ICR Treatment Study
Summary Report

Charleston Commissioners of Public Works

Hanahan Water Treatment Plant

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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 1/26/98 through 10/12/98

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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

Table of Contents

Table of Contents

1 List of Tables

1 List of Tables

2 *List of Figures*

2 List of Figures

3 *List of Abbreviations*

3 List of Abbreviations

°C	degrees Celsius
µg	microgram
µL	microliter
µm	micrometer
A_0	logistic function parameter
A_f	logistic function parameter
B	logistic function parameter
BCAA	bromochloroacetic acid
BDCM	bromodichloromethane
BMRL	below minimum reporting level
BV	bed volume
BV_{50}	bed volumes to 50 percent TOC breakthrough
C	concentration
$\overline{C}$	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 Hanahan Water Treatment Plant, operated by the Charleston Commissioners of Public Works (CPW). 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 manufactured by Calgon Carbon Corporation, F-300, 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 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 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 source water used by the Hanahan Water Treatment Plant during the first two sessions was the Edisto River. During the third and fourth sessions, the Bushy Park Reservoir was the plant source water. The Bushy Park Reservoir water contains lower levels of organic matter, is less colored, and is less variable than the Edisto River water.

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, the placeholder for Stage 2 sum of five haloacetic acid (HAA5) MCL would be met. To meet the placeholder for Stage 2 THM4 MCL, GAC run times ranged from 24 to 53 days for 10 minute EBCT contactors. In practice, multiple contactors are operated in staggered fashion and their effluents are blended prior to chlorination. 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 new contactors. Based on this configuration, GAC run times for compliance with the placeholder for Stage 2 THM4 MCL ranged from 52 to 110 days for 10 minute EBCT contactors. For 20 minute EBCT contactors, run times ranged from 150 to 270 days.

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, the estimate for total costs for GAC treatment averaged 35 and 47 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. For 20 minute EBCT contactors, total costs averaged 41 and 74 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. For the Edisto River water source, GAC treatment costs using concrete gravity contactors averaged 38 and 43 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. For steel pressure contactors, costs averaged 50 and 79 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. GAC treatment costs were slightly lower based on the Bushy Park Reservoir water source: average costs using concrete gravity contactors were 32 and 38 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. For steel pressure contactors, average costs were 45 and 70 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively.

A relative measure of GAC performance is the number of bed volumes to 50 percent total organic carbon (TOC) breakthrough, BV_{50}. This parameter can correlate GAC performance to the influent TOC concentration. Typically, GAC performance improves with decreasing influent TOC concentration, as the loading on the GAC contactor is decreased. The measured BV_{50} values for GAC runs in this study were compared to the BV_{50} of an average water, correlated to the influent TOC concentration, which is available in the literature. For 10 minute EBCT contactors, GAC performance based on BV_{50} values was 28 percent better than expected for an average water. At a 20 minute EBCT, BV_{50} values averaged 57 percent higher. The superior performance as compared to an average water is likely due to the relatively low pH (6.2 to 6.4) in the GAC influent utilized during this study (6.2 to 6.4), which was based on the settled water pH.

After the first two sessions (January and April), the plant stopped using the Edisto River and began using the Bushy Park Reservoir as source water. Therefore, the July and October sessions were run using Bushy Park Reservoir water. Although GAC influent TOC concentrations were lower for the two runs using Bushy Park Reservoir water, the bromide concentration increased by a factor of six, from an average of 20 to 118 µg/L. Higher bromide levels can yield higher concentrations of brominated DBP species, because of the high bromide to TOC ratio. In fact, even with a 19 percent decrease in the TOC concentration, the GAC influent SDS-THM4 measured during the October session was 12 percent higher than that measured during the April session, due to increased concentrations of the brominated species. In addition, 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 bromoform, measured effluent concentrations were higher than influent levels. 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, ultraviolet absorbance at 254 nm (UV_{254}), and simulated distribution system (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, although for parts of

some runs normalized SDS-THM4 breakthrough exceeded that for TOC. TOC did serve as a conservative indicator of normalized SDS haloacetic acid (HAA) and SDS total organic halide (TOX) breakthrough. UV_{254} typically served as either a conservative or direct indicator of SDS-TOX breakthrough.

5 *Background Information*

5 Background Information

5.1 Treatment Plant Description

The Charleston Commissioