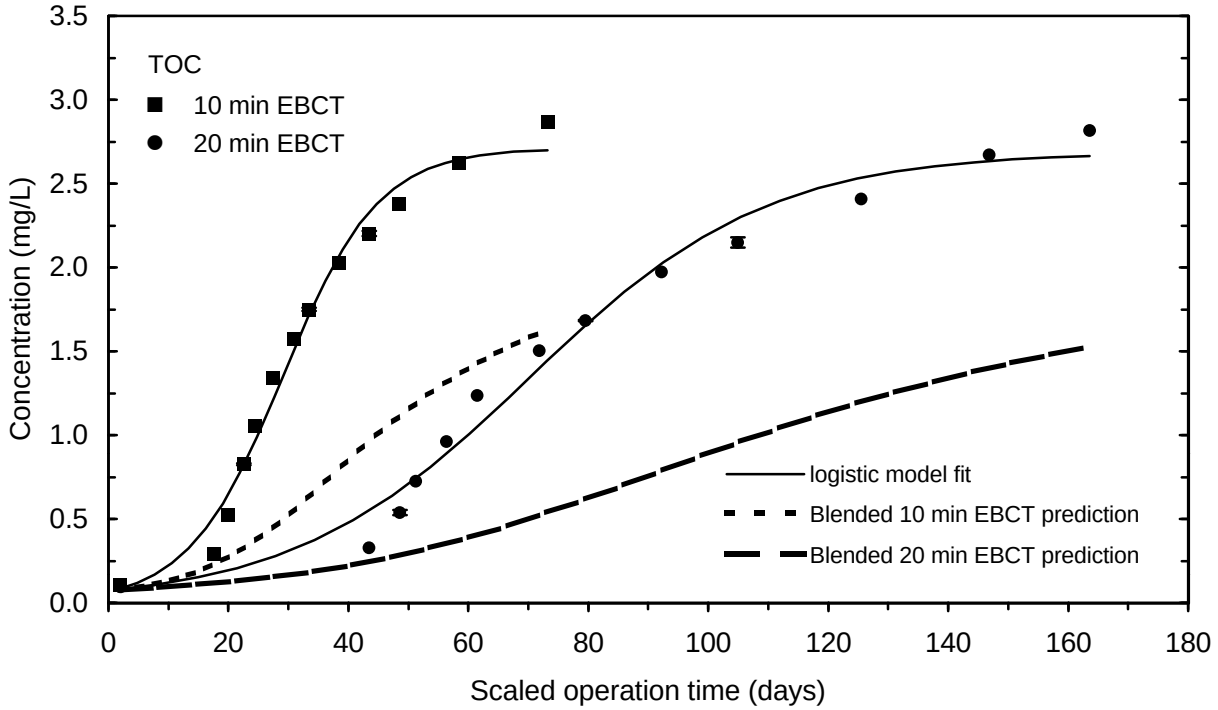

Figure 99 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

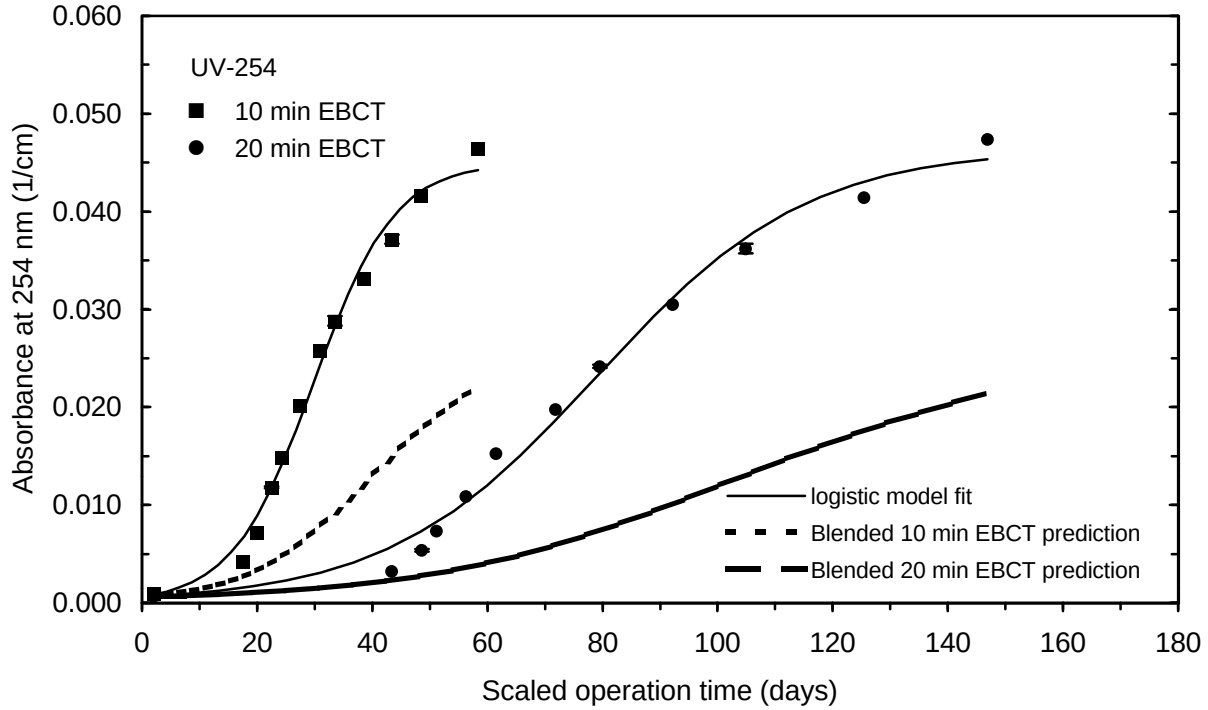

Figure 100 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

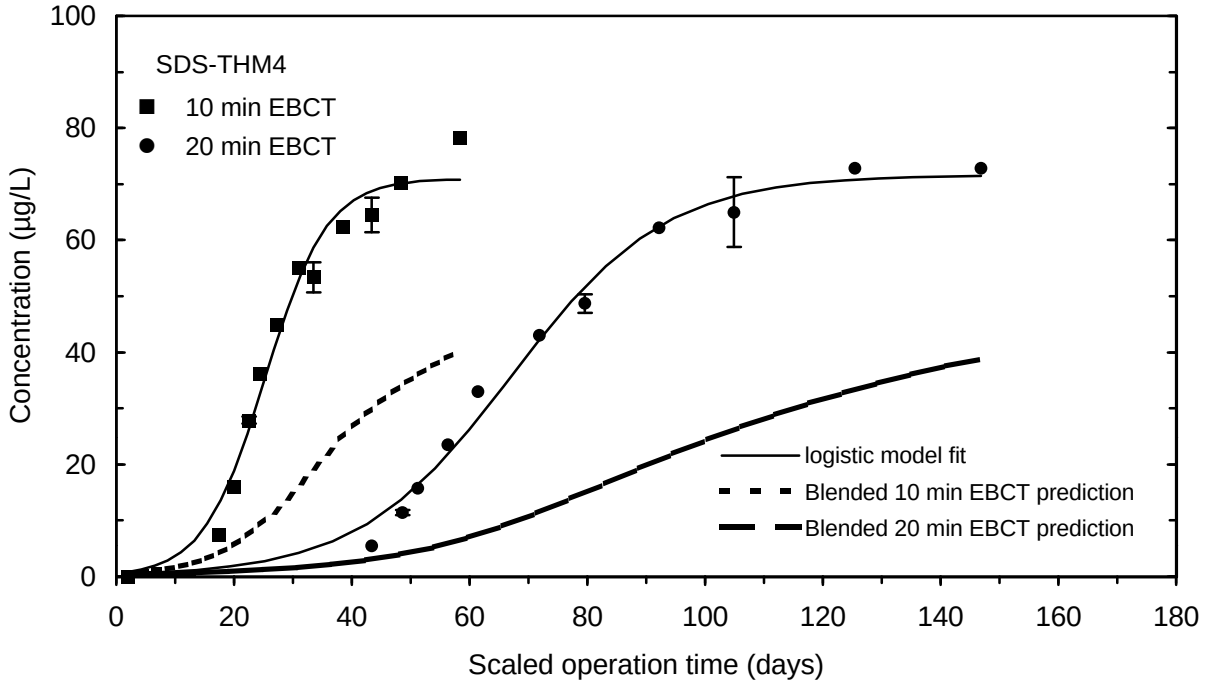

Figure 101 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

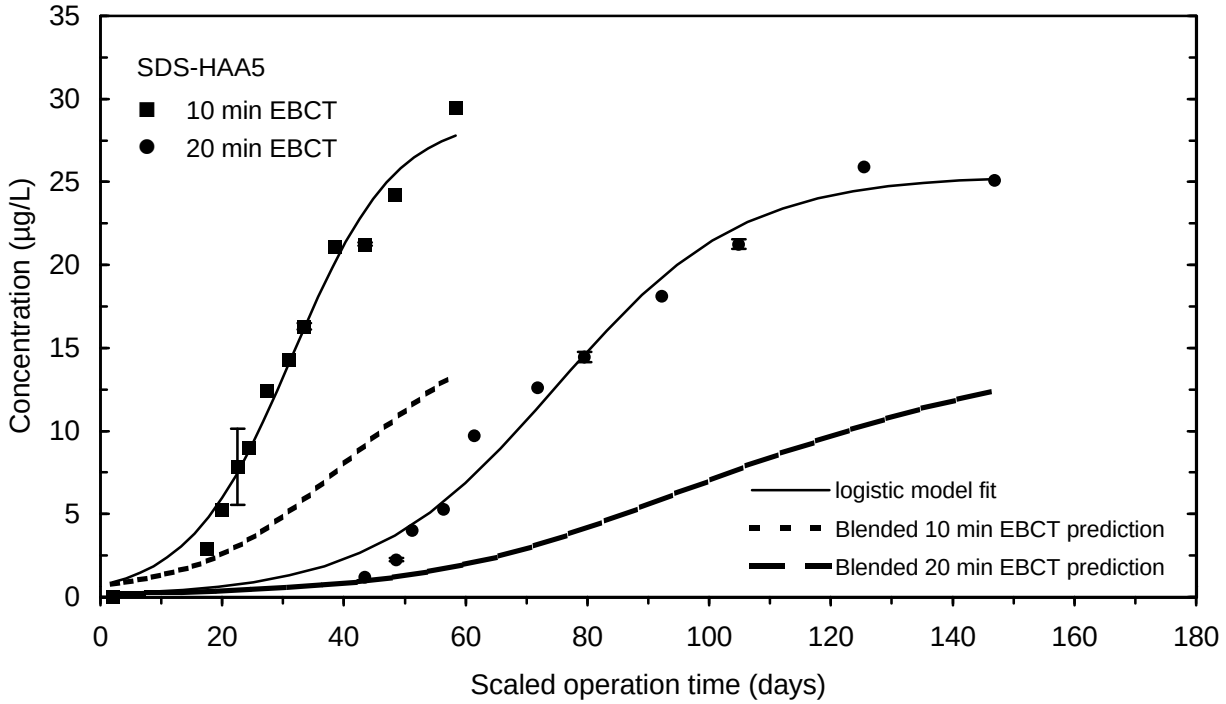

Figure 102 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

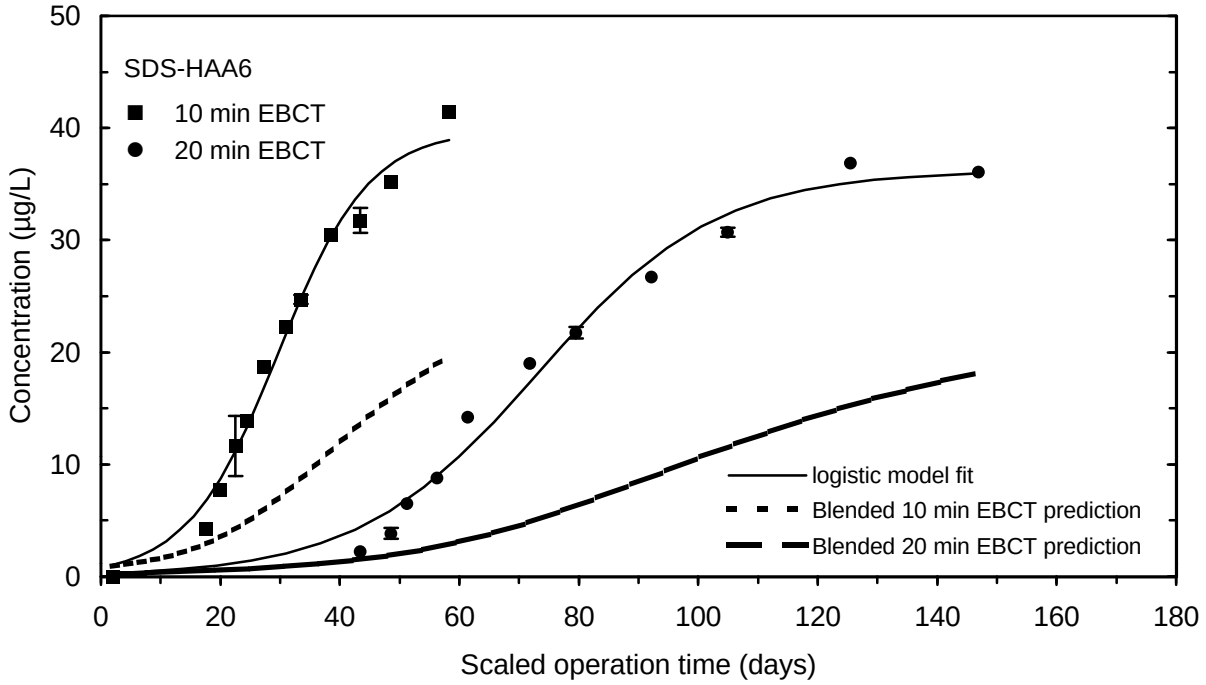

Figure 103 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

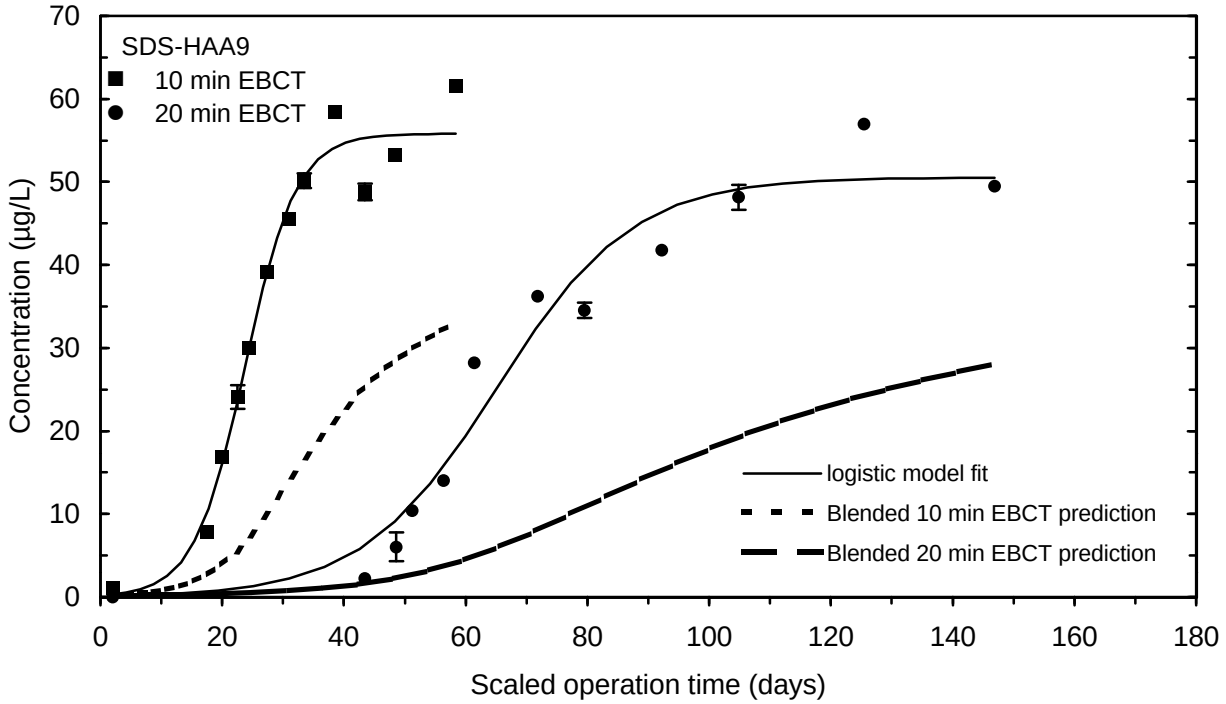

Figure 104 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

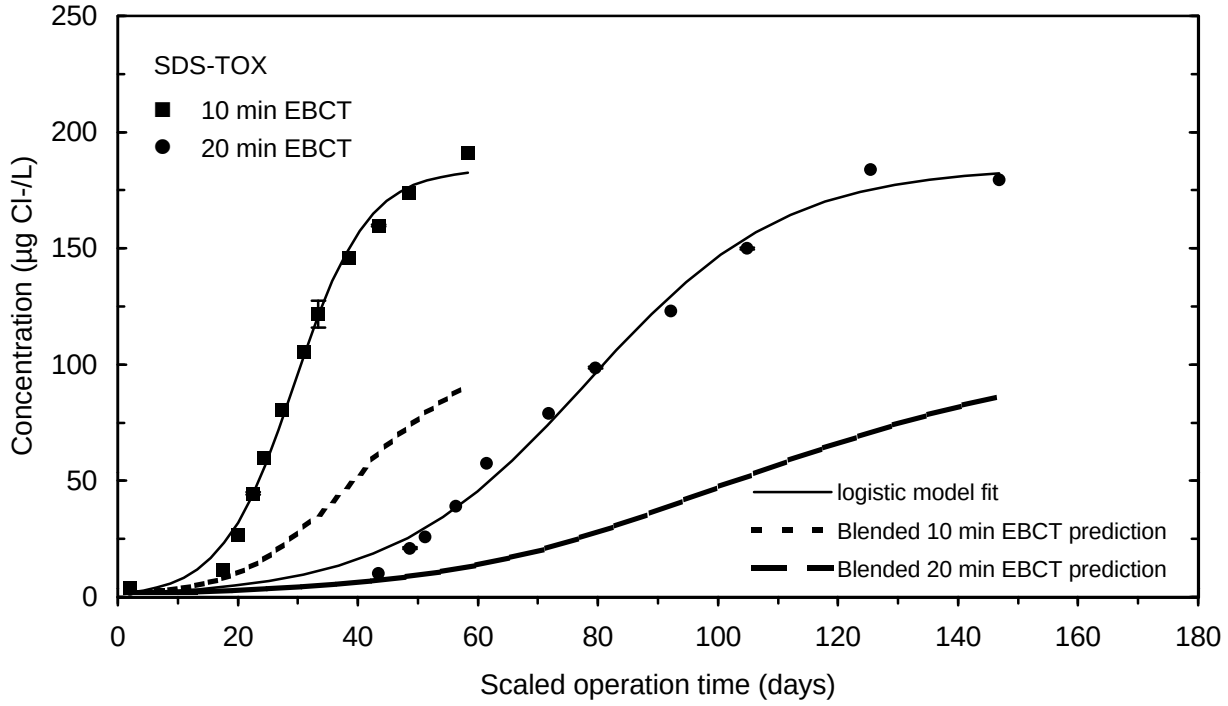

Figure 105 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

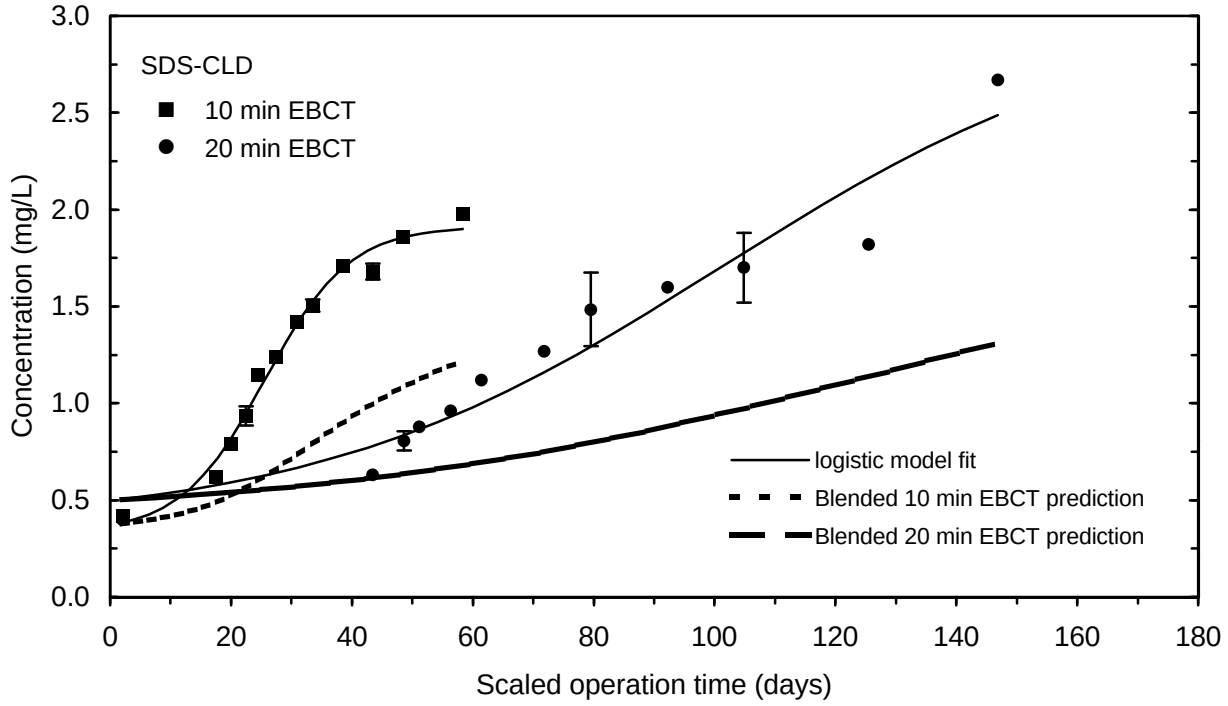

Figure 106 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (May)

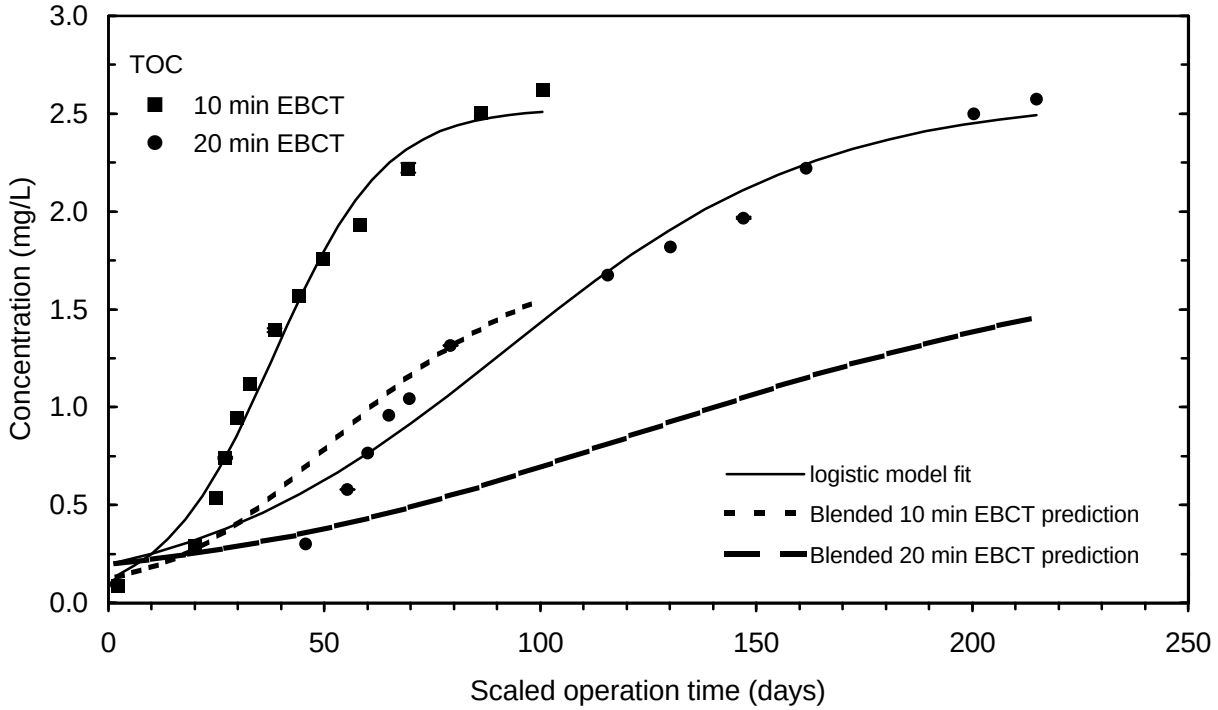

Figure 107 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

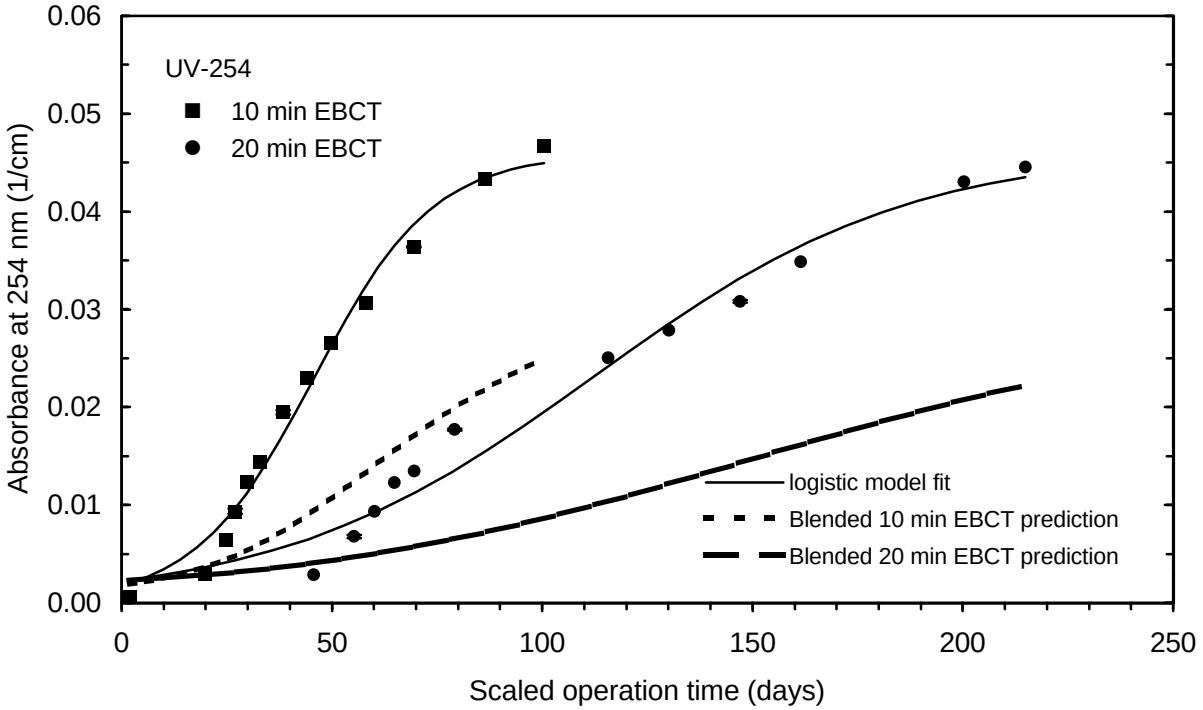

Figure 108 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

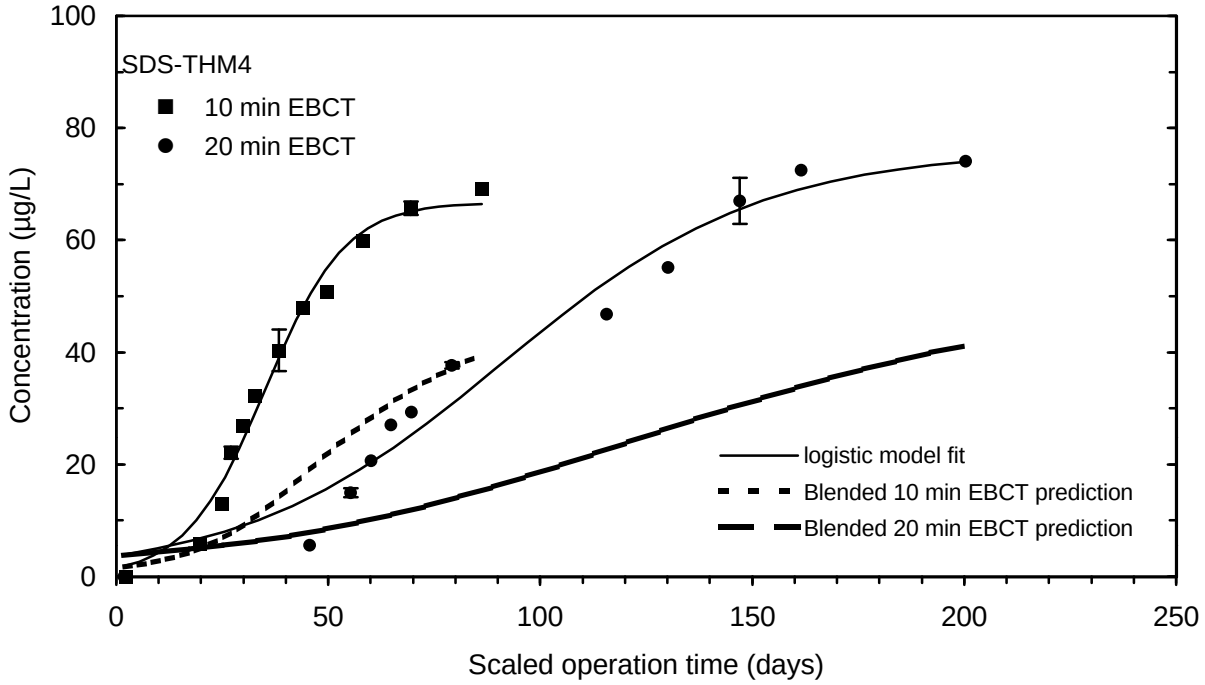

Figure 109 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

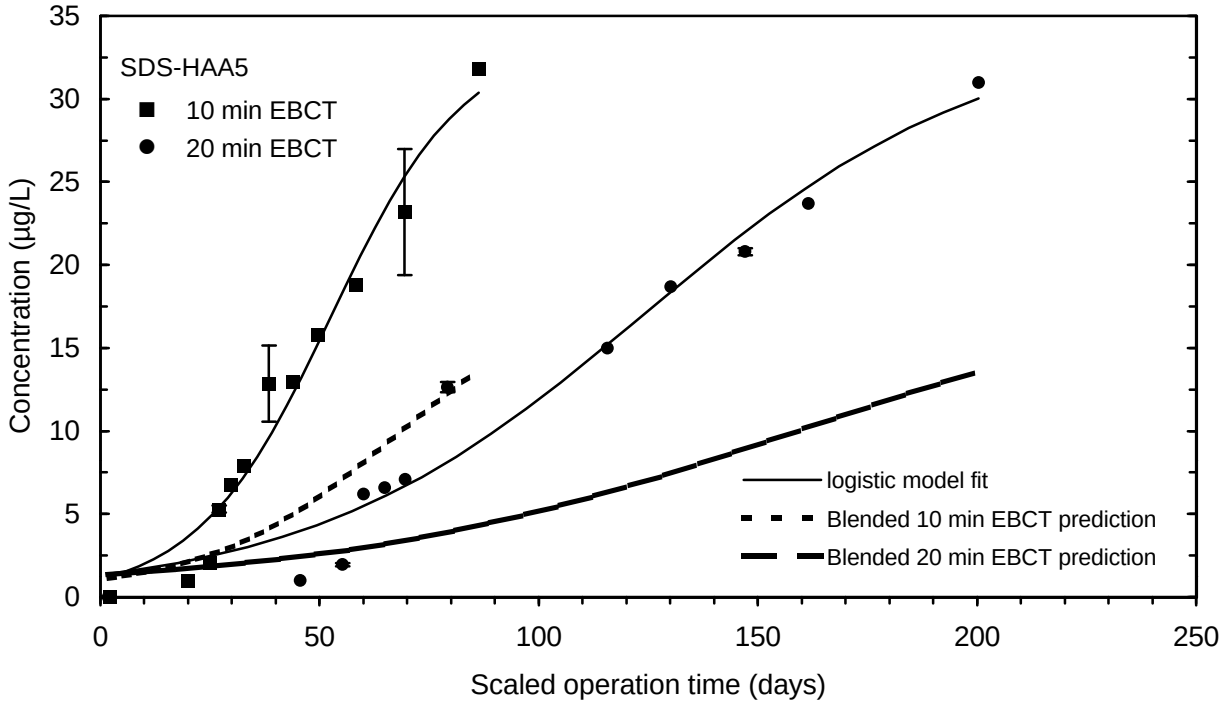

Figure 110 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

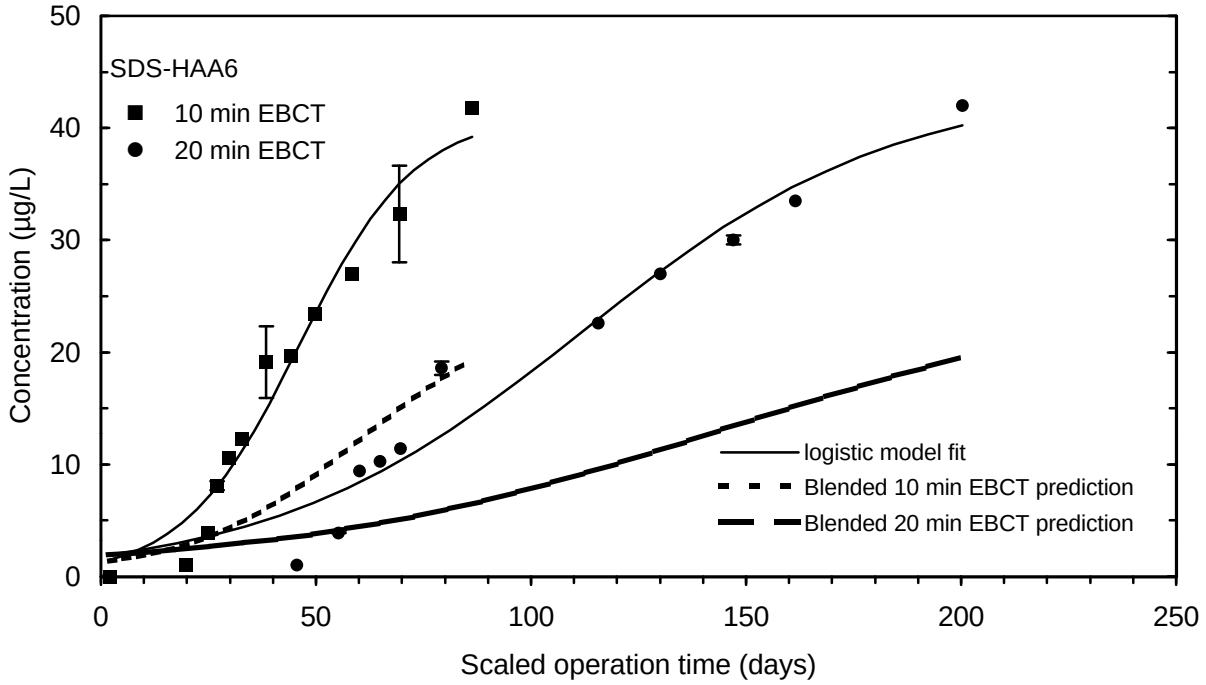

Figure 111 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

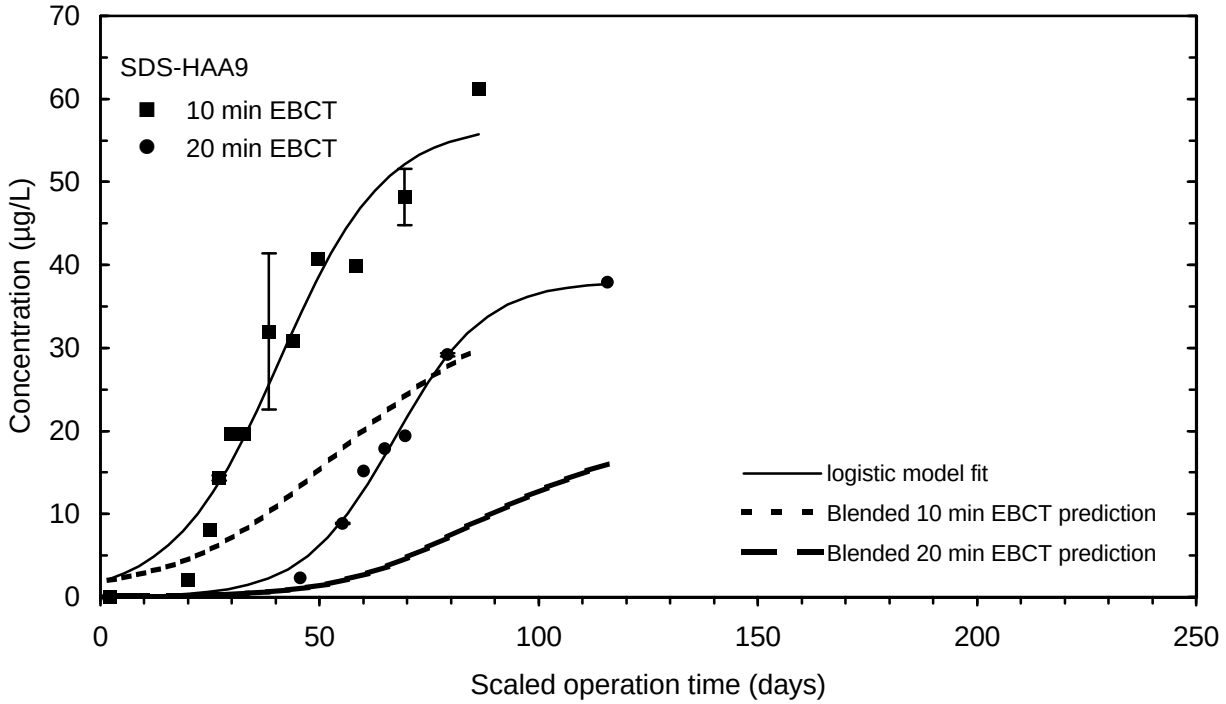

Figure 112 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

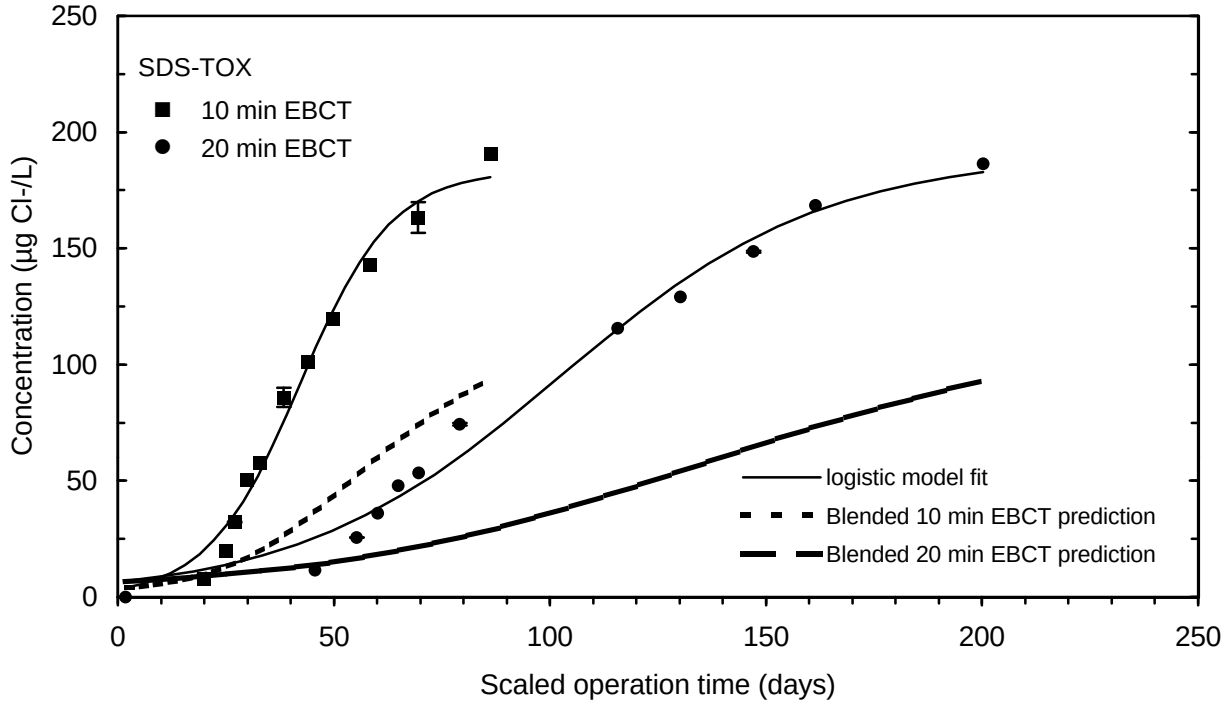

Figure 113 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

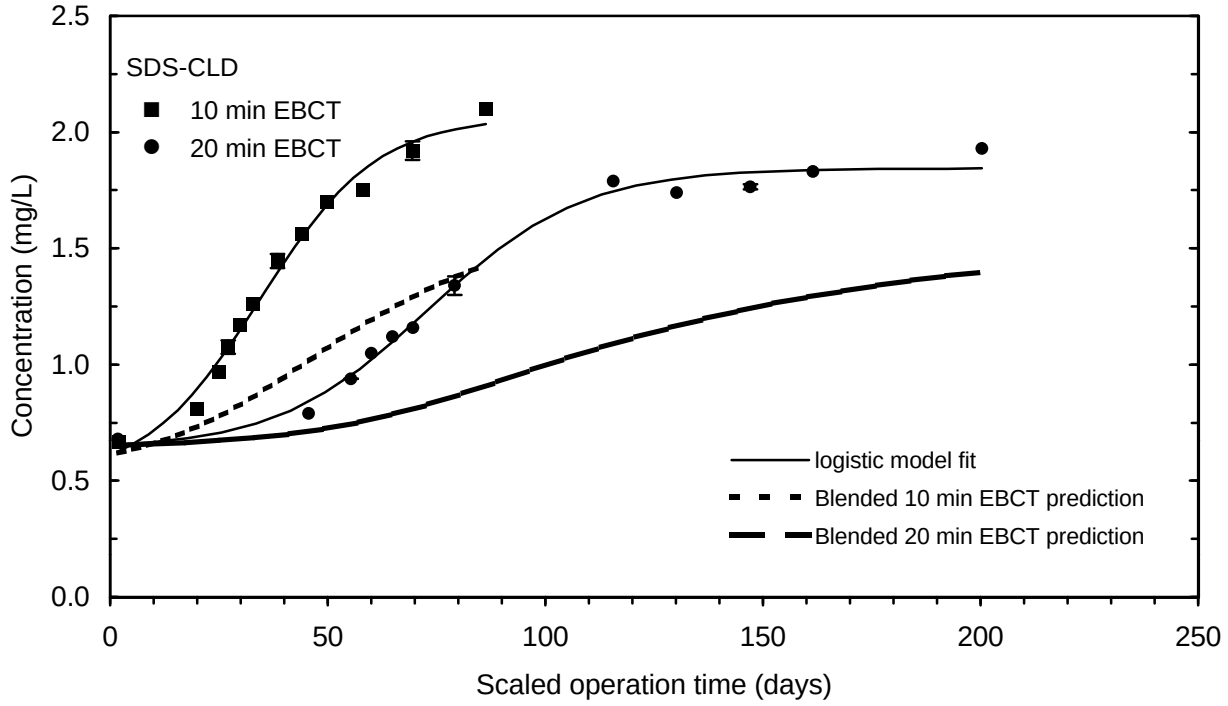

Figure 114 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (August)

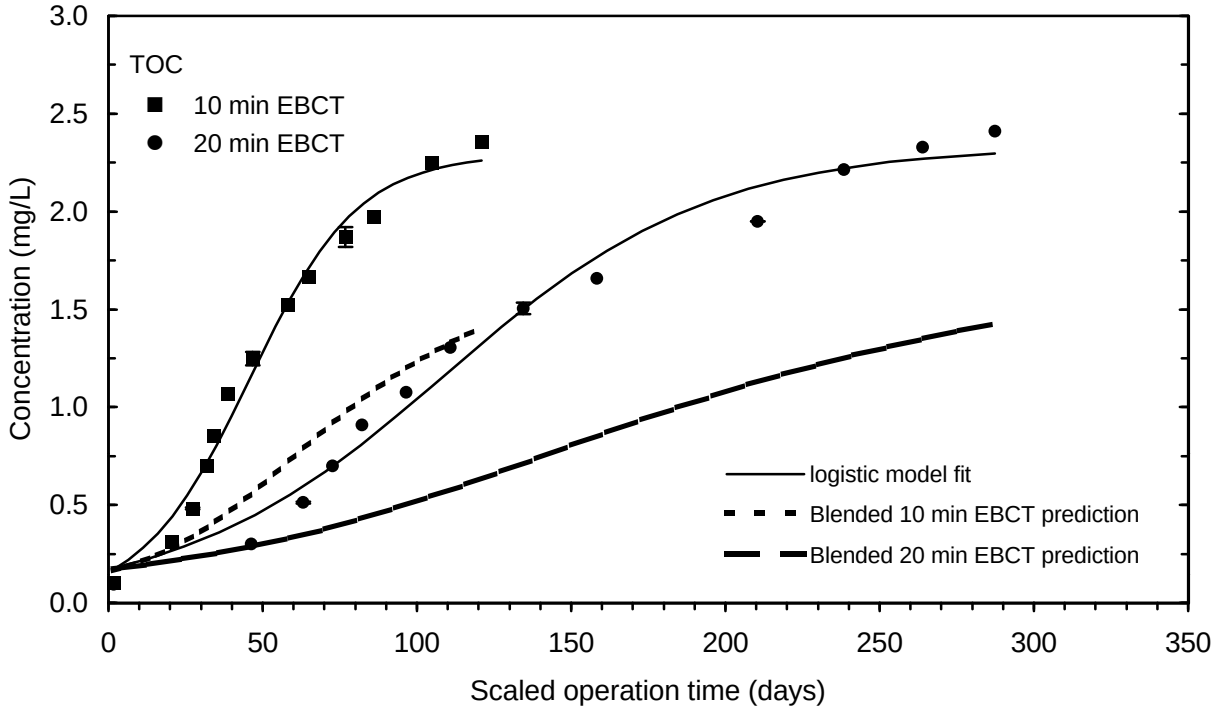

Figure 115 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

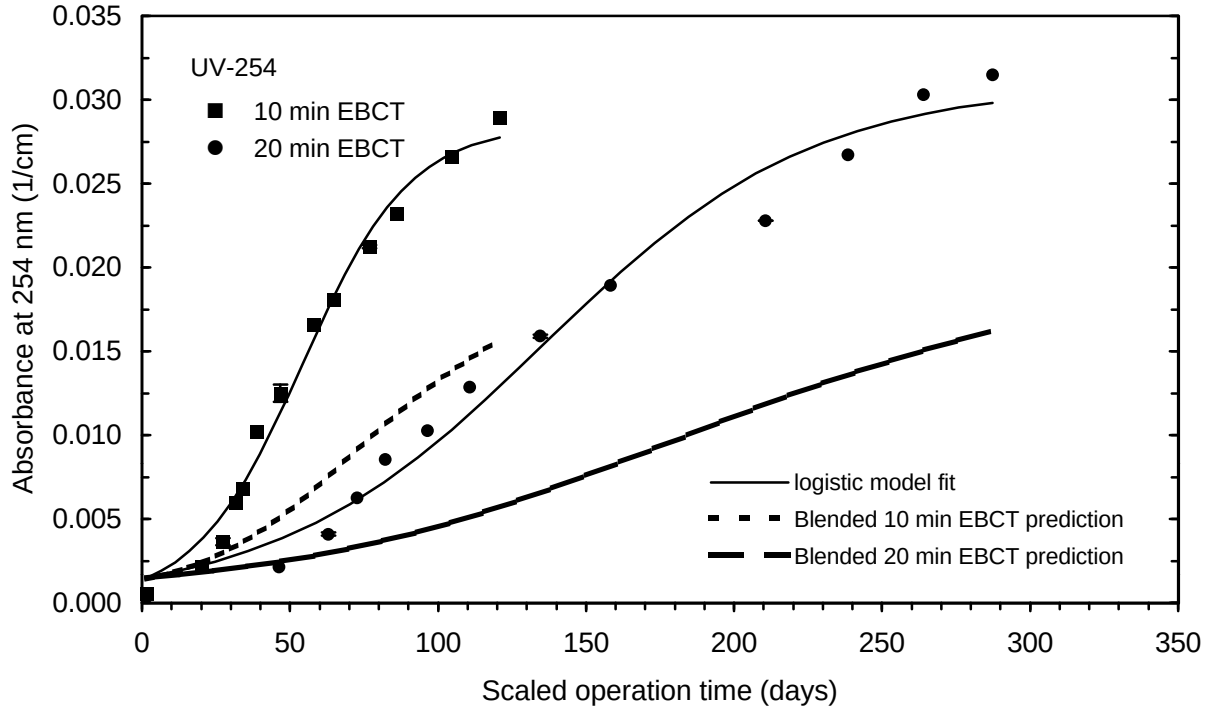

Figure 116 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

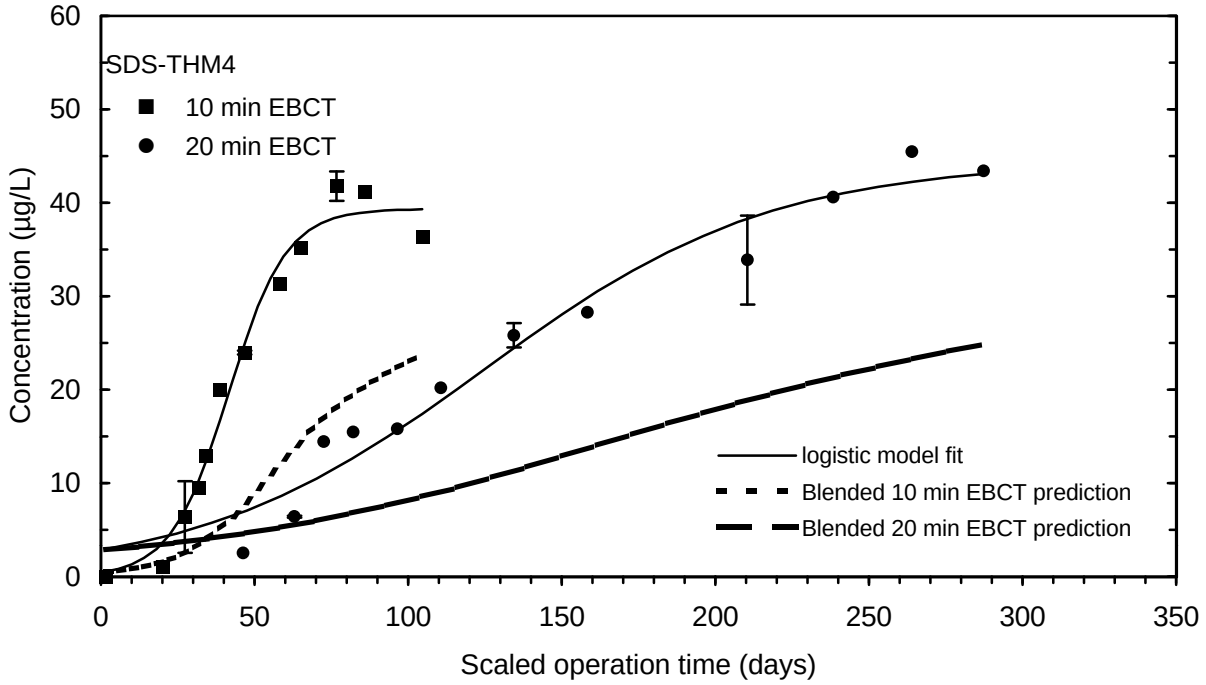

Figure 117 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

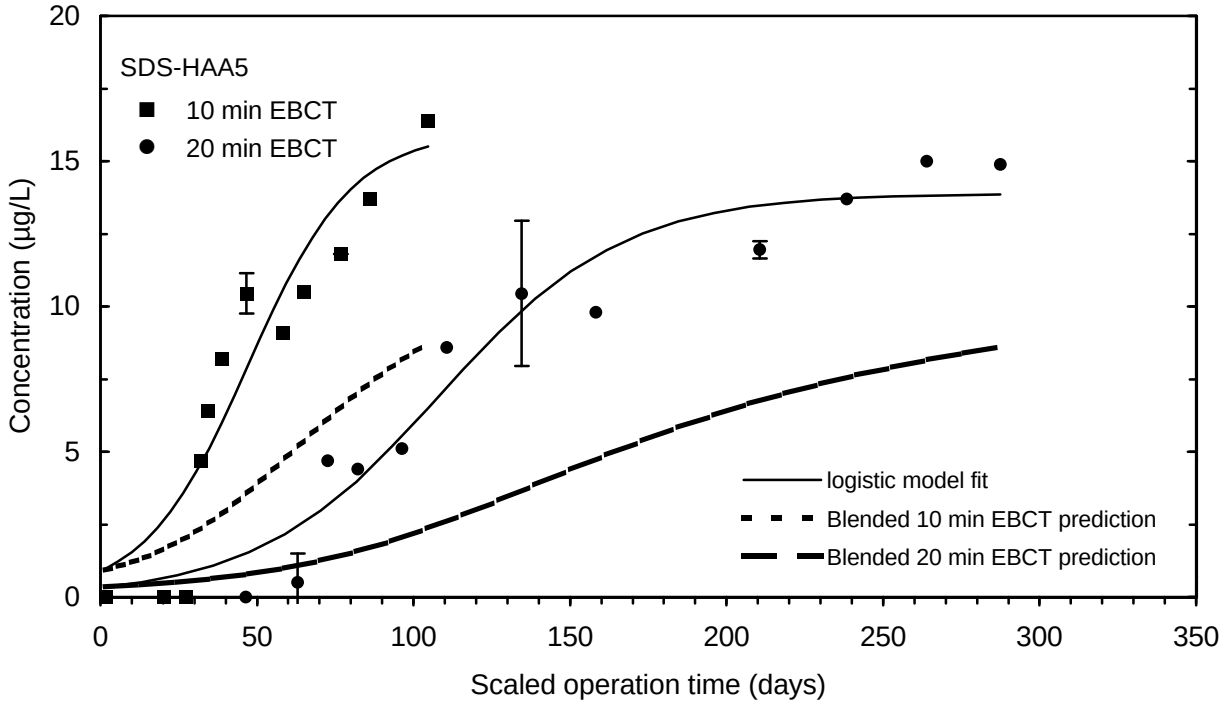

Figure 118 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

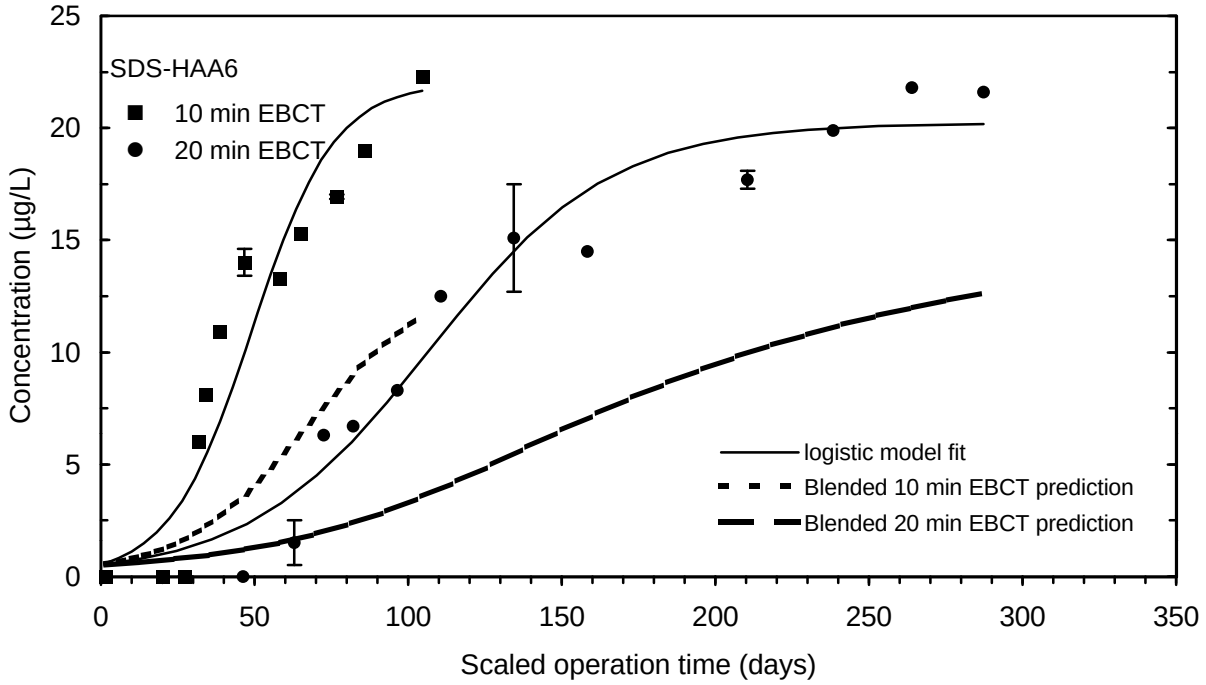

Figure 119 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

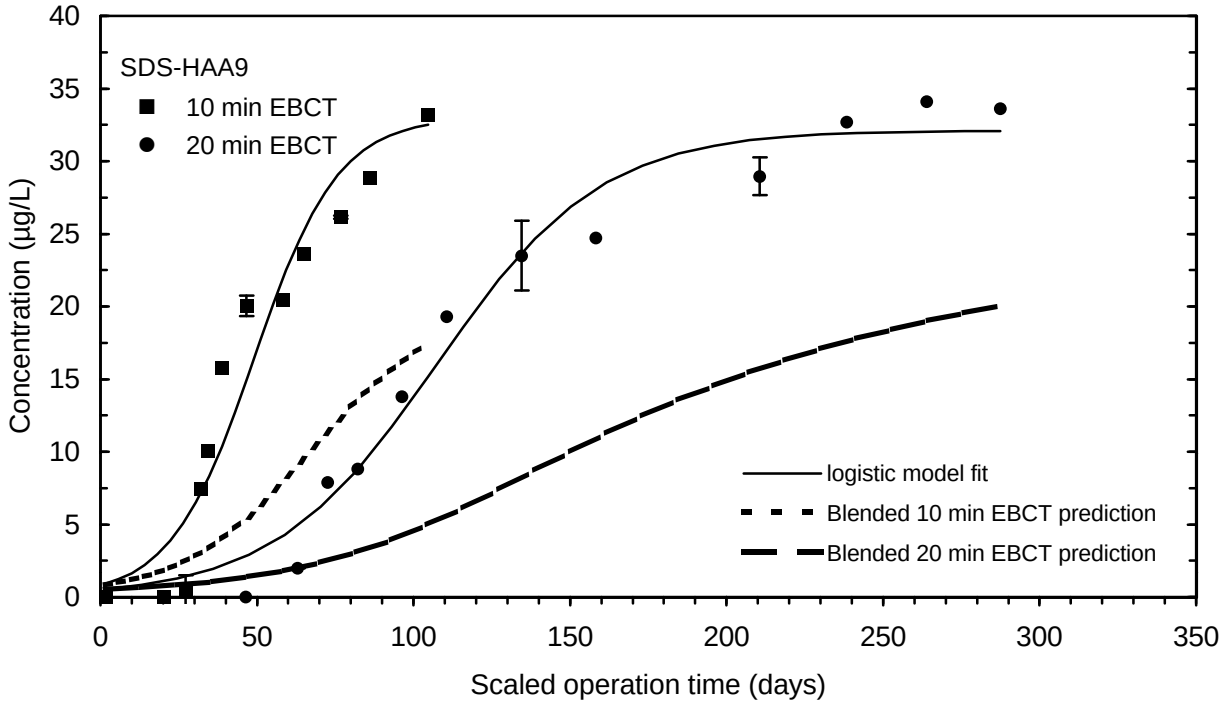

Figure 120 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

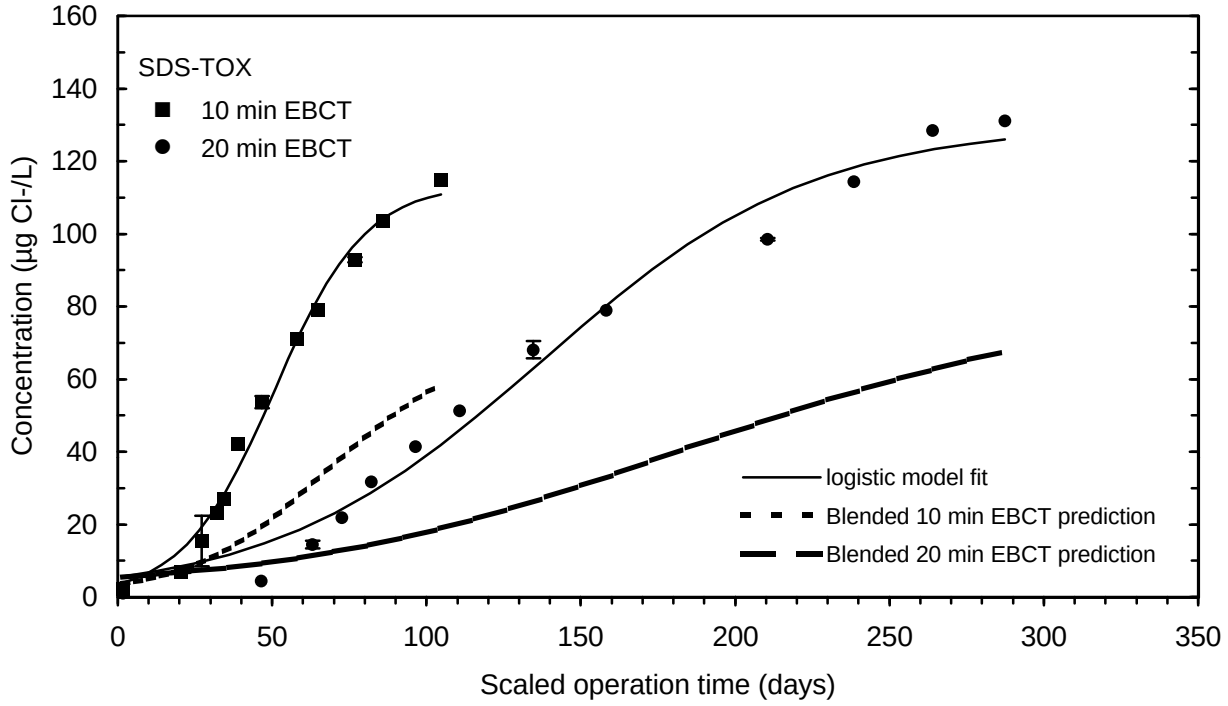

Figure 121 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

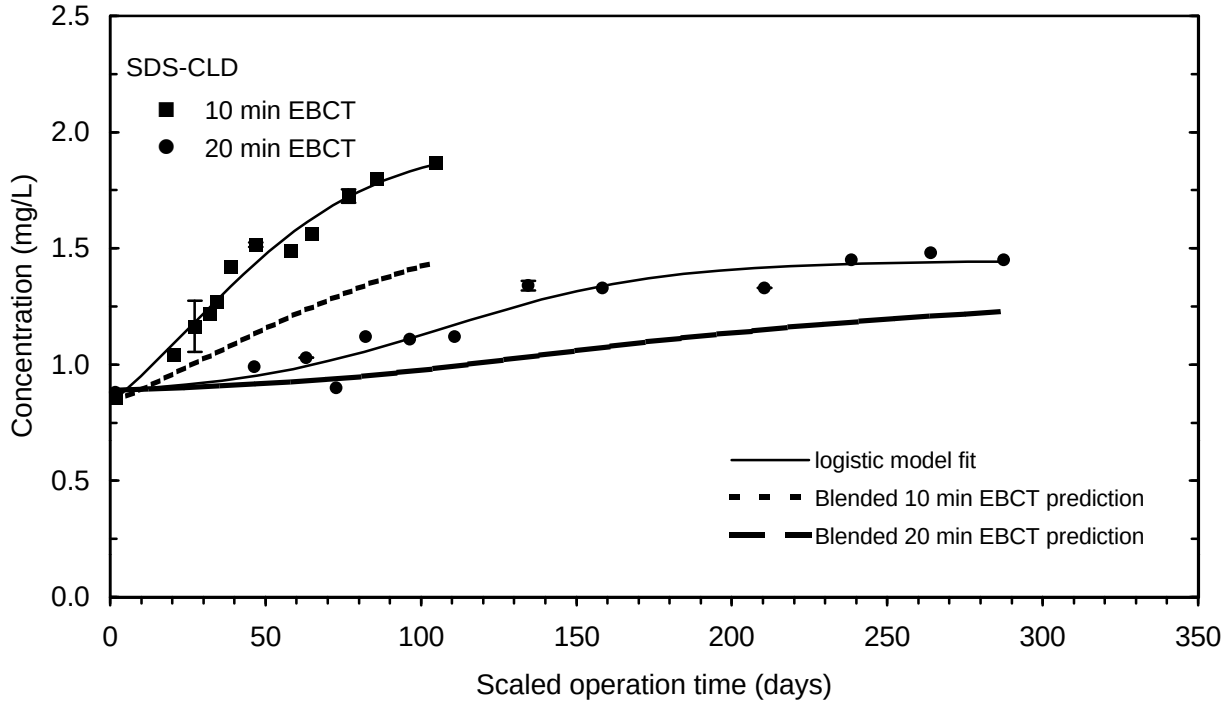

Figure 122 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (January)

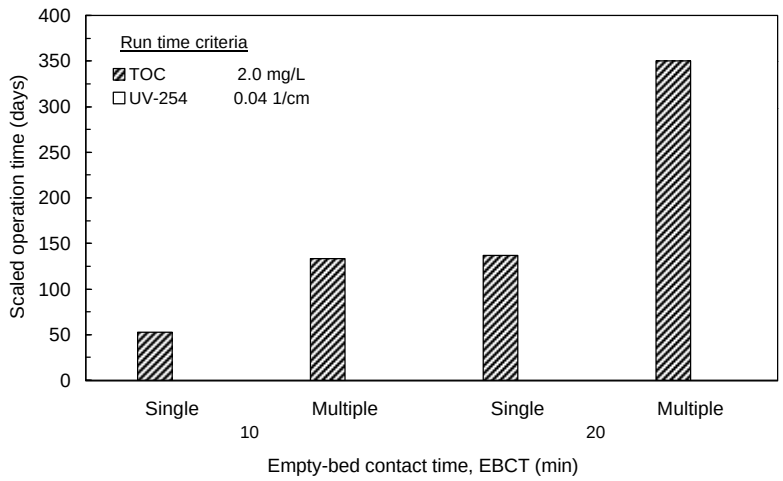

Figure 123 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (February)

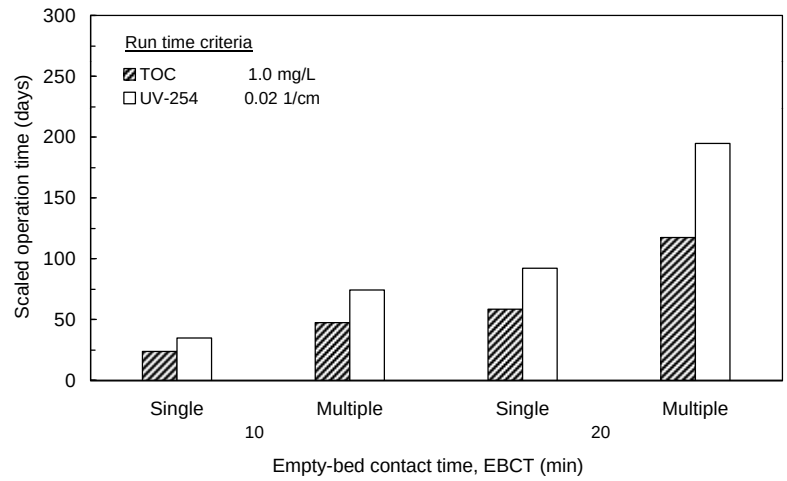

Figure 124 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (February)

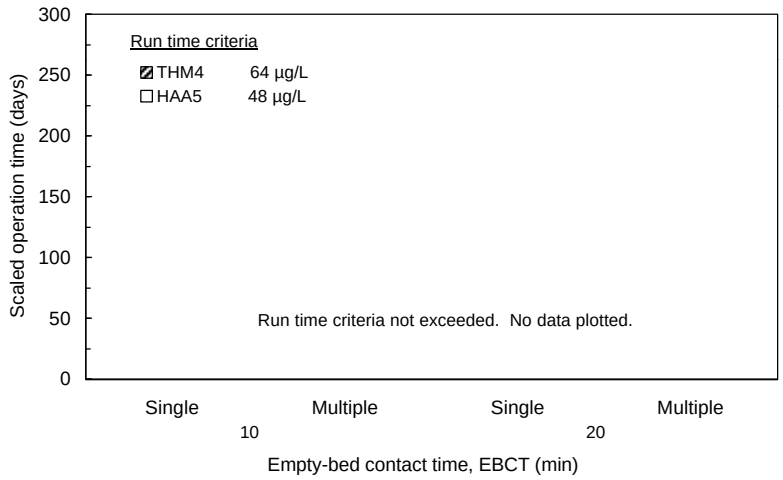

Figure 125 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 1 (February)

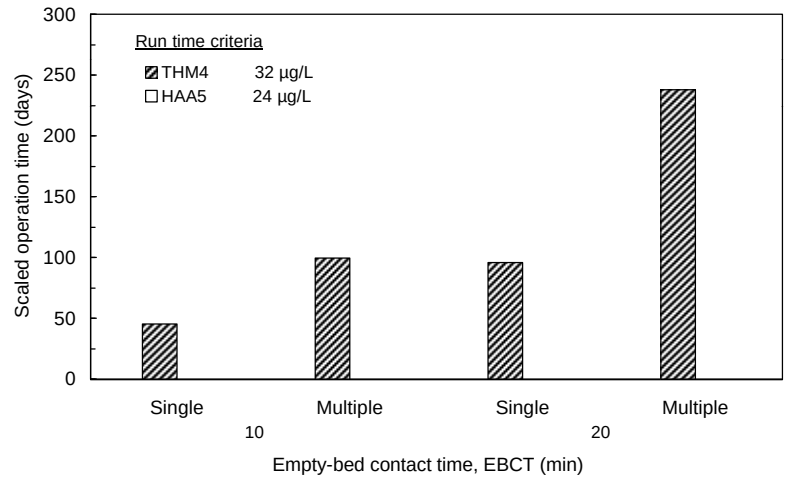

Figure 126 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 1 (February)

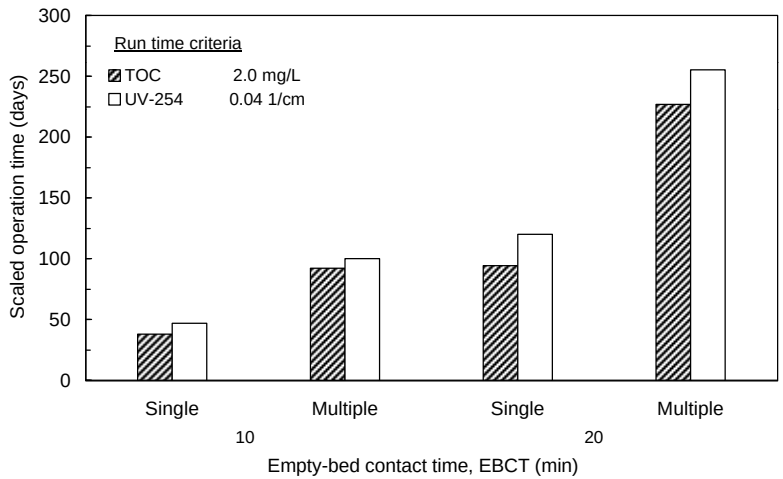

Figure 127 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (May)

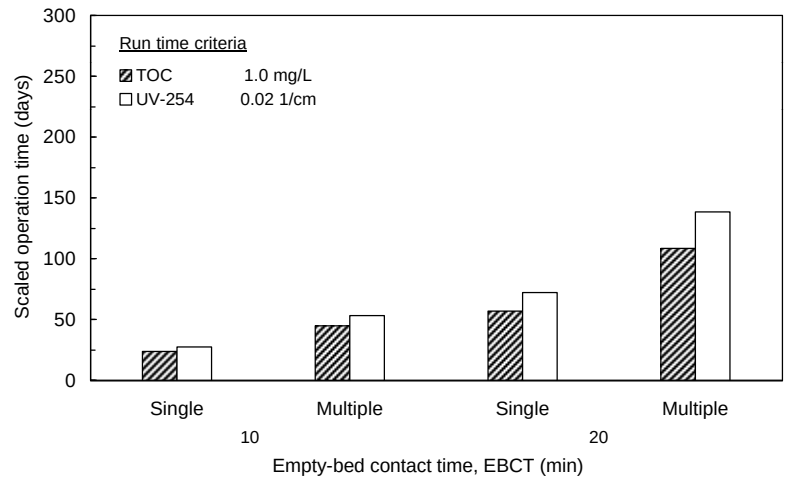

Figure 128 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (May)

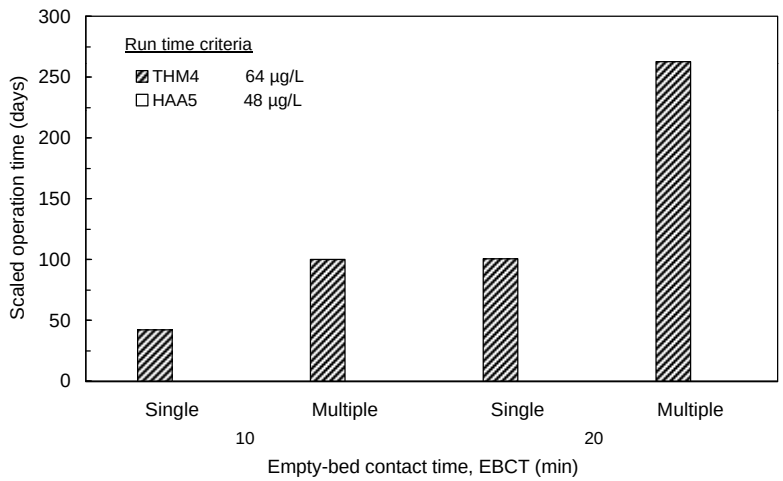

Figure 129 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 2 (May)

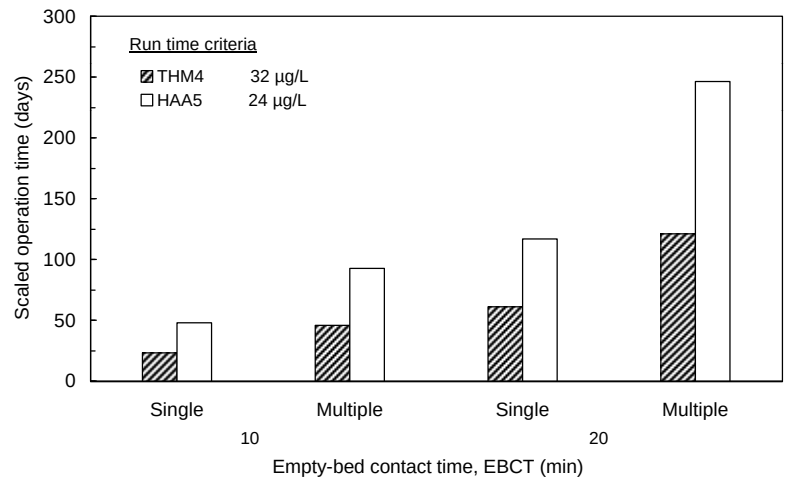

Figure 130 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 2 (May)

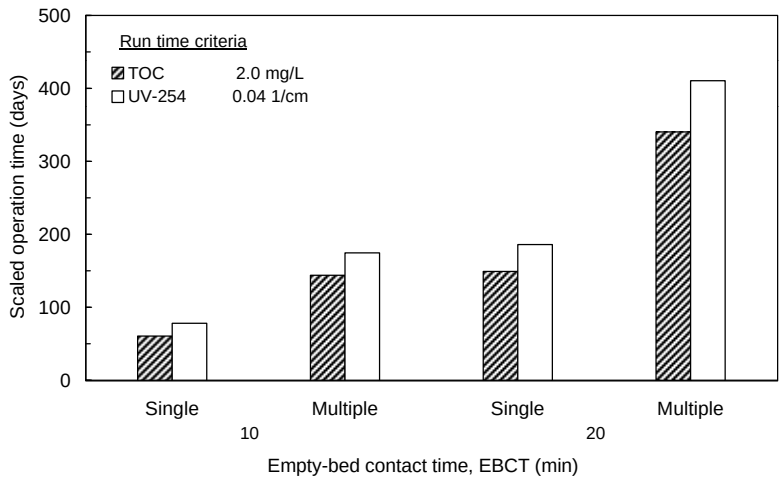

Figure 131 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 3 (August)

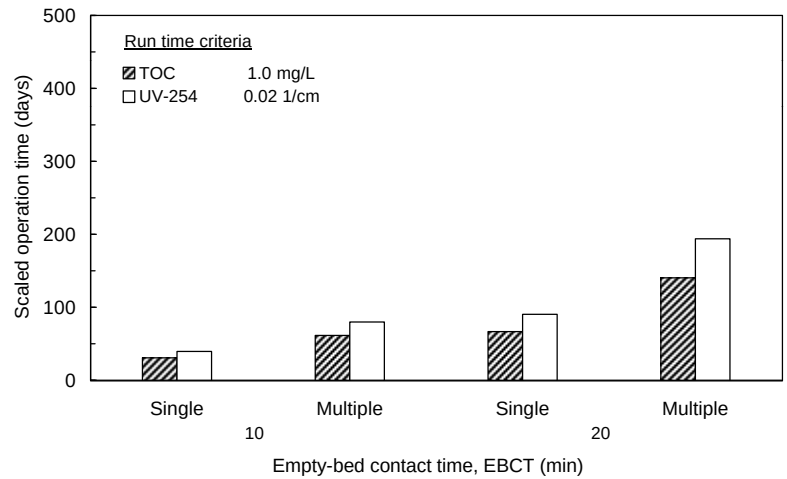

Figure 132 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 3 (August)

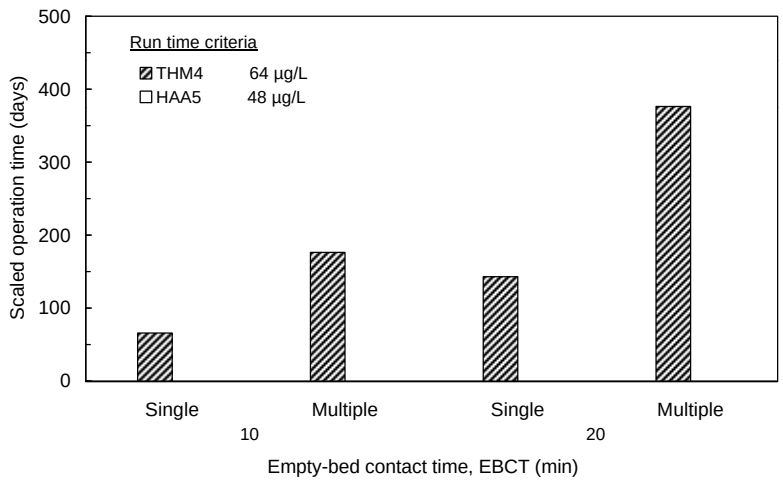

Figure 133 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 3 (August)

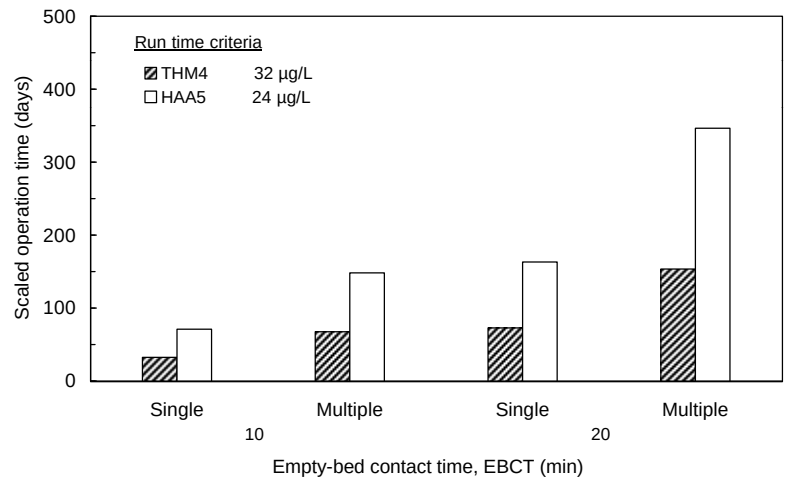

Figure 134 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 3 (August)

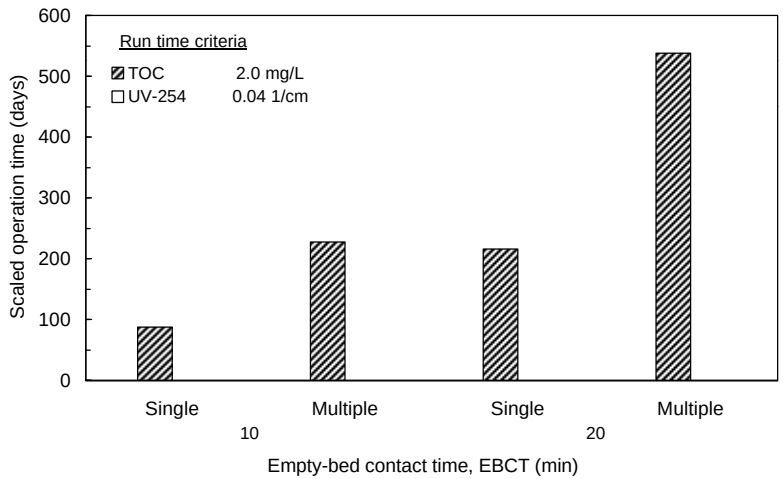

Figure 135 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 4 (January)

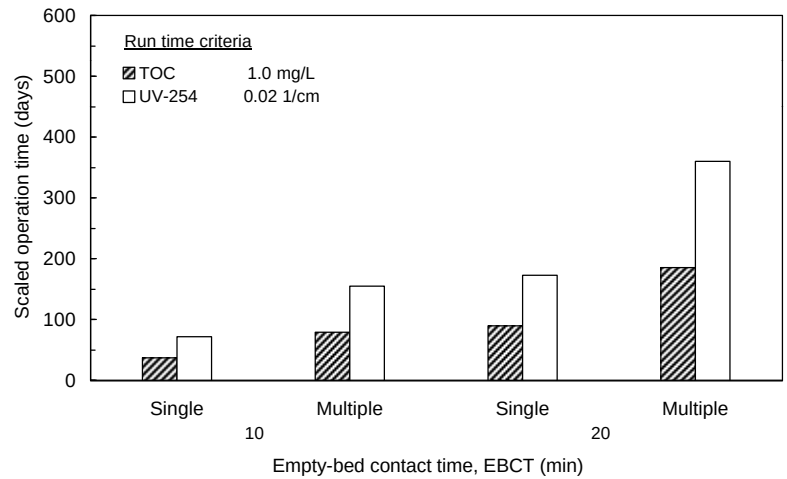

Figure 136 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 4 (January)

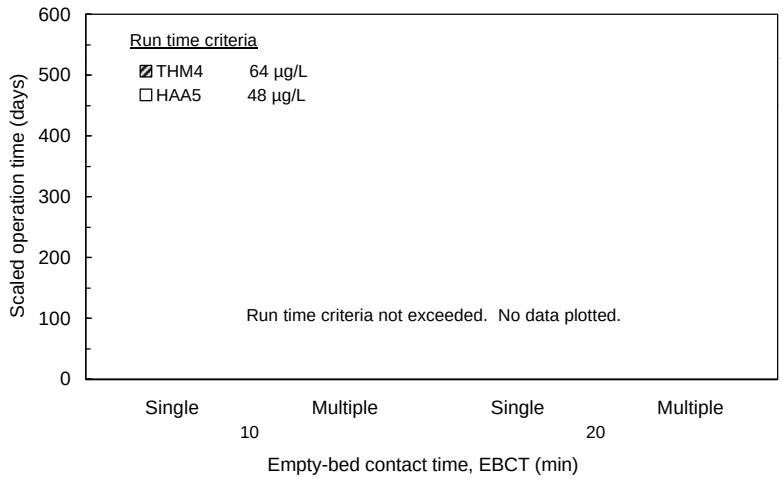

Figure 137 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 4 (January)

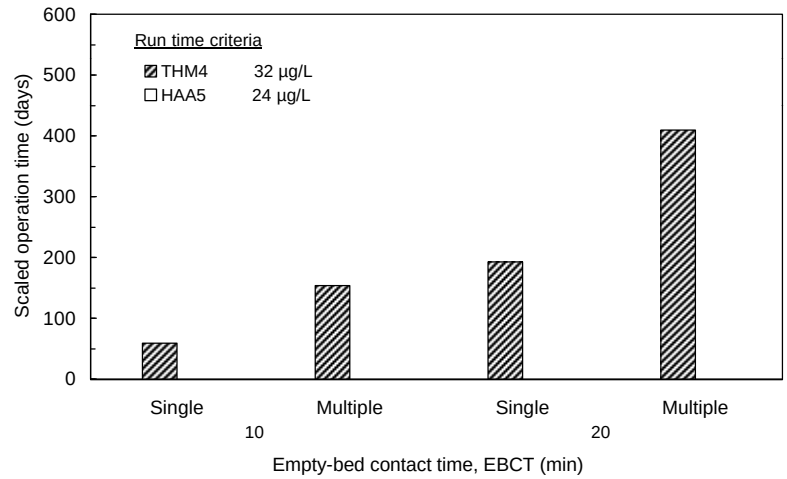

Figure 138 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 4 (January)

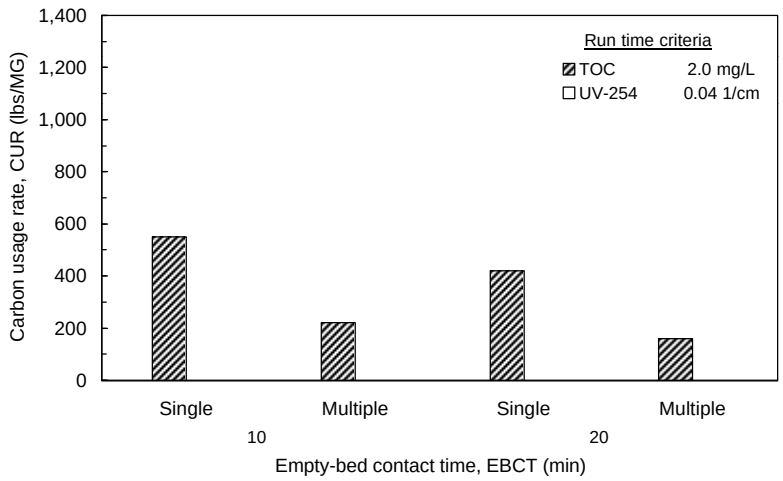

Figure 139 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (February)

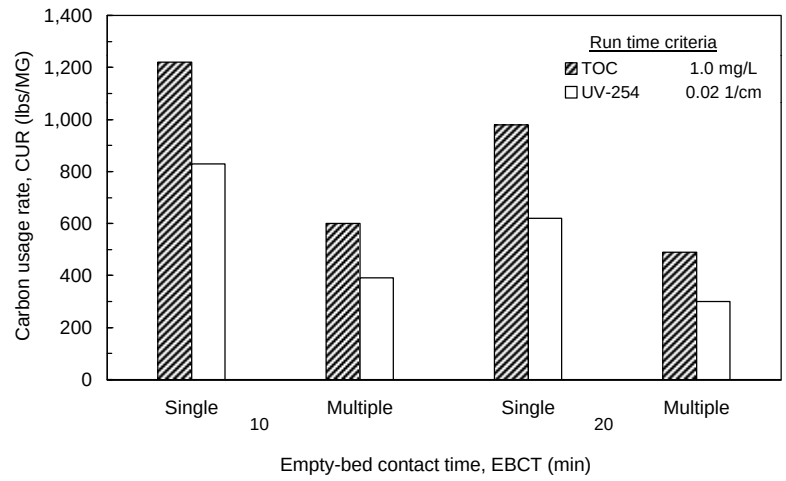

Figure 140 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (February)

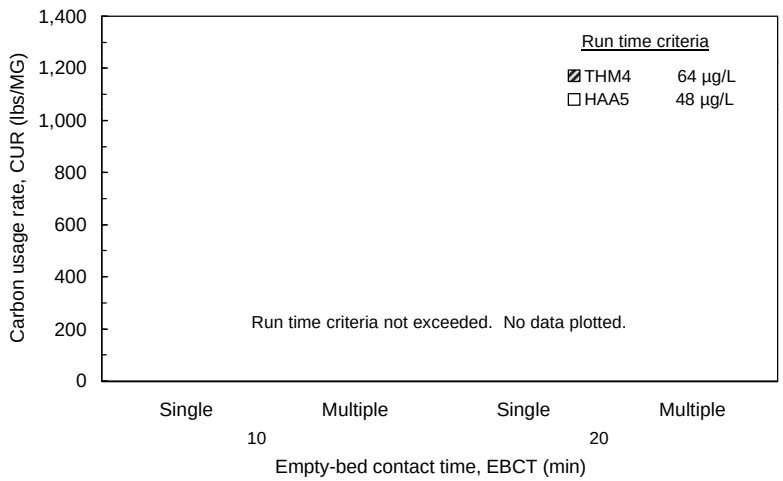

Figure 141 Carbon usage rates based on single contactors and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 1 (February)

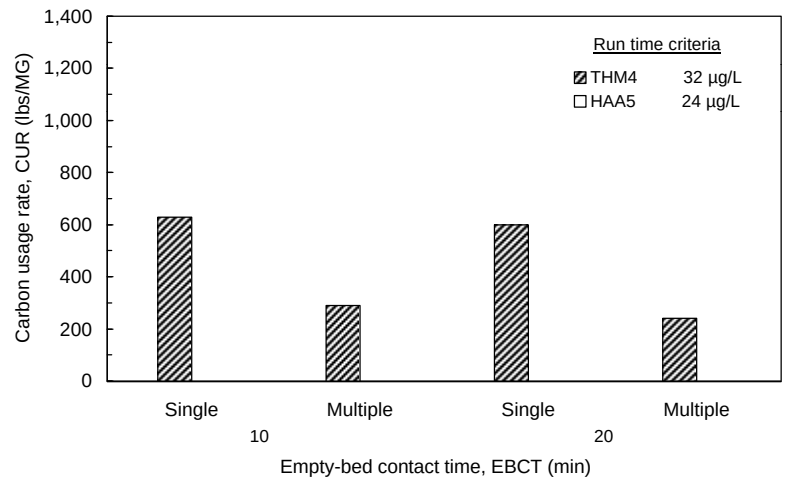

Figure 142 Carbon usage rates based on single contactors and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 1 (February)

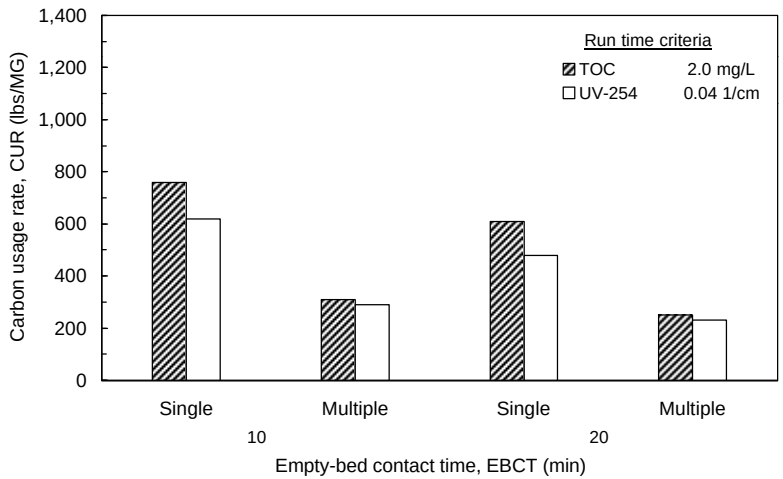

Figure 143 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (May)

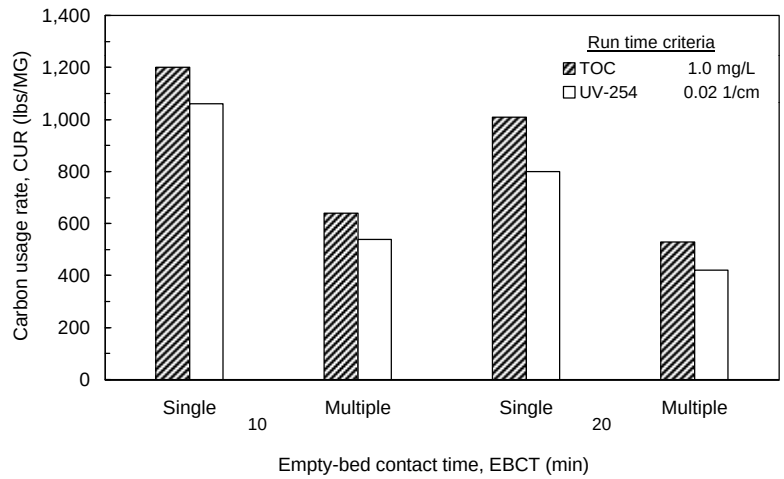

Figure 144 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (May)

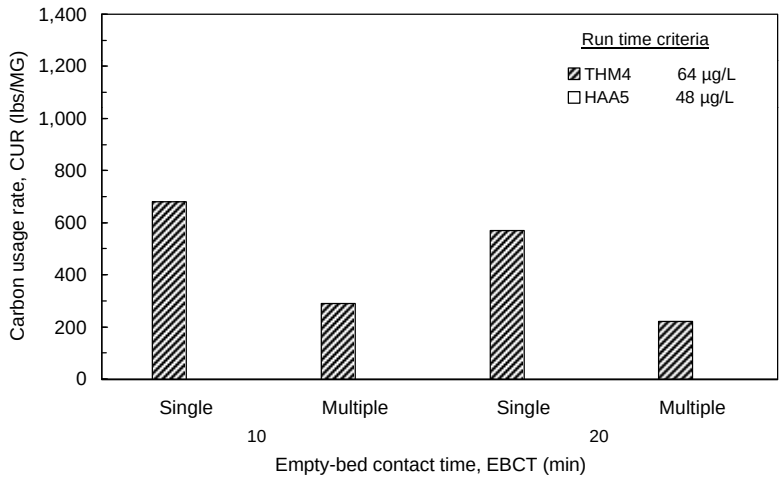

Figure 145 Carbon usage rates based on single contactors and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 2 (May)

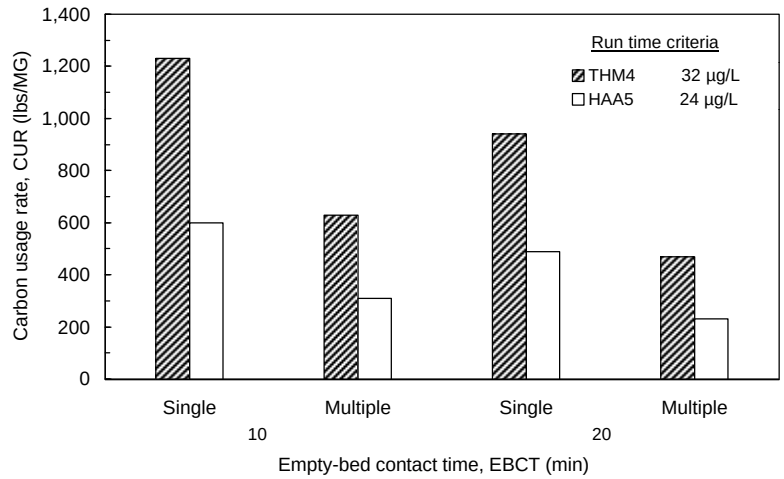

Figure 146 Carbon usage rates based on single contactors and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 2 (May)

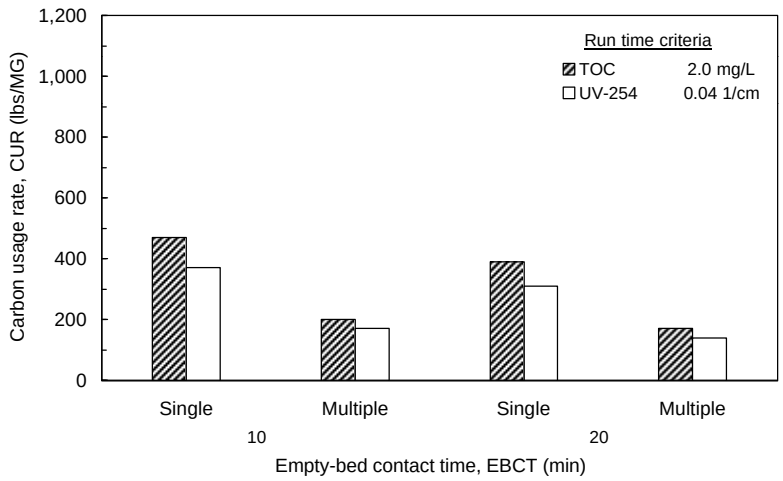

Figure 147 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 3 (August)

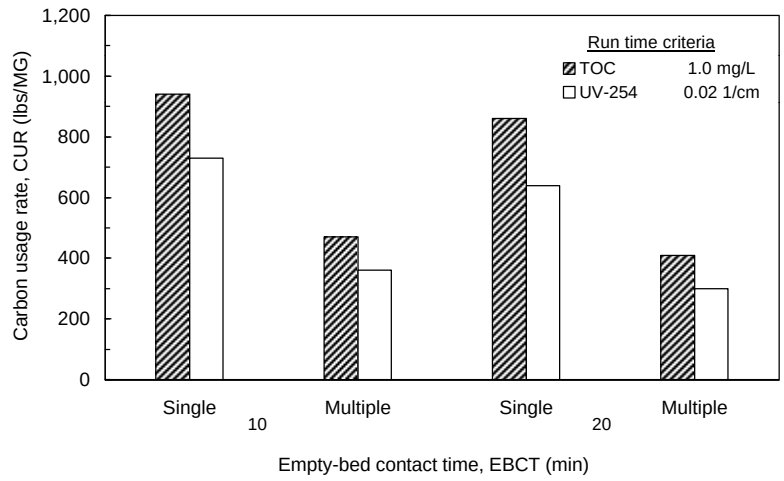

Figure 148 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 3 (August)

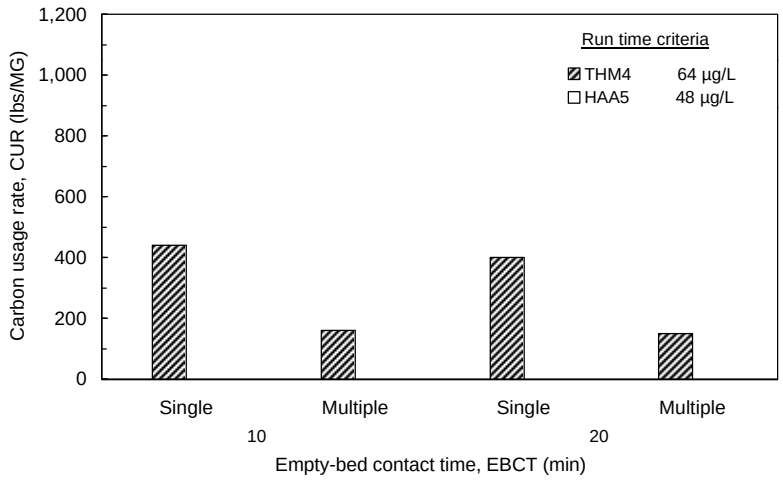

Figure 149 Carbon usage rates based on single contactors and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 3 (August)

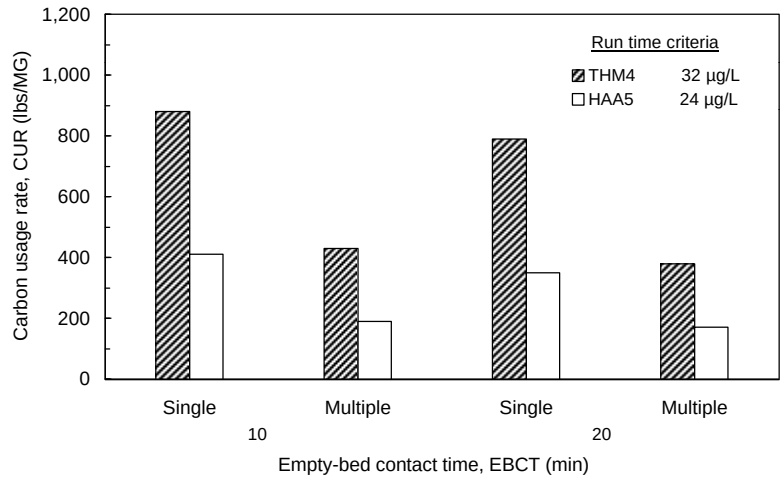

Figure 150 Carbon usage rates based on single contactors and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 3 (August)

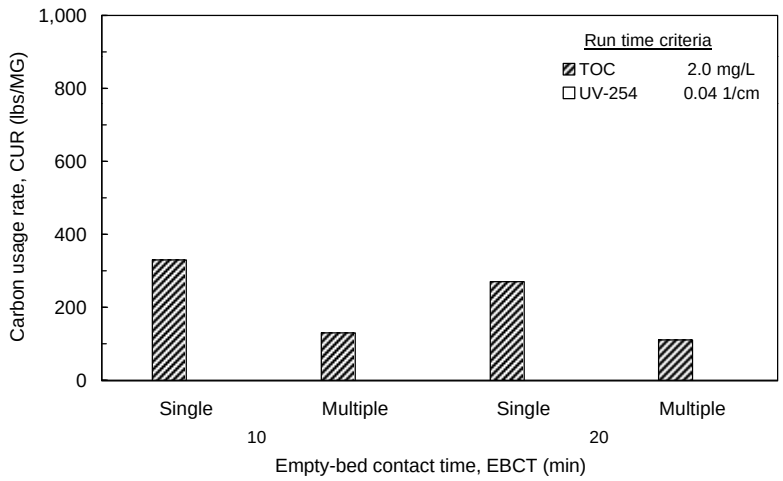

Figure 151 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 4 (January)

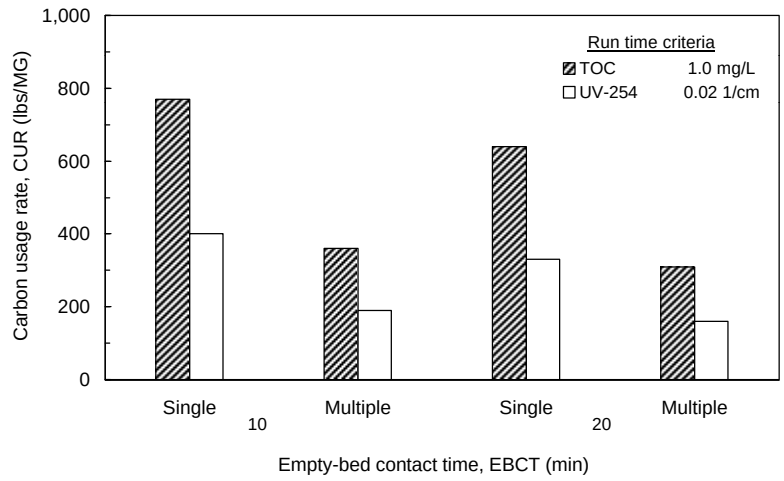

Figure 152 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 4 (January)

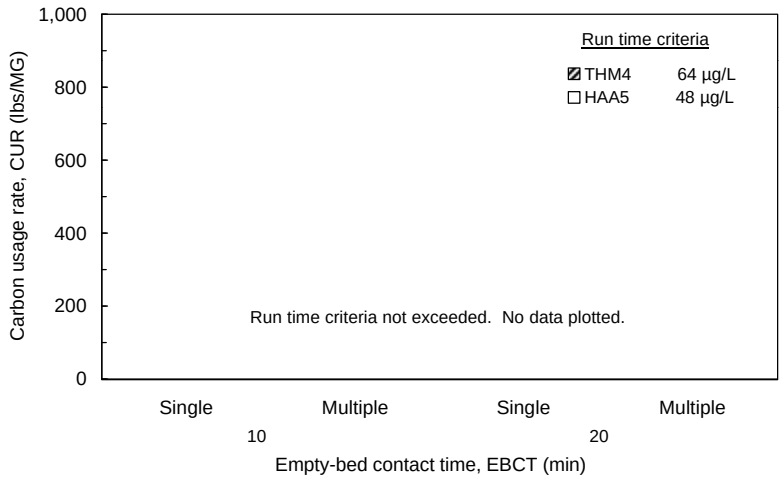

Figure 153 Carbon usage rates based on single contactors and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 4 (January)

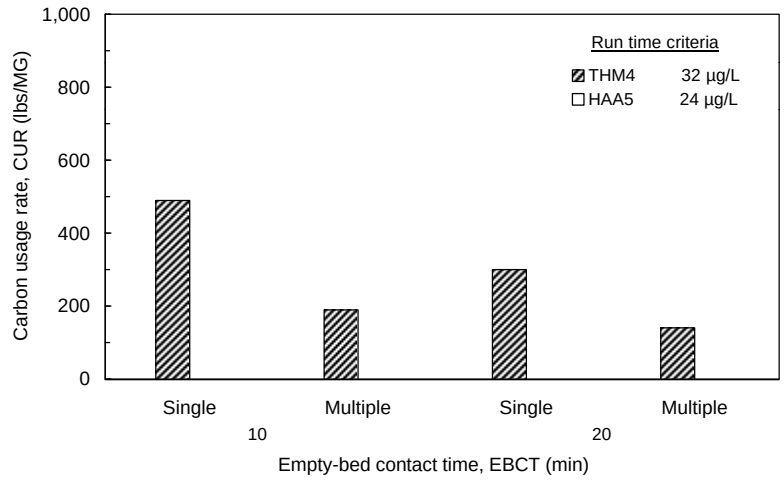

Figure 154 Carbon usage rates based on single contactors and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 4 (January)

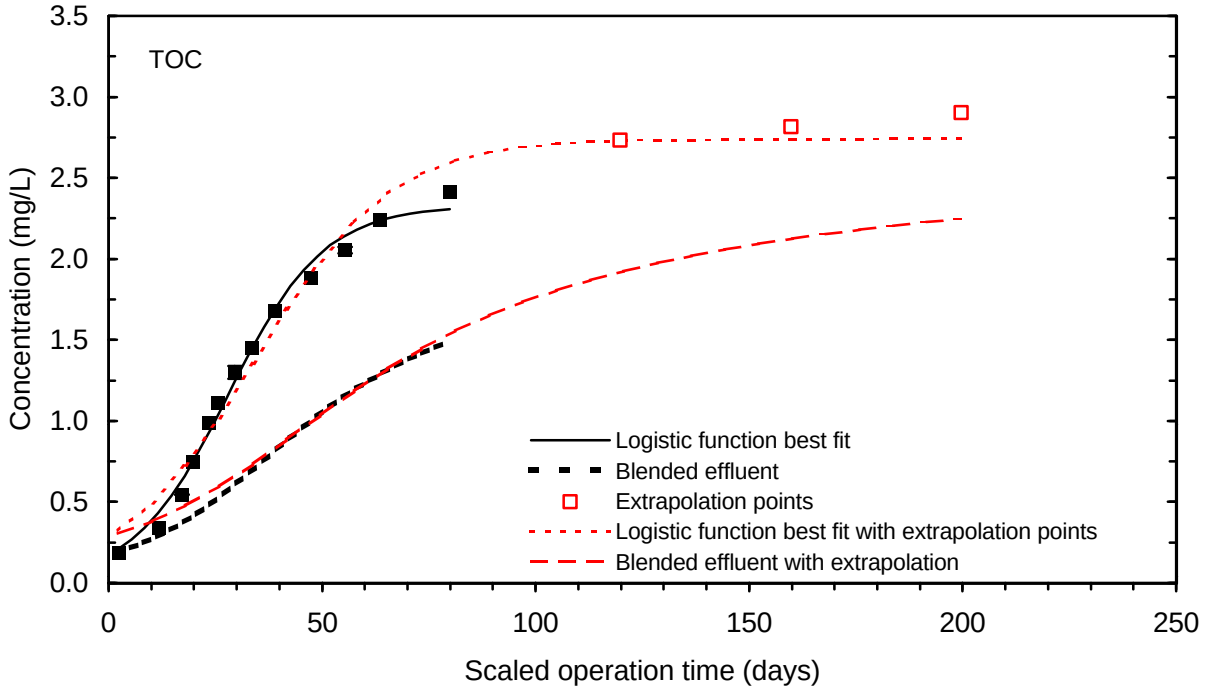

Figure 155 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 1, February

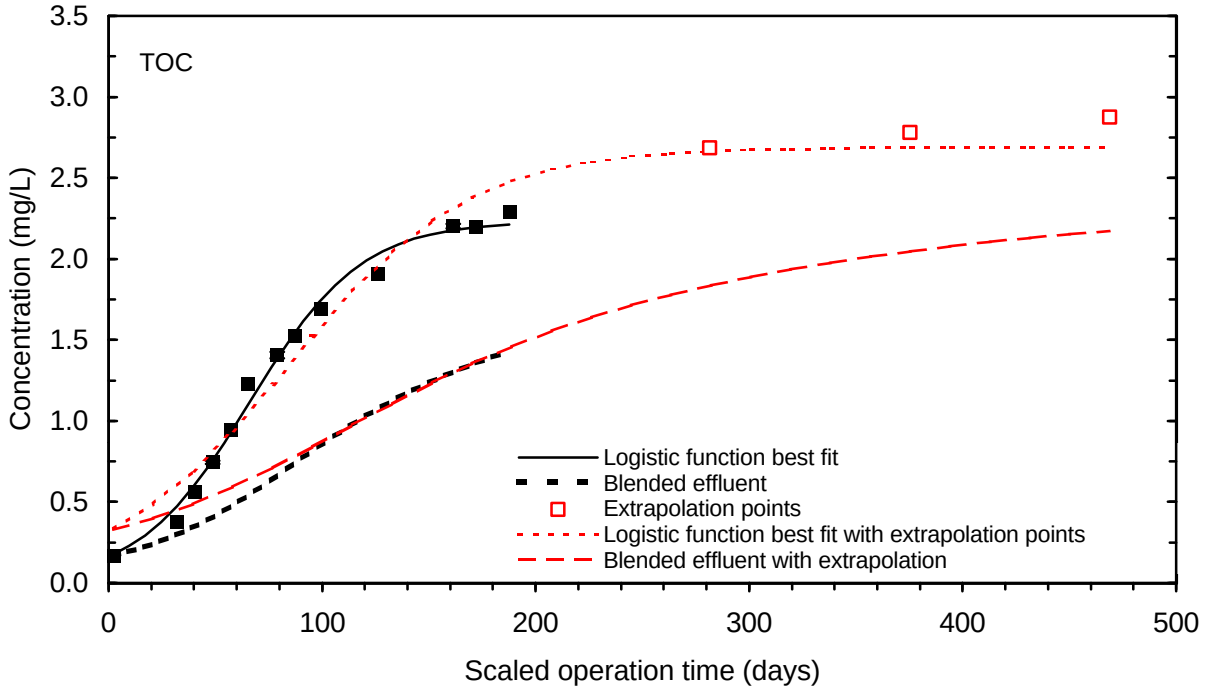

Figure 156 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 1, February

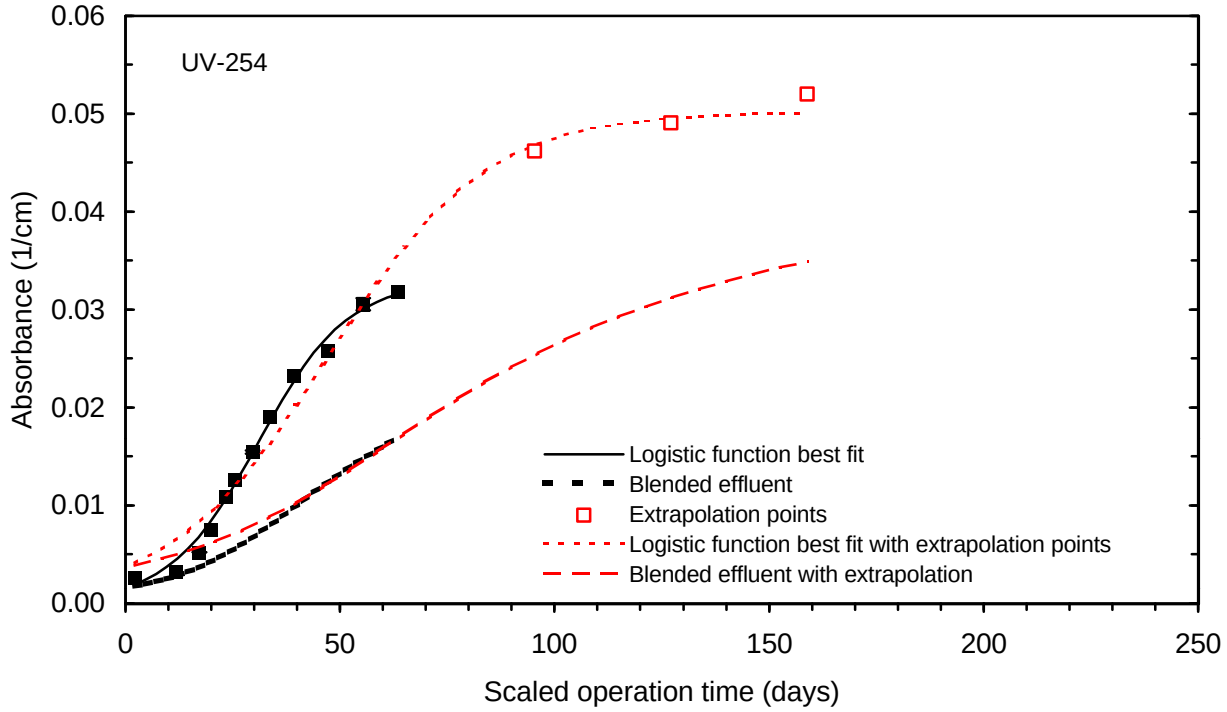

Figure 157 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 1, February

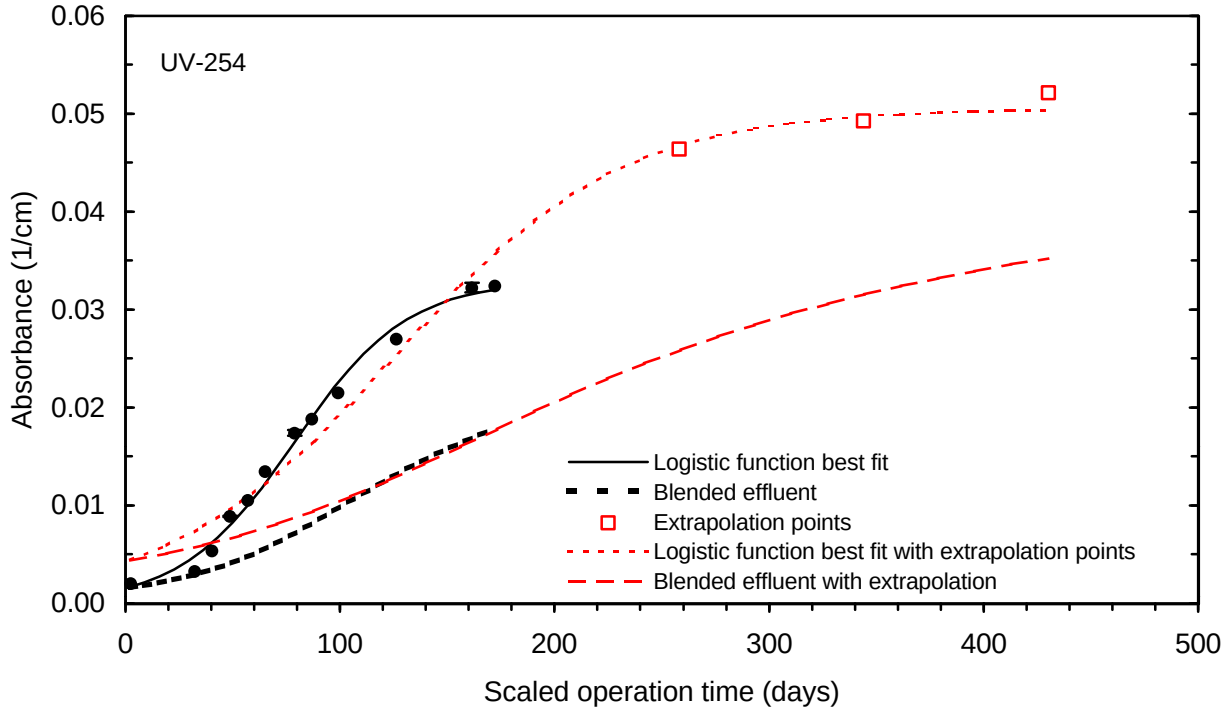

Figure 158 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 1, February

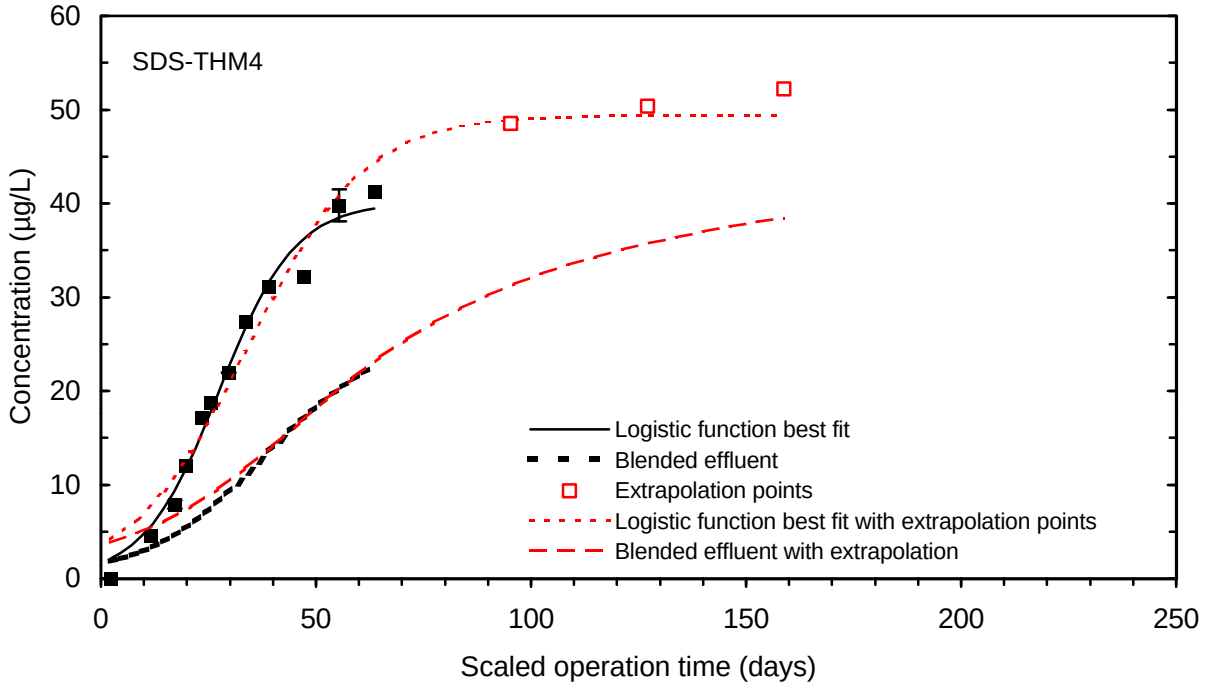

Figure 159 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 1, February

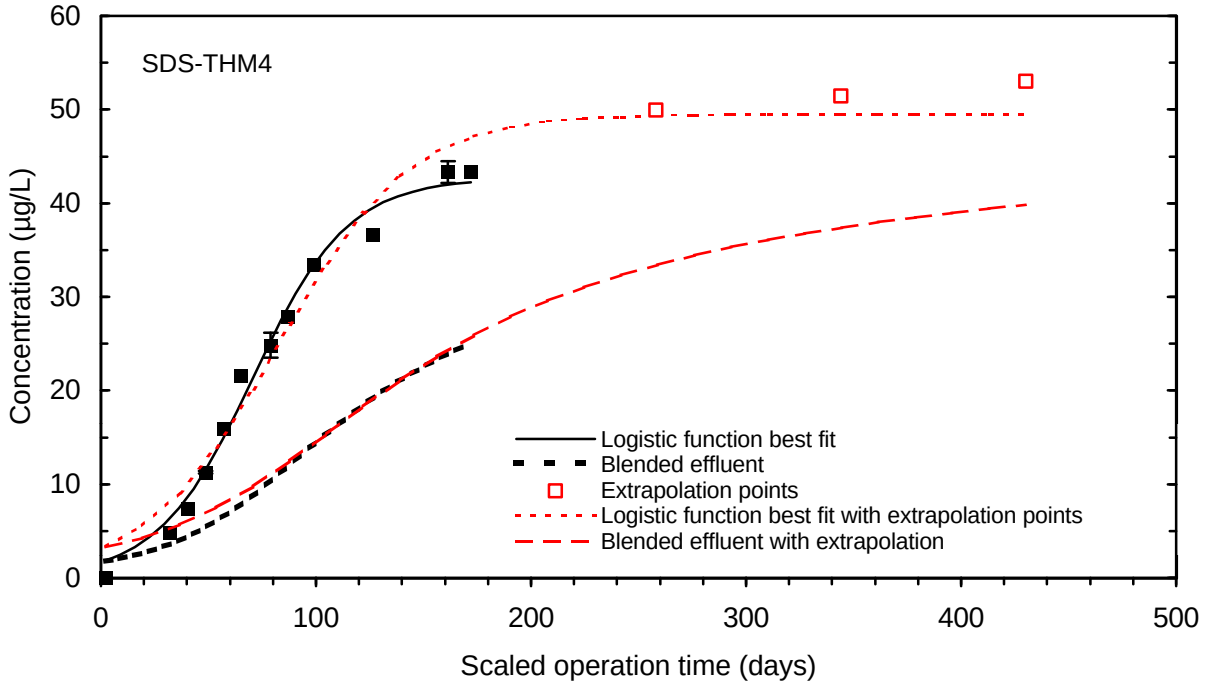

Figure 160 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 1, February

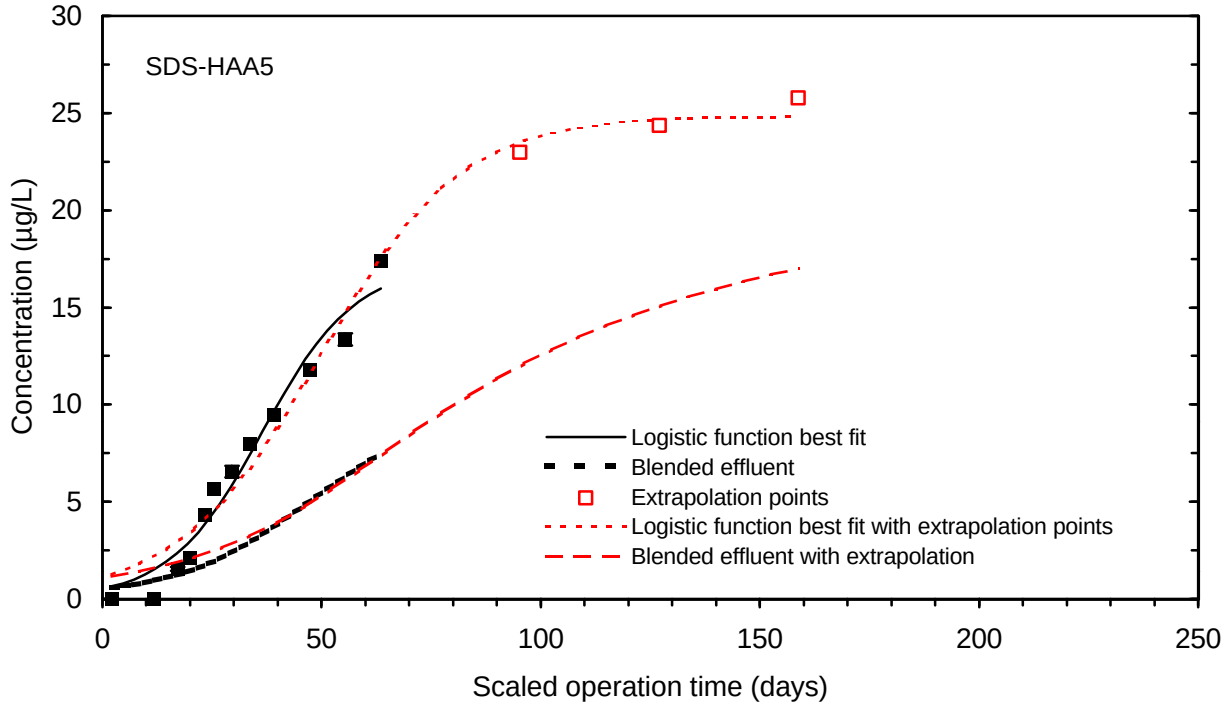

Figure 161 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 1, February

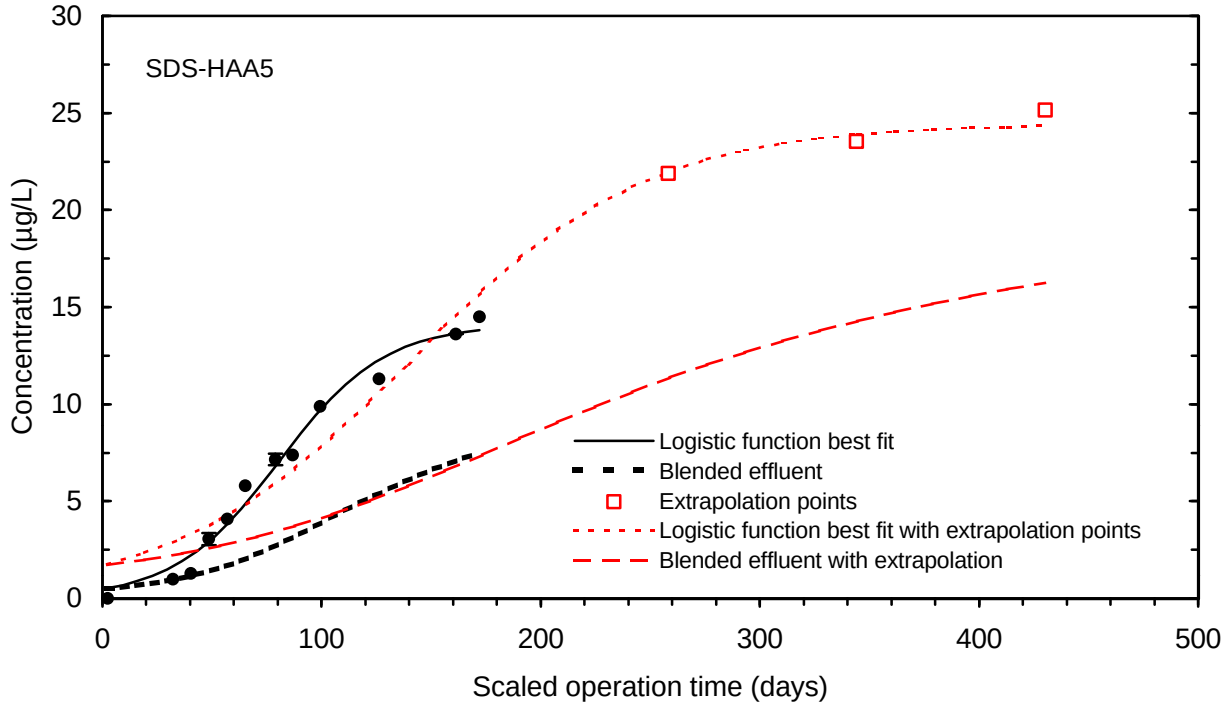

Figure 162 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 1, February

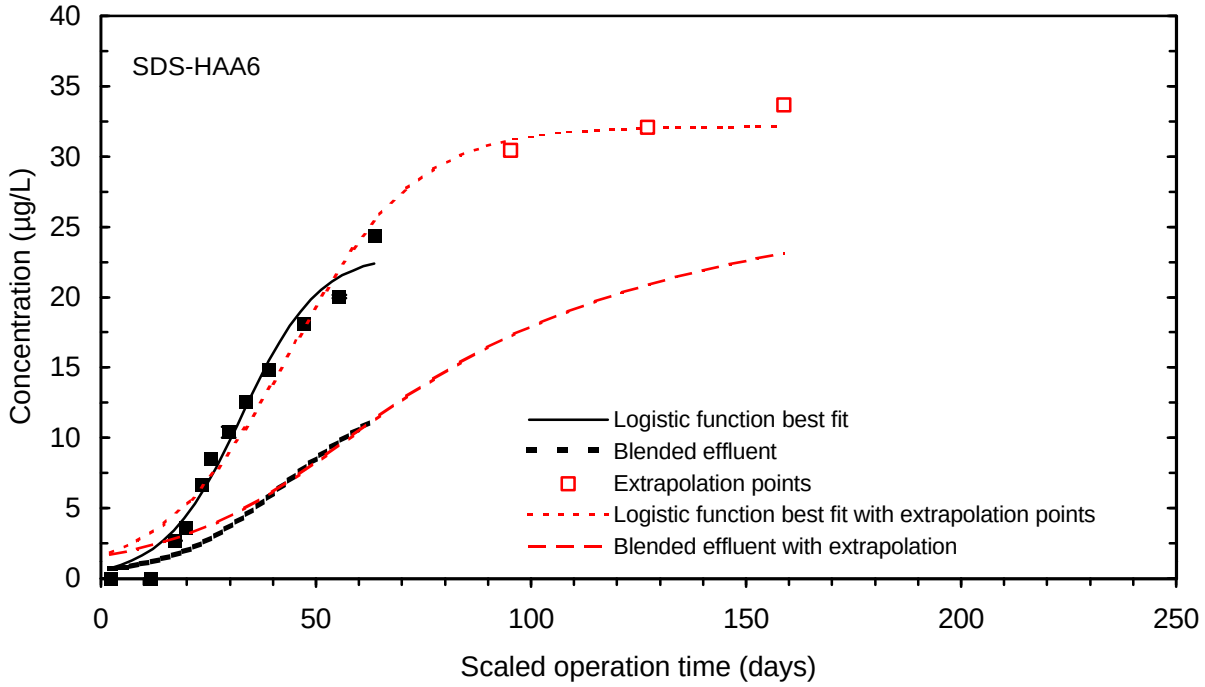

Figure 163 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 1, February

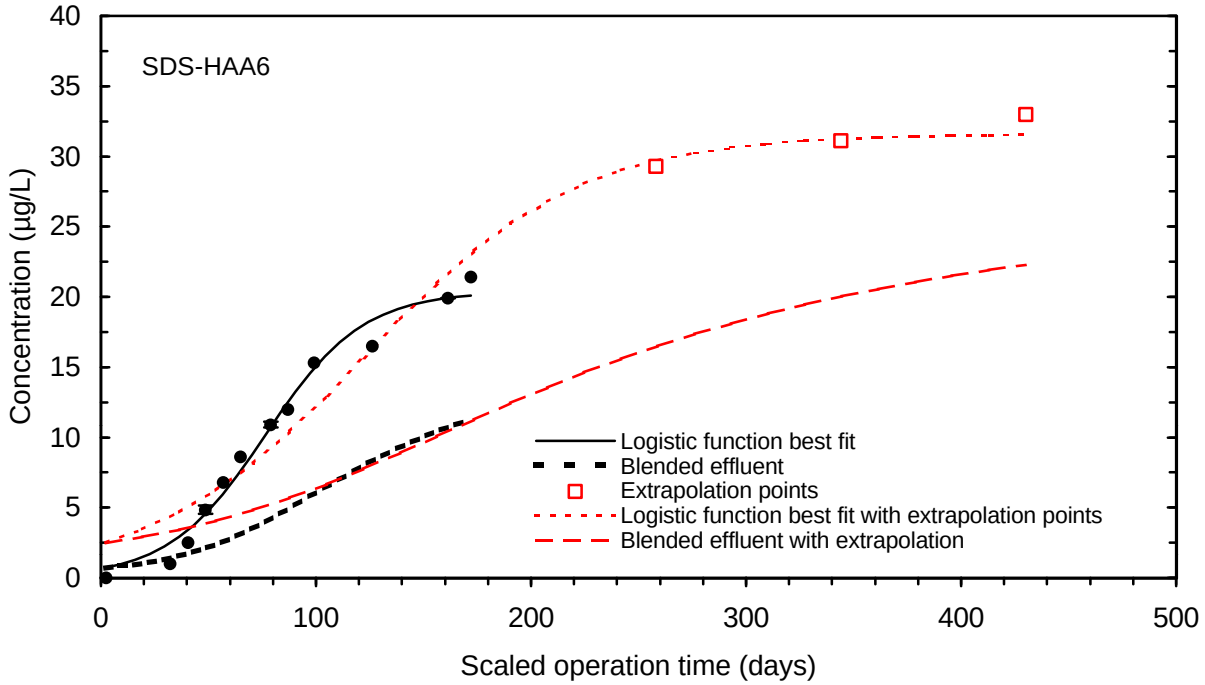

Figure 164 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 1, February

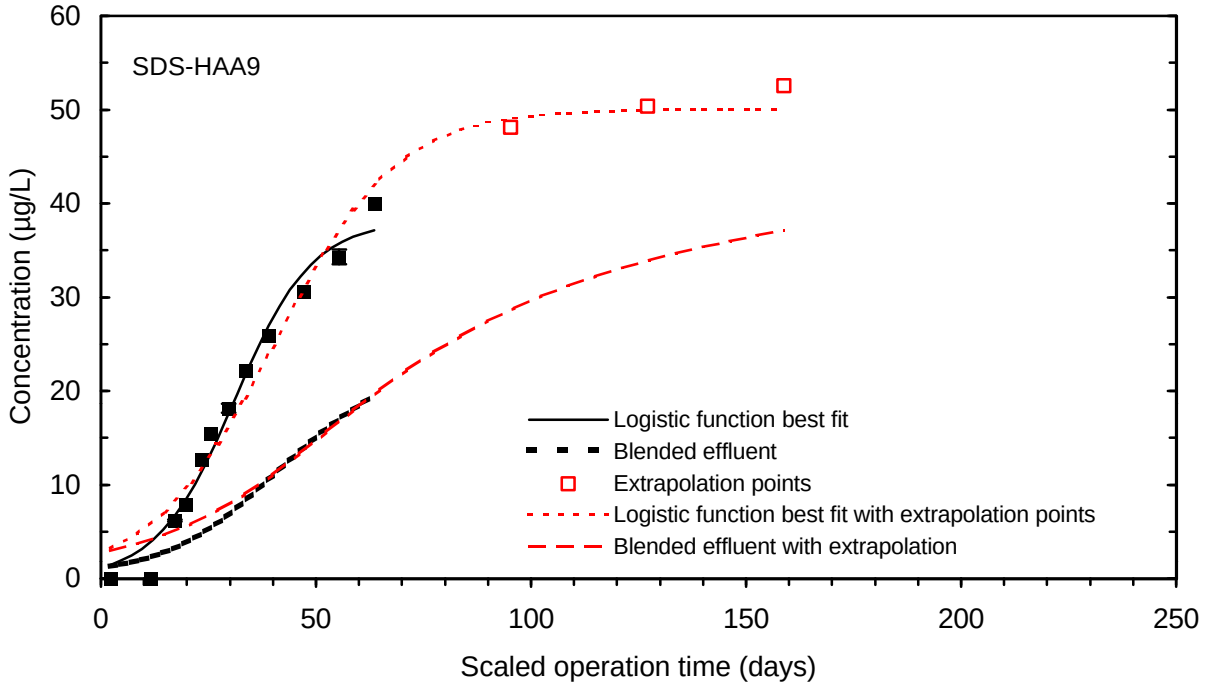

Figure 165 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 1, February

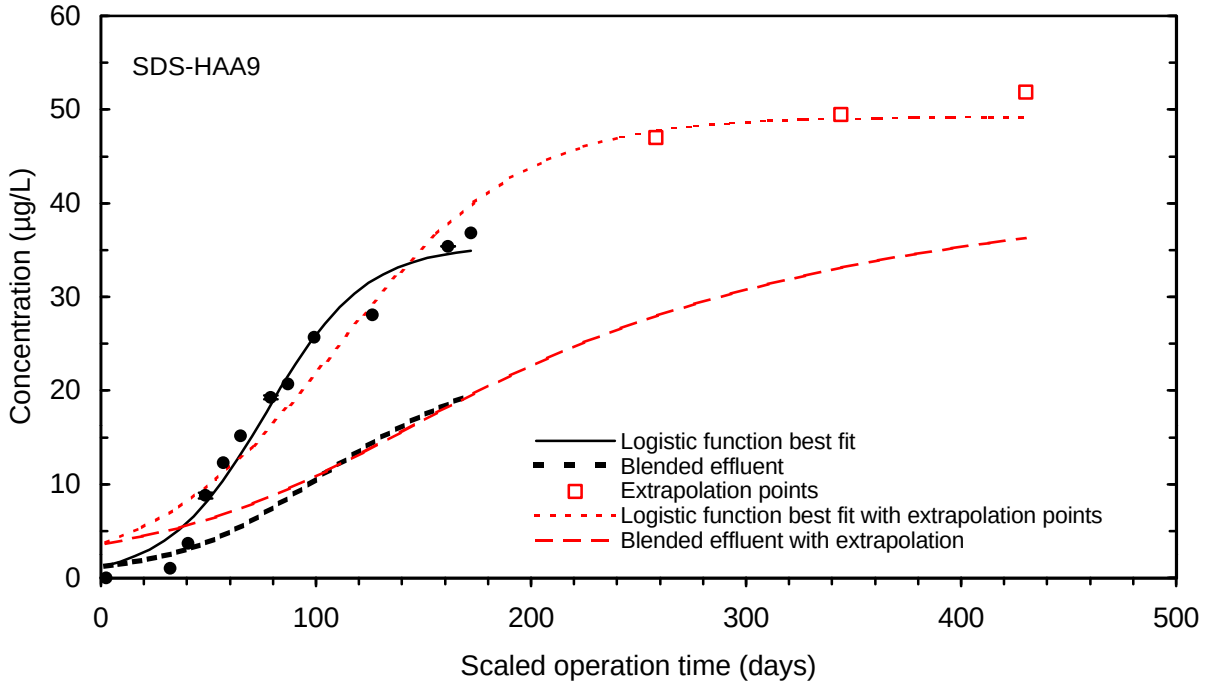

Figure 166 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 1, February

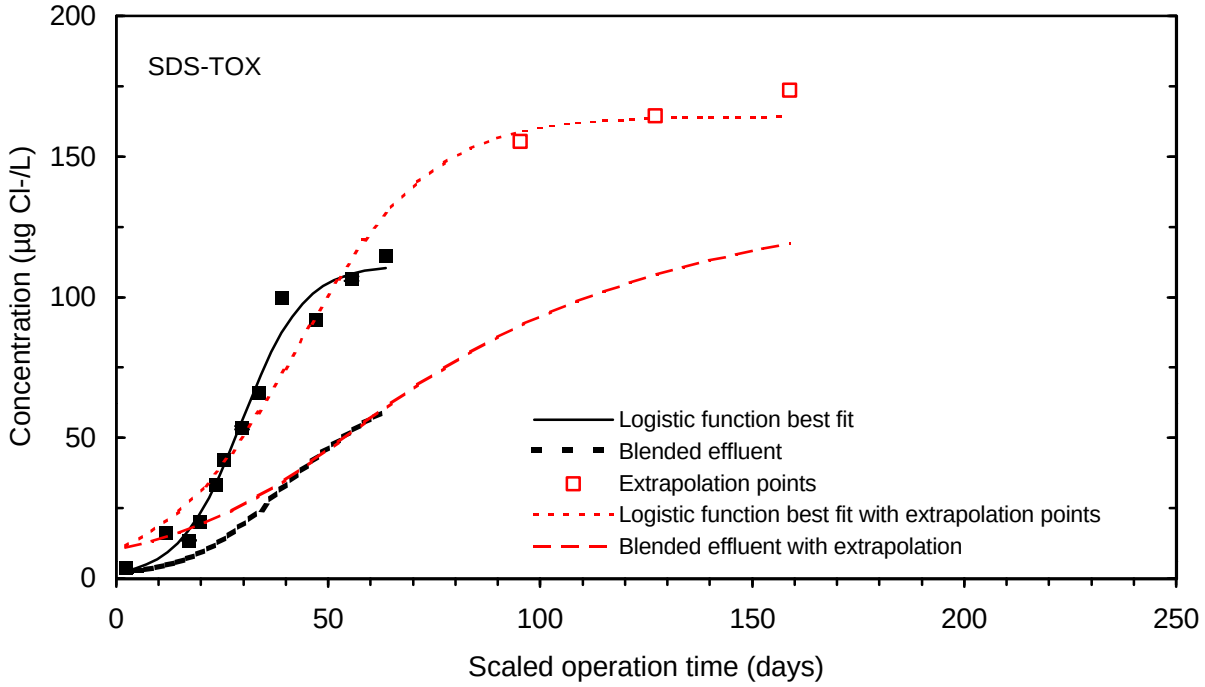

Figure 167 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 1, February

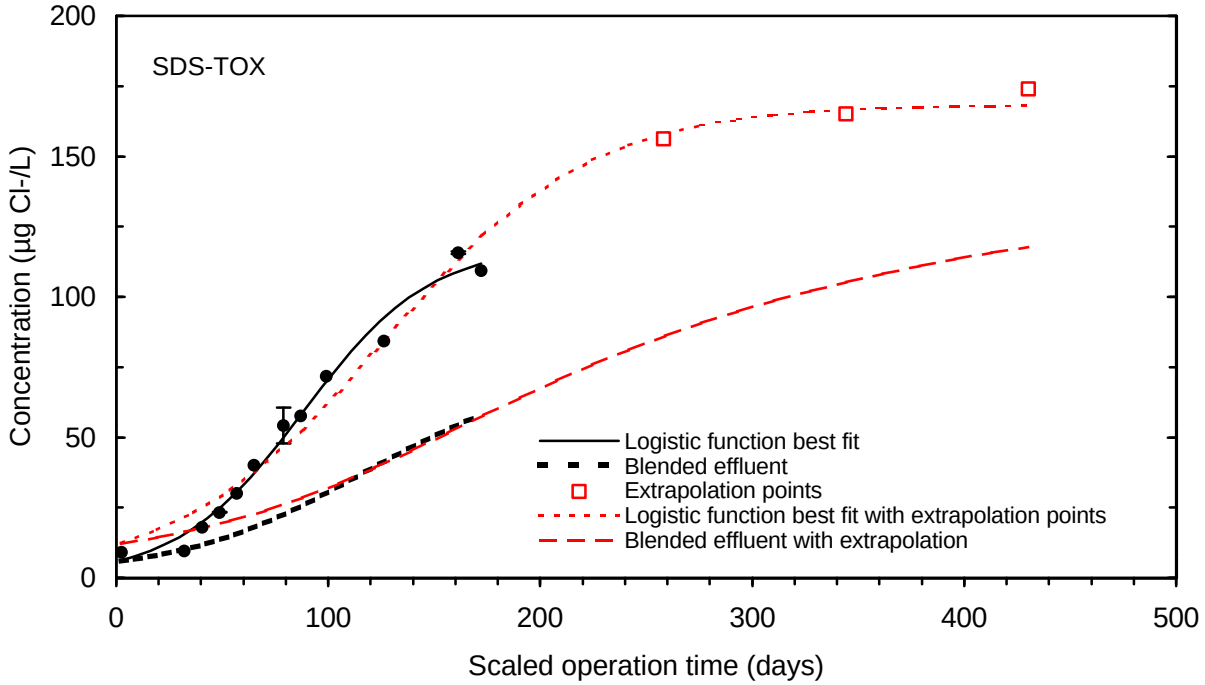

Figure 168 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 1, February

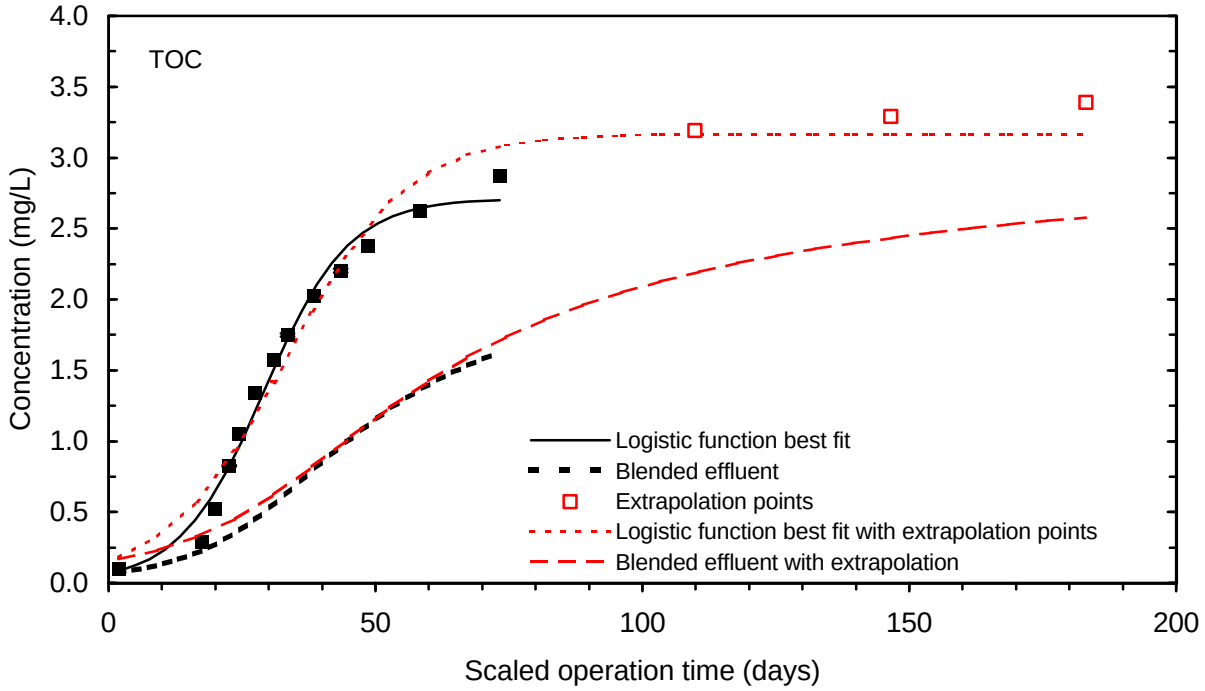

Figure 169 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 2, May

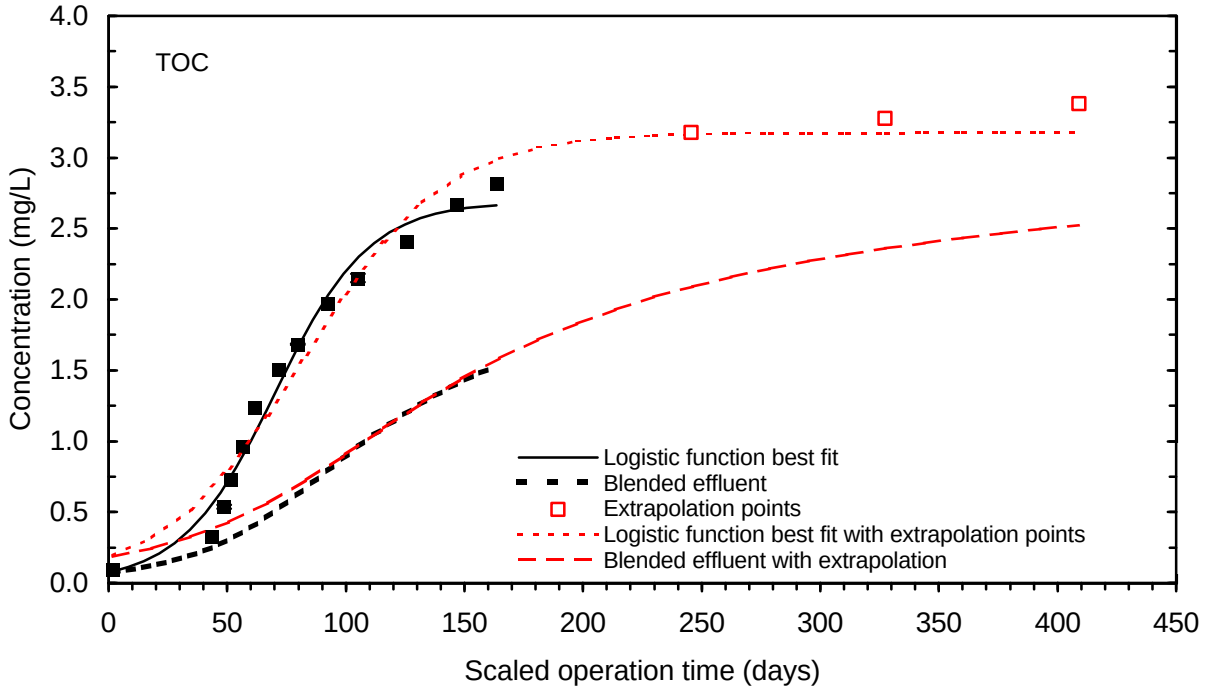

Figure 170 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 2, May

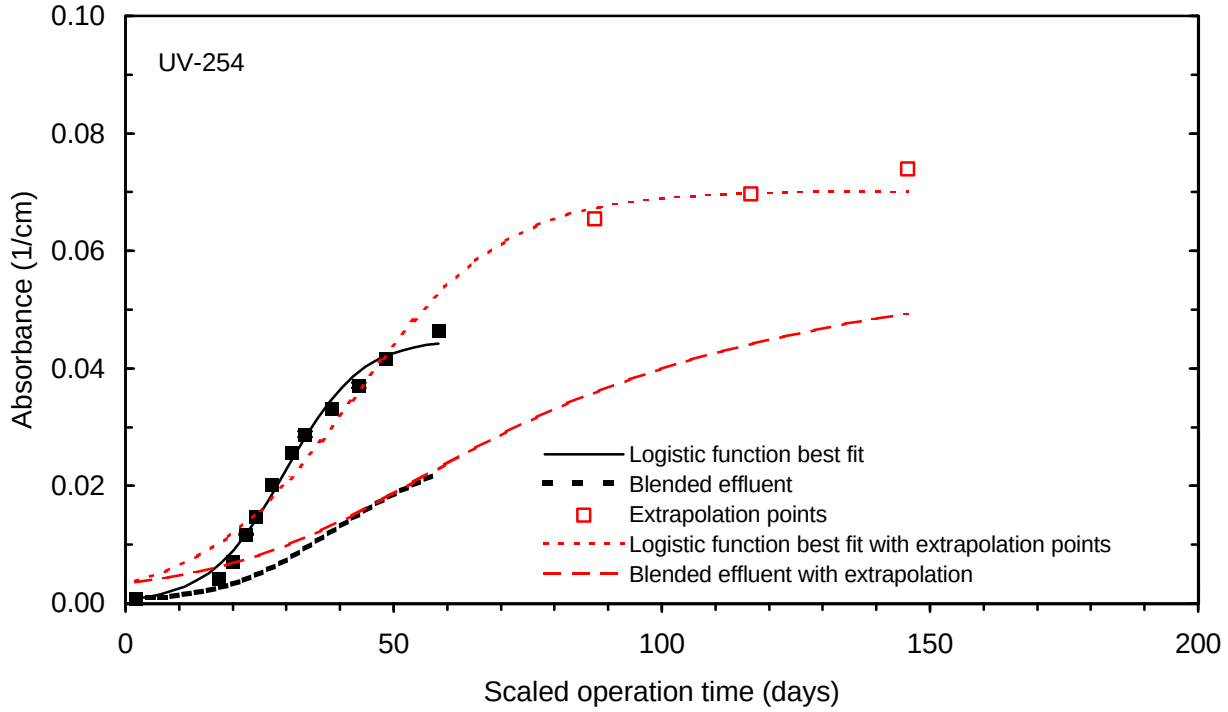

Figure 171 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 2, May

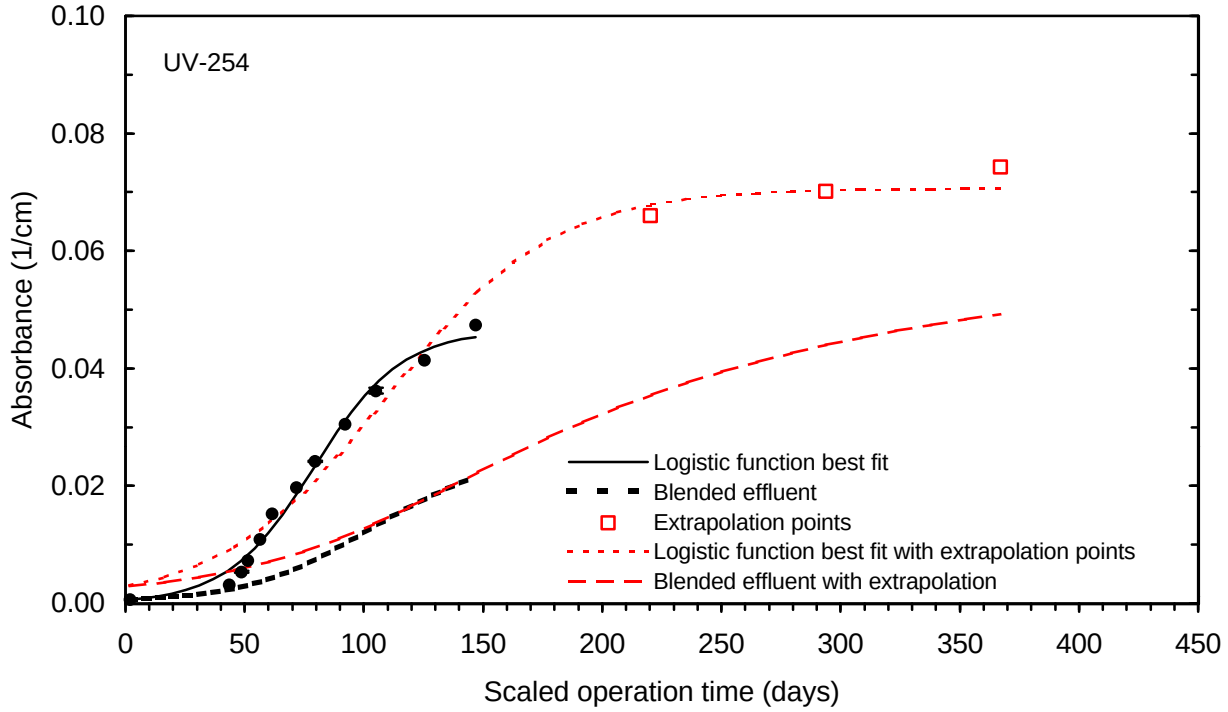

Figure 172 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 2, May

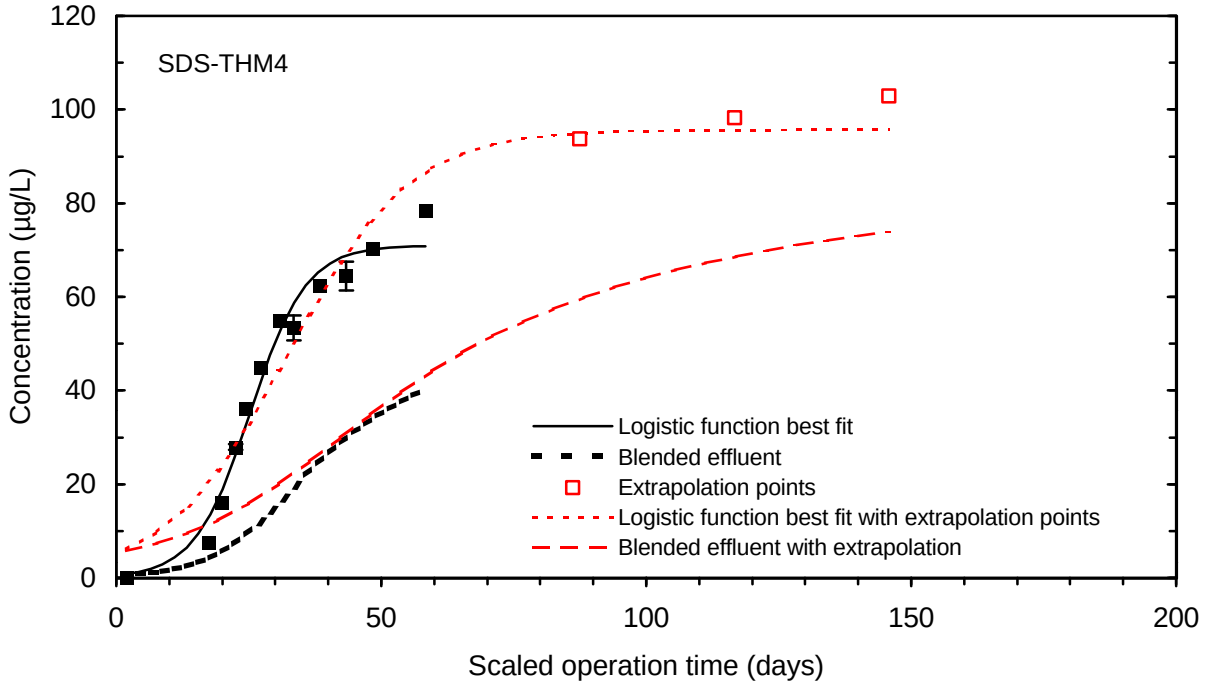

Figure 173 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 2, May

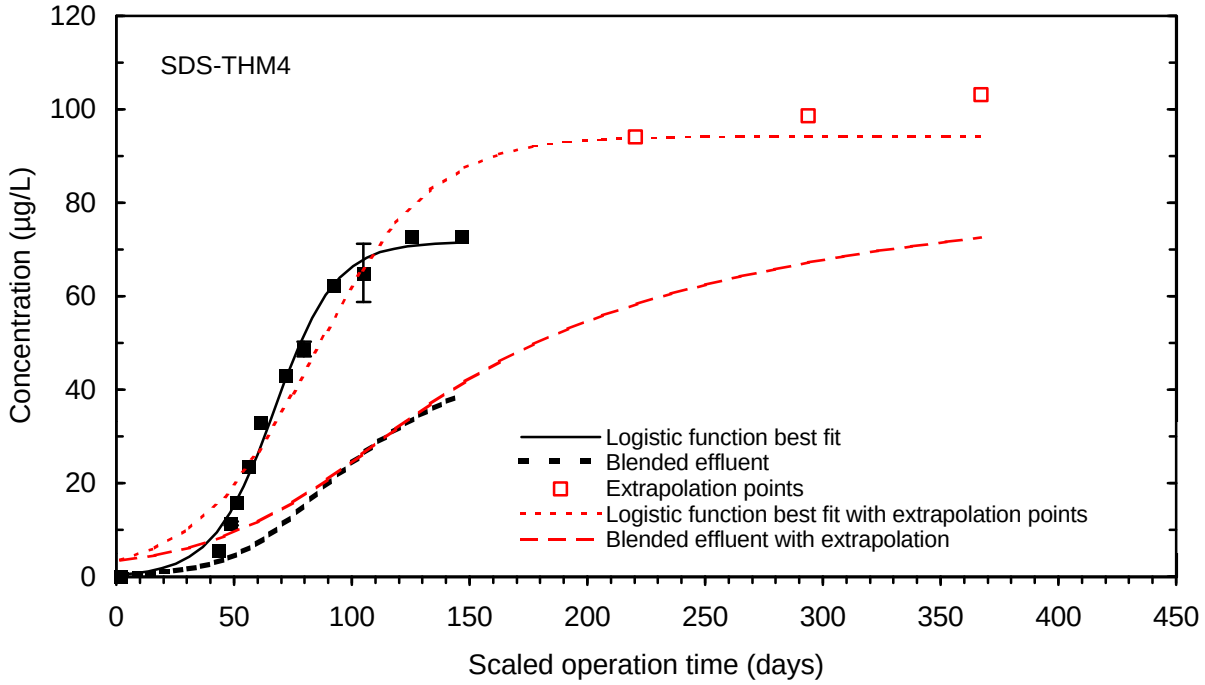

Figure 174 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 2, May

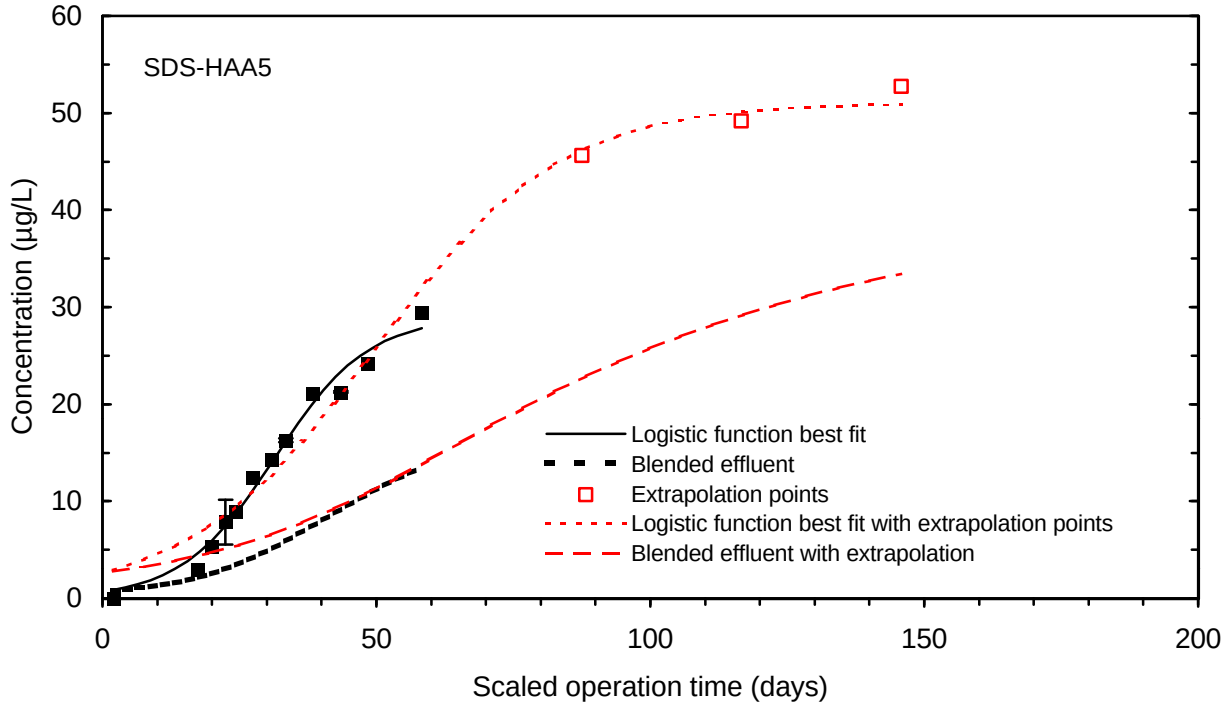

Figure 175 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 2, May

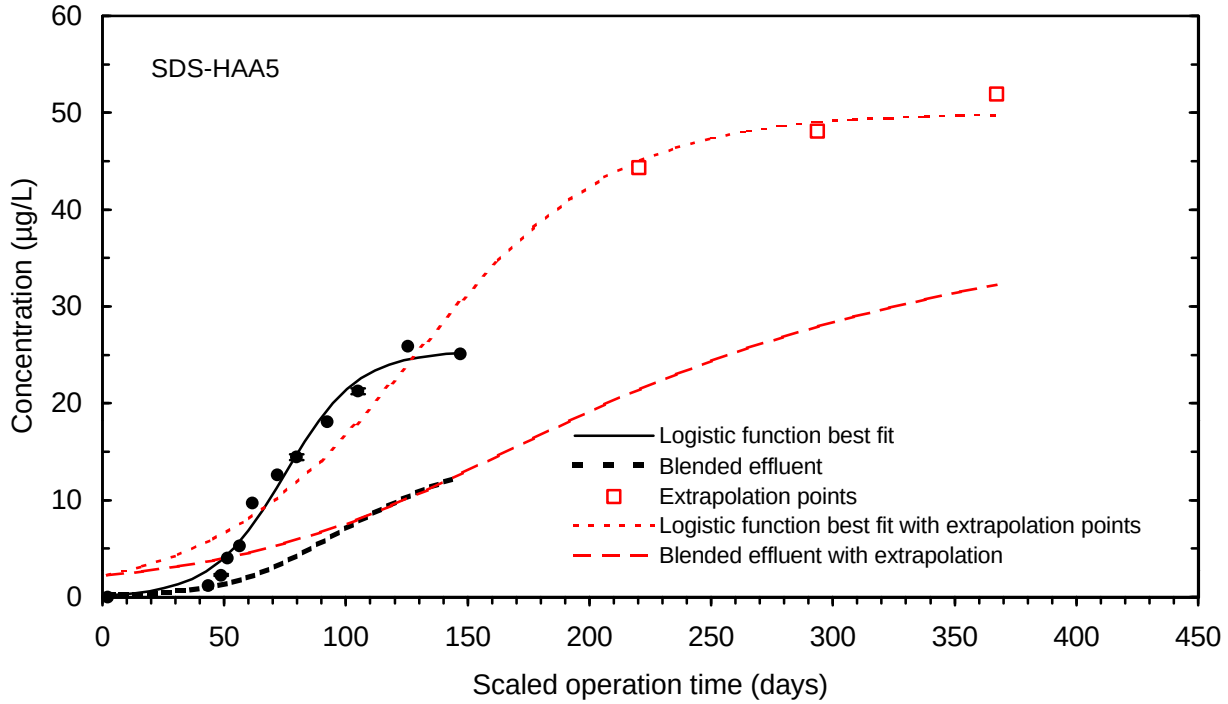

Figure 176 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 2, May

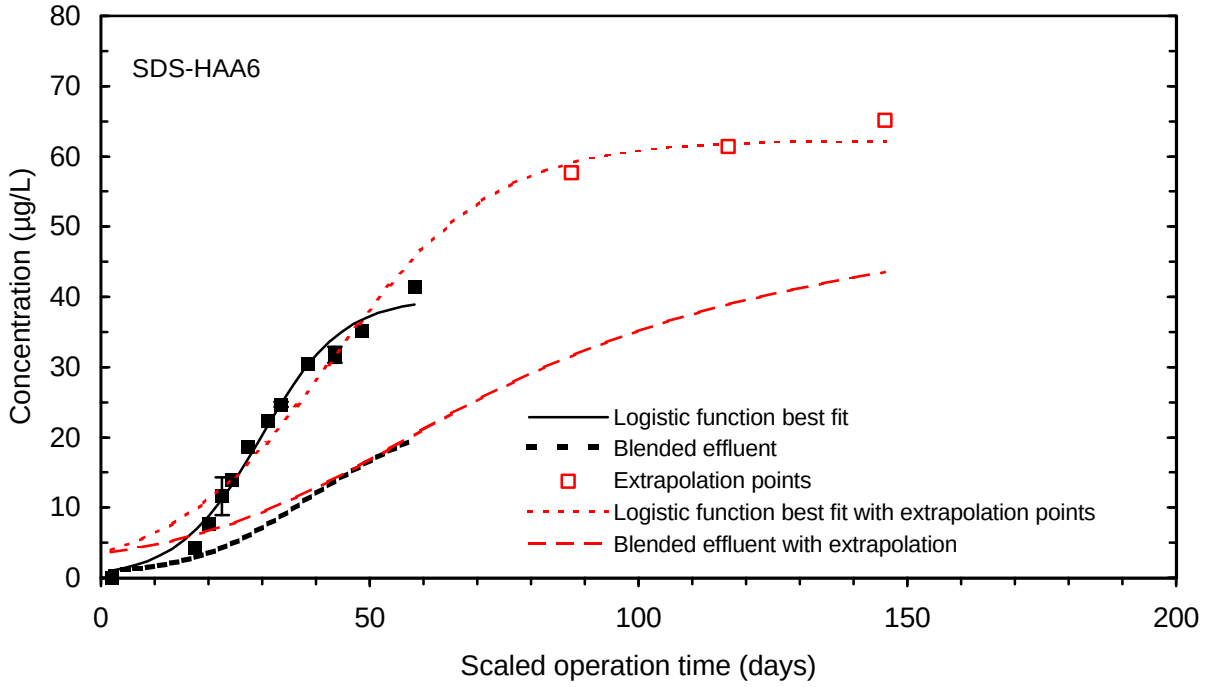

Figure 177 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 2, May

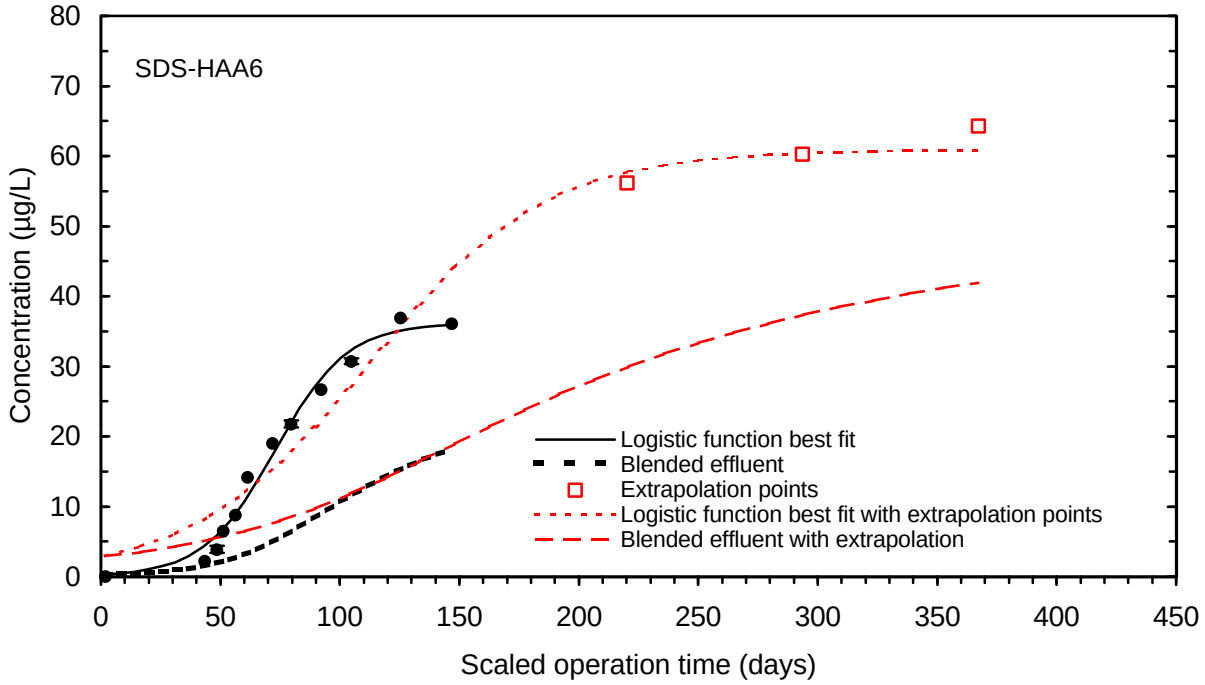

Figure 178 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 2, May

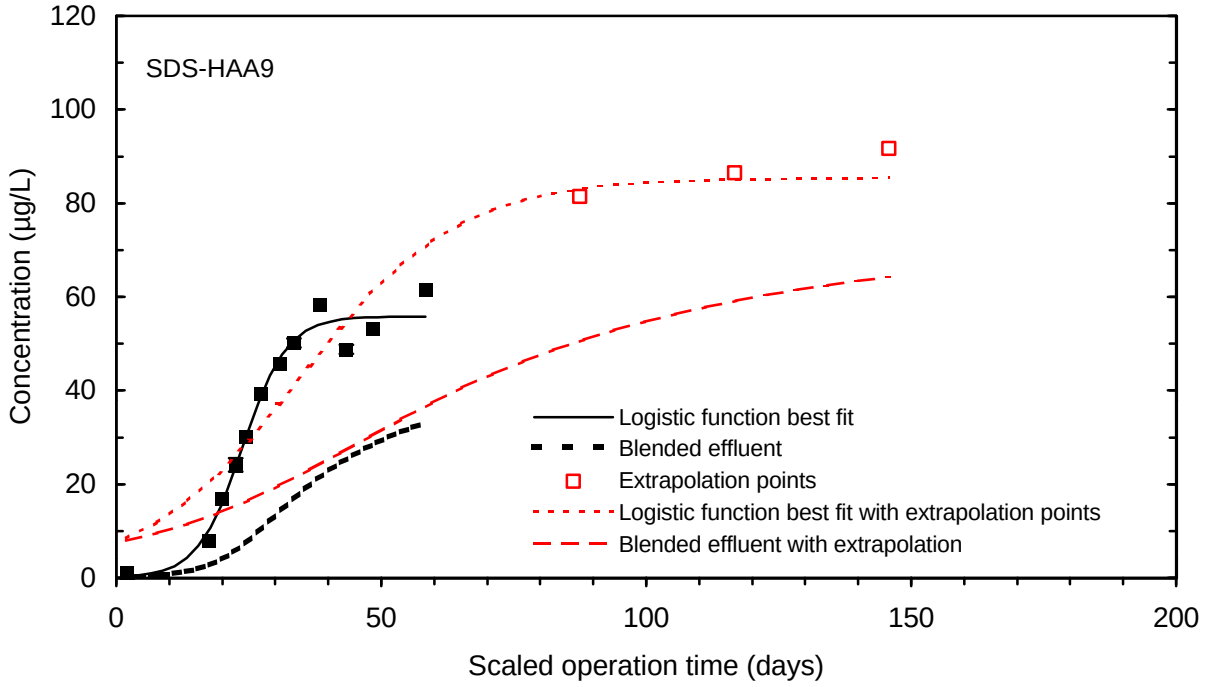

Figure 179 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 2, May

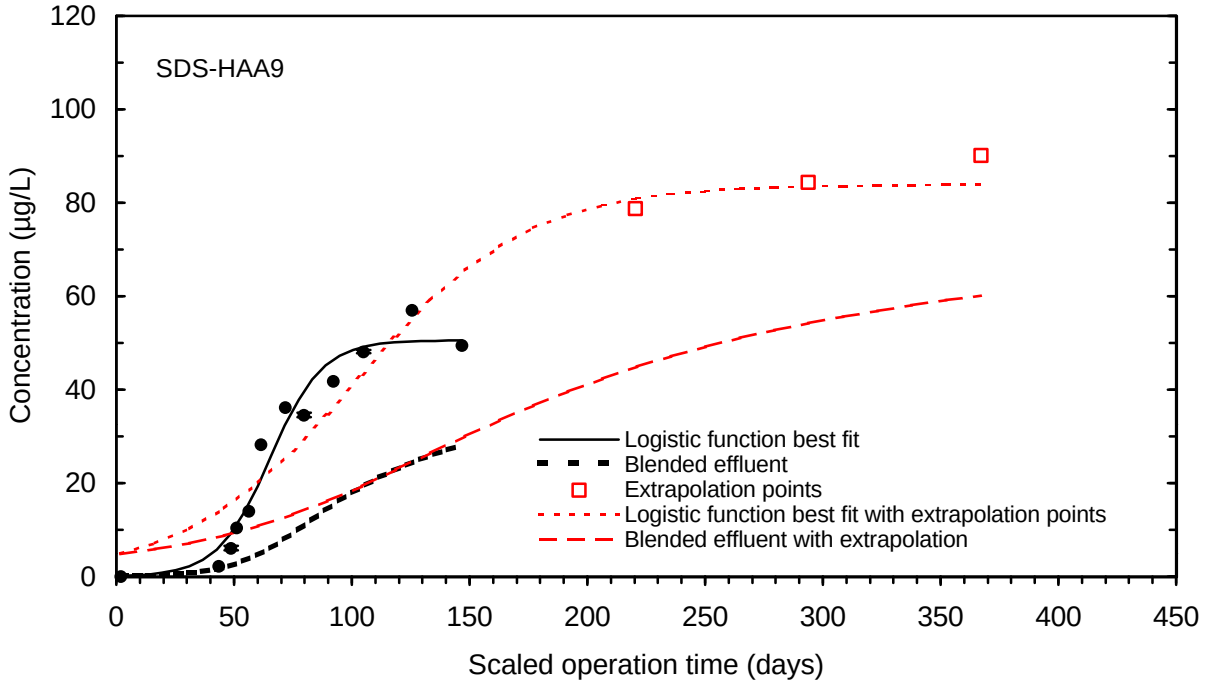

Figure 180 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 2, May

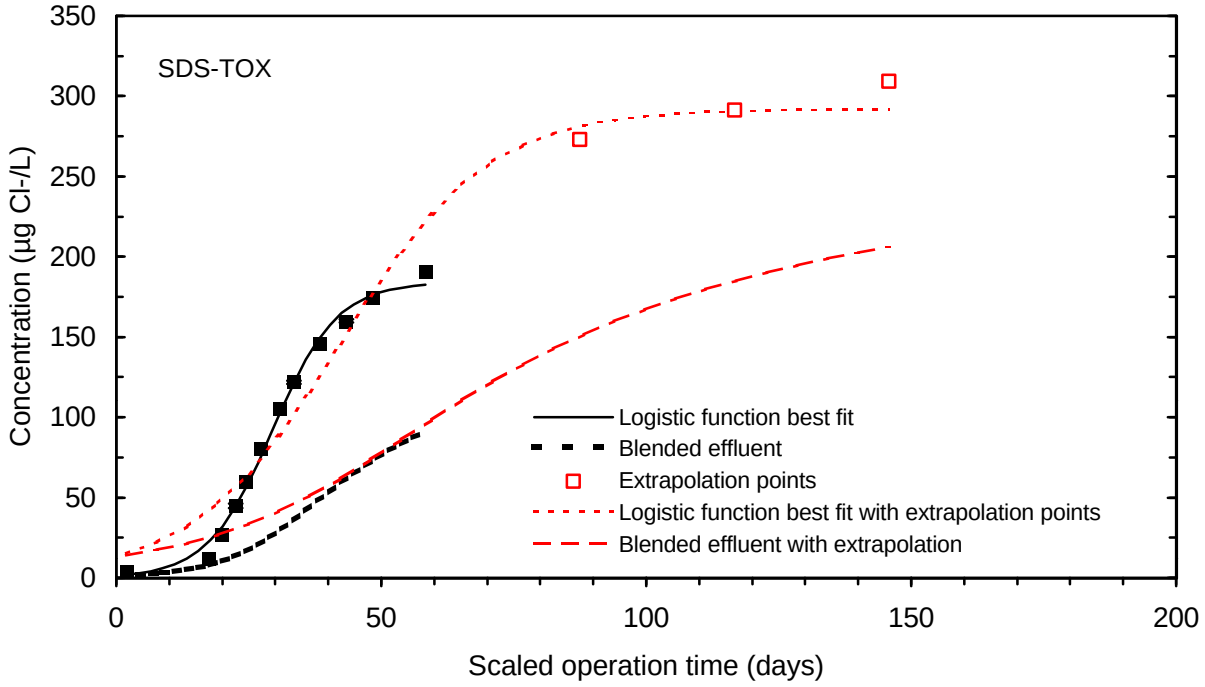

Figure 181 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 2, May

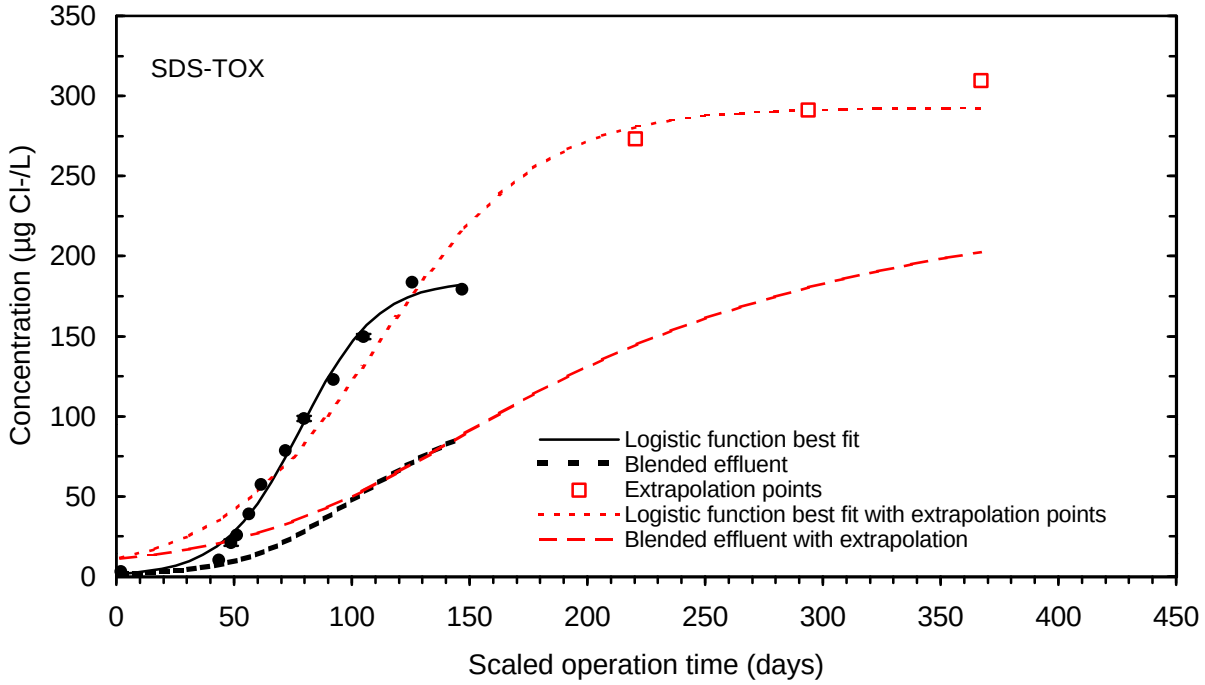

Figure 182 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 2, May

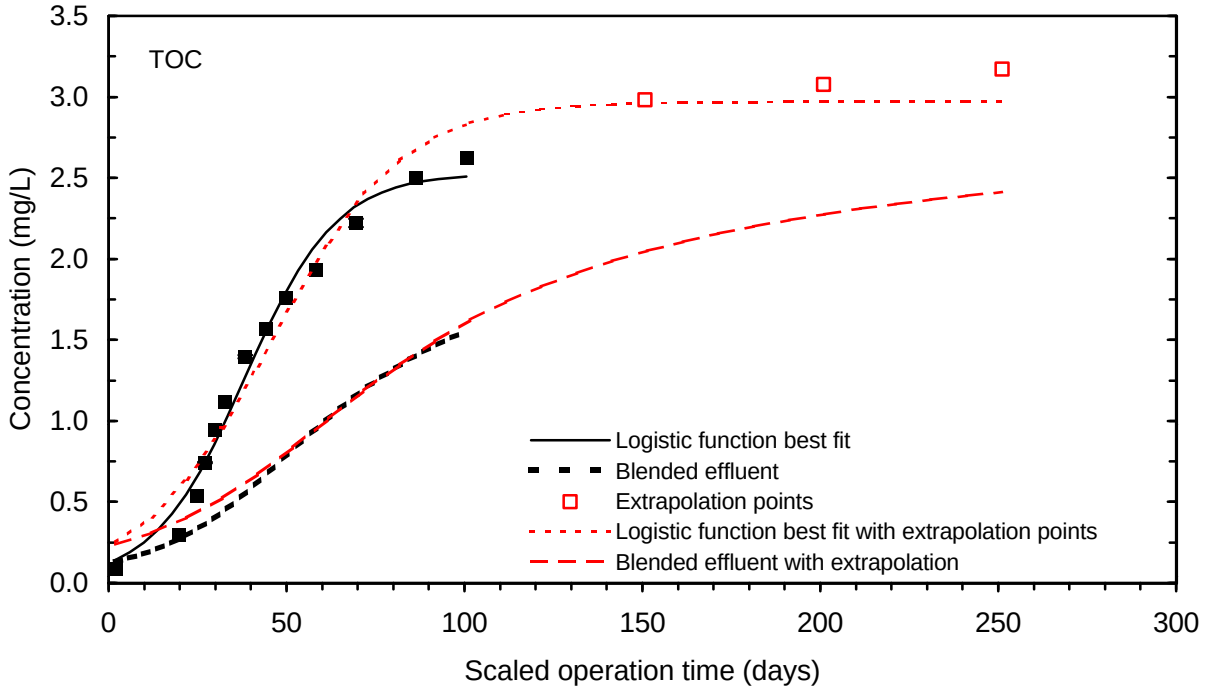

Figure 183 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 3, August

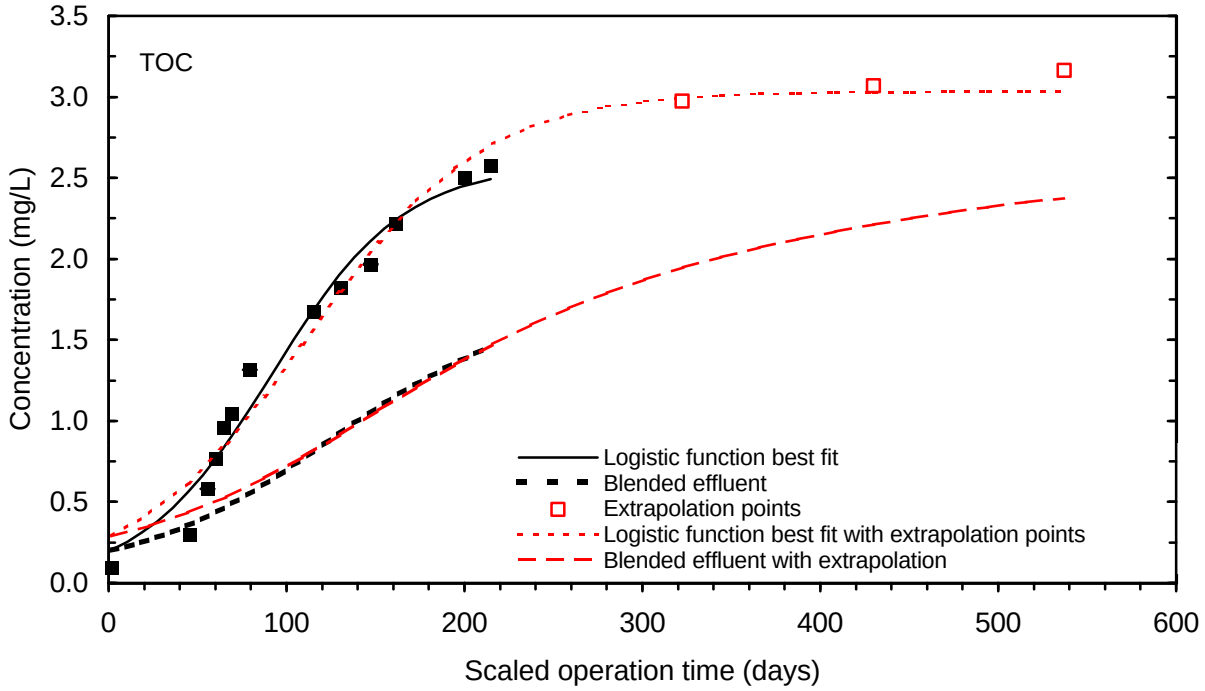

Figure 184 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 3, August

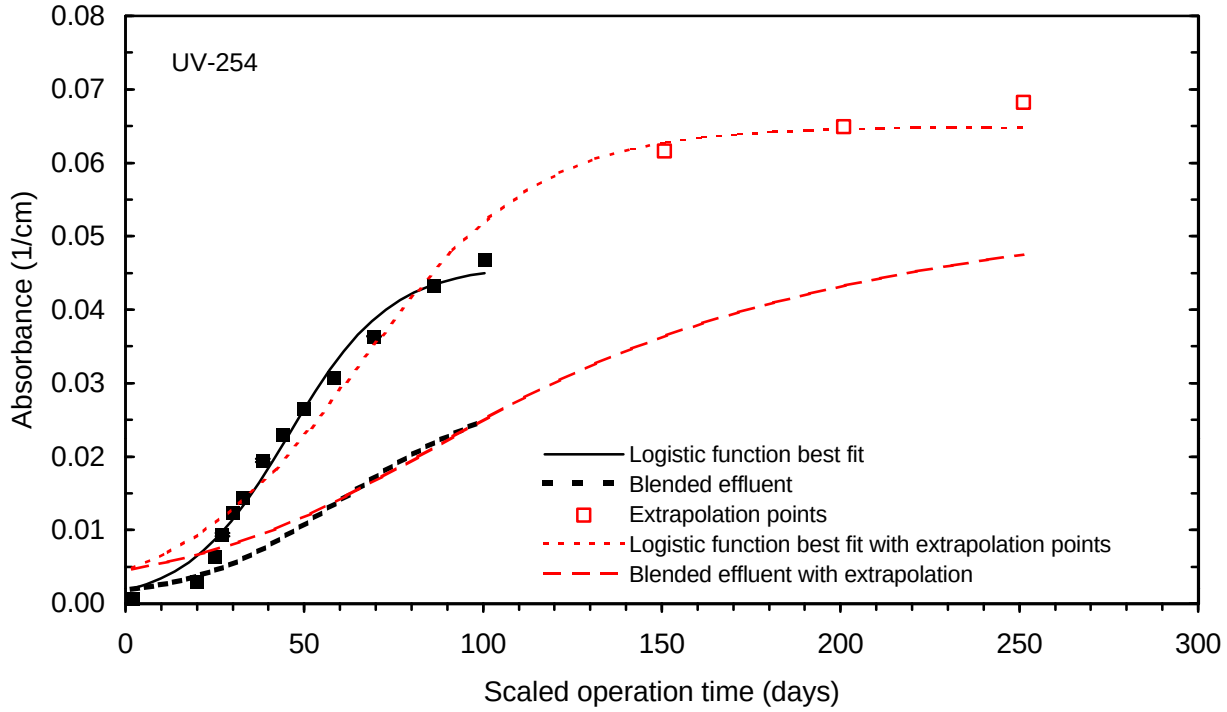

Figure 185 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 3, August

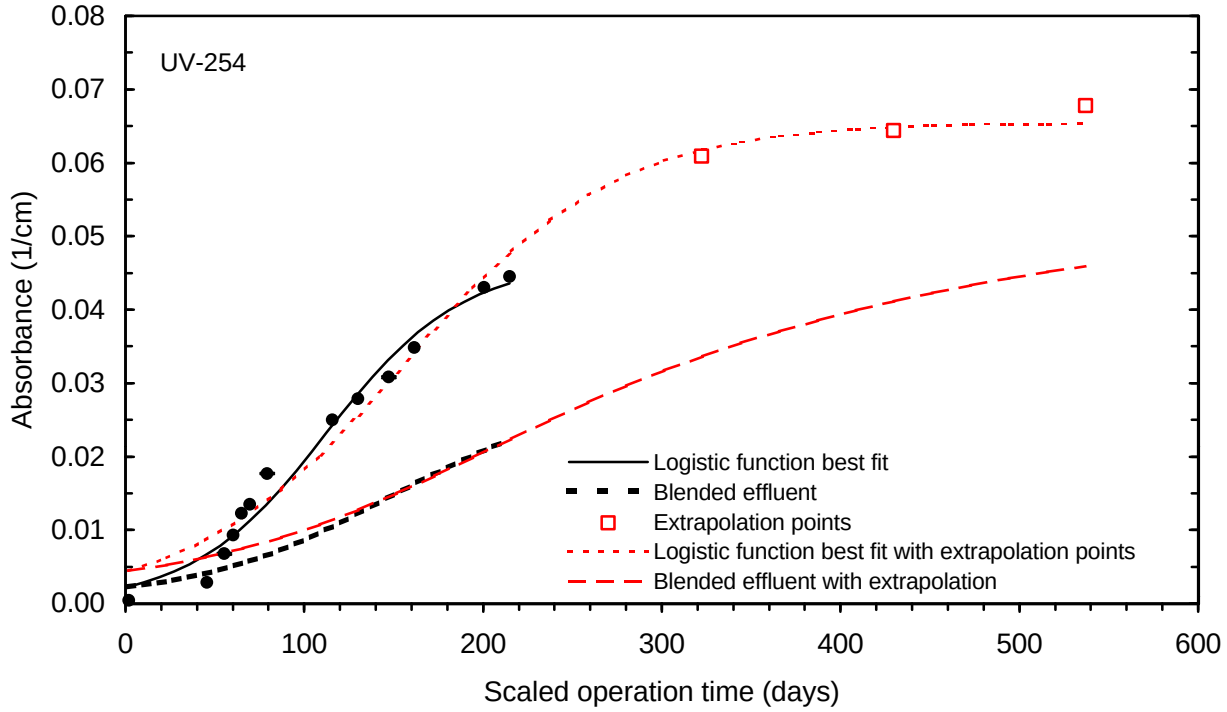

Figure 186 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 3, August

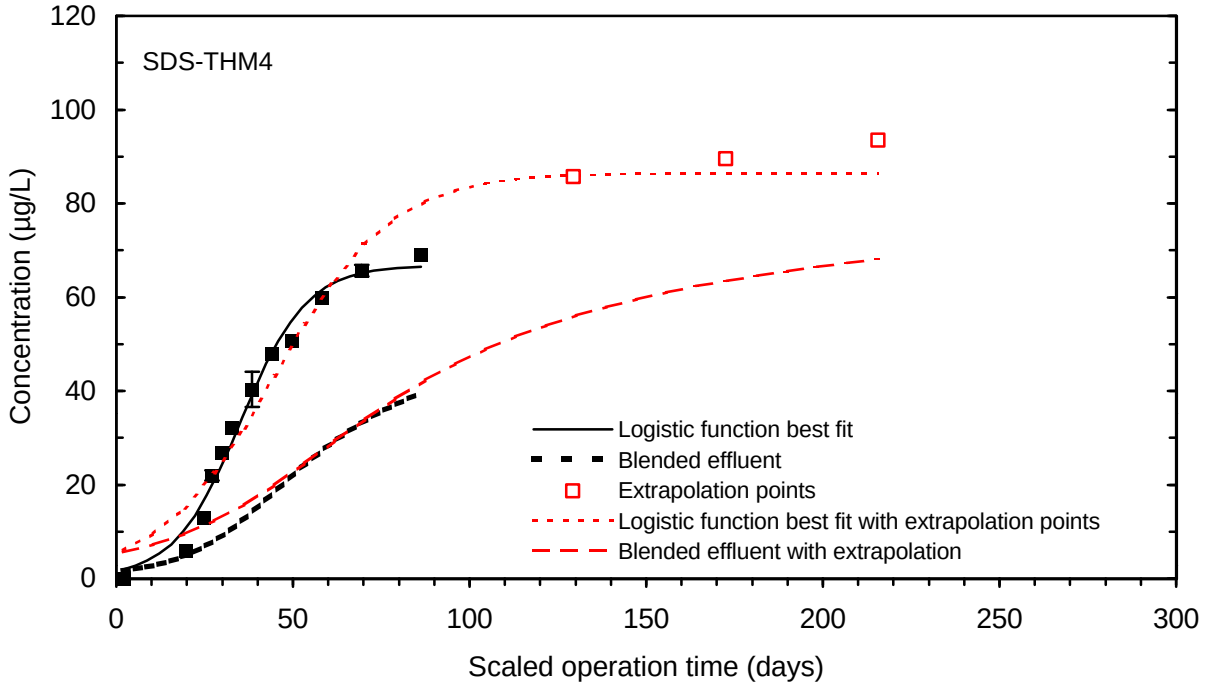

Figure 187 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 3, August

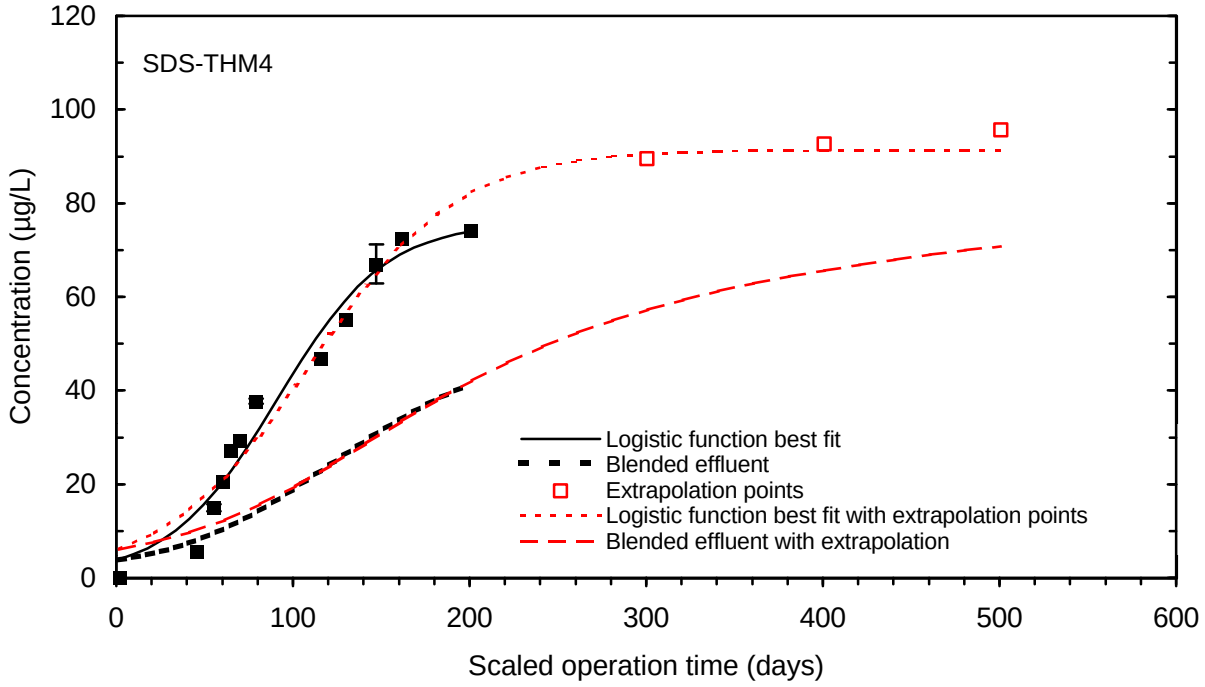

Figure 188 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 3, August

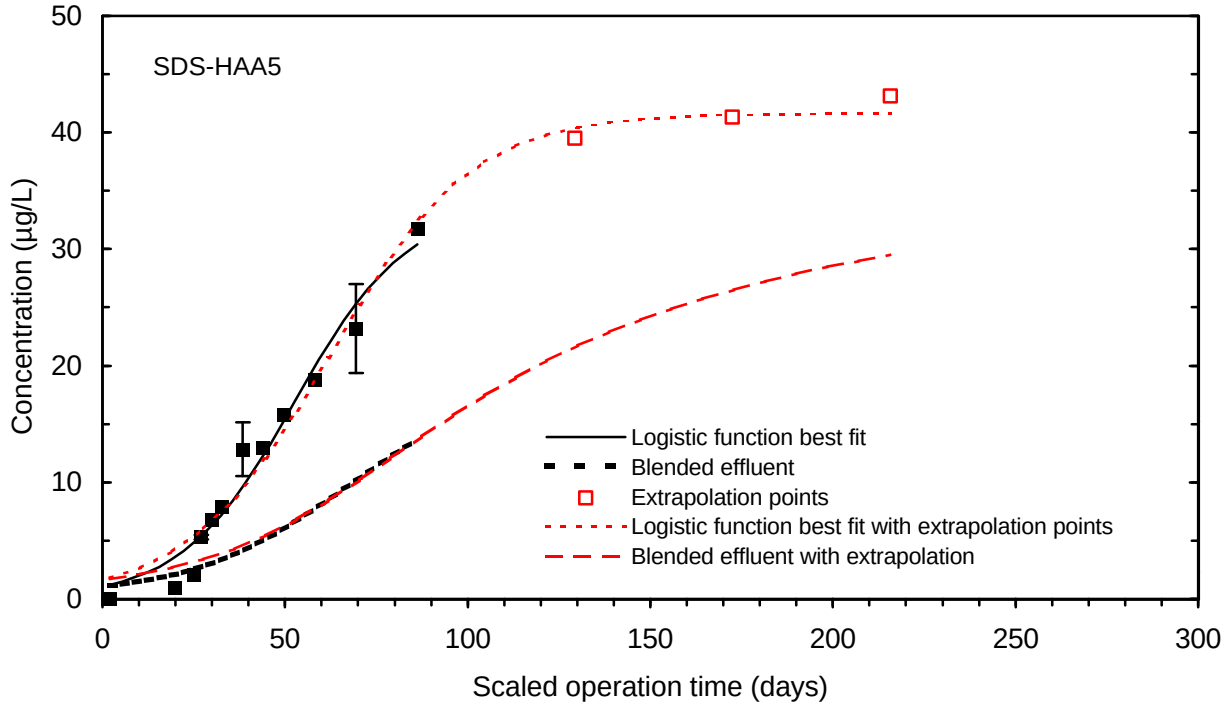

Figure 189 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 3, August

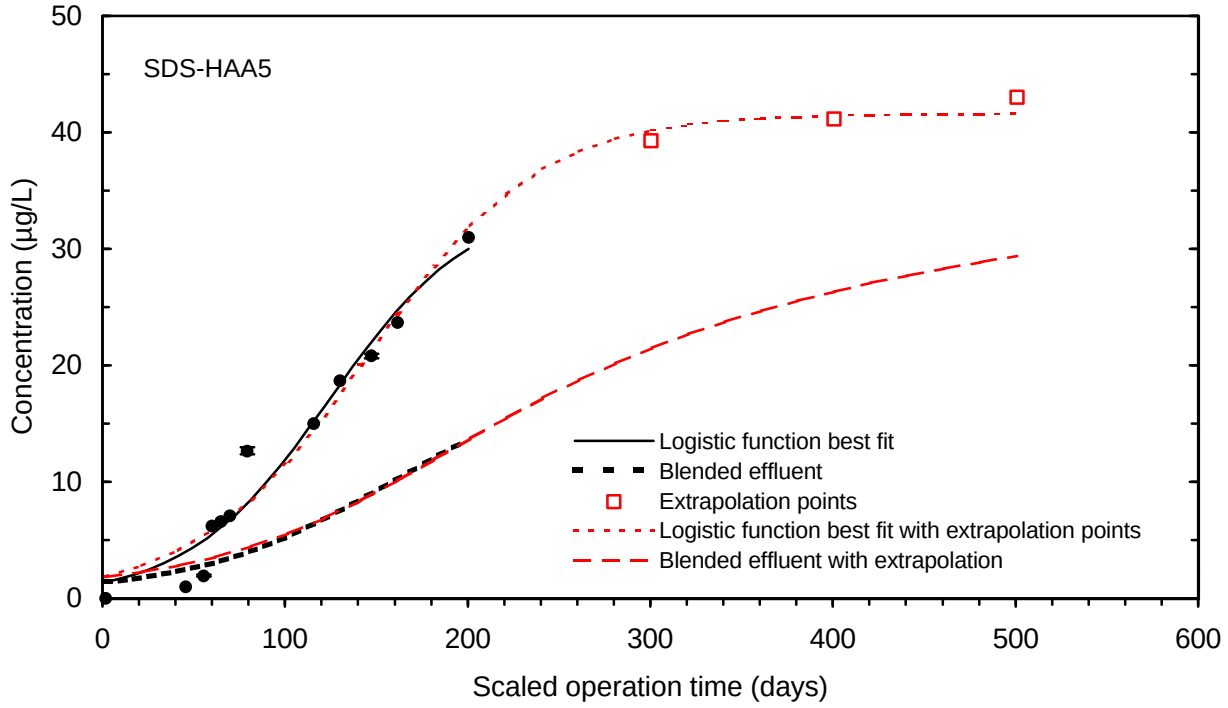

Figure 190 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 3, August

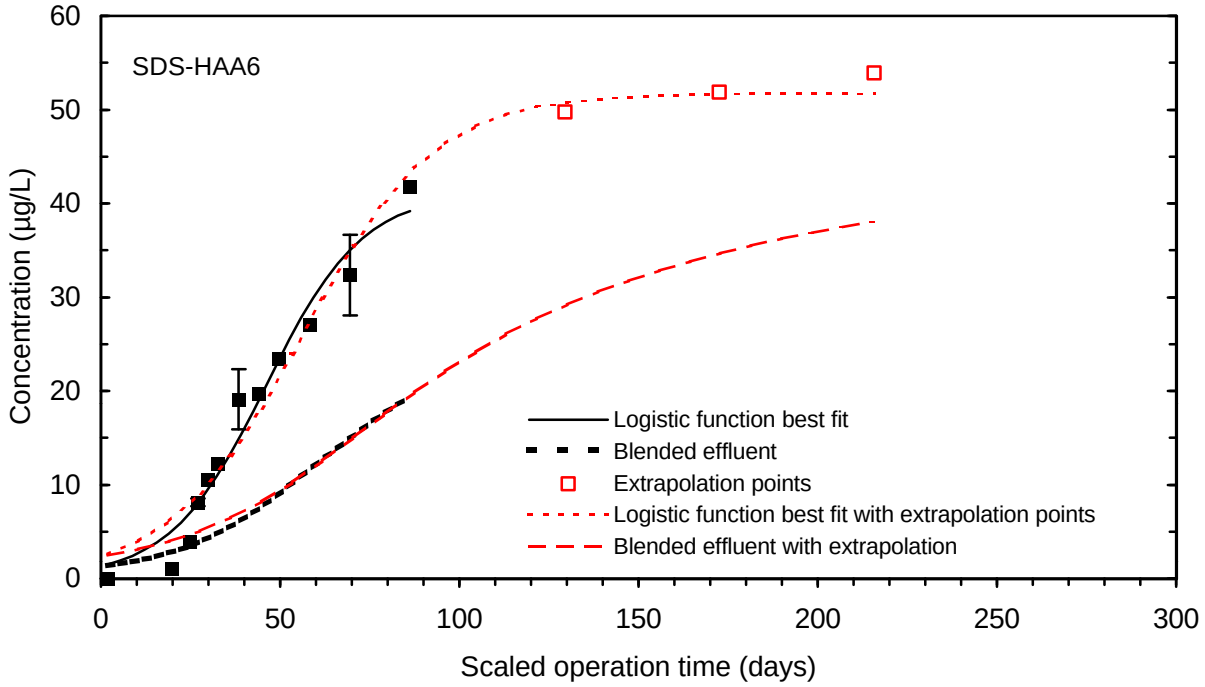

Figure 191 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 3, August

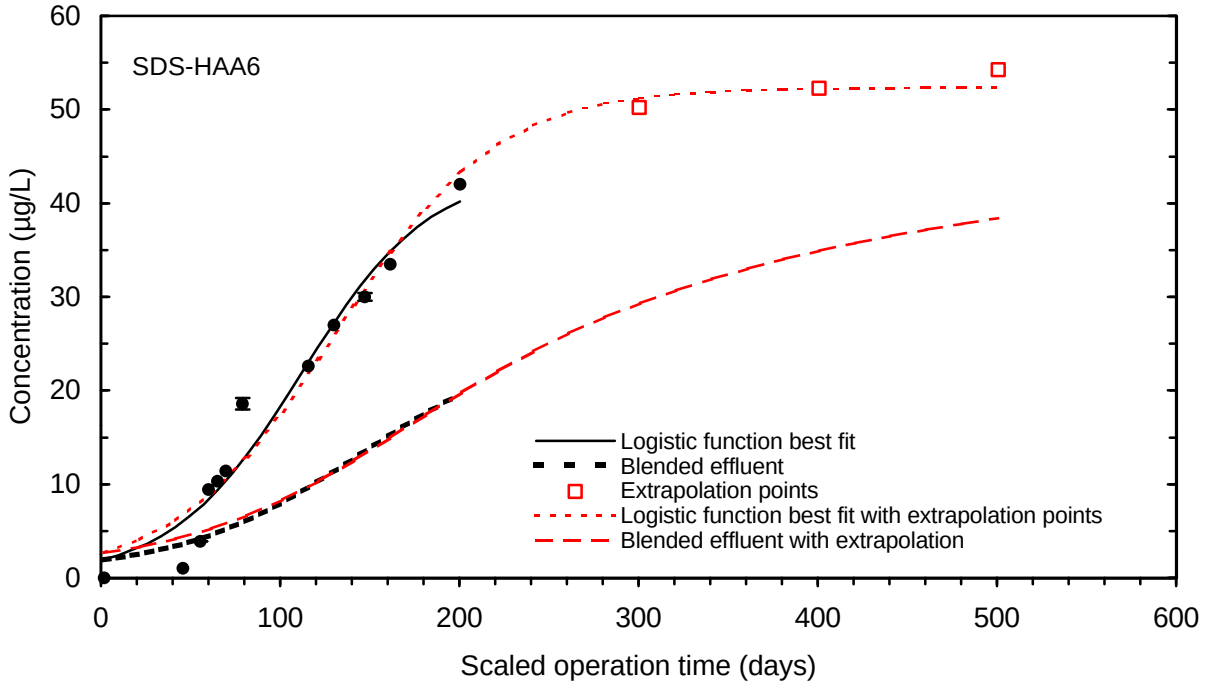

Figure 192 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 3, August

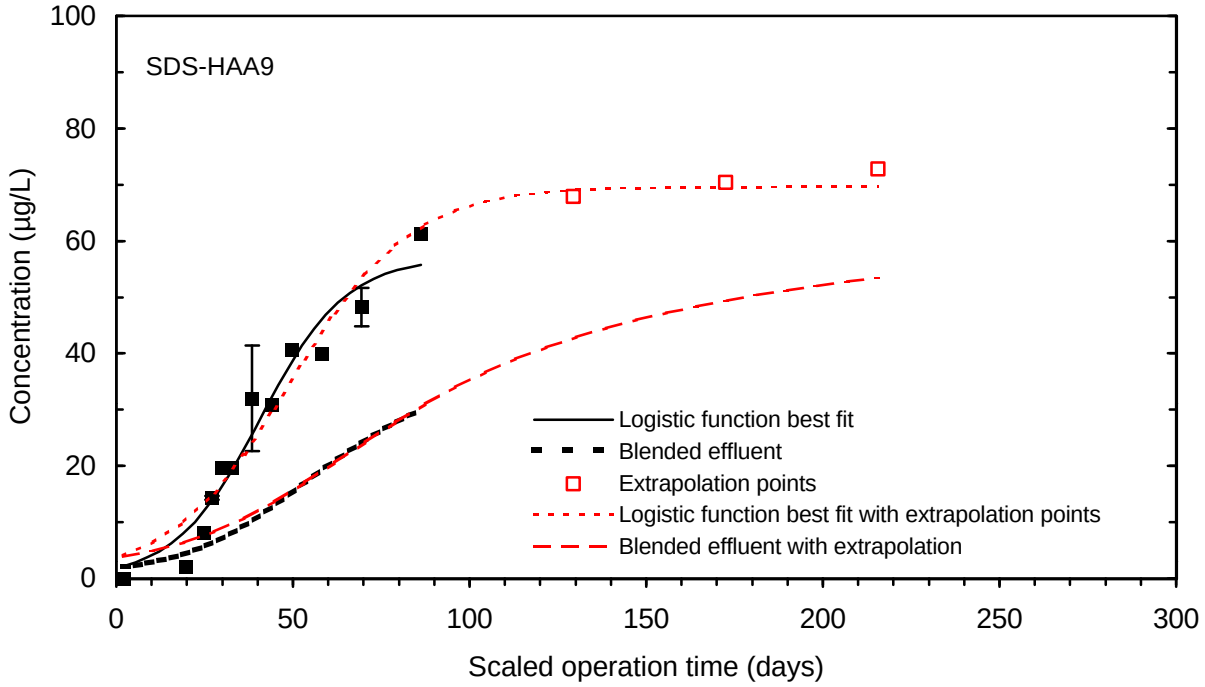

Figure 193 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 3, August

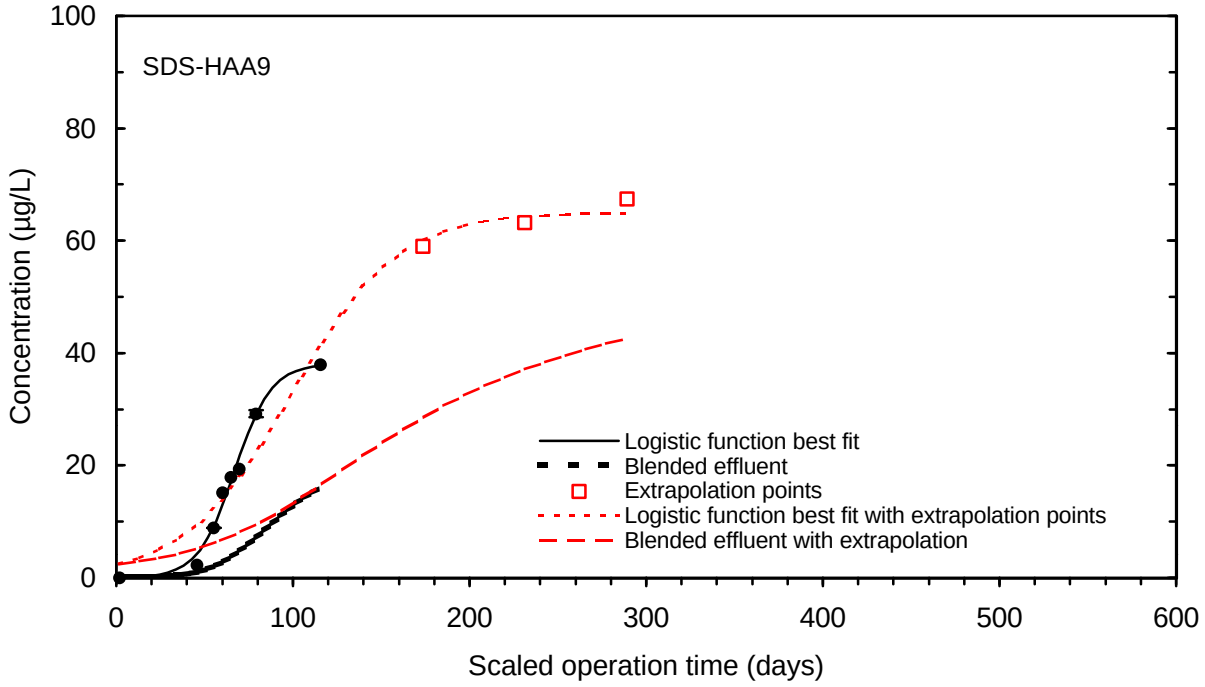

Figure 194 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 3, August

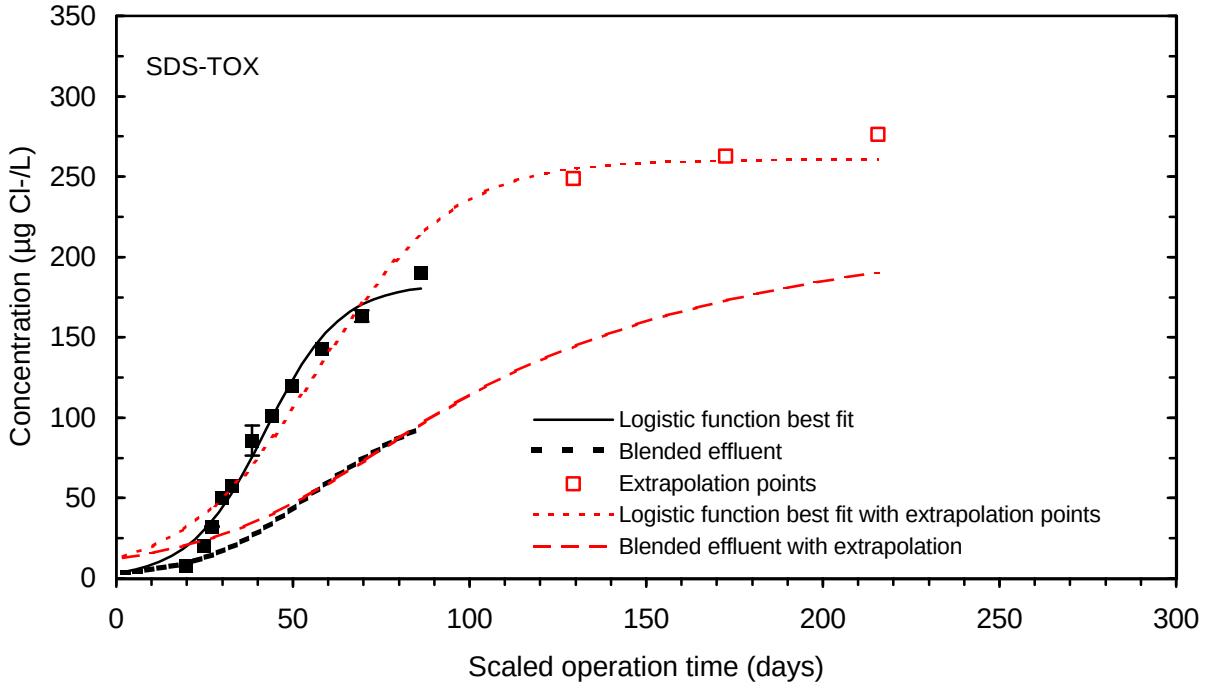

Figure 195 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 3, August

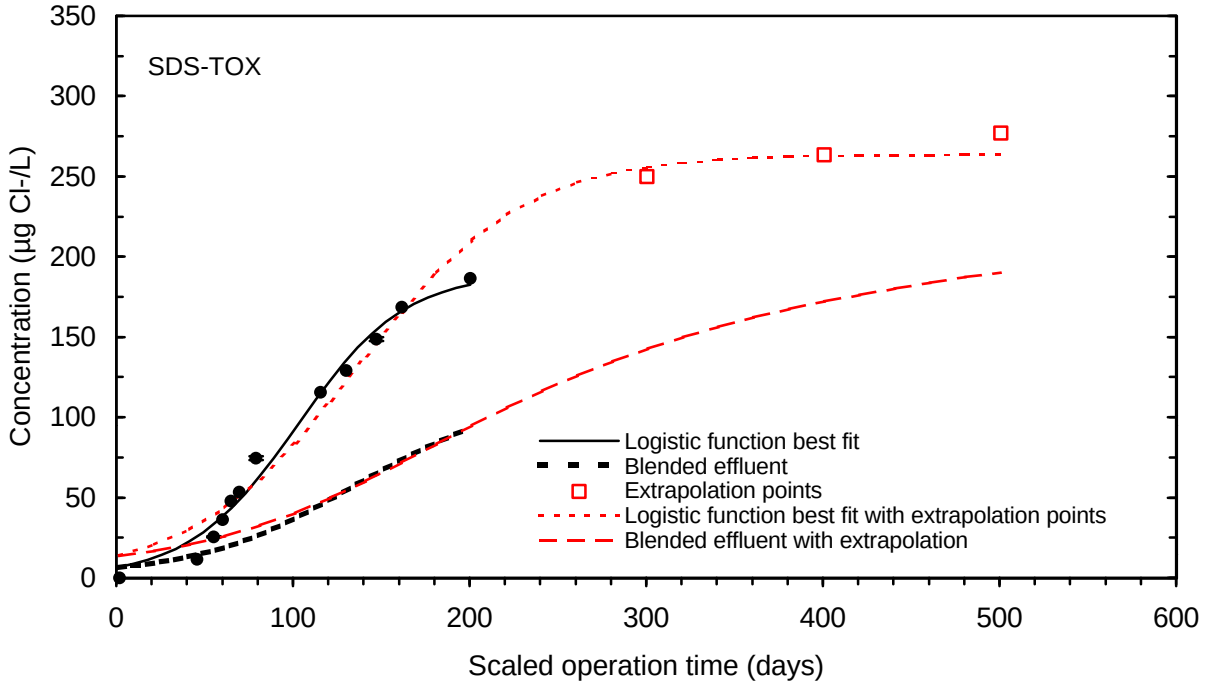

Figure 196 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 3, August

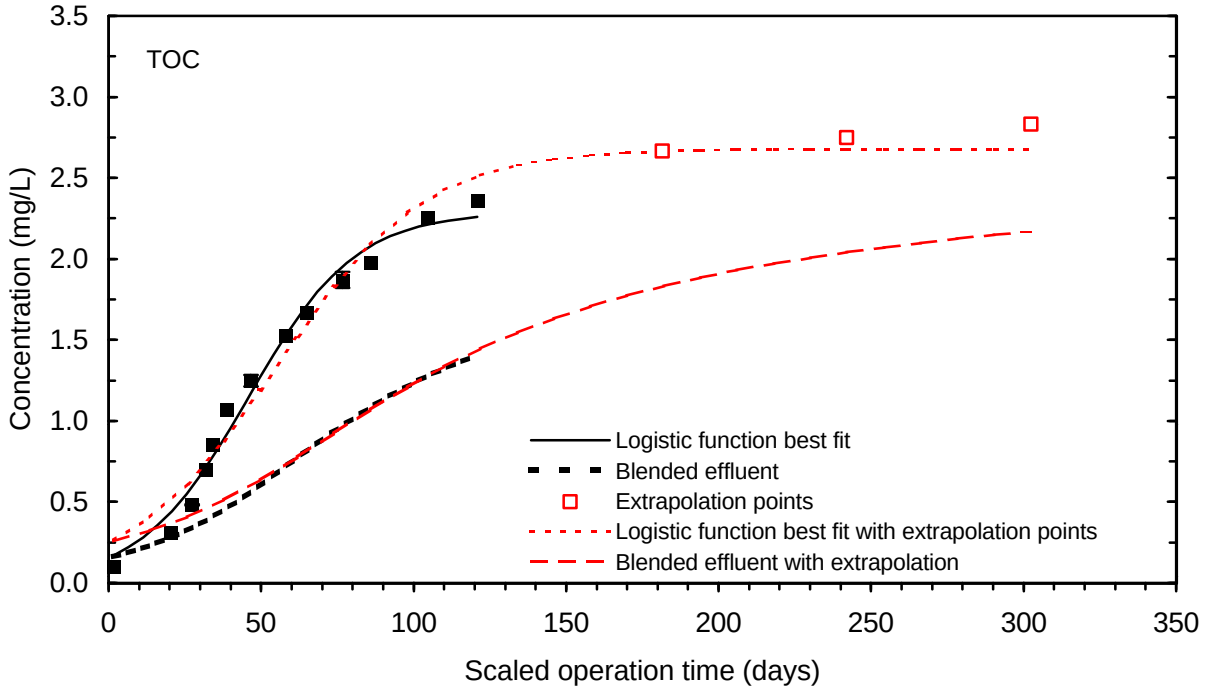

Figure 197 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 4, January

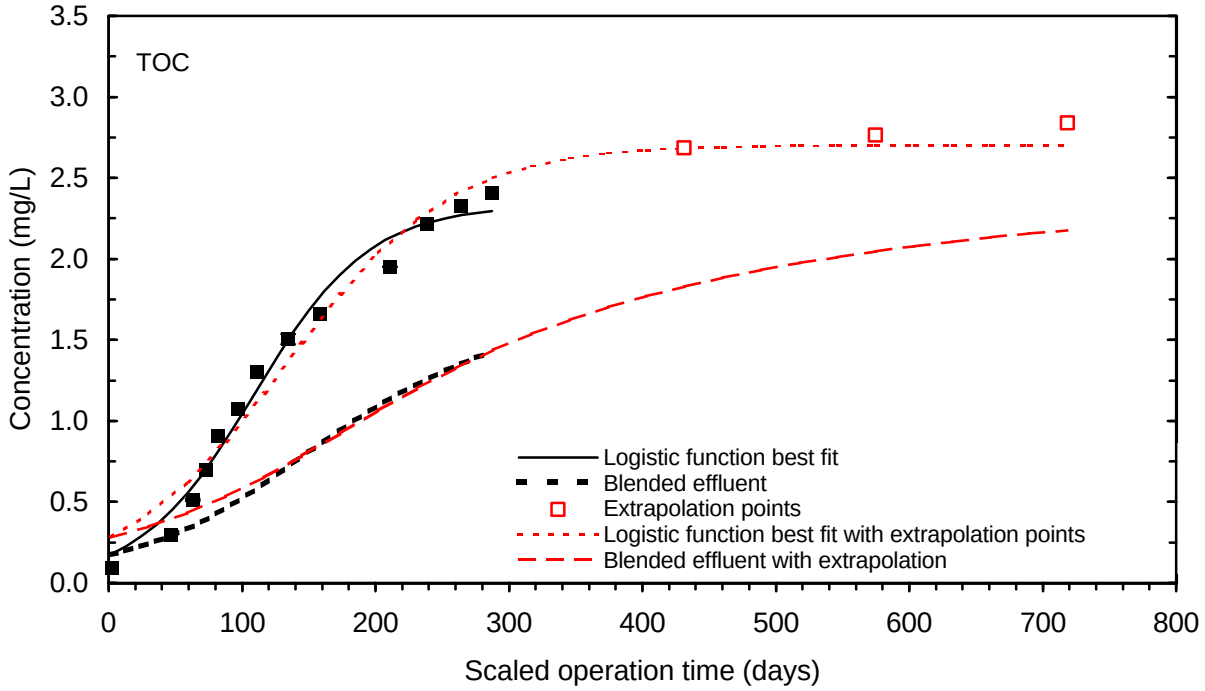

Figure 198 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 4, January

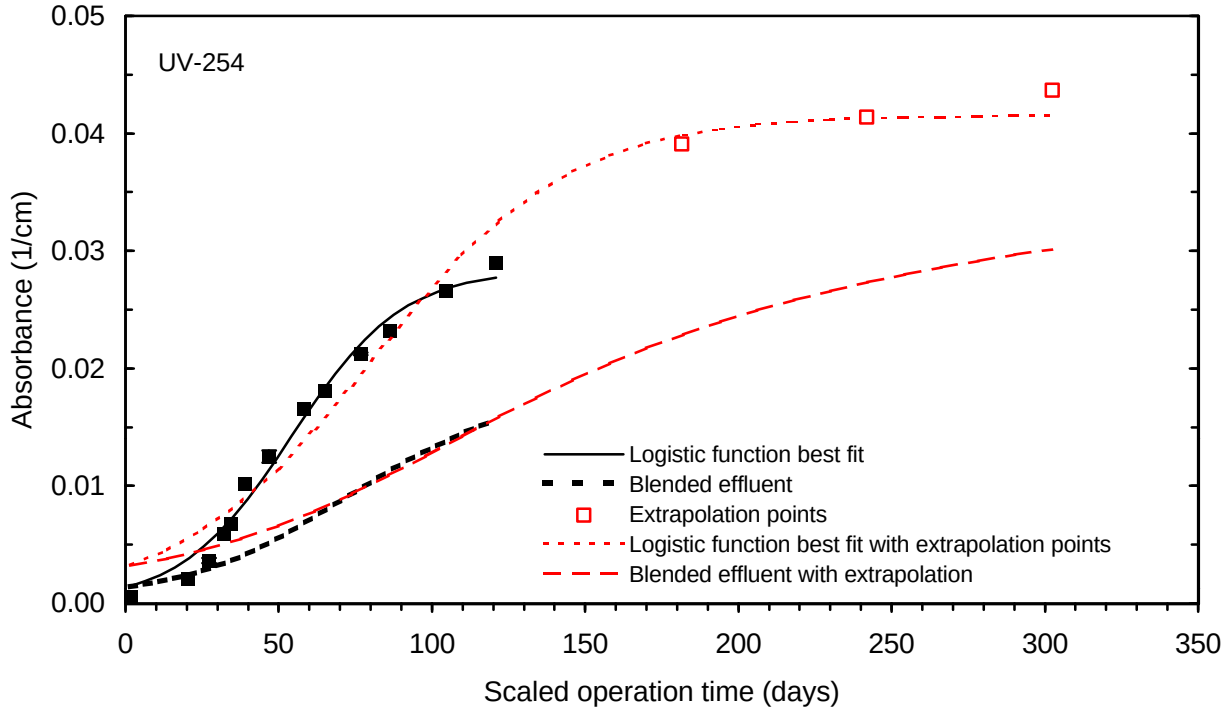

Figure 199 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 4, January

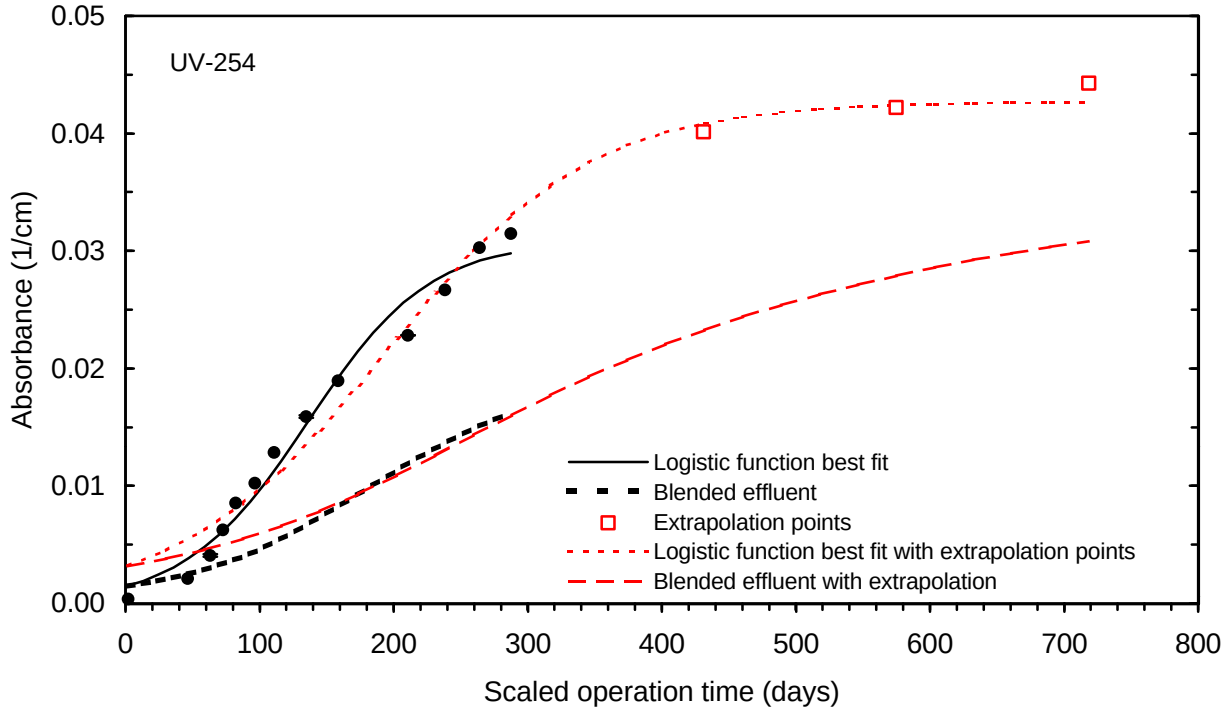

Figure 200 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 4, January

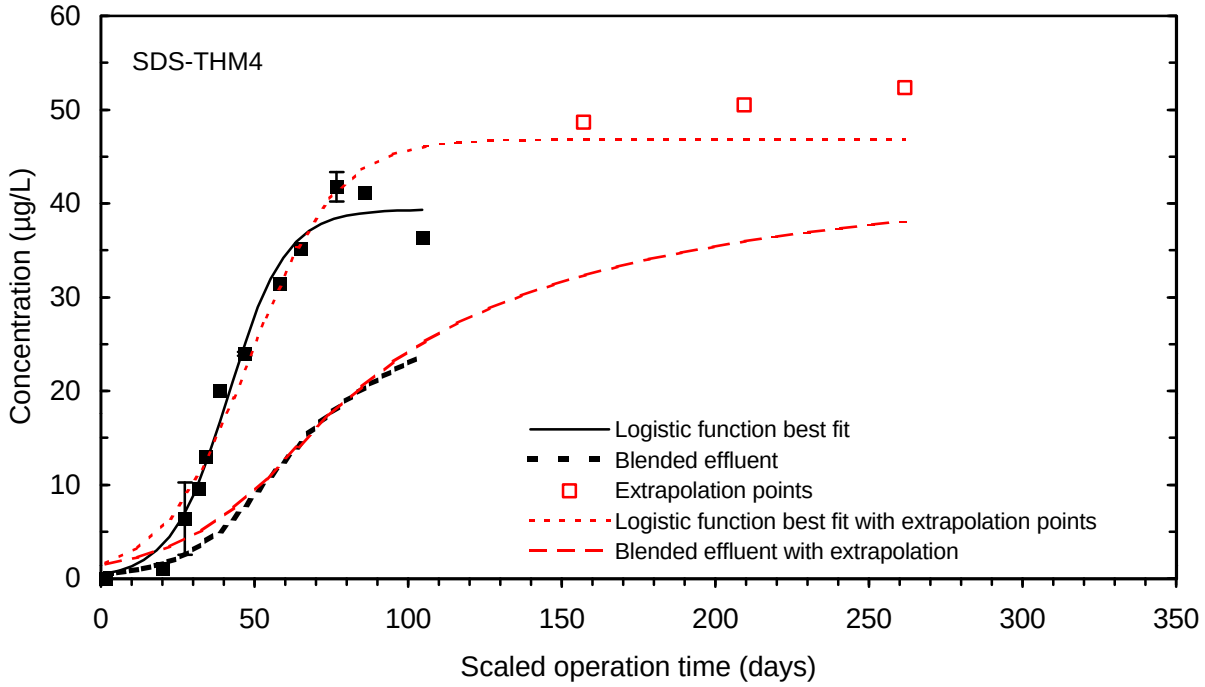

Figure 201 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 4, January

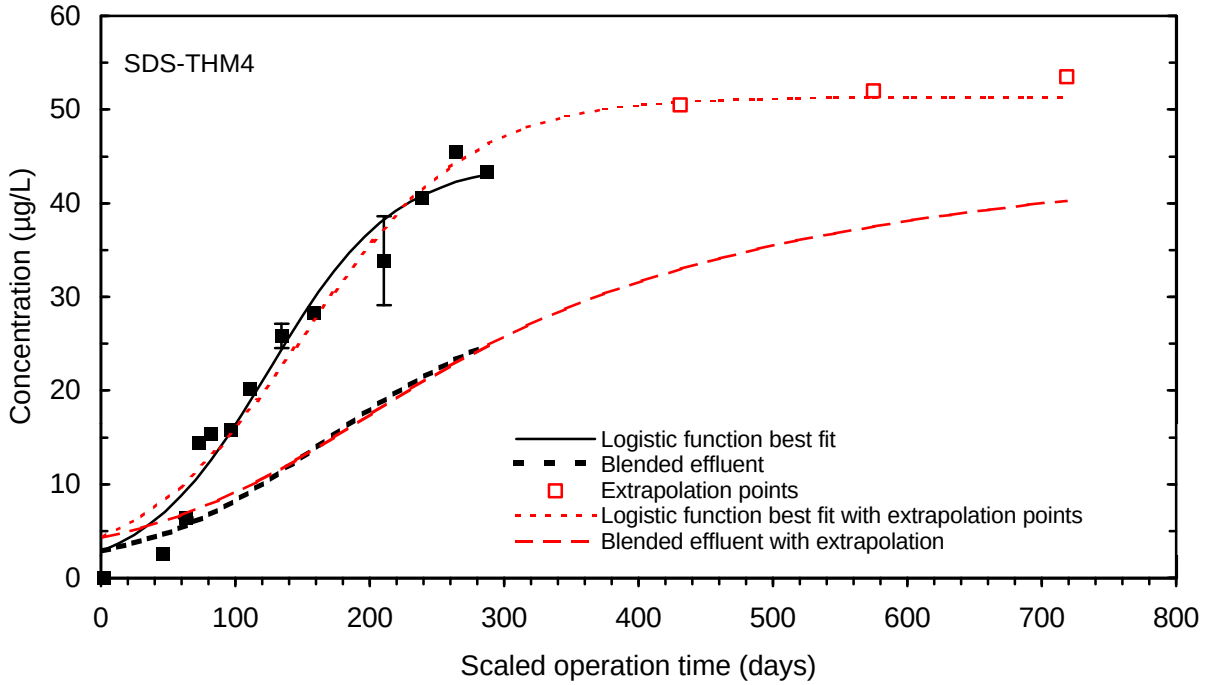

Figure 202 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 4, January

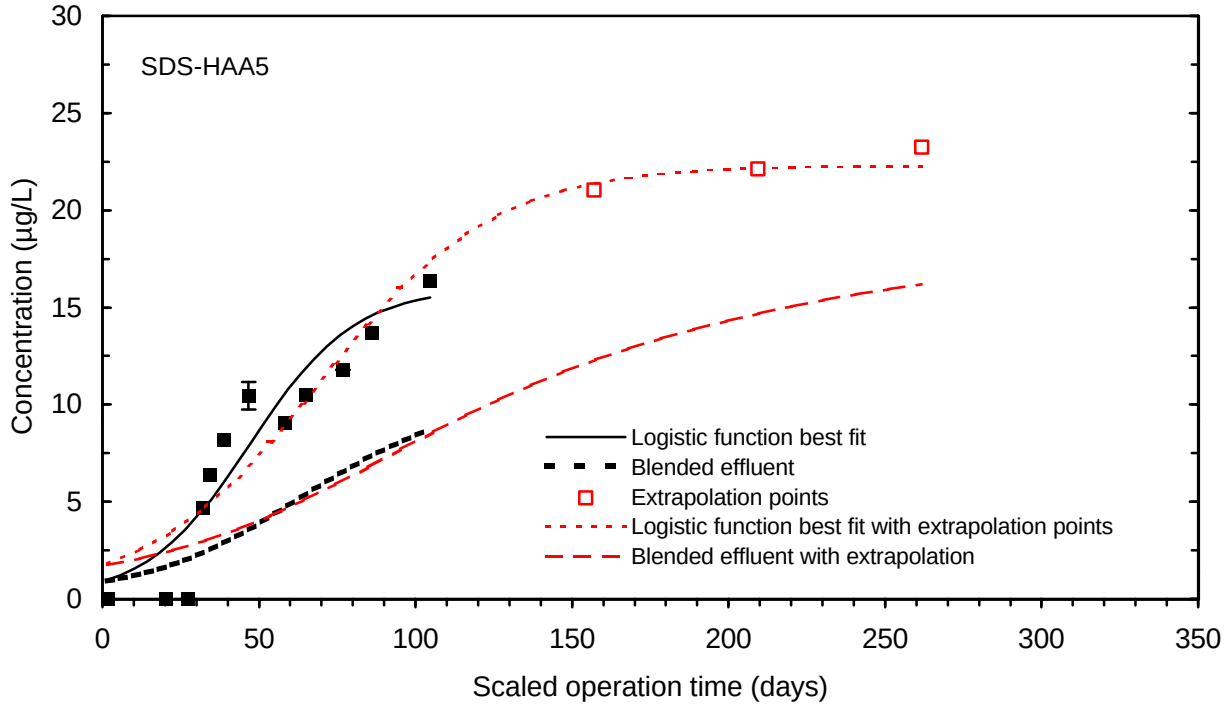

Figure 203 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 4, January

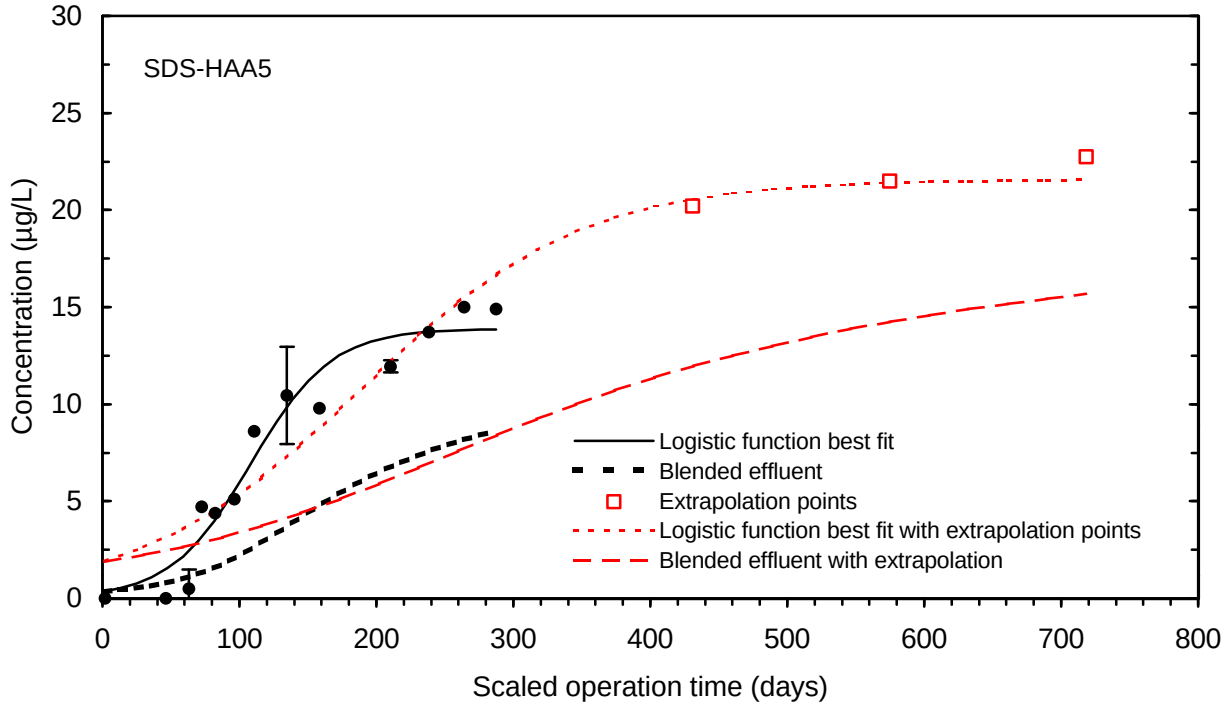

Figure 204 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 4, January

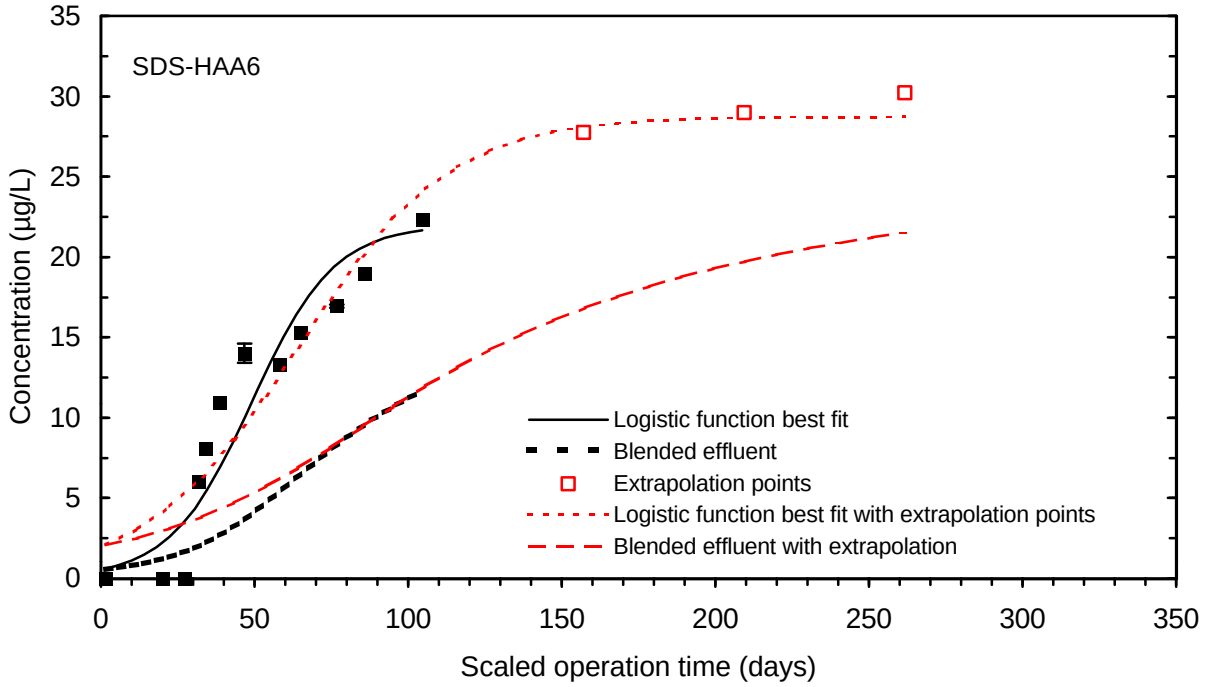

Figure 205 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 4, January

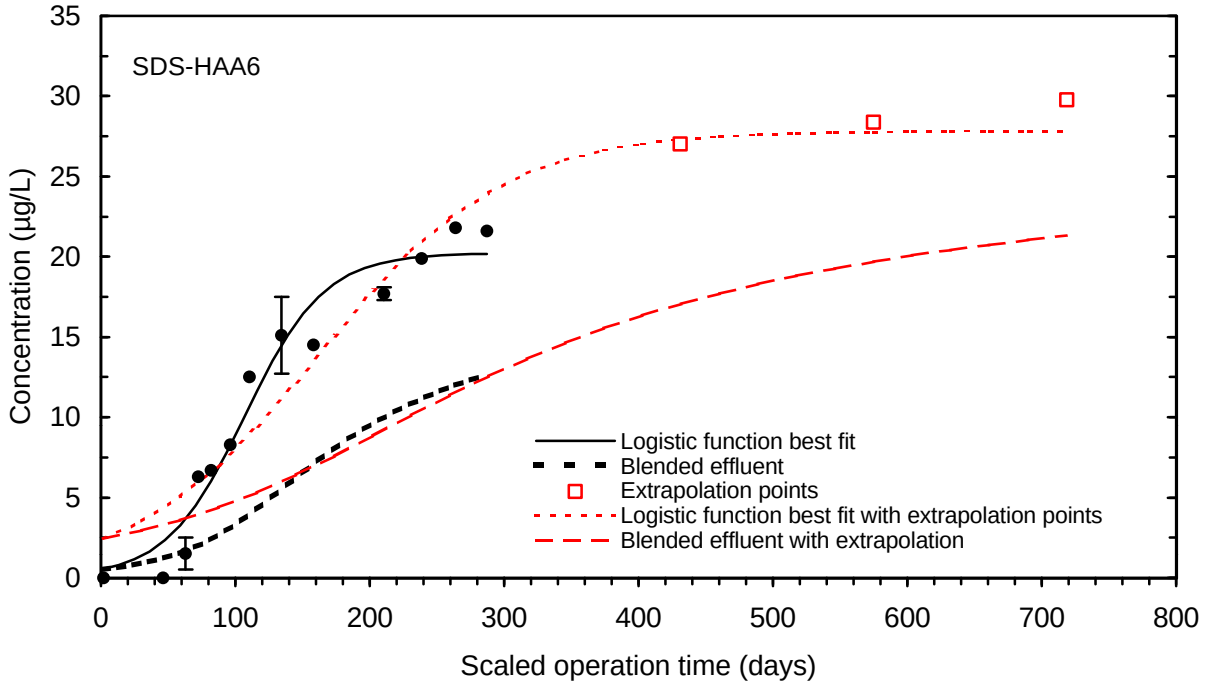

Figure 206 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 4, January

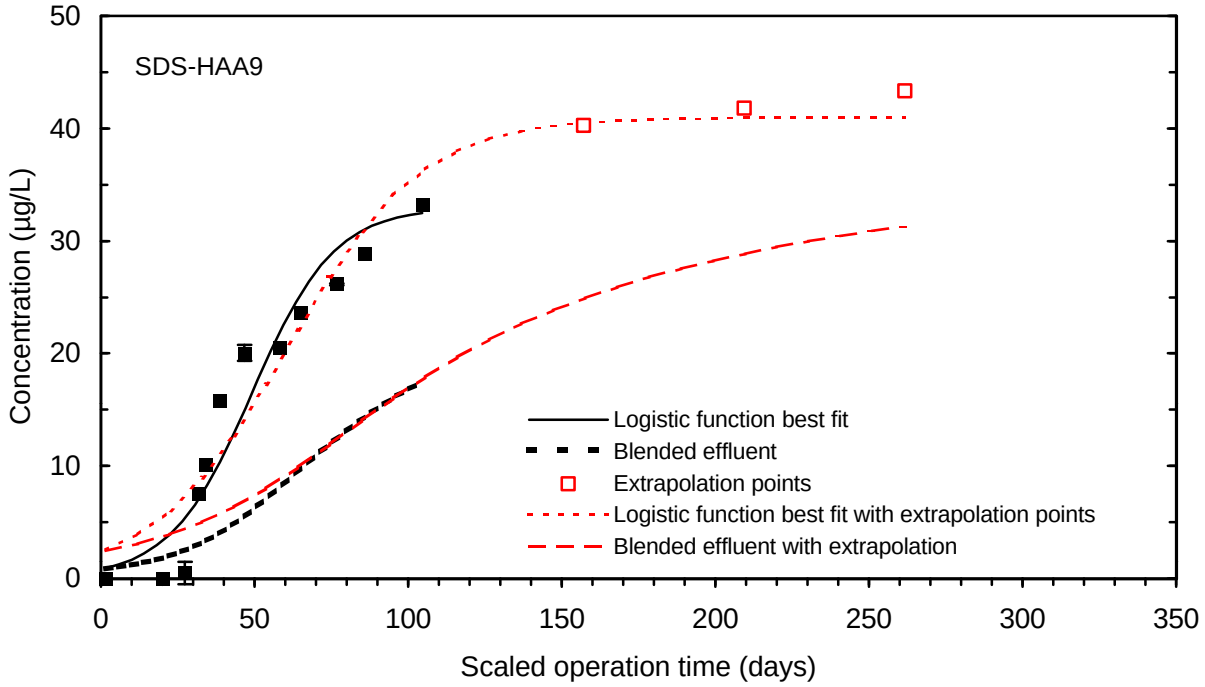

Figure 207 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 4, January

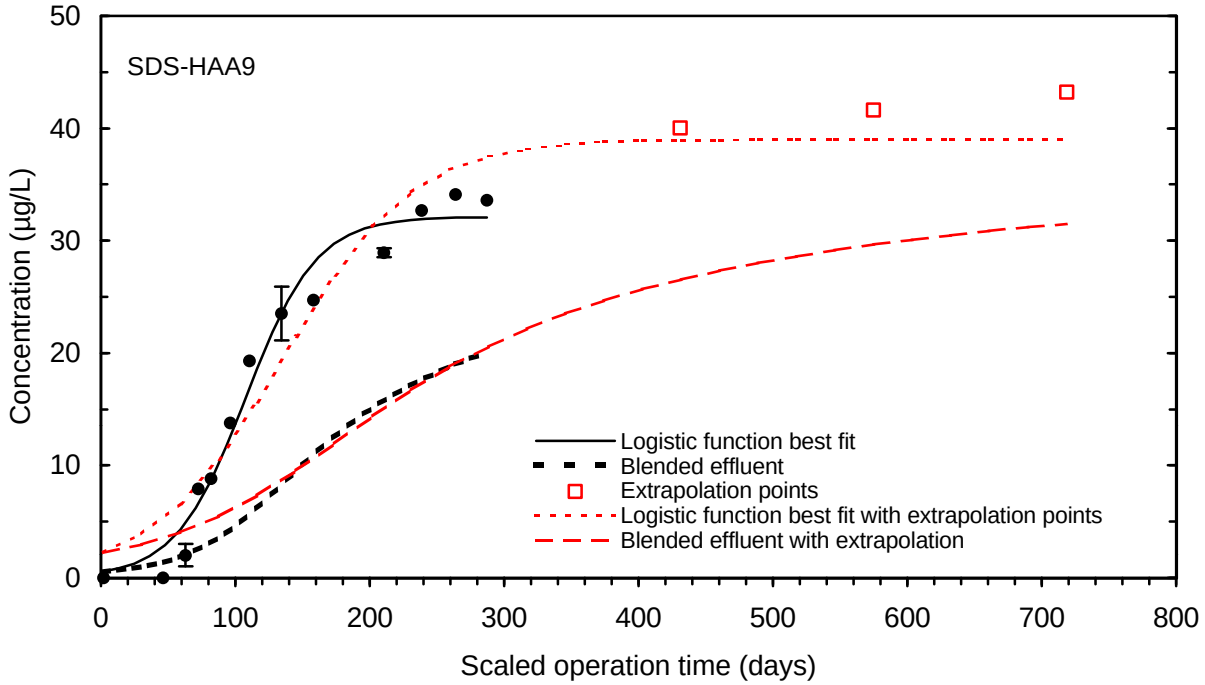

Figure 208 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 4, January

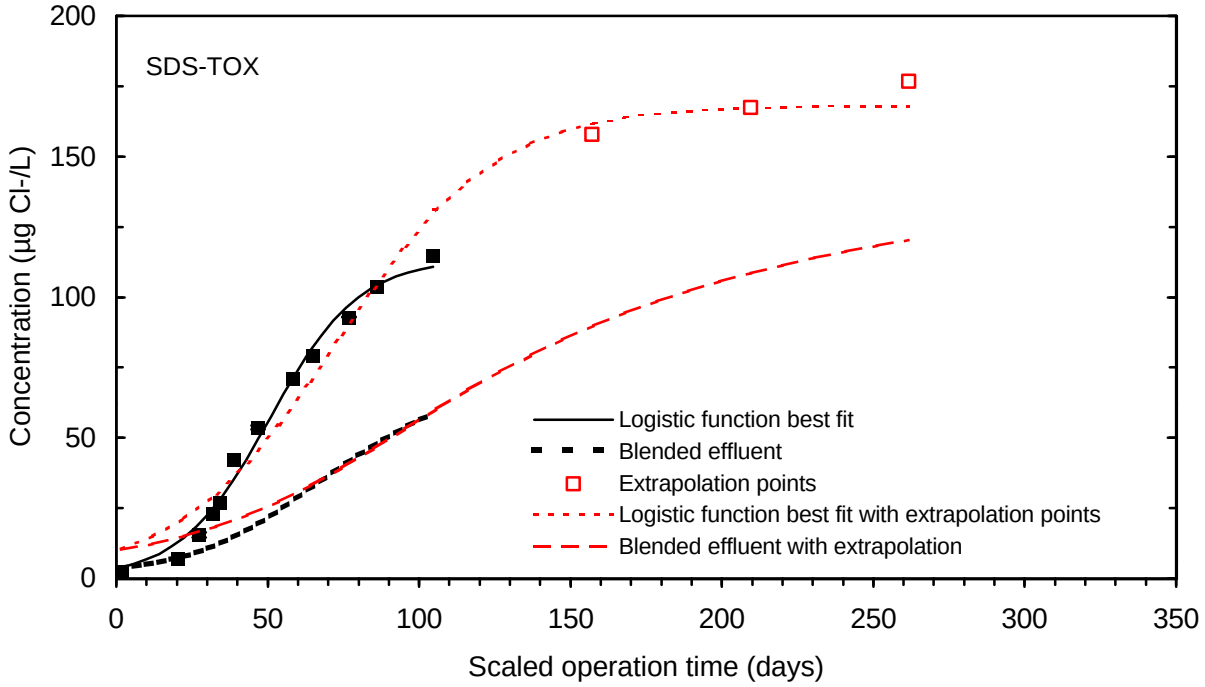

Figure 209 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 4, January

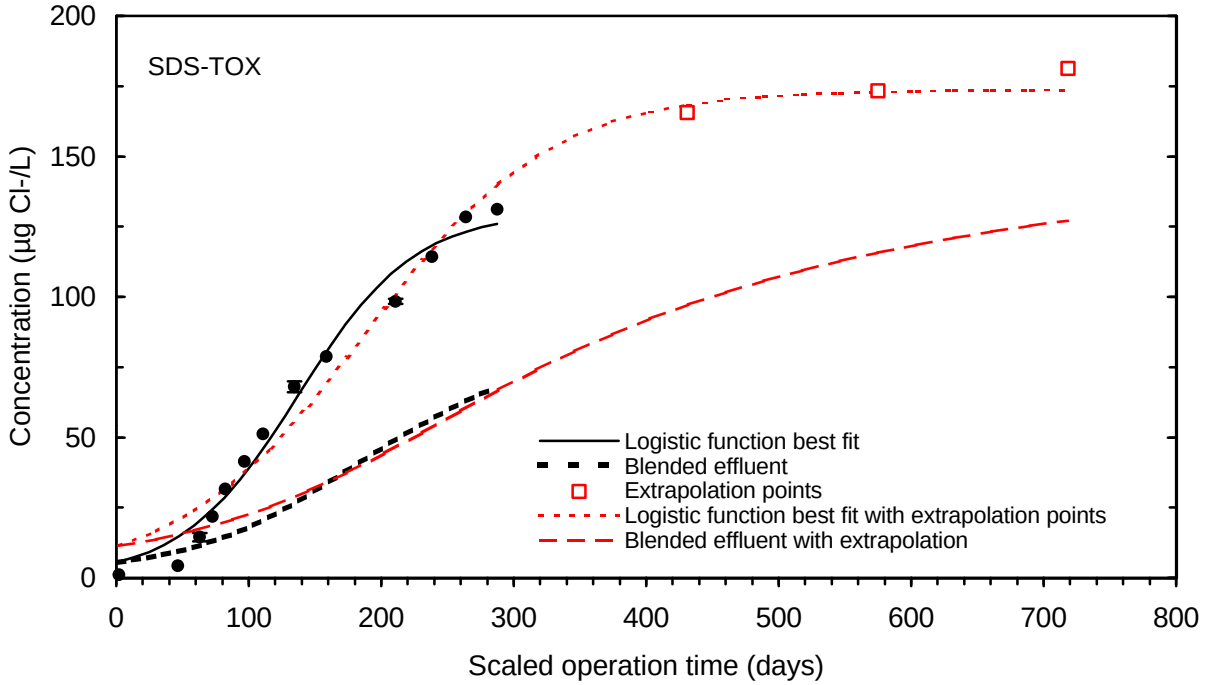

Figure 210 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 4, January

11 *Normalized DBP Precursor Breakthrough*

11 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, such as TOC and UV_{254}, are reliable indicators of DBP precursor breakthrough. An analysis of the extent to which the surrogates can be classified as conservative indicators of specific DBP precursor breakthrough is also useful.

The normalized breakthrough patterns for all parameters (DBP surrogates and SDS-DBPs) for the 10 minute contactor run during the February session are shown in Figure 211. High initial relative levels of chlorine demand were present, due to inorganic chlorine demand. The normalized breakthrough of TOC occurred earliest, but was followed closely and later in the run matched closely by the normalized breakthrough of SDS-THM4. Therefore, TOC was a good, slightly conservative, indicator for SDS-THM4 breakthrough. For normalized SDS-HAA and SDS-TOX, TOC served as a conservative breakthrough indicator. Normalized UV_{254} served as a direct indicator for the breakthrough of SDS-HAA6 and SDS-TOX, and as a conservative indicator for SDS-HAA5. On a normalized breakthrough basis, the order of breakthrough for HAAs was first SDS-HAA9, then SDS-HAA6, followed by SDS-HAA5. In general, similar patterns were observed for the February session 20 minute EBCT contactor (Figure 212). Towards the end of the run, normalized SDS-THM4 breakthrough slightly exceeded that for TOC. The relative order of breakthrough of the remaining normalized parameters was the same as that for the 10 minute EBCT contactor.

During the 10 minute EBCT May run, Figure 213, normalized SDS-THM4 and SDS-HAA9 breakthrough matched that for TOC closely, except towards the end of the run, when normalized SDS-THM4 and SDS-HAA9 levels were lower than that for TOC. Normalized UV_{254} breakthrough matched normalized SDS-HAA6 and normalized SDS-TOX breakthrough. Similar results were observed for the 20 minute EBCT run, except that normalized TOC breakthrough served as a conservative indicator for the breakthrough of all parameters, including SDS-HAA9 and SDS-THM4 (Figure 214).

During the August session, normalized TOC, SDS-THM4, and SDS-HAA9 breakthrough were all closely matched for both EBCTs, as shown in Figures 215 and 216. Normalized UV_{254} occurred later than that for normalized SDS-TOX and SDS-HAA6, and normalized UV_{254} served as a direct indicator of SDS-HAA5 breakthrough.

During the January session, shown in Figures 217 and 218, normalized SDS-THM4 breakthrough exceeded that for TOC during the middle to later portions of the 10 minute EBCT run. TOC served as a conservative indicator for SDS-HAA and SDS-TOX breakthrough, and normalized UV_{254} matched normalized SDS-TOX breakthrough. For the 20 minute EBCT run, normalized TOC breakthrough occurred slightly earlier than did normalized SDS-THM4 and SDS-HAA9 breakthrough. Normalized UV_{254} again matched well with normalized SDS-TOX breakthrough.

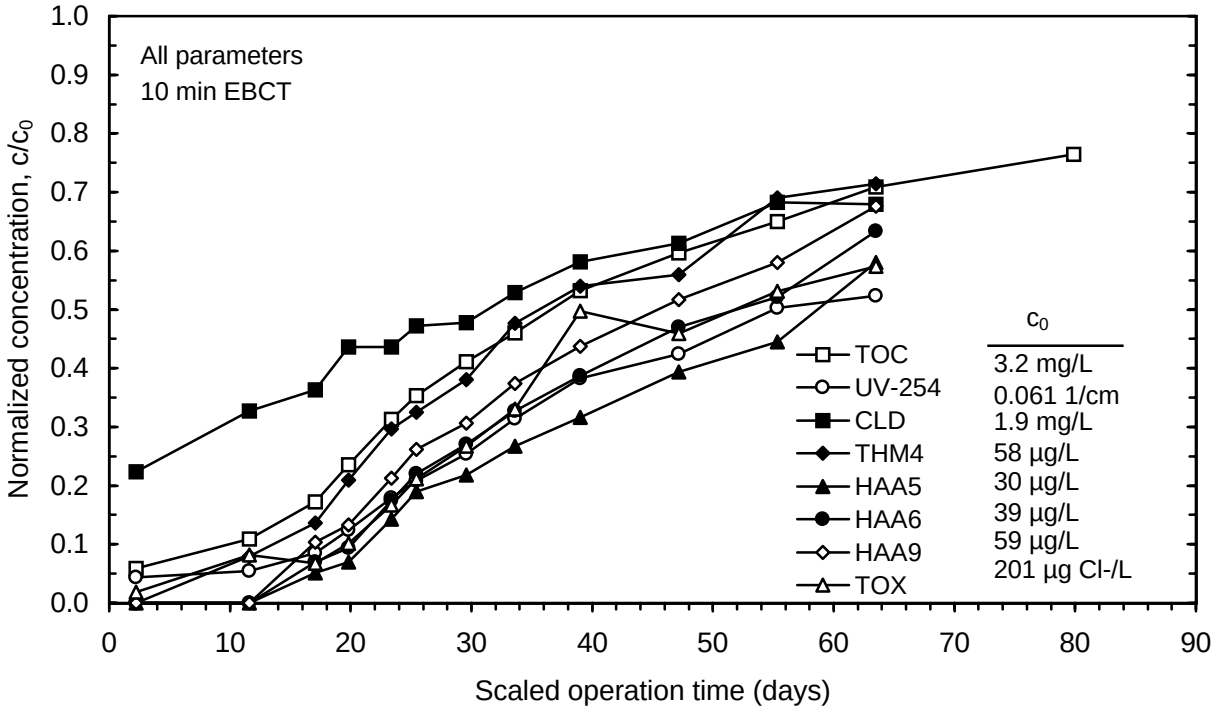

Figure 211 Normalized breakthrough patterns (10 minute EBCT) during session 1, February

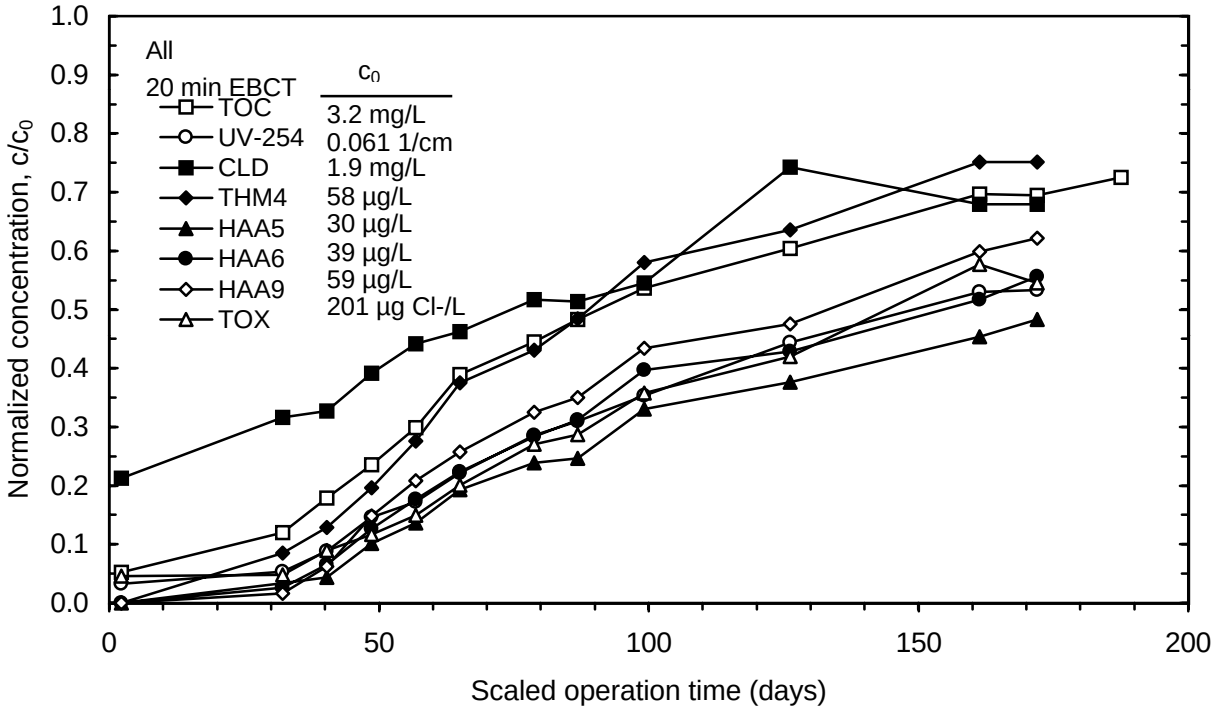

Figure 212 Normalized breakthrough patterns (20 minute EBCT) during session 1, February

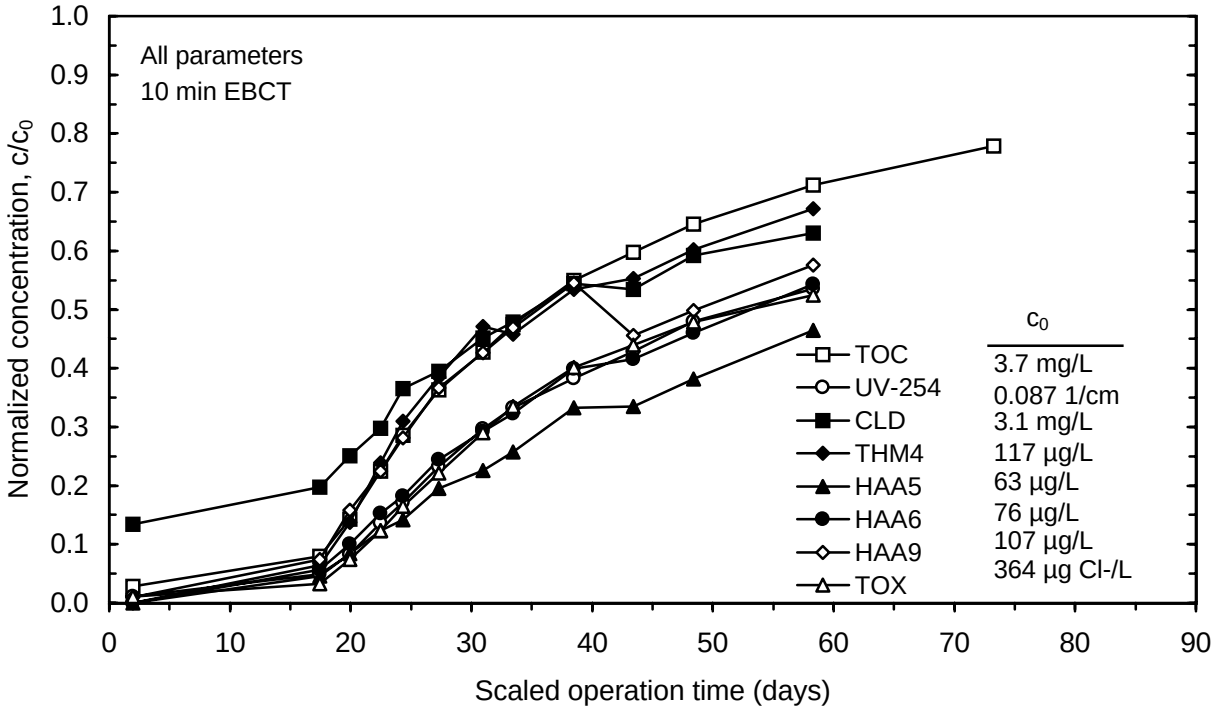

Figure 213 Normalized breakthrough patterns (10 minute EBCT) during session 2, May

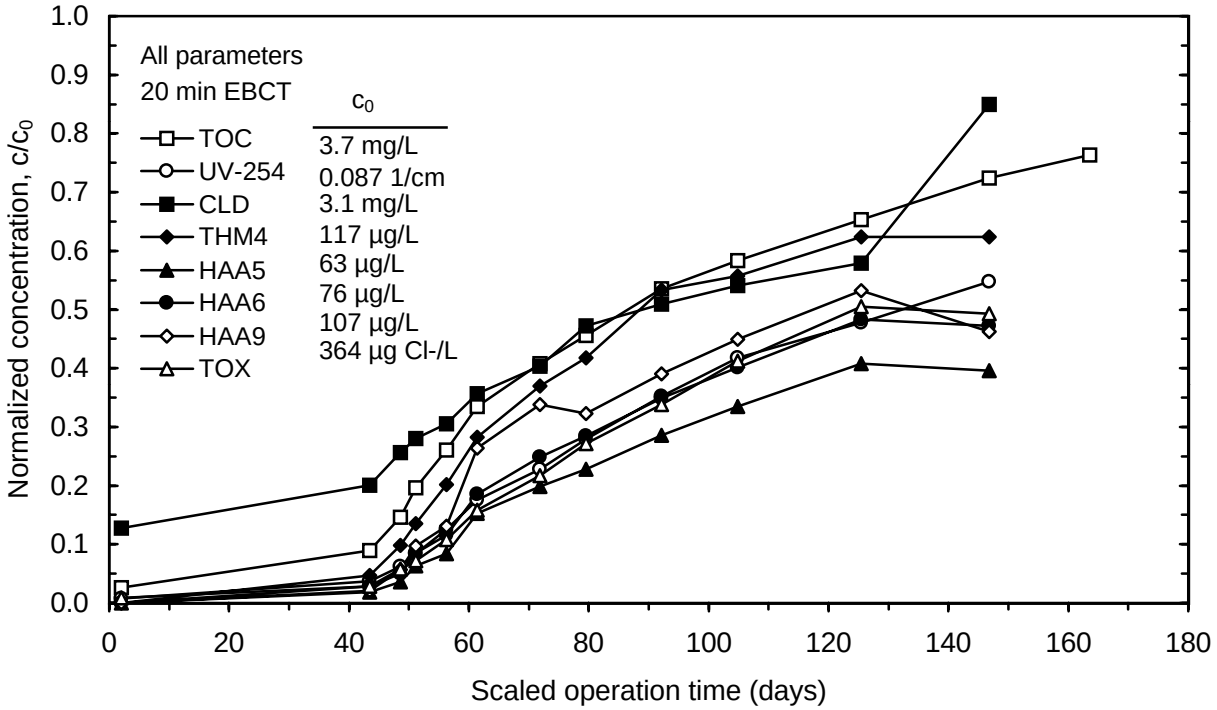

Figure 214 Normalized breakthrough patterns (20 minute EBCT) during session 2, May

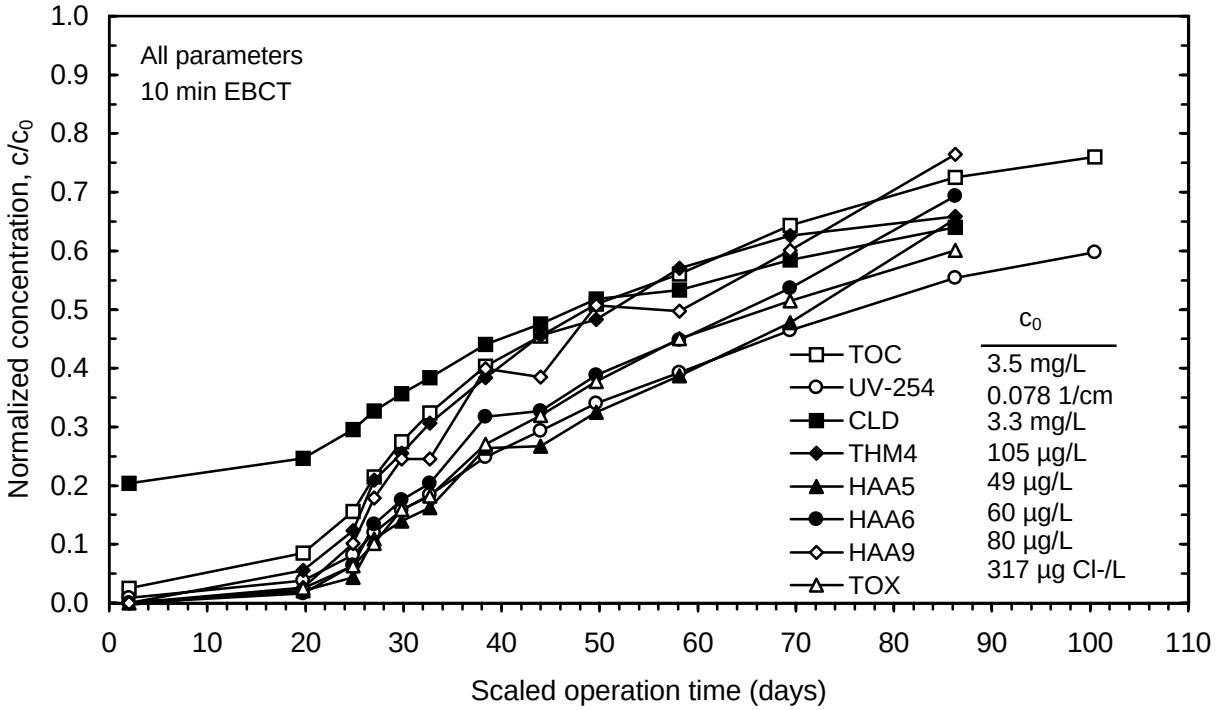

Figure 215 Normalized breakthrough patterns (10 minute EBCT) during session 3, August

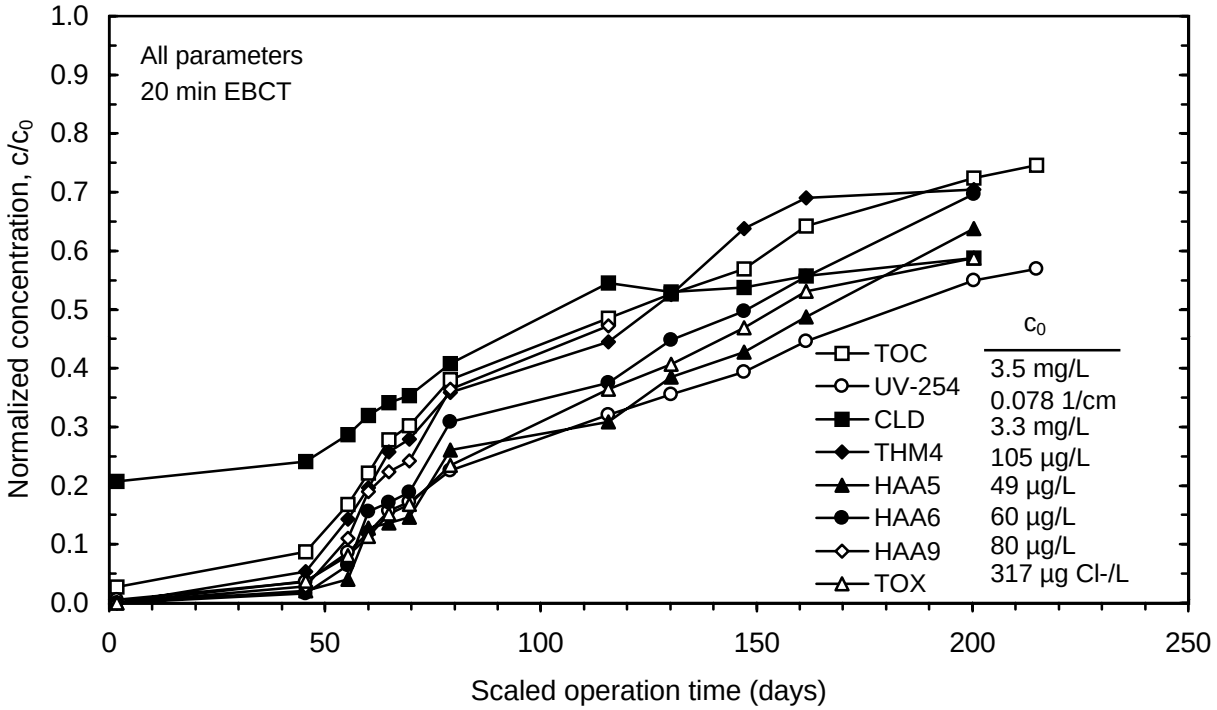

Figure 216 Normalized breakthrough patterns (20 minute EBCT) during session 3, August

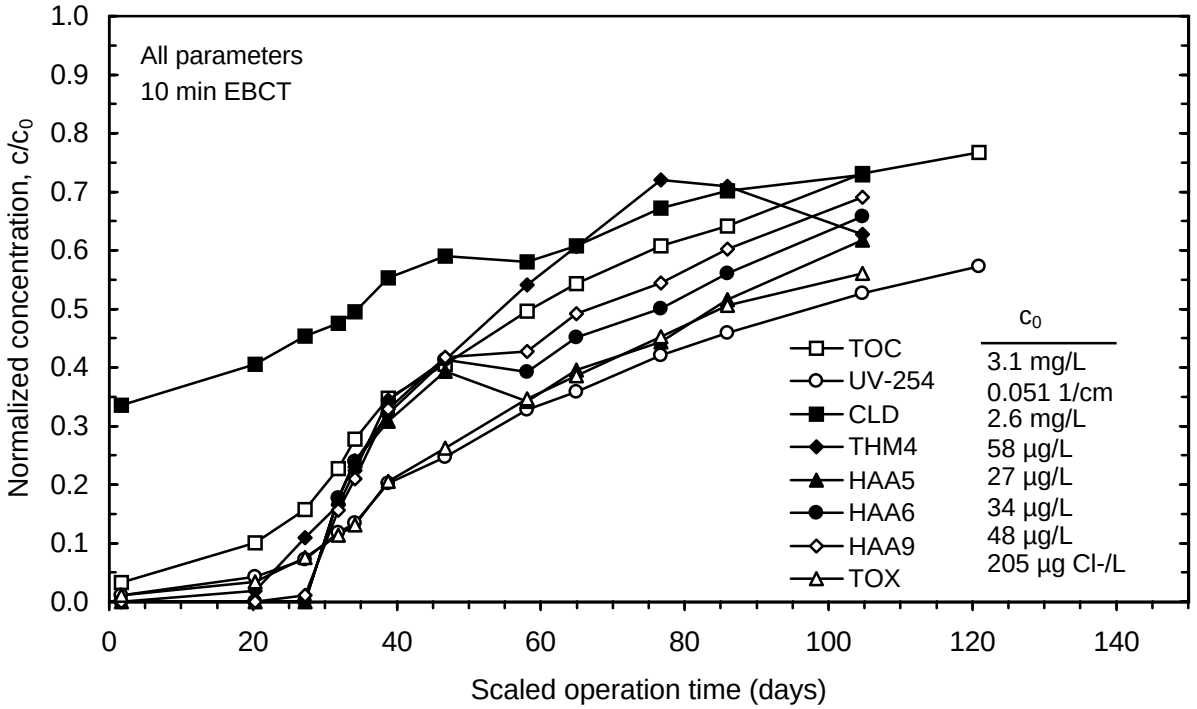

Figure 217 Normalized breakthrough patterns (10 minute EBCT) during session 4, January

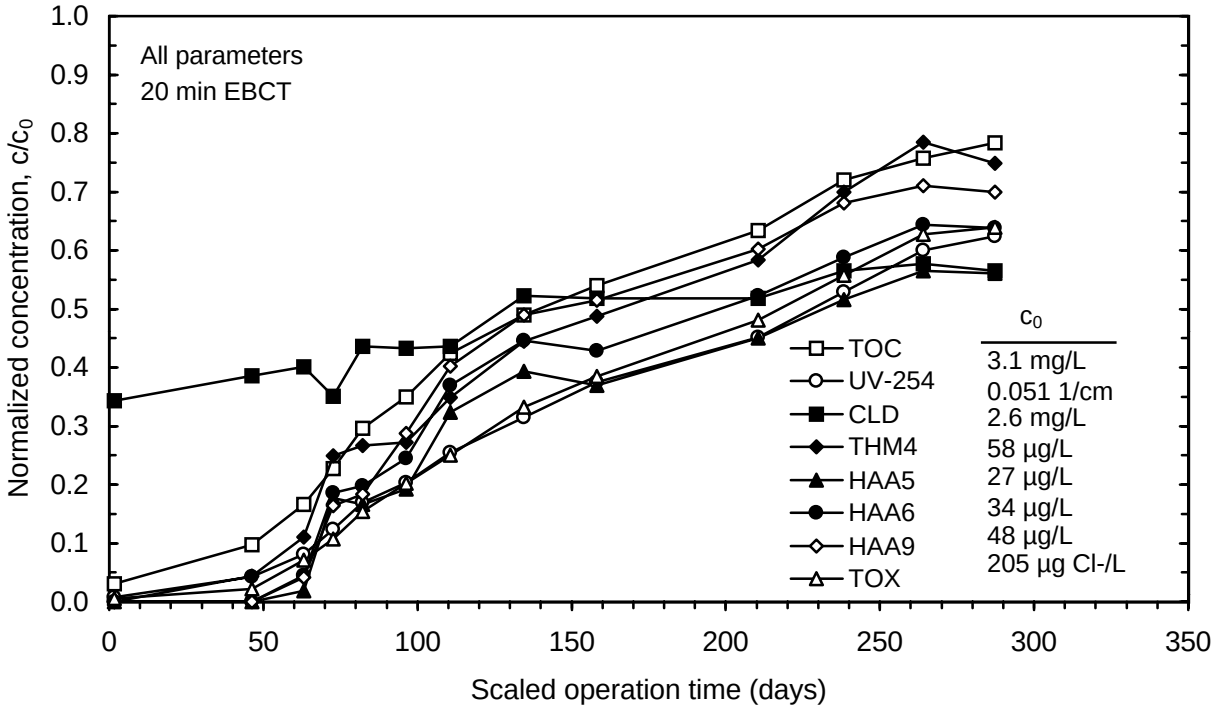

Figure 218 Normalized breakthrough patterns (20 minute EBCT) during session 4, January

12 *TOC-DBP and UV_{254}-DBP Relationships*

12 TOC-DBP and UV_{254}-DBP Relationships

Paired concentration plots of GAC effluent SDS-THM4, SDS-HAA5, SDS-HAA6, SDS-HAA9, and SDS-TOX against GAC effluent TOC and UV_{254} were generated on a concentration and on a normalized (fraction breakthrough) basis. These plots are summarized in Figures 219 through 222. Both EBCTs evaluated and all sessions are presented on the same plots. In general, TOC and UV_{254} served as good predictors of GAC effluent DBP formation regardless of water source, season or EBCT. The graphs summarized in Figure 219 show that the correlation between TOC and SDS-DBPs during the May and August sessions yielded higher levels of formed DBPs per mg TOC than the runs performed during the February and January sessions. This effect may have been a seasonal impact or due to the higher SDS incubation temperatures used during the May and August sessions. There was no apparent impact of EBCT on the correlation between TOC and SDS-DBPs. Similar results were observed for the correlations between UV_{254} and SDS-DBPs, shown in Figure 220, although the difference between the UV_{254}-DBP correlation during the May and August sessions with that during the February and January sessions was less for SDS-HAA and SDS-TOX.

In the paired normalized concentration data plots shown in Figures 221 and 222, 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 UV_{254}) directly predicts the fraction breakthrough of the formed DBP (data falls on the line), serves as a conservative indicator of the formed DBP breakthrough (data falls below the line), or underpredicts the breakthrough of the formed DBP (data falls above the line). Overall, TOC served as a direct predictor of SDS-THM4 breakthrough and TOC was a conservative indicator for the formation SDS-HAA and SDS-TOX. In general, UV_{254} under predicted the fraction DBP breakthrough of SDS-THM4, SDS-HAA6, and SDS-HAA9 (Figure 222), especially in the latter half of the runs. UV_{254} served as a good direct predictor of SDS-HAA5 and SDS-TOX breakthrough.

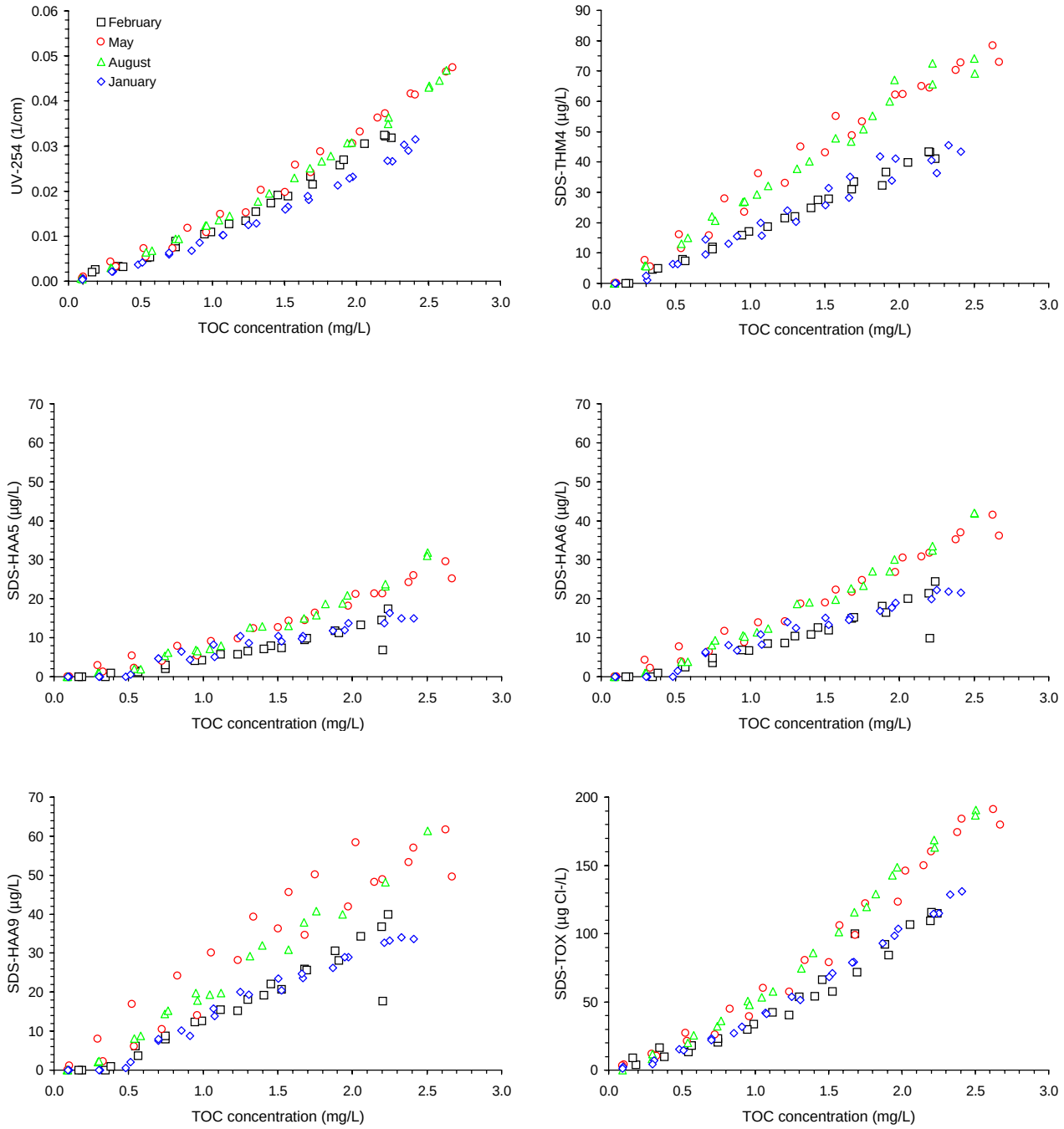

Figure 219 Correlation based on GAC effluent TOC concentration for both 10 and 20 minute EBCT contactors and all sessions

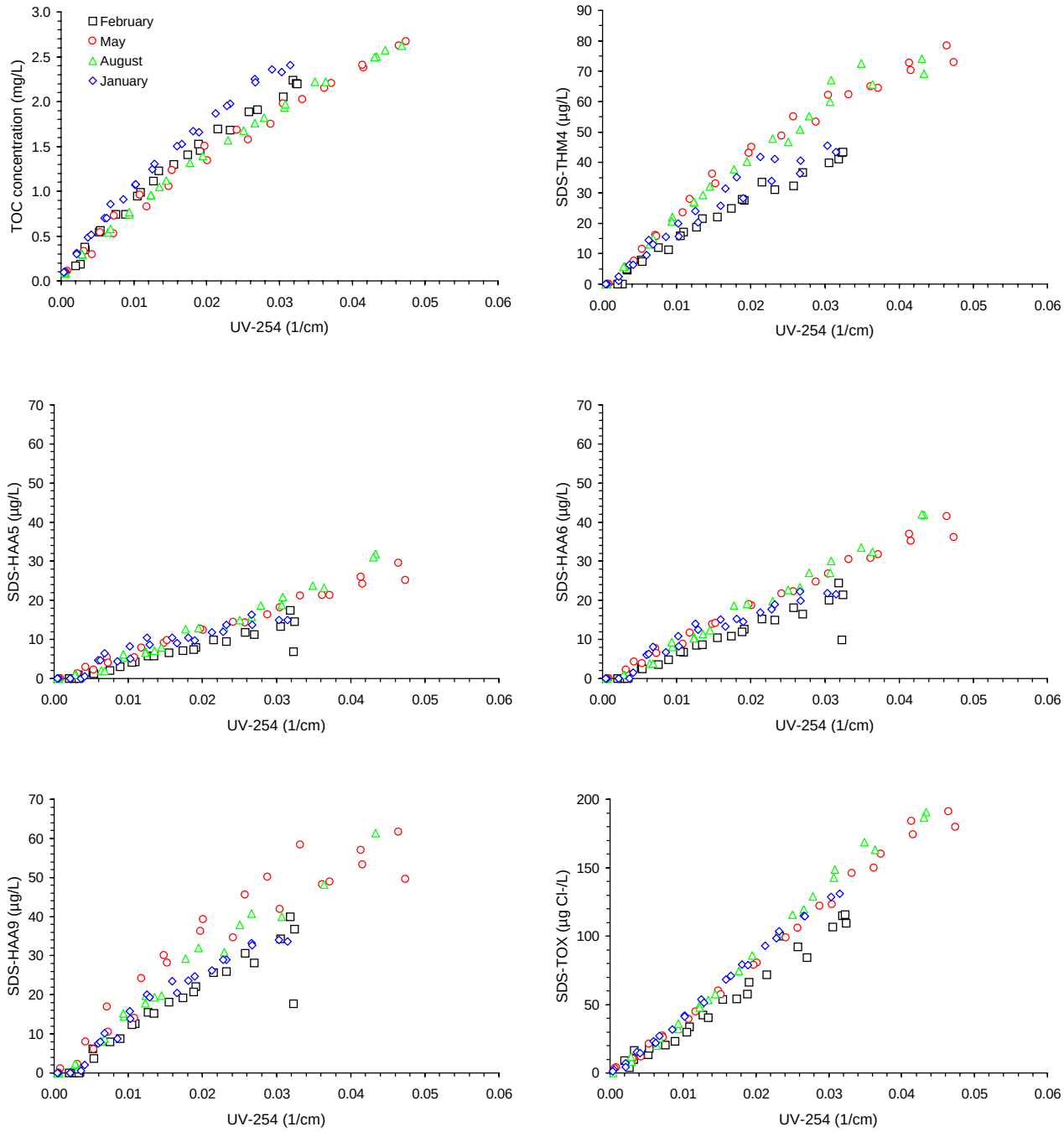

Figure 220 Correlation based on GAC effluent UV-254 for both 10 and 20 minute EBCT contactors and all sessions

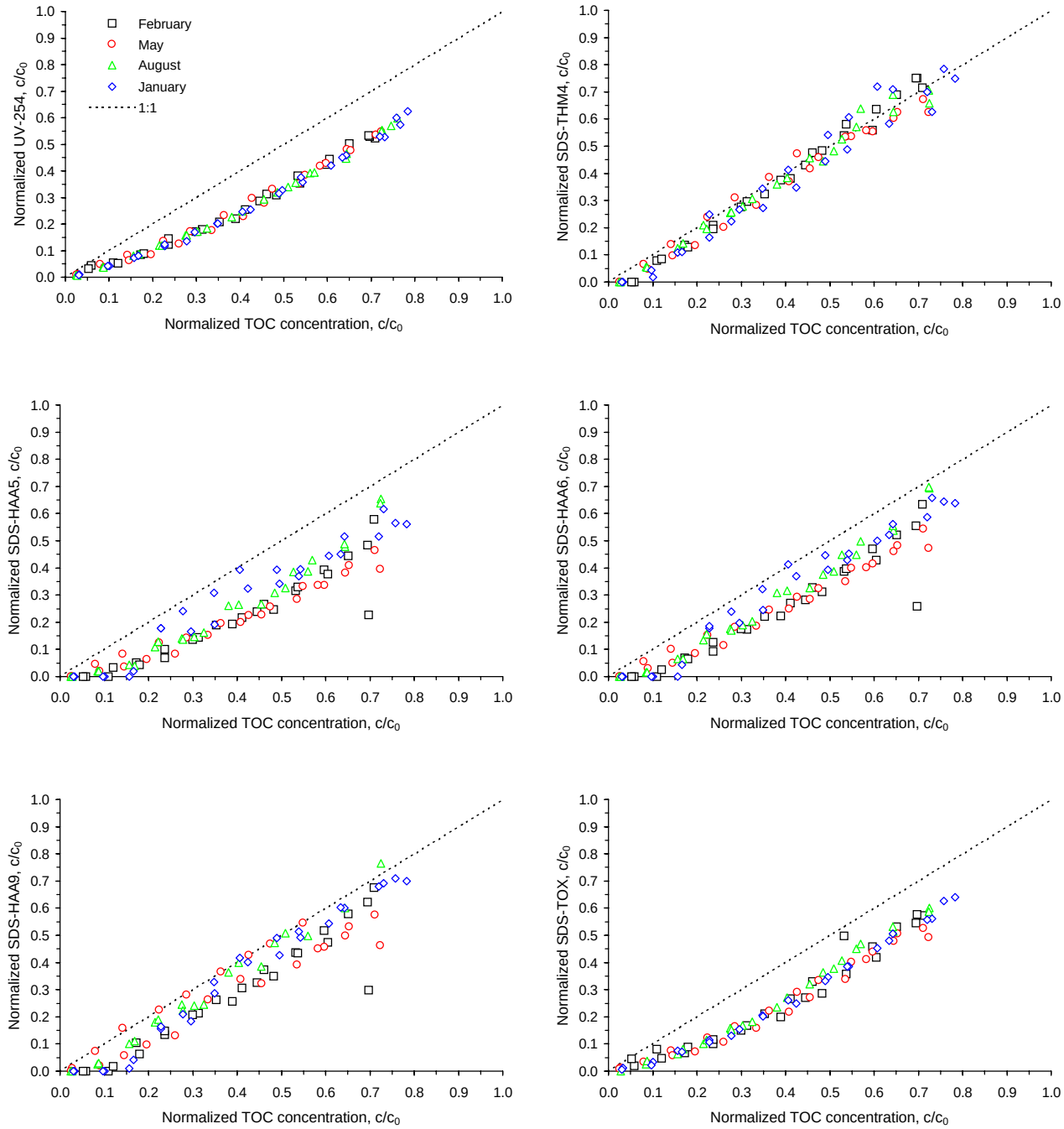

Figure 221 Correlation based on normalized GAC effluent TOC concentration for both 10 and 20 minute EBCT contactors and all sessions

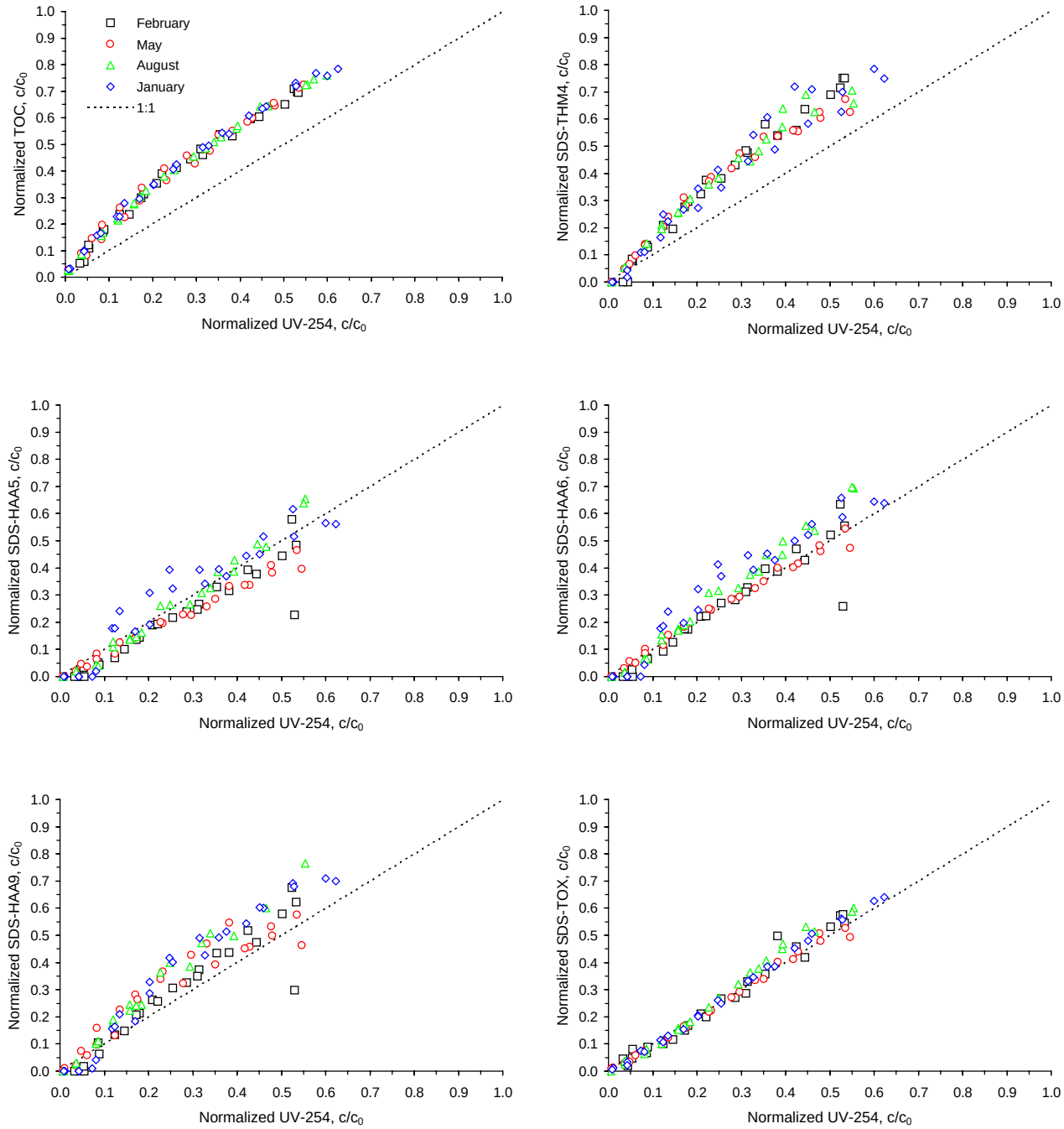

Figure 222 Correlation based on normalized GAC effluent UV-254 for both 10 and 20 minute EBCT contactors and all sessions

13 *TOC Breakthrough Performance Evaluation*

13 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 Escondido-Vista Water Treatment Plant water source pretreatment can be evaluated. The correlation is given by the following equation:

$$BV_{50} = \frac{18{,}000}{TOC_0} \tag{9}$$

where TOC_0 is the mean influent TOC concentration, in mg/L. The correlation was derived based on bituminous coal GAC runs for over 20 source waters with adsorption pH between 7 and 8. For all EBCTs and quarters evaluated, the BV_{50} obtained during each run was plotted in Figure 223. The performance of an average water is given by the dashed line, which represents Equation 9. Figure 223 shows that in general, GAC performance was better than that predicted by Equation 9.

For the four seasonal sessions, the BV_{50} value ranged from 5,600 to 8,460 bed volumes for the 10 minute EBCT contactors. Based on the influent TOC concentrations of each of the four sessions, the performance based on BV_{50} was on average 19 percent better than that predicted by Equation 9. For the 20 minute EBCT contactor runs the BV_{50} ranged from 6,230 to 10,050 bed volumes during the four seasonal sessions. Therefore, the run times were an average 45 percent higher than that predicted by the correlation between influent TOC and BV_{50}.

Overall, GAC performance for this study was better than that predicted based on average water performance. The influent pH ranged between 7.2 and 7.8, and did not appear to have a systematic impact on TOC breakthrough performance. Although the BV50 for the influent pH 7.8 run was the lowest relative to that expected for an average water and adjusted for influent TOC concentration, the influent pH 7.2 run was outperformed by the influent pH 7.4 and 7.6 runs. In general, GAC performance improves with decreasing influent pH, as natural organic matter becomes less soluble and more adsorbable. However, the influent pH changes in this study were not large, and this analysis cannot take into account any seasonal changes in adsorbability. During all four sessions the 20 minute EBCT column outperformed the 10 minute EBCT contactor.

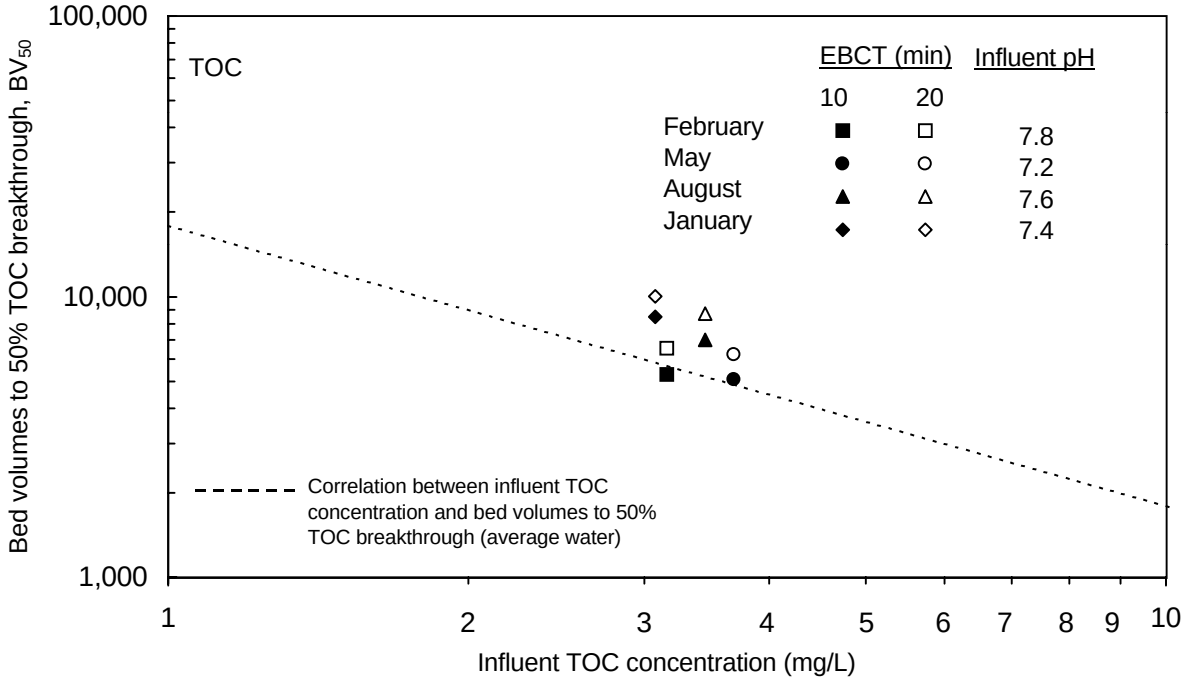

Figure 223 Comparison between GAC performance during treatment study testing and average water GAC performance

14 *Cost Information and Analysis*

14 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 both concrete gravity and 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 90 MGD, 10 concrete gravity (1,068 ft^2) or 34 steel pressure contactors were required (20 ft diameter; 314 ft^2). Hydraulic loading at plant capacity is 5.9 gpm/ft^2. Although plant production varies throughout the year, the average 1998 production of 37.1 MGD was used for modeling purposes. Hydraulic loading under average plant flow conditions was 2.4 gpm/ft^2. The economic input data to the model are summarized in Table 54.

On-site GAC reactivation was assumed for all cost modeling. 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 cost of 90 cents/lb GAC 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 higher than HAA5 formation, and thus run time calculations are based on blended effluent SDS-THM4 levels. The service life input into the model was the run time to the placeholder for Stage 2 THM4 MCL (with a 20 percent safety factor). When needed, the extrapolated run time estimates made in Section 10 are used for run time estimates. Table 55 summarizes the estimated run times to comply with the placeholders for Stage 2 DBP MCLs.

Table 56 summarizes the GAC cost analysis results. Capital, O&M, and total costs, given in cents/1,000 gal water treated, are included for all runs. Seasonal variability in water quality had some impact on total costs as is seen by the variability in total costs. For example, total costs for 10 minute EBCT concrete gravity contactors ranged from 25 to 38 cents/1,000 gal. Costs were highest based on the May session data, and lowest based on the January session data.

In general, the costs for GAC treatment were lower for 10 minute EBCT contactors, mainly due to the lower capital costs associated with the smaller contactors. The decrease in O&M costs achieved with 20 minute EBCT contactors did not offset the higher capital costs. Total costs for 20 minute EBCT contactors were on average 13 and 37 percent greater than those for 10 minute EBCT contactors, for concrete gravity and steel pressure contactors, respectively. The costs for concrete gravity contactors was on average 24 and 38 percent lower than that for steel pressure

contactors for 10 and 20 minute EBCT contactors, respectively. The use of 10 minute EBCT concrete gravity contactor was found to be most cost-effective.

A bar graph comparing GAC treatment costs for either concrete gravity or steel pressure contactors, and for both EBCTs evaluated, is shown in Figure 224. The error bars shown represent the standard deviation calculated from the costs of each session. 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 (%)	6
Capital recovery period (years)	25
Overhead & profit factor (% of construction costs)	10
Special sitework factor (% of construction costs)	10
Construction contingencies (% of construction costs)	15
Engineering fee factor (% of construction costs)	12.5
ENR construction cost index (CCI base year 1913) and date	6,006 (May 1999)
Producers Price Index (PPI base year 1967=100) and date	371 (April 1999)
Labor rate + fringe ($/manhour)	45
Labor overhead factor (% of labor)	30
Electric rate ($/kWh)	0.086
Fuel oil rate ($/gallon)	0.95
Natural gas rate ($/cu.ft.)	0.0055
Process water rate ($/1,000 gal)	1.73
Modifications to existing plant (% of construction cost)	0

Table 54 Economic input data to cost model

EBCT (min)	Session	Influent pH	Run time (days) for contactc configuration	
			Single	Multiple (10 or more)
10	February	7.8	45	100†
	May	7.2	23	46
	August	7.6	33	67
	January	7.4	59	154†
	Mean		40	92
	St. dev.		16	47
20	February	7.8	96	238†
	May	7.2	61	121
	August	7.6	73	153
	January	7.4	193	409†
	Mean		106	230
	St. dev.		60	129

Table 55 Summary of GAC run times to meet the placeholders for Stage 2 MCLs

Contactor construction	Session	Cost (cents/1000 gal)					
		10 minute EBCT			20 minute EBCT		
		Capital	O&M	Total	Capital	O&M	Total
Concrete gravity	February	14	14	28	21	13	33
	May	15	23	38	22	19	41
	August	15	18	33	21	16	38
	January	14	11	25	20	10	30
	Mean	15	17	31	21	14	35
	St. dev.	1	5	6	1	4	5
Steel pressure	February	22	16	38	40	15	54
	May	23	25	48	40	21	62
	August	23	20	42	40	19	59
	January	22	13	35	39	12	51
	Mean	22	18	41	40	17	56
	St. dev.	1	5	6	1	4	5

Table 56 Summary of GAC adsorption costs for compliance with the placeholders for Stage 2 MCLs

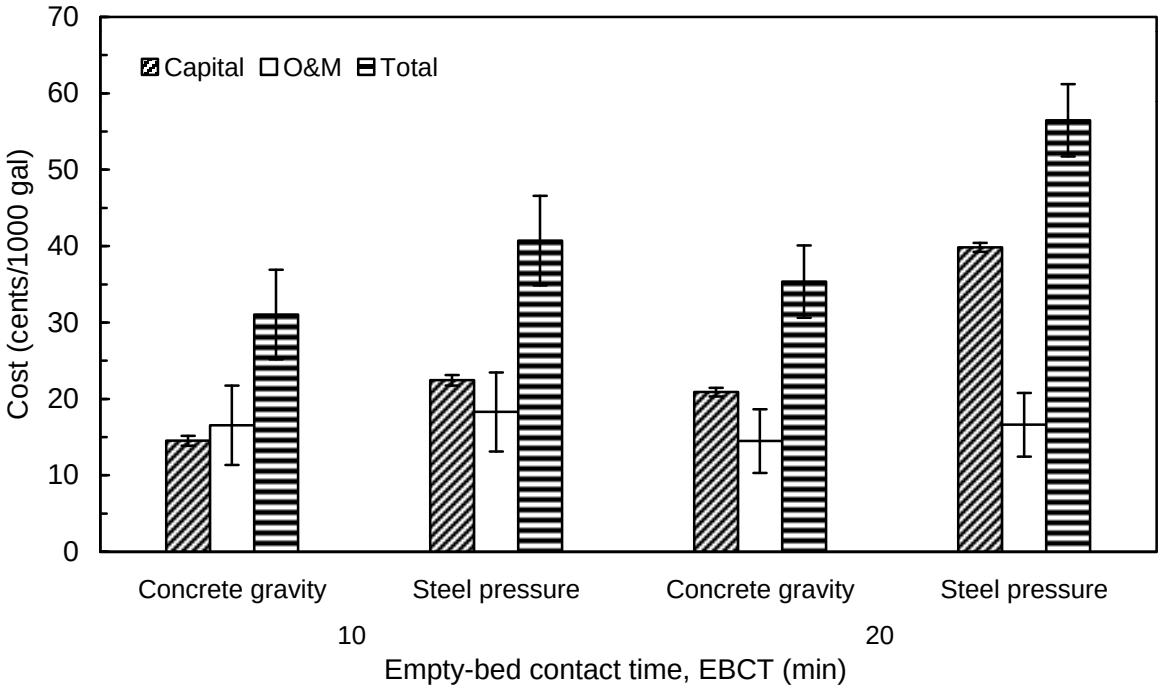

Figure 224 Average costs for GAC treatment with on-site reactivation to comply with the placeholders for Stage 2 MCLs

15 *Summary of Significant Results*

15 Summary of Significant Results

Based on compliance with Stage 1 or the placeholders for Stage 2 DBP MCLs, the formation of THM4 was the controlling parameter for determining GAC reactivation frequency. This study showed that by operating GAC contactors to maintain compliance with the placeholder for Stage 2 THM4 MCL (32 µg/L using a 20 percent safety factor), the placeholder for Stage 2 HAA5 MCL (24 µg/L using a 20 percent safety factor) would also be met. To meet the placeholder for Stage 2 THM4 MCL, GAC run times ranged from 23 to 59 days for 10 minute EBCT contactors and 61 to 193 days for 20 minute EBCT contactors. In practice, however, multiple contactors are operated in staggered fashion and their effluents are blended prior to disinfection. Therefore, run times to a given effluent criterion are extended as compared to a single contactor, because the poorer quality water from "older" contactors is blended with water from "newer" contactors. Based on operation of at least 10 contactors in parallel staggered mode, GAC run times for compliance with the placeholder for Stage 2 THM4 MCL were estimated to range from 46 to 154 days for 10 EBCT minute contactors and from 121 to 409 days for 20 minute EBCT contactors.

The total costs for GAC treatment were estimated using an EPA model, which included capital and O&M costs, based on GAC reactivation frequencies. For 10 minute EBCT contactors operated in parallel staggered mode, the estimate for total costs for GAC treatment averaged 31 and 35 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. For 20 minute EBCT contactors operated in parallel staggered mode, total costs averaged 41 and 56 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. The costs for 20 minute EBCT contactors were higher due to the higher capital costs associated with the larger contactors.

GAC influent TOC concentration varied from 3.1 to 3.7 mg/L during the four sessions evaluated, and bromide concentration varied from 69 to 96 µg/L. GAC treatment does not remove bromide, while TOC is adsorbed, resulting in higher GAC effluent bromide to TOC ratios as compared to the GAC influent. Due to this increase, GAC effluent formed DBPs may undergo shifts in speciation to higher concentrations of the more brominated DBP species. In some cases, such as for bromodichloromethane and bromoform, formed concentrations in the effluent were measured higher than that in the influent. 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.

Based on the average influent TOC concentration during each session, and a relationship developed from other breakthrough curves, the contactor performance for a 10 minute EBCT was on average 19 percent better than predicted . At a 20 minute EBCT, contactor performance was 45 percent better than predicted. The relationship used for comparison correlates the influent TOC concentration to bed volumes to 50 percent TOC breakthrough.

By plotting effluent concentrations divided by their respective influent concentrations, a normalized breakthrough evaluation can be performed. This evaluation yields insight into the relative breakthrough patterns of TOC, UV_{254}, and SDS-DBPs, indicating whether DBP surrogates can serve as direct or conservative indicators of SDS-DBP breakthrough. The

evaluation performed during this study showed that TOC breakthrough usually matched SDS-THM4 breakthrough, and sometimes matched SDS-HAA9 breakthrough. In a few instances, normalized SDS-THM4 breakthrough exceeded that for TOC. TOC did serve as a conservative indicator of normalized SDS-HAA5, SDS-HAA6, and SDS-TOX breakthrough. UV_{254} typically served as a direct indicator of SDS-TOX breakthrough.

16 *QA/QC Summary*

16 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 at the end of 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 57.

16.1 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.

16.1.1 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 90-110 percent of the true value. Next a second source standard at the MID level is analyzed and the recovery must be within 90-110 percent of the true value prior to proceeding with ICR protocol.

16.1.2 Haloacetic Acids (Standard Method 6251 B)

An internal standard calibration procedure is used for this method. A calibration mix containing all target analytes is prepared and diluted to a minimum of five calibration concentration levels. The lowest calibration standard is at a concentration equal to the minimum reporting level. The standards are extracted and injected using the same procedure that is used to process the actual samples. A working calibration curve is calculated for each analyte. If the relative standard deviation (RSD) of the response factors is less than 20 percent over the working range, linearity through the origin is assumed, and the average response factor may be used in place of the calibration curve. If the RSD for any analyte is greater than 20 percent, the calibration curve as a second order fit is used.

16.1.3 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*.

16.1.4 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.

16.1.5 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 58.

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	1.1	0.5	0.8	1.4
UV-254	24	1.5	0.6	1.2	2.0
pH	24	0.4	0.1	0.3	0.4
Temperature	24	0.2	0.0	0.0	0.4
SDS-TOX	24	5.3	0.9	2.4	4.8
SDS-THM4	24	6.8	2.1	4.5	5.4
SDS-HAA5	23	23.7	2.2	4.4	13.1
SDS-HAA6	23	16.8	1.5	3.5	13.1
SDS-HAA9	24	21.7	1.8	2.9	6.9
SDS-chlorine residual	24	5.1	1.2	3.2	5.0
THM Species					
SDS-$CHCl_3$	21	14.3	1.9	4.9	7.1
SDS-BDCM	24	5.4	1.3	3.7	5.3
SDS-DBCM	24	5.5	2.4	4.7	5.3
SDS-$CHBR_3$	24	14.9	4.3	6.5	7.2
HAA Species					
SDS-MCAA	2	104.6	NA	NA	NA
SDS-DCAA	18	6.6	1.5	3.4	9.5
SDS-TCAA	17	6.4	0.0	0.0	4.7
SDS-MBAA	6	36.4	0.0	4.3	9.3
SDS-DBAA	22	14.5	3.0	4.0	8.1
SDS-BCAA	22	5.3	2.2	2.8	6.7
SDS-TBAA	2	2.4	NA	NA	NA
SDS-CDBAA	20	17.0	0.0	3.4	7.2
SDS-DCBAA	23	24.5	1.2	5.3	24.1

RPD: relative percent difference
NA: not applicable

Table 57 Summary of field duplicate precision for both EBCTs and all sessions

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

Table 58 Trihalomethane aqueous calibration standard concentrations (EPA Method 551.1)

17 *References*

17 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 Escondido **Study#:** 109

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous				**Influent pH:** 7.75		**Scaling Factor:** 12.6														
1	9803-26	109.10.Eff-1	3/5/98	12:43	3/5/98	17:49		0.18	2	0.19	0.003	21.6	8.1	1.24	0.81	0.43	15.1	7.44	24.0				
2	9803-38	109.10.Eff-4	3/6/98	6:36	3/6/98	11:48		0.92	12	0.34	0.003	21.5	7.9	1.33	0.70	0.63	15.1	7.48	24.0				
3	9803-46	109.10.Eff-6	3/6/98	17:01	3/6/98	22:13		1.36	17	0.55	0.005	21.7	8.0	1.44	0.73	0.71	15.1	7.35	23.9				
3d	9803-47	109.10.Eff-6d	3/6/98	17:01	3/6/98	22:13		1.36	17	0.55	0.005	21.7	8.0	1.44	0.75	0.69	15.1	7.37	23.9				
4	9803-48	109.10.Eff-7	3/6/98	22:13	3/7/98	3:25		1.58	20	0.75	0.008	21.5	8.0	1.55	0.71	0.84	15.1	7.44	24.0				
5	9803-52	109.10.Eff-9	3/7/98	6:16	3/7/98	9:00		1.86	23	0.99	0.011	21.8	8.1	1.68	0.84	0.84	15.1	7.40	23.9				
6	9803-55	109.10.Eff-10d	3/7/98	9:00	3/7/98	14:06		2.02	25	1.12	0.013	22.2	8.0	1.76	0.85	0.91	15.1	7.38	23.9				
7	9803-60	109.10.Eff-11	3/7/98	16:50	3/7/98	22:02		2.35	30	1.32	0.015	22.1	8.0	1.85	0.91	0.94	15.0	7.42	24.0				
7d	9803-61	109.10.Eff-11d	3/7/98	16:50	3/7/98	22:02		2.35	30	1.28	0.016	22.1	8.0	1.83	0.93	0.90	15.0	7.47	24.0				
8	9803-64	109.10.Eff-13	3/8/98	0:31	3/8/98	5:43		2.67	34	1.46	0.019	21.6	8.0	1.92	0.90	1.02	15.0	7.48	23.9				
9	9803-71	109.10.Eff-14	3/8/98	10:55	3/8/98	16:06		3.10	39	1.68	0.023	22.1	8.1	2.04	0.92	1.12	15.0	7.51	23.9				
10	9803-74	109.10.Eff-17	3/9/98	2:25	3/9/98	7:39		3.75	47	1.89	0.026	21.3	8.1	2.12	0.94	1.18	15.0	7.45	23.8				
11	9803-79	109.10.Eff-19	3/9/98	18:06	3/9/98	23:18		4.40	55	2.04	0.030	21.8	8.0	2.22	0.94	1.28	15.6	7.46	24.0				
11d	9803-80	109.10.Eff-19d	3/9/98	18:06	3/9/98	23:18		4.40	55	2.06	0.031	21.8	8.0	2.23	0.88	1.35	15.6	7.42	24.0				
12	9803-95	109.10.Eff-21	3/10/98	9:40	3/10/98	14:54		5.05	64	2.24	0.032	21.6	8.0	2.17	0.86	1.31	15.2	7.45	24.0				
13	9803-110	109.10.Eff-23	3/11/98	16:55	3/11/98	22:08	0.00	6.35	80	2.42		21.8	7.9										
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous				**Influent pH:** 7.75		**Scaling Factor:** 12.6														
1	9803-29	109.20.Eff-1	3/5/98	13:07	3/5/98	18:15	0.01	0.18	2	0.17	0.002	21.3	8.2	1.23	0.82	0.41	15.1	7.43	24.0				
2	9803-59	109.20.Eff-6	3/7/98	22:02	3/8/98	3:17	0.01	2.56	32	0.38	0.003	21.3	7.9	1.34	0.73	0.61	15.1	7.41	24.0				
3	9803-69	109.20.Eff-9	3/8/98	13:45	3/8/98	18:58	0.01	3.21	40	0.56	0.005	22.3	8.0	1.48	0.85	0.63	15.0	7.47	23.9				
4	9803-75	109.20.Eff-11	3/9/98	5:28	3/9/98	10:48	0.01	3.87	49	0.74	0.009	21.4	8.0	1.56	0.80	0.76	15.0	7.43	23.9				
4d	9803-76	109.20.Eff-11d	3/9/98	5:28	3/9/98	10:48	0.01	3.87	49	0.75	0.009	21.4	8.0	1.57	0.82	0.75	15.0	7.42	24.0				
5	9803-84	109.20.Eff-13	3/9/98	21:21	3/10/98	2:29	0.01	4.52	57	0.94	0.010	21.5	8.0	1.67	0.82	0.85	15.6	7.43	24.0				
6	9803-97	109.20.Eff-15	3/10/98	12:51	3/10/98	18:01	0.01	5.17	65	1.23	0.013	21.3	8.0	1.74	0.85	0.89	15.2	7.49	24.0				
7	9803-111	109.20.Eff-20	3/11/98	15:04	3/11/98	20:16	0.01	6.26	79	1.42	0.017	21.5	8.0	1.82	0.82	1.00	15.2	7.42	24.0				
7d	9803-112	109.20.Eff-20d	3/11/98	15:04	3/11/98	20:16	0.01	6.26	79	1.40	0.018	21.7	8.0	1.82	0.83	0.99	15.2	7.43	24.0				
8	9803-118	109.20.Eff-23	3/12/98	6:36	3/12/98	11:50	0.01	6.91	87	1.52	0.019	21.0	8.0	1.86	0.87	0.99	15.1	7.43	24.1				
9	9803-142	109.20.Eff-26	3/13/98	6:11	3/13/98	11:12	0.01	7.89	99	1.69	0.021	21.4	8.0	1.92	0.87	1.05	15.1	7.43	24.1				
10	9803-157	109.20.Eff-31	3/15/98	9:40	3/15/98	14:50	0.01	10.04	126	1.91	0.027	21.8	8.0	2.00	0.57	1.43	15.1	7.45	24.0				
11	9803-186	109.20.Eff-36	3/18/98	4:46	3/18/98	9:57	0.01	12.83	161	2.21	0.033	21.9	8.2	2.12	0.79	1.33	15.2	7.46	23.9				
11d	9803-187	109.20.Eff-36d	3/18/98	4:46	3/18/98	9:57	0.01	12.83	161	2.20	0.032	21.9	8.3	2.12	0.83	1.29	15.2	7.44	23.9				
12	9803-202	109.20.Eff-37	3/19/98	1:15	3/19/98	6:26	0.01	13.69	172	2.20	0.032	21.8	8.4	2.11	0.80	1.31	15.1	7.45	24.1				

ND: Non-detect. Blank Results: Either analysis was not performed or result did not meet ICR QC requirements.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Escondido **Study#:** 109

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 7.75			**Scaling Factor:** 12.6														
1	9803-26	109.10.Eff-1	2	0.19	4	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9803-38	109.10.Eff-4	12	0.34	16	ND	2.1	1.1	1.3	**4.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9803-46	109.10.Eff-6	17	0.55	13	ND	3.7	1.9	2.1	**7.7**	ND	ND	ND	ND	2	1	1	2	ND	**3**	**6**		
3d	9803-47	109.10.Eff-6d	17	0.55	14	ND	3.9	2.0	2.2	**8.1**	ND	ND	ND	ND	2	1	1	2	ND	**3**	**6**		
4	9803-48	109.10.Eff-7	20	0.75	20	1.1	5.4	2.5	3.0	**12.1**	ND	ND	ND	ND	2	2	2	3	ND	**4**	**8**		
5	9803-52	109.10.Eff-9	23	0.99	34	1.6	7.7	4.1	3.7	**17.1**	ND	2	ND	ND	3	2	3	3	ND	**7**	**13**		
6	9803-55	109.10.Eff-10d	25	1.12	42	1.9	8.5	4.8	3.6	**18.7**	ND	2	1	ND	3	3	3	4	ND	**9**	**16**		
7	9803-60	109.10.Eff-11	30	1.32	51	2.2	10.0	6.0	3.8	**22.0**	ND	2	1	ND	3	4	4	4	ND	**10**	**18**		
7d	9803-61	109.10.Eff-11d	30	1.28	57	2.3	10.1	5.8	3.8	**22.0**	ND	2	1	ND	4	4	4	4	ND	**11**	**18**		
8	9803-64	109.10.Eff-13	34	1.46	66	3.2	12.2	7.9	4.2	**27.5**	ND	3	2	ND	4	5	5	4	ND	**13**	**22**		
9	9803-71	109.10.Eff-14	39	1.68	100	4.2	13.4	9.6	4.0	**31.1**	ND	3	3	ND	4	5	6	5	ND	**15**	**26**		
10	9803-74	109.10.Eff-17	47	1.89	92	4.8	13.5	10.5	3.4	**32.2**	ND	4	4	ND	4	6	7	5	ND	**18**	**31**		
11	9803-79	109.10.Eff-19	55	2.04	105	7.3	15.8	14.2	3.3	**40.7**	ND	4	5	ND	4	7	9	5	ND	**20**	**34**		
11d	9803-80	109.10.Eff-19d	55	2.06	108	7.1	15.2	13.5	3.1	**38.9**	ND	4	5	ND	4	7	9	5	ND	**20**	**35**		
12	9803-95	109.10.Eff-21	64	2.24	115	7.1	17.6	13.5	2.9	**41.2**	ND	6	6	1	5	7	10	6	ND	**24**	**40**		
13	9803-110	109.10.Eff-23	80	2.42																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 7.75			**Scaling Factor:** 12.6														
1	9803-29	109.20.Eff-1	2	0.17	9	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9803-59	109.20.Eff-6	32	0.38	10	ND	2.3	1.1	1.4	**4.9**	ND	ND	ND	ND	1	ND	ND	ND	ND	**1**	**1**		
3	9803-69	109.20.Eff-9	40	0.56	18	ND	3.6	1.7	2.1	**7.4**	ND	ND	ND	ND	1	1	1	ND	ND	**3**	**4**		
4	9803-75	109.20.Eff-11	49	0.74	23	1.1	4.9	2.4	2.9	**11.2**	ND	1	ND	ND	2	2	2	2	ND	**5**	**9**		
4d	9803-76	109.20.Eff-11d	49	0.75	23	1.1	5.0	2.4	2.9	**11.4**	ND	1	ND	ND	2	2	2	2	ND	**5**	**9**		
5	9803-84	109.20.Eff-13	57	0.94	30	1.4	7.2	3.7	3.6	**15.9**	ND	2	ND	ND	3	3	3	3	ND	**7**	**12**		
6	9803-97	109.20.Eff-15	65	1.23	40	1.8	10.9	4.9	4.0	**21.6**	ND	2	1	ND	3	3	3	3	ND	**9**	**15**		
7	9803-111	109.20.Eff-20	79	1.42	51	2.2	12.2	5.9	4.0	**24.1**	ND	2	2	ND	3	4	5	4	ND	**11**	**19**		
7d	9803-112	109.20.Eff-20d	79	1.40	57	2.4	12.3	6.5	4.2	**25.5**	ND	2	2	ND	4	4	5	4	ND	**11**	**19**		
8	9803-118	109.20.Eff-23	87	1.52	58	2.8	13.5	7.3	4.3	**27.9**	ND	2	2	ND	4	5	5	4	ND	**12**	**21**		
9	9803-142	109.20.Eff-26	99	1.69	72	3.8	16.0	9.4	4.3	**33.5**	ND	3	3	ND	4	5	6	4	ND	**15**	**26**		
10	9803-157	109.20.Eff-31	126	1.91	84	4.5	17.3	10.7	4.1	**36.7**	ND	3	4	ND	4	5	7	5	ND	**17**	**28**		
11	9803-186	109.20.Eff-36	161	2.21	116	7.5	18.5	14.7	3.2	**43.9**													
11d	9803-187	109.20.Eff-36d	161	2.20	116	7.0	18.4	14.1	3.2	**42.7**	ND	4	6	ND	4	6	10	6	ND	**20**	**35**		
12	9803-202	109.20.Eff-37	172	2.20	109	7.4	18.5	14.2	3.3	**43.3**	ND	4	6	ND	4	7	10	6	ND	**21**	**37**		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Escondido **Study#:** 109

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
13	9803-214	109.20.Eff-38	3/20/98	8:05	3/20/98	10:52	0.01	14.92	188	2.29		21.4	8.5										
Influent A		**EBCT:**	**Carbon Type:**				**Influent pH:**	7.75	**Scaling Factor:**	12.6													
1	9803-25	109.INF.A-1	3/5/98	16:30	3/5/98	16:30		0.23	3											113	258	234	
2	9803-125	109.INF.A-2	3/12/98	16:40	3/12/98	16:40		7.24	91											112	248	222	
Influent B		**EBCT:**	**Carbon Type:**				**Influent pH:**	7.75	**Scaling Factor:**	12.6													
1	9803-24	109.INF.B-1	3/5/98	13:15	3/5/98	13:15		0.09	1	3.16	0.061	19.7	7.8	2.89	1.02	1.87	15.1	7.38	24.0				0.10
2	9803-51	109.INF.B-2	3/7/98	8:30	3/7/98	8:30		1.90	24	3.12		16.9	7.8										
3	9803-86	109.INF.B-3	3/10/98	8:20	3/10/98	8:20		4.89	61	3.17		17.6	7.8										
4	9803-119	109.INF.B-4	3/12/98	11:45	3/12/98	11:45		7.03	88	3.17	0.061	17.9	7.8	2.69	0.76	1.93	15.2	7.41	23.9				0.10
5	9803-166	109.INF.B-5	3/16/98	14:30	3/16/98	14:30		11.15	140	3.16		19.5	7.7										
6	9803-215	109.INF.B-6	3/20/98	10:25	3/20/98	10:25		14.98	188	3.20	0.061	19.6	7.8	2.70	0.72	1.98	15.1	7.44	24.1				0.10
PreStudy		**EBCT:**	**Carbon Type:**				**Influent pH:**		**Scaling Factor:**														
1	9803-10	Filtered Water on	3/4/98	12:00						3.46													
2	9802-317	Filtration Effluent	2/26/98	9:27						3.26													
3	9802-316	Settled Water (Drum	2/26/98	8:55						3.65													
4	9802-315	Mixed Raw	2/26/98	8:25						3.82													
5	9803-7	Settled Water on	3/3/98	11:30						3.59													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 7.4 **Temperature:** 15.0 ºC **Holding time:** 24.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: City of Escondido **Study#:** 109

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
13	9803-214	109.20.Eff-38	188	2.29																			
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.75		**Scaling Factor:**	12.6													
1	9803-25	109.INF.A-1	3																			0.06	69
2	9803-125	109.INF.A-2	91																			ND	68
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.75		**Scaling Factor:**	12.6													
1	9803-24	109.INF.B-1	1	3.16	195	20.6	11.6	21.2	1.2	**54.6**	ND	12	16	1	3	8	16	5	ND	**40**	**61**		
2	9803-51	109.INF.B-2	24	3.12																			
3	9803-86	109.INF.B-3	61	3.17																			
4	9803-119	109.INF.B-4	88	3.17	207	20.2	14.5	21.8	1.2	**57.7**	ND	11	15	ND	3	9	16	5	ND	**38**	**58**		
5	9803-166	109.INF.B-5	140	3.16																			
6	9803-215	109.INF.B-6	188	3.20	200	21.0	15.5	22.8	1.4	**60.7**	ND	11	15	ND	3	9	15	5	ND	**38**	**58**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9803-10	Filtered Water on Arrival		3.46																			
2	9802-317	Filtration Effluent		3.26																			
3	9802-316	Settled Water (Drum #2)		3.65																			
4	9802-315	Mixed Raw		3.82																			
5	9803-7	Settled Water on Arrival		3.59																			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: City of Escondido **Study#:** 117

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
Effluent C	**EBCT:** 10 min	**Carbon Type:** Bituminous	**Influent pH:** 7.13	**Scaling Factor:** 12.6																	
1	9806-188	117.10.Eff-1	6/5/98 17:09	6/5/98 21:50		0.16	2	0.11	0.001	23.3	7.9	1.30	0.88	0.42	24.8	7.46	17.7				
2	9806-193	117.10.Eff-6	6/6/98 22:42	6/7/98 3:25		1.39	17	0.29	0.004	27.1	7.8	1.55	0.93	0.62	24.8	7.45	17.8				
3	9806-194	117.10.Eff-7	6/7/98 3:25	6/7/98 8:16		1.59	20	0.53	0.007	20.9	7.8	1.73	0.94	0.79	24.8	7.34	17.8				
4	9806-195	117.10.Eff-8	6/7/98 8:16	6/7/98 13:06		1.79	22	0.82	0.012	21.9	7.9	2.00	1.09	0.91	24.8	7.41	17.9				
4d	9806-218	117.10.Eff-8d	6/7/98 8:16	6/7/98 13:06		1.79	22	0.83	0.012	21.9	7.8	2.00	1.04	0.96	24.8	7.38	17.8				
5	9806-196	117.10.Eff-9	6/7/98 13:06	6/7/98 15:24		1.94	24	1.06	0.015	22.7	7.9	2.73	1.58	1.15	24.8	7.41	18.0				
6	9806-198	117.10.Eff-11	6/7/98 17:32	6/7/98 22:13		2.17	27	1.34	0.020	23.7	7.9	2.48	1.24	1.24	24.8	7.41	18.0				
7	9806-200	117.10.Eff-13	6/8/98 0:29	6/8/98 5:10		2.46	31	1.58	0.026	22.8	7.8	2.70	1.28	1.42	24.8	7.41	18.0				
8	9806-201	117.10.Eff-14	6/8/98 5:10	6/8/98 9:58		2.66	33	1.75	0.029	22.3	7.9	2.87	1.35	1.52	24.8	7.40	18.1				
8d	9806-220	117.10.Eff-14d	6/8/98 5:10	6/8/98 9:58		2.66	33	1.75	0.029	22.3	7.9	2.85	1.36	1.49	24.8	7.39	18.1				
9	9806-203	117.10.Eff-16	6/8/98 14:50	6/8/98 19:31		3.06	38	2.02	0.033	23.6	7.8	3.12	1.41	1.71	24.8	7.42	18.2				
10	9806-205	117.10.Eff-18	6/9/98 0:15	6/9/98 5:01		3.45	43	2.20	0.037	23.2	7.8	2.61	0.95	1.66	24.5	7.39	17.9				
10d	9806-222	117.10.Eff-18d	6/9/98 0:15	6/9/98 5:01		3.45	43	2.21	0.037	23.2	7.8	2.62	0.92	1.70	24.5	7.38	18.0				
11	9806-206	117.10.Eff-19	6/9/98 9:47	6/9/98 14:35		3.85	48	2.38	0.042	23.7	7.8	2.73	0.87	1.86	24.5	7.40	18.0				
12	9806-209	117.10.Eff-22	6/10/98 4:43	6/10/98 9:29		4.64	58	2.63	0.046	22.8	7.9	2.90	0.92	1.98	24.5	7.40	18.1				
13	9806-210	117.10.Eff-23	6/11/98 9:11	6/11/98 13:59		5.83	73	2.87		23.1	7.7										
Effluent C	**EBCT:** 20 min	**Carbon Type:** Bituminous	**Influent pH:** 7.13	**Scaling Factor:** 12.6																	
1	9806-228	117.20.Eff-1	6/5/98 17:09	6/5/98 22:00		0.16	2	0.10	0.001	23.5	8.2	1.30	0.90	0.40	24.8	7.48	18.3				
2	9806-235	117.20.Eff-8	6/9/98 0:09	6/9/98 5:07		3.45	43	0.33	0.003	23.4	7.9	1.41	0.78	0.63	24.5	7.39	18.1				
3	9806-237	117.20.Eff-10	6/9/98 10:03	6/9/98 14:59		3.87	49	0.53	0.005	23.8	7.8	1.54	0.71	0.83	24.5	7.39	18.2				
3d	9806-262	117.20.Eff-10d	6/9/98 10:03	6/9/98 14:59		3.87	49	0.55	0.005	23.9	7.8	1.54	0.76	0.78	24.5	7.38	18.2				
4	9806-238	117.20.Eff-11	6/9/98 14:59	6/9/98 19:54		4.07	51	0.72	0.007	23.4	8.0	1.67	0.79	0.88	24.5	7.40	18.2				
5	9806-242	117.20.Eff-13	6/10/98 0:47	6/10/98 5:43		4.48	56	0.96	0.011	22.9	7.9	1.81	0.85	0.96	24.5	7.40	18.3				
6	9806-244	117.20.Eff-15	6/10/98 10:30	6/10/98 15:34		4.89	61	1.23	0.015	23.5	7.8	2.00	0.88	1.12	24.5	7.41	18.3				
7	9806-247	117.20.Eff-18	6/11/98 6:19	6/11/98 11:24		5.71	72	1.50	0.020	23.3	7.7	2.17	0.90	1.27	24.5	7.40	18.3				
8	9806-248	117.20.Eff-19	6/11/98 21:10	6/12/98 2:01		6.33	80	1.69	0.024	23.1	7.8	2.24	0.85	1.39	24.7	7.46	18.3				
8d	9806-266	117.20.Eff-19d	6/11/98 21:10	6/12/98 2:01		6.33	80	1.68	0.024	23.1	7.9	2.24	0.66	1.58	24.7	7.48	18.3				
9	9806-251	117.20.Eff-22	6/12/98 21:20	6/13/98 2:08		7.33	92	1.98	0.030	23.7	7.8	2.41	0.81	1.60	24.7	7.48	18.3				
10	9806-253	117.20.Eff-24	6/13/98 21:31	6/14/98 2:24		8.34	105	2.17	0.036	23.6	7.9	2.52	0.73	1.79	24.7	7.48	18.4				
10d	9806-269	117.20.Eff-24d	6/13/98 21:31	6/14/98 2:24		8.34	105	2.13	0.036	23.6	7.9	2.52	0.91	1.61	24.7	7.48	18.4				
11	9806-257	117.20.Eff-28	6/15/98 12:48	6/15/98 17:39		9.98	125	2.41	0.041	23.8	7.8	2.67	0.85	1.82	24.7	7.46	18.4				
12	9806-258	117.20.Eff-29	6/17/98 5:31	6/17/98 10:44		11.68	147	2.67	0.047	23.8	7.8	2.82	0.15	2.67	24.5	7.46	18.1				

ND: Non-detect. Blank Results: Either analysis was not performed or result did not meet ICR QC requirements.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: City of Escondido **Study#:** 117

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 7.13			**Scaling Factor:** 12.6														
1	9806-188	117.10.Eff-1	2	0.11	4	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	1	ND	ND	**ND**	**1**		
2	9806-193	117.10.Eff-6	17	0.29	12	ND	3.5	1.7	2.4	**7.5**	ND	1	ND	ND	2	1	2	2	ND	**4**	**8**		
3	9806-194	117.10.Eff-7	20	0.53	27	1.2	7.3	3.4	4.2	**16.1**	ND	1	1	ND	3	2	2	3	4	**8**	**17**		
4	9806-195	117.10.Eff-8	22	0.82	44	2.3	12.8	7.0	6.1	**28.2**	ND	2	2	1	4	4	3	4	4	**13**	**25**		
4d	9806-218	117.10.Eff-8d	22	0.83	45	2.3	12.7	6.8	5.7	**27.6**	ND	2	1	ND	4	4	4	5	4	**10**	**23**		
5	9806-196	117.10.Eff-9	24	1.06	60	4.0	16.0	10.7	5.4	**36.1**	ND	3	2	ND	5	5	6	6	4	**14**	**30**		
6	9806-198	117.10.Eff-11	27	1.34	81	5.5	19.6	13.8	6.0	**44.9**	ND	3	3	1	5	6	9	7	5	**19**	**39**		
7	9806-200	117.10.Eff-13	31	1.58	106	8.9	22.2	18.5	5.4	**55.0**	ND	5	4	ND	6	8	11	8	4	**22**	**46**		
8	9806-201	117.10.Eff-14	33	1.75	125	9.9	21.2	19.0	4.5	**54.7**	ND	6	5	ND	6	9	13	9	4	**25**	**51**		
8d	9806-220	117.10.Eff-14d	33	1.75	119	9.2	20.4	18.1	4.3	**52.1**	ND	6	5	ND	6	8	13	8	4	**25**	**50**		
9	9806-203	117.10.Eff-16	38	2.02	146	13.8	22.1	22.3	4.1	**62.4**	ND	7	7	1	6	9	15	9	4	**31**	**58**		
10	9806-205	117.10.Eff-18	43	2.20	160	14.4	21.7	22.8	4.0	**62.9**	ND	9	7	ND	6	11	11	6	ND	**32**	**49**		
10d	9806-222	117.10.Eff-18d	43	2.21	160	15.3	22.7	24.0	4.0	**66.0**	ND	8	7	ND	6	10	11	6	ND	**31**	**48**		
11	9806-206	117.10.Eff-19	48	2.38	174	18.6	22.3	25.9	3.4	**70.2**	ND	10	9	ND	6	11	12	6	ND	**35**	**53**		
12	9806-209	117.10.Eff-22	58	2.63	191	23.4	22.6	29.2	3.0	**78.3**	ND	12	11	1	5	12	14	6	ND	**42**	**62**		
13	9806-210	117.10.Eff-23	73	2.87																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 7.13			**Scaling Factor:** 12.6														
1	9806-228	117.20.Eff-1	2	0.10	3	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9806-235	117.20.Eff-8	43	0.33	10	ND	2.3	1.0	2.1	**5.4**	ND	ND	ND	ND	1	1	ND	ND	ND	**2**	**2**		
3	9806-237	117.20.Eff-10	49	0.53	20	ND	5.3	2.2	3.7	**11.2**	ND	ND	ND	ND	2	2	1	ND	ND	**4**	**5**		
3d	9806-262	117.20.Eff-10d	49	0.55	22	ND	5.5	2.1	4.0	**11.6**	ND	ND	ND	ND	2	1	1	2	ND	**4**	**7**		
4	9806-238	117.20.Eff-11	51	0.72	26	ND	7.8	3.2	4.8	**15.7**	ND	1	ND	ND	3	3	2	2	ND	**7**	**10**		
5	9806-242	117.20.Eff-13	56	0.96	39	1.3	11.3	5.3	5.6	**23.5**	ND	1	ND	ND	4	4	2	3	ND	**9**	**14**		
6	9806-244	117.20.Eff-15	61	1.23	57	2.7	15.6	8.5	6.2	**32.9**	ND	2	2	1	5	5	4	5	5	**14**	**28**		
7	9806-247	117.20.Eff-18	72	1.50	79	4.4	19.4	13.0	6.2	**43.1**	ND	3	2	1	6	6	7	6	5	**19**	**36**		
8	9806-248	117.20.Eff-19	80	1.69	98	6.4	20.8	15.2	5.5	**47.9**	ND	4	3	1	6	7	7	5	ND	**22**	**34**		
8d	9806-266	117.20.Eff-19d	80	1.68	100	6.5	21.1	15.6	6.3	**49.5**	ND	4	3	1	6	7	8	6	ND	**22**	**35**		
9	9806-251	117.20.Eff-22	92	1.98	123	10.9	24.2	21.5	5.5	**62.2**	ND	6	5	1	6	9	9	6	ND	**27**	**42**		
10	9806-253	117.20.Eff-24	105	2.17	149	12.9	21.8	22.6	4.5	**61.9**	ND	7	7	1	6	9	11	6	ND	**31**	**47**		
10d	9806-269	117.20.Eff-24d	105	2.13	151	14.0	25.3	24.0	4.8	**68.1**	ND	7	7	1	6	10	12	6	ND	**31**	**49**		
11	9806-257	117.20.Eff-28	125	2.41	184	18.4	24.3	26.3	3.9	**72.8**	ND	10	10	1	6	11	14	6	ND	**37**	**57**		
12	9806-258	117.20.Eff-29	147	2.67	179	18.6	23.6	26.4	4.2	**72.8**	ND	10	8	1	6	11	9	4	ND	**36**	**50**		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: City of Escondido **Study#:** 117

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
13	9806-259	117.20.Eff-30	6/18/98	13:34	6/18/98	18:41		13.02	164	2.81		25.4	7.7										
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.13	**Scaling Factor:**	12.6														
1	9806-270	117.Inf.A-1	6/5/98	17:20	6/5/98	17:20		0.07	1											84	147	90	
2	9806-271	117.Inf.A-2	6/10/98	10:15	6/10/98	10:15		4.77	60											88	145	87	
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.13	**Scaling Factor:**	12.6														
1	9806-272	117.Inf.B-1	6/5/98	17:15	6/5/98	17:15		0.06	1	3.70	0.086	20.7	7.2	4.50	1.28	3.22	24.8	7.45	18.3				0.15
2	9806-273	117.Inf.B-2	6/7/98	16:15	6/7/98	16:15		2.02	25	3.67													
3	9806-274	117.Inf.B-3	6/8/98	18:40	6/8/98	18:40		3.12	39	3.67													
4	9806-275	117.Inf.B-4	6/10/98	10:10	6/10/98	10:10		4.77	60	3.68	0.085	16.6	7.1	4.00	0.91	3.09	24.5	7.28	18.3				0.30
5	9806-276	117.Inf.B-5	6/12/98	11:00	6/12/98	11:00		6.80	86	3.72													
6	9806-708	117.Inf.B-6	6/20/98	11:50	6/20/98	11:05		14.82	186	3.70	0.088	23.0	7.3	3.90	0.78	3.12	25.8	7.41	18.1				0.25
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**		**Scaling Factor:**															
1	9808-420	Settled Instantaneous	8/21/98	0:00																			
2	9806-116	117.Filtered.S&H	6/4/98	10:30						3.66													
3	9806-117	117.SettOnArrival	6/4/98	10:35						3.79													
4	9805-502	117.Raw	5/28/98	8:08	5/28/98	8:08				4.74													
5	9805-503	117.Settled	5/28/98	8:26	5/28/98	8:26				3.73													
6	9805-504	117.Filtered	5/28/98	8:29	5/28/98	8:29				3.50													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 7.4 **Temperature:** 25.0 ºC **Holding time:** 18.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: City of Escondido **Study#:** 117

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
13	9806-259	117.20.Eff-30	164	2.81																			
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.13		**Scaling Factor:**	12.6													
1	9806-270	117.Inf.A-1	1																			0.06	82
2	9806-271	117.Inf.A-2	60																			0.09	86
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.13		**Scaling Factor:**	12.6													
1	9806-272	117.Inf.B-1	1	3.70	372	63.1	16.4	41.1	1.3	**121.9**	3	24	32	1	3	13	26	7	ND	**77**	**110**		
2	9806-273	117.Inf.B-2	25	3.67																			
3	9806-274	117.Inf.B-3	39	3.67																			
4	9806-275	117.Inf.B-4	60	3.68	362	60.6	16.3	42.3	1.3	**120.5**	3	25	33	1	4	13	24	7	4	**79**	**113**		
5	9806-276	117.Inf.B-5	86	3.72																			
6	9806-708	117.Inf.B-6	186	3.70	358	54.4	15.3	36.5	1.4	**107.7**	3	23	30	1	3	13	20	4	ND	**74**	**98**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9808-420	Settled Instantaneous				1.3	ND	ND	ND	**1.3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9806-116	117.Filtered.S&H		3.66																			
3	9806-117	117.SettOnArrival		3.79																			
4	9805-502	117.Raw		4.74																			
5	9805-503	117.Settled		3.73																			
6	9805-504	117.Filtered		3.50																			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT#3

Client: City of Escondido **Study#:** 133

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
Effluent C	**EBCT:** 10 min	**Carbon Type:** Bituminous	**Influent pH:** 7.56	**Scaling Factor:** 12.6																	
1	9808-508	133.10.Eff-1	8/31/98 14:50	8/31/98 20:29		0.16	2	0.08	0.001	22.3	8.2	1.30	0.63	0.67	26.0	7.46	18.0				
2	9808-512	133.10.Eff-5	9/2/98 0:43	9/2/98 6:21		1.57	20	0.29	0.003	20.4	8.0	1.41	0.60	0.81	26.0	7.44	18.1				
3	9808-514	133.10.Eff-7	9/2/98 11:53	9/2/98 14:45	0.00	1.98	25	0.54	0.006	21.2	8.0	1.55	0.58	0.97	26.0	7.42	18.1				
4	9808-515	133.10.Eff-8	9/2/98 14:45	9/2/98 20:03	0.00	2.15	27	0.74	0.009	22.1	8.0	1.67	0.61	1.06	26.0	7.45	18.1				
4d	9808-539	133.10.Eff-8d	9/2/98 14:45	9/2/98 20:03	0.00	2.15	27	0.75	0.009	22.0	8.0	1.67	0.58	1.09	26.0	7.43	18.2				
5	9808-516	133.10.Eff-9	9/2/98 20:03	9/3/98 1:30	0.00	2.37	30	0.95	0.012	21.0	8.0	2.01	0.84	1.17	26.0	7.43	18.1				
6	9808-517	133.10.Eff-10	9/3/98 1:30	9/3/98 6:57	0.00	2.60	33	1.12	0.014	20.6	8.0	2.12	0.86	1.26	26.0	7.44	18.1				
7	9808-519	133.10.Eff-12	9/3/98 12:25	9/3/98 17:46	0.00	3.05	38	1.39	0.019	22.1	8.0	2.29	0.86	1.43	26.0	7.44	18.1				
7d	9808-541	133.10.Eff-12d	9/3/98 12:25	9/3/98 17:46	0.00	3.05	38	1.40	0.020	22.0	8.0	2.29	0.83	1.46	26.0	7.44	18.1				
8	9808-521	133.10.Eff-14	9/3/98 23:09	9/4/98 4:32	0.00	3.50	44	1.57	0.023	21.0	8.0	2.40	0.84	1.56	26.0	7.44	18.2				
9	9808-523	133.10.Eff-16	9/4/98 9:59	9/4/98 15:22	0.00	3.95	50	1.76	0.027	21.5	8.0	2.51	0.81	1.70	26.0	7.43	18.2				
10	9808-525	133.10.Eff-18	9/5/98 2:08	9/5/98 7:32	0.00	4.63	58	1.94	0.031	20.9	8.0	2.58	0.83	1.75	26.2	7.45	18.4				
11	9808-527	133.10.Eff-20	9/5/98 23:38	9/6/98 5:04	0.00	5.52	69	2.24	0.036	21.2	8.0	2.75	0.81	1.94	26.2	7.44	18.4				
11d	9808-544	133.10.Eff-20d	9/5/98 23:38	9/6/98 5:04	0.00	5.52	69	2.21	0.036	21.2	8.0	2.75	0.85	1.90	26.2	7.45	18.4				
12	9808-530	133.10.Eff-23	9/7/98 7:51	9/7/98 13:12	0.00	6.86	86	2.50	0.043	21.9	8.0	2.92	0.82	2.10	26.2	7.44	18.4				
13	9808-531	133.10.Eff-24	9/8/98 10:55	9/8/98 16:20	0.00	7.99	100	2.63	0.047	21.3	8.0										
Effluent C	**EBCT:** 20 min	**Carbon Type:** Bituminous	**Influent pH:** 7.56	**Scaling Factor:** 12.6																	
1	9808-548	133.20.Eff-1	8/31/98 14:50	8/31/98 19:24		0.14	2	0.10	0.000	22.2	8.5	1.30	0.62	0.68	26.0	7.52	18.2				
2	9808-552	133.20.Eff-5	9/4/98 2:32	9/4/98 7:14	0.00	3.63	46	0.30	0.003	21.0	8.1	1.61	0.82	0.79	26.0	7.43	18.2				
3	9808-555	133.20.Eff-8	9/4/98 21:00	9/5/98 1:37	0.00	4.39	55	0.58	0.007	21.1	8.0	1.78	0.84	0.94	26.0	7.45	18.2				
3d	9808-578	133.20.Eff-8d	9/4/98 21:00	9/5/98 1:37	0.00	4.39	55	0.58	0.007	21.0	8.1	1.78	0.84	0.94	26.0	7.44	18.3				
4	9808-557	133.20.Eff-10	9/5/98 6:13	9/5/98 10:49	0.00	4.78	60	0.77	0.009	21.3	8.1	1.88	0.83	1.05	26.2	7.45	18.4				
5	9808-559	133.20.Eff-12	9/5/98 15:23	9/5/98 19:52	0.00	5.16	65	0.96	0.012	22.5	8.1	1.99	0.87	1.12	26.2	7.46	18.4				
6	9808-561	133.20.Eff-14	9/6/98 0:24	9/6/98 4:58	0.00	5.54	70	1.04	0.014	21.1	8.1	2.05	0.89	1.16	26.2	7.45	18.5				
7	9808-564	133.20.Eff-17	9/6/98 18:35	9/6/98 23:09	0.00	6.29	79	1.31	0.018	22.1	8.1	2.21	0.89	1.32	26.2	7.46	18.5				
7d	9808-581	133.20.Eff-17d	9/6/98 18:35	9/6/98 23:09	0.00	6.29	79	1.31	0.018	22.2	8.1	2.21	0.85	1.36	26.2	7.46	18.5				
8	9808-569	133.20.Eff-22	9/9/98 16:19	9/9/98 20:53	0.00	9.20	116	1.67	0.025	21.0	8.1	2.39	0.60	1.79	26.3	7.40	17.8				
9	9808-571	133.20.Eff-24	9/10/98 19:58	9/11/98 0:34	0.00	10.35	130	1.82	0.028	20.9	8.0	2.50	0.76	1.74	26.0	7.38	18.0				
10	9808-573	133.20.Eff-26	9/12/98 4:13	9/12/98 8:55	0.00	11.70	147	1.97	0.031	21.1	8.0	2.58	0.81	1.77	26.0	7.38	18.0				
10d	9808-582	133.20.Eff-26d	9/12/98 4:13	9/12/98 8:55	0.00	11.70	147	1.96	0.031	21.1	8.0	2.58	0.82	1.76	26.0	7.42	18.0				
11	9808-574	133.20.Eff-27	9/13/98 7:50	9/13/98 12:23	0.00	12.84	161	2.22	0.035	21.7	8.0	2.73	0.90	1.83	26.0	7.41	18.0				
12	9808-576	133.20.Eff-29	9/16/98 9:58	9/16/98 14:35	0.00	15.94	200	2.50	0.043	21.7	8.0	2.92	0.99	1.93	26.2	7.41	18.1				

ND: Non-detect. Blank Results: Either analysis was not performed or result did not meet ICR QC requirements.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT#3

Client: City of Escondido **Study#:** 133

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 7.56			**Scaling Factor:** 12.6														
1	9808-508	133.10.Eff-1	2	0.08	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9808-512	133.10.Eff-5	20	0.29	8	ND	2.7	1.2	2.0	**5.9**	ND	ND	ND	ND	1	ND	1	ND	ND	**1**	**2**		
3	9808-514	133.10.Eff-7	25	0.54	20	ND	6.4	3.2	3.4	**13.0**	ND	ND	ND	ND	2	2	2	2	ND	**4**	**8**		
4	9808-515	133.10.Eff-8	27	0.74	32	1.8	9.6	5.3	4.9	**21.5**	ND	1	1	ND	3	3	3	3	ND	**8**	**15**		
4d	9808-539	133.10.Eff-8d	27	0.75	32	1.8	10.1	5.6	5.1	**22.6**	ND	1	1	ND	3	3	3	3	ND	**8**	**14**		
5	9808-516	133.10.Eff-9	30	0.95	50	2.9	11.6	7.7	4.5	**26.8**	ND	2	2	ND	3	4	5	4	ND	**11**	**20**		
6	9808-517	133.10.Eff-10	33	1.12	58	3.9	13.5	9.9	4.8	**32.2**	ND	3	2	ND	4	4	4	3	ND	**12**	**20**		
7	9808-519	133.10.Eff-12	38	1.39	84	5.9	14.9	13.2	4.4	**38.5**	ND	4	3	1	4	6	6	4	ND	**18**	**27**		
7d	9808-541	133.10.Eff-12d	38	1.40	88	6.7	16.4	14.5	4.6	**42.2**	ND	4	4	1	5	7	9	7	ND	**21**	**37**		
8	9808-521	133.10.Eff-14	44	1.57	101	8.7	17.7	17.1	4.4	**47.9**	ND	5	4	ND	4	7	7	4	ND	**20**	**31**		
9	9808-523	133.10.Eff-16	50	1.76	120	10.7	17.4	18.7	3.8	**50.7**	ND	6	6	ND	4	8	11	6	ND	**23**	**41**		
10	9808-525	133.10.Eff-18	58	1.94	143	15.2	18.9	22.4	3.5	**59.9**	ND	7	7	1	4	8	9	4	ND	**27**	**40**		
11	9808-527	133.10.Eff-20	69	2.24	160	19.5	18.8	24.9	3.1	**66.3**	ND	9	11	ND	5	9	11	4	ND	**35**	**50**		
11d	9808-544	133.10.Eff-20d	69	2.21	167	19.2	18.6	24.3	3.0	**65.1**	ND	8	9	ND	4	9	10	6	ND	**30**	**46**		
12	9808-530	133.10.Eff-23	86	2.50	191	23.6	17.5	25.6	2.4	**69.1**	ND	12	14	1	5	10	13	7	ND	**42**	**61**		
13	9808-531	133.10.Eff-24	100	2.63																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 7.56			**Scaling Factor:** 12.6														
1	9808-548	133.20.Eff-1	2	0.10	1	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9808-552	133.20.Eff-5	46	0.30	12	ND	2.6	1.3	1.7	**5.6**	ND	ND	ND	ND	1	ND	1	ND	ND	**1**	**2**		
3	9808-555	133.20.Eff-8	55	0.58	25	1.3	6.7	3.8	3.6	**15.3**	ND	ND	ND	ND	2	2	2	3	ND	**4**	**9**		
3d	9808-578	133.20.Eff-8d	55	0.58	26	1.3	6.4	3.6	3.3	**14.6**	ND	ND	ND	ND	2	2	3	3	ND	**4**	**9**		
4	9808-557	133.20.Eff-10	60	0.77	36	1.9	9.0	5.4	4.3	**20.6**	ND	1	2	ND	3	3	2	4	ND	**9**	**15**		
5	9808-559	133.20.Eff-12	65	0.96	48	2.9	11.7	7.7	4.7	**27.0**	ND	2	1	ND	3	4	3	4	ND	**10**	**18**		
6	9808-561	133.20.Eff-14	70	1.04	53	3.1	12.7	8.6	4.9	**29.3**	ND	2	2	ND	4	4	3	5	ND	**11**	**19**		
7	9808-564	133.20.Eff-17	79	1.31	74	5.0	15.4	12.1	4.9	**37.4**	ND	3	4	1	4	6	5	6	ND	**18**	**29**		
7d	9808-581	133.20.Eff-17d	79	1.31	75	5.1	15.8	12.2	5.0	**38.0**	ND	3	4	1	4	6	5	6	ND	**19**	**29**		
8	9808-569	133.20.Eff-22	116	1.67	116	10.1	16.1	17.1	3.5	**46.8**	ND	5	6	ND	4	8	10	6	ND	**23**	**38**		
9	9808-571	133.20.Eff-24	130	1.82	129	11.8	18.5	21.0	3.8	**55.2**	ND	7	6	1	5	8	8			**27**			
10	9808-573	133.20.Eff-26	147	1.97	148	15.9	19.4	25.6	4.0	**64.9**	ND	8	7	1	5	9	10			**30**			
10d	9808-582	133.20.Eff-26d	147	1.96	149	16.4	22.3	26.2	4.1	**69.1**	ND	8	7	1	5	9	11			**30**			
11	9808-574	133.20.Eff-27	161	2.22	169	19.8	21.1	28.0	3.6	**72.5**	ND	9	9	1	5	10	12			**34**			
12	9808-576	133.20.Eff-29	200	2.50	187	23.6	19.7	27.9	2.9	**74.0**	ND	13	12	1	5	11	14	6		**42**			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT#3

Client: City of Escondido **Study#:** 133

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
13	9808-577	133.20.Eff-30	9/17/98	13:45	9/17/98	18:23	0.00	17.09	215	2.58	0.045	21.4	8.1										
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.56		**Scaling Factor:**	12.6													
1	9808-588	133.Inf.A-1	8/31/98	15:00	8/31/98	15:00		0.05	1											97	167	105	
2	9808-589	133.Inf.A-2	9/8/98	13:15	9/8/98	13:15		7.98	100											94	162	100	
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.56		**Scaling Factor:**	12.6													
1	9808-590	133.Inf.B-1	8/31/98	15:00	8/31/98	15:00		0.05	1	3.49	0.078	22.5	7.6	3.80	0.55	3.25	26.0	7.39	18.2				0.15
2	9808-591	133.Inf.B-2	9/3/98	8:45	9/3/98	8:45		2.79	35	3.55		17.5	7.5										
3	9808-592	133.Inf.B-3	9/5/98	12:05	9/5/98	12:05		4.93	62	3.48		17.4	7.6										
4	9808-593	133.Inf.B-4	9/8/98	13:20	9/8/98	13:20		7.98	100	3.42	0.078	16.8	7.6	4.05	0.79	3.26	26.3	7.35	17.9				0.20
5	9808-594	133.Inf.B-5	9/15/98	15:50	9/15/98	15:50		15.09	190	3.42		18.7	7.6										
6	9808-595	133.Inf.B-6	9/17/98	14:00	9/17/98	14:00		17.01	214	3.38	0.078	18.3	7.6	4.05	0.71	3.34	26.2	7.35	18.1				0.35
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9808-481	Filtered at S&H	8/27/98	0:00						3.41													
2	9808-440	Filtered	8/20/98	10:47						3.29													
3	9808-441	Settled	8/20/98	10:40						3.62													
4	9808-442	Raw	8/20/98	10:21						3.90													
5	9808-480	Settled at S&H	8/27/98	0:00						3.53													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 7.4 **Temperature:** 27.0 ºC **Holding time:** 18.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT#3

Client: City of Escondido **Study#:** 133

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
13	9808-577	133.20.Eff-30	215	2.58																			
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.56		**Scaling Factor:**	12.6													
1	9808-588	133.Inf.A-1	1																			ND	96
2	9808-589	133.Inf.A-2	100																			ND	96
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.56		**Scaling Factor:**	12.6													
1	9808-590	133.Inf.B-1	1	3.49	305	50.3	14.5	35.3	1.3	**101.4**	ND	18	24	ND	3	11	19	5	ND	**56**	**80**		
2	9808-591	133.Inf.B-2	35	3.55																			
3	9808-592	133.Inf.B-3	62	3.48																			
4	9808-593	133.Inf.B-4	100	3.42	328	56.3	14.1	36.0	ND	**106.4**	ND	18	25	1	3	11	18	5	ND	**58**	**81**		
5	9808-594	133.Inf.B-5	190	3.42																			
6	9808-595	133.Inf.B-6	214	3.38	319	53.2	15.5	37.1	1.5	**107.3**	3	22	25	1	3	13	17	5		**68**			
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9808-481	Filtered at S&H		3.41																			
2	9808-440	Filtered		3.29																			
3	9808-441	Settled		3.62																			
4	9808-442	Raw		3.90																			
5	9808-480	Settled at S&H		3.53																			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: City of Escondido **Study#:** 208

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
Effluent C	**EBCT:** 10 min	**Carbon Type:** Bituminous	**Influent pH:** 7.4	**Scaling Factor:** 12.6																	
1	9901-126	208.10.Eff-1	1/19/99 17:36	1/19/99 21:54		0.14	2	0.10	0.001	21.7	8.1	1.60	0.74	0.86	17.7	7.43	24.1				
2	9901-132	208.10.Eff-7	1/21/99 5:01	1/21/99 9:26		1.61	20	0.31	0.002	21.0	7.8	1.80	0.76	1.04	17.7	7.42	24.2				
3	9901-135	208.10.Eff-10	1/21/99 18:18	1/21/99 22:44		2.17	27	0.48	0.004	21.5	7.9	1.99	0.88	1.11	17.6	7.39	23.9				
3d	9901-159	208.10.Eff-10d	1/21/99 18:18	1/21/99 22:44		2.17	27	0.48	0.004	21.5	8.0	1.99	0.77	1.22	17.6	7.39	23.9				
4	9901-137	208.10.Eff-12	1/22/99 3:09	1/22/99 7:33		2.54	32	0.70	0.006	21.0	8.0	2.16	0.94	1.22	17.6	7.38	23.9				
5	9901-138	208.10.Eff-13	1/22/99 7:33	1/22/99 11:57		2.72	34	0.85	0.007	21.6	7.9	2.28	1.01	1.27	17.6	7.38	24.0				
6	9901-140	208.10.Eff-15	1/22/99 16:30	1/22/99 20:37		3.09	39	1.07	0.010	23.1	7.9	2.46	1.04	1.42	17.6	7.41	24.0				
7	9901-144	208.10.Eff-19	1/23/99 7:26	1/23/99 11:50		3.71	47	1.23	0.012	21.3	8.0	2.60	1.08	1.52	17.6	7.40	24.0				
7d	9901-161	208.10.Eff-19d	1/23/99 7:26	1/23/99 11:50		3.71	47	1.27	0.013	21.3	8.0	2.60	1.09	1.51	17.6	7.39	24.1				
8	9901-145	208.10.Eff-20	1/24/99 5:18	1/24/99 9:40		4.62	58	1.52	0.017	22.0	8.0	2.46	0.97	1.49	17.7	7.44	23.9				
9	9901-147	208.10.Eff-22	1/24/99 18:03	1/24/99 22:53		5.17	65	1.67	0.018	22.2	8.0	2.54	0.98	1.56	17.7	7.43	23.9				
10	9901-150	208.10.Eff-25	1/25/99 16:41	1/25/99 21:08		6.10	77	1.85	0.021	21.2	8.0	2.65	0.94	1.71	17.7	7.43	23.9				
10d	9901-163	208.10.Eff-25d	1/25/99 16:41	1/25/99 21:08		6.10	77	1.90	0.021	21.2	8.1	2.65	0.91	1.74	17.7	7.44	24.0				
11	9901-153	208.10.Eff-28	1/26/99 10:21	1/26/99 14:48		6.84	86	1.98	0.023	21.4	7.9	2.71	0.91	1.80	17.7	7.43	24.0				
12	9901-154	208.10.Eff-29	1/27/99 22:07	1/28/99 2:36		8.33	105	2.25	0.027	22.4	8.0	2.70	0.83	1.87	17.9	7.38	24.0				
13	9901-155	208.10.Eff-30	1/29/99 5:12	1/29/99 9:38		9.62	121	2.36	0.029	21.9	7.9										
Effluent C	**EBCT:** 20 min	**Carbon Type:** Bituminous	**Influent pH:** 7.4	**Scaling Factor:** 12.6																	
1	9901-166	208.20.Eff-1	1/19/99 17:36	1/19/99 21:55		0.14	2	0.10	0.000	21.8	8.4	1.60	0.72	0.88	17.7	7.49	24.3				
2	9901-170	208.20.Eff-5	1/23/99 6:44	1/23/99 11:15		3.69	46	0.30	0.002	21.2	8.0	1.83	0.84	0.99	17.6	7.40	24.1				
3	9901-172	208.20.Eff-7	1/24/99 14:32	1/24/99 19:04		5.01	63	0.51	0.004	22.1	7.9	2.00	0.97	1.03	17.6	7.41	24.1				
3d	9901-196	208.20.Eff-7d	1/24/99 14:32	1/24/99 19:04		5.01	63	0.52	0.004	22.1	8.0	2.00	0.97	1.03	17.6	7.40	24.1				
4	9901-176	208.20.Eff-11	1/25/99 8:47	1/25/99 13:21		5.77	73	0.70	0.006	21.2	7.9	2.01	1.11	0.90	17.7	7.43	24.0				
5	9901-178	208.20.Eff-13	1/26/99 3:00	1/26/99 7:37		6.53	82	0.91	0.009	21.3	8.0	2.13	1.01	1.12	17.7	7.43	24.0				
6	9901-180	208.20.Eff-15	1/27/99 6:14	1/27/99 10:49		7.67	96	1.08	0.010	21.8	7.8	2.15	1.04	1.11	17.9	7.40	24.0				
7	9901-183	208.20.Eff-18	1/28/99 9:31	1/28/99 14:11		8.81	111	1.31	0.013	22.2	7.8	2.25	1.13	1.12	17.9	7.39	24.0				
8	9901-185	208.20.Eff-20	1/30/99 6:57	1/30/99 11:33		10.70	134	1.52	0.016	21.8	8.0	2.35	1.00	1.35	17.9	7.38	24.0				
8d	9901-199	208.20.Eff-20d	1/30/99 6:57	1/30/99 11:33		10.70	134	1.49	0.016	21.9	7.9	2.35	1.02	1.33	17.9	7.39	24.0				
9	9901-186	208.20.Eff-21	2/1/99 4:25	2/1/99 8:57		12.59	158	1.66	0.019	21.9	7.9	2.12	0.79	1.33	17.8	7.40	24.0				
10	9901-190	208.20.Eff-25	2/5/99 8:05	2/5/99 12:38		16.74	210	1.95	0.023	21.7	7.8	2.20	0.87	1.33	17.9	7.37	24.1				
10d	9901-200	208.20.Eff-25d	2/5/99 8:05	2/5/99 12:38		16.74	210	1.95	0.023	21.7	7.9	2.20	0.87	1.33	17.9	7.40	24.2				
11	9901-192	208.20.Eff-27	2/7/99 13:26	2/7/99 17:51		18.96	238	2.21	0.027	21.8	8.0	2.27	0.82	1.45	17.9	7.41	24.2				
12	9901-194	208.20.Eff-29	2/9/99 14:22	2/9/99 18:44		21.00	264	2.33	0.030	23.8	8.0	2.44	0.96	1.48	17.9	7.41	24.0				

ND: Non-detect. Blank Results: Either analysis was not performed or result did not meet ICR QC requirements.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: City of Escondido **Study#:** 208

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 7.4			**Scaling Factor:** 12.6														
1	9901-126	208.10.Eff-1	2	0.10	2	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9901-132	208.10.Eff-7	20	0.31	7	ND	1.1	ND	ND	**1.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9901-135	208.10.Eff-10	27	0.48	12	ND	2.6	1.8	ND	**4.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3d	9901-159	208.10.Eff-10d	27	0.48	19	1.2	3.4	2.5	1.2	**8.3**	ND	ND	ND	ND	ND	ND	1	ND	ND	**ND**	**1**		
4	9901-137	208.10.Eff-12	32	0.70	23	1.3	4.1	3.0	1.1	**9.5**	2	1	ND	ND	1	1	2	ND	ND	**6**	**8**		
5	9901-138	208.10.Eff-13	34	0.85	27	1.9	5.5	4.4	1.2	**13.0**	2	2	1	ND	1	2	2	ND	ND	**8**	**10**		
6	9901-140	208.10.Eff-15	39	1.07	42	3.2	8.1	7.0	1.7	**20.0**	3	2	2	ND	2	3	3	2	ND	**11**	**16**		
7	9901-144	208.10.Eff-19	47	1.23	53	4.3	9.1	8.9	1.6	**23.9**	3	3	2	ND	2	4	4	3	ND	**14**	**20**		
7d	9901-161	208.10.Eff-19d	47	1.27	55	4.3	9.5	9.0	1.3	**24.1**	3	3	2	ND	2	4	4	2	ND	**14**	**20**		
8	9901-145	208.10.Eff-20	58	1.52	71	6.1	11.4	12.1	1.9	**31.4**	ND	3	3	ND	3	4	5	3	ND	**13**	**21**		
9	9901-147	208.10.Eff-22	65	1.67	79	7.5	12.1	13.9	1.7	**35.2**	ND	4	4	ND	3	5	5	3	ND	**15**	**24**		
10	9901-150	208.10.Eff-25	77	1.85	93	9.1	13.6	16.0	2.3	**41.0**	ND	4	5	ND	3	5	6	3	ND	**17**	**26**		
10d	9901-163	208.10.Eff-25d	77	1.90	93	9.5	14.0	16.8	2.2	**42.6**	ND	4	5	ND	3	5	6	3	ND	**17**	**26**		
11	9901-153	208.10.Eff-28	86	1.98	104	10.0	13.1	16.4	1.7	**41.1**	ND	5	5	1	3	5	7	3	ND	**19**	**29**		
12	9901-154	208.10.Eff-29	105	2.25	115	9.0	11.3	14.6	1.5	**36.4**	3	5	6	ND	3	6	8	3	ND	**22**	**33**		
13	9901-155	208.10.Eff-30	121	2.36																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 7.4			**Scaling Factor:** 12.6														
1	9901-166	208.20.Eff-1	2	0.10	1	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9901-170	208.20.Eff-5	46	0.30	4	ND	1.5	1.0	ND	**2.5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9901-172	208.20.Eff-7	63	0.51	14	ND	3.2	2.1	1.2	**6.5**	ND	ND	ND	ND	1	1	ND	ND	ND	**2**	**2**		
3d	9901-196	208.20.Eff-7d	63	0.52	15	ND	3.2	2.1	1.1	**6.4**	ND	ND	ND	ND	ND	1	1	ND	ND	**1**	**2**		
4	9901-176	208.20.Eff-11	73	0.70	22	1.7	6.5	4.5	1.9	**14.5**	2	1	ND	ND	1	2	2	ND	ND	**6**	**8**		
5	9901-178	208.20.Eff-13	82	0.91	32	1.9	6.9	4.9	1.7	**15.5**	ND	2	1	ND	2	2	2	ND	ND	**7**	**9**		
6	9901-180	208.20.Eff-15	96	1.08	41	2.0	6.8	4.9	2.0	**15.8**	ND	2	1	ND	2	3	3	3	ND	**8**	**14**		
7	9901-183	208.20.Eff-18	111	1.31	51	2.6	8.8	6.6	2.2	**20.2**	2	2	2	ND	3	4	4	3	ND	**13**	**19**		
8	9901-185	208.20.Eff-20	134	1.52	69	4.3	10.4	9.5	2.3	**26.5**	ND	3	3	ND	3	5	5	3	ND	**14**	**22**		
8d	9901-199	208.20.Eff-20d	134	1.49	67	4.1	10.0	9.0	2.1	**25.2**	3	3	3	ND	3	5	5	3	ND	**16**	**25**		
9	9901-186	208.20.Eff-21	158	1.66	79	5.0	10.6	10.7	2.0	**28.3**	ND	3	4	ND	3	5	5	5	ND	**15**	**25**		
10	9901-190	208.20.Eff-25	210	1.95	98	6.6	10.7	12.5	1.7	**31.5**	ND	4	5	ND	3	6	7	4	ND	**18**	**28**		
10d	9901-200	208.20.Eff-25d	210	1.95	99	7.4	12.5	14.1	2.2	**36.2**	ND	4	5	ND	3	6	8	4	ND	**18**	**30**		
11	9901-192	208.20.Eff-27	238	2.21	114	9.1	13.2	15.9	2.4	**40.6**	ND	5	6	ND	3	6	8	4	ND	**20**	**33**		
12	9901-194	208.20.Eff-29	264	2.33	129	10.8	14.4	18.2	2.1	**45.5**	ND	6	6	ND	3	7	9	4	ND	**22**	**34**		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: City of Escondido **Study#:** 208

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 (ºC)	pH	SDS Chlorination Conditions* Dose (mg/L)	Res. (mg/L)	Dem (mg/L)	Temp (ºC)	pH	Time hrs	Alk. (mg/L)	Hard-Tot (mg/L as CaCO3)	Hard-CA	Turb. (ntu)
13	9901-195	208.20.Eff-30	2/11/99	10:54	2/11/99	15:29		22.86	287	2.41	0.032	23.1	7.8	2.41	0.96	1.45	19.6	7.38	24.3				
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.4		**Scaling Factor:**	12.6													
1	9901-206	208.Inf.A-1	1/19/99	17:50	1/19/99	17:50		0.06	1											110	224	141	
2	9901-207	208.Inf.A-2	1/28/99	16:25	1/28/99	16:25		9.00	113											108	225	144	
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.4		**Scaling Factor:**	12.6													
1	9901-208	208.Inf.B-1	1/19/99	17:45	1/19/99	17:45		0.05	1	3.16	0.051	21.3	7.4										0.15
2	9901-209	208.Inf.B-2	1/23/99	12:40	1/23/99	12:40		3.84	48	3.09	0.051	17.4	7.5	4.40	1.71	2.69	17.7	7.36	24.0				0.25
3	9901-210	208.Inf.B-3	1/26/99	12:20	1/26/99	12:02		6.82	86	3.03		17.4	7.5										
4	9901-211	208.Inf.B-4	1/28/99	16:27	1/28/99	16:27		9.00	113	3.09	0.050	18.0	7.4	3.50	0.96	2.54	17.9	7.41	24.0				0.20
5	9901-212	208.Inf.B-5	2/2/99	11:25	2/2/99	11:25		13.79	173	3.04		18.9	7.4										
6	9901-213	208.Inf.B-6	2/8/99	14:08	2/8/99	14:08		19.90	250	3.11		20.0	7.4										
7	9901-214	208.Inf.B-7	2/10/99	13:55	2/10/99	13:55		21.89	275	3.02	0.051	19.2	7.5	3.30	0.83	2.47	17.9	7.38	24.0				0.30
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9901-17	Escondido.Raw	1/7/99	10:48	1/7/99	10:48				4.33													
2	9901-16	Escondido.Settled	1/7/99	11:08	1/7/99	11:08				3.25													
3	9901-15	Escondido.Filtered	1/7/99	11:14	1/7/99	11:14				3.02													
4	9901-116	Esc.Settled.on.Arrival	1/14/99	11:20	1/14/99	11:20				3.30													
5	9901-117	Esc.Filtered.on.Arrival	1/14/99	13:10	1/14/99	13:10				3.13													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 0.80 mg/L **pH:** 7.4 **Temperature:** 18.0 ºC **Holding time:** 24.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: City of Escondido **Study#:** 208

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L) CF	BDCM	DBCM	BF	TTHM	Haloacetic Acids (µg/L) MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	NH3-N (mg/L)	Brom (µg/L)
13	9901-195	208.20.Eff-30	287	2.41	131	10.9	13.2	17.1	2.2	**43.4**	ND	6	6	ND	3	7	8	4	ND	**22**	**34**		
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.4		**Scaling Factor:**	12.6													
1	9901-206	208.Inf.A-1	1																			ND	70
2	9901-207	208.Inf.A-2	113																			ND	70
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:**	7.4		**Scaling Factor:**	12.6													
1	9901-208	208.Inf.B-1	1	3.16																			
2	9901-209	208.Inf.B-2	48	3.09	211	29.2	12.0	26.2	ND	**67.4**	ND	11	14	1	2	7	11	4	ND	**36**	**50**		
3	9901-210	208.Inf.B-3	86	3.03																			
4	9901-211	208.Inf.B-4	113	3.09	201	21.4	10.9	21.5	1.2	**55.0**	2	10	12	1	2	8	11	4	ND	**35**	**50**		
5	9901-212	208.Inf.B-5	173	3.04																			
6	9901-213	208.Inf.B-6	250	3.11																			
7	9901-214	208.Inf.B-7	275	3.02	203	20.6	9.5	20.3	1.2	**51.6**	ND	10	12	ND	2	7	10	3	ND	**31**	**44**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:**			**Scaling Factor:**														
1	9901-17	Escondido.Raw		4.33																			
2	9901-16	Escondido.Settled		3.25		ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9901-15	Escondido.Filtered		3.02																			
4	9901-116	Esc.Settled.on.Arrival		3.30																			
5	9901-117	Esc.Filtered.on.Arrival		3.13																			

Summers & Hooper, Inc.
6 Knollcrest Drive
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Laboratory Report

Client:

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study Title: ICR RSSCT #1

Study #: 109

Reviewed By: _____
Stuart M. Hooper

Date Reviewed: 7/13/99

Electronic copies of the results and quality control data are available upon request.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
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Laboratory Test Results

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 109
Study Title: ICR RSSCT #1

Sample ID: Mixed Raw **S&H ID:** 9802-315 **Date Sampled:** 2/26/98 8:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR	TOC	3.89	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
2	TOC-ICR	TOC (Dupl)	3.74	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
			3.82	**mg/L**	**3.9 % RPD**						

Sample ID: Settled Water (Drum #2) **S&H ID:** 9802-316 **Date Sampled:** 2/26/98 8:55:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR	TOC	3.66	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
4	TOC-ICR	TOC (Dupl)	3.64	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
			3.65	**mg/L**	**0.5 % RPD**						

Sample ID: Filtration Effluent **S&H ID:** 9802-317 **Date Sampled:** 2/26/98 9:27:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR	TOC	3.21	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
6	TOC-ICR	TOC (Dupl)	3.31	mg/L	SM 5310 C	1	0.50	2/26/98		3/4/98	7-0-204
			3.26	**mg/L**	**3.1 % RPD**						

Sample ID: Settled Water on Arrival **S&H ID:** 9803-7 **Date Sampled:** 3/3/98 11:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR	TOC	3.59	mg/L	SM 5310 C	1	0.50	3/3/98		3/4/98	7-0-204
8	TOC-ICR	TOC (Dupl)	3.59	mg/L	SM 5310 C	1	0.50	3/3/98		3/4/98	7-0-204
			3.59	**mg/L**	**0.0 % RPD**						

Sample ID: Filtered Water on Arrival **S&H ID:** 9803-10 **Date Sampled:** 3/4/98 12:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR	TOC	3.48	mg/L	SM 5310 C	1	0.50	3/4/98		3/4/98	7-0-204
10	TOC-ICR	TOC (Dupl)	3.45	mg/L	SM 5310 C	1	0.50	3/4/98		3/4/98	7-0-204
			3.46	**mg/L**	**0.9 % RPD**						

Sample ID: 109.INF.B-1 **S&H ID:** 9803-24 **Date Sampled:** 3/5/98 1:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	Cl2Dose	Chlorine Dose	2.89	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
12	Cl2Res	Chlorine Residual	1.02	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
13	HAA	Bromochloroacetic acid	8.1	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

14	HAA	Bromodichloroacetic acid	16.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
15	HAA	Chlorodibromoacetic acid	5.3	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
16	HAA	Dibromoacetic acid	2.8	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
17	HAA	Dichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
18	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
19	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
20	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
21	HAA	Trichloroacetic acid	16.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
22	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
23	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
24	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/5/98		3/5/98	n/a
25	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
26	TEMP	Temperature	19.7	ºC	SM 2550 B	1	n/a	3/5/98		3/5/98	n/a
27	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
28	TOC-ICR	TOC	3.10	mg/L	SM 5310 C	1	0.50	3/5/98		3/7/98	7-0-205
29	TOC-ICR	TOC (Dupl)	3.21	mg/L	SM 5310 C	1	0.50	3/5/98		3/7/98	7-0-205
			3.16	**mg/L**	**3.5 % RPD**						
30	TOX-ICR	TOX	201	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
31	TOX-ICR	TOX (Dupl)	188	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			195	**µg Cl-/L**	**6.7 % RPD**						
32	THM-ICR	1,2,3-Trichloropropane (Surrogate)	89.6	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
33	THM-ICR	Bromodichloromethane	21.2	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
34	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
35	THM-ICR	Chloroform	20.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
36	THM-ICR	Dibromochloromethane	11.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
37	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	3/5/98		3/6/98	9-0-7
38	UV-ICR	UV	0.061	1/cm	SM 5910 B	1	0.009	3/5/98		3/6/98	8-0-139
39	UV-ICR	UV (Dupl)	0.061	1/cm	SM 5910 B	1	0.009	3/5/98		3/6/98	8-0-139
			0.061	**1/cm**	**0.0 % RPD**						

Sample ID: 109.INF.A-1 **S&H ID:** 9803-25 **Date Sampled:** 3/5/98 4:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
40	ALK	Alkalinity	113	mg/L	SM 2320 B	1	5	3/5/98		3/6/98	1-0-15
41	ALK	Alkalinity (Dupl)	113	mg/L	SM 2320 B	1	5	3/5/98		3/6/98	1-0-15
			113	**mg/L**	**0.0 % RPD**						
42	NH3	Ammonia Nitrogen	0.06	mg/L	EPA 350.1	1	0.05	3/5/98		3/24/98	MW75097
43	BR	Bromide	0.069	mg/L	EPA 300.0 A	2	0.040	3/5/98		3/18/98	MW74772
44	CaHard	Calcium Hardness	233	mg/L CaCO3	SM 3500-Ca D	1	10	3/5/98		3/6/98	33-0-15
45	CaHard	Calcium Hardness (Dupl)	235	mg/L CaCO3	SM 3500-Ca D	1	10	3/5/98		3/6/98	33-0-15

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

			234	**mg/L CaCO3**	**0.9 % RPD**						
46	TotHard	Total Hardness	255	mg/L CaCO3	SM 2340 C	1	5	3/5/98		3/6/98	3-0-15
47	TotHard	Total Hardness (Dupl)	260	mg/L CaCO3	SM 2340 C	1	5	3/5/98		3/6/98	3-0-15
			258	**mg/L CaCO3**	**1.9 % RPD**						

Sample ID: 109.10.Eff-1 **S&H ID:** 9803-26 **Date Sampled:** 3/5/98 5:49:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
48	Cl2Dose	Chlorine Dose	1.24	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
49	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
50	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
51	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
52	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
53	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
54	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
55	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
56	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
57	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
58	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
59	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
60	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
61	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	3/5/98		3/5/98	n/a
62	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
63	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	3/5/98		3/5/98	n/a
64	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
65	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	3/5/98		3/7/98	7-0-205
66	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	3/5/98		3/7/98	7-0-205
			ND	**mg/L**							
67	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
68	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
69	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
70	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
71	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
72	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
73	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
74	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/5/98		3/6/98	8-0-139
75	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/5/98		3/6/98	8-0-139
			ND	**1/cm**							

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Sample ID: 109.20.Eff-1 **S&H ID:** 9803-29 **Date Sampled:** 3/5/98 6:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
76	Cl2Dose	Chlorine Dose	1.23	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
77	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
78	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
79	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
80	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
81	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
82	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
83	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
84	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
85	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
86	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
87	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
88	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
89	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	3/5/98		3/5/98	n/a
90	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
91	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	3/5/98		3/5/98	n/a
92	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
93	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
94	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
			ND	**mg/L**							
95	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
96	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
97	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
98	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
99	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
100	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
101	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
102	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/6/98	8-0-139
103	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/6/98	8-0-139
			ND	**1/cm**							

Sample ID: 109.10.Eff-4 **S&H ID:** 9803-38 **Date Sampled:** 3/6/98 11:48:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
104	Cl2Dose	Chlorine Dose	1.33	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
105	Cl2Res	Chlorine Residual	0.70	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

106	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
107	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
108	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
109	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
110	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
111	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
112	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
113	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
114	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
115	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
116	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
117	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/6/98		3/6/98	n/a
118	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
119	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	3/6/98		3/6/98	n/a
120	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
121	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
122	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
			ND	**mg/L**							
123	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
124	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
125	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.4	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
126	THM-ICR	Bromodichloromethane	1.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
127	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
128	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
129	THM-ICR	Dibromochloromethane	2.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
130	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/6/98	8-0-139
131	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/6/98	8-0-139
			ND	**1/cm**							

Sample ID: 109.10.Eff-6 **S&H ID:** 9803-46 **Date Sampled:** 3/6/98 10:13:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
132	Cl2Dose	Chlorine Dose	1.44	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
133	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
134	HAA	Bromochloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
135	HAA	Bromodichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
136	HAA	Chlorodibromoacetic acid	2.2	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
137	HAA	Dibromoacetic acid	1.6	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
138	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

139	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
140	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
141	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
142	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
143	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
144	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
145	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/6/98		3/6/98	n/a
146	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
147	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	3/6/98		3/6/98	n/a
148	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
149	TOC-ICR	TOC	0.53	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
150	TOC-ICR	TOC (Dupl)	0.56	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
			0.55	**mg/L**	**5.5 % RPD**						
151	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
152	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
153	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
154	THM-ICR	Bromodichloromethane	1.9	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
155	THM-ICR	Bromoform	2.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
156	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
157	THM-ICR	Dibromochloromethane	3.7	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
158	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/8/98	8-0-140
159	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/8/98	8-0-140
			ND	**1/cm**							

Sample ID: 109.10.Eff-6d **S&H ID:** 9803-47 **Date Sampled:** 3/6/98 10:13:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
160	Cl2Dose	Chlorine Dose	1.44	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
161	Cl2Res	Chlorine Residual	0.75	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
162	HAA	Bromochloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
163	HAA	Bromodichloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
164	HAA	Chlorodibromoacetic acid	2.2	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
165	HAA	Dibromoacetic acid	1.5	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
166	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
167	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
168	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
169	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
170	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
171	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

172	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
173	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/6/98		3/6/98	n/a
174	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
175	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	3/6/98		3/6/98	n/a
176	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
177	TOC-ICR	TOC	0.54	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
178	TOC-ICR	TOC (Dupl)	0.55	mg/L	SM 5310 C	1	0.50	3/6/98		3/7/98	7-0-205
			0.55	**mg/L**	**1.8 % RPD**						
179	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
180	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
181	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
182	THM-ICR	Bromodichloromethane	2.0	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
183	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
184	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
185	THM-ICR	Dibromochloromethane	3.9	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
186	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/8/98	8-0-140
187	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/6/98		3/8/98	8-0-140
			ND	**1/cm**							

Sample ID: 109.10.Eff-7 **S&H ID:** 9803-48 **Date Sampled:** 3/7/98 3:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
188	Cl2Dose	Chlorine Dose	1.55	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
189	Cl2Res	Chlorine Residual	0.71	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
190	HAA	Bromochloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
191	HAA	Bromodichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
192	HAA	Chlorodibromoacetic acid	2.6	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
193	HAA	Dibromoacetic acid	2.1	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
194	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
195	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
196	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
197	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
198	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
199	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
200	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
201	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
202	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
203	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
204	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

205	TOC-ICR	TOC	0.77	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
206	TOC-ICR	TOC (Dupl)	0.72	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
			0.75	**mg/L**	**6.7 % RPD**						
207	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
208	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
			ND	**µg Cl-/L**							
209	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
210	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	92.0	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
			92.6	**%**	**1.3 % RPD**						
211	THM-ICR	Bromodichloromethane	2.5	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
212	THM-ICR	Bromodichloromethane (Lab Dupl)	2.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
			2.5	**µg/L**	**4.0 % RPD**						
213	THM-ICR	Bromoform	2.9	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
214	THM-ICR	Bromoform (Lab Dupl)	3.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
			3.0	**µg/L**	**6.7 % RPD**						
215	THM-ICR	Chloroform	1.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
216	THM-ICR	Chloroform (Lab Dupl)	1.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
			1.1	**µg/L**	**0.0 % RPD**						
217	THM-ICR	Dibromochloromethane	5.3	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
218	THM-ICR	Dibromochloromethane (Lab Dupl)	5.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
			5.4	**µg/L**	**5.6 % RPD**						
219	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
220	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
			ND	**1/cm**							

Sample ID: 109.INF.B-2 **S&H ID:** 9803-51 **Date Sampled:** 3/7/98 8:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
221	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
222	TEMP	Temperature	16.9	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
223	TOC-ICR	TOC	3.13	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
224	TOC-ICR	TOC (Dupl)	3.11	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
			3.12	**mg/L**	**0.6 % RPD**						

Sample ID: 109.10.Eff-9 **S&H ID:** 9803-52 **Date Sampled:** 3/7/98 9:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
225	Cl2Dose	Chlorine Dose	1.68	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
226	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
227	HAA	Bromochloroacetic acid	2.4	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
228	HAA	Bromodichloroacetic acid	2.6	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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229	HAA	Chlorodibromoacetic acid	3.3	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
230	HAA	Dibromoacetic acid	2.5	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
231	HAA	Dichloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
232	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
233	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
234	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
235	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
236	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
237	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
238	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
239	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
240	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
241	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
242	TOC-ICR	TOC	1.00	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
243	TOC-ICR	TOC (Dupl)	0.97	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
			0.98	**mg/L**	**3.1 % RPD**						
244	TOX-ICR	TOX	33	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
245	TOX-ICR	TOX (Dupl)	34	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
			34	**µg Cl-/L**	**2.9 % RPD**						
246	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
247	THM-ICR	Bromodichloromethane	4.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
248	THM-ICR	Bromoform	3.7	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
249	THM-ICR	Chloroform	1.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
250	THM-ICR	Dibromochloromethane	7.7	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
251	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
252	UV-ICR	UV (Dupl)	0.011	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
			0.011	**1/cm**	**0.0 % RPD**						

Sample ID: 109.10.Eff-10d **S&H ID:** 9803-55 **Date Sampled:** 3/7/98 2:06:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
253	Cl2Dose	Chlorine Dose	1.76	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
254	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
255	HAA	Bromochloroacetic acid	2.8	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
256	HAA	Bromodichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
257	HAA	Chlorodibromoacetic acid	3.7	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
258	HAA	Dibromoacetic acid	2.7	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
259	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
260	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
261	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
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262	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
263	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
264	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
265	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
266	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
267	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
268	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
269	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
270	TOC-ICR	TOC	1.10	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
271	TOC-ICR	TOC (Dupl)	1.13	mg/L	SM 5310 C	1	0.50	3/7/98		3/7/98	7-0-205
			1.12	**mg/L**	**2.7 % RPD**						
272	TOX-ICR	TOX	44	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
273	TOX-ICR	TOX (Dupl)	40	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/11/98	12-0-102
			42	**µg Cl-/L**	**9.5 % RPD**						
274	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
275	THM-ICR	Bromodichloromethane	4.8	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
276	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
277	THM-ICR	Chloroform	1.9	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
278	THM-ICR	Dibromochloromethane	8.5	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
279	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
280	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	3/7/98		3/8/98	8-0-140
			0.013	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-6 **S&H ID:** 9803-59 **Date Sampled:** 3/8/98 3:17:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
281	Cl2Dose	Chlorine Dose	1.34	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/8/98		3/8/98	n/a
282	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/8/98		3/9/98	n/a
283	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
284	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
285	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
286	HAA	Dibromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
287	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
288	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
289	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/9/98	3/11/98	3/14/98	MW74711
290	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/9/98	3/11/98	3/14/98	MW74711
291	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/9/98	3/11/98	3/14/98	MW74711
292	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/9/98	n/a
293	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
294	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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295	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/8/98		3/9/98	n/a
296	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	3/8/98		3/8/98	n/a
297	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/8/98		3/9/98	n/a
298	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	3/8/98		3/8/98	7-0-206
299	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	3/8/98		3/8/98	7-0-206
			ND	**mg/L**							
300	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
301	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/9/98		3/10/98	12-0-101
			ND	**µg Cl-/L**							
302	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.2	%	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
303	THM-ICR	Bromodichloromethane	1.1	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
304	THM-ICR	Bromoform	1.4	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
305	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
306	THM-ICR	Dibromochloromethane	2.3	µg/L	EPA 551.1	1	1.0	3/9/98	3/13/98	3/13/98	0-95-0
307	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
308	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
			ND	**1/cm**							

Sample ID: 109.10.Eff-11 **S&H ID:** 9803-60 **Date Sampled:** 3/7/98 10:02:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
309	Cl2Dose	Chlorine Dose	1.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
310	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
311	HAA	Bromochloroacetic acid	3.8	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
312	HAA	Bromodichloroacetic acid	4.0	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
313	HAA	Chlorodibromoacetic acid	3.7	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
314	HAA	Dibromoacetic acid	3.3	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
315	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
316	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
317	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
318	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
319	HAA	Trichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
320	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
321	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
322	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
323	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
324	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
325	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
326	TOC-ICR	TOC	1.31	mg/L	SM 5310 C	1	0.50	3/7/98		3/8/98	7-0-206
327	TOC-ICR	TOC (Dupl)	1.33	mg/L	SM 5310 C	1	0.50	3/7/98		3/8/98	7-0-206

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

			1.32	**mg/L**	**1.5 % RPD**						
328	TOX-ICR	TOX	50	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
329	TOX-ICR	TOX (Dupl)	51	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
			51	**µg Cl-/L**	**2.0 % RPD**						
330	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.8	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
331	THM-ICR	Bromodichloromethane	6.0	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
332	THM-ICR	Bromoform	3.8	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
333	THM-ICR	Chloroform	2.2	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
334	THM-ICR	Dibromochloromethane	10.0	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
335	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	3/7/98		3/9/98	8-0-141
336	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	3/7/98		3/9/98	8-0-141
			0.016	**1/cm**	**6.3 % RPD**						

Sample ID: 109.10.Eff-11d **S&H ID:** 9803-61 **Date Sampled:** 3/7/98 10:02:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
337	Cl2Dose	Chlorine Dose	1.83	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
338	Cl2Res	Chlorine Residual	0.93	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
339	HAA	Bromochloroacetic acid	3.9	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
340	HAA	Bromodichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
341	HAA	Chlorodibromoacetic acid	3.7	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
342	HAA	Dibromoacetic acid	3.6	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
343	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
344	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
345	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
346	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
347	HAA	Trichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
348	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
349	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
350	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/7/98		3/7/98	n/a
351	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
352	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	3/7/98		3/7/98	n/a
353	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
354	TOC-ICR	TOC	1.28	mg/L	SM 5310 C	1	0.50	3/7/98		3/8/98	7-0-206
355	TOC-ICR	TOC (Dupl)	1.28	mg/L	SM 5310 C	1	0.50	3/7/98		3/8/98	7-0-206
			1.28	**mg/L**	**0.0 % RPD**						
356	TOX-ICR	TOX	61	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
357	TOX-ICR	TOX (Dupl)	52	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
			57	**µg Cl-/L**	**15.8 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

358	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
359	THM-ICR	Bromodichloromethane	5.8	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
360	THM-ICR	Bromoform	3.8	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
361	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
362	THM-ICR	Dibromochloromethane	10.1	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
363	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	3/7/98		3/9/98	8-0-141
364	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	3/7/98		3/9/98	8-0-141
			0.016	**1/cm**	**0.0 % RPD**						

Sample ID: 109.10.Eff-13 **S&H ID:** 9803-64 **Date Sampled:** 3/8/98 5:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
365	Cl2Dose	Chlorine Dose	1.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
366	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
367	HAA	Bromochloroacetic acid	4.6	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
368	HAA	Bromodichloroacetic acid	5.2	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
369	HAA	Chlorodibromoacetic acid	4.3	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
370	HAA	Dibromoacetic acid	3.8	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
371	HAA	Dichloroacetic acid	2.5	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
372	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
373	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
374	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
375	HAA	Trichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
376	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
377	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
378	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
379	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
380	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	3/8/98		3/8/98	n/a
381	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
382	TOC-ICR	TOC	1.45	mg/L	SM 5310 C	1	0.50	3/8/98		3/8/98	7-0-206
383	TOC-ICR	TOC (Dupl)	1.46	mg/L	SM 5310 C	1	0.50	3/8/98		3/8/98	7-0-206
			1.46	**mg/L**	**0.7 % RPD**						
384	TOX-ICR	TOX	64	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
385	TOX-ICR	TOX (Dupl)	69	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
			67	**µg Cl-/L**	**7.5 % RPD**						
386	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
387	THM-ICR	Bromodichloromethane	7.9	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
388	THM-ICR	Bromoform	4.2	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
389	THM-ICR	Chloroform	3.2	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

390	THM-ICR	Dibromochloromethane	12.2	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
391	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
392	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
			0.019	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-9 **S&H ID:** 9803-69 **Date Sampled:** 3/8/98 6:58:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
393	Cl2Dose	Chlorine Dose	1.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
394	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
395	HAA	Bromochloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
396	HAA	Bromodichloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
397	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
398	HAA	Dibromoacetic acid	1.3	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
399	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
400	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
401	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
402	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
403	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
404	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
405	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
406	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
407	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
408	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	3/8/98		3/8/98	n/a
409	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
410	TOC-ICR	TOC	0.57	mg/L	SM 5310 C	1	0.50	3/8/98		3/9/98	7-0-207
411	TOC-ICR	TOC (Dupl)	0.56	mg/L	SM 5310 C	1	0.50	3/8/98		3/9/98	7-0-207
			0.56	**mg/L**	**1.8 % RPD**						
412	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
413	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
			ND	**µg Cl-/L**							
414	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
415	THM-ICR	Bromodichloromethane	1.7	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
416	THM-ICR	Bromoform	2.1	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
417	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
418	THM-ICR	Dibromochloromethane	3.6	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
419	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
420	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	3/8/98		3/9/98	8-0-141
			ND	**1/cm**							

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Sample ID: 109.10.Eff-14 **S&H ID:** 9803-71 **Date Sampled:** 3/8/98 4:06:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
421	Cl2Dose	Chlorine Dose	2.04	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
422	Cl2Res	Chlorine Residual	0.92	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
423	HAA	Bromochloroacetic acid	5.4	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
424	HAA	Bromodichloroacetic acid	6.4	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
425	HAA	Chlorodibromoacetic acid	4.6	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
426	HAA	Dibromoacetic acid	3.7	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
427	HAA	Dichloroacetic acid	2.9	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
428	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
429	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
430	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
431	HAA	Trichloroacetic acid	2.9	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
432	pH	Cl2 pH - Final	7.6	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
433	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
434	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	3/8/98		3/8/98	n/a
435	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
436	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	3/8/98		3/8/98	n/a
437	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
438	TOC-ICR	TOC	1.67	mg/L	SM 5310 C	1	0.50	3/8/98		3/9/98	7-0-207
439	TOC-ICR	TOC (Dupl)	1.69	mg/L	SM 5310 C	1	0.50	3/8/98		3/9/98	7-0-207
			1.68	**mg/L**	**1.2 % RPD**						
440	TOX-ICR	TOX	101	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
441	TOX-ICR	TOX (Dupl)	99	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
			100	**µg Cl-/L**	**2.0 % RPD**						
442	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
443	THM-ICR	Bromodichloromethane	9.6	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
444	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
445	THM-ICR	Chloroform	4.2	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
446	THM-ICR	Dibromochloromethane	13.4	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
447	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	3/8/98		3/10/98	8-0-142
448	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	3/8/98		3/10/98	8-0-142
			0.023	**1/cm**	**0.0 % RPD**						

Sample ID: 109.10.Eff-17 **S&H ID:** 9803-74 **Date Sampled:** 3/9/98 7:39:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
449	Cl2Dose	Chlorine Dose	2.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
450	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

451	HAA	Bromochloroacetic acid	6.3	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
452	HAA	Bromodichloroacetic acid	7.3	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
453	HAA	Chlorodibromoacetic acid	5.2	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
454	HAA	Dibromoacetic acid	4.1	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
455	HAA	Dichloroacetic acid	3.7	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
456	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
457	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
458	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
459	HAA	Trichloroacetic acid	4.0	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
460	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
461	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
462	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	3/9/98		3/9/98	n/a
463	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
464	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	3/9/98		3/9/98	n/a
465	TIME	Cl2 Incubation Time	23.8	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
466	TOC-ICR	TOC	1.86	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
467	TOC-ICR	TOC	1.91	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
468	TOC-ICR	TOC (Dupl)	1.86	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
469	TOC-ICR	TOC (Dupl)	1.86	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
			1.87	**mg/L**	**1.3 % RPD**						
470	TOX-ICR	TOX	92	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
471	TOX-ICR	TOX (Dupl)	92	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/11/98	12-0-102
			92	**µg Cl-/L**	**0.0 % RPD**						
472	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
473	THM-ICR	Bromodichloromethane	10.5	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
474	THM-ICR	Bromoform	3.4	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
475	THM-ICR	Chloroform	4.8	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
476	THM-ICR	Dibromochloromethane	13.5	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
477	UV-ICR	UV	0.026	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
478	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
			0.026	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-11 **S&H ID:** 9803-75 **Date Sampled:** 3/9/98 10:48:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
479	Cl2Dose	Chlorine Dose	1.56	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
480	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
481	HAA	Bromochloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
482	HAA	Bromodichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
483	HAA	Chlorodibromoacetic acid	2.1	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

484	HAA	Dibromoacetic acid	1.8	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
485	HAA	Dichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
486	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
487	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
488	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184
489	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
490	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
491	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
492	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/9/98		3/9/98	n/a
493	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
494	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	3/9/98		3/9/98	n/a
495	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
496	TOC-ICR	TOC	0.73	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
497	TOC-ICR	TOC (Dupl)	0.75	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
			0.74	**mg/L**	**2.7 % RPD**						
498	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
499	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
			ND	**µg Cl-/L**							
500	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
501	THM-ICR	Bromodichloromethane	2.4	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
502	THM-ICR	Bromoform	2.8	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
503	THM-ICR	Chloroform	1.1	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
504	THM-ICR	Dibromochloromethane	4.9	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/13/98	0-95-0
505	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
506	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
			0.009	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-11d **S&H ID:** 9803-76 **Date Sampled:** 3/9/98 10:48:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
507	Cl2Dose	Chlorine Dose	1.57	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/10/98		3/10/98	n/a
508	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/10/98		3/11/98	n/a
509	HAA	Bromochloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
510	HAA	Bromodichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
511	HAA	Chlorodibromoacetic acid	2.1	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
512	HAA	Dibromoacetic acid	1.9	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
513	HAA	Dichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
514	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
515	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/11/98	3/18/98	3/21/98	MW75184
516	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/11/98	3/18/98	3/21/98	MW75184

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

517	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/11/98	3/18/98	3/21/98	MW75184
518	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/11/98	n/a
519	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
520	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/9/98		3/9/98	n/a
521	TEMP	Cl2 Temperature	15.0	ºC	SM 2550 B	1	n/a	3/10/98		3/11/98	n/a
522	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	3/9/98		3/9/98	n/a
523	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/10/98		3/11/98	n/a
524	TOC-ICR	TOC	0.74	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
525	TOC-ICR	TOC (Dupl)	0.76	mg/L	SM 5310 C	1	0.50	3/9/98		3/9/98	7-0-207
			0.75	**mg/L**	**2.7 % RPD**						
526	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
527	TOX-ICR	TOX (Dupl)	25	µg Cl-/L	SM 5320 B	1	25	3/11/98		3/12/98	12-0-103
			ND	**µg Cl-/L**							
528	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	3/11/98	3/13/98	3/14/98	0-95-0
529	THM-ICR	Bromodichloromethane	2.4	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/14/98	0-95-0
530	THM-ICR	Bromoform	2.9	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/14/98	0-95-0
531	THM-ICR	Chloroform	1.0	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/14/98	0-95-0
532	THM-ICR	Dibromochloromethane	5.0	µg/L	EPA 551.1	1	1.0	3/11/98	3/13/98	3/14/98	0-95-0
533	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
534	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
			0.009	**1/cm**	**0.0 % RPD**						

Sample ID: 109.10.Eff-19 **S&H ID:** 9803-79 **Date Sampled:** 3/9/98 11:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
535	Cl2Dose	Chlorine Dose	2.22	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/11/98		3/11/98	n/a
536	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/11/98		3/12/98	n/a
537	HAA	Bromochloroacetic acid	6.8	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
538	HAA	Bromodichloroacetic acid	8.9	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
539	HAA	Chlorodibromoacetic acid	5.0	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
540	HAA	Dibromoacetic acid	3.9	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
541	HAA	Dichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
542	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
543	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
544	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/12/98	3/18/98	3/21/98	MW75184
545	HAA	Trichloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
546	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/12/98	n/a
547	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
548	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/9/98		3/9/98	n/a
549	TEMP	Cl2 Temperature	15.6	ºC	SM 2550 B	1	n/a	3/11/98		3/12/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

550	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/9/98		3/9/98	n/a
551	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/11/98		3/12/98	n/a
552	TOC-ICR	TOC	2.04	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
553	TOC-ICR	TOC (Dupl)	2.05	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
			2.04	**mg/L**	**0.5 % RPD**						
554	TOX-ICR	TOX	107	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/12/98	12-0-103
555	TOX-ICR	TOX (Dupl)	102	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/12/98	12-0-103
			105	**µg Cl-/L**	**4.8 % RPD**						
556	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
557	THM-ICR	Bromodichloromethane	14.2	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
558	THM-ICR	Bromoform	3.3	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
559	THM-ICR	Chloroform	7.3	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
560	THM-ICR	Dibromochloromethane	15.8	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
561	UV-ICR	UV	0.030	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
562	UV-ICR	UV (Dupl)	0.030	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
			0.030	**1/cm**	**0.0 % RPD**						

Sample ID: 109.10.Eff-19d **S&H ID:** 9803-80 **Date Sampled:** 3/9/98 11:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
563	Cl2Dose	Chlorine Dose	2.23	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/11/98		3/11/98	n/a
564	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/11/98		3/12/98	n/a
565	HAA	Bromochloroacetic acid	6.6	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
566	HAA	Bromodichloroacetic acid	9.3	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
567	HAA	Chlorodibromoacetic acid	5.3	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
568	HAA	Dibromoacetic acid	4.0	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
569	HAA	Dichloroacetic acid	4.4	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
570	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
571	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
572	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/12/98	3/18/98	3/21/98	MW75184
573	HAA	Trichloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
574	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/12/98	n/a
575	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
576	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/9/98		3/9/98	n/a
577	TEMP	Cl2 Temperature	15.6	ºC	SM 2550 B	1	n/a	3/11/98		3/12/98	n/a
578	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/9/98		3/9/98	n/a
579	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/11/98		3/12/98	n/a
580	TOC-ICR	TOC	2.05	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
581	TOC-ICR	TOC (Dupl)	2.08	mg/L	SM 5310 C	1	0.50	3/9/98		3/10/98	7-0-208
			2.06	**mg/L**	**1.5 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

582	TOX-ICR	TOX	110	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/12/98	12-0-103
583	TOX-ICR	TOX (Dupl)	107	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/12/98	12-0-103
			109	**µg Cl-/L**	**2.8 % RPD**						
584	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
585	THM-ICR	Bromodichloromethane	13.5	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
586	THM-ICR	Bromoform	3.1	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
587	THM-ICR	Chloroform	7.1	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
588	THM-ICR	Dibromochloromethane	15.2	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
589	UV-ICR	UV	0.031	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
590	UV-ICR	UV (Dupl)	0.031	1/cm	SM 5910 B	1	0.009	3/9/98		3/10/98	8-0-142
			0.031	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-13 **S&H ID:** 9803-84 **Date Sampled:** 3/10/98 2:29:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
591	Cl2Dose	Chlorine Dose	1.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/11/98		3/11/98	n/a
592	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/11/98		3/12/98	n/a
593	HAA	Bromochloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
594	HAA	Bromodichloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
595	HAA	Chlorodibromoacetic acid	2.8	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
596	HAA	Dibromoacetic acid	2.5	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
597	HAA	Dichloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
598	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
599	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/12/98	3/18/98	3/21/98	MW75184
600	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/12/98	3/18/98	3/21/98	MW75184
601	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/12/98	3/18/98	3/21/98	MW75184
602	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/12/98	n/a
603	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
604	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
605	TEMP	Cl2 Temperature	15.6	ºC	SM 2550 B	1	n/a	3/11/98		3/12/98	n/a
606	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	3/10/98		3/10/98	n/a
607	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/11/98		3/12/98	n/a
608	TOC-ICR	TOC	0.94	mg/L	SM 5310 C	1	0.50	3/10/98		3/10/98	7-0-208
609	TOC-ICR	TOC (Dupl)	0.95	mg/L	SM 5310 C	1	0.50	3/10/98		3/10/98	7-0-208
			0.94	**mg/L**	**1.1 % RPD**						
610	TOX-ICR	TOX	28	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/16/98	12-0-104
611	TOX-ICR	TOX (Dupl)	32	µg Cl-/L	SM 5320 B	1	25	3/12/98		3/16/98	12-0-104
			30	**µg Cl-/L**	**13.3 % RPD**						
612	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

613	THM-ICR	Bromodichloromethane	3.7	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
614	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
615	THM-ICR	Chloroform	1.4	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
616	THM-ICR	Dibromochloromethane	7.2	µg/L	EPA 551.1	1	1.0	3/12/98	3/13/98	3/14/98	0-95-0
617	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
618	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
			0.010	**1/cm**	**0.0 % RPD**						

Sample ID: 109.INF.B-3 **S&H ID:** 9803-86 **Date Sampled:** 3/10/98 8:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
619	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
620	TEMP	Temperature	17.6	ºC	SM 2550 B	1	n/a	3/10/98		3/10/98	n/a
621	TOC-ICR	TOC	3.09	mg/L	SM 5310 C	1	0.50	3/10/98		3/10/98	7-0-208
622	TOC-ICR	TOC (Dupl)	3.24	mg/L	SM 5310 C	1	0.50	3/10/98		3/10/98	7-0-208
			3.17	**mg/L**	**4.7 % RPD**						

Sample ID: 109.10.Eff-21 **S&H ID:** 9803-95 **Date Sampled:** 3/10/98 2:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
623	Cl2Dose	Chlorine Dose	2.17	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/12/98		3/12/98	n/a
624	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/12/98		3/13/98	n/a
625	HAA	Bromochloroacetic acid	7.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
626	HAA	Bromodichloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
627	HAA	Chlorodibromoacetic acid	5.6	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
628	HAA	Dibromoacetic acid	4.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
629	HAA	Dichloroacetic acid	5.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
630	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
631	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
632	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/13/98	3/19/98	3/22/98	MW74900
633	HAA	Trichloroacetic acid	6.4	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
634	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/13/98	n/a
635	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
636	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
637	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/12/98		3/13/98	n/a
638	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	3/10/98		3/10/98	n/a
639	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/12/98		3/13/98	n/a
640	TOC-ICR	TOC	2.22	mg/L	SM 5310 C	1	0.50	3/10/98		3/11/98	7-0-209
641	TOC-ICR	TOC (Dupl)	2.26	mg/L	SM 5310 C	1	0.50	3/10/98		3/11/98	7-0-209
			2.24	**mg/L**	**1.8 % RPD**						
642	TOX-ICR	TOX	113	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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643	TOX-ICR	TOX (Dupl)	117	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
			115	**µg Cl-/L**	**3.5 % RPD**						
644	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
645	THM-ICR	Bromodichloromethane	13.5	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
646	THM-ICR	Bromoform	2.9	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
647	THM-ICR	Chloroform	7.1	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
648	THM-ICR	Dibromochloromethane	17.6	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
649	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
650	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-15 **S&H ID:** 9803-97 **Date Sampled:** 3/10/98 6:01:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
651	Cl2Dose	Chlorine Dose	1.74	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/12/98		3/12/98	n/a
652	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/12/98		3/13/98	n/a
653	HAA	Bromochloroacetic acid	2.8	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
654	HAA	Bromodichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
655	HAA	Chlorodibromoacetic acid	3.3	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
656	HAA	Dibromoacetic acid	3.1	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
657	HAA	Dichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
658	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
659	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
660	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/13/98	3/19/98	3/22/98	MW74900
661	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
662	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/13/98	n/a
663	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
664	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/10/98		3/10/98	n/a
665	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/12/98		3/13/98	n/a
666	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	3/10/98		3/10/98	n/a
667	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/12/98		3/13/98	n/a
668	TOC-ICR	TOC	1.20	mg/L	SM 5310 C	1	0.50	3/10/98		3/11/98	7-0-209
669	TOC-ICR	TOC (Dupl)	1.26	mg/L	SM 5310 C	1	0.50	3/10/98		3/11/98	7-0-209
			1.23	**mg/L**	**4.9 % RPD**						
670	TOX-ICR	TOX	40	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
671	TOX-ICR	TOX (Dupl)	41	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
			41	**µg Cl-/L**	**2.4 % RPD**						
672	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	3/10/98	3/20/98	3/20/98	0-97-0
673	THM-ICR	Bromodichloromethane	4.9	µg/L	EPA 551.1	1	1.0	3/10/98	3/20/98	3/20/98	0-97-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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674	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	3/10/98	3/20/98	3/20/98	0-97-0
675	THM-ICR	Chloroform	1.8	µg/L	EPA 551.1	1	1.0	3/10/98	3/20/98	3/20/98	0-97-0
676	THM-ICR	Dibromochloromethane	10.9	µg/L	EPA 551.1	1	1.0	3/10/98	3/20/98	3/20/98	0-97-0
677	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
678	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	3/10/98		3/11/98	8-0-143
			0.014	**1/cm**	**7.1 % RPD**						

Sample ID: 109.10.Eff-23 **S&H ID:** 9803-110 **Date Sampled:** 3/11/98 10:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
679	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
680	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/11/98		3/11/98	n/a
681	TOC-ICR	TOC	2.42	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
682	TOC-ICR	TOC (Dupl)	2.41	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
			2.42	**mg/L**	**0.4 % RPD**						

Sample ID: 109.20.Eff-20 **S&H ID:** 9803-111 **Date Sampled:** 3/11/98 8:16:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
683	Cl2Dose	Chlorine Dose	1.82	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/12/98		3/12/98	n/a
684	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/12/98		3/13/98	n/a
685	HAA	Bromochloroacetic acid	3.7	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
686	HAA	Bromodichloroacetic acid	4.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
687	HAA	Chlorodibromoacetic acid	3.9	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
688	HAA	Dibromoacetic acid	3.4	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
689	HAA	Dichloroacetic acid	2.4	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
690	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
691	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
692	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/13/98	3/19/98	3/22/98	MW74900
693	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
694	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/13/98	n/a
695	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
696	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
697	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/12/98		3/13/98	n/a
698	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	3/11/98		3/11/98	n/a
699	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/12/98		3/13/98	n/a
700	TOC-ICR	TOC	1.41	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
701	TOC-ICR	TOC (Dupl)	1.42	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
			1.42	**mg/L**	**0.7 % RPD**						
702	TOX-ICR	TOX	50	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
703	TOX-ICR	TOX (Dupl)	52	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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			51	**µg Cl-/L**	**3.9 % RPD**						
704	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
705	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	84.8	%	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
			91.0	**%**	**13.6 % RPD**						
706	THM-ICR	Bromodichloromethane	6.4	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
707	THM-ICR	Bromodichloromethane (Lab Dupl)	5.3	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
			5.8	**µg/L**	**19.0 % RPD**						
708	THM-ICR	Bromoform	4.1	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
709	THM-ICR	Bromoform (Lab Dupl)	3.8	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
			3.9	**µg/L**	**7.7 % RPD**						
710	THM-ICR	Chloroform	2.5	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
711	THM-ICR	Chloroform (Lab Dupl)	1.8	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
			2.1	**µg/L**	**33.3 % RPD**						
712	THM-ICR	Dibromochloromethane	13.0	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
713	THM-ICR	Dibromochloromethane (Lab Dupl)	11.3	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
			12.2	**µg/L**	**13.9 % RPD**						
714	UV-ICR	UV	0.017	1/cm	SM 5910 B	1	0.009	3/11/98		3/13/98	8-0-144
715	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	3/11/98		3/13/98	8-0-144
			0.017	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-20d **S&H ID:** 9803-112 **Date Sampled:** 3/11/98 8:16:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
716	Cl2Dose	Chlorine Dose	1.82	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/12/98		3/12/98	n/a
717	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/12/98		3/13/98	n/a
718	HAA	Bromochloroacetic acid	3.8	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
719	HAA	Bromodichloroacetic acid	4.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
720	HAA	Chlorodibromoacetic acid	3.8	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
721	HAA	Dibromoacetic acid	3.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
722	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
723	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
724	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
725	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/13/98	3/19/98	3/22/98	MW74900
726	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
727	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/13/98	n/a
728	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
729	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/11/98		3/11/98	n/a
730	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/12/98		3/13/98	n/a
731	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	3/11/98		3/11/98	n/a
732	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/12/98		3/13/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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City of Escondido

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733	TOC-ICR	TOC	1.40	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
734	TOC-ICR	TOC (Dupl)	1.39	mg/L	SM 5310 C	1	0.50	3/11/98		3/12/98	7-0-210
			1.40	**mg/L**	**0.7 % RPD**						
735	TOX-ICR	TOX	59	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
736	TOX-ICR	TOX (Dupl)	56	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
			58	**µg Cl-/L**	**5.2 % RPD**						
737	THM-ICR	1,2,3-Trichloropropane (Surrogate)	86.0	%	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
738	THM-ICR	Bromodichloromethane	6.5	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
739	THM-ICR	Bromoform	4.2	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
740	THM-ICR	Chloroform	2.4	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
741	THM-ICR	Dibromochloromethane	12.3	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
742	UV-ICR	UV	0.018	1/cm	SM 5910 B	1	0.009	3/11/98		3/13/98	8-0-144
743	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	3/11/98		3/13/98	8-0-144
			0.018	**1/cm**	**5.6 % RPD**						

Sample ID: 109.20.Eff-23 **S&H ID:** 9803-118 **Date Sampled:** 3/12/98 11:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
744	Cl2Dose	Chlorine Dose	1.86	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/15/98		3/15/98	n/a
745	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/15/98		3/16/98	n/a
746	HAA	Bromochloroacetic acid	4.6	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
747	HAA	Bromodichloroacetic acid	4.7	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
748	HAA	Chlorodibromoacetic acid	4.0	µg/L	SM 6251 B	1	2.0	3/16/98	3/22/98	3/23/98	MW75027
749	HAA	Dibromoacetic acid	3.5	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
750	HAA	Dichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
751	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
752	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/16/98	3/22/98	3/23/98	MW75027
753	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/16/98	3/22/98	3/23/98	MW75027
754	HAA	Trichloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
755	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/15/98		3/16/98	n/a
756	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/15/98		3/15/98	n/a
757	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
758	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/15/98		3/16/98	n/a
759	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	3/12/98		3/12/98	n/a
760	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	3/15/98		3/16/98	n/a
761	TOC-ICR	TOC	1.52	mg/L	SM 5310 C	1	0.50	3/12/98		3/12/98	7-0-210
762	TOC-ICR	TOC (Dupl)	1.53	mg/L	SM 5310 C	1	0.50	3/12/98		3/12/98	7-0-210
			1.52	**mg/L**	**0.7 % RPD**						
763	TOX-ICR	TOX	58	µg Cl-/L	SM 5320 B	1	25	3/16/98		3/20/98	12-0-105
764	TOX-ICR	TOX (Dupl)	58	µg Cl-/L	SM 5320 B	1	25	3/16/98		3/20/98	12-0-105

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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			58	**µg Cl-/L**	**0.0 % RPD**						
765	THM-ICR	1,2,3-Trichloropropane (Surrogate)	88.4	%	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
766	THM-ICR	Bromodichloromethane	7.3	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
767	THM-ICR	Bromoform	4.3	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
768	THM-ICR	Chloroform	2.8	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
769	THM-ICR	Dibromochloromethane	13.5	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
770	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	3/12/98		3/13/98	8-0-144
771	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	3/12/98		3/13/98	8-0-144
			0.019	**1/cm**	**0.0 % RPD**						

Sample ID: 109.INF.B-4 **S&H ID:** 9803-119 **Date Sampled:** 3/12/98 11:45:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
772	Cl2Dose	Chlorine Dose	2.69	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/12/98		3/12/98	n/a
773	Cl2Res	Chlorine Residual	0.76	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/12/98		3/13/98	n/a
774	HAA	Bromochloroacetic acid	8.5	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
775	HAA	Bromodichloroacetic acid	16.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
776	HAA	Chlorodibromoacetic acid	4.8	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
777	HAA	Dibromoacetic acid	3.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
778	HAA	Dichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
779	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
780	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/13/98	3/19/98	3/22/98	MW74900
781	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/13/98	3/19/98	3/22/98	MW74900
782	HAA	Trichloroacetic acid	15.0	µg/L	SM 6251 B	1	1.0	3/13/98	3/19/98	3/22/98	MW74900
783	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/13/98	n/a
784	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
785	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/12/98		3/12/98	n/a
786	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/12/98		3/13/98	n/a
787	TEMP	Temperature	17.9	ºC	SM 2550 B	1	n/a	3/12/98		3/12/98	n/a
788	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/12/98		3/13/98	n/a
789	TOC-ICR	TOC	3.11	mg/L	SM 5310 C	1	0.50	3/12/98		3/12/98	7-0-210
790	TOC-ICR	TOC (Dupl)	3.22	mg/L	SM 5310 C	1	0.50	3/12/98		3/12/98	7-0-210
			3.17	**mg/L**	**3.5 % RPD**						
791	TOX-ICR	TOX	203	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
792	TOX-ICR	TOX (Dupl)	211	µg Cl-/L	SM 5320 B	1	25	3/13/98		3/16/98	12-0-104
			207	**µg Cl-/L**	**3.9 % RPD**						
793	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
794	THM-ICR	Bromodichloromethane	21.8	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
795	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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796	THM-ICR	Chloroform	20.2	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
797	THM-ICR	Dibromochloromethane	14.5	µg/L	EPA 551.1	1	1.0	3/13/98	3/20/98	3/20/98	0-97-0
798	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	3/12/98		3/12/98	9-0-8
799	UV-ICR	UV	0.061	1/cm	SM 5910 B	1	0.009	3/12/98		3/13/98	8-0-144
800	UV-ICR	UV (Dupl)	0.060	1/cm	SM 5910 B	1	0.009	3/12/98		3/13/98	8-0-144
			0.060	**1/cm**	**1.7 % RPD**						

Sample ID: 109.INF.A-2 **S&H ID:** 9803-125 **Date Sampled:** 3/12/98 4:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
801	ALK	Alkalinity	111	mg/L	SM 2320 B	1	5	3/12/98		3/13/98	1-0-15
802	ALK	Alkalinity (Dupl)	112	mg/L	SM 2320 B	1	5	3/12/98		3/13/98	1-0-15
			112	**mg/L**	**0.9 % RPD**						
803	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	3/12/98		3/24/98	MW75099
804	BR	Bromide	0.068	mg/L	EPA 300.0 A	2	0.040	3/12/98		3/23/98	MW74920
805	CaHard	Calcium Hardness	226	mg/L CaCO3	SM 3500-Ca D	1	10	3/12/98		3/13/98	33-0-15
806	CaHard	Calcium Hardness (Dupl)	217	mg/L CaCO3	SM 3500-Ca D	1	10	3/12/98		3/13/98	33-0-15
			222	**mg/L CaCO3**	**4.1 % RPD**						
807	TotHard	Total Hardness	246	mg/L CaCO3	SM 2340 C	1	5	3/12/98		3/13/98	3-0-15
808	TotHard	Total Hardness (Dupl)	249	mg/L CaCO3	SM 2340 C	1	5	3/12/98		3/13/98	3-0-15
			248	**mg/L CaCO3**	**1.2 % RPD**						

Sample ID: 109.20.Eff-26 **S&H ID:** 9803-142 **Date Sampled:** 3/13/98 11:12:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
809	Cl2Dose	Chlorine Dose	1.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/15/98		3/15/98	n/a
810	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/15/98		3/16/98	n/a
811	HAA	Bromochloroacetic acid	5.4	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
812	HAA	Bromodichloroacetic acid	6.0	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
813	HAA	Chlorodibromoacetic acid	4.4	µg/L	SM 6251 B	1	2.0	3/16/98	3/22/98	3/23/98	MW75027
814	HAA	Dibromoacetic acid	4.0	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
815	HAA	Dichloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
816	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
817	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/16/98	3/22/98	3/23/98	MW75027
818	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/16/98	3/22/98	3/23/98	MW75027
819	HAA	Trichloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	3/16/98	3/22/98	3/23/98	MW75027
820	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/15/98		3/16/98	n/a
821	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/15/98		3/15/98	n/a
822	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/13/98		3/13/98	n/a
823	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/15/98		3/16/98	n/a
824	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	3/13/98		3/13/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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825	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	3/15/98		3/16/98	n/a
826	TOC-ICR	TOC	1.72	mg/L	SM 5310 C	1	0.50	3/13/98		3/14/98	7-0-212
827	TOC-ICR	TOC (Dupl)	1.67	mg/L	SM 5310 C	1	0.50	3/13/98		3/14/98	7-0-212
			1.69	**mg/L**	**3.0 % RPD**						
828	TOX-ICR	TOX	72	µg Cl-/L	SM 5320 B	1	25	3/16/98		3/20/98	12-0-105
829	TOX-ICR	TOX (Dupl)	72	µg Cl-/L	SM 5320 B	1	25	3/16/98		3/20/98	12-0-105
			72	**µg Cl-/L**	**0.0 % RPD**						
830	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
831	THM-ICR	Bromodichloromethane	9.4	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
832	THM-ICR	Bromoform	4.3	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
833	THM-ICR	Chloroform	3.8	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
834	THM-ICR	Dibromochloromethane	16.0	µg/L	EPA 551.1	1	1.0	3/16/98	3/20/98	3/20/98	0-97-0
835	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	3/13/98		3/13/98	8-0-144
836	UV-ICR	UV (Dupl)	0.022	1/cm	SM 5910 B	1	0.009	3/13/98		3/13/98	8-0-144
			0.021	**1/cm**	**4.8 % RPD**						

Sample ID: 109.20.Eff-31 **S&H ID:** 9803-157 **Date Sampled:** 3/15/98 2:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
837	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/18/98		3/18/98	n/a
838	Cl2Res	Chlorine Residual	0.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/18/98		3/19/98	n/a
839	HAA	Bromochloroacetic acid	5.2	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
840	HAA	Bromodichloroacetic acid	6.6	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
841	HAA	Chlorodibromoacetic acid	5.0	µg/L	SM 6251 B	1	2.0	3/19/98	3/27/98	3/31/98	MW75307
842	HAA	Dibromoacetic acid	3.9	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
843	HAA	Dichloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
844	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
845	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/19/98	3/27/98	3/31/98	MW75307
846	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/19/98	3/27/98	3/31/98	MW75307
847	HAA	Trichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	3/19/98	3/27/98	3/31/98	MW75307
848	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/18/98		3/19/98	n/a
849	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/18/98		3/18/98	n/a
850	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	3/15/98		3/15/98	n/a
851	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/18/98		3/19/98	n/a
852	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/15/98		3/15/98	n/a
853	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	3/18/98		3/19/98	n/a
854	TOC-ICR	TOC	1.90	mg/L	SM 5310 C	1	0.50	3/15/98		3/16/98	7-0-214
855	TOC-ICR	TOC (Dupl)	1.92	mg/L	SM 5310 C	1	0.50	3/15/98		3/16/98	7-0-214
			1.91	**mg/L**	**1.0 % RPD**						
856	TOX-ICR	TOX	85	µg Cl-/L	SM 5320 B	1	25	3/19/98		3/20/98	12-0-105

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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857	TOX-ICR	TOX (Dupl)	84	µg Cl-/L	SM 5320 B	1	25	3/19/98		3/20/98	12-0-105
			85	**µg Cl-/L**	**1.2 % RPD**						
858	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	3/19/98	3/20/98	3/20/98	0-97-0
859	THM-ICR	Bromodichloromethane	10.7	µg/L	EPA 551.1	1	1.0	3/19/98	3/20/98	3/20/98	0-97-0
860	THM-ICR	Bromoform	4.1	µg/L	EPA 551.1	1	1.0	3/19/98	3/20/98	3/20/98	0-97-0
861	THM-ICR	Chloroform	4.6	µg/L	EPA 551.1	1	1.0	3/19/98	3/20/98	3/20/98	0-97-0
862	THM-ICR	Dibromochloromethane	17.3	µg/L	EPA 551.1	1	1.0	3/19/98	3/20/98	3/20/98	0-97-0
863	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	3/15/98		3/16/98	8-0-145
864	UV-ICR	UV (Dupl)	0.027	1/cm	SM 5910 B	1	0.009	3/15/98		3/16/98	8-0-145
			0.027	**1/cm**	**0.0 % RPD**						

Sample ID: 109.INF.B-5 **S&H ID:** 9803-166 **Date Sampled:** 3/16/98 2:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
865	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/16/98		3/16/98	n/a
866	TEMP	Temperature	19.5	ºC	SM 2550 B	1	n/a	3/16/98		3/16/98	n/a
867	TOC-ICR	TOC	3.11	mg/L	SM 5310 C	1	0.50	3/16/98		3/16/98	7-0-214
868	TOC-ICR	TOC (Dupl)	3.21	mg/L	SM 5310 C	1	0.50	3/16/98		3/16/98	7-0-214
			3.16	**mg/L**	**3.2 % RPD**						

Sample ID: 109.20.Eff-36 **S&H ID:** 9803-186 **Date Sampled:** 3/18/98 9:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
869	Cl2Dose	Chlorine Dose	2.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/19/98		3/19/98	n/a
870	Cl2Res	Chlorine Residual	0.79	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/19/98		3/20/98	n/a
871	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/19/98		3/20/98	n/a
872	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/19/98		3/19/98	n/a
873	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	3/18/98		3/18/98	n/a
874	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/19/98		3/20/98	n/a
875	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	3/18/98		3/18/98	n/a
876	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/19/98		3/20/98	n/a
877	TOC-ICR	TOC	2.18	mg/L	SM 5310 C	1	0.50	3/18/98		3/19/98	7-0-215
878	TOC-ICR	TOC (Dupl)	2.24	mg/L	SM 5310 C	1	0.50	3/18/98		3/19/98	7-0-215
			2.21	**mg/L**	**2.7 % RPD**						
879	TOX-ICR	TOX	118	µg Cl-/L	SM 5320 B	1	25	3/20/98		3/26/98	12-0-106
880	TOX-ICR	TOX (Dupl)	114	µg Cl-/L	SM 5320 B	1	25	3/20/98		3/26/98	12-0-106
			116	**µg Cl-/L**	**3.4 % RPD**						
881	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
882	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	100.4	%	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
			99.2	**%**	**2.4 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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Mr. Timothy Kwak
City of Escondido

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883	THM-ICR	Bromodichloromethane	14.8	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
884	THM-ICR	Bromodichloromethane (Lab Dupl)	14.5	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
			14.7	**µg/L**	**2.0 % RPD**						
885	THM-ICR	Bromoform	3.3	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
886	THM-ICR	Bromoform (Lab Dupl)	3.2	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
			3.3	**µg/L**	**3.0 % RPD**						
887	THM-ICR	Chloroform	7.5	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
888	THM-ICR	Chloroform (Lab Dupl)	7.4	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
			7.5	**µg/L**	**1.3 % RPD**						
889	THM-ICR	Dibromochloromethane	18.7	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
890	THM-ICR	Dibromochloromethane (Lab Dupl)	18.4	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
			18.5	**µg/L**	**1.6 % RPD**						
891	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	3/18/98		3/18/98	8-0-146
892	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	3/18/98		3/18/98	8-0-146
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-36d **S&H ID:** 9803-187 **Date Sampled:** 3/18/98 9:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
893	Cl2Dose	Chlorine Dose	2.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/19/98		3/19/98	n/a
894	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/19/98		3/20/98	n/a
895	HAA	Bromochloroacetic acid	6.3	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
896	HAA	Bromodichloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
897	HAA	Chlorodibromoacetic acid	5.5	µg/L	SM 6251 B	1	2.0	3/20/98	3/31/98	4/1/98	MW75621
898	HAA	Dibromoacetic acid	3.8	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
899	HAA	Dichloroacetic acid	4.3	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
900	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
901	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/20/98	3/31/98	4/1/98	MW75621
902	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/20/98	3/31/98	4/1/98	MW75621
903	HAA	Trichloroacetic acid	5.5	µg/L	SM 6251 B	1	1.0	3/20/98	3/31/98	4/1/98	MW75621
904	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/19/98		3/20/98	n/a
905	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/19/98		3/19/98	n/a
906	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	3/18/98		3/18/98	n/a
907	TEMP	Cl2 Temperature	15.2	ºC	SM 2550 B	1	n/a	3/19/98		3/20/98	n/a
908	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	3/18/98		3/18/98	n/a
909	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	3/19/98		3/20/98	n/a
910	TOC-ICR	TOC	2.14	mg/L	SM 5310 C	1	0.50	3/18/98		3/19/98	7-0-215
911	TOC-ICR	TOC (Dupl)	2.25	mg/L	SM 5310 C	1	0.50	3/18/98		3/19/98	7-0-215
			2.20	**mg/L**	**5.0 % RPD**						
912	TOX-ICR	TOX	117	µg Cl-/L	SM 5320 B	1	25	3/20/98		3/26/98	12-0-106
913	TOX-ICR	TOX (Dupl)	115	µg Cl-/L	SM 5320 B	1	25	3/20/98		3/26/98	12-0-106

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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			116	**µg Cl-/L**	**1.7 % RPD**						
914	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
915	THM-ICR	Bromodichloromethane	14.1	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
916	THM-ICR	Bromoform	3.2	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
917	THM-ICR	Chloroform	7.0	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
918	THM-ICR	Dibromochloromethane	18.4	µg/L	EPA 551.1	1	1.0	3/20/98	3/24/98	3/25/98	0-99-0
919	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	3/18/98		3/18/98	8-0-146
920	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	3/18/98		3/18/98	8-0-146
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-37 **S&H ID:** 9803-202 **Date Sampled:** 3/19/98 6:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
921	Cl2Dose	Chlorine Dose	2.11	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/23/98		3/23/98	n/a
922	Cl2Res	Chlorine Residual	0.80	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/23/98		3/24/98	n/a
923	HAA	Bromochloroacetic acid	6.9	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
924	HAA	Bromodichloroacetic acid	9.9	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
925	HAA	Chlorodibromoacetic acid	5.5	µg/L	SM 6251 B	1	2.0	3/24/98	4/1/98	4/7/98	MW75801
926	HAA	Dibromoacetic acid	4.2	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
927	HAA	Dichloroacetic acid	4.4	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
928	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
929	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/24/98	4/1/98	4/7/98	MW75801
930	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/24/98	4/1/98	4/7/98	MW75801
931	HAA	Trichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
932	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/23/98		3/24/98	n/a
933	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/23/98		3/23/98	n/a
934	pH	pH	8.4	Unit	SM 4500-H+ B	1	n/a	3/19/98		3/19/98	n/a
935	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/23/98		3/24/98	n/a
936	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	3/19/98		3/19/98	n/a
937	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	3/23/98		3/24/98	n/a
938	TOC-ICR	TOC	2.20	mg/L	SM 5310 C	1	0.50	3/19/98		3/22/98	7-0-217
939	TOC-ICR	TOC (Dupl)	2.19	mg/L	SM 5310 C	1	0.50	3/19/98		3/22/98	7-0-217
			2.20	**mg/L**	**0.5 % RPD**						
940	TOX-ICR	TOX	115	µg Cl-/L	SM 5320 B	1	25	3/24/98		3/26/98	12-0-106
941	TOX-ICR	TOX (Dupl)	104	µg Cl-/L	SM 5320 B	1	25	3/24/98		3/26/98	12-0-106
			110	**µg Cl-/L**	**10.0 % RPD**						
942	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.4	%	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
943	THM-ICR	Bromodichloromethane	14.2	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
944	THM-ICR	Bromoform	3.3	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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945	THM-ICR	Chloroform	7.4	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
946	THM-ICR	Dibromochloromethane	18.5	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
947	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	3/19/98		3/20/98	8-0-147
948	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	3/19/98		3/20/98	8-0-147
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 109.20.Eff-38 **S&H ID:** 9803-214 **Date Sampled:** 3/20/98 10:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
949	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	3/20/98		3/20/98	n/a
950	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	3/20/98		3/20/98	n/a
951	TOC-ICR	TOC	2.26	mg/L	SM 5310 C	1	0.50	3/20/98		3/22/98	7-0-217
952	TOC-ICR	TOC (Dupl)	2.32	mg/L	SM 5310 C	1	0.50	3/20/98		3/22/98	7-0-217
			2.29	**mg/L**	**2.6 % RPD**						

Sample ID: 109.INF.B-6 **S&H ID:** 9803-215 **Date Sampled:** 3/20/98 10:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
953	Cl2Dose	Chlorine Dose	2.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	3/23/98		3/23/98	n/a
954	Cl2Res	Chlorine Residual	0.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	3/23/98		3/24/98	n/a
955	HAA	Bromochloroacetic acid	8.9	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
956	HAA	Bromodichloroacetic acid	15.0	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
957	HAA	Chlorodibromoacetic acid	4.9	µg/L	SM 6251 B	1	2.0	3/24/98	4/1/98	4/7/98	MW75801
958	HAA	Dibromoacetic acid	3.0	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
959	HAA	Dichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
960	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
961	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	3/24/98	4/1/98	4/7/98	MW75801
962	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	3/24/98	4/1/98	4/7/98	MW75801
963	HAA	Trichloroacetic acid	15.0	µg/L	SM 6251 B	1	1.0	3/24/98	4/1/98	4/7/98	MW75801
964	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	3/23/98		3/24/98	n/a
965	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	3/23/98		3/23/98	n/a
966	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	3/20/98		3/20/98	n/a
967	TEMP	Cl2 Temperature	15.1	ºC	SM 2550 B	1	n/a	3/23/98		3/24/98	n/a
968	TEMP	Temperature	19.6	ºC	SM 2550 B	1	n/a	3/20/98		3/20/98	n/a
969	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	3/23/98		3/24/98	n/a
970	TOC-ICR	TOC	3.18	mg/L	SM 5310 C	1	0.50	3/20/98		3/22/98	7-0-217
971	TOC-ICR	TOC (Dupl)	3.21	mg/L	SM 5310 C	1	0.50	3/20/98		3/22/98	7-0-217
			3.20	**mg/L**	**0.9 % RPD**						
972	TOX-ICR	TOX	202	µg Cl-/L	SM 5320 B	1	25	3/24/98		3/26/98	12-0-106
973	TOX-ICR	TOX (Dupl)	199	µg Cl-/L	SM 5320 B	1	25	3/24/98		3/26/98	12-0-106
			201	**µg Cl-/L**	**1.5 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

974	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
975	THM-ICR	Bromodichloromethane	22.8	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
976	THM-ICR	Bromoform	1.4	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
977	THM-ICR	Chloroform	21.0	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
978	THM-ICR	Dibromochloromethane	15.5	µg/L	EPA 551.1	1	1.0	3/24/98	3/24/98	3/25/98	0-99-0
979	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	3/20/98		3/20/98	9-0-8
980	UV-ICR	UV	0.061	1/cm	SM 5910 B	1	0.009	3/20/98		3/20/98	8-0-147
981	UV-ICR	UV (Dupl)	0.060	1/cm	SM 5910 B	1	0.009	3/20/98		3/20/98	8-0-147
			0.060	**1/cm**	**1.7 % RPD**						

End of laboratory test results

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

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

Summers & Hooper, Inc.
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Quality Control Report

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 109
Study Title: ICR RSSCT #1

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-15

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	150	145	mg/L	97%		03/06/98	9803-25	5		
Matrix Spike (Dupl)	Matrix Spike	150	144	mg/L	96%		03/06/98	9803-25	5		
		150	**144**	**mg/L**	**96%**	**0.7 %**					
Method Blank	Method Blank		ND*	mg/L			03/06/98	9803-32	5		
Standard	Standard	100	103	mg/L	103%		03/06/98	9803-31	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		03/06/98	9803-31	5		
		100	**102**	**mg/L**	**102%**	**2.0 %**					
Matrix Spike	Matrix Spike	150	150	mg/L	100%		03/13/98	9803-125	5		
Matrix Spike (Dupl)	Matrix Spike	150	146	mg/L	97%		03/13/98	9803-125	5		
		150	**148**	**mg/L**	**99%**	**2.7 %**					
Method Blank	Method Blank		ND*	mg/L			03/13/98	9803-129	5		
Standard	Standard	100	101	mg/L	101%		03/13/98	9803-128	5		
Standard (Dupl)	Standard	100	98	mg/L	98%		03/13/98	9803-128	5		
		100	**100**	**mg/L**	**100%**	**3.0 %**					

Analysis: TotHard (Total Hardness) **Method:** SM 2340 C

QC Batch ID: 3-0-15

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	297	292	mg/L CaCO3	98%		03/06/98	9803-25	5		
Matrix Spike (Dupl)	Matrix Spike	297	300	mg/L CaCO3	101%		03/06/98	9803-25	5		
		297	**296**	**mg/L CaCO3**	**100%**	**2.7 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			03/06/98	9803-34	5		
Standard	Standard	100	100	mg/L CaCO3	100%		03/06/98	9803-33	5	90-110%	
Standard (Dupl)	Standard	100	99	mg/L CaCO3	99%		03/06/98	9803-33	5	90-110%	
		100	**100**	**mg/L CaCO3**	**100%**	**1.0 %**				90-110%	10%
Matrix Spike	Matrix Spike	301	298	mg/L CaCO3	99%		03/13/98	9803-125	5		
Matrix Spike (Dupl)	Matrix Spike	301	300	mg/L CaCO3	100%		03/13/98	9803-125	5		
		301	**298**	**mg/L CaCO3**	**99%**	**0.7 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			03/13/98	9803-131	5		
Standard	Standard	100	101	mg/L CaCO3	101%		03/13/98	9803-130	5	90-110%	
Standard (Dupl)	Standard	100	101	mg/L CaCO3	101%		03/13/98	9803-130	5	90-110%	
		100	**101**	**mg/L CaCO3**	**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.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-204

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.26	mg/L	106%		9803-7	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.43	mg/L	111%		9803-7	0.5		
		4.00	**4.35**	**mg/L**	**109%**	**3.7 %**				
Method Blank	Method Blank		ND*	mg/L			9803-11	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-11	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.55	mg/L	110%		9802-246	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.05	mg/L	101%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9802-266	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**0.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-205

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9803-48	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.08	mg/L	102%		9803-48	0.5		
		4.00	**4.05**	**mg/L**	**101%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9803-45	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-45	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9802-246	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.93	mg/L	98%		9802-266	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	10.06	mg/L	101%		9802-171	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.18	mg/L	102%		9802-171	0.5	90-110%	
		10.00	**10.12**	**mg/L**	**101%**	**1.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-206

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.91	mg/L	98%		9803-60	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.99	mg/L	100%		9803-60	0.5		
		4.00	**3.95**	**mg/L**	**99%**	**2.0 %**				

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Method Blank	Method Blank		ND*	mg/L			9803-56	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-56	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9802-246	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9802-266	0.5	90-110%	
		4.00	**3.97**	**mg/L**	**99%**	**0.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-207

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.22	mg/L	105%		9803-72	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.35	mg/L	109%		9803-72	0.5		
		4.00	**4.29**	**mg/L**	**107%**	**3.0 %**				
Method Blank	Method Blank		ND*	mg/L			9803-67	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-67	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9802-246	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**3.6 %**			50-150%	20%
Standard	Standard	4.00	4.08	mg/L	102%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9802-266	0.5	90-110%	
		4.00	**4.06**	**mg/L**	**101%**	**0.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-208

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.41	mg/L	110%		9803-83	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.31	mg/L	108%		9803-83	0.5		
		4.00	**4.36**	**mg/L**	**109%**	**2.3 %**				
Method Blank	Method Blank		ND*	mg/L			9803-89	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-89	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.60	mg/L	120%		9802-246	0.5	50-150%	
		0.50	**0.57**	**mg/L**	**114%**	**12.3 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9802-266	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**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.

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City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-209

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.15	mg/L	104%		9803-97	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.17	mg/L	104%		9803-97	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9803-102	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-102	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.59	mg/L	118%		9802-246	0.5	50-150%	
		0.50	**0.57**	**mg/L**	**114%**	**7.0 %**			50-150%	20%
Standard	Standard	4.00	4.07	mg/L	102%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9802-266	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**1.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-210

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.52	mg/L	113%		9803-110	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.36	mg/L	109%		9803-110	0.5		
		4.00	**4.44**	**mg/L**	**111%**	**3.6 %**				
Method Blank	Method Blank		ND*	mg/L			9803-120	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-120	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9802-246	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.62	mg/L	124%		9802-246	0.5	50-150%	
		0.50	**0.59**	**mg/L**	**118%**	**10.2 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9802-266	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9802-266	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-212

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.71	mg/L	93%		9803-146	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.64	mg/L	91%		9803-146	0.5		
		4.00	**3.67**	**mg/L**	**92%**	**2.2 %**				
Method Blank	Method Blank		ND*	mg/L			9803-145	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-145	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.

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Standard	Standard	0.50	0.62	mg/L	124%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.58	mg/L	116%		9803-143	0.5	50-150%	
		0.50	**0.60**	**mg/L**	**120%**	**6.7 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9803-144	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.08	mg/L	102%		9803-144	0.5	90-110%	
		4.00	**4.05**	**mg/L**	**101%**	**1.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-214

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.57	mg/L	89%		9803-159	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.20	mg/L	80%		9803-159	0.5		
		4.00	**3.38**	**mg/L**	**84%**	**10.9 %**				
Method Blank	Method Blank		ND*	mg/L			9803-160	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-160	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	0.61	mg/L	122%		9803-143	0.5	50-150%	
		0.50	**0.60**	**mg/L**	**120%**	**3.3 %**			50-150%	20%
Standard	Standard	4.00	4.08	mg/L	102%		9803-144	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.09	mg/L	102%		9803-144	0.5	90-110%	
		4.00	**4.08**	**mg/L**	**102%**	**0.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-215

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.45	mg/L	111%		9803-191	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.47	mg/L	112%		9803-191	0.5		
		4.00	**4.46**	**mg/L**	**112%**	**0.4 %**				
Method Blank	Method Blank		ND*	mg/L			9803-200	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-200	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.55	mg/L	110%		9803-143	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.08	mg/L	102%		9803-144	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.10	mg/L	102%		9803-144	0.5	90-110%	
		4.00	**4.09**	**mg/L**	**102%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	10.22	mg/L	102%		9803-173	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.31	mg/L	103%		9803-173	0.5	90-110%	
		10.00	**10.26**	**mg/L**	**103%**	**0.9 %**			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: 7-0-217

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9803-249	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.06	mg/L	101%		9803-249	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9803-244	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9803-244	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9803-143	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.57	mg/L	114%		9803-143	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**5.5 %**			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%**	**2.0 %**			90-110%	10%
Standard	Standard	10.00	9.89	mg/L	99%		9803-173	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.03	mg/L	100%		9803-173	0.5	90-110%	
		10.00	**9.96**	**mg/L**	**100%**	**1.4 %**			90-110%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-139

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-40	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-40	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-40	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-40	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9803-42	0.009	85-115%	
		0.088	**0.086**	**1/cm**	**98%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-140

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-57	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-57	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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Method Blank	Method Blank		ND*	1/cm			9803-57	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-57	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9803-42	0.009	85-115%	
		0.088	**0.086**	**1/cm**	**98%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-141

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-68	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-68	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-68	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-68	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9803-42	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: 8-0-142

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-90	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-90	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-90	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-90	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9803-42	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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Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-143

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-103	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-103	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-103	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-103	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9803-42	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: 8-0-144

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-135	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-135	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-135	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-135	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9803-41	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9803-42	0.009	85-115%	
		0.088	**0.086**	**1/cm**	**98%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-145

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9803-161	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-161	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-161	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-161	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.

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9803-42	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: 8-0-146

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9803-185	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-185	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-185	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-185	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9803-42	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**1.1 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-147

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9803-217	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-217	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9803-217	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9803-217	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9803-41	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9803-41	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%		9803-42	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9803-42	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**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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Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-7

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	4.51	4.54	ntu	101%		01/12/98	9902-79	0.05		
Standard	Standard	4.51	4.53	ntu	100%		01/20/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		01/29/98	9902-79	0.05		
Standard	Standard	4.51	4.55	ntu	101%		02/05/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		02/13/98	9902-79	0.05		
Standard	Standard	4.51	4.54	ntu	101%		02/20/98	9902-79	0.05		
Standard	Standard	4.51	4.54	ntu	101%		02/27/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		03/06/98	9902-79	0.05		

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-8

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	4.51	4.56	ntu	101%		03/12/98	9902-79	0.05		
Standard	Standard	4.51	4.58	ntu	102%		03/17/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		03/20/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		03/26/98	9902-79	0.05		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-101

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	30	µg Cl-/L	120%		9803-93	25	75-125%	
Standard - TCP Aqueous	Standard	200	209	µg Cl-/L	104%		9803-94	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-92	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-102

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	190	µg Cl-/L	95%		9803-55	25		
Matrix Spike (Dupl)	Matrix Spike	200	194	µg Cl-/L	97%		9803-55	25		
		200	**192**	**µg Cl-/L**	**96%**	**2.6 %**				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9803-106	25	75-125%	
Standard - TCP Aqueous	Standard	200	184	µg Cl-/L	92%		9803-107	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-105	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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Quality Control Report

Mr. Timothy Kwak
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Study#: 109
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Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-103

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9803-123	25	75-125%	
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9803-124	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-122	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-104

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	187	µg Cl-/L	94%		9803-112	25		
Matrix Spike (Dupl)	Matrix Spike	200	198	µg Cl-/L	99%		9803-112	25		
		200	**193**	**µg Cl-/L**	**96%**	**6.2 %**				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9803-164	25	75-125%	
Standard - TCP Aqueous	Standard	200	193	µg Cl-/L	96%		9803-165	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-163	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-105

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9803-220	25	75-125%	
Standard - TCP Aqueous	Standard	200	193	µg Cl-/L	96%		9803-221	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-219	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-106

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	27	µg Cl-/L	108%		9803-304	25	75-125%	
Standard - TCP Aqueous	Standard	200	209	µg Cl-/L	104%		9803-305	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9803-303	25		

Analysis: CaHard (Calcium Hardness) **Method:** SM 3500-Ca D

QC Batch ID: 33-0-15

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	306	297	mg/L CaCO3	97%		03/06/98	9803-25	10		
Matrix Spike (Dupl)	Matrix Spike	306	298	mg/L CaCO3	97%		03/06/98	9803-25	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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		306	**298**	**mg/L CaCO3**	**97%**	**0.3 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			03/06/98	9803-36	10		
Standard	Standard	100	98	mg/L CaCO3	98%		03/06/98	9803-35	10	90-110%	
Standard (Dupl)	Standard	100	100	mg/L CaCO3	100%		03/06/98	9803-35	10	90-110%	
		100	**99**	**mg/L CaCO3**	**99%**	**2.0 %**				90-110%	10%
Matrix Spike	Matrix Spike	311	300	mg/L CaCO3	96%		03/13/98	9803-125	10		
Matrix Spike (Dupl)	Matrix Spike	311	304	mg/L CaCO3	98%		03/13/98	9803-125	10		
		311	**302**	**mg/L CaCO3**	**97%**	**1.3 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			03/13/98	9803-133	10		
Standard	Standard	100	103	mg/L CaCO3	103%		03/13/98	9803-132	10	90-110%	
Standard (Dupl)	Standard	100	100	mg/L CaCO3	100%		03/13/98	9803-132	10	90-110%	
		100	**102**	**mg/L CaCO3**	**102%**	**2.9 %**				90-110%	10%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-95-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	2.5	2.6	µg/L		3.9%	9803-48	1		
Bromodichloromethane	Matrix Spike	20.0	18.5	µg/L	93%		9803-69	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9803-138	1		
Bromodichloromethane	Secondary Source Std	20.0	22.4	µg/L	112%		9803-139	1	70-130%	
Bromodichloromethane	Standard	20.0	18.3	µg/L	92%		9803-140	1	80-120%	
Bromodichloromethane	Standard	20.0	18.8	µg/L	94%		9803-140	1	80-120%	
Bromodichloromethane	Standard	40.0	42.8	µg/L	107%		9803-141	1	80-120%	
Bromoform	Duplicate	2.9	3.1	µg/L		6.7%	9803-48	1		
Bromoform	Matrix Spike	20.0	20.1	µg/L	101%		9803-69	1		
Bromoform	Method Blank		ND*	µg/L			9803-138	1		
Bromoform	Secondary Source Std	20.0	21.2	µg/L	106%		9803-139	1	70-130%	
Bromoform	Standard	20.0	18.7	µg/L	93%		9803-140	1	80-120%	
Bromoform	Standard	20.0	20.2	µg/L	101%		9803-140	1	80-120%	
Bromoform	Standard	40.0	41.4	µg/L	103%		9803-141	1	80-120%	
Chloroform	Duplicate	1.1	1.1	µg/L		0.0%	9803-48	1		
Chloroform	Matrix Spike	20.0	19.4	µg/L	97%		9803-69	1		
Chloroform	Method Blank		ND*	µg/L			9803-138	1		
Chloroform	Secondary Source Std	20.0	22.7	µg/L	114%		9803-139	1	70-130%	
Chloroform	Standard	20.0	18.1	µg/L	91%		9803-140	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 Report

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

Chloroform	Standard	20.0	18.5	µg/L	93%		9803-140	1	80-120%	
Chloroform	Standard	40.0	42.4	µg/L	106%		9803-141	1	80-120%	
Dibromochloromethane	Duplicate	5.3	5.6	µg/L		5.5%	9803-48	1		
Dibromochloromethane	Matrix Spike	20.0	18.8	µg/L	94%		9803-69	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9803-138	1		
Dibromochloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9803-139	1	70-130%	
Dibromochloromethane	Standard	20.0	18.7	µg/L	93%		9803-140	1	80-120%	
Dibromochloromethane	Standard	20.0	19.2	µg/L	96%		9803-140	1	80-120%	
Dibromochloromethane	Standard	40.0	43.7	µg/L	109%		9803-141	1	80-120%	

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-97-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	6.4	5.3	µg/L		18.8%	9803-111	1		
Bromodichloromethane	Matrix Spike	20.0	17.4	µg/L	87%		9803-136	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9803-222	1		
Bromodichloromethane	Standard	20.0	19.1	µg/L	96%		9803-223	1	80-120%	
Bromodichloromethane	Standard	20.0	18.0	µg/L	90%		9803-223	1	80-120%	
Bromodichloromethane	Standard	40.0	44.2	µg/L	111%		9803-141	1	80-120%	
Bromoform	Duplicate	4.1	3.8	µg/L		7.6%	9803-111	1		
Bromoform	Matrix Spike	20.0	19.2	µg/L	96%		9803-136	1		
Bromoform	Method Blank		ND*	µg/L			9803-222	1		
Bromoform	Standard	20.0	20.1	µg/L	101%		9803-223	1	80-120%	
Bromoform	Standard	20.0	19.9	µg/L	99%		9803-223	1	80-120%	
Bromoform	Standard	40.0	45.5	µg/L	114%		9803-141	1	80-120%	
Chloroform	Duplicate	2.5	1.8	µg/L		32.6%	9803-111	1		
Chloroform	Matrix Spike	20.0	17.4	µg/L	87%		9803-136	1		
Chloroform	Method Blank		ND*	µg/L			9803-222	1		
Chloroform	Standard	20.0	17.4	µg/L	87%		9803-223	1	80-120%	
Chloroform	Standard	20.0	17.3	µg/L	86%		9803-223	1	80-120%	
Chloroform	Standard	40.0	43.2	µg/L	108%		9803-141	1	80-120%	
Dibromochloromethane	Duplicate	13.0	11.3	µg/L		14.0%	9803-111	1		
Dibromochloromethane	Matrix Spike	20.0	21.5	µg/L	108%		9803-136	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9803-222	1		
Dibromochloromethane	Standard	20.0	22.2	µg/L	111%		9803-223	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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Quality Control Report

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Study#: 109
Study Title: ICR RSSCT #1

Dibromochloromethane	Standard	20.0	22.1	µg/L	111%		9803-223	1	80-120%
Dibromochloromethane	Standard	40.0	41.5	µg/L	104%		9803-141	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-99-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	14.8	14.5	µg/L		2.0%	9803-186	1		
Bromodichloromethane	Matrix Spike	40.0	41.5	µg/L	104%		9803-215	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9803-282	1		
Bromodichloromethane	Standard	20.0	21.2	µg/L	106%		9803-283	1	80-120%	
Bromodichloromethane	Standard	40.0	45.4	µg/L	114%		9803-141	1	80-120%	
Bromoform	Duplicate	3.3	3.2	µg/L		3.1%	9803-186	1		
Bromoform	Matrix Spike	40.0	47.2	µg/L	118%		9803-215	1		
Bromoform	Method Blank		ND*	µg/L			9803-282	1		
Bromoform	Standard	20.0	22.7	µg/L	114%		9803-283	1	80-120%	
Bromoform	Standard	40.0	39.6	µg/L	99%		9803-141	1	80-120%	
Chloroform	Duplicate	7.5	7.4	µg/L		1.3%	9803-186	1		
Chloroform	Matrix Spike	40.0	43.2	µg/L	108%		9803-215	1		
Chloroform	Method Blank		ND*	µg/L			9803-282	1		
Chloroform	Standard	20.0	20.4	µg/L	102%		9803-283	1	80-120%	
Chloroform	Standard	40.0	42.2	µg/L	106%		9803-141	1	80-120%	
Dibromochloromethane	Duplicate	18.7	18.4	µg/L		1.6%	9803-186	1		
Dibromochloromethane	Matrix Spike	40.0	40.4	µg/L	101%		9803-215	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9803-282	1		
Dibromochloromethane	Standard	20.0	22.9	µg/L	115%		9803-283	1	80-120%	
Dibromochloromethane	Standard	40.0	44.8	µg/L	112%		9803-141	1	80-120%	

End of quality control report

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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QC Results from Montgomery Watson Laboratories

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Study#: 109
Study Title: ICR RSSCT #1

Phone: 760-741-4855 Fax: 760-745-8767

QC Batch ID: 74711 **Report #:** 41210

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	6.8	7.6		11.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	4.2	4.2		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	0.8	80.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	3.5	3.7		6.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.6	130.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	1.8	90.0%		(70 - 130)
DUP	Dibromoacetic acid	13	14		7.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1	100.0%		(70 - 130)
DUP	Dichloroacetic acid	4.6	5.6		20.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.6	160.0%		(70 - 130)
DUP	Monobromoacetic acid	1.6	2.3		36.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	0.9	90.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

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DUP	Monochloroacetic acid	ND	2.2		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	2.5	125.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.8	95.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	5.6	140.0%		(70 - 130)
DUP	Trichloroacetic acid	2	2.2		10.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.2	120.0%		(70 - 130)

QC Batch ID: 74772 **Report #:** 41210

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.02	100.0%		(50 - 150)
LCS2	Bromide	0.1	0.11	110.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.1	100.0%		(70 - 130)
MSD	Bromide	0.1	0.1	100.0%		(70 - 130)

QC Batch ID: 74900 **Report #:** 41430

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	33	103.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	32	33	103.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Dichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.9	98.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	32	34	106.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	32	100.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

QC Batch ID: 74920 **Report #:** 41368

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.019	95.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.11	110.0%		(70 - 130)
MSD	Bromide	0.1	0.11	110.0%		(70 - 130)

QC Batch ID: 75027 **Report #:** 41430

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	33	103.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	32	33	103.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Dichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	32	100.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

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DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.9	98.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	32	34	106.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	32	100.0%		(70 - 130)

QC Batch ID: 75097 **Report #:** 41210

Analysis: NH3 **Method:** ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1	100.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1	100.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.07	107.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.07	107.0%		(80 - 120)

QC Batch ID: 75099 **Report #:** 41368

Analysis: NH3 **Method:** ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.03	103.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	0.97	97.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.97	97.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	0.98	98.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

QC Batch ID: 75184 **Report #:** 41368

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	8.6	8.8		2.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	9.8	9.9		1.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	4.2	4.3		2.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Dibromoacetic acid	4.1	4.1		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	11	11		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	19	95.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	19	95.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
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MS	Monochloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.5	88.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Trichloroacetic acid	9.3	9.1		2.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	19	95.0%		(70 - 130)

QC Batch ID: 75307 **Report #:** 41592

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	2.1	2		5.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.3	2.2		4.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.3	130.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1	100.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.3	115.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	1.9	95.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.3	130.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	0.7	70.0%		(70 - 130)
DUP	Dichloroacetic acid	13	13		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1	100.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	1.6	80.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	5.1	128.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	6.6	165.0%		(70 - 130)
DUP	Trichloroacetic acid	12	12		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.4	140.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1	100.0%		(70 - 130)

QC Batch ID: 75621 **Report #:** 41727

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	34	106.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	38	119.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

LCS2	Chlorodibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	32	40	125.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	33	103.0%		(70 - 130)
DUP	Dichloroacetic acid	3.8	3.9		3.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3	75.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	32	40	125.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	1		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	32	100.0%		(70 - 130)

QC Batch ID: 75801 **Report #:** 41727

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
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LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.1	110.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.9	145.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Dichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.7	85.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	2.4	120.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.8	95.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 109
Study Title: ICR RSSCT #1

MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	5.3	132.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.1	110.0%		(70 - 130)

End of MW QC report

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
Fax: (513) 679-2201

Comments

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 109
Study Title: ICR RSSCT #1

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

QC comments

QCBatch: 0-116-0 **Description:** MW Labs Report # 41727

Sample ID 9803-196 HAA analytes rejected. From MW Labs: "Surrogate recovery fails high...results flagged as rejected."

End of comments

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
Fax: (513) 679-2201

Laboratory Report

Client:

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study Title: ICR RSSCT #2

Study #: 117

Reviewed By: _____
Stuart M. Hooper

Date Reviewed: 7/13/99

Electronic copies of the results and quality control data are available upon request.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
Fax: (513) 679-2201

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 117
Study Title: ICR RSSCT #2

Sample ID: 117.Raw **S&H ID:** 9805-502 **Date Sampled:** 5/28/98 8:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR	TOC	4.72	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
2	TOC-ICR	TOC (Dupl)	4.77	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
			4.74	**mg/L**	**1.1 % RPD**						

Sample ID: 117.Settled **S&H ID:** 9805-503 **Date Sampled:** 5/28/98 8:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR	TOC	3.76	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
4	TOC-ICR	TOC (Dupl)	3.70	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
			3.73	**mg/L**	**1.6 % RPD**						

Sample ID: 117.Filtered **S&H ID:** 9805-504 **Date Sampled:** 5/28/98 8:29:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR	TOC	3.54	mg/L	SM 5310 C	1	0.50	5/28/98		5/30/98	7-0-284
6	TOC-ICR	TOC	3.98	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
7	TOC-ICR	TOC (Dupl)	3.46	mg/L	SM 5310 C	1	0.50	5/28/98		5/30/98	7-0-284
8	TOC-ICR	TOC (Dupl)	3.92	mg/L	SM 5310 C	1	0.50	5/28/98		6/4/98	7-0-287
			3.73	**mg/L**	**7.1 % RPD**						

Sample ID: 117.Filtered.S&H **S&H ID:** 9806-116 **Date Sampled:** 6/4/98 10:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR	TOC	3.65	mg/L	SM 5310 C	1	0.50	6/4/98		6/4/98	7-0-287
10	TOC-ICR	TOC (Dupl)	3.66	mg/L	SM 5310 C	1	0.50	6/4/98		6/4/98	7-0-287
			3.66	**mg/L**	**0.3 % RPD**						

Sample ID: 117.SettOnArrival **S&H ID:** 9806-117 **Date Sampled:** 6/4/98 10:35:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	TOC-ICR	TOC	3.78	mg/L	SM 5310 C	1	0.50	6/4/98		6/4/98	7-0-287
12	TOC-ICR	TOC (Dupl)	3.80	mg/L	SM 5310 C	1	0.50	6/4/98		6/4/98	7-0-287
			3.79	**mg/L**	**0.5 % RPD**						

Sample ID: 117.10.Eff-1 **S&H ID:** 9806-188 **Date Sampled:** 6/5/98 9:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
13	Cl2Dose	Chlorine Dose	1.30	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

14	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
15	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
16	HAA	Bromodichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
17	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
18	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
19	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
20	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
21	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
22	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/11/98	6/19/98	6/25/98	MW79739
23	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
24	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
25	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
26	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/5/98		6/5/98	n/a
27	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
28	TEMP	Temperature	23.3	ºC	SM 2550 B	1	n/a	6/5/98		6/5/98	n/a
29	TIME	Cl2 Incubation Time	17.7	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
30	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	6/5/98		6/6/98	7-0-289
31	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	6/5/98		6/6/98	7-0-289
			ND	**mg/L**							
32	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
33	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			ND	**µg Cl-/L**							
34	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.6	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
35	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
36	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
37	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
38	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
39	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
40	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
			ND	**1/cm**							

Sample ID: 117.10.Eff-6 **S&H ID:** 9806-193 **Date Sampled:** 6/7/98 3:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
41	Cl2Dose	Chlorine Dose	1.55	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
42	Cl2Res	Chlorine Residual	0.93	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
43	HAA	Bromochloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
44	HAA	Bromodichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
45	HAA	Chlorodibromoacetic acid	2.1	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
46	HAA	Dibromoacetic acid	1.8	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

47	HAA	Dichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
48	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
49	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
50	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/11/98	6/19/98	6/25/98	MW79739
51	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
52	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
53	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
54	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
55	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
56	TEMP	Temperature	27.1	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a
57	TIME	Cl2 Incubation Time	17.8	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
58	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
59	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			ND	**mg/L**							
60	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
61	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			ND	**µg Cl-/L**							
62	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
63	THM-ICR	Bromodichloromethane	1.7	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
64	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
65	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
66	THM-ICR	Dibromochloromethane	3.5	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
67	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
68	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
			ND	**1/cm**							

Sample ID: 117.10.Eff-7 **S&H ID:** 9806-194 **Date Sampled:** 6/7/98 8:16:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
69	Cl2Dose	Chlorine Dose	1.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
70	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
71	HAA	Bromochloroacetic acid	2.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
72	HAA	Bromodichloroacetic acid	2.2	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
73	HAA	Chlorodibromoacetic acid	3.0	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
74	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
75	HAA	Dichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
76	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
77	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
78	HAA	Tribromoacetic acid	4.0	µg/L	SM 6251 B	1	4.0	6/11/98	6/19/98	6/25/98	MW79739
79	HAA	Trichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

80	pH	Cl2 pH - Final	7.3	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
81	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
82	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
83	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
84	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a
85	TIME	Cl2 Incubation Time	17.8	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
86	TOC-ICR	TOC	0.52	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
87	TOC-ICR	TOC (Dupl)	0.53	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			0.53	**mg/L**	**1.9 % RPD**						
88	TOX-ICR	TOX	29	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
89	TOX-ICR	TOX (Dupl)	25	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			27	**µg Cl-/L**	**14.8 % RPD**						
90	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
91	THM-ICR	Bromodichloromethane	3.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
92	THM-ICR	Bromoform	4.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
93	THM-ICR	Chloroform	1.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
94	THM-ICR	Dibromochloromethane	7.3	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
95	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
96	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
			ND	**1/cm**							

Sample ID: 117.10.Eff-8 **S&H ID:** 9806-195 **Date Sampled:** 6/7/98 1:06:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
97	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
98	Cl2Res	Chlorine Residual	1.09	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
99	HAA	Bromochloroacetic acid	4.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
100	HAA	Bromodichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
101	HAA	Chlorodibromoacetic acid	4.1	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
102	HAA	Dibromoacetic acid	4.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
103	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
104	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
105	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/19/98	6/25/98	MW79739
106	HAA	Tribromoacetic acid	4.3	µg/L	SM 6251 B	1	4.0	6/11/98	6/19/98	6/25/98	MW79739
107	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	6/11/98	6/19/98	6/25/98	MW79739
108	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
109	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
110	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
111	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
112	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
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113	TIME	Cl2 Incubation Time	17.9	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
114	TOC-ICR	TOC	0.81	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
115	TOC-ICR	TOC (Dupl)	0.84	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			0.82	**mg/L**	**3.7 % RPD**						
116	TOX-ICR	TOX	46	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
117	TOX-ICR	TOX (Dupl)	43	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			45	**µg Cl-/L**	**6.7 % RPD**						
118	THM-ICR	1,2,3-Trichloropropane (Surrogate)	106.4	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
119	THM-ICR	Bromodichloromethane	7.0	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
120	THM-ICR	Bromoform	6.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
121	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
122	THM-ICR	Dibromochloromethane	12.8	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
123	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
124	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-9 **S&H ID:** 9806-196 **Date Sampled:** 6/7/98 3:24:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
125	Cl2Dose	Chlorine Dose	2.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
126	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
127	HAA	Bromochloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
128	HAA	Bromodichloroacetic acid	6.3	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
129	HAA	Chlorodibromoacetic acid	5.7	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
130	HAA	Dibromoacetic acid	4.5	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
131	HAA	Dichloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
132	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
133	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
134	HAA	Tribromoacetic acid	4.2	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
135	HAA	Trichloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
136	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
137	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
138	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
139	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
140	TEMP	Temperature	22.7	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a
141	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
142	TOC-ICR	TOC	1.05	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
143	TOC-ICR	TOC (Dupl)	1.06	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			1.06	**mg/L**	**0.9 % RPD**						
144	TOX-ICR	TOX	60	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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Study Title: ICR RSSCT #2

145	TOX-ICR	TOX (Dupl)	60	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			60	**µg Cl-/L**	**0.0 % RPD**						
146	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
147	THM-ICR	Bromodichloromethane	10.7	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
148	THM-ICR	Bromoform	5.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
149	THM-ICR	Chloroform	4.0	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
150	THM-ICR	Dibromochloromethane	16.0	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
151	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
152	UV-ICR	UV (Dupl)	0.015	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
			0.015	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-11 **S&H ID:** 9806-198 **Date Sampled:** 6/7/98 10:13:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
153	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
154	Cl2Res	Chlorine Residual	1.24	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
155	HAA	Bromochloroacetic acid	6.3	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
156	HAA	Bromodichloroacetic acid	8.7	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
157	HAA	Chlorodibromoacetic acid	7.2	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
158	HAA	Dibromoacetic acid	5.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
159	HAA	Dichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
160	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
161	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
162	HAA	Tribromoacetic acid	4.6	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
163	HAA	Trichloroacetic acid	2.6	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
164	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
165	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
166	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
167	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
168	TEMP	Temperature	23.7	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a
169	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
170	TOC-ICR	TOC	1.33	mg/L	SM 5310 C	1	0.50	6/7/98		6/8/98	7-0-291
171	TOC-ICR	TOC (Dupl)	1.35	mg/L	SM 5310 C	1	0.50	6/7/98		6/8/98	7-0-291
			1.34	**mg/L**	**1.5 % RPD**						
172	TOX-ICR	TOX	80	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
173	TOX-ICR	TOX (Dupl)	81	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
			81	**µg Cl-/L**	**1.2 % RPD**						
174	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
175	THM-ICR	Bromodichloromethane	13.8	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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176	THM-ICR	Bromoform	6.0	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
177	THM-ICR	Chloroform	5.5	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
178	THM-ICR	Dibromochloromethane	19.6	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
179	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	6/7/98		6/9/98	8-0-196
180	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	6/7/98		6/9/98	8-0-196
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-13 **S&H ID:** 9806-200 **Date Sampled:** 6/8/98 5:10:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
181	Cl2Dose	Chlorine Dose	2.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
182	Cl2Res	Chlorine Residual	1.28	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
183	HAA	Bromochloroacetic acid	8.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
184	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
185	HAA	Chlorodibromoacetic acid	8.0	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
186	HAA	Dibromoacetic acid	5.6	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
187	HAA	Dichloroacetic acid	4.8	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
188	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
189	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
190	HAA	Tribromoacetic acid	4.3	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
191	HAA	Trichloroacetic acid	3.9	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
192	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
193	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
194	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/8/98		6/8/98	n/a
195	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
196	TEMP	Temperature	22.8	ºC	SM 2550 B	1	n/a	6/8/98		6/8/98	n/a
197	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
198	TOC-ICR	TOC	1.57	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
199	TOC-ICR	TOC (Dupl)	1.58	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
			1.58	**mg/L**	**0.6 % RPD**						
200	TOX-ICR	TOX	103	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
201	TOX-ICR	TOX (Dupl)	108	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
			106	**µg Cl-/L**	**4.7 % RPD**						
202	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
203	THM-ICR	Bromodichloromethane	18.5	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
204	THM-ICR	Bromoform	5.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
205	THM-ICR	Chloroform	8.9	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
206	THM-ICR	Dibromochloromethane	22.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
207	UV-ICR	UV	0.026	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196
208	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
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			0.026	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-14 **S&H ID:** 9806-201 **Date Sampled:** 6/8/98 9:58:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
209	Cl2Dose	Chlorine Dose	2.87	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
210	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
211	HAA	Bromochloroacetic acid	8.5	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
212	HAA	Bromodichloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
213	HAA	Chlorodibromoacetic acid	8.5	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
214	HAA	Dibromoacetic acid	5.7	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
215	HAA	Dichloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
216	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
217	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
218	HAA	Tribromoacetic acid	4.2	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
219	HAA	Trichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
220	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
221	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
222	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/8/98		6/8/98	n/a
223	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
224	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	6/8/98		6/8/98	n/a
225	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
226	TOC-ICR	TOC	1.77	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
227	TOC-ICR	TOC (Dupl)	1.74	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
			1.75	**mg/L**	**1.7 % RPD**						
228	TOX-ICR	TOX	118	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
229	TOX-ICR	TOX (Dupl)	132	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
			125	**µg Cl-/L**	**11.2 % RPD**						
230	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
231	THM-ICR	Bromodichloromethane	19.0	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
232	THM-ICR	Bromoform	4.6	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
233	THM-ICR	Chloroform	9.9	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
234	THM-ICR	Dibromochloromethane	21.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
235	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196
236	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-16 **S&H ID:** 9806-203 **Date Sampled:** 6/8/98 7:31:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

237	Cl2Dose	Chlorine Dose	3.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
238	Cl2Res	Chlorine Residual	1.41	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
239	HAA	Bromochloroacetic acid	9.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
240	HAA	Bromodichloroacetic acid	15.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
241	HAA	Chlorodibromoacetic acid	8.8	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
242	HAA	Dibromoacetic acid	5.5	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
243	HAA	Dichloroacetic acid	7.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
244	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
245	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
246	HAA	Tribromoacetic acid	4.1	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
247	HAA	Trichloroacetic acid	7.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
248	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
249	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
250	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/8/98		6/8/98	n/a
251	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
252	TEMP	Temperature	23.6	ºC	SM 2550 B	1	n/a	6/8/98		6/8/98	n/a
253	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
254	TOC-ICR	TOC	2.02	mg/L	SM 5310 C	1	0.50	6/8/98		6/9/98	7-0-292
255	TOC-ICR	TOC (Dupl)	2.03	mg/L	SM 5310 C	1	0.50	6/8/98		6/9/98	7-0-292
			2.02	**mg/L**	**0.5 % RPD**						
256	TOX-ICR	TOX	146	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/19/98	12-0-151
257	TOX-ICR	TOX (Dupl)	146	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/19/98	12-0-151
			146	**µg Cl-/L**	**0.0 % RPD**						
258	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
259	THM-ICR	Bromodichloromethane	22.3	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
260	THM-ICR	Bromoform	4.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
261	THM-ICR	Chloroform	13.8	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
262	THM-ICR	Dibromochloromethane	22.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
263	UV-ICR	UV	0.033	1/cm	SM 5910 B	1	0.009	6/8/98		6/10/98	8-0-197
264	UV-ICR	UV (Dupl)	0.033	1/cm	SM 5910 B	1	0.009	6/8/98		6/10/98	8-0-197
			0.033	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-18 **S&H ID:** 9806-205 **Date Sampled:** 6/9/98 5:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
265	Cl2Dose	Chlorine Dose	2.61	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
266	Cl2Res	Chlorine Residual	0.95	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
267	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
268	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
269	HAA	Chlorodibromoacetic acid	6.0	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

270	HAA	Dibromoacetic acid	5.9	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
271	HAA	Dichloroacetic acid	8.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
272	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
273	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
274	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
275	HAA	Trichloroacetic acid	6.9	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
276	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
277	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
278	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
279	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
280	TEMP	Temperature	23.2	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
281	TIME	Cl2 Incubation Time	17.9	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
282	TOC-ICR	TOC	2.20	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
283	TOC-ICR	TOC (Dupl)	2.18	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			2.19	**mg/L**	**0.9 % RPD**						
284	TOX-ICR	TOX	156	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/19/98	12-0-151
285	TOX-ICR	TOX (Dupl)	163	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/19/98	12-0-151
			160	**µg Cl-/L**	**4.4 % RPD**						
286	THM-ICR	1,2,3-Trichloropropane (Surrogate)	88.4	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
287	THM-ICR	Bromodichloromethane	22.8	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
288	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
289	THM-ICR	Chloroform	14.4	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
290	THM-ICR	Dibromochloromethane	21.7	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
291	UV-ICR	UV	0.037	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
292	UV-ICR	UV (Dupl)	0.037	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			0.037	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-19 **S&H ID:** 9806-206 **Date Sampled:** 6/9/98 2:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
293	Cl2Dose	Chlorine Dose	2.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
294	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
295	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
296	HAA	Bromodichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
297	HAA	Chlorodibromoacetic acid	6.1	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
298	HAA	Dibromoacetic acid	5.6	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
299	HAA	Dichloroacetic acid	9.9	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
300	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
301	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
302	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

303	HAA	Trichloroacetic acid	8.7	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
304	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
305	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
306	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
307	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
308	TEMP	Temperature	23.7	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
309	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
310	TOC-ICR	TOC	2.38	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
311	TOC-ICR	TOC (Dupl)	2.38	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			2.38	**mg/L**	**0.0 % RPD**						
312	TOX-ICR	TOX	179	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
313	TOX-ICR	TOX (Dupl)	169	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			174	**µg Cl-/L**	**5.7 % RPD**						
314	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
315	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	100.0	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
			99.8	**%**	**0.4 % RPD**						
316	THM-ICR	Bromodichloromethane	26.5	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
317	THM-ICR	Bromodichloromethane (Lab Dupl)	25.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
			25.9	**µg/L**	**4.6 % RPD**						
318	THM-ICR	Bromoform	3.5	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
319	THM-ICR	Bromoform (Lab Dupl)	3.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
			3.4	**µg/L**	**5.9 % RPD**						
320	THM-ICR	Chloroform	18.9	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
321	THM-ICR	Chloroform (Lab Dupl)	18.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
			18.5	**µg/L**	**3.8 % RPD**						
322	THM-ICR	Dibromochloromethane	22.8	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
323	THM-ICR	Dibromochloromethane (Lab Dupl)	21.9	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
			22.4	**µg/L**	**4.0 % RPD**						
324	UV-ICR	UV	0.042	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
325	UV-ICR	UV (Dupl)	0.042	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			0.042	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-22 **S&H ID:** 9806-209 **Date Sampled:** 6/10/98 9:29:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
326	Cl2Dose	Chlorine Dose	2.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
327	Cl2Res	Chlorine Residual	0.92	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
328	HAA	Bromochloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
329	HAA	Bromodichloroacetic acid	14.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
330	HAA	Chlorodibromoacetic acid	6.1	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

331	HAA	Dibromoacetic acid	5.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
332	HAA	Dichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
333	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
334	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
335	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
336	HAA	Trichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
337	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
338	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
339	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
340	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
341	TEMP	Temperature	22.8	ºC	SM 2550 B	1	n/a	6/10/98		6/10/98	n/a
342	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
343	TOC-ICR	TOC	2.62	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
344	TOC-ICR	TOC (Dupl)	2.63	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
			2.63	**mg/L**	**0.4 % RPD**						
345	TOX-ICR	TOX	186	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
346	TOX-ICR	TOX (Dupl)	196	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			191	**µg Cl-/L**	**5.2 % RPD**						
347	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
348	THM-ICR	Bromodichloromethane	29.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
349	THM-ICR	Bromoform	3.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
350	THM-ICR	Chloroform	23.4	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
351	THM-ICR	Dibromochloromethane	22.6	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
352	UV-ICR	UV	0.046	1/cm	SM 5910 B	1	0.009	6/10/98		6/10/98	8-0-197
353	UV-ICR	UV (Dupl)	0.046	1/cm	SM 5910 B	1	0.009	6/10/98		6/10/98	8-0-197
			0.046	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-23 **S&H ID:** 9806-210 **Date Sampled:** 6/11/98 1:59:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
354	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
355	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	6/11/98		6/11/98	n/a
356	TOC-ICR	TOC	2.85	mg/L	SM 5310 C	1	0.50	6/11/98		6/11/98	7-0-294
357	TOC-ICR	TOC (Dupl)	2.89	mg/L	SM 5310 C	1	0.50	6/11/98		6/11/98	7-0-294
			2.87	**mg/L**	**1.4 % RPD**						

Sample ID: 117.10.Eff-8d **S&H ID:** 9806-218 **Date Sampled:** 6/7/98 1:06:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
358	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
359	Cl2Res	Chlorine Residual	1.04	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

360	HAA	Bromochloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
361	HAA	Bromodichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
362	HAA	Chlorodibromoacetic acid	4.6	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
363	HAA	Dibromoacetic acid	4.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
364	HAA	Dichloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
365	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
366	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
367	HAA	Tribromoacetic acid	4.3	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
368	HAA	Trichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
369	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
370	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
371	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/7/98		6/7/98	n/a
372	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
373	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	6/7/98		6/7/98	n/a
374	TIME	Cl2 Incubation Time	17.8	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
375	TOC-ICR	TOC	0.84	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
376	TOC-ICR	TOC (Dupl)	0.82	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			0.83	**mg/L**	**2.4 % RPD**						
377	TOX-ICR	TOX	44	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
378	TOX-ICR	TOX (Dupl)	46	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/18/98	12-0-150
			45	**µg Cl-/L**	**4.4 % RPD**						
379	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2	%	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
380	THM-ICR	Bromodichloromethane	6.8	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
381	THM-ICR	Bromoform	5.7	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
382	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
383	THM-ICR	Dibromochloromethane	12.7	µg/L	EPA 551.1	1	1.0	6/11/98	6/11/98	6/12/98	0-145-0
384	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
385	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	6/7/98		6/8/98	8-0-195
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-14d **S&H ID:** 9806-220 **Date Sampled:** 6/8/98 9:58:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
386	Cl2Dose	Chlorine Dose	2.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
387	Cl2Res	Chlorine Residual	1.36	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
388	HAA	Bromochloroacetic acid	8.3	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
389	HAA	Bromodichloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
390	HAA	Chlorodibromoacetic acid	8.2	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
391	HAA	Dibromoacetic acid	5.6	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
392	HAA	Dichloroacetic acid	5.7	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

393	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
394	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
395	HAA	Tribromoacetic acid	4.0	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
396	HAA	Trichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
397	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
398	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
399	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/8/98		6/8/98	n/a
400	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
401	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	6/8/98		6/8/98	n/a
402	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
403	TOC-ICR	TOC	1.76	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
404	TOC-ICR	TOC (Dupl)	1.73	mg/L	SM 5310 C	1	0.50	6/8/98		6/8/98	7-0-291
			1.75	**mg/L**	**1.7 % RPD**						
405	TOX-ICR	TOX	116	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/19/98	12-0-151
406	TOX-ICR	TOX (Dupl)	122	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/19/98	12-0-151
			119	**µg Cl-/L**	**5.0 % RPD**						
407	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
408	THM-ICR	Bromodichloromethane	18.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
409	THM-ICR	Bromoform	4.3	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
410	THM-ICR	Chloroform	9.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
411	THM-ICR	Dibromochloromethane	20.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
412	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196
413	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	6/8/98		6/9/98	8-0-196
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 117.10.Eff-18d **S&H ID:** 9806-222 **Date Sampled:** 6/9/98 5:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
414	Cl2Dose	Chlorine Dose	2.62	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
415	Cl2Res	Chlorine Residual	0.92	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
416	HAA	Bromochloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
417	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
418	HAA	Chlorodibromoacetic acid	6.1	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
419	HAA	Dibromoacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
420	HAA	Dichloroacetic acid	8.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
421	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
422	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
423	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
424	HAA	Trichloroacetic acid	7.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
425	pH	Cl2 pH - Final	7.3	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

426	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
427	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
428	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
429	TEMP	Temperature	23.2	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
430	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
431	TOC-ICR	TOC	2.20	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
432	TOC-ICR	TOC (Dupl)	2.22	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			2.21	**mg/L**	**0.9 % RPD**						
433	TOX-ICR	TOX	157	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/19/98	12-0-151
434	TOX-ICR	TOX (Dupl)	163	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/19/98	12-0-151
			160	**µg Cl-/L**	**3.7 % RPD**						
435	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
436	THM-ICR	Bromodichloromethane	24.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
437	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
438	THM-ICR	Chloroform	15.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
439	THM-ICR	Dibromochloromethane	22.7	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
440	UV-ICR	UV	0.037	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
441	UV-ICR	UV (Dupl)	0.037	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			0.037	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-1 **S&H ID:** 9806-228 **Date Sampled:** 6/5/98 10:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
442	Cl2Dose	Chlorine Dose	1.30	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
443	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
444	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
445	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
446	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
447	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
448	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
449	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
450	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
451	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
452	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
453	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
454	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
455	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	6/5/98		6/5/98	n/a
456	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
457	TEMP	Temperature	23.5	ºC	SM 2550 B	1	n/a	6/5/98		6/5/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

458	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
459	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	6/11/98		6/6/98	7-0-289
460	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	6/5/98		6/6/98	7-0-289
			ND	**mg/L**							
461	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
462	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			ND	**µg Cl-/L**							
463	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
464	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
465	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
466	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
467	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
468	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
469	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
			ND	**1/cm**							

Sample ID: 117.20.Eff-8 **S&H ID:** 9806-235 **Date Sampled:** 6/9/98 5:07:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
470	Cl2Dose	Chlorine Dose	1.41	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
471	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
472	HAA	Bromochloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
473	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
474	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
475	HAA	Dibromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
476	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
477	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
478	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
479	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
480	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
481	pH	Cl2 pH - Final	7.3	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
482	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
483	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
484	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
485	TEMP	Temperature	23.4	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
486	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
487	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
488	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			ND	**mg/L**							
489	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

490	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			ND	**µg Cl-/L**							
491	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
492	THM-ICR	Bromodichloromethane	1.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
493	THM-ICR	Bromoform	2.1	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
494	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
495	THM-ICR	Dibromochloromethane	2.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
496	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
497	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			ND	**1/cm**							

Sample ID: 117.20.Eff-10 **S&H ID:** 9806-237 **Date Sampled:** 6/9/98 2:59:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
498	Cl2Dose	Chlorine Dose	1.54	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
499	Cl2Res	Chlorine Residual	0.71	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
500	HAA	Bromochloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
501	HAA	Bromodichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
502	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
503	HAA	Dibromoacetic acid	2.3	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
504	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
505	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
506	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
507	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
508	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
509	pH	Cl2 pH - Final	7.3	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
510	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
511	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
512	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
513	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
514	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
515	TOC-ICR	TOC	0.52	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
516	TOC-ICR	TOC (Dupl)	0.54	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			0.53	**mg/L**	**3.8 % RPD**						
517	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
518	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			ND	**µg Cl-/L**							
519	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
520	THM-ICR	Bromodichloromethane	2.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

521	THM-ICR	Bromoform	3.7	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
522	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
523	THM-ICR	Dibromochloromethane	5.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
524	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
525	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			ND	**1/cm**							

Sample ID: 117.20.Eff-11 **S&H ID:** 9806-238 **Date Sampled:** 6/9/98 7:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
526	Cl2Dose	Chlorine Dose	1.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
527	Cl2Res	Chlorine Residual	0.79	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
528	HAA	Bromochloroacetic acid	2.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
529	HAA	Bromodichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
530	HAA	Chlorodibromoacetic acid	2.4	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
531	HAA	Dibromoacetic acid	3.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
532	HAA	Dichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
533	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
534	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
535	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
536	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
537	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
538	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
539	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
540	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
541	TEMP	Temperature	23.4	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
542	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
543	TOC-ICR	TOC	0.74	mg/L	SM 5310 C	1	0.50	6/9/98		6/10/98	7-0-293
544	TOC-ICR	TOC (Dupl)	0.71	mg/L	SM 5310 C	1	0.50	6/9/98		6/10/98	7-0-293
			0.72	**mg/L**	**4.2 % RPD**						
545	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
546	TOX-ICR	TOX (Dupl)	30	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			26	**µg Cl-/L**	**30.8 % RPD**						
547	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
548	THM-ICR	Bromodichloromethane	3.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
549	THM-ICR	Bromoform	4.8	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
550	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
551	THM-ICR	Dibromochloromethane	7.8	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
552	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/11/98	8-0-198
553	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/11/98	8-0-198

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

			ND	**1/cm**							

Sample ID: 117.20.Eff-13 **S&H ID:** 9806-242 **Date Sampled:** 6/10/98 5:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
554	Cl2Dose	Chlorine Dose	1.81	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
555	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
556	HAA	Bromochloroacetic acid	3.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
557	HAA	Bromodichloroacetic acid	2.2	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
558	HAA	Chlorodibromoacetic acid	3.0	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
559	HAA	Dibromoacetic acid	3.9	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
560	HAA	Dichloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
561	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
562	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/23/98	6/25/98	MW79761
563	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/23/98	6/25/98	MW79761
564	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/23/98	6/25/98	MW79761
565	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
566	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
567	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
568	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
569	TEMP	Temperature	22.9	ºC	SM 2550 B	1	n/a	6/10/98		6/10/98	n/a
570	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
571	TOC-ICR	TOC	0.95	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
572	TOC-ICR	TOC (Dupl)	0.97	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
			0.96	**mg/L**	**2.1 % RPD**						
573	TOX-ICR	TOX	41	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
574	TOX-ICR	TOX (Dupl)	37	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			39	**µg Cl-/L**	**10.3 % RPD**						
575	THM-ICR	1,2,3-Trichloropropane (Surrogate)	110.0	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
576	THM-ICR	Bromodichloromethane	5.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
577	THM-ICR	Bromoform	5.6	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
578	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
579	THM-ICR	Dibromochloromethane	11.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
580	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	6/10/98		6/11/98	8-0-198
581	UV-ICR	UV (Dupl)	0.011	1/cm	SM 5910 B	1	0.009	6/10/98		6/11/98	8-0-198
			0.011	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-15 **S&H ID:** 9806-244 **Date Sampled:** 6/10/98 3:34:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

582	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
583	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
584	HAA	Bromochloroacetic acid	4.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
585	HAA	Bromodichloroacetic acid	4.3	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
586	HAA	Chlorodibromoacetic acid	5.1	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
587	HAA	Dibromoacetic acid	5.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
588	HAA	Dichloroacetic acid	2.2	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
589	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
590	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
591	HAA	Tribromoacetic acid	4.6	µg/L	SM 6251 B	1	4.0	6/12/98	6/24/98	6/28/98	MW79757
592	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
593	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
594	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
595	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
596	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
597	TEMP	Temperature	23.5	ºC	SM 2550 B	1	n/a	6/10/98		6/10/98	n/a
598	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
599	TOC-ICR	TOC	1.23	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
600	TOC-ICR	TOC (Dupl)	1.24	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
			1.23	**mg/L**	**0.8 % RPD**						
601	TOX-ICR	TOX	60	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
602	TOX-ICR	TOX (Dupl)	55	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
			58	**µg Cl-/L**	**8.6 % RPD**						
603	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
604	THM-ICR	Bromodichloromethane	8.5	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
605	THM-ICR	Bromoform	6.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
606	THM-ICR	Chloroform	2.7	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
607	THM-ICR	Dibromochloromethane	15.6	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
608	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	6/10/98		6/11/98	8-0-198
609	UV-ICR	UV (Dupl)	0.015	1/cm	SM 5910 B	1	0.009	6/10/98		6/11/98	8-0-198
			0.015	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-18 **S&H ID:** 9806-247 **Date Sampled:** 6/11/98 11:24:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
610	Cl2Dose	Chlorine Dose	2.17	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
611	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
612	HAA	Bromochloroacetic acid	6.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
613	HAA	Bromodichloroacetic acid	6.5	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
614	HAA	Chlorodibromoacetic acid	6.1	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

615	HAA	Dibromoacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
616	HAA	Dichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
617	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
618	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
619	HAA	Tribromoacetic acid	4.6	µg/L	SM 6251 B	1	4.0	6/12/98	6/24/98	6/28/98	MW79757
620	HAA	Trichloroacetic acid	2.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
621	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
622	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
623	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
624	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
625	TEMP	Temperature	23.3	ºC	SM 2550 B	1	n/a	6/11/98		6/11/98	n/a
626	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
627	TOC-ICR	TOC	1.50	mg/L	SM 5310 C	1	0.50	6/11/98		6/11/98	7-0-294
628	TOC-ICR	TOC (Dupl)	1.51	mg/L	SM 5310 C	1	0.50	6/11/98		6/11/98	7-0-294
			1.50	**mg/L**	**0.7 % RPD**						
629	TOX-ICR	TOX	76	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
630	TOX-ICR	TOX (Dupl)	82	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
			79	**µg Cl-/L**	**7.6 % RPD**						
631	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
632	THM-ICR	Bromodichloromethane	13.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
633	THM-ICR	Bromoform	6.2	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
634	THM-ICR	Chloroform	4.4	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
635	THM-ICR	Dibromochloromethane	19.4	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
636	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	6/11/98		6/11/98	8-0-198
637	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	6/11/98		6/11/98	8-0-198
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-19 **S&H ID:** 9806-248 **Date Sampled:** 6/12/98 2:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
638	Cl2Dose	Chlorine Dose	2.24	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
639	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
640	HAA	Bromochloroacetic acid	7.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
641	HAA	Bromodichloroacetic acid	7.3	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
642	HAA	Chlorodibromoacetic acid	5.3	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
643	HAA	Dibromoacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
644	HAA	Dichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
645	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
646	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
647	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

648	HAA	Trichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
649	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
650	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
651	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/12/98		6/12/98	n/a
652	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a
653	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	6/12/98		6/12/98	n/a
654	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
655	TOC-ICR	TOC	1.69	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
656	TOC-ICR	TOC (Dupl)	1.68	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
			1.69	**mg/L**	**0.6 % RPD**						
657	TOX-ICR	TOX	99	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
658	TOX-ICR	TOX (Dupl)	97	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
			98	**µg Cl-/L**	**2.0 % RPD**						
659	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
660	THM-ICR	Bromodichloromethane	15.2	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
661	THM-ICR	Bromoform	5.5	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
662	THM-ICR	Chloroform	6.4	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
663	THM-ICR	Dibromochloromethane	20.8	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
664	UV-ICR	UV	0.024	1/cm	SM 5910 B	1	0.009	6/12/98		6/12/98	8-0-199
665	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	6/12/98		6/12/98	8-0-199
			0.024	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-22 **S&H ID:** 9806-251 **Date Sampled:** 6/13/98 2:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
666	Cl2Dose	Chlorine Dose	2.41	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
667	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
668	HAA	Bromochloroacetic acid	8.6	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
669	HAA	Bromodichloroacetic acid	9.4	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
670	HAA	Chlorodibromoacetic acid	5.7	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
671	HAA	Dibromoacetic acid	5.9	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
672	HAA	Dichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
673	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
674	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
675	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141
676	HAA	Trichloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
677	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
678	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
679	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/13/98		6/13/98	n/a
680	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

681	TEMP	Temperature	23.7	ºC	SM 2550 B	1	n/a	6/13/98		6/13/98	n/a
682	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
683	TOC-ICR	TOC	1.97	mg/L	SM 5310 C	1	0.50	6/13/98		6/13/98	7-0-296
684	TOC-ICR	TOC (Dupl)	1.98	mg/L	SM 5310 C	1	0.50	6/13/98		6/13/98	7-0-296
			1.98	**mg/L**	**0.5 % RPD**						
685	TOX-ICR	TOX	124	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
686	TOX-ICR	TOX (Dupl)	122	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
			123	**µg Cl-/L**	**1.6 % RPD**						
687	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
688	THM-ICR	Bromodichloromethane	21.5	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
689	THM-ICR	Bromoform	5.5	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
690	THM-ICR	Chloroform	10.9	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
691	THM-ICR	Dibromochloromethane	24.2	µg/L	EPA 551.1	1	1.0	6/17/98	6/22/98	6/22/98	0-153-0
692	UV-ICR	UV	0.030	1/cm	SM 5910 B	1	0.009	6/13/98		6/13/98	8-0-200
693	UV-ICR	UV (Dupl)	0.030	1/cm	SM 5910 B	1	0.009	6/13/98		6/13/98	8-0-200
			0.030	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-24 **S&H ID:** 9806-253 **Date Sampled:** 6/14/98 2:24:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
694	Cl2Dose	Chlorine Dose	2.52	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
695	Cl2Res	Chlorine Residual	0.73	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
696	HAA	Bromochloroacetic acid	9.4	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
697	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
698	HAA	Chlorodibromoacetic acid	5.9	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
699	HAA	Dibromoacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
700	HAA	Dichloroacetic acid	7.3	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
701	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
702	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
703	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141
704	HAA	Trichloroacetic acid	6.8	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
705	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
706	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
707	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/14/98		6/14/98	n/a
708	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a
709	TEMP	Temperature	23.6	ºC	SM 2550 B	1	n/a	6/14/98		6/14/98	n/a
710	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
711	TOC-ICR	TOC	2.13	mg/L	SM 5310 C	1	0.50	6/14/98		6/15/98	7-0-297
712	TOC-ICR	TOC (Dupl)	2.20	mg/L	SM 5310 C	1	0.50	6/14/98		6/15/98	7-0-297
			2.17	**mg/L**	**3.2 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

713	TOX-ICR	TOX	149	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
714	TOX-ICR	TOX (Dupl)	149	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
			149	**µg Cl-/L**	**0.0 % RPD**						
715	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
716	THM-ICR	Bromodichloromethane	22.6	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
717	THM-ICR	Bromoform	4.5	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
718	THM-ICR	Chloroform	12.9	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
719	THM-ICR	Dibromochloromethane	21.8	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
720	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	6/14/98		6/15/98	8-0-201
721	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	6/14/98		6/15/98	8-0-201
			0.036	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-28 **S&H ID:** 9806-257 **Date Sampled:** 6/15/98 5:39:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
722	Cl2Dose	Chlorine Dose	2.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
723	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
724	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
725	HAA	Bromodichloroacetic acid	14.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
726	HAA	Chlorodibromoacetic acid	6.1	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
727	HAA	Dibromoacetic acid	5.6	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
728	HAA	Dichloroacetic acid	9.5	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
729	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
730	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
731	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141
732	HAA	Trichloroacetic acid	9.6	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
733	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
734	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
735	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/15/98		6/15/98	n/a
736	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a
737	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	6/15/98		6/15/98	n/a
738	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
739	TOC-ICR	TOC	2.41	mg/L	SM 5310 C	1	0.50	6/15/98		6/16/98	7-0-298
740	TOC-ICR	TOC (Dupl)	2.41	mg/L	SM 5310 C	1	0.50	6/15/98		6/16/98	7-0-298
			2.41	**mg/L**	**0.0 % RPD**						
741	TOX-ICR	TOX	189	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
742	TOX-ICR	TOX (Dupl)	179	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
			184	**µg Cl-/L**	**5.4 % RPD**						
743	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.4	%	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

744	THM-ICR	Bromodichloromethane	26.3	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
745	THM-ICR	Bromoform	3.9	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
746	THM-ICR	Chloroform	18.4	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
747	THM-ICR	Dibromochloromethane	24.3	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
748	UV-ICR	UV	0.041	1/cm	SM 5910 B	1	0.009	6/15/98		6/17/98	8-0-202
749	UV-ICR	UV (Dupl)	0.042	1/cm	SM 5910 B	1	0.009	6/15/98		6/17/98	8-0-202
			0.042	**1/cm**	**2.4 % RPD**						

Sample ID: 117.20.Eff-29 **S&H ID:** 9806-258 **Date Sampled:** 6/17/98 10:44:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
750	Cl2Dose	Chlorine Dose	2.82	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/19/98		6/19/98	n/a
751	Cl2Res	Chlorine Residual	0.15	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/19/98		6/20/98	n/a
752	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
753	HAA	Bromodichloroacetic acid	9.3	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
754	HAA	Chlorodibromoacetic acid	4.1	µg/L	SM 6251 B	1	2.0	6/20/98	7/1/98	7/7/98	MW80141
755	HAA	Dibromoacetic acid	6.3	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
756	HAA	Dichloroacetic acid	9.7	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
757	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
758	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/20/98	7/1/98	7/7/98	MW80141
759	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/20/98	7/1/98	7/7/98	MW80141
760	HAA	Trichloroacetic acid	8.0	µg/L	SM 6251 B	1	1.0	6/20/98	7/1/98	7/7/98	MW80141
761	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/19/98		6/20/98	n/a
762	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/19/98		6/19/98	n/a
763	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/17/98		6/17/98	n/a
764	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/19/98		6/20/98	n/a
765	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	6/17/98		6/17/98	n/a
766	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/19/98		6/20/98	n/a
767	TOC-ICR	TOC	2.65	mg/L	SM 5310 C	1	0.50	6/17/98		6/17/98	7-0-299
768	TOC-ICR	TOC (Dupl)	2.69	mg/L	SM 5310 C	1	0.50	6/17/98		6/17/98	7-0-299
			2.67	**mg/L**	**1.5 % RPD**						
769	TOX-ICR	TOX	177	µg Cl-/L	SM 5320 B	1	25	6/20/98		6/25/98	12-0-155
770	TOX-ICR	TOX (Dupl)	182	µg Cl-/L	SM 5320 B	1	25	6/20/98		6/25/98	12-0-155
			180	**µg Cl-/L**	**2.8 % RPD**						
771	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	6/20/98	6/30/98	7/3/98	0-160-0
772	THM-ICR	Bromodichloromethane	26.4	µg/L	EPA 551.1	1	1.0	6/20/98	6/30/98	7/3/98	0-160-0
773	THM-ICR	Bromoform	4.2	µg/L	EPA 551.1	1	1.0	6/20/98	6/30/98	7/3/98	0-160-0
774	THM-ICR	Chloroform	18.6	µg/L	EPA 551.1	1	1.0	6/20/98	6/30/98	7/3/98	0-160-0
775	THM-ICR	Dibromochloromethane	23.6	µg/L	EPA 551.1	1	1.0	6/20/98	6/30/98	7/3/98	0-160-0
776	UV-ICR	UV	0.047	1/cm	SM 5910 B	1	0.009	6/17/98		6/17/98	8-0-202

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

777	UV-ICR	UV (Dupl)	0.048	1/cm	SM 5910 B	1	0.009	6/17/98		6/17/98	8-0-202
			0.048	**1/cm**	**2.1 % RPD**						

Sample ID: 117.20.Eff-30 **S&H ID:** 9806-259 **Date Sampled:** 6/18/98 6:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
778	pH	pH	7.7	Unit	SM 4500-H+ B	1	n/a	6/18/98		6/18/98	n/a
779	TEMP	Temperature	25.4	ºC	SM 2550 B	1	n/a	6/18/98		6/18/98	n/a
780	TOC-ICR	TOC	2.80	mg/L	SM 5310 C	1	0.50	6/18/98		6/19/98	7-0-300
781	TOC-ICR	TOC (Dupl)	2.83	mg/L	SM 5310 C	1	0.50	6/18/98		6/19/98	7-0-300
			2.81	**mg/L**	**1.1 % RPD**						

Sample ID: 117.20.Eff-10d **S&H ID:** 9806-262 **Date Sampled:** 6/9/98 2:59:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
782	Cl2Dose	Chlorine Dose	1.54	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/11/98		6/11/98	n/a
783	Cl2Res	Chlorine Residual	0.76	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/11/98		6/12/98	n/a
784	HAA	Bromochloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
785	HAA	Bromodichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
786	HAA	Chlorodibromoacetic acid	2.0	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
787	HAA	Dibromoacetic acid	2.2	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
788	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
789	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
790	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
791	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/12/98	6/24/98	6/28/98	MW79757
792	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
793	pH	Cl2 pH - Final	7.3	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/12/98	n/a
794	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/11/98		6/11/98	n/a
795	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	6/9/98		6/9/98	n/a
796	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/11/98		6/12/98	n/a
797	TEMP	Temperature	23.9	ºC	SM 2550 B	1	n/a	6/9/98		6/9/98	n/a
798	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	6/11/98		6/12/98	n/a
799	TOC-ICR	TOC	0.54	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
800	TOC-ICR	TOC (Dupl)	0.55	mg/L	SM 5310 C	1	0.50	6/9/98		6/9/98	7-0-292
			0.55	**mg/L**	**1.8 % RPD**						
801	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
802	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/22/98	12-0-152
			ND	**µg Cl-/L**							
803	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
804	THM-ICR	Bromodichloromethane	2.1	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

805	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
806	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
807	THM-ICR	Dibromochloromethane	5.5	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
808	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
809	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	6/9/98		6/10/98	8-0-197
			ND	**1/cm**							

Sample ID: 117.20.Eff-19d **S&H ID:** 9806-266 **Date Sampled:** 6/12/98 2:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
810	Cl2Dose	Chlorine Dose	2.24	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
811	Cl2Res	Chlorine Residual	0.66	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
812	HAA	Bromochloroacetic acid	7.4	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
813	HAA	Bromodichloroacetic acid	7.5	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
814	HAA	Chlorodibromoacetic acid	5.5	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
815	HAA	Dibromoacetic acid	6.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
816	HAA	Dichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
817	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
818	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
819	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141
820	HAA	Trichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
821	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
822	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
823	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/12/98		6/12/98	n/a
824	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a
825	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	6/12/98		6/12/98	n/a
826	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
827	TOC-ICR	TOC	1.68	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
828	TOC-ICR	TOC (Dupl)	1.68	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
			1.68	**mg/L**	**0.0 % RPD**						
829	TOX-ICR	TOX	101	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
830	TOX-ICR	TOX (Dupl)	98	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/24/98	12-0-154
			100	**µg Cl-/L**	**3.0 % RPD**						
831	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
832	THM-ICR	Bromodichloromethane	15.6	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
833	THM-ICR	Bromoform	6.3	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
834	THM-ICR	Chloroform	6.5	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
835	THM-ICR	Dibromochloromethane	21.1	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
836	UV-ICR	UV	0.024	1/cm	SM 5910 B	1	0.009	6/12/98		6/12/98	8-0-199
837	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	6/12/98		6/12/98	8-0-199

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

			0.024	**1/cm**	**0.0 % RPD**						

Sample ID: 117.20.Eff-24d **S&H ID:** 9806-269 **Date Sampled:** 6/14/98 2:24:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
838	Cl2Dose	Chlorine Dose	2.52	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/16/98		6/16/98	n/a
839	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/16/98		6/17/98	n/a
840	HAA	Bromochloroacetic acid	9.5	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
841	HAA	Bromodichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
842	HAA	Chlorodibromoacetic acid	6.0	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
843	HAA	Dibromoacetic acid	5.8	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
844	HAA	Dichloroacetic acid	7.4	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
845	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
846	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	6/17/98	7/1/98	7/6/98	MW80141
847	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/17/98	7/1/98	7/6/98	MW80141
848	HAA	Trichloroacetic acid	7.0	µg/L	SM 6251 B	1	1.0	6/17/98	7/1/98	7/6/98	MW80141
849	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/17/98	n/a
850	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/16/98		6/16/98	n/a
851	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	6/14/98		6/14/98	n/a
852	TEMP	Cl2 Temperature	24.7	ºC	SM 2550 B	1	n/a	6/16/98		6/17/98	n/a
853	TEMP	Temperature	23.6	ºC	SM 2550 B	1	n/a	6/14/98		6/14/98	n/a
854	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	6/16/98		6/17/98	n/a
855	TOC-ICR	TOC	2.11	mg/L	SM 5310 C	1	0.50	6/14/98		6/15/98	7-0-297
856	TOC-ICR	TOC (Dupl)	2.16	mg/L	SM 5310 C	1	0.50	6/14/98		6/15/98	7-0-297
			2.13	**mg/L**	**2.3 % RPD**						
857	TOX-ICR	TOX	149	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
858	TOX-ICR	TOX (Dupl)	153	µg Cl-/L	SM 5320 B	1	25	6/17/98		6/25/98	12-0-155
			151	**µg Cl-/L**	**2.6 % RPD**						
859	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.4	%	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
860	THM-ICR	Bromodichloromethane	24.0	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
861	THM-ICR	Bromoform	4.8	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
862	THM-ICR	Chloroform	14.0	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
863	THM-ICR	Dibromochloromethane	25.3	µg/L	EPA 551.1	1	1.0	6/17/98	6/30/98	7/3/98	0-160-0
864	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	6/14/98		6/15/98	8-0-201
865	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	6/14/98		6/15/98	8-0-201
			0.036	**1/cm**	**0.0 % RPD**						

Sample ID: 117.Inf.A-1 **S&H ID:** 9806-270 **Date Sampled:** 6/5/98 5:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

866	ALK	Alkalinity	83	mg/L	SM 2320 B	1	5	6/5/98		6/6/98	1-0-22
867	ALK	Alkalinity (Dupl)	84	mg/L	SM 2320 B	1	5	6/5/98		6/6/98	1-0-22
			84	**mg/L**	**1.2 % RPD**						
868	NH3	Ammonia Nitrogen	0.06	mg/L	EPA 350.1	1	0.05	6/5/98		6/16/98	MW79168
869	BR	Bromide	0.082	mg/L	EPA 300.0 A	1	0.020	6/5/98		6/22/98	MW79475
870	CaHardM	Calcium Hardness	90	mg/L CaCO3	EPA 200.7	1	5	6/5/98		6/18/98	MW n/a
871	CaMW	Calcium, Total, ICAP	36	mg/L	EPA 200.7	1	1	6/5/98	6/18/98	6/18/98	MW79300
872	MgMW	Magnesium, Total, ICAP	14	mg/L	EPA 200.7	1	0	6/5/98	6/18/98	6/25/98	MW79640
873	TotHard	Total Hardness as CaCO3 by ICP	147	mg/L CaCO3	SM 2340B	1	7	6/5/98		6/18/98	MW n/a

Sample ID: 117.Inf.A-2 **S&H ID:** 9806-271 **Date Sampled:** 6/10/98 10:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
874	ALK	Alkalinity	90	mg/L	SM 2320 B	1	5	6/10/98		6/10/98	1-0-23
875	ALK	Alkalinity (Dupl)	86	mg/L	SM 2320 B	1	5	6/10/98		6/10/98	1-0-23
			88	**mg/L**	**4.5 % RPD**						
876	NH3	Ammonia Nitrogen	0.09	mg/L	EPA 350.1	1	0.05	6/10/98		6/16/98	MW79168
877	BR	Bromide	0.086	mg/L	EPA 300.0 A	1	0.020	6/10/98		6/23/98	MW79548
878	CaHardM	Calcium Hardness	87	mg/L CaCO3	EPA 200.7	1	5	6/10/98		6/18/98	MW n/a
879	CaMW	Calcium, Total, ICAP	35	mg/L	EPA 200.7	1	1	6/10/98	6/18/98	6/18/98	MW79300
880	MgMW	Magnesium, Total, ICAP	14	mg/L	EPA 200.7	1	0	6/10/98	6/18/98	6/18/98	MW79640
881	TotHard	Total Hardness as CaCO3 by ICP	145	mg/L CaCO3	SM 2340B	1	7	6/10/98		6/18/98	MW n/a

Sample ID: 117.Inf.B-1 **S&H ID:** 9806-272 **Date Sampled:** 6/5/98 5:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
882	Cl2Dose	Chlorine Dose	4.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/10/98	n/a
883	Cl2Res	Chlorine Residual	1.28	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/11/98	n/a
884	HAA	Bromochloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
885	HAA	Bromodichloroacetic acid	26.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
886	HAA	Chlorodibromoacetic acid	7.0	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
887	HAA	Dibromoacetic acid	3.4	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
888	HAA	Dichloroacetic acid	24.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
889	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
890	HAA	Monochloroacetic acid	3.3	µg/L	SM 6251 B	1	2.0	6/11/98	6/21/98	6/22/98	MW79470
891	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/11/98	6/21/98	6/22/98	MW79470
892	HAA	Trichloroacetic acid	32.0	µg/L	SM 6251 B	1	1.0	6/11/98	6/21/98	6/22/98	MW79470
893	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

894	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
895	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	6/5/98		6/5/98	n/a
896	TEMP	Cl2 Temperature	24.8	ºC	SM 2550 B	1	n/a	6/10/98		6/11/98	n/a
897	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	6/5/98		6/5/98	n/a
898	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/10/98		6/11/98	n/a
899	TOC-ICR	TOC	3.70	mg/L	SM 5310 C	1	0.50	6/5/98		6/6/98	7-0-289
900	TOC-ICR	TOC (Dupl)	3.69	mg/L	SM 5310 C	1	0.50	6/5/98		6/6/98	7-0-289
			3.70	**mg/L**	**0.3 % RPD**						
901	TOX-ICR	TOX	371	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
902	TOX-ICR	TOX (Dupl)	373	µg Cl-/L	SM 5320 B	1	25	6/11/98		6/16/98	12-0-148
			372	**µg Cl-/L**	**0.5 % RPD**						
903	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
904	THM-ICR	Bromodichloromethane	41.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
905	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
906	THM-ICR	Chloroform	63.1	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
907	THM-ICR	Dibromochloromethane	16.4	µg/L	EPA 551.1	1	1.0	6/11/98	6/22/98	6/22/98	0-153-0
908	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	6/5/98		6/5/98	9-0-11
909	UV-ICR	UV	0.086	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
910	UV-ICR	UV (Dupl)	0.086	1/cm	SM 5910 B	1	0.009	6/5/98		6/7/98	8-0-194
			0.086	**1/cm**	**0.0 % RPD**						

Sample ID: 117.Inf.B-2 **S&H ID:** 9806-273 **Date Sampled:** 6/7/98 4:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
911	TOC-ICR	TOC	3.66	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
912	TOC-ICR	TOC (Dupl)	3.68	mg/L	SM 5310 C	1	0.50	6/7/98		6/7/98	7-0-290
			3.67	**mg/L**	**0.5 % RPD**						

Sample ID: 117.Inf.B-3 **S&H ID:** 9806-274 **Date Sampled:** 6/8/98 6:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
913	TOC-ICR	TOC	3.65	mg/L	SM 5310 C	1	0.50	6/8/98		6/9/98	7-0-292
914	TOC-ICR	TOC (Dupl)	3.68	mg/L	SM 5310 C	1	0.50	6/8/98		6/9/98	7-0-292
			3.67	**mg/L**	**0.8 % RPD**						

Sample ID: 117.Inf.B-4 **S&H ID:** 9806-275 **Date Sampled:** 6/10/98 10:10:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
915	Cl2Dose	Chlorine Dose	4.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/10/98		6/11/98	n/a
916	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/10/98		6/12/98	n/a
917	HAA	Bromochloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
918	HAA	Bromodichloroacetic acid	24.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

919	HAA	Chlorodibromoacetic acid	6.5	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
920	HAA	Dibromoacetic acid	3.6	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
921	HAA	Dichloroacetic acid	25.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
922	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
923	HAA	Monochloroacetic acid	2.9	µg/L	SM 6251 B	1	2.0	6/12/98	6/24/98	6/28/98	MW79757
924	HAA	Tribromoacetic acid	4.1	µg/L	SM 6251 B	1	4.0	6/12/98	6/24/98	6/28/98	MW79757
925	HAA	Trichloroacetic acid	33.0	µg/L	SM 6251 B	1	1.0	6/12/98	6/24/98	6/28/98	MW79757
926	pH	Cl2 pH - Final	7.2	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/12/98	n/a
927	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/11/98	n/a
928	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	6/10/98		6/10/98	n/a
929	TEMP	Cl2 Temperature	24.5	ºC	SM 2550 B	1	n/a	6/10/98		6/12/98	n/a
930	TEMP	Temperature	16.6	ºC	SM 2550 B	1	n/a	6/10/98		6/10/98	n/a
931	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	6/10/98		6/12/98	n/a
932	TOC-ICR	TOC	3.66	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
933	TOC-ICR	TOC (Dupl)	3.70	mg/L	SM 5310 C	1	0.50	6/10/98		6/10/98	7-0-293
			3.68	**mg/L**	**1.1 % RPD**						
934	TOX-ICR	TOX	354	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
935	TOX-ICR	TOX (Dupl)	371	µg Cl-/L	SM 5320 B	1	25	6/12/98		6/23/98	12-0-153
			363	**µg Cl-/L**	**4.7 % RPD**						
936	THM-ICR	1,2,3-Trichloropropane (Surrogate)	111.6	%	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
937	THM-ICR	Bromodichloromethane	42.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
938	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
939	THM-ICR	Chloroform	60.6	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
940	THM-ICR	Dibromochloromethane	16.3	µg/L	EPA 551.1	1	1.0	6/12/98	6/22/98	6/22/98	0-153-0
941	TURB	Turbidity	0.30	ntu	SM 2130 B	1	0.05	6/10/98		6/10/98	9-0-12
942	UV-ICR	UV	0.085	1/cm	SM 5910 B	1	0.009	6/10/98		6/10/98	8-0-197
943	UV-ICR	UV (Dupl)	0.085	1/cm	SM 5910 B	1	0.009	6/10/98		6/10/98	8-0-197
			0.085	**1/cm**	**0.0 % RPD**						

Sample ID: 117.Inf.B-5 **S&H ID:** 9806-276 **Date Sampled:** 6/12/98 11:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
944	TOC-ICR	TOC	3.71	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
945	TOC-ICR	TOC (Dupl)	3.73	mg/L	SM 5310 C	1	0.50	6/12/98		6/12/98	7-0-295
			3.72	**mg/L**	**0.5 % RPD**						

Sample ID: 117.Inf.B-6 **S&H ID:** 9806-708 **Date Sampled:** 6/20/98 11:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
946	Cl2Dose	Chlorine Dose	3.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	6/20/98		6/21/98	n/a
947	Cl2Res	Chlorine Residual	0.78	mg/L as Cl2	SM 4500-Cl F	1	0.10	6/20/98		6/22/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

948	HAA	Bromochloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
949	HAA	Bromodichloroacetic acid	20.0	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
950	HAA	Chlorodibromoacetic acid	4.3	µg/L	SM 6251 B	1	2.0	6/22/98	7/1/98	7/3/98	MW80363
951	HAA	Dibromoacetic acid	3.2	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
952	HAA	Dichloroacetic acid	23.0	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
953	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
954	HAA	Monochloroacetic acid	3.4	µg/L	SM 6251 B	1	2.0	6/22/98	7/1/98	7/3/98	MW80363
955	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	6/22/98	7/1/98	7/3/98	MW80363
956	HAA	Trichloroacetic acid	30.0	µg/L	SM 6251 B	1	1.0	6/22/98	7/1/98	7/3/98	MW80363
957	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	6/20/98		6/21/98	n/a
958	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	6/20/98		6/21/98	n/a
959	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	6/20/98		6/20/98	n/a
960	TEMP	Cl2 Temperature	25.8	ºC	SM 2550 B	1	n/a	6/20/98		6/21/98	n/a
961	TEMP	Temperature	23.0	ºC	SM 2550 B	1	n/a	6/20/98		6/20/98	n/a
962	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	6/20/98		6/21/98	n/a
963	TOC-ICR	TOC	3.68	mg/L	SM 5310 C	1	0.50	6/20/98		6/21/98	7-0-302
964	TOC-ICR	TOC (Dupl)	3.71	mg/L	SM 5310 C	1	0.50	6/20/98		6/21/98	7-0-302
			3.70	**mg/L**	**0.8 % RPD**						
965	TOX-ICR	TOX	357	µg Cl-/L	SM 5320 B	1	25	6/22/98		6/25/98	12-0-155
966	TOX-ICR	TOX (Dupl)	358	µg Cl-/L	SM 5320 B	1	25	6/22/98		6/25/98	12-0-155
			358	**µg Cl-/L**	**0.3 % RPD**						
967	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	6/22/98	6/30/98	7/3/98	0-160-0
968	THM-ICR	Bromodichloromethane	36.5	µg/L	EPA 551.1	1	1.0	6/22/98	6/30/98	7/3/98	0-160-0
969	THM-ICR	Bromoform	1.4	µg/L	EPA 551.1	1	1.0	6/22/98	6/30/98	7/3/98	0-160-0
970	THM-ICR	Chloroform	54.4	µg/L	EPA 551.1	1	1.0	6/22/98	6/30/98	7/3/98	0-160-0
971	THM-ICR	Dibromochloromethane	15.3	µg/L	EPA 551.1	1	1.0	6/22/98	6/30/98	7/3/98	0-160-0
972	TURB	Turbidity	0.25	ntu	SM 2130 B	1	0.05	6/20/98		6/20/98	9-0-13
973	UV-ICR	UV	0.088	1/cm	SM 5910 B	1	0.009	6/20/98		6/20/98	8-0-204
974	UV-ICR	UV (Dupl)	0.088	1/cm	SM 5910 B	1	0.009	6/20/98		6/20/98	8-0-204
			0.088	**1/cm**	**0.0 % RPD**						

Sample ID: Settled Instantaneous **S&H ID:** 9808-420 **Date Sampled:** 8/21/98

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
975	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.8	%	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
976	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
977	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
978	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
979	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/21/98	8/26/98	8/27/98	0-208-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

980	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
981	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
982	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
983	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/21/98	8/26/98	8/27/98	0-208-0
984	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/21/98	8/26/98	8/27/98	0-208-0
985	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/21/98	8/26/98	8/27/98	0-208-0
986	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	8/21/98	8/27/98	8/27/98	0-209-0
987	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	8/21/98	8/27/98	8/27/98	0-209-0
988	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	8/21/98	8/27/98	8/27/98	0-209-0
989	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	8/21/98	8/27/98	8/27/98	0-209-0
990	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	8/21/98	8/27/98	8/27/98	0-209-0

End of laboratory test results

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

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

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Quality Control Report

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City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 117
Study Title: ICR RSSCT #2

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-22

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	96	mg/L	96%		06/02/98	9806-85	5		
Matrix Spike (Dupl)	Matrix Spike	100	94	mg/L	94%		06/02/98	9806-85	5		
		100	**95**	**mg/L**	**95%**	**2.1 %**					
Method Blank	Method Blank		ND*	mg/L			06/02/98	9806-98	5		
Standard	Standard	100	100	mg/L	100%		06/02/98	9806-99	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		06/02/98	9806-99	5		
		100	**100**	**mg/L**	**100%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	95	mg/L	95%		06/06/98	9806-270	5		
Matrix Spike (Dupl)	Matrix Spike	100	95	mg/L	95%		06/06/98	9806-270	5		
		100	**95**	**mg/L**	**95%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			06/06/98	9806-279	5		
Standard	Standard	100	98	mg/L	98%		06/06/98	9806-280	5		
Standard (Dupl)	Standard	100	99	mg/L	99%		06/06/98	9806-280	5		
		100	**98**	**mg/L**	**98%**	**1.0 %**					

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-23

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	98	mg/L	98%		06/10/98	9806-86	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		06/10/98	9806-86	5		
		100	**97**	**mg/L**	**97%**	**2.1 %**					
Method Blank	Method Blank		ND*	mg/L			06/10/98	9806-339	5		
Standard	Standard	100	99	mg/L	99%		06/10/98	9806-340	5		
Standard (Dupl)	Standard	100	99	mg/L	99%		06/10/98	9806-340	5		
		100	**99**	**mg/L**	**99%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	96	mg/L	96%		06/19/98	9806-471	5		
Matrix Spike (Dupl)	Matrix Spike	100	94	mg/L	94%		06/19/98	9806-471	5		
		100	**95**	**mg/L**	**95%**	**2.1 %**					
Method Blank	Method Blank		ND*	mg/L			06/19/98	9806-604	5		
Standard	Standard	100	105	mg/L	105%		06/19/98	9806-605	5		
Standard (Dupl)	Standard	100	98	mg/L	98%		06/19/98	9806-605	5		
		100	**101**	**mg/L**	**101%**	**6.9 %**					

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-284

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.89	mg/L	97%		9805-506	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.92	mg/L	98%		9805-506	0.5		
		4.00	**3.90**	**mg/L**	**97%**	**0.8 %**				
Method Blank	Method Blank		ND*	mg/L			9805-507	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-507	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9805-257	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.90	mg/L	97%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.84	mg/L	96%		9805-447	0.5	90-110%	
		4.00	**3.87**	**mg/L**	**97%**	**1.6 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-287

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.97	mg/L	99%		9806-11	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9806-11	0.5		
		4.00	**3.97**	**mg/L**	**99%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9806-179	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-179	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9805-257	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9805-447	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	9.71	mg/L	97%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.61	mg/L	96%		9806-118	0.5	90-110%	
		10.00	**9.66**	**mg/L**	**97%**	**1.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-289

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.05	mg/L	101%		9806-54	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9806-54	0.5		
		4.00	**4.02**	**mg/L**	**100%**	**1.7 %**				

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Summers & Hooper, Inc.
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Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

Method Blank	Method Blank		ND*	mg/L			9806-278	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-278	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9805-257	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9805-447	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**1.0 %**			90-110%	10%
Standard	Standard	10.00	9.95	mg/L	99%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.98	mg/L	100%		9806-118	0.5	90-110%	
		10.00	**9.97**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-290

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%		9806-21	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.07	mg/L	102%		9806-21	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**2.0 %**				
Method Blank	Method Blank		ND*	mg/L			9806-281	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-281	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.47	mg/L	94%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9805-257	0.5	50-150%	
		0.50	**0.48**	**mg/L**	**96%**	**4.2 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9805-447	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**1.2 %**			90-110%	10%
Standard	Standard	10.00	9.93	mg/L	99%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.06	mg/L	101%		9806-118	0.5	90-110%	
		10.00	**9.99**	**mg/L**	**100%**	**1.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-291

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.44	mg/L	111%		9806-60	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.11	mg/L	103%		9806-60	0.5		
		4.00	**4.28**	**mg/L**	**107%**	**7.9 %**				
Method Blank	Method Blank		ND*	mg/L			9806-283	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-283	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9805-257	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%		9805-257	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**5.8 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9805-447	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	9.78	mg/L	98%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.99	mg/L	100%		9806-118	0.5	90-110%	
		10.00	**9.89**	**mg/L**	**99%**	**2.1 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-292

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9806-26	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.08	mg/L	102%		9806-26	0.5		
		4.00	**4.05**	**mg/L**	**101%**	**1.7 %**				
Method Blank	Method Blank		ND*	mg/L			9806-298	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-298	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9806-296	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9806-296	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%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.91	mg/L	99%		9806-118	0.5	90-110%	
		10.00	**9.87**	**mg/L**	**99%**	**0.8 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-293

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%		9806-239	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.05	mg/L	101%		9806-239	0.5		
		4.00	**4.02**	**mg/L**	**100%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9806-337	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-337	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**3.6 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9806-296	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9806-296	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	**3.97**	**mg/L**	**99%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	9.92	mg/L	99%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.00	mg/L	100%		9806-118	0.5	90-110%	
		10.00	**9.96**	**mg/L**	**100%**	**0.8 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-294

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.27	mg/L	107%		9806-70	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.13	mg/L	103%		9806-70	0.5		
		4.00	**4.20**	**mg/L**	**105%**	**3.3 %**				
Method Blank	Method Blank		ND*	mg/L			9806-346	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-346	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	4.02	mg/L	100%		9806-296	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9806-296	0.5	90-110%	
		4.00	**4.02**	**mg/L**	**100%**	**0.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-295

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9806-72	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.05	mg/L	101%		9806-72	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9806-355	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-355	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9806-111	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9806-296	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9806-296	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**1.5 %**			90-110%	10%
Standard	Standard	10.00	9.92	mg/L	99%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.93	mg/L	99%		9806-118	0.5	90-110%	
		10.00	**9.92**	**mg/L**	**99%**	**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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Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-296

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.74	mg/L	94%		9806-251	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.83	mg/L	96%		9806-251	0.5		
		4.00	**3.79**	**mg/L**	**95%**	**2.4 %**				
Method Blank	Method Blank		ND*	mg/L			9806-369	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-369	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9806-357	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-297

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.10	mg/L	102%		9806-254	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9806-254	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**3.0 %**				
Method Blank	Method Blank		ND*	mg/L			9806-416	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-416	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.56	mg/L	112%		9806-111	0.5	50-150%	
		0.50	**0.56**	**mg/L**	**112%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9806-357	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**1.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-298

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.06	mg/L	101%		9806-257	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.19	mg/L	105%		9806-257	0.5		
		4.00	**4.13**	**mg/L**	**103%**	**2.9 %**				
Method Blank	Method Blank		ND*	mg/L			9806-424	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-424	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.

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Standard	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.91	mg/L	98%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9806-357	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**1.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-299

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.45	mg/L	111%		9806-360	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.42	mg/L	111%		9806-360	0.5		
		4.00	**4.44**	**mg/L**	**111%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9806-449	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-449	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.05	mg/L	101%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9806-357	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**0.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-300

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.23	mg/L	106%		9806-259	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.32	mg/L	108%		9806-259	0.5		
		4.00	**4.27**	**mg/L**	**107%**	**2.1 %**				
Method Blank	Method Blank		ND*	mg/L			9806-603	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-603	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9806-111	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.98	mg/L	100%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9806-357	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**1.0 %**			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: 7-0-302

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.99	mg/L	100%		9806-514	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.97	mg/L	99%		9806-514	0.5		
		4.00	**3.98**	**mg/L**	**100%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9806-712	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9806-712	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9806-111	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9806-111	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9806-357	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9806-357	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**0.0 %**			90-110%	10%
Standard	Standard	10.00	9.80	mg/L	98%		9806-118	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.91	mg/L	99%		9806-118	0.5	90-110%	
		10.00	**9.86**	**mg/L**	**99%**	**1.1 %**			90-110%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-194

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-282	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-282	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-282	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-282	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9806-113	0.009	85-115%	
		0.088	**0.083**	**1/cm**	**94%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-195

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-284	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-284	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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Method Blank	Method Blank		ND*	1/cm			9806-284	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-284	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9806-113	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: 8-0-196

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9806-299	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-299	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-299	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-299	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9806-113	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: 8-0-197

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9806-338	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-338	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-338	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-338	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**14.3 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9806-113	0.009	85-115%	
		0.088	**0.083**	**1/cm**	**94%**	**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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Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-198

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-347	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-347	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-347	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-347	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9806-113	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: 8-0-199

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-368	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-368	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-368	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-368	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9806-113	0.009	85-115%	
		0.088	**0.085**	**1/cm**	**97%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-200

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-370	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-370	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-370	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-370	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%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9806-113	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: 8-0-201

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9806-417	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-417	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-417	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-417	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9806-113	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: 8-0-202

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9806-450	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-450	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-450	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-450	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-112	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-112	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%		9806-113	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9806-113	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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Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-204

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9806-709	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-709	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9806-709	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9806-709	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9806-614	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9806-614	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%		9806-613	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9806-613	0.009	85-115%	
		0.088	**0.086**	**1/cm**	**98%**	**0.0 %**			85-115%	10%

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-11

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard	Standard	4.51	4.56	ntu	101%		05/17/98	9902-79	0.05		
Standard	Standard	4.51	4.58	ntu	102%		05/20/98	9902-79	0.05		
Standard	Standard	4.51	4.61	ntu	102%		05/23/98	9902-79	0.05		
Standard	Standard	4.51	4.62	ntu	102%		05/24/98	9902-79	0.05		
Standard	Standard	4.51	4.62	ntu	102%		06/01/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		06/05/98	9902-79	0.05		

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-12

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard	Standard	5.41	5.52	ntu	102%		06/09/98	9807-108	0.05		
Standard	Standard	5.41	5.54	ntu	102%		06/10/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		06/18/98	9807-108	0.05		

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-13

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard	Standard	5.41	5.50	ntu	102%		06/20/98	9807-108	0.05		
Standard	Standard	5.41	5.50	ntu	102%		06/21/98	9807-108	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	5.41	5.50	ntu	102%	06/24/98	9807-108	0.05
Standard	Standard	5.41	5.52	ntu	102%	06/26/98	9807-108	0.05
Standard	Standard	5.41	5.45	ntu	101%	07/02/98	9807-108	0.05
Standard	Standard	5.41	5.48	ntu	101%	07/02/98	9807-108	0.05

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-148

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard - TCP Aqueous	Standard	25	20	µg Cl-/L	80%		9806-422	25	75-125%	
Standard - TCP Aqueous	Standard	200	202	µg Cl-/L	101%		9806-421	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-423	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-150

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9806-457	25	75-125%	
Standard - TCP Aqueous	Standard	200	208	µg Cl-/L	104%		9806-456	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-458	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-151

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	200	205	µg Cl-/L	102%		9806-220	25		
Matrix Spike (Dupl)	Matrix Spike	200	207	µg Cl-/L	103%		9806-220	25		
		200	**206**	**µg Cl-/L**	**103%**	**1.0 %**				
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9806-608	25	75-125%	
Standard - TCP Aqueous	Standard	200	204	µg Cl-/L	102%		9806-607	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-609	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-152

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9806-725	25	75-125%	
Standard - TCP Aqueous	Standard	200	207	µg Cl-/L	103%		9806-724	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-726	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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Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-153

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	203	µg Cl-/L	101%		9806-71	25		
Matrix Spike (Dupl)	Matrix Spike	200	192	µg Cl-/L	96%		9806-71	25		
		200	**197**	**µg Cl-/L**	**98%**	**5.1 %**				
Standard - TCP Aqueous (Dupl)	Standard	25	27	µg Cl-/L	108%		9806-730	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9806-729	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-731	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-154

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	197	µg Cl-/L	98%		9806-266	25		
Matrix Spike (Dupl)	Matrix Spike	200	202	µg Cl-/L	101%		9806-266	25		
		200	**199**	**µg Cl-/L**	**100%**	**2.5 %**				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9806-743	25	75-125%	
Standard - TCP Aqueous	Standard	200	204	µg Cl-/L	102%		9806-742	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-744	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-155

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9806-749	25	75-125%	
Standard - TCP Aqueous	Standard	200	202	µg Cl-/L	101%		9806-748	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-750	25		

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-145-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	50.1	45.9	µg/L		8.8%	9806-87	1		
Bromodichloromethane	Matrix Spike	40.0	38.7	µg/L	97%		9806-52	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9806-348	1		
Bromodichloromethane	Secondary Source Std	20.0	21.6	µg/L	108%		9806-349	1	70-130%	
Bromodichloromethane	Standard	20.0	19.5	µg/L	97%		9806-350	1	80-120%	
Bromodichloromethane	Standard	20.0	20.2	µg/L	101%		9806-350	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	40.7	µg/L	102%		9806-351	1	80-120%
Bromodichloromethane	Standard	40.0	41.0	µg/L	102%		9806-351	1	80-120%
Bromoform	Duplicate	14.7	13.3	µg/L		10.0%	9806-87	1	
Bromoform	Matrix Spike	40.0	42.1	µg/L	105%		9806-52	1	
Bromoform	Method Blank		ND*	µg/L			9806-348	1	
Bromoform	Secondary Source Std	20.0	20.9	µg/L	104%		9806-349	1	70-130%
Bromoform	Standard	20.0	20.0	µg/L	100%		9806-350	1	80-120%
Bromoform	Standard	20.0	20.7	µg/L	103%		9806-350	1	80-120%
Bromoform	Standard	40.0	41.4	µg/L	103%		9806-351	1	80-120%
Bromoform	Standard	40.0	41.7	µg/L	104%		9806-351	1	80-120%
Chloroform	Duplicate	52.9	48.4	µg/L		8.9%	9806-87	1	
Chloroform	Matrix Spike	40.0	40.6	µg/L	102%		9806-52	1	
Chloroform	Method Blank		ND*	µg/L			9806-348	1	
Chloroform	Secondary Source Std	20.0	21.1	µg/L	106%		9806-349	1	70-130%
Chloroform	Standard	20.0	19.1	µg/L	96%		9806-350	1	80-120%
Chloroform	Standard	20.0	20.1	µg/L	101%		9806-350	1	80-120%
Chloroform	Standard	40.0	41.1	µg/L	103%		9806-351	1	80-120%
Chloroform	Standard	40.0	41.3	µg/L	103%		9806-351	1	80-120%
Dibromochloromethane	Duplicate	42.8	39.2	µg/L		8.8%	9806-87	1	
Dibromochloromethane	Matrix Spike	40.0	38.7	µg/L	97%		9806-52	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9806-348	1	
Dibromochloromethane	Secondary Source Std	20.0	21.0	µg/L	105%		9806-349	1	70-130%
Dibromochloromethane	Standard	20.0	20.1	µg/L	101%		9806-350	1	80-120%
Dibromochloromethane	Standard	20.0	20.2	µg/L	101%		9806-350	1	80-120%
Dibromochloromethane	Standard	40.0	40.5	µg/L	101%		9806-351	1	80-120%
Dibromochloromethane	Standard	40.0	41.0	µg/L	102%		9806-351	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-153-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	26.5	25.3	µg/L		4.6%	9806-206	1		
Bromodichloromethane	Matrix Spike	40.0	43.3	µg/L	108%		9806-26	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9806-716	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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Bromodichloromethane	Secondary Source Std	20.0	18.6	µg/L	93%		9806-717	1	70-130%
Bromodichloromethane	Standard	20.0	20.0	µg/L	100%		9806-718	1	80-120%
Bromodichloromethane	Standard	20.0	20.6	µg/L	103%		9806-718	1	80-120%
Bromodichloromethane	Standard	40.0	40.5	µg/L	101%		9806-719	1	80-120%
Bromoform	Duplicate	3.5	3.3	µg/L		5.9%	9806-206	1	
Bromoform	Matrix Spike	40.0	43.2	µg/L	108%		9806-26	1	
Bromoform	Method Blank		ND*	µg/L			9806-716	1	
Bromoform	Secondary Source Std	20.0	18.0	µg/L	90%		9806-717	1	70-130%
Bromoform	Standard	20.0	19.5	µg/L	97%		9806-718	1	80-120%
Bromoform	Standard	20.0	22.8	µg/L	114%		9806-718	1	80-120%
Bromoform	Standard	40.0	42.9	µg/L	107%		9806-719	1	80-120%
Chloroform	Duplicate	18.9	18.2	µg/L		3.8%	9806-206	1	
Chloroform	Matrix Spike	40.0	45.0	µg/L	113%		9806-26	1	
Chloroform	Method Blank		ND*	µg/L			9806-716	1	
Chloroform	Secondary Source Std	20.0	18.7	µg/L	93%		9806-717	1	70-130%
Chloroform	Standard	20.0	19.8	µg/L	99%		9806-718	1	80-120%
Chloroform	Standard	20.0	21.1	µg/L	106%		9806-718	1	80-120%
Chloroform	Standard	40.0	40.6	µg/L	102%		9806-719	1	80-120%
Dibromochloromethane	Duplicate	22.8	21.9	µg/L		4.0%	9806-206	1	
Dibromochloromethane	Matrix Spike	40.0	45.6	µg/L	114%		9806-26	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9806-716	1	
Dibromochloromethane	Secondary Source Std	20.0	17.8	µg/L	89%		9806-717	1	70-130%
Dibromochloromethane	Standard	20.0	20.4	µg/L	102%		9806-718	1	80-120%
Dibromochloromethane	Standard	20.0	21.3	µg/L	106%		9806-718	1	80-120%
Dibromochloromethane	Standard	40.0	41.2	µg/L	103%		9806-719	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-160-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	20.1	21.1	µg/L		4.9%	9806-79	1		
Bromodichloromethane	Matrix Spike	40.0	37.3	µg/L	93%		9806-258	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9806-846	1		
Bromodichloromethane	Secondary Source Std	50.0	48.8	µg/L	98%		9806-847	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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Mr. Timothy Kwak
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Bromodichloromethane	Standard	20.0	19.6	µg/L	98%		9806-848	1	80-120%	
Bromodichloromethane	Standard	40.0	41.2	µg/L	103%		9806-849	1	80-120%	
Bromoform	Duplicate	24.6	25.9	µg/L		5.1%	9806-79	1		
Bromoform	Matrix Spike	40.0	35.7	µg/L	89%		9806-258	1		
Bromoform	Method Blank		ND*	µg/L			9806-846	1		
Bromoform	Secondary Source Std	50.0	48.1	µg/L	96%		9806-847	1	70-130%	
Bromoform	Standard	20.0	19.8	µg/L	99%		9806-848	1	80-120%	
Bromoform	Standard	40.0	42.3	µg/L	106%		9806-849	1	80-120%	
Chloroform	Duplicate	8.1	8.7	µg/L		7.1%	9806-79	1		
Chloroform	Matrix Spike	40.0	38.1	µg/L	95%		9806-258	1		
Chloroform	Method Blank		ND*	µg/L			9806-846	1		
Chloroform	Secondary Source Std	50.0	51.6	µg/L	103%		9806-847	1	70-130%	
Chloroform	Standard	20.0	18.6	µg/L	93%		9806-848	1	80-120%	
Chloroform	Standard	40.0	41.9	µg/L	105%		9806-849	1	80-120%	
Dibromochloromethane	Duplicate	32.8	34.4	µg/L		4.8%	9806-79	1		
Dibromochloromethane	Matrix Spike	40.0	38.6	µg/L	97%		9806-258	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9806-846	1		
Dibromochloromethane	Secondary Source Std	50.0	47.9	µg/L	96%		9806-847	1	70-130%	
Dibromochloromethane	Standard	20.0	19.6	µg/L	98%		9806-848	1	80-120%	
Dibromochloromethane	Standard	40.0	41.1	µg/L	103%		9806-849	1	80-120%	

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-209-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	35.6	33.1	µg/L		7.3%	9808-252	1		
Bromodichloromethane	Matrix Spike	40.0	40.6	µg/L	102%		9808-303	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9808-476	1		
Bromodichloromethane	Secondary Source Std	8.0	9.1	µg/L	114%		9808-477	1	70-130%	
Bromodichloromethane	Standard	20.0	21.3	µg/L	106%		9808-478	1	80-120%	
Bromodichloromethane	Standard	20.0	21.7	µg/L	109%		9808-478	1	80-120%	
Bromodichloromethane	Standard	40.0	39.9	µg/L	100%		9808-479	1	80-120%	
Bromodichloromethane	Standard	40.0	40.4	µg/L	101%		9808-479	1	80-120%	
Bromoform	Duplicate	5.4	5.0	µg/L		7.7%	9808-252	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	Matrix Spike	40.0	40.5	µg/L	101%		9808-303	1	
Bromoform	Method Blank		ND*	µg/L			9808-476	1	
Bromoform	Secondary Source Std	8.0	7.2	µg/L	90%		9808-477	1	70-130%
Bromoform	Standard	20.0	19.0	µg/L	95%		9808-478	1	80-120%
Bromoform	Standard	20.0	19.4	µg/L	97%		9808-478	1	80-120%
Bromoform	Standard	40.0	38.8	µg/L	97%		9808-479	1	80-120%
Bromoform	Standard	40.0	41.7	µg/L	104%		9808-479	1	80-120%
Chloroform	Duplicate	36.8	34.0	µg/L		7.9%	9808-252	1	
Chloroform	Matrix Spike	40.0	40.5	µg/L	101%		9808-303	1	
Chloroform	Method Blank		ND*	µg/L			9808-476	1	
Chloroform	Secondary Source Std	8.0	9.0	µg/L	113%		9808-477	1	70-130%
Chloroform	Standard	20.0	20.6	µg/L	103%		9808-478	1	80-120%
Chloroform	Standard	20.0	20.9	µg/L	104%		9808-478	1	80-120%
Chloroform	Standard	40.0	40.2	µg/L	101%		9808-479	1	80-120%
Chloroform	Standard	40.0	40.6	µg/L	102%		9808-479	1	80-120%
Dibromochloromethane	Duplicate	28.9	26.9	µg/L		7.2%	9808-252	1	
Dibromochloromethane	Matrix Spike	40.0	40.6	µg/L	102%		9808-303	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9808-476	1	
Dibromochloromethane	Secondary Source Std	8.0	8.8	µg/L	110%		9808-477	1	70-130%
Dibromochloromethane	Standard	20.0	21.6	µg/L	108%		9808-478	1	80-120%
Dibromochloromethane	Standard	20.0	22.1	µg/L	111%		9808-478	1	80-120%
Dibromochloromethane	Standard	40.0	40.5	µg/L	101%		9808-479	1	80-120%
Dibromochloromethane	Standard	40.0	41.0	µg/L	102%		9808-479	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-208-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	3.7	3.8	µg/L		2.7%	9808-216	1		
Bromochloroacetic acid	Matrix Spike	40.0	38.4	µg/L	96%		9808-299	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9808-466	1		
Bromochloroacetic acid	Secondary Source Std	20.0	16.7	µg/L	83%		9808-467	1	70-130%	
Bromochloroacetic acid	Standard	20.0	20.1	µg/L	101%		9808-468	1	80-120%	
Bromochloroacetic acid	Standard	20.0	19.9	µg/L	99%		9808-468	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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Bromochloroacetic acid	Standard	40.0	40.1	µg/L	100%		9808-469	1	80-120%
Bromodichloroacetic acid	Duplicate	1.1	1.2	µg/L		8.7%	9808-216	1	
Bromodichloroacetic acid	Matrix Spike	40.0	39.6	µg/L	99%		9808-299	1	
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9808-466	1	
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9808-467	1	70-130%
Bromodichloroacetic acid	Standard	20.0	20.0	µg/L	100%		9808-468	1	80-120%
Bromodichloroacetic acid	Standard	20.0	22.0	µg/L	110%		9808-468	1	80-120%
Bromodichloroacetic acid	Standard	40.0	41.5	µg/L	104%		9808-469	1	80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9808-216	2	
Chlorodibromoacetic acid	Matrix Spike	40.0	38.2	µg/L	96%		9808-299	2	
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9808-466	2	
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9808-467	2	70-130%
Chlorodibromoacetic acid	Standard	20.0	19.8	µg/L	99%		9808-468	2	80-120%
Chlorodibromoacetic acid	Standard	20.0	22.7	µg/L	114%		9808-468	2	80-120%
Chlorodibromoacetic acid	Standard	40.0	42.5	µg/L	106%		9808-469	2	80-120%
Dibromoacetic acid	Duplicate	4.8	4.9	µg/L		2.1%	9808-216	1	
Dibromoacetic acid	Matrix Spike	40.0	38.1	µg/L	95%		9808-299	1	
Dibromoacetic acid	Method Blank		ND*	µg/L			9808-466	1	
Dibromoacetic acid	Secondary Source Std	20.0	16.4	µg/L	82%		9808-467	1	70-130%
Dibromoacetic acid	Standard	20.0	20.2	µg/L	101%		9808-468	1	80-120%
Dibromoacetic acid	Standard	20.0	19.9	µg/L	99%		9808-468	1	80-120%
Dibromoacetic acid	Standard	40.0	39.1	µg/L	98%		9808-469	1	80-120%
Dichloroacetic acid	Duplicate	5.8	6.0	µg/L		3.4%	9808-216	1	
Dichloroacetic acid	Matrix Spike	40.0	39.5	µg/L	99%		9808-299	1	
Dichloroacetic acid	Method Blank		ND*	µg/L			9808-466	1	
Dichloroacetic acid	Secondary Source Std	20.0	17.9	µg/L	89%		9808-467	1	70-130%
Dichloroacetic acid	Standard	20.0	19.9	µg/L	99%		9808-468	1	80-120%
Dichloroacetic acid	Standard	20.0	19.2	µg/L	96%		9808-468	1	80-120%
Dichloroacetic acid	Standard	40.0	39.7	µg/L	99%		9808-469	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND	µg/L		NA	9808-216	1	
Monobromoacetic acid	Matrix Spike	40.0	44.3	µg/L	111%		9808-299	1	
Monobromoacetic acid	Method Blank		ND*	µg/L			9808-466	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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Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

Monobromoacetic acid	Secondary Source Std	20.0	21.1	µg/L	106%		9808-467	1	70-130%
Monobromoacetic acid	Standard	20.0	20.8	µg/L	104%		9808-468	1	80-120%
Monobromoacetic acid	Standard	20.0	20.1	µg/L	101%		9808-468	1	80-120%
Monobromoacetic acid	Standard	40.0	39.7	µg/L	99%		9808-469	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9808-216	2	
Monochloroacetic acid	Matrix Spike	40.0	44.5	µg/L	111%		9808-299	2	
Monochloroacetic acid	Method Blank		ND*	µg/L			9808-466	2	
Monochloroacetic acid	Secondary Source Std	20.0	22.2	µg/L	111%		9808-467	2	70-130%
Monochloroacetic acid	Standard	20.0	22.4	µg/L	112%		9808-468	2	80-120%
Monochloroacetic acid	Standard	20.0	20.3	µg/L	102%		9808-468	2	80-120%
Monochloroacetic acid	Standard	40.0	39.1	µg/L	98%		9808-469	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L		NA	9808-216	4	
Tribromoacetic acid	Matrix Spike	40.0	36.9	µg/L	92%		9808-299	4	
Tribromoacetic acid	Method Blank		ND*	µg/L			9808-466	4	
Tribromoacetic acid	Secondary Source Std		ND	µg/L			9808-467	4	70-130%
Tribromoacetic acid	Standard	20.0	19.4	µg/L	97%		9808-468	4	80-120%
Tribromoacetic acid	Standard	20.0	23.4	µg/L	117%		9808-468	4	80-120%
Tribromoacetic acid	Standard	40.0	41.2	µg/L	103%		9808-469	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9808-216	1	
Trichloroacetic acid	Matrix Spike	40.0	37.8	µg/L	94%		9808-299	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9808-466	1	
Trichloroacetic acid	Secondary Source Std	20.0	15.7	µg/L	78%		9808-467	1	70-130%
Trichloroacetic acid	Standard	20.0	20.0	µg/L	100%		9808-468	1	80-120%
Trichloroacetic acid	Standard	20.0	19.8	µg/L	99%		9808-468	1	80-120%
Trichloroacetic acid	Standard	40.0	40.5	µg/L	101%		9808-469	1	80-120%

End of quality control report

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Summers & Hooper, Inc.
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QC Results from Montgomery Watson Laboratories

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Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Study#: 117
Study Title: ICR RSSCT #2

Phone: 760-741-4855 Fax: 760-745-8767

QC Batch ID: 79168 **Report #:** 44013, 44025

Analysis: NH3 **Method:** ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.1	110.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.06	106.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.05	105.0%		(80 - 120)

QC Batch ID: 79300 **Report #:** 44013, 44025

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	49.4	99.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	51	102.0%		(90 - 110)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	51.2	102.0%		(80 - 120)

QC Batch ID: 79470 **Report #:** 44025

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	1.4	1.4		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.2	2.3		4.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	24	120.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	25	125.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	2.9	3		3.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.1	105.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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LCS2	Chlorodibromoacetic acid	20	24	120.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Dibromoacetic acid	2	2.2		10.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	1	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.6	130.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2.2	55.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	23	115.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	21	105.0%		(70 - 130)

QC Batch ID: 79475 **Report #:** 44025

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.022	110.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

LCS2	Bromide	0.1	0.102	102.0%	(90 - 110)
MBLK	Bromide	ND	ND		(70 - 130)
MS	Bromide	0.1	0.094	94.0%	(80 - 120)
MSD	Bromide	0.1	0.095	95.0%	(80 - 120)

QC Batch ID: 79548 **Report #:** 44013
44025

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.019	95.0%		(50 - 150)
LCS2	Bromide	0.1	0.099	99.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.093	93.0%		(80 - 120)
MSD	Bromide	0.1	0.092	92.0%		(80 - 120)

QC Batch ID: 79640 **Report #:** 44025

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	21.3	106.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	21.4	107.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			

QC Batch ID: 79739 **Report #:** 44025

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	1.9	2		5.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.5	150.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.4	140.0%		(70 - 130)
DUP	Bromodichloroacetic acid	1.5	1.6		6.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.5	150.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	3.1	3.3		6.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.3	115.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	1.6	80.0%		(70 - 130)
DUP	Dibromoacetic acid	5.8	6		3.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.5	150.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Dichloroacetic acid	1.3	1.4		7.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1.5	150.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monobromoacetic acid	1.3	1.2		8.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.6	130.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	2.6	130.0%		(70 - 130)
DUP	Tribromoacetic acid	6.6	6.8		3.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.2	80.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	0.9	22.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.4	140.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1	100.0%		(70 - 130)

QC Batch ID: 79757 **Report #:** 44222

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

LCS2	Bromochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	24	120.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	24	120.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.5	75.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	24	120.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	24	120.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	21	105.0%		(70 - 130)
DUP	Dichloroacetic acid	1.1	1.2		9.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	21	105.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.6	80.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	24	120.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	24	120.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2.4	60.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	23	115.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

MS	Tribromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Trichloroacetic acid	1.5	1.6		6.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.3	130.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	22	110.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	20	100.0%		(70 - 130)

QC Batch ID: 79761 **Report #:** 44222

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	3.1	3.1		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Bromodichloroacetic acid	1.4	1.5		7.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.1	110.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.6	80.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.8	140.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Dichloroacetic acid	9.6	11		14.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	2	200.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	21	105.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Monochloroacetic acid	2	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.4	70.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	0.5	25.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2	50.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	ND			(70 - 130)
DUP	Trichloroacetic acid	3.8	4.2		10.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.2	120.0%		(70 - 130)

QC Batch ID: 80141 **Report #:** 44317
44485

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	3.6	3.4		6.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	33	103.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.4	2.3		4.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	22	110.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	36	112.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	32	37	116.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	33	103.0%		(70 - 130)
DUP	Dichloroacetic acid	18	18		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	33	103.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.9	95.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2.5	62.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	32	38	119.0%		(70 - 130)
DUP	Trichloroacetic acid	15	14		7.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	31	97.0%		(70 - 130)

QC Batch ID: 80363 **Report #:** 44485

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	1.3	1.3		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.1	110.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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Study Title: ICR RSSCT #2

DUP	Bromodichloroacetic acid	2.4	2.4		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.2	110.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Dichloroacetic acid	16	16		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1	100.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monochloroacetic acid	2.3	2.3		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.3	115.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	1.7	85.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2.7	68.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	3.2	80.0%		(70 - 130)
DUP	Trichloroacetic acid	51	51		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 117
Study Title: ICR RSSCT #2

LCS2	Trichloroacetic acid	20	20	100.0%	(80 - 120)
MBLK	Trichloroacetic acid	ND	ND		
MS	Trichloroacetic acid	1	1.2	120.0%	(70 - 130)

End of MW QC report

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
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Comments

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201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 117
Study Title: ICR RSSCT #2

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

Summers & Hooper, Inc.
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Laboratory Report

Client:

Mr. Timothy Kwak
City of Escondido
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Phone: 760-741-4855 Fax: 760-745-8767

Study Title: ICR RSSCT #3

Study #: 133

Reviewed By: _____
Stuart M. Hooper

Date Reviewed: 7/13/99

Electronic copies of the results and quality control data are available upon request.

Summers & Hooper, Inc.
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Laboratory Test Results

Mr. Timothy Kwak
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Phone: 760-741-4855 Fax: 760-745-8767

Study#: 133
Study Title: ICR RSSCT#3

Sample ID: Filtered **S&H ID:** 9808-440 **Date Sampled:** 8/20/98 10:47:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR	TOC	3.30	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
2	TOC-ICR	TOC (Dupl)	3.29	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
			3.29	**mg/L**	**0.3 % RPD**						

Note: Temperature limits

Sample ID: Settled **S&H ID:** 9808-441 **Date Sampled:** 8/20/98 10:40:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR	TOC	3.61	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
4	TOC-ICR	TOC (Dupl)	3.63	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
			3.62	**mg/L**	**0.6 % RPD**						

Note: Temperature limits

Sample ID: Raw **S&H ID:** 9808-442 **Date Sampled:** 8/20/98 10:21:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR	TOC	3.85	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
6	TOC-ICR	TOC (Dupl)	3.94	mg/L	SM 5310 C	1	0.50	8/20/98		8/28/98	7-0-387
			3.90	**mg/L**	**2.3 % RPD**						

Note: Temperature limits

Sample ID: Settled at S&H **S&H ID:** 9808-480 **Date Sampled:** 8/27/98

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR	TOC	3.50	mg/L	SM 5310 C	1	0.50	8/27/98		8/28/98	7-0-387
8	TOC-ICR	TOC (Dupl)	3.55	mg/L	SM 5310 C	1	0.50	8/27/98		8/28/98	7-0-387
			3.52	**mg/L**	**1.4 % RPD**						

Sample ID: Filtered at S&H **S&H ID:** 9808-481 **Date Sampled:** 8/27/98

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR	TOC	3.43	mg/L	SM 5310 C	1	0.50	8/27/98		8/28/98	7-0-387
10	TOC-ICR	TOC (Dupl)	3.38	mg/L	SM 5310 C	1	0.50	8/27/98		8/28/98	7-0-387
			3.41	**mg/L**	**1.5 % RPD**						

Sample ID: 133.10.Eff-1 **S&H ID:** 9808-508 **Date Sampled:** 8/31/98 8:29:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	Cl2Dose	Chlorine Dose	1.30	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
12	Cl2Res	Chlorine Residual	0.63	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
13	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

14	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
15	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
16	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
17	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
18	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
19	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
20	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
21	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
22	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
23	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
24	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	8/31/98		8/31/98	n/a
25	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
26	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	8/31/98		8/31/98	n/a
27	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
28	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
29	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
			ND	**mg/L**							
30	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
31	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			ND	**µg Cl-/L**							
32	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
33	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
34	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
35	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
36	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
37	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
38	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
			ND	**1/cm**							

Sample ID: 133.10.Eff-5 **S&H ID:** 9808-512 **Date Sampled:** 9/2/98 6:21:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
39	Cl2Dose	Chlorine Dose	1.41	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
40	Cl2Res	Chlorine Residual	0.60	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
41	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
42	HAA	Bromodichloroacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
43	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
44	HAA	Dibromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
45	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
46	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

47	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
48	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
49	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
50	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
51	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
52	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/2/98		9/2/98	n/a
53	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
54	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	9/2/98		9/2/98	n/a
55	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
56	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	9/2/98		9/2/98	7-0-392
57	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	9/2/98		9/2/98	7-0-392
			ND	**mg/L**							
58	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
59	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			ND	**µg Cl-/L**							
60	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
61	THM-ICR	Bromodichloromethane	1.2	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
62	THM-ICR	Bromoform	2.0	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
63	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
64	THM-ICR	Dibromochloromethane	2.7	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
65	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/2/98		9/2/98	8-0-281
66	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/2/98		9/2/98	8-0-281
			ND	**1/cm**							

Sample ID: 133.10.Eff-7 **S&H ID:** 9808-514 **Date Sampled:** 9/2/98 2:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
67	Cl2Dose	Chlorine Dose	1.55	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
68	Cl2Res	Chlorine Residual	0.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
69	HAA	Bromochloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
70	HAA	Bromodichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
71	HAA	Chlorodibromoacetic acid	2.1	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
72	HAA	Dibromoacetic acid	2.1	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
73	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
74	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
75	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
76	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
77	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
78	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
79	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

80	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/2/98		9/2/98	n/a
81	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
82	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	9/2/98		9/2/98	n/a
83	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
84	TOC-ICR	TOC	0.54	mg/L	SM 5310 C	1	0.50	9/2/98		9/2/98	7-0-392
85	TOC-ICR	TOC (Dupl)	0.54	mg/L	SM 5310 C	1	0.50	9/2/98		9/2/98	7-0-392
			0.54	**mg/L**	**0.0 % RPD**						
86	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
87	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			ND	**µg Cl-/L**							
88	THM-ICR	1,2,3-Trichloropropane (Surrogate)	86.0	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
89	THM-ICR	Bromodichloromethane	3.2	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
90	THM-ICR	Bromoform	3.4	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
91	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
92	THM-ICR	Dibromochloromethane	6.4	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
93	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/2/98		9/4/98	8-0-283
94	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/2/98		9/4/98	8-0-283
			ND	**1/cm**							

Sample ID: 133.10.Eff-8 **S&H ID:** 9808-515 **Date Sampled:** 9/2/98 8:03:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
95	Cl2Dose	Chlorine Dose	1.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
96	Cl2Res	Chlorine Residual	0.61	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
97	HAA	Bromochloroacetic acid	2.9	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
98	HAA	Bromodichloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
99	HAA	Chlorodibromoacetic acid	3.0	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
100	HAA	Dibromoacetic acid	2.8	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
101	HAA	Dichloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
102	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
103	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
104	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
105	HAA	Trichloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
106	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
107	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
108	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/2/98		9/2/98	n/a
109	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
110	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	9/2/98		9/2/98	n/a
111	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

112	TOC-ICR	TOC	0.73	mg/L	SM 5310 C	1	0.50	9/2/98		9/3/98	7-0-393
113	TOC-ICR	TOC (Dupl)	0.75	mg/L	SM 5310 C	1	0.50	9/2/98		9/3/98	7-0-393
			0.74	**mg/L**	**2.7 % RPD**						
114	TOX-ICR	TOX	33	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
115	TOX-ICR	TOX (Dupl)	31	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			32	**µg Cl-/L**	**6.3 % RPD**						
116	THM-ICR	1,2,3-Trichloropropane (Surrogate)	84.8	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
117	THM-ICR	Bromodichloromethane	5.3	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
118	THM-ICR	Bromoform	4.9	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
119	THM-ICR	Chloroform	1.8	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
120	THM-ICR	Dibromochloromethane	9.6	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
121	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	9/2/98		9/3/98	8-0-282
122	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	9/2/98		9/3/98	8-0-282
			0.009	**1/cm**	**11.1 % RPD**						

Sample ID: 133.10.Eff-9 **S&H ID:** 9808-516 **Date Sampled:** 9/3/98 1:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
123	Cl2Dose	Chlorine Dose	2.01	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
124	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
125	HAA	Bromochloroacetic acid	3.8	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
126	HAA	Bromodichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
127	HAA	Chlorodibromoacetic acid	4.2	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
128	HAA	Dibromoacetic acid	3.2	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
129	HAA	Dichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
130	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
131	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
132	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
133	HAA	Trichloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
134	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
135	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
136	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
137	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
138	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	9/3/98		9/3/98	n/a
139	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
140	TOC-ICR	TOC	0.95	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
141	TOC-ICR	TOC (Dupl)	0.95	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
			0.95	**mg/L**	**0.0 % RPD**						
142	TOX-ICR	TOX	50	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
143	TOX-ICR	TOX (Dupl)	50	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			50	**µg Cl-/L**	**0.0 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

144	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
145	THM-ICR	Bromodichloromethane	7.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
146	THM-ICR	Bromoform	4.5	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
147	THM-ICR	Chloroform	2.9	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
148	THM-ICR	Dibromochloromethane	11.6	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
149	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	9/3/98		9/3/98	8-0-282
150	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	9/3/98		9/3/98	8-0-282
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-10 **S&H ID:** 9808-517 **Date Sampled:** 9/3/98 6:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
151	Cl2Dose	Chlorine Dose	2.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
152	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
153	HAA	Bromochloroacetic acid	4.4	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
154	HAA	Bromodichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
155	HAA	Chlorodibromoacetic acid	3.3	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/16/98	MW84284
156	HAA	Dibromoacetic acid	3.5	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
157	HAA	Dichloroacetic acid	2.5	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
158	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
159	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/16/98	MW84284
160	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/15/98	9/16/98	MW84284
161	HAA	Trichloroacetic acid	1.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
162	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
163	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
164	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
165	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
166	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	9/3/98		9/3/98	n/a
167	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
168	TOC-ICR	TOC	1.11	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
169	TOC-ICR	TOC (Dupl)	1.13	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
			1.12	**mg/L**	**1.8 % RPD**						
170	TOX-ICR	TOX	57	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
171	TOX-ICR	TOX (Dupl)	58	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			58	**µg Cl-/L**	**1.7 % RPD**						
172	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
173	THM-ICR	Bromodichloromethane	9.9	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
174	THM-ICR	Bromoform	4.8	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
175	THM-ICR	Chloroform	3.9	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

176	THM-ICR	Dibromochloromethane	13.5	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
177	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	9/3/98		9/3/98	8-0-282
178	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	9/3/98		9/3/98	8-0-282
			0.014	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-12 **S&H ID:** 9808-519 **Date Sampled:** 9/3/98 5:46:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
179	Cl2Dose	Chlorine Dose	2.29	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
180	Cl2Res	Chlorine Residual	0.86	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
181	HAA	Bromochloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
182	HAA	Bromodichloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
183	HAA	Chlorodibromoacetic acid	4.0	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/16/98	MW84284
184	HAA	Dibromoacetic acid	4.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
185	HAA	Dichloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
186	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
187	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/16/98	MW84284
188	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/15/98	9/16/98	MW84284
189	HAA	Trichloroacetic acid	3.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/16/98	MW84284
190	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
191	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
192	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
193	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
194	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	9/3/98		9/3/98	n/a
195	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
196	TOC-ICR	TOC	1.39	mg/L	SM 5310 C	1	0.50	9/3/98		9/4/98	7-0-394
197	TOC-ICR	TOC (Dupl)	1.39	mg/L	SM 5310 C	1	0.50	9/3/98		9/4/98	7-0-394
			1.39	**mg/L**	**0.0 % RPD**						
198	TOX-ICR	TOX	85	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
199	TOX-ICR	TOX (Dupl)	83	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			84	**µg Cl-/L**	**2.4 % RPD**						
200	THM-ICR	1,2,3-Trichloropropane (Surrogate)	84.0	%	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
201	THM-ICR	Bromodichloromethane	13.2	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
202	THM-ICR	Bromoform	4.4	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
203	THM-ICR	Chloroform	5.9	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
204	THM-ICR	Dibromochloromethane	14.9	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
205	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	9/3/98		9/4/98	8-0-283
206	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	9/3/98		9/4/98	8-0-283
			0.019	**1/cm**	**0.0 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Sample ID: 133.10.Eff-14 **S&H ID:** 9808-521 **Date Sampled:** 9/4/98 4:32:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
207	Cl2Dose	Chlorine Dose	2.40	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
208	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
209	HAA	Bromochloroacetic acid	6.7	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
210	HAA	Bromodichloroacetic acid	6.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
211	HAA	Chlorodibromoacetic acid	4.3	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/17/98	MW84284
212	HAA	Dibromoacetic acid	4.2	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
213	HAA	Dichloroacetic acid	4.7	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
214	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
215	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/15/98	9/17/98	MW84284
216	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/15/98	9/17/98	MW84284
217	HAA	Trichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/6/98	9/15/98	9/17/98	MW84284
218	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
219	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
220	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/4/98		9/4/98	n/a
221	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
222	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	9/4/98		9/4/98	n/a
223	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
224	TOC-ICR	TOC	1.57	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
225	TOC-ICR	TOC (Dupl)	1.57	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
			1.57	**mg/L**	**0.0 % RPD**						
226	TOX-ICR	TOX	102	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
227	TOX-ICR	TOX (Dupl)	101	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			102	**µg Cl-/L**	**1.0 % RPD**						
228	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
229	THM-ICR	Bromodichloromethane	17.1	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
230	THM-ICR	Bromoform	4.4	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
231	THM-ICR	Chloroform	8.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
232	THM-ICR	Dibromochloromethane	17.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
233	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	9/4/98		9/4/98	8-0-283
234	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	9/4/98		9/4/98	8-0-283
			0.023	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-16 **S&H ID:** 9808-523 **Date Sampled:** 9/4/98 3:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
235	Cl2Dose	Chlorine Dose	2.51	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
236	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

237	HAA	Bromochloroacetic acid	7.6	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
238	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
239	HAA	Chlorodibromoacetic acid	6.3	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
240	HAA	Dibromoacetic acid	4.2	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
241	HAA	Dichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
242	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
243	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
244	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
245	HAA	Trichloroacetic acid	5.7	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
246	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
247	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
248	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/4/98		9/4/98	n/a
249	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
250	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	9/4/98		9/4/98	n/a
251	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
252	TOC-ICR	TOC	1.74	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
253	TOC-ICR	TOC (Dupl)	1.78	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
			1.76	**mg/L**	**2.3 % RPD**						
254	TOX-ICR	TOX	119	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
255	TOX-ICR	TOX (Dupl)	120	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			120	**µg Cl-/L**	**0.8 % RPD**						
256	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
257	THM-ICR	Bromodichloromethane	18.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
258	THM-ICR	Bromoform	3.8	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
259	THM-ICR	Chloroform	10.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
260	THM-ICR	Dibromochloromethane	17.4	µg/L	EPA 551.1	1	1.0	9/6/98	9/8/98	9/8/98	0-211-0
261	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	9/4/98		9/5/98	8-0-284
262	UV-ICR	UV (Dupl)	0.027	1/cm	SM 5910 B	1	0.009	9/4/98		9/5/98	8-0-284
			0.027	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-18 **S&H ID:** 9808-525 **Date Sampled:** 9/5/98 7:32:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
263	Cl2Dose	Chlorine Dose	2.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
264	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
265	HAA	Bromochloroacetic acid	8.2	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
266	HAA	Bromodichloroacetic acid	8.5	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
267	HAA	Chlorodibromoacetic acid	4.4	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
268	HAA	Dibromoacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
269	HAA	Dichloroacetic acid	6.8	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

270	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
271	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
272	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
273	HAA	Trichloroacetic acid	6.9	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
274	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
275	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
276	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
277	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
278	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
279	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
280	TOC-ICR	TOC	1.92	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
281	TOC-ICR	TOC (Dupl)	1.95	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
			1.94	**mg/L**	**1.5 % RPD**						
282	TOX-ICR	TOX	144	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
283	TOX-ICR	TOX (Dupl)	141	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			143	**µg Cl-/L**	**2.1 % RPD**						
284	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
285	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	106.0	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
			104.6	**%**	**2.7 % RPD**						
286	THM-ICR	Bromodichloromethane	22.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
287	THM-ICR	Bromodichloromethane (Lab Dupl)	22.7	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
			22.4	**µg/L**	**2.7 % RPD**						
288	THM-ICR	Bromoform	3.5	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
289	THM-ICR	Bromoform (Lab Dupl)	3.5	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
			3.5	**µg/L**	**0.0 % RPD**						
290	THM-ICR	Chloroform	14.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
291	THM-ICR	Chloroform (Lab Dupl)	15.4	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
			15.2	**µg/L**	**3.3 % RPD**						
292	THM-ICR	Dibromochloromethane	18.6	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
293	THM-ICR	Dibromochloromethane (Lab Dupl)	19.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
			18.9	**µg/L**	**2.6 % RPD**						
294	UV-ICR	UV	0.031	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284
295	UV-ICR	UV (Dupl)	0.031	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284
			0.031	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-20 **S&H ID:** 9808-527 **Date Sampled:** 9/6/98 5:04:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
296	Cl2Dose	Chlorine Dose	2.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
297	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

298	HAA	Bromochloroacetic acid	9.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
299	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
300	HAA	Chlorodibromoacetic acid	4.4	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
301	HAA	Dibromoacetic acid	4.8	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
302	HAA	Dichloroacetic acid	9.3	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
303	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
304	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
305	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
306	HAA	Trichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
307	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
308	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
309	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/6/98		9/6/98	n/a
310	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
311	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	9/6/98		9/6/98	n/a
312	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
313	TOC-ICR	TOC	2.22	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
314	TOC-ICR	TOC (Dupl)	2.25	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
			2.24	**mg/L**	**1.3 % RPD**						
315	TOX-ICR	TOX	156	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
316	TOX-ICR	TOX (Dupl)	164	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			160	**µg Cl-/L**	**5.0 % RPD**						
317	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
318	THM-ICR	Bromodichloromethane	24.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
319	THM-ICR	Bromoform	3.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
320	THM-ICR	Chloroform	19.5	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
321	THM-ICR	Dibromochloromethane	18.8	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
322	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
323	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
			0.036	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-23 **S&H ID:** 9808-530 **Date Sampled:** 9/7/98 1:12:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
324	Cl2Dose	Chlorine Dose	2.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
325	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
326	HAA	Bromochloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
327	HAA	Bromodichloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
328	HAA	Chlorodibromoacetic acid	6.5	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
329	HAA	Dibromoacetic acid	4.6	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
330	HAA	Dichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

331	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
332	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
333	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
334	HAA	Trichloroacetic acid	14.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
335	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
336	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
337	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/7/98		9/7/98	n/a
338	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
339	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	9/7/98		9/7/98	n/a
340	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
341	TOC-ICR	TOC	2.48	mg/L	SM 5310 C	1	0.50	9/7/98		9/8/98	7-0-398
342	TOC-ICR	TOC (Dupl)	2.53	mg/L	SM 5310 C	1	0.50	9/7/98		9/8/98	7-0-398
			2.50	**mg/L**	**2.0 % RPD**						
343	TOX-ICR	TOX	193	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
344	TOX-ICR	TOX (Dupl)	188	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			191	**µg Cl-/L**	**2.6 % RPD**						
345	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
346	THM-ICR	Bromodichloromethane	25.6	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
347	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
348	THM-ICR	Chloroform	23.6	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
349	THM-ICR	Dibromochloromethane	17.5	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
350	UV-ICR	UV	0.043	1/cm	SM 5910 B	1	0.009	9/7/98		9/8/98	8-0-287
351	UV-ICR	UV (Dupl)	0.043	1/cm	SM 5910 B	1	0.009	9/7/98		9/8/98	8-0-287
			0.043	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-24 **S&H ID:** 9808-531 **Date Sampled:** 9/8/98 4:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
352	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
353	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	9/8/98		9/8/98	n/a
354	TOC-ICR	TOC	2.62	mg/L	SM 5310 C	1	0.50	9/8/98		9/9/98	7-0-399
355	TOC-ICR	TOC (Dupl)	2.63	mg/L	SM 5310 C	1	0.50	9/8/98		9/9/98	7-0-399
			2.63	**mg/L**	**0.4 % RPD**						
356	UV-ICR	UV	0.047	1/cm	SM 5910 B	1	0.009	9/8/98		9/9/98	8-0-288
357	UV-ICR	UV (Dupl)	0.047	1/cm	SM 5910 B	1	0.009	9/8/98		9/9/98	8-0-288
			0.047	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-8d **S&H ID:** 9808-539 **Date Sampled:** 9/2/98 8:03:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
358	Cl2Dose	Chlorine Dose	1.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

359	Cl2Res	Chlorine Residual	0.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
360	HAA	Bromochloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
361	HAA	Bromodichloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
362	HAA	Chlorodibromoacetic acid	3.1	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
363	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
364	HAA	Dichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
365	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
366	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
367	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
368	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
369	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
370	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
371	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/2/98		9/2/98	n/a
372	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
373	TEMP	Temperature	22.0	ºC	SM 2550 B	1	n/a	9/2/98		9/2/98	n/a
374	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
375	TOC-ICR	TOC	0.74	mg/L	SM 5310 C	1	0.50	9/2/98		9/3/98	7-0-393
376	TOC-ICR	TOC (Dupl)	0.75	mg/L	SM 5310 C	1	0.50	9/2/98		9/3/98	7-0-393
			0.75	**mg/L**	**1.3 % RPD**						
377	TOX-ICR	TOX	34	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
378	TOX-ICR	TOX (Dupl)	31	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			33	**µg Cl-/L**	**9.1 % RPD**						
379	THM-ICR	1,2,3-Trichloropropane (Surrogate)	84.8	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
380	THM-ICR	Bromodichloromethane	5.6	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
381	THM-ICR	Bromoform	5.1	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
382	THM-ICR	Chloroform	1.8	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
383	THM-ICR	Dibromochloromethane	10.1	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
384	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	9/2/98		9/3/98	8-0-282
385	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	9/2/98		9/3/98	8-0-282
			0.009	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-12d **S&H ID:** 9808-541 **Date Sampled:** 9/3/98 5:46:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
386	Cl2Dose	Chlorine Dose	2.29	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
387	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
388	HAA	Bromochloroacetic acid	6.7	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
389	HAA	Bromodichloroacetic acid	9.3	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
390	HAA	Chlorodibromoacetic acid	6.7	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
391	HAA	Dibromoacetic acid	4.7	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

392	HAA	Dichloroacetic acid	4.3	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
393	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
394	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
395	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
396	HAA	Trichloroacetic acid	3.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
397	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
398	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
399	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
400	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
401	TEMP	Temperature	22.0	ºC	SM 2550 B	1	n/a	9/3/98		9/3/98	n/a
402	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
403	TOC-ICR	TOC	1.39	mg/L	SM 5310 C	1	0.50	9/3/98		9/4/98	7-0-394
404	TOC-ICR	TOC (Dupl)	1.41	mg/L	SM 5310 C	1	0.50	9/3/98		9/4/98	7-0-394
			1.40	**mg/L**	**1.4 % RPD**						
405	TOX-ICR	TOX	92	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
406	TOX-ICR	TOX (Dupl)	84	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			88	**µg Cl-/L**	**9.1 % RPD**						
407	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
408	THM-ICR	Bromodichloromethane	14.5	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
409	THM-ICR	Bromoform	4.6	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
410	THM-ICR	Chloroform	6.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
411	THM-ICR	Dibromochloromethane	16.4	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
412	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	9/3/98		9/4/98	8-0-283
413	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	9/3/98		9/4/98	8-0-283
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 133.10.Eff-20d **S&H ID:** 9808-544 **Date Sampled:** 9/6/98 5:04:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
414	Cl2Dose	Chlorine Dose	2.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
415	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
416	HAA	Bromochloroacetic acid	8.9	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
417	HAA	Bromodichloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
418	HAA	Chlorodibromoacetic acid	6.3	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
419	HAA	Dibromoacetic acid	3.9	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
420	HAA	Dichloroacetic acid	8.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
421	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
422	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
423	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
424	HAA	Trichloroacetic acid	9.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

425	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
426	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
427	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/6/98		9/6/98	n/a
428	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
429	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	9/6/98		9/6/98	n/a
430	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
431	TOC-ICR	TOC	2.22	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
432	TOC-ICR	TOC (Dupl)	2.20	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
			2.21	**mg/L**	**0.9 % RPD**						
433	TOX-ICR	TOX	164	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
434	TOX-ICR	TOX (Dupl)	169	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			167	**µg Cl-/L**	**3.0 % RPD**						
435	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
436	THM-ICR	Bromodichloromethane	24.3	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
437	THM-ICR	Bromoform	3.0	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
438	THM-ICR	Chloroform	19.2	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
439	THM-ICR	Dibromochloromethane	18.6	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
440	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
441	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
			0.036	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-1 **S&H ID:** 9808-548 **Date Sampled:** 8/31/98 7:24:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
442	Cl2Dose	Chlorine Dose	1.30	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
443	Cl2Res	Chlorine Residual	0.62	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
444	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
445	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
446	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
447	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
448	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
449	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
450	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
451	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
452	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
453	pH	Cl2 pH - Final	7.6	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
454	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
455	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	8/31/98		8/31/98	n/a
456	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
457	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	8/31/98		8/31/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

458	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
459	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
460	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
			ND	**mg/L**							
461	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
462	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			ND	**µg Cl-/L**							
463	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
464	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
465	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
466	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
467	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
468	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
469	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
			ND	**1/cm**							

Sample ID: 133.20.Eff-5 **S&H ID:** 9808-552 **Date Sampled:** 9/4/98 7:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
470	Cl2Dose	Chlorine Dose	1.61	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
471	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
472	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
473	HAA	Bromodichloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
474	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
475	HAA	Dibromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
476	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
477	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
478	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
479	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
480	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
481	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
482	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
483	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/4/98		9/4/98	n/a
484	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
485	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	9/4/98		9/4/98	n/a
486	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
487	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
488	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	9/4/98		9/4/98	7-0-394
			ND	**mg/L**							
489	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
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490	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/9/98	12-0-204
			ND	**µg Cl-/L**							
491	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
492	THM-ICR	Bromodichloromethane	1.3	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
493	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
494	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
495	THM-ICR	Dibromochloromethane	2.6	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
496	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/4/98		9/4/98	8-0-283
497	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/4/98		9/4/98	8-0-283
			ND	**1/cm**							

Sample ID: 133.20.Eff-8 **S&H ID:** 9808-555 **Date Sampled:** 9/5/98 1:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
498	Cl2Dose	Chlorine Dose	1.78	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
499	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
500	HAA	Bromochloroacetic acid	1.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
501	HAA	Bromodichloroacetic acid	2.4	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
502	HAA	Chlorodibromoacetic acid	2.5	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
503	HAA	Dibromoacetic acid	2.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
504	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
505	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
506	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
507	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
508	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
509	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
510	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
511	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
512	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
513	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
514	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
515	TOC-ICR	TOC	0.57	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
516	TOC-ICR	TOC (Dupl)	0.59	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
			0.58	**mg/L**	**3.4 % RPD**						
517	TOX-ICR	TOX	25	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/10/98	12-0-205
518	TOX-ICR	TOX (Dupl)	26	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/10/98	12-0-205
			26	**µg Cl-/L**	**3.8 % RPD**						
519	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
520	THM-ICR	Bromodichloromethane	3.8	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

521	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
522	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
523	THM-ICR	Dibromochloromethane	6.7	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
524	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284
525	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284
			ND	**1/cm**							

Sample ID: 133.20.Eff-10 **S&H ID:** 9808-557 **Date Sampled:** 9/5/98 10:49:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
526	Cl2Dose	Chlorine Dose	1.88	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
527	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
528	HAA	Bromochloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
529	HAA	Bromodichloroacetic acid	2.3	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
530	HAA	Chlorodibromoacetic acid	3.5	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
531	HAA	Dibromoacetic acid	3.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
532	HAA	Dichloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
533	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
534	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
535	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
536	HAA	Trichloroacetic acid	1.8	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
537	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
538	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
539	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
540	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
541	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
542	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
543	TOC-ICR	TOC	0.74	mg/L	SM 5310 C	1	0.50	9/5/98		9/6/98	7-0-396
544	TOC-ICR	TOC (Dupl)	0.79	mg/L	SM 5310 C	1	0.50	9/5/98		9/6/98	7-0-396
			0.77	**mg/L**	**6.5 % RPD**						
545	TOX-ICR	TOX	35	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/10/98	12-0-205
546	TOX-ICR	TOX (Dupl)	37	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/10/98	12-0-205
			36	**µg Cl-/L**	**5.6 % RPD**						
547	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
548	THM-ICR	Bromodichloromethane	5.4	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
549	THM-ICR	Bromoform	4.3	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
550	THM-ICR	Chloroform	1.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
551	THM-ICR	Dibromochloromethane	9.0	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
552	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	9/5/98		9/6/98	8-0-285
553	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	9/5/98		9/6/98	8-0-285

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

			0.009	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-12 **S&H ID:** 9808-559 **Date Sampled:** 9/5/98 7:52:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
554	Cl2Dose	Chlorine Dose	1.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
555	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
556	HAA	Bromochloroacetic acid	3.7	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
557	HAA	Bromodichloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
558	HAA	Chlorodibromoacetic acid	4.4	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
559	HAA	Dibromoacetic acid	3.3	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
560	HAA	Dichloroacetic acid	1.9	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
561	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
562	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
563	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
564	HAA	Trichloroacetic acid	1.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
565	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
566	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
567	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
568	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
569	TEMP	Temperature	22.5	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
570	TIME	Cl2 Incubation Time	18.4	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
571	TOC-ICR	TOC	0.96	mg/L	SM 5310 C	1	0.50	9/5/98		9/6/98	7-0-396
572	TOC-ICR	TOC (Dupl)	0.96	mg/L	SM 5310 C	1	0.50	9/5/98		9/6/98	7-0-396
			0.96	**mg/L**	**0.0 % RPD**						
573	TOX-ICR	TOX	47	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
574	TOX-ICR	TOX (Dupl)	49	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			48	**µg Cl-/L**	**4.2 % RPD**						
575	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
576	THM-ICR	Bromodichloromethane	7.7	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
577	THM-ICR	Bromoform	4.7	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
578	THM-ICR	Chloroform	2.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
579	THM-ICR	Dibromochloromethane	11.7	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
580	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	9/5/98		9/6/98	8-0-285
581	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	9/5/98		9/6/98	8-0-285
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-14 **S&H ID:** 9808-561 **Date Sampled:** 9/6/98 4:58:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

582	Cl2Dose	Chlorine Dose	2.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
583	Cl2Res	Chlorine Residual	0.89	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
584	HAA	Bromochloroacetic acid	4.3	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
585	HAA	Bromodichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
586	HAA	Chlorodibromoacetic acid	4.6	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
587	HAA	Dibromoacetic acid	3.5	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
588	HAA	Dichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
589	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
590	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
591	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
592	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
593	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
594	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
595	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/6/98		9/6/98	n/a
596	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
597	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	9/6/98		9/6/98	n/a
598	TIME	Cl2 Incubation Time	18.5	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
599	TOC-ICR	TOC	1.03	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
600	TOC-ICR	TOC (Dupl)	1.06	mg/L	SM 5310 C	1	0.50	9/6/98		9/6/98	7-0-396
			1.04	**mg/L**	**2.9 % RPD**						
601	TOX-ICR	TOX	53	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
602	TOX-ICR	TOX (Dupl)	54	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			54	**µg Cl-/L**	**1.9 % RPD**						
603	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
604	THM-ICR	Bromodichloromethane	8.6	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
605	THM-ICR	Bromoform	4.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
606	THM-ICR	Chloroform	3.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
607	THM-ICR	Dibromochloromethane	12.7	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
608	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
609	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	9/6/98		9/6/98	8-0-285
			0.014	**1/cm**	**7.1 % RPD**						

Sample ID: 133.20.Eff-17 **S&H ID:** 9808-564 **Date Sampled:** 9/6/98 11:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
610	Cl2Dose	Chlorine Dose	2.21	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
611	Cl2Res	Chlorine Residual	0.89	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
612	HAA	Bromochloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
613	HAA	Bromodichloroacetic acid	5.0	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
614	HAA	Chlorodibromoacetic acid	5.8	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

615	HAA	Dibromoacetic acid	3.9	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
616	HAA	Dichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
617	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
618	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
619	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
620	HAA	Trichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
621	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
622	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
623	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/6/98		9/6/98	n/a
624	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
625	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	9/6/98		9/6/98	n/a
626	TIME	Cl2 Incubation Time	18.5	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
627	TOC-ICR	TOC	1.31	mg/L	SM 5310 C	1	0.50	9/6/98		9/7/98	7-0-397
628	TOC-ICR	TOC (Dupl)	1.32	mg/L	SM 5310 C	1	0.50	9/6/98		9/7/98	7-0-397
			1.31	**mg/L**	**0.8 % RPD**						
629	TOX-ICR	TOX	76	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
630	TOX-ICR	TOX (Dupl)	72	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/11/98	12-0-206
			74	**µg Cl-/L**	**5.4 % RPD**						
631	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
632	THM-ICR	Bromodichloromethane	12.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
633	THM-ICR	Bromoform	4.9	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
634	THM-ICR	Chloroform	5.0	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
635	THM-ICR	Dibromochloromethane	15.4	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
636	UV-ICR	UV	0.018	1/cm	SM 5910 B	1	0.009	9/6/98		9/7/98	8-0-286
637	UV-ICR	UV (Dupl)	0.018	1/cm	SM 5910 B	1	0.009	9/6/98		9/7/98	8-0-286
			0.018	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-22 **S&H ID:** 9808-569 **Date Sampled:** 9/9/98 8:53:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
638	Cl2Dose	Chlorine Dose	2.39	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/11/98		9/11/98	n/a
639	Cl2Res	Chlorine Residual	0.60	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/11/98		9/12/98	n/a
640	HAA	Bromochloroacetic acid	7.6	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
641	HAA	Bromodichloroacetic acid	9.8	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
642	HAA	Chlorodibromoacetic acid	5.5	µg/L	SM 6251 B	1	2.0	9/12/98	9/24/98	10/2/98	MW85117
643	HAA	Dibromoacetic acid	4.2	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
644	HAA	Dichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
645	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
646	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/12/98	9/24/98	10/2/98	MW85117
647	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/12/98	9/24/98	10/2/98	MW85117

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

648	HAA	Trichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	10/2/98	MW85117
649	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/11/98		9/12/98	n/a
650	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/11/98		9/11/98	n/a
651	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/9/98		9/9/98	n/a
652	TEMP	Cl2 Temperature	26.3	ºC	SM 2550 B	1	n/a	9/11/98		9/12/98	n/a
653	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	9/9/98		9/9/98	n/a
654	TIME	Cl2 Incubation Time	17.8	hrs	n/a	1	n/a	9/11/98		9/12/98	n/a
655	TOC-ICR	TOC	1.66	mg/L	SM 5310 C	1	0.50	9/9/98		9/10/98	7-0-400
656	TOC-ICR	TOC (Dupl)	1.69	mg/L	SM 5310 C	1	0.50	9/9/98		9/10/98	7-0-400
			1.67	**mg/L**	**1.8 % RPD**						
657	TOX-ICR	TOX	117	µg Cl-/L	SM 5320 B	1	25	9/12/98		9/14/98	12-0-207
658	TOX-ICR	TOX (Dupl)	114	µg Cl-/L	SM 5320 B	1	25	9/12/98		9/14/98	12-0-207
			116	**µg Cl-/L**	**2.6 % RPD**						
659	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2	%	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
660	THM-ICR	Bromodichloromethane	17.1	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
661	THM-ICR	Bromoform	3.5	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
662	THM-ICR	Chloroform	10.1	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
663	THM-ICR	Dibromochloromethane	16.1	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
664	UV-ICR	UV	0.025	1/cm	SM 5910 B	1	0.009	9/9/98		9/10/98	8-0-289
665	UV-ICR	UV (Dupl)	0.025	1/cm	SM 5910 B	1	0.009	9/9/98		9/10/98	8-0-289
			0.025	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-24 **S&H ID:** 9808-571 **Date Sampled:** 9/11/98 12:34:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
666	Cl2Dose	Chlorine Dose	2.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/15/98		9/15/98	n/a
667	Cl2Res	Chlorine Residual	0.76	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/15/98		9/16/98	n/a
668	HAA	Bromochloroacetic acid	8.3	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
669	HAA	Bromodichloroacetic acid	8.2	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
670	HAA	Dibromoacetic acid	4.9	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
671	HAA	Dichloroacetic acid	6.7	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
672	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
673	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/16/98	9/30/98	10/2/98	MW85117
674	HAA	Trichloroacetic acid	6.0	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
675	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/16/98	n/a
676	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/15/98	n/a
677	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/11/98		9/11/98	n/a
678	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/15/98		9/16/98	n/a
679	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	9/11/98		9/11/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

680	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	9/15/98		9/16/98	n/a
681	TOC-ICR	TOC	1.82	mg/L	SM 5310 C	1	0.50	9/11/98		9/11/98	7-0-401
682	TOC-ICR	TOC (Dupl)	1.82	mg/L	SM 5310 C	1	0.50	9/11/98		9/11/98	7-0-401
			1.82	**mg/L**	**0.0 % RPD**						
683	TOX-ICR	TOX	127	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
684	TOX-ICR	TOX (Dupl)	131	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
			129	**µg Cl-/L**	**3.1 % RPD**						
685	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
686	THM-ICR	Bromodichloromethane	21.0	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
687	THM-ICR	Bromoform	3.8	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
688	THM-ICR	Chloroform	11.8	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
689	THM-ICR	Dibromochloromethane	18.5	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
690	UV-ICR	UV	0.028	1/cm	SM 5910 B	1	0.009	9/11/98		9/11/98	8-0-290
691	UV-ICR	UV (Dupl)	0.028	1/cm	SM 5910 B	1	0.009	9/11/98		9/11/98	8-0-290
			0.028	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-26 **S&H ID:** 9808-573 **Date Sampled:** 9/12/98 8:55:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
692	Cl2Dose	Chlorine Dose	2.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/15/98		9/15/98	n/a
693	Cl2Res	Chlorine Residual	0.81	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/15/98		9/16/98	n/a
694	HAA	Bromochloroacetic acid	9.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
695	HAA	Bromodichloroacetic acid	9.9	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
696	HAA	Dibromoacetic acid	4.9	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
697	HAA	Dichloroacetic acid	7.6	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
698	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
699	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/16/98	9/30/98	10/2/98	MW85117
700	HAA	Trichloroacetic acid	7.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
701	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/16/98	n/a
702	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/15/98	n/a
703	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/12/98		9/12/98	n/a
704	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/15/98		9/16/98	n/a
705	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	9/12/98		9/12/98	n/a
706	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	9/15/98		9/16/98	n/a
707	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	9/12/98		9/12/98	7-0-402
708	TOC-ICR	TOC (Dupl)	1.98	mg/L	SM 5310 C	1	0.50	9/12/98		9/12/98	7-0-402
			1.97	**mg/L**	**1.0 % RPD**						
709	TOX-ICR	TOX	148	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
710	TOX-ICR	TOX (Dupl)	148	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
			148	**µg Cl-/L**	**0.0 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
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711	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
712	THM-ICR	Bromodichloromethane	25.6	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
713	THM-ICR	Bromoform	4.0	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
714	THM-ICR	Chloroform	15.9	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
715	THM-ICR	Dibromochloromethane	19.4	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
716	UV-ICR	UV	0.031	1/cm	SM 5910 B	1	0.009	9/12/98		9/12/98	8-0-291
717	UV-ICR	UV (Dupl)	0.031	1/cm	SM 5910 B	1	0.009	9/12/98		9/12/98	8-0-291
			0.031	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-27 **S&H ID:** 9808-574 **Date Sampled:** 9/13/98 12:23:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
718	Cl2Dose	Chlorine Dose	2.73	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/15/98		9/15/98	n/a
719	Cl2Res	Chlorine Residual	0.90	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/15/98		9/16/98	n/a
720	HAA	Bromochloroacetic acid	9.8	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
721	HAA	Bromodichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
722	HAA	Dibromoacetic acid	4.8	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
723	HAA	Dichloroacetic acid	9.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
724	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
725	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/16/98	9/30/98	10/2/98	MW85117
726	HAA	Trichloroacetic acid	8.7	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
727	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/16/98	n/a
728	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/15/98	n/a
729	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/13/98		9/13/98	n/a
730	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/15/98		9/16/98	n/a
731	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	9/13/98		9/13/98	n/a
732	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	9/15/98		9/16/98	n/a
733	TOC-ICR	TOC	2.20	mg/L	SM 5310 C	1	0.50	9/13/98		9/13/98	7-0-403
734	TOC-ICR	TOC (Dupl)	2.24	mg/L	SM 5310 C	1	0.50	9/13/98		9/13/98	7-0-403
			2.22	**mg/L**	**1.8 % RPD**						
735	TOX-ICR	TOX	169	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
736	TOX-ICR	TOX (Dupl)	168	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
			169	**µg Cl-/L**	**0.6 % RPD**						
737	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
738	THM-ICR	Bromodichloromethane	28.0	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
739	THM-ICR	Bromoform	3.6	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
740	THM-ICR	Chloroform	19.8	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
741	THM-ICR	Dibromochloromethane	21.1	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
742	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	9/13/98		9/14/98	8-0-293

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

743	UV-ICR	UV (Dupl)	0.035	1/cm	SM 5910 B	1	0.009	9/13/98		9/14/98	8-0-293
			0.035	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-29 **S&H ID:** 9808-576 **Date Sampled:** 9/16/98 2:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
744	Cl2Dose	Chlorine Dose	2.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/17/98		9/17/98	n/a
745	Cl2Res	Chlorine Residual	0.99	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/17/98		9/18/98	n/a
746	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
747	HAA	Bromodichloroacetic acid	14.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
748	HAA	Chlorodibromoacetic acid	5.9	µg/L	SM 6251 B	1	2.0	9/18/98	10/1/98	10/2/98	MW85081
749	HAA	Dibromoacetic acid	4.9	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
750	HAA	Dichloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
751	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
752	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/18/98	10/1/98	10/2/98	MW85081
753	HAA	Trichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
754	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/18/98	n/a
755	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/17/98	n/a
756	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/16/98		9/16/98	n/a
757	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/17/98		9/18/98	n/a
758	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	9/16/98		9/16/98	n/a
759	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/17/98		9/18/98	n/a
760	TOC-ICR	TOC	2.52	mg/L	SM 5310 C	1	0.50	9/16/98		9/18/98	7-0-407
761	TOC-ICR	TOC (Dupl)	2.48	mg/L	SM 5310 C	1	0.50	9/16/98		9/18/98	7-0-407
			2.50	**mg/L**	**1.6 % RPD**						
762	TOX-ICR	TOX	192	µg Cl-/L	SM 5320 B	1	25	9/18/98		9/21/98	12-0-211
763	TOX-ICR	TOX (Dupl)	182	µg Cl-/L	SM 5320 B	1	25	9/18/98		9/21/98	12-0-211
			187	**µg Cl-/L**	**5.3 % RPD**						
764	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
765	THM-ICR	Bromodichloromethane	27.9	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
766	THM-ICR	Bromoform	2.9	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
767	THM-ICR	Chloroform	23.6	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
768	THM-ICR	Dibromochloromethane	19.7	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
769	UV-ICR	UV	0.043	1/cm	SM 5910 B	1	0.009	9/16/98		9/18/98	8-0-296
770	UV-ICR	UV (Dupl)	0.043	1/cm	SM 5910 B	1	0.009	9/16/98		9/18/98	8-0-296
			0.043	**1/cm**	**0.0 % RPD**						

Sample ID: 133.20.Eff-30 **S&H ID:** 9808-577 **Date Sampled:** 9/17/98 6:23:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
771	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/17/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

772	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	9/17/98		9/17/98	n/a
773	TOC-ICR	TOC	2.59	mg/L	SM 5310 C	1	0.50	9/17/98		9/18/98	7-0-407
774	TOC-ICR	TOC (Dupl)	2.56	mg/L	SM 5310 C	1	0.50	9/17/98		9/18/98	7-0-407
			2.58	**mg/L**	**1.2 % RPD**						
775	UV-ICR	UV	0.044	1/cm	SM 5910 B	1	0.009	9/17/98		9/18/98	8-0-296
776	UV-ICR	UV (Dupl)	0.045	1/cm	SM 5910 B	1	0.009	9/17/98		9/18/98	8-0-296
			0.044	**1/cm**	**2.3 % RPD**						

Sample ID: 133.20.Eff-8d **S&H ID:** 9808-578 **Date Sampled:** 9/5/98 1:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
777	Cl2Dose	Chlorine Dose	1.78	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/5/98		9/5/98	n/a
778	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/5/98		9/6/98	n/a
779	HAA	Bromochloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
780	HAA	Bromodichloroacetic acid	2.5	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
781	HAA	Chlorodibromoacetic acid	2.5	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
782	HAA	Dibromoacetic acid	1.9	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
783	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
784	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
785	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/6/98	9/11/98	9/12/98	MW83902
786	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/6/98	9/11/98	9/12/98	MW83902
787	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/6/98	9/11/98	9/12/98	MW83902
788	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/6/98	n/a
789	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
790	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
791	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/5/98		9/6/98	n/a
792	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
793	TIME	Cl2 Incubation Time	18.3	hrs	n/a	1	n/a	9/5/98		9/6/98	n/a
794	TOC-ICR	TOC	0.58	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
795	TOC-ICR	TOC (Dupl)	0.58	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
			0.58	**mg/L**	**0.0 % RPD**						
796	TOX-ICR	TOX	25	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/10/98	12-0-205
797	TOX-ICR	TOX (Dupl)	26	µg Cl-/L	SM 5320 B	1	25	9/6/98		9/10/98	12-0-205
			26	**µg Cl-/L**	**3.8 % RPD**						
798	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.2	%	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
799	THM-ICR	Bromodichloromethane	3.6	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
800	THM-ICR	Bromoform	3.3	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
801	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
802	THM-ICR	Dibromochloromethane	6.4	µg/L	EPA 551.1	1	1.0	9/6/98	9/14/98	9/14/98	0-215-0
803	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

804	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	9/5/98		9/5/98	8-0-284
			ND	**1/cm**							

Sample ID: 133.20.Eff-17d **S&H ID:** 9808-581 **Date Sampled:** 9/6/98 11:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
805	Cl2Dose	Chlorine Dose	2.21	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/8/98		9/8/98	n/a
806	Cl2Res	Chlorine Residual	0.85	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/8/98		9/9/98	n/a
807	HAA	Bromochloroacetic acid	6.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
808	HAA	Bromodichloroacetic acid	4.8	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
809	HAA	Chlorodibromoacetic acid	5.6	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
810	HAA	Dibromoacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
811	HAA	Dichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
812	HAA	Monobromoacetic acid	1.2	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
813	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/9/98	9/17/98	9/20/98	MW84518
814	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/9/98	9/17/98	9/20/98	MW84518
815	HAA	Trichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	9/9/98	9/17/98	9/20/98	MW84518
816	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/9/98	n/a
817	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
818	pH	pH	8.2	Unit	SM 4500-H+ B	1	n/a	9/6/98		9/6/98	n/a
819	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/8/98		9/9/98	n/a
820	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	9/6/98		9/6/98	n/a
821	TIME	Cl2 Incubation Time	18.5	hrs	n/a	1	n/a	9/8/98		9/9/98	n/a
822	TOC-ICR	TOC	1.33	mg/L	SM 5310 C	1	0.50	9/6/98		9/7/98	7-0-397
823	TOC-ICR	TOC (Dupl)	1.30	mg/L	SM 5310 C	1	0.50	9/6/98		9/7/98	7-0-397
			1.31	**mg/L**	**2.3 % RPD**						
824	TOX-ICR	TOX	77	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/14/98	12-0-207
825	TOX-ICR	TOX (Dupl)	73	µg Cl-/L	SM 5320 B	1	25	9/9/98		9/14/98	12-0-207
			75	**µg Cl-/L**	**5.3 % RPD**						
826	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
827	THM-ICR	Bromodichloromethane	12.2	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
828	THM-ICR	Bromoform	5.0	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
829	THM-ICR	Chloroform	5.1	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
830	THM-ICR	Dibromochloromethane	15.8	µg/L	EPA 551.1	1	1.0	9/9/98	9/14/98	9/14/98	0-215-0
831	UV-ICR	UV	0.018	1/cm	SM 5910 B	1	0.009	9/6/98		9/7/98	8-0-286
832	UV-ICR	UV (Dupl)	0.018	1/cm	SM 5910 B	1	0.009	9/6/98		9/7/98	8-0-286
			0.018	**1/cm**	**0.0 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Sample ID: 133.20.Eff-26d **S&H ID:** 9808-582 **Date Sampled:** 9/12/98 8:55:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
833	Cl2Dose	Chlorine Dose	2.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/15/98		9/15/98	n/a
834	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/15/98		9/16/98	n/a
835	HAA	Bromochloroacetic acid	9.3	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
836	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
837	HAA	Dibromoacetic acid	4.8	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
838	HAA	Dichloroacetic acid	8.0	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
839	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
840	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/16/98	9/30/98	10/2/98	MW85117
841	HAA	Trichloroacetic acid	7.1	µg/L	SM 6251 B	1	1.0	9/16/98	9/30/98	10/2/98	MW85117
842	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/16/98	n/a
843	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/15/98	n/a
844	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	9/12/98		9/12/98	n/a
845	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/15/98		9/16/98	n/a
846	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	9/12/98		9/12/98	n/a
847	TIME	Cl2 Incubation Time	18.0	hrs	n/a	1	n/a	9/15/98		9/16/98	n/a
848	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	9/12/98		9/12/98	7-0-402
849	TOC-ICR	TOC (Dupl)	1.97	mg/L	SM 5310 C	1	0.50	9/12/98		9/12/98	7-0-402
			1.96	**mg/L**	**0.5 % RPD**						
850	TOX-ICR	TOX	148	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
851	TOX-ICR	TOX (Dupl)	150	µg Cl-/L	SM 5320 B	1	25	9/16/98		9/16/98	12-0-208
			149	**µg Cl-/L**	**1.3 % RPD**						
852	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
853	THM-ICR	Bromodichloromethane	26.2	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
854	THM-ICR	Bromoform	4.1	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
855	THM-ICR	Chloroform	16.4	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
856	THM-ICR	Dibromochloromethane	22.3	µg/L	EPA 551.1	1	1.0	9/16/98	9/23/98	9/23/98	0-219-0
857	UV-ICR	UV	0.031	1/cm	SM 5910 B	1	0.009	9/12/98		9/12/98	8-0-291
858	UV-ICR	UV (Dupl)	0.031	1/cm	SM 5910 B	1	0.009	9/12/98		9/12/98	8-0-291
			0.031	**1/cm**	**0.0 % RPD**						

Sample ID: 133.Inf.A-1 **S&H ID:** 9808-588 **Date Sampled:** 8/31/98 3:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
859	ALK	Alkalinity	96	mg/L	SM 2320 B	1	5	8/31/98		9/1/98	1-0-31
860	ALK	Alkalinity (Dupl)	98	mg/L	SM 2320 B	1	5	8/31/98		9/1/98	1-0-31
			97	**mg/L**	**2.1 % RPD**						
861	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	8/31/98		9/10/98	MW83827
862	BR	Bromide	0.096	mg/L	EPA 300.0 A	1	0.020	8/31/98		9/3/98	MW83681

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

863	CaHardM	Calcium Hardness	105	mg/L CaCO3	EPA 200.7	1	5	8/31/98		9/9/98	MW n/a
864	CaMW	Calcium, Total, ICAP	42	mg/L	EPA 200.7	1	1	8/31/98	9/9/98	9/9/98	MW83714
865	MgMW	Magnesium, Total, ICAP	15	mg/L	EPA 200.7	1	0	8/31/98	9/9/98	9/9/98	MW83717
866	TotHard	Total Hardness as CaCO3 by ICP	167	mg/L CaCO3	SM 2340B	1	7	8/31/98		9/9/98	MW n/a

Sample ID: 133.Inf.A-2 **S&H ID:** 9808-589 **Date Sampled:** 9/8/98 1:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
867	ALK	Alkalinity	93	mg/L	SM 2320 B	1	5	9/8/98		9/9/98	1-0-32
868	ALK	Alkalinity (Dupl)	94	mg/L	SM 2320 B	1	5	9/8/98		9/9/98	1-0-32
			94	**mg/L**	**1.1 % RPD**						
869	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	9/8/98		9/17/98	MW84241
870	BR	Bromide	0.096	mg/L	EPA 300.0 A	1	0.020	9/8/98		9/15/98	MW84247
871	CaHardM	Calcium Hardness	100	mg/L CaCO3	EPA 200.7	1	5	9/8/98		9/15/98	MW n/a
872	CaMW	Calcium, Total, ICAP	40	mg/L	EPA 200.7	1	1	9/8/98	9/15/98	9/15/98	MW84102
873	MgMW	Magnesium, Total, ICAP	15	mg/L	EPA 200.7	1	0	9/8/98	9/15/98	9/15/98	MW84192
874	TotHard	Total Hardness as CaCO3 by ICP	162	mg/L CaCO3	SM 2340B	1	7	9/8/98		9/15/98	MW n/a

Sample ID: 133.Inf.B-1 **S&H ID:** 9808-590 **Date Sampled:** 8/31/98 3:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
875	Cl2Dose	Chlorine Dose	3.80	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/3/98		9/3/98	n/a
876	Cl2Res	Chlorine Residual	0.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/3/98		9/4/98	n/a
877	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
878	HAA	Bromodichloroacetic acid	19.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
879	HAA	Chlorodibromoacetic acid	5.2	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
880	HAA	Dibromoacetic acid	2.6	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
881	HAA	Dichloroacetic acid	18.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
882	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
883	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/4/98	9/11/98	9/12/98	MW83902
884	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/4/98	9/11/98	9/12/98	MW83902
885	HAA	Trichloroacetic acid	24.0	µg/L	SM 6251 B	1	1.0	9/4/98	9/11/98	9/12/98	MW83902
886	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/4/98	n/a
887	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
888	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	8/31/98		8/31/98	n/a
889	TEMP	Cl2 Temperature	26.0	ºC	SM 2550 B	1	n/a	9/3/98		9/4/98	n/a
890	TEMP	Temperature	22.5	ºC	SM 2550 B	1	n/a	8/31/98		8/31/98	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

891	TIME	Cl2 Incubation Time	18.2	hrs	n/a	1	n/a	9/3/98		9/4/98	n/a
892	TOC-ICR	TOC	3.46	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
893	TOC-ICR	TOC (Dupl)	3.50	mg/L	SM 5310 C	1	0.50	8/31/98		9/1/98	7-0-391
			3.48	**mg/L**	**1.1 % RPD**						
894	TOX-ICR	TOX	305	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
895	TOX-ICR	TOX (Dupl)	304	µg Cl-/L	SM 5320 B	1	25	9/4/98		9/8/98	12-0-203
			305	**µg Cl-/L**	**0.3 % RPD**						
896	THM-ICR	1,2,3-Trichloropropane (Surrogate)	83.6	%	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
897	THM-ICR	Bromodichloromethane	35.3	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
898	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
899	THM-ICR	Chloroform	50.3	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
900	THM-ICR	Dibromochloromethane	14.5	µg/L	EPA 551.1	1	1.0	9/4/98	9/8/98	9/8/98	0-211-0
901	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	8/31/98		8/31/98	9-0-17
902	UV-ICR	UV	0.078	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
903	UV-ICR	UV (Dupl)	0.078	1/cm	SM 5910 B	1	0.009	8/31/98		9/1/98	8-0-280
			0.078	**1/cm**	**0.0 % RPD**						

Sample ID: 133.Inf.B-2 **S&H ID:** 9808-591 **Date Sampled:** 9/3/98 8:45:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
904	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	9/3/98		9/3/98	n/a
905	TEMP	Temperature	17.5	ºC	SM 2550 B	1	n/a	9/3/98		9/3/98	n/a
906	TOC-ICR	TOC	3.54	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
907	TOC-ICR	TOC (Dupl)	3.56	mg/L	SM 5310 C	1	0.50	9/3/98		9/3/98	7-0-393
			3.55	**mg/L**	**0.6 % RPD**						

Sample ID: 133.Inf.B-3 **S&H ID:** 9808-592 **Date Sampled:** 9/5/98 12:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
908	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	9/5/98		9/5/98	n/a
909	TEMP	Temperature	17.4	ºC	SM 2550 B	1	n/a	9/5/98		9/5/98	n/a
910	TOC-ICR	TOC	3.49	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
911	TOC-ICR	TOC (Dupl)	3.46	mg/L	SM 5310 C	1	0.50	9/5/98		9/5/98	7-0-395
			3.48	**mg/L**	**0.9 % RPD**						

Sample ID: 133.Inf.B-4 **S&H ID:** 9808-593 **Date Sampled:** 9/8/98 1:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
912	Cl2Dose	Chlorine Dose	4.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/11/98		9/11/98	n/a
913	Cl2Res	Chlorine Residual	0.79	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/11/98		9/12/98	n/a
914	HAA	Bromochloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

915	HAA	Bromodichloroacetic acid	18.0	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631
916	HAA	Chlorodibromoacetic acid	5.0	µg/L	SM 6251 B	1	2.0	9/12/98	9/24/98	9/25/98	MW84631
917	HAA	Dibromoacetic acid	2.6	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631
918	HAA	Dichloroacetic acid	18.0	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631
919	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631
920	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	9/12/98	9/24/98	9/25/98	MW84631
921	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	9/12/98	9/24/98	9/25/98	MW84631
922	HAA	Trichloroacetic acid	25.0	µg/L	SM 6251 B	1	1.0	9/12/98	9/24/98	9/25/98	MW84631
923	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/11/98		9/12/98	n/a
924	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	9/11/98		9/11/98	n/a
925	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	9/8/98		9/8/98	n/a
926	TEMP	Cl2 Temperature	26.3	ºC	SM 2550 B	1	n/a	9/11/98		9/12/98	n/a
927	TEMP	Temperature	16.8	ºC	SM 2550 B	1	n/a	9/8/98		9/8/98	n/a
928	TIME	Cl2 Incubation Time	17.9	hrs	n/a	1	n/a	9/11/98		9/12/98	n/a
929	TOC-ICR	TOC	3.43	mg/L	SM 5310 C	1	0.50	9/8/98		9/8/98	7-0-398
930	TOC-ICR	TOC (Dupl)	3.41	mg/L	SM 5310 C	1	0.50	9/8/98		9/8/98	7-0-398
			3.42	**mg/L**	**0.6 % RPD**						
931	TOX-ICR	TOX	328	µg Cl-/L	SM 5320 B	1	25	9/12/98		9/16/98	12-0-208
932	TOX-ICR	TOX (Dupl)	328	µg Cl-/L	SM 5320 B	1	25	9/12/98		9/16/98	12-0-208
			328	**µg Cl-/L**	**0.0 % RPD**						
933	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
934	THM-ICR	Bromodichloromethane	36.0	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
935	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
936	THM-ICR	Chloroform	56.3	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
937	THM-ICR	Dibromochloromethane	14.1	µg/L	EPA 551.1	1	1.0	9/12/98	9/14/98	9/14/98	0-215-0
938	TURB	Turbidity	0.20	ntu	SM 2130 B	1	0.05	9/8/98		9/8/98	9-0-17
939	UV-ICR	UV	0.078	1/cm	SM 5910 B	1	0.009	9/8/98		9/9/98	8-0-288
940	UV-ICR	UV (Dupl)	0.078	1/cm	SM 5910 B	1	0.009	9/8/98		9/9/98	8-0-288
			0.078	**1/cm**	**0.0 % RPD**						

Sample ID: 133.Inf.B-5 **S&H ID:** 9808-594 **Date Sampled:** 9/15/98 3:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
941	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	9/15/98		9/15/98	n/a
942	TEMP	Temperature	18.7	ºC	SM 2550 B	1	n/a	9/15/98		9/15/98	n/a
943	TOC-ICR	TOC	3.43	mg/L	SM 5310 C	1	0.50	9/15/98		9/16/98	7-0-406
944	TOC-ICR	TOC (Dupl)	3.40	mg/L	SM 5310 C	1	0.50	9/15/98		9/16/98	7-0-406
			3.42	**mg/L**	**0.9 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Sample ID: 133.Inf.B-6 **S&H ID:** 9808-595 **Date Sampled:** 9/17/98 2:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
945	Cl2Dose	Chlorine Dose	4.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	9/17/98		9/17/98	n/a
946	Cl2Res	Chlorine Residual	0.71	mg/L as Cl2	SM 4500-Cl F	1	0.10	9/17/98		9/18/98	n/a
947	HAA	Bromochloroacetic acid	13.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
948	HAA	Bromodichloroacetic acid	17.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
949	HAA	Chlorodibromoacetic acid	5.1	µg/L	SM 6251 B	1	2.0	9/18/98	10/1/98	10/2/98	MW85081
950	HAA	Dibromoacetic acid	3.4	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
951	HAA	Dichloroacetic acid	22.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
952	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
953	HAA	Monochloroacetic acid	3.1	µg/L	SM 6251 B	1	2.0	9/18/98	10/1/98	10/2/98	MW85081
954	HAA	Trichloroacetic acid	25.0	µg/L	SM 6251 B	1	1.0	9/18/98	10/1/98	10/2/98	MW85081
955	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/18/98	n/a
956	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/17/98	n/a
957	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	9/17/98		9/17/98	n/a
958	TEMP	Cl2 Temperature	26.2	ºC	SM 2550 B	1	n/a	9/17/98		9/18/98	n/a
959	TEMP	Temperature	18.3	ºC	SM 2550 B	1	n/a	9/17/98		9/17/98	n/a
960	TIME	Cl2 Incubation Time	18.1	hrs	n/a	1	n/a	9/17/98		9/18/98	n/a
961	TOC-ICR	TOC	3.37	mg/L	SM 5310 C	1	0.50	9/17/98		9/18/98	7-0-407
962	TOC-ICR	TOC (Dupl)	3.38	mg/L	SM 5310 C	1	0.50	9/17/98		9/18/98	7-0-407
			3.38	**mg/L**	**0.3 % RPD**						
963	TOX-ICR	TOX	331	µg Cl-/L	SM 5320 B	1	25	9/18/98		9/21/98	12-0-211
964	TOX-ICR	TOX (Dupl)	307	µg Cl-/L	SM 5320 B	1	25	9/18/98		9/21/98	12-0-211
			319	**µg Cl-/L**	**7.5 % RPD**						
965	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
966	THM-ICR	Bromodichloromethane	37.1	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
967	THM-ICR	Bromoform	1.5	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
968	THM-ICR	Chloroform	53.2	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
969	THM-ICR	Dibromochloromethane	15.5	µg/L	EPA 551.1	1	1.0	9/18/98	9/23/98	9/23/98	0-219-0
970	TURB	Turbidity	0.35	ntu	SM 2130 B	1	0.05	9/17/98		9/17/98	9-0-17
971	UV-ICR	UV	0.078	1/cm	SM 5910 B	1	0.009	9/17/98		9/18/98	8-0-296
972	UV-ICR	UV (Dupl)	0.078	1/cm	SM 5910 B	1	0.009	9/17/98		9/18/98	8-0-296
			0.078	**1/cm**	**0.0 % RPD**						

End of laboratory test results

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

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Quality Control Report

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201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 133
Study Title: ICR RSSCT#3

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-31

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	93	mg/L	93%		08/18/98	9808-379	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		08/18/98	9808-379	5		
		100	**94**	**mg/L**	**94%**	**3.2 %**					
Method Blank	Method Blank		ND*	mg/L			08/18/98	9808-393	5		
Standard	Standard	100	100	mg/L	100%		08/18/98	9808-394	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		08/18/98	9808-394	5		
		100	**100**	**mg/L**	**100%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	95	mg/L	95%		08/28/98	9808-380	5		
Matrix Spike (Dupl)	Matrix Spike	100	92	mg/L	92%		08/28/98	9808-380	5		
		100	**94**	**mg/L**	**94%**	**3.2 %**					
Method Blank	Method Blank		ND*	mg/L			08/28/98	9808-489	5		
Standard	Standard	100	97	mg/L	97%		08/28/98	9808-490	5		
Standard (Dupl)	Standard	100	98	mg/L	98%		08/28/98	9808-490	5		
		100	**97**	**mg/L**	**97%**	**1.0 %**					
Matrix Spike	Matrix Spike	100	94	mg/L	94%		09/01/98	9808-588	5		
Matrix Spike (Dupl)	Matrix Spike	100	94	mg/L	94%		09/01/98	9808-588	5		
		100	**94**	**mg/L**	**94%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			09/01/98	9809-1	5		
Standard	Standard	100	99	mg/L	99%		09/01/98	9809-2	5		
Standard (Dupl)	Standard	100	106	mg/L	106%		09/01/98	9809-2	5		
		100	**103**	**mg/L**	**103%**	**6.8 %**					

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-32

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	93	mg/L	93%		09/09/98	9808-589	5		
Matrix Spike (Dupl)	Matrix Spike	100	93	mg/L	93%		09/09/98	9808-589	5		
		100	**93**	**mg/L**	**93%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			09/09/98	9809-148	5		
Standard	Standard	100	98	mg/L	98%		09/09/98	9809-149	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		09/09/98	9809-149	5		
		100	**99**	**mg/L**	**99%**	**2.0 %**					
Matrix Spike	Matrix Spike	100	97	mg/L	97%		09/15/98	9809-272	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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Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		09/15/98	9809-272	5
		100	**97**	**mg/L**	**97%**	**1.0 %**			
Method Blank	Method Blank		ND*	mg/L			09/15/98	9809-372	5
Standard	Standard	100	97	mg/L	97%		09/15/98	9809-373	5
Standard (Dupl)	Standard	100	97	mg/L	97%		09/15/98	9809-373	5
		100	**97**	**mg/L**	**97%**	**0.0 %**			
Matrix Spike	Matrix Spike	100	97	mg/L	97%		09/21/98	9809-132	5
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		09/21/98	9809-132	5
		100	**96**	**mg/L**	**96%**	**1.0 %**			
Method Blank	Method Blank		ND*	mg/L			09/21/98	9809-401	5
Standard	Standard	100	99	mg/L	99%		09/21/98	9809-402	5
Standard (Dupl)	Standard	100	98	mg/L	98%		09/21/98	9809-402	5
		100	**99**	**mg/L**	**99%**	**1.0 %**			

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-387

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.94	mg/L	98%		9808-364	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.81	mg/L	95%		9808-364	0.5		
		4.00	**3.87**	**mg/L**	**97%**	**3.4 %**				
Method Blank	Method Blank		ND*	mg/L			9808-483	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-483	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9808-425	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9808-409	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**2.5 %**			90-110%	10%
Standard	Standard	10.00	9.35	mg/L	93%		9808-163	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.54	mg/L	95%		9808-163	0.5	90-110%	
		10.00	**9.45**	**mg/L**	**94%**	**2.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-391

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.06	mg/L	101%		9808-548	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9808-548	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9809-4	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-4	0.5		

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.98	mg/L	100%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9808-409	0.5	90-110%	
		4.00	**3.97**	**mg/L**	**99%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-392

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.28	mg/L	107%		9808-510	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.04	mg/L	101%		9808-510	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**5.5 %**				
Method Blank	Method Blank		ND*	mg/L			9809-20	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-20	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9808-425	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%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9808-409	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: 7-0-393

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.94	mg/L	98%		9808-517	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9808-517	0.5		
		4.00	**3.98**	**mg/L**	**100%**	**1.8 %**				
Method Blank	Method Blank		ND*	mg/L			9809-28	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-28	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.49	mg/L	98%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9808-409	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**0.7 %**			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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Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-394

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.90	mg/L	97%		9808-552	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.94	mg/L	98%		9808-552	0.5		
		4.00	**3.92**	**mg/L**	**98%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9809-32	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-32	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9808-425	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%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9808-409	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**1.3 %**			90-110%	10%
Standard	Standard	10.00	9.72	mg/L	97%		9808-163	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.93	mg/L	99%		9808-163	0.5	90-110%	
		10.00	**9.83**	**mg/L**	**98%**	**2.1 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-395

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.92	mg/L	98%		9808-555	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.94	mg/L	98%		9808-555	0.5		
		4.00	**3.93**	**mg/L**	**98%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9809-36	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-36	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9808-425	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9808-409	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**1.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-396

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.91	mg/L	98%		9808-527	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.90	mg/L	97%		9808-527	0.5		
		4.00	**3.90**	**mg/L**	**97%**	**0.0 %**				

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Summers & Hooper, Inc.
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Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Method Blank	Method Blank		ND*	mg/L			9809-38	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-38	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.98	mg/L	100%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9808-409	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-397

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.96	mg/L	99%		9808-565	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.93	mg/L	98%		9808-565	0.5		
		4.00	**3.94**	**mg/L**	**98%**	**0.8 %**				
Method Blank	Method Blank		ND*	mg/L			9809-40	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-40	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.83	mg/L	96%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.89	mg/L	97%		9808-409	0.5	90-110%	
		4.00	**3.86**	**mg/L**	**96%**	**1.6 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-398

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9808-566	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.04	mg/L	101%		9808-566	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9809-50	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-50	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9808-425	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**5.8 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9808-409	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**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.

Summers & Hooper, Inc.
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Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-399

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9809-51	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.97	mg/L	99%		9809-51	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9809-139	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-139	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.91	mg/L	98%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9808-409	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**2.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-400

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.91	mg/L	98%		9808-569	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.89	mg/L	97%		9808-569	0.5		
		4.00	**3.90**	**mg/L**	**97%**	**0.8 %**				
Method Blank	Method Blank		ND*	mg/L			9809-156	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-156	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9808-425	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%		9808-409	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9808-409	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-401

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.94	mg/L	98%		9808-571	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.06	mg/L	101%		9808-571	0.5		
		4.00	**4.00**	**mg/L**	**100%**	**3.0 %**				
Method Blank	Method Blank		ND*	mg/L			9809-160	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-160	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.

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Standard	Standard	0.50	0.49	mg/L	98%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9808-425	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	4.05	mg/L	101%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9809-163	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**2.2 %**			90-110%	10%
Standard	Standard	4.00	3.73	mg/L	93%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.82	mg/L	95%		9809-163	0.5	90-110%	
		4.00	**3.77**	**mg/L**	**94%**	**2.4 %**			90-110%	10%
Standard	Standard	10.00	9.55	mg/L	96%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.80	mg/L	98%		9809-169	0.5	90-110%	
		10.00	**9.67**	**mg/L**	**97%**	**2.6 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-402

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9809-92	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9809-92	0.5		
		4.00	**4.01**	**mg/L**	**100%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9809-170	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-170	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9808-425	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.97	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	**3.97**	**mg/L**	**99%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-403

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.97	mg/L	99%		9809-65	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.06	mg/L	101%		9809-65	0.5		
		4.00	**4.01**	**mg/L**	**100%**	**2.2 %**				
Method Blank	Method Blank		ND*	mg/L			9809-172	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-172	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9808-425	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**5.8 %**			50-150%	20%
Standard	Standard	4.00	4.11	mg/L	103%		9809-163	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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Standard (Dupl)	Standard	4.00	4.07	mg/L	102%		9809-163	0.5	90-110%	
		4.00	**4.09**	**mg/L**	**102%**	**1.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-406

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9809-193	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.27	mg/L	107%		9809-193	0.5		
		4.00	**4.14**	**mg/L**	**103%**	**6.0 %**				
Method Blank	Method Blank		ND*	mg/L			9809-376	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-376	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9808-425	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	4.04	mg/L	101%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.16	mg/L	104%		9809-163	0.5	90-110%	
		4.00	**4.10**	**mg/L**	**102%**	**2.9 %**			90-110%	10%
Standard	Standard	10.00	9.86	mg/L	99%		9809-169	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.06	mg/L	101%		9809-169	0.5	90-110%	
		10.00	**9.96**	**mg/L**	**100%**	**2.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-407

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.00	mg/L	100%		9808-576	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9808-576	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9809-389	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9809-389	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9808-425	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9808-425	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.89	mg/L	97%		9809-163	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.91	mg/L	98%		9809-163	0.5	90-110%	
		4.00	**3.90**	**mg/L**	**97%**	**0.5 %**			90-110%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-280

QC Type	Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria 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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Method Blank	Method Blank		ND*	1/cm			9809-3	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-3	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-3	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-3	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	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%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.092	1/cm	105%		9809-8	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: 8-0-281

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-19	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-19	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-19	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-19	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
		0.088	**0.097**	**1/cm**	**110%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-282

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-25	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-25	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-25	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-25	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.098	1/cm	111%		9809-8	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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Standard (Dupl)	Standard	0.088	0.098	1/cm	111%		9809-8	0.009	85-115%	
		0.088	**0.098**	**1/cm**	**111%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-283

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-31	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-31	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-31	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-31	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
		0.088	**0.097**	**1/cm**	**110%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-284

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-35	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-35	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-35	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-35	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9809-7	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
		0.088	**0.097**	**1/cm**	**110%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-285

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-37	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-37	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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Method Blank	Method Blank		ND*	1/cm			9809-37	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-37	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.098	1/cm	111%		9809-8	0.009	85-115%	
		0.088	**0.098**	**1/cm**	**111%**	**1.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-286

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-39	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-39	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-39	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-39	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.096	1/cm	109%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.096	1/cm	109%		9809-8	0.009	85-115%	
		0.088	**0.096**	**1/cm**	**109%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-287

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9809-45	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-45	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-45	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-45	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9809-7	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
		0.088	**0.097**	**1/cm**	**110%**	**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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Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-288

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-140	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-140	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-140	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-140	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.096	1/cm	109%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
		0.088	**0.097**	**1/cm**	**110%**	**1.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-289

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-158	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-158	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-158	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-158	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.098	1/cm	111%		9809-8	0.009	85-115%	
		0.088	**0.098**	**1/cm**	**111%**	**1.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-290

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-159	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-159	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-159	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-159	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%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.093	1/cm	106%		9809-8	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.093	1/cm	106%		9809-8	0.009	85-115%	
		0.088	**0.093**	**1/cm**	**106%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-291

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-171	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-171	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-171	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-171	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	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%		9809-164	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.090	1/cm	102%		9809-164	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: 8-0-293

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-174	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-174	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-174	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-174	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9809-7	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9809-7	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%		9809-164	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.091	1/cm	103%		9809-164	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: 8-0-296

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9809-388	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-388	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9809-388	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9809-388	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	0.095	1/cm	108%		9809-164	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.095	1/cm	108%		9809-164	0.009	85-115%	
		0.088	**0.095**	**1/cm**	**108%**	**0.0 %**			85-115%	10%

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-17

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
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: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-203

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	200	194	µg Cl-/L	97%		9808-508	25		
Matrix Spike (Dupl)	Matrix Spike	200	188	µg Cl-/L	94%		9808-508	25		
		200	**191**	**µg Cl-/L**	**95%**	**3.1 %**				
Standard - TCP Aqueous (Dupl)	Standard	25	20	µg Cl-/L	80%		9809-43	25	75-125%	
Standard - TCP Aqueous	Standard	200	188	µg Cl-/L	94%		9809-42	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-44	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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Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-204

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9809-143	25	75-125%	
Standard - TCP Aqueous	Standard	200	207	µg Cl-/L	103%		9809-142	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-144	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-205

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	197	µg Cl-/L	98%		9808-507	25		
Matrix Spike (Dupl)	Matrix Spike	200	192	µg Cl-/L	96%		9808-507	25		
		200	**194**	**µg Cl-/L**	**97%**	**3.1 %**				
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9809-154	25	75-125%	
Standard - TCP Aqueous	Standard	200	201	µg Cl-/L	100%		9809-153	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-155	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-206

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9809-167	25	75-125%	
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9809-166	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-168	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-207

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9809-182	25	75-125%	
Standard - TCP Aqueous	Standard	200	189	µg Cl-/L	94%		9809-181	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-183	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-208

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	197	µg Cl-/L	98%		9808-571	25		
Matrix Spike (Dupl)	Matrix Spike	200	197	µg Cl-/L	98%		9808-571	25		
		200	**197**	**µg Cl-/L**	**98%**	**0.0 %**				

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9809-380	25	75-125%	
Standard - TCP Aqueous	Standard	200	208	µg Cl-/L	104%		9809-379	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-381	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-211

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	215	µg Cl-/L	108%		9809-69	25		
Matrix Spike (Dupl)	Matrix Spike	200	201	µg Cl-/L	100%		9809-69	25		
		200	**208**	**µg Cl-/L**	**104%**	**6.7 %**				
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9809-405	25	75-125%	
Standard - TCP Aqueous	Standard	200	199	µg Cl-/L	100%		9809-404	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9809-406	25		

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-211-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	50.6	49.6	µg/L		2.0%	9808-324	1		
Bromodichloromethane	Matrix Spike	40.0	35.5	µg/L	89%		9808-512	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9809-46	1		
Bromodichloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9809-47	1	70-130%	
Bromodichloromethane	Standard	20.0	21.0	µg/L	105%		9809-48	1	80-120%	
Bromodichloromethane	Standard	20.0	21.6	µg/L	108%		9809-48	1	80-120%	
Bromodichloromethane	Standard	40.0	39.2	µg/L	98%		9809-49	1	80-120%	
Bromoform	Duplicate	26.3	25.3	µg/L		3.9%	9808-324	1		
Bromoform	Matrix Spike	40.0	33.2	µg/L	83%		9808-512	1		
Bromoform	Method Blank		ND*	µg/L			9809-46	1		
Bromoform	Secondary Source Std	20.0	19.5	µg/L	97%		9809-47	1	70-130%	
Bromoform	Standard	20.0	20.9	µg/L	104%		9809-48	1	80-120%	
Bromoform	Standard	20.0	20.1	µg/L	101%		9809-48	1	80-120%	
Bromoform	Standard	40.0	37.1	µg/L	93%		9809-49	1	80-120%	
Chloroform	Duplicate	26.3	25.7	µg/L		2.3%	9808-324	1		
Chloroform	Matrix Spike	40.0	36.1	µg/L	90%		9808-512	1		
Chloroform	Method Blank		ND*	µg/L			9809-46	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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Chloroform	Secondary Source Std	20.0	22.3	µg/L	112%		9809-47	1	70-130%
Chloroform	Standard	20.0	19.9	µg/L	99%		9809-48	1	80-120%
Chloroform	Standard	20.0	20.4	µg/L	102%		9809-48	1	80-120%
Chloroform	Standard	40.0	39.8	µg/L	99%		9809-49	1	80-120%
Dibromochloromethane	Duplicate	65.6	66.1	µg/L		0.8%	9808-324	1	
Dibromochloromethane	Matrix Spike	40.0	37.6	µg/L	94%		9808-512	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9809-46	1	
Dibromochloromethane	Secondary Source Std	20.0	20.1	µg/L	101%		9809-47	1	70-130%
Dibromochloromethane	Standard	20.0	21.0	µg/L	105%		9809-48	1	80-120%
Dibromochloromethane	Standard	20.0	22.1	µg/L	111%		9809-48	1	80-120%
Dibromochloromethane	Standard	40.0	39.9	µg/L	100%		9809-49	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-215-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	22.1	22.7	µg/L		2.7%	9808-525	1		
Bromodichloromethane	Matrix Spike	40.0	40.3	µg/L	101%		9809-157	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9809-176	1		
Bromodichloromethane	Secondary Source Std	20.0	20.1	µg/L	101%		9809-177	1	70-130%	
Bromodichloromethane	Standard	20.0	21.0	µg/L	105%		9809-178	1	80-120%	
Bromodichloromethane	Standard	20.0	21.7	µg/L	109%		9809-178	1	80-120%	
Bromodichloromethane	Standard	40.0	39.5	µg/L	99%		9809-179	1	80-120%	
Bromoform	Duplicate	3.5	3.5	µg/L		0.0%	9808-525	1		
Bromoform	Matrix Spike	40.0	43.4	µg/L	109%		9809-157	1		
Bromoform	Method Blank		ND*	µg/L			9809-176	1		
Bromoform	Secondary Source Std	20.0	17.7	µg/L	89%		9809-177	1	70-130%	
Bromoform	Standard	20.0	20.3	µg/L	102%		9809-178	1	80-120%	
Bromoform	Standard	20.0	21.7	µg/L	109%		9809-178	1	80-120%	
Bromoform	Standard	40.0	41.2	µg/L	103%		9809-179	1	80-120%	
Chloroform	Duplicate	14.9	15.4	µg/L		3.3%	9808-525	1		
Chloroform	Matrix Spike	40.0	42.7	µg/L	107%		9809-157	1		
Chloroform	Method Blank		ND*	µg/L			9809-176	1		
Chloroform	Secondary Source Std	20.0	20.8	µg/L	104%		9809-177	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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Chloroform	Standard	20.0	20.7	µg/L	103%		9809-178	1	80-120%
Chloroform	Standard	20.0	21.4	µg/L	107%		9809-178	1	80-120%
Chloroform	Standard	40.0	39.5	µg/L	99%		9809-179	1	80-120%
Dibromochloromethane	Duplicate	18.6	19.1	µg/L		2.7%	9808-525	1	
Dibromochloromethane	Matrix Spike	40.0	40.8	µg/L	102%		9809-157	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9809-176	1	
Dibromochloromethane	Secondary Source Std	20.0	18.3	µg/L	92%		9809-177	1	70-130%
Dibromochloromethane	Standard	20.0	20.6	µg/L	103%		9809-178	1	80-120%
Dibromochloromethane	Standard	20.0	21.4	µg/L	107%		9809-178	1	80-120%
Dibromochloromethane	Standard	40.0	40.6	µg/L	102%		9809-179	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-219-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	12.2	12.7	µg/L		4.0%	9809-62	1		
Bromodichloromethane	Matrix Spike	40.0	38.9	µg/L	97%		9809-69	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9809-423	1		
Bromodichloromethane	Secondary Source Std	20.0	20.6	µg/L	103%		9809-424	1	70-130%	
Bromodichloromethane	Standard	20.0	19.1	µg/L	96%		9809-425	1	80-120%	
Bromodichloromethane	Standard	20.0	20.0	µg/L	100%		9809-425	1	80-120%	
Bromodichloromethane	Standard	40.0	39.9	µg/L	100%		9809-426	1	80-120%	
Bromoform	Duplicate	29.8	30.6	µg/L		2.6%	9809-62	1		
Bromoform	Matrix Spike	40.0	38.4	µg/L	96%		9809-69	1		
Bromoform	Method Blank		ND*	µg/L			9809-423	1		
Bromoform	Secondary Source Std	20.0	17.6	µg/L	88%		9809-424	1	70-130%	
Bromoform	Standard	20.0	16.4	µg/L	82%		9809-425	1	80-120%	
Bromoform	Standard	20.0	17.8	µg/L	89%		9809-425	1	80-120%	
Bromoform	Standard	40.0	37.1	µg/L	93%		9809-426	1	80-120%	
Chloroform	Duplicate	3.5	3.6	µg/L		2.8%	9809-62	1		
Chloroform	Matrix Spike	40.0	40.1	µg/L	100%		9809-69	1		
Chloroform	Method Blank		ND*	µg/L			9809-423	1		
Chloroform	Secondary Source Std	20.0	20.9	µg/L	104%		9809-424	1	70-130%	
Chloroform	Standard	20.0	18.4	µg/L	92%		9809-425	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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Chloroform	Standard	20.0	19.1	µg/L	96%		9809-425	1	80-120%
Chloroform	Standard	40.0	40.2	µg/L	101%		9809-426	1	80-120%
Dibromochloromethane	Duplicate	30.5	31.8	µg/L		4.2%	9809-62	1	
Dibromochloromethane	Matrix Spike	40.0	43.9	µg/L	110%		9809-69	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9809-423	1	
Dibromochloromethane	Secondary Source Std	20.0	19.4	µg/L	97%		9809-424	1	70-130%
Dibromochloromethane	Standard	20.0	19.5	µg/L	97%		9809-425	1	80-120%
Dibromochloromethane	Standard	20.0	20.8	µg/L	104%		9809-425	1	80-120%
Dibromochloromethane	Standard	40.0	42.2	µg/L	106%		9809-426	1	80-120%

End of quality control report

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

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QC Results from Montgomery Watson Laboratories

Printed on 7/9/99 9:21:07 PM

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Study#: 133
Study Title: ICR RSSCT#3

Phone: 760-741-4855 Fax: 760-745-8767

QC Batch ID: 83681 **Report #:** 46776

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.02	100.0%		(50 - 150)
LCS2	Bromide	0.1	0.097	97.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.3	0.301	100.0%		(80 - 120)
MSD	Bromide	0.3	0.301	100.0%		(80 - 120)

QC Batch ID: 83714 **Report #:** 46775
46776

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	54.1	108.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	54.1	108.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	53.7	107.0%		(80 - 120)

QC Batch ID: 83717 **Report #:** 46775
46776

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	21	105.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	21.2	106.0%		(70 - 130)

QC Batch ID: 83827 **Report #:** 46775
46776

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	1.03	103.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.9	90.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

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Study#: 133
Study Title: ICR RSSCT#3

MSD	Ammonia Nitrogen	1	0.91	91.0%		(80 - 120)

QC Batch ID: 83902 **Report #:** 46931

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	6.7	5.8		14.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.1	110.0%		(70 - 130)
DUP	Bromodichloroacetic acid	9.3	7.9		16.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	6.7	5.5		20.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	3.1	155.0%		(70 - 130)
DUP	Dibromoacetic acid	4.7	4		16.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Dichloroacetic acid	4.3	3.7		15.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monobromoacetic acid	1.1	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2	100.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

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MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	1.5	75.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2	50.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	8.6	215.0%		(70 - 130)
DUP	Trichloroacetic acid	3.9	3.3		17.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.3	130.0%		(70 - 130)

QC Batch ID: 84102 **Report #:** 47015, 47016

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	50.8	102.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	50.9	102.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	53.2	106.0%		(70 - 130)

QC Batch ID: 84192 **Report #:** 47015, 47016

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	20.2	101.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	20.3	102.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	21.7	108.0%		(70 - 130)

QC Batch ID: 84241 **Report #:** 47015, 47016

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	1.01	101.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.91	91.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

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MS	Ammonia Nitrogen	1.5	1.47	98.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	0.92	92.0%		(80 - 120)
MSD	Ammonia Nitrogen	1.5	1.47	98.0%		(80 - 120)

QC Batch ID: 84247 **Report #:** 47015
47016

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.02	100.0%		(50 - 150)
LCS2	Bromide	0.1	0.101	101.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.02	0.015	75.0%		(80 - 120)

QC Batch ID: 84284 **Report #:** 46931

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	3.4	3.4		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.1	2.1		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	3	3		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Dibromoacetic acid	4.4	4.4		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	2.5	1.9		27.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	1	100.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

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LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Monobromoacetic acid	1.4	1.1		24.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2	100.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.1	78.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	20	100.0%		(70 - 130)

QC Batch ID: 84518 **Report #:** 47015

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	5.4	5.3		2.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Bromodichloroacetic acid	3.5	3.5		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.2	120.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	6.7	6.6		2.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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Study Title: ICR RSSCT#3

LCS1	Chlorodibromoacetic acid	2	2.4	120.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	23	115.0%		(70 - 130)
DUP	Dibromoacetic acid	6.4	7.4		14.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	2.6	2.5		4.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Monobromoacetic acid	1.5	1.7		12.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Monochloroacetic acid	2.3	2.3		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.7	85.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Tribromoacetic acid	4.8	5		4.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	5.5	138.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Trichloroacetic acid	2.5	2.4		4.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	21	105.0%		(70 - 130)

QC Batch ID: 84631 **Report #:** 47298

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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DUP	Bromochloroacetic acid	11	11		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Bromodichloroacetic acid	18	19		5.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	22	110.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	0.2	20.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	5	5.2		4.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	23	115.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.1	105.0%		(70 - 130)
DUP	Dibromoacetic acid	2.6	2.7		4.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Dichloroacetic acid	18	18		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	18	90.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Monobromoacetic acid	1	1		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	18	90.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.8	180.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	2.3	115.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	2.5	62.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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LCS2	Tribromoacetic acid	20	24	120.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	4.2	105.0%		(70 - 130)
DUP	Trichloroacetic acid	25	25		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1	100.0%		(70 - 130)

QC Batch ID: 85081 **Report #:** 47470

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	1.7	1.7		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.5	150.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.5	2.3		8.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.5	150.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	1.8	90.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Dichloroacetic acid	3.5	3.7		6.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.7	170.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.3	65.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	0.7	35.0%		(70 - 130)
DUP	Tribromoacetic acid	NR	NR		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	NR			(50 - 150)
LCS2	Tribromoacetic acid	20	NR			(80 - 120)
MBLK	Tribromoacetic acid	ND	NR			
MS	Tribromoacetic acid	4	NR			(70 - 130)
DUP	Trichloroacetic acid	4.1	4.2		2.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.3	130.0%		(70 - 130)

QC Batch ID: 85117 **Report #:** 47298

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	34	106.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	NR		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	NR			(50 - 150)
LCS2	Chlorodibromoacetic acid	20	NR			(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	NR			
MS	Chlorodibromoacetic acid	32	NR			(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 133
Study Title: ICR RSSCT#3

DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Dichloroacetic acid	9.7	9.1		6.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	30	94.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.4	70.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	18	90.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	29	91.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	NR		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	NR			(50 - 150)
LCS2	Tribromoacetic acid	20	NR			(80 - 120)
MBLK	Tribromoacetic acid	ND	NR			
MS	Tribromoacetic acid	32	NR			(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	31	97.0%		(70 - 130)

End of MW QC report

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
Fax: (513) 679-2201

Comments

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 133
Study Title: ICR RSSCT#3

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

QC comments

QCBatch: 0-231-0 **Description:** MW Labs Report # 47298

TBAA and CDBAA for samples 9808-571, 9808-573, 9808-574, 9808-582 not reported. From MW Labs: "TBAA, CDBAA-recoveries outside range on Low LFB."

End of comments

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
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Laboratory Report

Client:

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study Title: ICR RSSCT #4

Study #: 208

Reviewed By: _____
Stuart M. Hooper

Date Reviewed: 7/13/99

Electronic copies of the results and quality control data are available upon request.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
Phone: (513) 679-2200
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Laboratory Test Results

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 208
Study Title: ICR RSSCT #4

Sample ID: Escondido.Filtered **S&H ID:** 9901-15 **Date Sampled:** 1/7/99 11:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR	TOC	3.03	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
2	TOC-ICR	TOC (Dupl)	3.02	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
			3.02	**mg/L**	**0.3 % RPD**						

Sample ID: Escondido.Settled **S&H ID:** 9901-16 **Date Sampled:** 1/7/99 11:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.4	%	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
4	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
5	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
6	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
7	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	1/7/99	1/21/99	1/21/99	0-298-0
8	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
9	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
10	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
11	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	1/7/99	1/21/99	1/21/99	0-298-0
12	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	1/7/99	1/21/99	1/21/99	0-298-0
13	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	1/7/99	1/21/99	1/21/99	0-298-0
14	TOC-ICR	TOC	3.27	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
15	TOC-ICR	TOC (Dupl)	3.24	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
			3.25	**mg/L**	**0.9 % RPD**						
16	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	1/7/99	1/21/99	1/22/99	0-299-0
17	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	1/7/99	1/21/99	1/22/99	0-299-0
18	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/7/99	1/21/99	1/22/99	0-299-0
19	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/7/99	1/21/99	1/22/99	0-299-0
20	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	1/7/99	1/21/99	1/22/99	0-299-0

Sample ID: Escondido.Raw **S&H ID:** 9901-17 **Date Sampled:** 1/7/99 10:48:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
21	TOC-ICR	TOC	4.36	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
22	TOC-ICR	TOC (Dupl)	4.29	mg/L	SM 5310 C	1	0.50	1/7/99		1/14/99	7-0-493
			4.33	**mg/L**	**1.6 % RPD**						

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

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

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Sample ID: Esc.Settled.on.Arrival **S&H ID:** 9901-116 **Date Sampled:** 1/14/99 11:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
23	TOC-ICR	TOC	3.31	mg/L	SM 5310 C	1	0.50	1/14/99		1/14/99	7-0-493
24	TOC-ICR	TOC (Dupl)	3.29	mg/L	SM 5310 C	1	0.50	1/14/99		1/14/99	7-0-493
			3.30	**mg/L**	**0.6 % RPD**						

Sample ID: Esc.Filtered.on.Arrival **S&H ID:** 9901-117 **Date Sampled:** 1/14/99 1:10:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
25	TOC-ICR	TOC	3.14	mg/L	SM 5310 C	1	0.50	1/14/99		1/14/99	7-0-493
26	TOC-ICR	TOC (Dupl)	3.12	mg/L	SM 5310 C	1	0.50	1/14/99		1/14/99	7-0-493
			3.13	**mg/L**	**0.6 % RPD**						

Sample ID: 208.10.Eff-1 **S&H ID:** 9901-126 **Date Sampled:** 1/19/99 9:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
27	Cl2Dose	Chlorine Dose	1.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/24/99		1/24/99	n/a
28	Cl2Res	Chlorine Residual	0.74	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/24/99		1/25/99	n/a
29	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
30	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
31	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
32	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
33	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
34	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
35	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
36	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/25/99	2/5/99	2/6/99	MW91559
37	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
38	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/25/99	n/a
39	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
40	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	1/19/99		1/19/99	n/a
41	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/24/99		1/25/99	n/a
42	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	1/19/99		1/19/99	n/a
43	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	1/24/99		1/25/99	n/a
44	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
45	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
			ND	**mg/L**							
46	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
47	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
			ND	**µg Cl-/L**							
48	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.6	%	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

49	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
50	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
51	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
52	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
53	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
54	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
			ND	**1/cm**							

Sample ID: 208.10.Eff-7 **S&H ID:** 9901-132 **Date Sampled:** 1/21/99 9:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
55	Cl2Dose	Chlorine Dose	1.80	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/24/99		1/24/99	n/a
56	Cl2Res	Chlorine Residual	0.76	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/24/99		1/25/99	n/a
57	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
58	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
59	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
60	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
61	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
62	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
63	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
64	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/25/99	2/5/99	2/6/99	MW91559
65	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
66	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/25/99	n/a
67	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
68	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	1/21/99		1/21/99	n/a
69	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/24/99		1/25/99	n/a
70	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	1/21/99		1/21/99	n/a
71	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	1/24/99		1/25/99	n/a
72	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/21/99		1/21/99	7-0-499
73	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/21/99		1/21/99	7-0-499
			ND	**mg/L**							
74	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
75	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
			ND	**µg Cl-/L**							
76	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.6	%	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
77	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
78	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
79	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
80	THM-ICR	Dibromochloromethane	1.1	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
81	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/21/99	8-0-398

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

82	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/21/99	8-0-398
			ND	**1/cm**							

Sample ID: 208.10.Eff-10 **S&H ID:** 9901-135 **Date Sampled:** 1/21/99 10:44:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
83	Cl2Dose	Chlorine Dose	1.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
84	Cl2Res	Chlorine Residual	0.88	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
85	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
86	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
87	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
88	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
89	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
90	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
91	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
92	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
93	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
94	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
95	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
96	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/21/99		1/21/99	n/a
97	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
98	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	1/21/99		1/21/99	n/a
99	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
100	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/21/99		1/22/99	7-0-500
101	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/21/99		1/22/99	7-0-500
			ND	**mg/L**							
102	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/28/99	12-0-272
103	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/28/99	12-0-272
			ND	**µg Cl-/L**							
104	THM-ICR	1,2,3-Trichloropropane (Surrogate)	108.8	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
105	THM-ICR	Bromodichloromethane	1.8	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
106	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
107	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
108	THM-ICR	Dibromochloromethane	2.6	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
109	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/22/99	8-0-399
110	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/22/99	8-0-399
			ND	**1/cm**							

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Sample ID: 208.10.Eff-12 **S&H ID:** 9901-137 **Date Sampled:** 1/22/99 7:33:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
111	Cl2Dose	Chlorine Dose	2.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
112	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
113	HAA	Bromochloroacetic acid	1.3	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
114	HAA	Bromodichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
115	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
116	HAA	Dibromoacetic acid	1.3	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
117	HAA	Dichloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
118	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
119	HAA	Monochloroacetic acid	2.2	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
120	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
121	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
122	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
123	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
124	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/22/99		1/22/99	n/a
125	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
126	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	1/22/99		1/22/99	n/a
127	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
128	TOC-ICR	TOC	0.69	mg/L	SM 5310 C	1	0.50	1/22/99		1/22/99	7-0-500
129	TOC-ICR	TOC (Dupl)	0.71	mg/L	SM 5310 C	1	0.50	1/22/99		1/22/99	7-0-500
			0.70	**mg/L**	**2.9 % RPD**						
130	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
131	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			ND	**µg Cl-/L**							
132	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
133	THM-ICR	Bromodichloromethane	3.0	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
134	THM-ICR	Bromoform	1.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
135	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
136	THM-ICR	Dibromochloromethane	4.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
137	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/22/99		1/22/99	8-0-401
138	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/22/99		1/22/99	8-0-401
			ND	**1/cm**							

Sample ID: 208.10.Eff-13 **S&H ID:** 9901-138 **Date Sampled:** 1/22/99 11:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
139	Cl2Dose	Chlorine Dose	2.28	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
140	Cl2Res	Chlorine Residual	1.01	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

141	HAA	Bromochloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
142	HAA	Bromodichloroacetic acid	2.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
143	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
144	HAA	Dibromoacetic acid	1.3	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
145	HAA	Dichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
146	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
147	HAA	Monochloroacetic acid	2.4	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
148	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
149	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
150	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
151	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
152	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/22/99		1/22/99	n/a
153	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
154	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	1/22/99		1/22/99	n/a
155	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
156	TOC-ICR	TOC	0.86	mg/L	SM 5310 C	1	0.50	1/22/99		1/22/99	7-0-500
157	TOC-ICR	TOC (Dupl)	0.85	mg/L	SM 5310 C	1	0.50	1/22/99		1/22/99	7-0-500
			0.85	**mg/L**	**1.2 % RPD**						
158	TOX-ICR	TOX	26	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
159	TOX-ICR	TOX (Dupl)	27	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			27	**µg Cl-/L**	**3.7 % RPD**						
160	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
161	THM-ICR	Bromodichloromethane	4.4	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
162	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
163	THM-ICR	Chloroform	1.9	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
164	THM-ICR	Dibromochloromethane	5.5	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
165	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/22/99		1/22/99	8-0-401
166	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/22/99		1/22/99	8-0-401
			ND	**1/cm**							

Sample ID: 208.10.Eff-15 **S&H ID:** 9901-140 **Date Sampled:** 1/22/99 8:37:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
167	Cl2Dose	Chlorine Dose	2.46	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
168	Cl2Res	Chlorine Residual	1.04	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
169	HAA	Bromochloroacetic acid	2.7	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
170	HAA	Bromodichloroacetic acid	2.8	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
171	HAA	Chlorodibromoacetic acid	2.1	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
172	HAA	Dibromoacetic acid	1.8	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
173	HAA	Dichloroacetic acid	2.2	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

174	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
175	HAA	Monochloroacetic acid	2.6	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
176	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
177	HAA	Trichloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
178	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
179	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
180	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/22/99		1/22/99	n/a
181	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
182	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	1/22/99		1/22/99	n/a
183	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
184	TOC-ICR	TOC	1.08	mg/L	SM 5310 C	1	0.50	1/22/99		1/23/99	7-0-501
185	TOC-ICR	TOC (Dupl)	1.06	mg/L	SM 5310 C	1	0.50	1/22/99		1/23/99	7-0-501
			1.07	**mg/L**	**1.9 % RPD**						
186	TOX-ICR	TOX	41	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
187	TOX-ICR	TOX (Dupl)	44	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			43	**µg Cl-/L**	**7.0 % RPD**						
188	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
189	THM-ICR	Bromodichloromethane	7.0	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
190	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
191	THM-ICR	Chloroform	3.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
192	THM-ICR	Dibromochloromethane	8.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
193	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	1/22/99		1/23/99	8-0-402
194	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	1/22/99		1/23/99	8-0-402
			0.010	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-19 **S&H ID:** 9901-144 **Date Sampled:** 1/23/99 11:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
195	Cl2Dose	Chlorine Dose	2.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
196	Cl2Res	Chlorine Residual	1.08	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
197	HAA	Bromochloroacetic acid	3.5	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
198	HAA	Bromodichloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
199	HAA	Chlorodibromoacetic acid	2.5	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
200	HAA	Dibromoacetic acid	2.3	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
201	HAA	Dichloroacetic acid	2.9	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
202	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
203	HAA	Monochloroacetic acid	3.4	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
204	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
205	HAA	Trichloroacetic acid	2.2	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
206	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

207	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
208	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/23/99		1/23/99	n/a
209	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
210	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	1/23/99		1/23/99	n/a
211	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
212	TOC-ICR	TOC	1.22	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
213	TOC-ICR	TOC (Dupl)	1.24	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
			1.23	**mg/L**	**1.6 % RPD**						
214	TOX-ICR	TOX	53	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
215	TOX-ICR	TOX (Dupl)	52	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			53	**µg Cl-/L**	**1.9 % RPD**						
216	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
217	THM-ICR	Bromodichloromethane	8.9	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
218	THM-ICR	Bromoform	1.6	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
219	THM-ICR	Chloroform	4.3	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
220	THM-ICR	Dibromochloromethane	9.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
221	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
222	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-20 **S&H ID:** 9901-145 **Date Sampled:** 1/24/99 9:40:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
223	Cl2Dose	Chlorine Dose	2.46	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
224	Cl2Res	Chlorine Residual	0.97	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
225	HAA	Bromochloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
226	HAA	Bromodichloroacetic acid	4.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
227	HAA	Chlorodibromoacetic acid	2.6	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
228	HAA	Dibromoacetic acid	2.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
229	HAA	Dichloroacetic acid	3.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
230	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
231	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
232	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
233	HAA	Trichloroacetic acid	3.4	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
234	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
235	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
236	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
237	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
238	TEMP	Temperature	22.0	ºC	SM 2550 B	1	n/a	1/24/99		1/24/99	n/a
239	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

240	TOC-ICR	TOC	1.50	mg/L	SM 5310 C	1	0.50	1/24/99		1/24/99	7-0-502
241	TOC-ICR	TOC (Dupl)	1.55	mg/L	SM 5310 C	1	0.50	1/24/99		1/24/99	7-0-502
			1.52	**mg/L**	**3.3 % RPD**						
242	TOX-ICR	TOX	71	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275
243	TOX-ICR	TOX (Dupl)	71	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275
			71	**µg Cl-/L**	**0.0 % RPD**						
244	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
245	THM-ICR	Bromodichloromethane	12.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
246	THM-ICR	Bromoform	1.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
247	THM-ICR	Chloroform	6.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
248	THM-ICR	Dibromochloromethane	11.4	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
249	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
250	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
			0.017	**1/cm**	**5.9 % RPD**						

Sample ID: 208.10.Eff-22 **S&H ID:** 9901-147 **Date Sampled:** 1/24/99 10:53:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
251	Cl2Dose	Chlorine Dose	2.54	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
252	Cl2Res	Chlorine Residual	0.98	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
253	HAA	Bromochloroacetic acid	4.8	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
254	HAA	Bromodichloroacetic acid	5.4	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
255	HAA	Chlorodibromoacetic acid	2.9	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
256	HAA	Dibromoacetic acid	2.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
257	HAA	Dichloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
258	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
259	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
260	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
261	HAA	Trichloroacetic acid	4.3	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
262	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
263	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
264	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
265	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
266	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	1/24/99		1/24/99	n/a
267	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
268	TOC-ICR	TOC	1.68	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
269	TOC-ICR	TOC (Dupl)	1.66	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
			1.67	**mg/L**	**1.2 % RPD**						
270	TOX-ICR	TOX	79	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275
271	TOX-ICR	TOX (Dupl)	80	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

			80	**µg Cl-/L**	**1.3 % RPD**						
272	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
273	THM-ICR	Bromodichloromethane	13.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
274	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
275	THM-ICR	Chloroform	7.5	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
276	THM-ICR	Dibromochloromethane	12.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
277	UV-ICR	UV	0.018	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
278	UV-ICR	UV (Dupl)	0.018	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
			0.018	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-25 **S&H ID:** 9901-150 **Date Sampled:** 1/25/99 9:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
279	Cl2Dose	Chlorine Dose	2.65	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
280	Cl2Res	Chlorine Residual	0.94	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
281	HAA	Bromochloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
282	HAA	Bromodichloroacetic acid	6.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
283	HAA	Chlorodibromoacetic acid	3.2	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
284	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
285	HAA	Dichloroacetic acid	4.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
286	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
287	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
288	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
289	HAA	Trichloroacetic acid	4.8	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
290	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
291	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
292	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/25/99		1/25/99	n/a
293	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
294	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	1/25/99		1/25/99	n/a
295	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
296	TOC-ICR	TOC	1.83	mg/L	SM 5310 C	1	0.50	1/25/99		1/27/99	7-0-504
297	TOC-ICR	TOC (Dupl)	1.86	mg/L	SM 5310 C	1	0.50	1/25/99		1/27/99	7-0-504
			1.85	**mg/L**	**1.6 % RPD**						
298	TOX-ICR	TOX	92	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275
299	TOX-ICR	TOX (Dupl)	93	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/2/99	12-0-275
			93	**µg Cl-/L**	**1.1 % RPD**						
300	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
301	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	96.0	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
			100.4	**%**	**8.8 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

302	THM-ICR	Bromodichloromethane	16.3	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
303	THM-ICR	Bromodichloromethane (Lab Dupl)	15.6	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
			15.9	**µg/L**	**4.4 % RPD**						
304	THM-ICR	Bromoform	2.5	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
305	THM-ICR	Bromoform (Lab Dupl)	2.2	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
			2.4	**µg/L**	**12.5 % RPD**						
306	THM-ICR	Chloroform	9.2	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
307	THM-ICR	Chloroform (Lab Dupl)	8.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
			9.1	**µg/L**	**3.3 % RPD**						
308	THM-ICR	Dibromochloromethane	14.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
309	THM-ICR	Dibromochloromethane (Lab Dupl)	13.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
			13.6	**µg/L**	**7.4 % RPD**						
310	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406
311	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406
			0.021	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-28 **S&H ID:** 9901-153 **Date Sampled:** 1/26/99 2:48:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
312	Cl2Dose	Chlorine Dose	2.71	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
313	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
314	HAA	Bromochloroacetic acid	5.3	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
315	HAA	Bromodichloroacetic acid	6.7	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
316	HAA	Chlorodibromoacetic acid	3.2	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
317	HAA	Dibromoacetic acid	2.8	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
318	HAA	Dichloroacetic acid	4.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
319	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
320	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
321	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
322	HAA	Trichloroacetic acid	5.3	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
323	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
324	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
325	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
326	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
327	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	1/26/99		1/26/99	n/a
328	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
329	TOC-ICR	TOC	1.97	mg/L	SM 5310 C	1	0.50	1/26/99		1/27/99	7-0-505
330	TOC-ICR	TOC (Dupl)	1.98	mg/L	SM 5310 C	1	0.50	1/26/99		1/27/99	7-0-505
			1.98	**mg/L**	**0.5 % RPD**						
331	TOX-ICR	TOX	105	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
332	TOX-ICR	TOX (Dupl)	103	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

			104	**µg Cl-/L**	**1.9 % RPD**						
333	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
334	THM-ICR	Bromodichloromethane	16.4	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
335	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
336	THM-ICR	Chloroform	10.0	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
337	THM-ICR	Dibromochloromethane	13.1	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
338	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	1/26/99		1/28/99	8-0-408
339	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	1/26/99		1/28/99	8-0-408
			0.023	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-29 **S&H ID:** 9901-154 **Date Sampled:** 1/28/99 2:36:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
340	Cl2Dose	Chlorine Dose	2.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
341	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
342	HAA	Bromochloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
343	HAA	Bromodichloroacetic acid	7.5	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
344	HAA	Chlorodibromoacetic acid	3.4	µg/L	SM 6251 B	1	2.0	2/3/99	2/12/99	2/13/99	MW91857
345	HAA	Dibromoacetic acid	2.6	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
346	HAA	Dichloroacetic acid	5.2	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
347	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
348	HAA	Monochloroacetic acid	2.5	µg/L	SM 6251 B	1	2.0	2/3/99	2/12/99	2/13/99	MW91857
349	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/12/99	2/13/99	MW91857
350	HAA	Trichloroacetic acid	6.1	µg/L	SM 6251 B	1	1.0	2/3/99	2/12/99	2/13/99	MW91857
351	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
352	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
353	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/28/99		1/28/99	n/a
354	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
355	TEMP	Temperature	22.4	ºC	SM 2550 B	1	n/a	1/28/99		1/28/99	n/a
356	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a
357	TOC-ICR	TOC	2.25	mg/L	SM 5310 C	1	0.50	1/28/99		1/28/99	7-0-506
358	TOC-ICR	TOC (Dupl)	2.25	mg/L	SM 5310 C	1	0.50	1/28/99		1/28/99	7-0-506
			2.25	**mg/L**	**0.0 % RPD**						
359	TOX-ICR	TOX	114	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
360	TOX-ICR	TOX (Dupl)	115	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
			115	**µg Cl-/L**	**0.9 % RPD**						
361	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
362	THM-ICR	Bromodichloromethane	14.6	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
363	THM-ICR	Bromoform	1.5	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

364	THM-ICR	Chloroform	9.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
365	THM-ICR	Dibromochloromethane	11.3	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
366	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	1/28/99		1/28/99	8-0-408
367	UV-ICR	UV (Dupl)	0.027	1/cm	SM 5910 B	1	0.009	1/28/99		1/28/99	8-0-408
			0.027	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-30 **S&H ID:** 9901-155 **Date Sampled:** 1/29/99 9:38:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
368	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/29/99		1/29/99	n/a
369	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	1/29/99		1/29/99	n/a
370	TOC-ICR	TOC	2.36	mg/L	SM 5310 C	1	0.50	1/29/99		1/29/99	7-0-507
371	TOC-ICR	TOC (Dupl)	2.36	mg/L	SM 5310 C	1	0.50	1/29/99		1/29/99	7-0-507
			2.36	**mg/L**	**0.0 % RPD**						
372	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	1/29/99		1/29/99	8-0-409
373	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	1/29/99		1/29/99	8-0-409
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-10d **S&H ID:** 9901-159 **Date Sampled:** 1/21/99 10:44:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
374	Cl2Dose	Chlorine Dose	1.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
375	Cl2Res	Chlorine Residual	0.77	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
376	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
377	HAA	Bromodichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
378	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
379	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
380	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
381	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
382	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
383	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
384	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
385	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
386	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
387	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/21/99		1/21/99	n/a
388	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
389	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	1/21/99		1/21/99	n/a
390	TIME	Cl2 Incubation Time	23.9	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
391	TOC-ICR	TOC	0.50	mg/L	SM 5310 C	1	0.50	1/21/99		1/22/99	7-0-500
392	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/21/99		1/22/99	7-0-500
			ND	**mg/L**							

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

393	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/28/99	12-0-272
394	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/28/99	12-0-272
			ND	**µg Cl-/L**							
395	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
396	THM-ICR	Bromodichloromethane	2.5	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
397	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
398	THM-ICR	Chloroform	1.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
399	THM-ICR	Dibromochloromethane	3.4	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
400	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/22/99	8-0-401
401	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/21/99		1/22/99	8-0-401
			ND	**1/cm**							

Sample ID: 208.10.Eff-19d **S&H ID:** 9901-161 **Date Sampled:** 1/23/99 11:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
402	Cl2Dose	Chlorine Dose	2.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
403	Cl2Res	Chlorine Residual	1.09	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
404	HAA	Bromochloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
405	HAA	Bromodichloroacetic acid	3.6	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
406	HAA	Chlorodibromoacetic acid	2.4	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
407	HAA	Dibromoacetic acid	2.1	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
408	HAA	Dichloroacetic acid	2.8	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
409	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
410	HAA	Monochloroacetic acid	3.1	µg/L	SM 6251 B	1	2.0	1/27/99	2/5/99	2/6/99	MW91559
411	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/5/99	2/6/99	MW91559
412	HAA	Trichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	1/27/99	2/5/99	2/6/99	MW91559
413	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
414	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
415	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/23/99		1/23/99	n/a
416	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
417	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	1/23/99		1/23/99	n/a
418	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
419	TOC-ICR	TOC	1.26	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
420	TOC-ICR	TOC (Dupl)	1.27	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
			1.27	**mg/L**	**0.8 % RPD**						
421	TOX-ICR	TOX	52	µg Cl-/L	SM 5320 B	1	25	1/27/99		2/1/99	12-0-274
422	TOX-ICR	TOX (Dupl)	57	µg Cl-/L	SM 5320 B	1	25	1/27/99		2/1/99	12-0-274
			55	**µg Cl-/L**	**9.1 % RPD**						
423	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
424	THM-ICR	Bromodichloromethane	9.0	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

425	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
426	THM-ICR	Chloroform	4.3	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
427	THM-ICR	Dibromochloromethane	9.5	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
428	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
429	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
			0.013	**1/cm**	**0.0 % RPD**						

Sample ID: 208.10.Eff-25d **S&H ID:** 9901-163 **Date Sampled:** 1/25/99 9:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
430	Cl2Dose	Chlorine Dose	2.65	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
431	Cl2Res	Chlorine Residual	0.91	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
432	HAA	Bromochloroacetic acid	5.2	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
433	HAA	Bromodichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
434	HAA	Chlorodibromoacetic acid	3.2	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
435	HAA	Dibromoacetic acid	2.8	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
436	HAA	Dichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
437	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
438	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
439	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
440	HAA	Trichloroacetic acid	4.8	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
441	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
442	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
443	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	1/25/99		1/25/99	n/a
444	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
445	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	1/25/99		1/25/99	n/a
446	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
447	TOC-ICR	TOC	1.87	mg/L	SM 5310 C	1	0.50	1/25/99		1/27/99	7-0-504
448	TOC-ICR	TOC (Dupl)	1.92	mg/L	SM 5310 C	1	0.50	1/25/99		1/27/99	7-0-504
			1.90	**mg/L**	**2.6 % RPD**						
449	TOX-ICR	TOX	92	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
450	TOX-ICR	TOX (Dupl)	94	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
			93	**µg Cl-/L**	**2.2 % RPD**						
451	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
452	THM-ICR	Bromodichloromethane	16.8	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
453	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
454	THM-ICR	Chloroform	9.5	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
455	THM-ICR	Dibromochloromethane	14.0	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
456	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406
457	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

0.021 1/cm **0.0 % RPD**

Sample ID: 208.20.Eff-1 **S&H ID:** 9901-166 **Date Sampled:** 1/19/99 9:55:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
458	Cl2Dose	Chlorine Dose	1.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/24/99		1/24/99	n/a
459	Cl2Res	Chlorine Residual	0.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/24/99		1/25/99	n/a
460	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
461	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
462	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
463	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
464	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
465	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
466	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/25/99	2/5/99	2/6/99	MW91559
467	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/25/99	2/5/99	2/6/99	MW91559
468	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/25/99	2/5/99	2/6/99	MW91559
469	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/25/99	n/a
470	pH	Cl2 pH - Initial	7.5	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
471	pH	pH	8.4	Unit	SM 4500-H+ B	1	n/a	1/19/99		1/19/99	n/a
472	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/24/99		1/25/99	n/a
473	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	1/19/99		1/19/99	n/a
474	TIME	Cl2 Incubation Time	24.3	hrs	n/a	1	n/a	1/24/99		1/25/99	n/a
475	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
476	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
			ND	**mg/L**							
477	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
478	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/25/99		1/28/99	12-0-272
			ND	**µg Cl-/L**							
479	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
480	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
481	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
482	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
483	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	1/25/99	2/1/99	2/1/99	0-301-0
484	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
485	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
			ND	**1/cm**							

Sample ID: 208.20.Eff-5 **S&H ID:** 9901-170 **Date Sampled:** 1/23/99 11:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

486	Cl2Dose	Chlorine Dose	1.83	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
487	Cl2Res	Chlorine Residual	0.84	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
488	HAA	Bromochloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
489	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
490	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629
491	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
492	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
493	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
494	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629
495	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/6/99	2/7/99	MW91629
496	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
497	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
498	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
499	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/23/99		1/23/99	n/a
500	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
501	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	1/23/99		1/23/99	n/a
502	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
503	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
504	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
			ND	**mg/L**							
505	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
506	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			ND	**µg Cl-/L**							
507	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
508	THM-ICR	Bromodichloromethane	1.0	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
509	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
510	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
511	THM-ICR	Dibromochloromethane	1.5	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
512	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
513	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
			ND	**1/cm**							

Sample ID: 208.20.Eff-7 **S&H ID:** 9901-172 **Date Sampled:** 1/24/99 7:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
514	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
515	Cl2Res	Chlorine Residual	0.97	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
516	HAA	Bromochloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
517	HAA	Bromodichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
518	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

519	HAA	Dibromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
520	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
521	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
522	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629
523	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/6/99	2/7/99	MW91629
524	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
525	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
526	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
527	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
528	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
529	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	1/24/99		1/24/99	n/a
530	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a
531	TOC-ICR	TOC	0.50	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
532	TOC-ICR	TOC (Dupl)	0.52	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
			0.51	**mg/L**	**3.9 % RPD**						
533	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
534	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			ND	**µg Cl-/L**							
535	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
536	THM-ICR	Bromodichloromethane	2.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
537	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
538	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
539	THM-ICR	Dibromochloromethane	3.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
540	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-404
541	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-404
			ND	**1/cm**							

Sample ID: 208.20.Eff-11 **S&H ID:** 9901-176 **Date Sampled:** 1/25/99 1:21:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
542	Cl2Dose	Chlorine Dose	2.01	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
543	Cl2Res	Chlorine Residual	1.11	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
544	HAA	Bromochloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
545	HAA	Bromodichloroacetic acid	1.6	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
546	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
547	HAA	Dibromoacetic acid	1.4	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
548	HAA	Dichloroacetic acid	1.2	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
549	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
550	HAA	Monochloroacetic acid	2.1	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
551	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

552	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
553	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
554	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
555	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/25/99		1/25/99	n/a
556	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
557	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	1/25/99		1/25/99	n/a
558	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
559	TOC-ICR	TOC	0.70	mg/L	SM 5310 C	1	0.50	1/25/99		1/26/99	7-0-504
560	TOC-ICR	TOC (Dupl)	0.70	mg/L	SM 5310 C	1	0.50	1/25/99		1/26/99	7-0-504
			0.70	**mg/L**	**0.0 % RPD**						
561	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
562	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
			ND	**µg Cl-/L**							
563	THM-ICR	1,2,3-Trichloropropane (Surrogate)	106.4	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
564	THM-ICR	Bromodichloromethane	4.5	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
565	THM-ICR	Bromoform	1.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
566	THM-ICR	Chloroform	1.7	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
567	THM-ICR	Dibromochloromethane	6.5	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
568	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406
569	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/25/99		1/26/99	8-0-406
			ND	**1/cm**							

Sample ID: 208.20.Eff-13 **S&H ID:** 9901-178 **Date Sampled:** 1/26/99 7:37:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
570	Cl2Dose	Chlorine Dose	2.13	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
571	Cl2Res	Chlorine Residual	1.01	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
572	HAA	Bromochloroacetic acid	2.3	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
573	HAA	Bromodichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
574	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
575	HAA	Dibromoacetic acid	1.9	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
576	HAA	Dichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
577	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
578	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
579	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
580	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
581	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
582	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
583	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
584	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

585	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	1/26/99		1/26/99	n/a
586	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
587	TOC-ICR	TOC	0.91	mg/L	SM 5310 C	1	0.50	1/26/99		1/26/99	7-0-504
588	TOC-ICR	TOC (Dupl)	0.91	mg/L	SM 5310 C	1	0.50	1/26/99		1/26/99	7-0-504
			0.91	**mg/L**	**0.0 % RPD**						
589	TOX-ICR	TOX	31	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
590	TOX-ICR	TOX (Dupl)	32	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
			32	**µg Cl-/L**	**3.1 % RPD**						
591	THM-ICR	1,2,3-Trichloropropane (Surrogate)	107.6	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
592	THM-ICR	Bromodichloromethane	4.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
593	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
594	THM-ICR	Chloroform	1.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
595	THM-ICR	Dibromochloromethane	6.9	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
596	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/26/99		1/26/99	8-0-407
597	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	1/26/99		1/26/99	8-0-407
			ND	**1/cm**							

Sample ID: 208.20.Eff-15 **S&H ID:** 9901-180 **Date Sampled:** 1/27/99 10:49:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
598	Cl2Dose	Chlorine Dose	2.15	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
599	Cl2Res	Chlorine Residual	1.04	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
600	HAA	Bromochloroacetic acid	3.2	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
601	HAA	Bromodichloroacetic acid	3.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
602	HAA	Chlorodibromoacetic acid	2.5	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
603	HAA	Dibromoacetic acid	2.4	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
604	HAA	Dichloroacetic acid	1.7	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
605	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
606	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
607	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/13/99	2/14/99	MW92214
608	HAA	Trichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
609	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
610	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
611	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
612	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
613	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	1/27/99		1/27/99	n/a
614	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a
615	TOC-ICR	TOC	1.08	mg/L	SM 5310 C	1	0.50	1/27/99		1/27/99	7-0-505
616	TOC-ICR	TOC (Dupl)	1.07	mg/L	SM 5310 C	1	0.50	1/27/99		1/27/99	7-0-505
			1.08	**mg/L**	**0.9 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

617	TOX-ICR	TOX	42	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
618	TOX-ICR	TOX (Dupl)	40	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
			41	**µg Cl-/L**	**4.9 % RPD**						
619	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
620	THM-ICR	Bromodichloromethane	4.9	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
621	THM-ICR	Bromoform	2.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
622	THM-ICR	Chloroform	2.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
623	THM-ICR	Dibromochloromethane	6.8	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
624	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	1/27/99		1/28/99	8-0-408
625	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	1/27/99		1/28/99	8-0-408
			0.010	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-18 **S&H ID:** 9901-183 **Date Sampled:** 1/28/99 2:11:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
626	Cl2Dose	Chlorine Dose	2.25	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
627	Cl2Res	Chlorine Residual	1.13	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
628	HAA	Bromochloroacetic acid	3.9	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
629	HAA	Bromodichloroacetic acid	3.8	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
630	HAA	Chlorodibromoacetic acid	3.0	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
631	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
632	HAA	Dichloroacetic acid	2.1	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
633	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
634	HAA	Monochloroacetic acid	2.1	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
635	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/13/99	2/14/99	MW92214
636	HAA	Trichloroacetic acid	1.5	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
637	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
638	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
639	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	1/28/99		1/28/99	n/a
640	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
641	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	1/28/99		1/28/99	n/a
642	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a
643	TOC-ICR	TOC	1.31	mg/L	SM 5310 C	1	0.50	1/28/99		1/29/99	7-0-507
644	TOC-ICR	TOC (Dupl)	1.30	mg/L	SM 5310 C	1	0.50	1/28/99		1/29/99	7-0-507
			1.31	**mg/L**	**0.8 % RPD**						
645	TOX-ICR	TOX	53	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/8/99	12-0-277
646	TOX-ICR	TOX (Dupl)	50	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/8/99	12-0-277
			52	**µg Cl-/L**	**5.8 % RPD**						
647	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

648	THM-ICR	Bromodichloromethane	6.6	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
649	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
650	THM-ICR	Chloroform	2.6	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
651	THM-ICR	Dibromochloromethane	8.8	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
652	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	1/28/99		1/29/99	8-0-409
653	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	1/28/99		1/29/99	8-0-409
			0.013	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-20 **S&H ID:** 9901-185 **Date Sampled:** 1/30/99 11:33:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
654	Cl2Dose	Chlorine Dose	2.35	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
655	Cl2Res	Chlorine Residual	1.00	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
656	HAA	Bromochloroacetic acid	4.7	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
657	HAA	Bromodichloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
658	HAA	Chlorodibromoacetic acid	3.3	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
659	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
660	HAA	Dichloroacetic acid	3.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
661	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
662	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
663	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/13/99	2/14/99	MW92214
664	HAA	Trichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
665	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
666	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
667	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/30/99		1/30/99	n/a
668	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
669	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	1/30/99		1/30/99	n/a
670	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a
671	TOC-ICR	TOC	1.51	mg/L	SM 5310 C	1	0.50	1/30/99		1/30/99	7-0-508
672	TOC-ICR	TOC (Dupl)	1.53	mg/L	SM 5310 C	1	0.50	1/30/99		1/30/99	7-0-508
			1.52	**mg/L**	**1.3 % RPD**						
673	TOX-ICR	TOX	68	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/8/99	12-0-277
674	TOX-ICR	TOX (Dupl)	70	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/8/99	12-0-277
			69	**µg Cl-/L**	**2.9 % RPD**						
675	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
676	THM-ICR	Bromodichloromethane	9.5	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
677	THM-ICR	Bromoform	2.3	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
678	THM-ICR	Chloroform	4.3	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
679	THM-ICR	Dibromochloromethane	10.4	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
680	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	1/30/99		1/31/99	8-0-410

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

681	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	1/30/99		1/31/99	8-0-410
			0.016	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-21 **S&H ID:** 9901-186 **Date Sampled:** 2/1/99 8:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
682	Cl2Dose	Chlorine Dose	2.12	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/99		2/4/99	n/a
683	Cl2Res	Chlorine Residual	0.79	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/99		2/5/99	n/a
684	HAA	Bromochloroacetic acid	4.7	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
685	HAA	Bromodichloroacetic acid	5.0	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
686	HAA	Chlorodibromoacetic acid	5.2	µg/L	SM 6251 B	1	2.0	2/5/99	2/17/99	2/18/99	MW92306
687	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
688	HAA	Dichloroacetic acid	3.1	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
689	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
690	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/5/99	2/17/99	2/18/99	MW92306
691	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/5/99	2/17/99	2/18/99	MW92306
692	HAA	Trichloroacetic acid	3.8	µg/L	SM 6251 B	1	1.0	2/5/99	2/17/99	2/18/99	MW92306
693	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/4/99		2/5/99	n/a
694	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/4/99		2/4/99	n/a
695	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	2/1/99		2/1/99	n/a
696	TEMP	Cl2 Temperature	17.8	ºC	SM 2550 B	1	n/a	2/4/99		2/5/99	n/a
697	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	2/1/99		2/1/99	n/a
698	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/4/99		2/5/99	n/a
699	TOC-ICR	TOC	1.65	mg/L	SM 5310 C	1	0.50	2/1/99		2/1/99	7-0-509
700	TOC-ICR	TOC (Dupl)	1.66	mg/L	SM 5310 C	1	0.50	2/1/99		2/1/99	7-0-509
			1.65	**mg/L**	**0.6 % RPD**						
701	TOX-ICR	TOX	79	µg Cl-/L	SM 5320 B	1	25	2/5/99		2/9/99	12-0-278
702	TOX-ICR	TOX (Dupl)	79	µg Cl-/L	SM 5320 B	1	25	2/5/99		2/9/99	12-0-278
			79	**µg Cl-/L**	**0.0 % RPD**						
703	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	2/5/99	2/8/99	2/8/99	0-304-0
704	THM-ICR	Bromodichloromethane	10.7	µg/L	EPA 551.1	1	1.0	2/5/99	2/8/99	2/8/99	0-304-0
705	THM-ICR	Bromoform	2.0	µg/L	EPA 551.1	1	1.0	2/5/99	2/8/99	2/8/99	0-304-0
706	THM-ICR	Chloroform	5.0	µg/L	EPA 551.1	1	1.0	2/5/99	2/8/99	2/8/99	0-304-0
707	THM-ICR	Dibromochloromethane	10.6	µg/L	EPA 551.1	1	1.0	2/5/99	2/8/99	2/8/99	0-304-0
708	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	2/1/99		2/2/99	8-0-411
709	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	2/1/99		2/2/99	8-0-411
			0.019	**1/cm**	**0.0 % RPD**						

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Sample ID: 208.20.Eff-25 **S&H ID:** 9901-190 **Date Sampled:** 2/5/99 12:38:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
710	Cl2Dose	Chlorine Dose	2.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/99		2/9/99	n/a
711	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/99		2/10/99	n/a
712	HAA	Bromochloroacetic acid	5.7	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
713	HAA	Bromodichloroacetic acid	7.3	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
714	HAA	Chlorodibromoacetic acid	3.5	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
715	HAA	Dibromoacetic acid	2.9	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
716	HAA	Dichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
717	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
718	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
719	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/10/99	2/24/99	2/25/99	MW92771
720	HAA	Trichloroacetic acid	4.7	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
721	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/10/99	n/a
722	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/9/99	n/a
723	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	2/5/99		2/5/99	n/a
724	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/9/99		2/10/99	n/a
725	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	2/5/99		2/5/99	n/a
726	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	2/9/99		2/10/99	n/a
727	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	2/5/99		2/5/99	7-0-512
728	TOC-ICR	TOC (Dupl)	1.94	mg/L	SM 5310 C	1	0.50	2/5/99		2/5/99	7-0-512
			1.95	**mg/L**	**1.0 % RPD**						
729	TOX-ICR	TOX	96	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/11/99	12-0-279
730	TOX-ICR	TOX (Dupl)	100	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/11/99	12-0-279
			98	**µg Cl-/L**	**4.1 % RPD**						
731	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.2	%	EPA 551.1	1	1.0	2/10/99	2/14/99	2/14/99	0-307-0
732	THM-ICR	Bromodichloromethane	12.5	µg/L	EPA 551.1	1	1.0	2/10/99	2/14/99	2/14/99	0-307-0
733	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	2/10/99	2/14/99	2/14/99	0-307-0
734	THM-ICR	Chloroform	6.6	µg/L	EPA 551.1	1	1.0	2/10/99	2/14/99	2/14/99	0-307-0
735	THM-ICR	Dibromochloromethane	10.7	µg/L	EPA 551.1	1	1.0	2/10/99	2/14/99	2/14/99	0-307-0
736	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	2/5/99		2/5/99	8-0-413
737	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	2/5/99		2/5/99	8-0-413
			0.023	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-27 **S&H ID:** 9901-192 **Date Sampled:** 2/7/99 5:51:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
738	Cl2Dose	Chlorine Dose	2.27	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/99		2/9/99	n/a
739	Cl2Res	Chlorine Residual	0.82	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/99		2/10/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

740	HAA	Bromochloroacetic acid	6.2	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
741	HAA	Bromodichloroacetic acid	8.4	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
742	HAA	Chlorodibromoacetic acid	4.4	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
743	HAA	Dibromoacetic acid	3.2	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
744	HAA	Dichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
745	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
746	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
747	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/10/99	2/24/99	2/25/99	MW92771
748	HAA	Trichloroacetic acid	5.6	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
749	pH	Cl2 pH - Final	7.5	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/10/99	n/a
750	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/9/99	n/a
751	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	2/7/99		2/7/99	n/a
752	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/9/99		2/10/99	n/a
753	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	2/7/99		2/7/99	n/a
754	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	2/9/99		2/10/99	n/a
755	TOC-ICR	TOC	2.22	mg/L	SM 5310 C	1	0.50	2/7/99		2/8/99	7-0-513
756	TOC-ICR	TOC (Dupl)	2.21	mg/L	SM 5310 C	1	0.50	2/7/99		2/8/99	7-0-513
			2.21	**mg/L**	**0.5 % RPD**						
757	TOX-ICR	TOX	115	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/12/99	12-0-280
758	TOX-ICR	TOX (Dupl)	114	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/12/99	12-0-280
			115	**µg Cl-/L**	**0.9 % RPD**						
759	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
760	THM-ICR	Bromodichloromethane	15.9	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
761	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
762	THM-ICR	Chloroform	9.1	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
763	THM-ICR	Dibromochloromethane	13.2	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
764	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	2/7/99		2/8/99	8-0-414
765	UV-ICR	UV (Dupl)	0.027	1/cm	SM 5910 B	1	0.009	2/7/99		2/8/99	8-0-414
			0.027	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-29 **S&H ID:** 9901-194 **Date Sampled:** 2/9/99 6:44:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
766	Cl2Dose	Chlorine Dose	2.44	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/11/99		2/11/99	n/a
767	Cl2Res	Chlorine Residual	0.96	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/11/99		2/12/99	n/a
768	HAA	Bromochloroacetic acid	6.8	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
769	HAA	Bromodichloroacetic acid	8.5	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
770	HAA	Chlorodibromoacetic acid	3.8	µg/L	SM 6251 B	1	2.0	2/12/99	2/25/99	2/26/99	MW92772
771	HAA	Dibromoacetic acid	3.1	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
772	HAA	Dichloroacetic acid	5.7	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

773	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
774	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/12/99	2/25/99	2/26/99	MW92772
775	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/12/99	2/25/99	2/26/99	MW92772
776	HAA	Trichloroacetic acid	6.2	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
777	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/11/99		2/12/99	n/a
778	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/11/99		2/11/99	n/a
779	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/9/99	n/a
780	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/11/99		2/12/99	n/a
781	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	2/9/99		2/9/99	n/a
782	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/11/99		2/12/99	n/a
783	TOC-ICR	TOC	2.30	mg/L	SM 5310 C	1	0.50	2/9/99		2/10/99	7-0-515
784	TOC-ICR	TOC (Dupl)	2.36	mg/L	SM 5310 C	1	0.50	2/9/99		2/10/99	7-0-515
			2.33	**mg/L**	**2.6 % RPD**						
785	TOX-ICR	TOX	128	µg Cl-/L	SM 5320 B	1	25	2/12/99		2/15/99	12-0-281
786	TOX-ICR	TOX (Dupl)	129	µg Cl-/L	SM 5320 B	1	25	2/12/99		2/15/99	12-0-281
			129	**µg Cl-/L**	**0.8 % RPD**						
787	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
788	THM-ICR	Bromodichloromethane	18.2	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
789	THM-ICR	Bromoform	2.1	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
790	THM-ICR	Chloroform	10.8	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
791	THM-ICR	Dibromochloromethane	14.4	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
792	UV-ICR	UV	0.030	1/cm	SM 5910 B	1	0.009	2/9/99		2/10/99	8-0-415
793	UV-ICR	UV (Dupl)	0.030	1/cm	SM 5910 B	1	0.009	2/9/99		2/10/99	8-0-415
			0.030	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-30 **S&H ID:** 9901-195 **Date Sampled:** 2/11/99 3:29:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
794	Cl2Dose	Chlorine Dose	2.41	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/16/99		2/16/99	n/a
795	Cl2Res	Chlorine Residual	0.96	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/16/99		2/17/99	n/a
796	HAA	Bromochloroacetic acid	6.7	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
797	HAA	Bromodichloroacetic acid	8.3	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
798	HAA	Chlorodibromoacetic acid	3.7	µg/L	SM 6251 B	1	2.0	2/17/99	3/3/99	3/4/99	MW93002
799	HAA	Dibromoacetic acid	3.2	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
800	HAA	Dichloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
801	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
802	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/17/99	3/3/99	3/4/99	MW93002
803	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/17/99	3/3/99	3/4/99	MW93002
804	HAA	Trichloroacetic acid	5.9	µg/L	SM 6251 B	1	1.0	2/17/99	3/3/99	3/4/99	MW93002
805	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/16/99		2/17/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

806	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	2/16/99		2/16/99	n/a
807	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	2/11/99		2/11/99	n/a
808	TEMP	Cl2 Temperature	19.6	ºC	SM 2550 B	1	n/a	2/16/99		2/17/99	n/a
809	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	2/11/99		2/11/99	n/a
810	TIME	Cl2 Incubation Time	24.3	hrs	n/a	1	n/a	2/16/99		2/17/99	n/a
811	TOC-ICR	TOC	2.41	mg/L	SM 5310 C	1	0.50	2/11/99		2/12/99	7-0-516
812	TOC-ICR	TOC (Dupl)	2.41	mg/L	SM 5310 C	1	0.50	2/11/99		2/12/99	7-0-516
			2.41	**mg/L**	**0.0 % RPD**						
813	TOX-ICR	TOX	128	µg Cl-/L	SM 5320 B	1	25	2/17/99		2/17/99	12-0-282
814	TOX-ICR	TOX (Dupl)	134	µg Cl-/L	SM 5320 B	1	25	2/17/99		2/17/99	12-0-282
			131	**µg Cl-/L**	**4.6 % RPD**						
815	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	2/17/99	2/22/99	2/22/99	0-316-0
816	THM-ICR	Bromodichloromethane	17.1	µg/L	EPA 551.1	1	1.0	2/17/99	2/22/99	2/22/99	0-316-0
817	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	2/17/99	2/22/99	2/22/99	0-316-0
818	THM-ICR	Chloroform	10.9	µg/L	EPA 551.1	1	1.0	2/17/99	2/22/99	2/22/99	0-316-0
819	THM-ICR	Dibromochloromethane	13.2	µg/L	EPA 551.1	1	1.0	2/17/99	2/22/99	2/22/99	0-316-0
820	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	2/11/99		2/12/99	8-0-416
821	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	2/11/99		2/12/99	8-0-416
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-7d **S&H ID:** 9901-196 **Date Sampled:** 1/24/99 7:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
822	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/26/99		1/26/99	n/a
823	Cl2Res	Chlorine Residual	0.97	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/26/99		1/27/99	n/a
824	HAA	Bromochloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
825	HAA	Bromodichloroacetic acid	1.0	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
826	HAA	Chlorodibromoacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629
827	HAA	Dibromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
828	HAA	Dichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
829	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
830	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/27/99	2/6/99	2/7/99	MW91629
831	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/27/99	2/6/99	2/7/99	MW91629
832	HAA	Trichloroacetic acid	ND	µg/L	SM 6251 B	1	1.0	1/27/99	2/6/99	2/7/99	MW91629
833	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/27/99	n/a
834	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
835	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/24/99		1/24/99	n/a
836	TEMP	Cl2 Temperature	17.6	ºC	SM 2550 B	1	n/a	1/26/99		1/27/99	n/a
837	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	1/24/99		1/24/99	n/a
838	TIME	Cl2 Incubation Time	24.1	hrs	n/a	1	n/a	1/26/99		1/27/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

839	TOC-ICR	TOC	0.51	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
840	TOC-ICR	TOC (Dupl)	0.52	mg/L	SM 5310 C	1	0.50	1/24/99		1/25/99	7-0-503
			0.52	**mg/L**	**1.9 % RPD**						
841	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
842	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	1/27/99		1/29/99	12-0-273
			ND	**µg Cl-/L**							
843	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
844	THM-ICR	Bromodichloromethane	2.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
845	THM-ICR	Bromoform	1.1	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
846	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
847	THM-ICR	Dibromochloromethane	3.2	µg/L	EPA 551.1	1	1.0	1/27/99	2/3/99	2/3/99	0-302-0
848	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
849	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/24/99		1/25/99	8-0-405
			ND	**1/cm**							

Sample ID: 208.20.Eff-20d **S&H ID:** 9901-199 **Date Sampled:** 1/30/99 11:33:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
850	Cl2Dose	Chlorine Dose	2.35	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
851	Cl2Res	Chlorine Residual	1.02	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
852	HAA	Bromochloroacetic acid	4.6	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
853	HAA	Bromodichloroacetic acid	5.1	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
854	HAA	Chlorodibromoacetic acid	3.3	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
855	HAA	Dibromoacetic acid	2.8	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
856	HAA	Dichloroacetic acid	3.1	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
857	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
858	HAA	Monochloroacetic acid	2.5	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
859	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/13/99	2/14/99	MW92214
860	HAA	Trichloroacetic acid	3.3	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
861	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
862	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
863	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	1/30/99		1/30/99	n/a
864	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
865	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	1/30/99		1/30/99	n/a
866	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a
867	TOC-ICR	TOC	1.50	mg/L	SM 5310 C	1	0.50	1/30/99		1/30/99	7-0-508
868	TOC-ICR	TOC (Dupl)	1.48	mg/L	SM 5310 C	1	0.50	1/30/99		1/30/99	7-0-508
			1.49	**mg/L**	**1.3 % RPD**						
869	TOX-ICR	TOX	67	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
870	TOX-ICR	TOX (Dupl)	67	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

			67	**µg Cl-/L**	**0.0 % RPD**						
871	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
872	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	101.2	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
			103.4	**%**	**4.3 % RPD**						
873	THM-ICR	Bromodichloromethane	9.1	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
874	THM-ICR	Bromodichloromethane (Lab Dupl)	9.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
			9.1	**µg/L**	**1.1 % RPD**						
875	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
876	THM-ICR	Bromoform (Lab Dupl)	2.1	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
			2.2	**µg/L**	**4.5 % RPD**						
877	THM-ICR	Chloroform	4.1	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
878	THM-ICR	Chloroform (Lab Dupl)	4.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
			4.0	**µg/L**	**2.5 % RPD**						
879	THM-ICR	Dibromochloromethane	9.9	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
880	THM-ICR	Dibromochloromethane (Lab Dupl)	10.0	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
			9.9	**µg/L**	**1.0 % RPD**						
881	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	1/30/99		1/31/99	8-0-410
882	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	1/30/99		1/31/99	8-0-410
			0.016	**1/cm**	**0.0 % RPD**						

Sample ID: 208.20.Eff-25d **S&H ID:** 9901-200 **Date Sampled:** 2/5/99 12:38:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
883	Cl2Dose	Chlorine Dose	2.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/99		2/9/99	n/a
884	Cl2Res	Chlorine Residual	0.87	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/99		2/10/99	n/a
885	HAA	Bromochloroacetic acid	5.8	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
886	HAA	Bromodichloroacetic acid	7.7	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
887	HAA	Chlorodibromoacetic acid	4.0	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
888	HAA	Dibromoacetic acid	3.0	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
889	HAA	Dichloroacetic acid	4.2	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
890	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
891	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/10/99	2/24/99	2/25/99	MW92771
892	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/10/99	2/24/99	2/25/99	MW92771
893	HAA	Trichloroacetic acid	4.9	µg/L	SM 6251 B	1	1.0	2/10/99	2/24/99	2/25/99	MW92771
894	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/10/99	n/a
895	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/9/99		2/9/99	n/a
896	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	2/5/99		2/5/99	n/a
897	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/9/99		2/10/99	n/a
898	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	2/5/99		2/5/99	n/a
899	TIME	Cl2 Incubation Time	24.2	hrs	n/a	1	n/a	2/9/99		2/10/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

900	TOC-ICR	TOC	1.95	mg/L	SM 5310 C	1	0.50	2/5/99		2/5/99	7-0-512
901	TOC-ICR	TOC (Dupl)	1.95	mg/L	SM 5310 C	1	0.50	2/5/99		2/5/99	7-0-512
			1.95	**mg/L**	**0.0 % RPD**						
902	TOX-ICR	TOX	100	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/12/99	12-0-280
903	TOX-ICR	TOX (Dupl)	98	µg Cl-/L	SM 5320 B	1	25	2/10/99		2/12/99	12-0-280
			99	**µg Cl-/L**	**2.0 % RPD**						
904	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.0	%	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
905	THM-ICR	Bromodichloromethane	14.1	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
906	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
907	THM-ICR	Chloroform	7.4	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
908	THM-ICR	Dibromochloromethane	12.5	µg/L	EPA 551.1	1	1.0	2/10/99	2/22/99	2/22/99	0-316-0
909	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	2/5/99		2/5/99	8-0-413
910	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	2/5/99		2/5/99	8-0-413
			0.023	**1/cm**	**0.0 % RPD**						

Sample ID: 208.Inf.A-1 **S&H ID:** 9901-206 **Date Sampled:** 1/19/99 5:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
911	ALK	Alkalinity	110	mg/L	SM 2320 B	1	5	1/19/99		1/20/99	1-0-40
912	ALK	Alkalinity (Dupl)	110	mg/L	SM 2320 B	1	5	1/19/99		1/20/99	1-0-40
			110	**mg/L**	**0.0 % RPD**						
913	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	1/19/99		1/28/99	MW91036
914	BR	Bromide	0.070	mg/L	EPA 300.0 A	1	0.020	1/19/99		1/28/99	MW91236
915	CaHardM	Calcium Hardness	141	mg/L CaCO3	EPA 200.7	1	5	1/19/99		1/28/99	MW n/a
916	CaMW	Calcium, Total, ICAP	57	mg/L	EPA 200.7	1	1	1/19/99	1/28/99	1/28/99	MW90976
917	MgMW	Magnesium, Total, ICAP	20	mg/L	EPA 200.7	1	0	1/19/99	1/28/99	1/28/99	MW90981
918	TotHard	Total Hardness as CaCO3 by ICP	224	mg/L CaCO3	SM 2340B	1	7	1/19/99		1/28/99	MW n/a

Sample ID: 208.Inf.A-2 **S&H ID:** 9901-207 **Date Sampled:** 1/28/99 4:25:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
919	ALK	Alkalinity	108	mg/L	SM 2320 B	1	5	1/28/99		1/29/99	1-0-41
920	ALK	Alkalinity (Dupl)	108	mg/L	SM 2320 B	1	5	1/28/99		1/29/99	1-0-41
			108	**mg/L**	**0.0 % RPD**						
921	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05			3/5/99	MW92926
922	BR	Bromide	0.070	mg/L	EPA 300.0 A	2	0.040			2/5/99	MW91708
923	CaHardM	Calcium Hardness	144	mg/L CaCO3	EPA 200.7	1	5			2/1/99	MW n/a
924	CaMW	Calcium, Total, ICAP	58	mg/L	EPA 200.7	1	1		2/1/99	2/1/99	MW91097
925	MgMW	Magnesium, Total, ICAP	20	mg/L	EPA 200.7	1	0		2/1/99	2/1/99	MW91107

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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926	TotHard	Total Hardness as CaCO3 by ICP	225	mg/L CaCO3	SM 2340B	1	7		2/1/99	MW n/a

Sample ID: 208.Inf.B-1 **S&H ID:** 9901-208 **Date Sampled:** 1/19/99 5:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
927	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	1/19/99		1/19/99	n/a
928	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	1/19/99		1/19/99	n/a
929	TOC-ICR	TOC	3.14	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
930	TOC-ICR	TOC (Dupl)	3.18	mg/L	SM 5310 C	1	0.50	1/19/99		1/20/99	7-0-498
			3.16	**mg/L**	**1.3 % RPD**						
931	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	1/19/99		1/19/99	9-0-22
932	UV-ICR	UV	0.050	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
933	UV-ICR	UV (Dupl)	0.051	1/cm	SM 5910 B	1	0.009	1/19/99		1/20/99	8-0-397
			0.051	**1/cm**	**2.0 % RPD**						

Sample ID: 208.Inf.B-2 **S&H ID:** 9901-209 **Date Sampled:** 1/23/99 12:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
934	Cl2Dose	Chlorine Dose	4.40	mg/L as Cl2	SM 4500-Cl B	1	n/a	1/27/99		1/27/99	n/a
935	Cl2Res	Chlorine Residual	1.71	mg/L as Cl2	SM 4500-Cl F	1	0.10	1/27/99		1/28/99	n/a
936	HAA	Bromochloroacetic acid	7.2	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
937	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
938	HAA	Chlorodibromoacetic acid	3.6	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
939	HAA	Dibromoacetic acid	2.3	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
940	HAA	Dichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
941	HAA	Monobromoacetic acid	1.1	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
942	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	1/28/99	2/6/99	2/7/99	MW91629
943	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	1/28/99	2/6/99	2/7/99	MW91629
944	HAA	Trichloroacetic acid	14.0	µg/L	SM 6251 B	1	1.0	1/28/99	2/6/99	2/7/99	MW91629
945	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/28/99	n/a
946	pH	Cl2 pH - Initial	7.3	Unit	SM 4500-H+ B	1	n/a	1/27/99		1/27/99	n/a
947	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	1/23/99		1/23/99	n/a
948	TEMP	Cl2 Temperature	17.7	ºC	SM 2550 B	1	n/a	1/27/99		1/28/99	n/a
949	TEMP	Temperature	17.4	ºC	SM 2550 B	1	n/a	1/23/99		1/23/99	n/a
950	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	1/27/99		1/28/99	n/a
951	TOC-ICR	TOC	3.07	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
952	TOC-ICR	TOC (Dupl)	3.10	mg/L	SM 5310 C	1	0.50	1/23/99		1/23/99	7-0-501
			3.09	**mg/L**	**1.0 % RPD**						
953	TOX-ICR	TOX	211	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274
954	TOX-ICR	TOX (Dupl)	211	µg Cl-/L	SM 5320 B	1	25	1/28/99		2/1/99	12-0-274

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

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			211	**µg Cl-/L**	**0.0 % RPD**						
955	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.8	%	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
956	THM-ICR	Bromodichloromethane	26.2	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
957	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
958	THM-ICR	Chloroform	29.2	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
959	THM-ICR	Dibromochloromethane	12.0	µg/L	EPA 551.1	1	1.0	1/28/99	2/3/99	2/3/99	0-302-0
960	TURB	Turbidity	0.25	ntu	SM 2130 B	1	0.05	1/23/99		1/23/99	9-0-22
961	UV-ICR	UV	0.050	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
962	UV-ICR	UV (Dupl)	0.051	1/cm	SM 5910 B	1	0.009	1/23/99		1/24/99	8-0-403
			0.051	**1/cm**	**2.0 % RPD**						

Sample ID: 208.Inf.B-3 **S&H ID:** 9901-210 **Date Sampled:** 1/26/99 12:02:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
963	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	1/26/99		1/26/99	n/a
964	TEMP	Temperature	17.4	ºC	SM 2550 B	1	n/a	1/26/99		1/26/99	n/a
965	TOC-ICR	TOC	3.01	mg/L	SM 5310 C	1	0.50	1/26/99		1/27/99	7-0-504
966	TOC-ICR	TOC (Dupl)	3.05	mg/L	SM 5310 C	1	0.50	1/26/99		1/27/99	7-0-504
			3.03	**mg/L**	**1.3 % RPD**						

Sample ID: 208.Inf.B-4 **S&H ID:** 9901-211 **Date Sampled:** 1/28/99 4:27:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
967	Cl2Dose	Chlorine Dose	3.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/99		2/2/99	n/a
968	Cl2Res	Chlorine Residual	0.96	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/99		2/3/99	n/a
969	HAA	Bromochloroacetic acid	7.6	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
970	HAA	Bromodichloroacetic acid	11.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
971	HAA	Chlorodibromoacetic acid	3.8	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
972	HAA	Dibromoacetic acid	2.3	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
973	HAA	Dichloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
974	HAA	Monobromoacetic acid	1.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
975	HAA	Monochloroacetic acid	2.3	µg/L	SM 6251 B	1	2.0	2/3/99	2/13/99	2/14/99	MW92214
976	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/3/99	2/13/99	2/14/99	MW92214
977	HAA	Trichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	2/3/99	2/13/99	2/14/99	MW92214
978	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/3/99	n/a
979	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
980	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	1/28/99		1/28/99	n/a
981	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/2/99		2/3/99	n/a
982	TEMP	Temperature	18.0	ºC	SM 2550 B	1	n/a	1/28/99		1/28/99	n/a
983	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/2/99		2/3/99	n/a

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

984	TOC-ICR	TOC	3.08	mg/L	SM 5310 C	1	0.50	1/28/99		1/29/99	7-0-507
985	TOC-ICR	TOC (Dupl)	3.10	mg/L	SM 5310 C	1	0.50	1/28/99		1/29/99	7-0-507
			3.09	**mg/L**	**0.6 % RPD**						
986	TOX-ICR	TOX	201	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
987	TOX-ICR	TOX (Dupl)	201	µg Cl-/L	SM 5320 B	1	25	2/3/99		2/4/99	12-0-276
			201	**µg Cl-/L**	**0.0 % RPD**						
988	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
989	THM-ICR	Bromodichloromethane	21.5	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
990	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
991	THM-ICR	Chloroform	21.4	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
992	THM-ICR	Dibromochloromethane	10.9	µg/L	EPA 551.1	1	1.0	2/3/99	2/8/99	2/8/99	0-304-0
993	TURB	Turbidity	0.20	ntu	SM 2130 B	1	0.05	1/28/99		1/28/99	9-0-22
994	UV-ICR	UV	0.050	1/cm	SM 5910 B	1	0.009	1/28/99		1/29/99	8-0-409
995	UV-ICR	UV (Dupl)	0.050	1/cm	SM 5910 B	1	0.009	1/28/99		1/29/99	8-0-409
			0.050	**1/cm**	**0.0 % RPD**						

Sample ID: 208.Inf.B-5 **S&H ID:** 9901-212 **Date Sampled:** 2/2/99 11:25:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
996	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/99		2/2/99	n/a
997	TEMP	Temperature	18.9	ºC	SM 2550 B	1	n/a	2/2/99		2/2/99	n/a
998	TOC-ICR	TOC	3.01	mg/L	SM 5310 C	1	0.50	2/2/99		2/2/99	7-0-510
999	TOC-ICR	TOC (Dupl)	3.07	mg/L	SM 5310 C	1	0.50	2/2/99		2/2/99	7-0-510
			3.04	**mg/L**	**2.0 % RPD**						

Sample ID: 208.Inf.B-6 **S&H ID:** 9901-213 **Date Sampled:** 2/8/99 2:08:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1000	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/8/99		2/8/99	n/a
1001	TEMP	Temperature	20.0	ºC	SM 2550 B	1	n/a	2/8/99		2/8/99	n/a
1002	TOC-ICR	TOC	3.10	mg/L	SM 5310 C	1	0.50	2/8/99		2/9/99	7-0-514
1003	TOC-ICR	TOC (Dupl)	3.11	mg/L	SM 5310 C	1	0.50	2/8/99		2/9/99	7-0-514
			3.11	**mg/L**	**0.3 % RPD**						

Sample ID: 208.Inf.B-7 **S&H ID:** 9901-214 **Date Sampled:** 2/10/99 1:55:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1004	Cl2Dose	Chlorine Dose	3.30	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/11/99		2/11/99	n/a
1005	Cl2Res	Chlorine Residual	0.83	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/11/99		2/12/99	n/a
1006	HAA	Bromochloroacetic acid	7.1	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
1007	HAA	Bromodichloroacetic acid	10.0	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772

ND (non-detect): Result is below mininum reporting level (MRL). NR (not reportable): Result did not meet QC criteria.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Laboratory Test Results

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

1008	HAA	Chlorodibromoacetic acid	3.1	µg/L	SM 6251 B	1	2.0	2/12/99	2/25/99	2/26/99	MW92772
1009	HAA	Dibromoacetic acid	2.0	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
1010	HAA	Dichloroacetic acid	9.7	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
1011	HAA	Monobromoacetic acid	ND	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
1012	HAA	Monochloroacetic acid	ND	µg/L	SM 6251 B	1	2.0	2/12/99	2/25/99	2/26/99	MW92772
1013	HAA	Tribromoacetic acid	ND	µg/L	SM 6251 B	1	4.0	2/12/99	2/25/99	2/26/99	MW92772
1014	HAA	Trichloroacetic acid	12.0	µg/L	SM 6251 B	1	1.0	2/12/99	2/25/99	2/26/99	MW92772
1015	pH	Cl2 pH - Final	7.4	Unit	SM 4500-H+ B	1	n/a	2/11/99		2/12/99	n/a
1016	pH	Cl2 pH - Initial	7.4	Unit	SM 4500-H+ B	1	n/a	2/11/99		2/11/99	n/a
1017	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	2/10/99		2/10/99	n/a
1018	TEMP	Cl2 Temperature	17.9	ºC	SM 2550 B	1	n/a	2/11/99		2/12/99	n/a
1019	TEMP	Temperature	19.2	ºC	SM 2550 B	1	n/a	2/10/99		2/10/99	n/a
1020	TIME	Cl2 Incubation Time	24.0	hrs	n/a	1	n/a	2/11/99		2/12/99	n/a
1021	TOC-ICR	TOC	3.02	mg/L	SM 5310 C	1	0.50	2/10/99		2/10/99	7-0-515
1022	TOC-ICR	TOC (Dupl)	3.03	mg/L	SM 5310 C	1	0.50	2/10/99		2/10/99	7-0-515
			3.02	**mg/L**	**0.3 % RPD**						
1023	TOX-ICR	TOX	207	µg Cl-/L	SM 5320 B	1	25	2/12/99		2/15/99	12-0-281
1024	TOX-ICR	TOX (Dupl)	199	µg Cl-/L	SM 5320 B	1	25	2/12/99		2/15/99	12-0-281
			203	**µg Cl-/L**	**3.9 % RPD**						
1025	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2	%	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
1026	THM-ICR	Bromodichloromethane	20.3	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
1027	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
1028	THM-ICR	Chloroform	20.6	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
1029	THM-ICR	Dibromochloromethane	9.5	µg/L	EPA 551.1	1	1.0	2/12/99	2/22/99	2/22/99	0-316-0
1030	TURB	Turbidity	0.30	ntu	SM 2130 B	1	0.05	2/10/99		2/10/99	9-0-23
1031	UV-ICR	UV	0.051	1/cm	SM 5910 B	1	0.009	2/10/99		2/10/99	8-0-415
1032	UV-ICR	UV (Dupl)	0.051	1/cm	SM 5910 B	1	0.009	2/10/99		2/10/99	8-0-415
			0.051	**1/cm**	**0.0 % RPD**						

End of laboratory test results

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

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

Summers & Hooper, Inc.
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Quality Control Report

Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Phone: 760-741-4855 Fax: 760-745-8767

Study#: 208
Study Title: ICR RSSCT #4

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-40

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	97	mg/L	97%		01/11/99	9901-98	5		
Matrix Spike (Dupl)	Matrix Spike	100	99	mg/L	99%		01/11/99	9901-98	5		
		100	**98**	**mg/L**	**98%**	**2.0 %**					
Method Blank	Method Blank		ND*	mg/L			01/11/99	9901-106	5		
Standard	Standard	100	102	mg/L	102%		01/11/99	9901-107	5		
Standard (Dupl)	Standard	100	102	mg/L	102%		01/11/99	9901-107	5		
		100	**102**	**mg/L**	**102%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	100	mg/L	100%		01/20/99	9901-206	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		01/20/99	9901-206	5		
		100	**98**	**mg/L**	**98%**	**3.1 %**					
Method Blank	Method Blank		ND*	mg/L			01/20/99	9901-219	5		
Standard	Standard	100	98	mg/L	98%		01/20/99	9901-220	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		01/20/99	9901-220	5		
		100	**99**	**mg/L**	**99%**	**2.0 %**					

Analysis: ALK (Alkalinity) **Method:** SM 2320 B

QC Batch ID: 1-0-41

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	97	mg/L	97%		01/29/99	9901-207	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		01/29/99	9901-207	5		
		100	**97**	**mg/L**	**97%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			01/29/99	9901-329	5		
Standard	Standard	100	98	mg/L	98%		01/29/99	9901-330	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		01/29/99	9901-330	5		
		100	**98**	**mg/L**	**98%**	**2.0 %**					
Matrix Spike	Matrix Spike	100	97	mg/L	97%		02/04/99	9901-99	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		02/04/99	9901-99	5		
		100	**98**	**mg/L**	**98%**	**1.0 %**					
Method Blank	Method Blank		ND*	mg/L			02/04/99	9902-24	5		
Standard	Standard	100	98	mg/L	98%		02/04/99	9902-25	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		02/04/99	9902-25	5		
		100	**99**	**mg/L**	**99%**	**2.0 %**					

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-493

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.95	mg/L	99%		9901-26	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.96	mg/L	99%		9901-26	0.5		
		4.00	**3.96**	**mg/L**	**99%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9901-115	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-115	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9901-3	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	10.10	mg/L	101%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.19	mg/L	102%		9901-114	0.5	90-110%	
		10.00	**10.14**	**mg/L**	**101%**	**0.9 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-498

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.77	mg/L	94%		9901-126	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.79	mg/L	95%		9901-126	0.5		
		4.00	**3.78**	**mg/L**	**94%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9901-218	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-218	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9901-4	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**1.0 %**			90-110%	10%
Standard	Standard	10.00	9.97	mg/L	100%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.07	mg/L	101%		9901-114	0.5	90-110%	
		10.00	**10.02**	**mg/L**	**100%**	**1.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-499

QC Type	Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria 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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Mr. Timothy Kwak
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Matrix Spike	Matrix Spike	4.00	4.25	mg/L	106%		9901-128	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.36	mg/L	109%		9901-128	0.5		
		4.00	**4.30**	**mg/L**	**108%**	**2.6 %**				
Method Blank	Method Blank		ND*	mg/L			9901-248	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-248	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.00	mg/L	100%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.07	mg/L	102%		9901-3	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**1.7 %**			90-110%	10%
Standard	Standard	10.00	10.03	mg/L	100%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.10	mg/L	101%		9901-114	0.5	90-110%	
		10.00	**10.07**	**mg/L**	**101%**	**0.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-500

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.07	mg/L	102%		9901-135	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.07	mg/L	102%		9901-135	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9901-275	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-275	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.55	mg/L	110%		9901-4	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**5.7 %**			50-150%	20%
Standard	Standard	4.00	4.04	mg/L	101%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.11	mg/L	103%		9901-3	0.5	90-110%	
		4.00	**4.07**	**mg/L**	**102%**	**1.7 %**			90-110%	10%
Standard	Standard	10.00	10.34	mg/L	103%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.32	mg/L	103%		9901-114	0.5	90-110%	
		10.00	**10.33**	**mg/L**	**103%**	**0.2 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-501

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9901-140	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.02	mg/L	100%		9901-140	0.5		
		4.00	**4.01**	**mg/L**	**100%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9901-279	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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Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-279	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**3.9 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
		4.00	**3.97**	**mg/L**	**99%**	**0.0 %**			90-110%	10%
Standard	Standard	10.00	10.03	mg/L	100%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.20	mg/L	102%		9901-114	0.5	90-110%	
		10.00	**10.12**	**mg/L**	**101%**	**1.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-502

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%		9901-224	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.94	mg/L	98%		9901-224	0.5		
		4.00	**3.97**	**mg/L**	**99%**	**1.3 %**				
Method Blank	Method Blank		ND*	mg/L			9901-281	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-281	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9901-4	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**4.1 %**			50-150%	20%
Standard	Standard	4.00	3.87	mg/L	97%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9901-3	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**4.3 %**			90-110%	10%
Standard	Standard	10.00	10.02	mg/L	100%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.12	mg/L	101%		9901-114	0.5	90-110%	
		10.00	**10.07**	**mg/L**	**101%**	**1.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-503

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.98	mg/L	100%		9901-148	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.05	mg/L	101%		9901-148	0.5		
		4.00	**4.01**	**mg/L**	**100%**	**1.7 %**				
Method Blank	Method Blank		ND*	mg/L			9901-283	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-283	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.57	mg/L	114%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9901-4	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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		0.50	**0.54**	**mg/L**	**108%**	**9.3 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9901-3	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**1.0 %**			90-110%	10%
Standard	Standard	10.00	10.01	mg/L	100%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.15	mg/L	102%		9901-114	0.5	90-110%	
		10.00	**10.08**	**mg/L**	**101%**	**1.4 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-504

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9901-69	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.96	mg/L	99%		9901-69	0.5		
		4.00	**3.98**	**mg/L**	**100%**	**1.3 %**				
Method Blank	Method Blank		ND*	mg/L			9901-290	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-290	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9901-4	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.06	mg/L	101%		9901-3	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**2.7 %**			90-110%	10%
Standard	Standard	10.00	9.86	mg/L	99%		9901-114	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.97	mg/L	100%		9901-114	0.5	90-110%	
		10.00	**9.91**	**mg/L**	**99%**	**1.1 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-505

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.10	mg/L	102%		9901-179	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.09	mg/L	102%		9901-179	0.5		
		4.00	**4.09**	**mg/L**	**102%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9901-295	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-295	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9901-3	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**1.0 %**			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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Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-506

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.05	mg/L	101%		9901-154	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.09	mg/L	102%		9901-154	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9901-316	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-316	0.5		
			ND*	**mg/L**						
Standard	Standard	0.20	0.26	mg/L	130%		9901-294	0.5	50-150%	
Standard (Dupl)	Standard	0.20	ND	mg/L	#Error		9901-294	0.5	50-150%	
		0.20	**0.25**	**mg/L**	**125%**	**8.0 %**			50-150%	20%
Standard	Standard	0.50	0.50	mg/L	100%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**3.9 %**			50-150%	20%
Standard	Standard	4.00	4.03	mg/L	101%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9901-3	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**0.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-507

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.97	mg/L	99%		9901-73	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9901-73	0.5		
		4.00	**3.97**	**mg/L**	**99%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9901-328	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-328	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.49	mg/L	98%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9901-4	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.90	mg/L	97%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**1.8 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-508

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.00	mg/L	100%		9901-74	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.99	mg/L	100%		9901-74	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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		4.00	**3.99**	**mg/L**	**100%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9901-335	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9901-335	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9901-4	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9901-3	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-509

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.04	mg/L	101%		9901-231	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.13	mg/L	103%		9901-231	0.5		
		4.00	**4.08**	**mg/L**	**102%**	**2.2 %**				
Method Blank	Method Blank		ND*	mg/L			9902-5	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-5	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9901-4	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9901-4	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9901-3	0.5	90-110%	
		4.00	**3.97**	**mg/L**	**99%**	**0.0 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-510

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.95	mg/L	99%		9901-187	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.03	mg/L	101%		9901-187	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**2.0 %**				
Method Blank	Method Blank		ND*	mg/L			9902-11	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-11	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9901-215	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9901-3	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9901-3	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**1.0 %**			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: 7-0-512

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.99	mg/L	100%		9901-78	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9901-78	0.5		
		4.00	**4.00**	**mg/L**	**100%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9902-30	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-30	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.56	mg/L	112%		9901-215	0.5	50-150%	
		0.50	**0.56**	**mg/L**	**112%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9902-22	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9902-22	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**1.3 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-513

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.12	mg/L	103%		9901-91	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.21	mg/L	105%		9901-91	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**1.9 %**				
Method Blank	Method Blank		ND*	mg/L			9902-40	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-40	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.46	mg/L	92%		9901-215	0.5	50-150%	
		0.50	**0.47**	**mg/L**	**94%**	**4.3 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9902-22	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9902-22	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**0.7 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-514

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.12	mg/L	103%		9901-80	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.11	mg/L	103%		9901-80	0.5		
		4.00	**4.11**	**mg/L**	**103%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9902-50	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-50	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	0.50	mg/L	100%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9901-215	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%		9902-22	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9902-22	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**1.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-515

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.95	mg/L	99%		9901-81	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.03	mg/L	101%		9901-81	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**2.3 %**				
Method Blank	Method Blank		ND*	mg/L			9902-60	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-60	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9901-215	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**4.1 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9902-22	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9902-22	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**0.5 %**			90-110%	10%

Analysis: TOC-ICR (Total Organic Carbon) **Method:** SM 5310 C

QC Batch ID: 7-0-516

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.06	mg/L	101%		9901-195	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.16	mg/L	104%		9901-195	0.5		
		4.00	**4.11**	**mg/L**	**103%**	**2.7 %**				
Method Blank	Method Blank		ND*	mg/L			9902-86	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9902-86	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9901-215	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9901-215	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9902-22	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9902-22	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**1.5 %**			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: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-397

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9901-217	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-217	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-217	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-217	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-398

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9901-261	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-261	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-261	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-261	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-399

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9901-270	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-270	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-270	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-270	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%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	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%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**1.2 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-401

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-278	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-278	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-278	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-278	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-402

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-280	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-280	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-280	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-280	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-110	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**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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Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-403

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-282	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-282	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-282	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-282	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	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%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9901-110	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: 8-0-404

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-284	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-284	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-284	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-284	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9901-216	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9901-110	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: 8-0-405

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-285	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-285	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-285	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-285	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%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	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%		9901-110	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9901-110	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: 8-0-406

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9901-291	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-291	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-291	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-291	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-407

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9901-293	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-293	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-293	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-293	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**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.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-408

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-325	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-325	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-325	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-325	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**12.5 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9901-292	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: 8-0-409

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-327	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-327	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-327	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-327	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-410

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9901-337	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-337	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9901-337	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9901-337	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.

Quality Control Report

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City of Escondido

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Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	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%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9901-292	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: 8-0-411

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9902-10	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-10	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9902-10	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-10	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9901-216	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9901-292	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-413

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9902-37	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-37	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9902-37	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-37	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9902-35	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9902-35	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%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9901-292	0.009	85-115%	
		0.088	**0.083**	**1/cm**	**94%**	**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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City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Analysis: UV-ICR (UV-254) **Method:** SM 5910 B

QC Batch ID: 8-0-414

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9902-41	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-41	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9902-41	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-41	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9902-35	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9902-35	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%		9901-292	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9901-292	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: 8-0-415

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9902-80	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-80	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9902-80	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-80	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9902-35	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9902-35	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9902-55	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9902-55	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: 8-0-416

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9902-95	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-95	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9902-95	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9902-95	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%		9902-35	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9902-35	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9902-55	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9902-55	0.009	85-115%	
		0.088	**0.083**	**1/cm**	**94%**	**0.0 %**			85-115%	10%

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-22

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.52	ntu	102%		11/30/98	9807-108	0.05		
Standard	Standard	5.41	5.53	ntu	102%		12/07/98	9807-108	0.05		
Standard	Standard	5.41	5.56	ntu	103%		12/07/98	9807-108	0.05		
Standard	Standard	5.41	5.53	ntu	102%		12/08/98	9807-108	0.05		
Standard	Standard	5.41	5.56	ntu	103%		12/10/98	9807-108	0.05		
Standard	Standard	5.41	5.55	ntu	103%		01/10/99	9807-108	0.05		
Standard	Standard	5.41	5.57	ntu	103%		01/19/99	9807-108	0.05		
Standard	Standard	5.41	5.60	ntu	104%		01/23/99	9807-108	0.05		
Standard	Standard	5.41	5.54	ntu	102%		01/28/99	9807-108	0.05		

Analysis: TURB (Turbidity) **Method:** SM 2130 B

QC Batch ID: 9-0-23

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.59	ntu	103%		02/02/99	9807-108	0.05		
Standard	Standard	5.41	5.56	ntu	103%		02/10/99	9807-108	0.05		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-272

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9901-322	25	75-125%	
Standard - TCP Aqueous	Standard	200	187	µg Cl-/L	94%		9901-321	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9901-323	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-273

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	189	µg Cl-/L	94%		9901-144	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	198	µg Cl-/L	99%		9901-144	25	
		200	**194**	**µg Cl-/L**	**97%**	**4.6 %**			
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9901-334	25	75-125%
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9901-333	25	85-115%
System Blank	Blank		ND*	µg Cl-/L			9901-332	25	

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-274

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9902-4	25	75-125%	
Standard - TCP Aqueous	Standard	200	192	µg Cl-/L	96%		9902-3	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-2	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-275

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9902-15	25	75-125%	
Standard - TCP Aqueous	Standard	200	195	µg Cl-/L	97%		9902-14	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-13	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-276

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	203	µg Cl-/L	101%		9901-180	25		
Matrix Spike (Dupl)	Matrix Spike	200	176	µg Cl-/L	88%		9901-180	25		
		200	**189**	**µg Cl-/L**	**94%**	**14.3 %**				
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9902-27	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9902-26	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-28	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-277

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9902-45	25	75-125%	
Standard - TCP Aqueous	Standard	200	189	µg Cl-/L	94%		9902-44	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-43	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 Escondido

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Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-278

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9902-54	25	75-125%	
Standard - TCP Aqueous	Standard	200	188	µg Cl-/L	94%		9902-53	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-52	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-279

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9902-84	25	75-125%	
Standard - TCP Aqueous	Standard	200	189	µg Cl-/L	94%		9902-83	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-82	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-280

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	218	µg Cl-/L	109%		9901-91	25		
Matrix Spike (Dupl)	Matrix Spike	200	195	µg Cl-/L	97%		9901-91	25		
		200	**207**	**µg Cl-/L**	**103%**	**11.1 %**				
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9902-91	25	75-125%	
Standard - TCP Aqueous	Standard	200	197	µg Cl-/L	98%		9902-92	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-93	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-281

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9902-169	25	75-125%	
Standard - TCP Aqueous	Standard	200	200	µg Cl-/L	100%		9902-170	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9902-168	25		

Analysis: TOX-ICR (Total Organic Halide) **Method:** SM 5320 B

QC Batch ID: 12-0-282

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9902-183	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9902-184	25	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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System Blank	Blank	ND*	µg Cl-/L		9902-182	25

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-299-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	8.6	8.6	µg/L		0.0%	9901-246	1		
Bromodichloromethane	Matrix Spike	40.0	44.9	µg/L	112%		9901-18	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9901-253	1		
Bromodichloromethane	Secondary Source Std	20.0	22.0	µg/L	110%		9901-254	1	70-130%	
Bromodichloromethane	Standard	20.0	21.2	µg/L	106%		9901-255	1	80-120%	
Bromodichloromethane	Standard	40.0	43.9	µg/L	110%		9901-256	1	80-120%	
Bromoform	Duplicate	ND	ND	µg/L		NA	9901-246	1		
Bromoform	Matrix Spike	40.0	44.8	µg/L	112%		9901-18	1		
Bromoform	Method Blank		ND*	µg/L			9901-253	1		
Bromoform	Secondary Source Std	20.0	20.5	µg/L	102%		9901-254	1	70-130%	
Bromoform	Standard	20.0	20.9	µg/L	104%		9901-255	1	80-120%	
Bromoform	Standard	40.0	42.3	µg/L	106%		9901-256	1	80-120%	
Chloroform	Duplicate	41.5	41.3	µg/L		0.5%	9901-246	1		
Chloroform	Matrix Spike	40.0	43.8	µg/L	110%		9901-18	1		
Chloroform	Method Blank		ND*	µg/L			9901-253	1		
Chloroform	Secondary Source Std	20.0	22.7	µg/L	114%		9901-254	1	70-130%	
Chloroform	Standard	20.0	20.9	µg/L	104%		9901-255	1	80-120%	
Chloroform	Standard	40.0	44.1	µg/L	110%		9901-256	1	80-120%	
Dibromochloromethane	Duplicate	ND	ND	µg/L		NA	9901-246	1		
Dibromochloromethane	Matrix Spike	40.0	43.4	µg/L	109%		9901-18	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9901-253	1		
Dibromochloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9901-254	1	70-130%	
Dibromochloromethane	Standard	20.0	20.9	µg/L	104%		9901-255	1	80-120%	
Dibromochloromethane	Standard	40.0	44.6	µg/L	112%		9901-256	1	80-120%	

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-301-0

QC Type	Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Bromodichloromethane	Duplicate	18.8	18.0	µg/L		4.3%	9901-306	1	
Bromodichloromethane	Matrix Spike	40.0	37.1	µg/L	93%		9901-166	1	
Bromodichloromethane	Method Blank		ND*	µg/L			9902-6	1	
Bromodichloromethane	Secondary Source Std	20.0	21.1	µg/L	106%		9902-7	1	70-130%
Bromodichloromethane	Standard	20.0	20.4	µg/L	102%		9902-8	1	80-120%
Bromodichloromethane	Standard	20.0	19.1	µg/L	96%		9902-8	1	80-120%
Bromodichloromethane	Standard	40.0	39.0	µg/L	97%		9902-9	1	80-120%
Bromodichloromethane	Standard	40.0	38.6	µg/L	97%		9902-9	1	80-120%
Bromoform	Duplicate	ND	ND	µg/L		NA	9901-306	1	
Bromoform	Matrix Spike	40.0	38.9	µg/L	97%		9901-166	1	
Bromoform	Method Blank		ND*	µg/L			9902-6	1	
Bromoform	Secondary Source Std	20.0	19.3	µg/L	97%		9902-7	1	70-130%
Bromoform	Standard	20.0	20.6	µg/L	103%		9902-8	1	80-120%
Bromoform	Standard	20.0	18.7	µg/L	93%		9902-8	1	80-120%
Bromoform	Standard	40.0	39.8	µg/L	99%		9902-9	1	80-120%
Bromoform	Standard	40.0	40.3	µg/L	101%		9902-9	1	80-120%
Chloroform	Duplicate	101.0	103.9	µg/L		2.8%	9901-306	1	
Chloroform	Matrix Spike	40.0	36.9	µg/L	92%		9901-166	1	
Chloroform	Method Blank		ND*	µg/L			9902-6	1	
Chloroform	Secondary Source Std	20.0	21.3	µg/L	106%		9902-7	1	70-130%
Chloroform	Standard	20.0	19.7	µg/L	98%		9902-8	1	80-120%
Chloroform	Standard	20.0	18.3	µg/L	92%		9902-8	1	80-120%
Chloroform	Standard	40.0	39.4	µg/L	98%		9902-9	1	80-120%
Chloroform	Standard	40.0	38.8	µg/L	97%		9902-9	1	80-120%
Dibromochloromethane	Duplicate	1.6	1.6	µg/L		0.0%	9901-306	1	
Dibromochloromethane	Matrix Spike	40.0	38.2	µg/L	96%		9901-166	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9902-6	1	
Dibromochloromethane	Secondary Source Std	20.0	20.4	µg/L	102%		9902-7	1	70-130%
Dibromochloromethane	Standard	20.0	21.0	µg/L	105%		9902-8	1	80-120%
Dibromochloromethane	Standard	20.0	19.6	µg/L	98%		9902-8	1	80-120%
Dibromochloromethane	Standard	40.0	40.0	µg/L	100%		9902-9	1	80-120%
Dibromochloromethane	Standard	40.0	39.5	µg/L	99%		9902-9	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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Quality Control Report

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-302-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	16.3	15.6	µg/L		4.4%	9901-150	1		
Bromodichloromethane	Matrix Spike	40.0	45.7	µg/L	114%		9901-170	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9902-17	1		
Bromodichloromethane	Secondary Source Std	20.0	23.0	µg/L	115%		9902-18	1	70-130%	
Bromodichloromethane	Standard	20.0	20.7	µg/L	103%		9902-19	1	80-120%	
Bromodichloromethane	Standard	20.0	20.0	µg/L	100%		9902-19	1	80-120%	
Bromodichloromethane	Standard	40.0	43.5	µg/L	109%		9902-20	1	80-120%	
Bromoform	Duplicate	2.5	2.2	µg/L		12.8%	9901-150	1		
Bromoform	Matrix Spike	40.0	42.5	µg/L	106%		9901-170	1		
Bromoform	Method Blank		ND*	µg/L			9902-17	1		
Bromoform	Secondary Source Std	20.0	21.6	µg/L	108%		9902-18	1	70-130%	
Bromoform	Standard	20.0	20.7	µg/L	103%		9902-19	1	80-120%	
Bromoform	Standard	20.0	20.2	µg/L	101%		9902-19	1	80-120%	
Bromoform	Standard	40.0	45.1	µg/L	113%		9902-20	1	80-120%	
Chloroform	Duplicate	9.2	8.9	µg/L		3.3%	9901-150	1		
Chloroform	Matrix Spike	40.0	45.3	µg/L	113%		9901-170	1		
Chloroform	Method Blank		ND*	µg/L			9902-17	1		
Chloroform	Secondary Source Std	20.0	22.7	µg/L	114%		9902-18	1	70-130%	
Chloroform	Standard	20.0	20.0	µg/L	100%		9902-19	1	80-120%	
Chloroform	Standard	20.0	19.2	µg/L	96%		9902-19	1	80-120%	
Chloroform	Standard	40.0	43.7	µg/L	109%		9902-20	1	80-120%	
Dibromochloromethane	Duplicate	14.1	13.1	µg/L		7.4%	9901-150	1		
Dibromochloromethane	Matrix Spike	40.0	45.3	µg/L	113%		9901-170	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9902-17	1		
Dibromochloromethane	Secondary Source Std	20.0	22.5	µg/L	113%		9902-18	1	70-130%	
Dibromochloromethane	Standard	20.0	20.7	µg/L	103%		9902-19	1	80-120%	
Dibromochloromethane	Standard	20.0	20.1	µg/L	101%		9902-19	1	80-120%	
Dibromochloromethane	Standard	40.0	44.0	µg/L	110%		9902-20	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 #4

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-304-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	9.1	9.0	µg/L		1.1%	9901-199	1		
Bromodichloromethane	Matrix Spike	40.0	39.6	µg/L	99%		9901-233	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9902-46	1		
Bromodichloromethane	Secondary Source Std	20.0	19.2	µg/L	96%		9902-47	1	70-130%	
Bromodichloromethane	Standard	20.0	19.6	µg/L	98%		9902-48	1	80-120%	
Bromodichloromethane	Standard	20.0	20.5	µg/L	102%		9902-48	1	80-120%	
Bromodichloromethane	Standard	40.0	40.5	µg/L	101%		9902-49	1	80-120%	
Bromoform	Duplicate	2.2	2.1	µg/L		4.7%	9901-199	1		
Bromoform	Matrix Spike	40.0	39.5	µg/L	99%		9901-233	1		
Bromoform	Method Blank		ND*	µg/L			9902-46	1		
Bromoform	Secondary Source Std	20.0	18.2	µg/L	91%		9902-47	1	70-130%	
Bromoform	Standard	20.0	20.2	µg/L	101%		9902-48	1	80-120%	
Bromoform	Standard	20.0	20.0	µg/L	100%		9902-48	1	80-120%	
Bromoform	Standard	40.0	43.2	µg/L	108%		9902-49	1	80-120%	
Chloroform	Duplicate	4.1	4.0	µg/L		2.5%	9901-199	1		
Chloroform	Matrix Spike	40.0	42.8	µg/L	107%		9901-233	1		
Chloroform	Method Blank		ND*	µg/L			9902-46	1		
Chloroform	Secondary Source Std	20.0	19.0	µg/L	95%		9902-47	1	70-130%	
Chloroform	Standard	20.0	18.7	µg/L	93%		9902-48	1	80-120%	
Chloroform	Standard	20.0	20.1	µg/L	101%		9902-48	1	80-120%	
Chloroform	Standard	40.0	40.9	µg/L	102%		9902-49	1	80-120%	
Dibromochloromethane	Duplicate	9.9	10.0	µg/L		1.0%	9901-199	1		
Dibromochloromethane	Matrix Spike	40.0	40.7	µg/L	102%		9901-233	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9902-46	1		
Dibromochloromethane	Secondary Source Std	20.0	19.0	µg/L	95%		9902-47	1	70-130%	
Dibromochloromethane	Standard	20.0	20.0	µg/L	100%		9902-48	1	80-120%	
Dibromochloromethane	Standard	20.0	20.6	µg/L	103%		9902-48	1	80-120%	
Dibromochloromethane	Standard	40.0	41.5	µg/L	104%		9902-49	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 Escondido

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Study Title: ICR RSSCT #4

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-307-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	30.9	32.5	µg/L		5.0%	9902-69	1		
Bromodichloromethane	Matrix Spike	40.0	39.7	µg/L	99%		9902-78	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9902-155	1		
Bromodichloromethane	Secondary Source Std	20.0	19.1	µg/L	96%		9902-156	1	70-130%	
Bromodichloromethane	Standard	20.0	19.4	µg/L	97%		9902-157	1	80-120%	
Bromodichloromethane	Standard	20.0	18.8	µg/L	94%		9902-157	1	80-120%	
Bromodichloromethane	Standard	20.0	20.0	µg/L	100%		9902-157	1	80-120%	
Bromodichloromethane	Standard	40.0	40.6	µg/L	102%		9902-158	1	80-120%	
Bromodichloromethane	Standard	40.0	38.7	µg/L	97%		9902-158	1	80-120%	
Bromoform	Duplicate	ND	ND	µg/L		NA	9902-69	1		
Bromoform	Matrix Spike	40.0	38.6	µg/L	97%		9902-78	1		
Bromoform	Method Blank		ND*	µg/L			9902-155	1		
Bromoform	Secondary Source Std	20.0	17.6	µg/L	88%		9902-156	1	70-130%	
Bromoform	Standard	20.0	18.5	µg/L	93%		9902-157	1	80-120%	
Bromoform	Standard	20.0	18.1	µg/L	91%		9902-157	1	80-120%	
Bromoform	Standard	20.0	18.5	µg/L	93%		9902-157	1	80-120%	
Bromoform	Standard	40.0	42.5	µg/L	106%		9902-158	1	80-120%	
Bromoform	Standard	40.0	41.3	µg/L	103%		9902-158	1	80-120%	
Chloroform	Duplicate	145.3	150.3	µg/L		3.4%	9902-69	1		
Chloroform	Matrix Spike	40.0	40.2	µg/L	101%		9902-78	1		
Chloroform	Method Blank		ND*	µg/L			9902-155	1		
Chloroform	Secondary Source Std	20.0	19.2	µg/L	96%		9902-156	1	70-130%	
Chloroform	Standard	20.0	18.7	µg/L	93%		9902-157	1	80-120%	
Chloroform	Standard	20.0	18.3	µg/L	92%		9902-157	1	80-120%	
Chloroform	Standard	20.0	19.5	µg/L	97%		9902-157	1	80-120%	
Chloroform	Standard	40.0	41.1	µg/L	103%		9902-158	1	80-120%	
Chloroform	Standard	40.0	38.4	µg/L	96%		9902-158	1	80-120%	
Dibromochloromethane	Duplicate	5.1	5.6	µg/L		9.3%	9902-69	1		
Dibromochloromethane	Matrix Spike	40.0	38.0	µg/L	95%		9902-78	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9902-155	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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Dibromochloromethane	Secondary Source Std	20.0	18.8	µg/L	94%		9902-156	1	70-130%
Dibromochloromethane	Standard	20.0	19.6	µg/L	98%		9902-157	1	80-120%
Dibromochloromethane	Standard	20.0	19.0	µg/L	95%		9902-157	1	80-120%
Dibromochloromethane	Standard	20.0	20.5	µg/L	102%		9902-157	1	80-120%
Dibromochloromethane	Standard	40.0	41.5	µg/L	104%		9902-158	1	80-120%
Dibromochloromethane	Standard	40.0	38.6	µg/L	97%		9902-158	1	80-120%

Analysis: THM-ICR (Trihalomethanes (ICR)) **Method:** EPA 551.1

QC Batch ID: 0-316-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Bromodichloromethane	Duplicate	7.0	7.6	µg/L		8.2%	9901-236	1		
Bromodichloromethane	Matrix Spike	40.0	40.2	µg/L	101%		9901-238	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9902-189	1		
Bromodichloromethane	Secondary Source Std	20.0	21.3	µg/L	106%		9902-190	1	70-130%	
Bromodichloromethane	Standard	20.0	18.7	µg/L	93%		9902-191	1	80-120%	
Bromodichloromethane	Standard	40.0	42.1	µg/L	105%		9902-192	1	80-120%	
Bromoform	Duplicate	2.0	2.2	µg/L		9.5%	9901-236	1		
Bromoform	Matrix Spike	40.0	44.0	µg/L	110%		9901-238	1		
Bromoform	Method Blank		ND*	µg/L			9902-189	1		
Bromoform	Secondary Source Std	20.0	19.0	µg/L	95%		9902-190	1	70-130%	
Bromoform	Standard	20.0	18.7	µg/L	93%		9902-191	1	80-120%	
Bromoform	Standard	40.0	43.0	µg/L	108%		9902-192	1	80-120%	
Chloroform	Duplicate	3.0	3.4	µg/L		12.5%	9901-236	1		
Chloroform	Matrix Spike	40.0	41.9	µg/L	105%		9901-238	1		
Chloroform	Method Blank		ND*	µg/L			9902-189	1		
Chloroform	Secondary Source Std	20.0	21.9	µg/L	110%		9902-190	1	70-130%	
Chloroform	Standard	20.0	18.3	µg/L	92%		9902-191	1	80-120%	
Chloroform	Standard	40.0	42.7	µg/L	107%		9902-192	1	80-120%	
Dibromochloromethane	Duplicate	8.3	8.8	µg/L		5.8%	9901-236	1		
Dibromochloromethane	Matrix Spike	40.0	41.4	µg/L	103%		9901-238	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9902-189	1		
Dibromochloromethane	Secondary Source Std	20.0	20.8	µg/L	104%		9902-190	1	70-130%	
Dibromochloromethane	Standard	20.0	18.8	µg/L	94%		9902-191	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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Dibromochloromethane	Standard	40.0	43.0	µg/L	108%		9902-192	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-298-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	2.1	2.1	µg/L		0.0%	9901-247	1		
Bromochloroacetic acid	Matrix Spike	40.0	40.2	µg/L	101%		9901-100	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9901-249	1		
Bromochloroacetic acid	Secondary Source Std	20.0	22.2	µg/L	111%		9901-250	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.7	µg/L	98%		9901-251	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.7	µg/L	99%		9901-252	1	80-120%	
Bromodichloroacetic acid	Duplicate	1.8	2.0	µg/L		10.5%	9901-247	1		
Bromodichloroacetic acid	Matrix Spike	40.0	40.7	µg/L	102%		9901-100	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9901-249	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9901-250	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	18.9	µg/L	94%		9901-251	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	41.6	µg/L	104%		9901-252	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9901-247	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	40.2	µg/L	101%		9901-100	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9901-249	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9901-250	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	19.0	µg/L	95%		9901-251	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	42.6	µg/L	106%		9901-252	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9901-247	1		
Dibromoacetic acid	Matrix Spike	40.0	41.1	µg/L	103%		9901-100	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9901-249	1		
Dibromoacetic acid	Secondary Source Std	20.0	22.9	µg/L	115%		9901-250	1	70-130%	
Dibromoacetic acid	Standard	20.0	19.5	µg/L	97%		9901-251	1	80-120%	
Dibromoacetic acid	Standard	40.0	39.6	µg/L	99%		9901-252	1	80-120%	
Dichloroacetic acid	Duplicate	12.0	11.4	µg/L		5.1%	9901-247	1		
Dichloroacetic acid	Matrix Spike	40.0	38.5	µg/L	96%		9901-100	1		
Dichloroacetic acid	Method Blank		ND*	µg/L			9901-249	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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Dichloroacetic acid	Secondary Source Std	20.0	22.7	µg/L	114%		9901-250	1	70-130%
Dichloroacetic acid	Standard	20.0	20.2	µg/L	101%		9901-251	1	80-120%
Dichloroacetic acid	Standard	40.0	39.4	µg/L	98%		9901-252	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND	µg/L		NA	9901-247	1	
Monobromoacetic acid	Matrix Spike	40.0	39.9	µg/L	100%		9901-100	1	
Monobromoacetic acid	Method Blank		ND*	µg/L			9901-249	1	
Monobromoacetic acid	Secondary Source Std	20.0	22.2	µg/L	111%		9901-250	1	70-130%
Monobromoacetic acid	Standard	20.0	19.6	µg/L	98%		9901-251	1	80-120%
Monobromoacetic acid	Standard	40.0	40.7	µg/L	102%		9901-252	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9901-247	2	
Monochloroacetic acid	Matrix Spike	40.0	42.3	µg/L	106%		9901-100	2	
Monochloroacetic acid	Method Blank		ND*	µg/L			9901-249	2	
Monochloroacetic acid	Secondary Source Std	20.0	21.8	µg/L	109%		9901-250	2	70-130%
Monochloroacetic acid	Standard	20.0	18.8	µg/L	94%		9901-251	2	80-120%
Monochloroacetic acid	Standard	40.0	40.4	µg/L	101%		9901-252	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L		NA	9901-247	4	
Tribromoacetic acid	Matrix Spike	40.0	38.8	µg/L	97%		9901-100	4	
Tribromoacetic acid	Method Blank		ND*	µg/L			9901-249	4	
Tribromoacetic acid	Secondary Source Std		ND	µg/L			9901-250	4	70-130%
Tribromoacetic acid	Standard	20.0	19.2	µg/L	96%		9901-251	4	80-120%
Tribromoacetic acid	Standard	40.0	43.2	µg/L	108%		9901-252	4	80-120%
Trichloroacetic acid	Duplicate	9.7	10.9	µg/L		11.7%	9901-247	1	
Trichloroacetic acid	Matrix Spike	40.0	35.7	µg/L	89%		9901-100	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9901-249	1	
Trichloroacetic acid	Secondary Source Std	20.0	22.7	µg/L	114%		9901-250	1	70-130%
Trichloroacetic acid	Standard	20.0	19.3	µg/L	97%		9901-251	1	80-120%
Trichloroacetic acid	Standard	40.0	39.9	µg/L	100%		9901-252	1	80-120%

End of quality control report

ND: non-detect. *Recovery is below 1/2 minimum reporting level (MRL). NA (not applicable): RPD calculation is not applicable.

Summers & Hooper, Inc.
6 Knollcrest Drive
Cincinnati, OH 45237
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QC Results from Montgomery Watson Laboratories

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Mr. Timothy Kwak
City of Escondido
201 N. Broadway
Escondido, CA 92025

Study#: 208
Study Title: ICR RSSCT #4

Phone: 760-741-4855 Fax: 760-745-8767

QC Batch ID: 90976 **Report #:** 51271

Analysis: CA **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	51.2	102.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	51.5	103.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	48.9	98.0%		(70 - 130)

QC Batch ID: 90981 **Report #:** 51271

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	20.7	104.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	20.8	104.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	20.1	100.0%		(70 - 130)

QC Batch ID: 91036 **Report #:** 51271

Analysis: NH3 **Method:** ML/EPA 350.1

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.06	106.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.1	110.0%		(80 - 120)

QC Batch ID: 91097 **Report #:** 51458

Analysis: CA **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	51.5	103.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	51.2	102.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	50.5	101.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

QC Batch ID: 91107 **Report #:** 51458

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	20.5	102.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	20.6	103.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	20	100.0%		(70 - 130)

QC Batch ID: 91236 **Report #:** 51271

Analysis: BR **Method:** ML/EPA 300

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.02	100.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.102	102.0%		(80 - 120)
MSD	Bromide	0.1	0.102	102.0%		(80 - 120)

QC Batch ID: 91559 **Report #:** 51458

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	19	95.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	0.9	90.0%		(50 - 150)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	19	95.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	19	95.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.6	80.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	4.4	110.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	19	95.0%		(70 - 130)

QC Batch ID: 91629 **Report #:** 51458

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	1.6	1.6		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Bromodichloroacetic acid	1.6	1.5		6.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	32	32	100.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	32	34	106.0%		(70 - 130)
DUP	Dibromoacetic acid	1.4	1.3		7.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	32	31	97.0%		(70 - 130)
DUP	Dichloroacetic acid	1.2	1.2		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	32	31	97.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	32	32	100.0%		(70 - 130)
DUP	Monochloroacetic acid	2.1	2.1		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	2.2	110.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	32	44	138.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	4.8	120.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	24	120.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	32	36	112.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	32	31	97.0%		(70 - 130)

QC Batch ID: 91708 **Report #:** 51458

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	0.094	94.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.093	93.0%		(80 - 120)
MSD	Bromide	0.1	0.096	96.0%		(80 - 120)

QC Batch ID: 91857 **Report #:** 51649

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	4	4		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.1	110.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	18	90.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	18	90.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	1.9	95.0%		(70 - 130)
DUP	Dibromoacetic acid	9.2	9.1		1.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	0.3	30.0%		(70 - 130)
DUP	Dichloroacetic acid	3.3	3.3		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.1	110.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.9	95.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	3.7	185.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	4.5	112.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	3.3	83.0%		(70 - 130)
DUP	Trichloroacetic acid	2.1	2.1		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.2	120.0%		(70 - 130)

QC Batch ID: 92214 **Report #:** 51649
51650

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	2.3	2.2		4.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Bromodichloroacetic acid	2.3	2.3		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	25	125.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

LCS1	Chlorodibromoacetic acid	2	2.1	105.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	24	120.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	24	120.0%		(70 - 130)
DUP	Dichloroacetic acid	18	17		6.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	16	80.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	4.3	108.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Trichloroacetic acid	19	19		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	15	75.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

QC Batch ID: 92306 **Report #:** 51709
51713

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	3.5	3.4		3.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	0.9	90.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.2	120.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	3.4	3.1		9.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	3	150.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.4	120.0%		(70 - 130)
DUP	Dibromoacetic acid	8.6	8.4		2.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Dichloroacetic acid	2.8	2.7		4.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1	100.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	19	95.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	18	90.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
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MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	1.6	80.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	4.5	112.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	4.1	103.0%		(70 - 130)
DUP	Trichloroacetic acid	2.4	2.4		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	19	95.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.1	110.0%		(70 - 130)

QC Batch ID: 92771 **Report #:** 51839
51840

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	3.2	3.3		3.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	1	1.5	150.0%		(70 - 130)
DUP	Bromodichloroacetic acid	3.9	4		3.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	24	120.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	1	1.6	160.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	2.4	2.5		4.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	2	100.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	22	110.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	2	2.5	125.0%		(70 - 130)
DUP	Dibromoacetic acid	2.5	2.5		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	1	1.5	150.0%		(70 - 130)
DUP	Dichloroacetic acid	2	2		0.0%	(0 - 20)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

LCS1	Dichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	1	1.3	130.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.9	95.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	2	2.2	110.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.7	92.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	4	4.9	123.0%		(70 - 130)
DUP	Trichloroacetic acid	2	2		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	1	1.3	130.0%		(70 - 130)

QC Batch ID: 92772 **Report #:** 51950
51951

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

MS	Bromodichloroacetic acid	20	23	115.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.7	85.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	23	115.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1	100.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	21	105.0%		(70 - 130)
DUP	Dichloroacetic acid	8.9	9		1.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	21	105.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	21	105.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	21	105.0%		(80 - 120)
MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3	75.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	25	125.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	1		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	20	100.0%		(70 - 130)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

Study#: 208
Study Title: ICR RSSCT #4

QC Batch ID: 93002 **Report #:** 52030
52065

Analysis: @HALOAC **Method:** ML/S6251B

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
DUP	Bromochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromochloroacetic acid	1	0.8	80.0%		(50 - 150)
LCS2	Bromochloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromochloroacetic acid	ND	ND			
MS	Bromochloroacetic acid	20	19	95.0%		(70 - 130)
DUP	Bromodichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Bromodichloroacetic acid	1	1	100.0%		(50 - 150)
LCS2	Bromodichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Bromodichloroacetic acid	ND	ND			
MS	Bromodichloroacetic acid	20	20	100.0%		(70 - 130)
DUP	Chlorodibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Chlorodibromoacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Chlorodibromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Chlorodibromoacetic acid	ND	ND			
MS	Chlorodibromoacetic acid	20	23	115.0%		(70 - 130)
DUP	Dibromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dibromoacetic acid	1	1.1	110.0%		(50 - 150)
LCS2	Dibromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dibromoacetic acid	ND	ND			
MS	Dibromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Dichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Dichloroacetic acid	1	0.7	70.0%		(50 - 150)
LCS2	Dichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Dichloroacetic acid	ND	ND			
MS	Dichloroacetic acid	20	19	95.0%		(70 - 130)
DUP	Monobromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monobromoacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Monobromoacetic acid	20	20	100.0%		(80 - 120)
MBLK	Monobromoacetic acid	ND	ND			
MS	Monobromoacetic acid	20	20	100.0%		(70 - 130)
DUP	Monochloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Monochloroacetic acid	2	1.8	90.0%		(50 - 150)
LCS2	Monochloroacetic acid	20	21	105.0%		(80 - 120)

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

QC Results from Montgomery Watson Laboratories

Mr. Timothy Kwak
City of Escondido

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MBLK	Monochloroacetic acid	ND	ND			
MS	Monochloroacetic acid	20	22	110.0%		(70 - 130)
DUP	Tribromoacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Tribromoacetic acid	4	3.5	88.0%		(50 - 150)
LCS2	Tribromoacetic acid	20	21	105.0%		(80 - 120)
MBLK	Tribromoacetic acid	ND	ND			
MS	Tribromoacetic acid	20	22	110.0%		(70 - 130)
DUP	Trichloroacetic acid	ND	ND		0.0%	(0 - 20)
LCS1	Trichloroacetic acid	1	0.9	90.0%		(50 - 150)
LCS2	Trichloroacetic acid	20	20	100.0%		(80 - 120)
MBLK	Trichloroacetic acid	ND	ND			
MS	Trichloroacetic acid	20	20	100.0%		(70 - 130)

End of MW QC report

ND (non-detect): Result is below 1/2 minimum reporting level (MRL).

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Comments

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Study#: 208
Study Title: ICR RSSCT #4

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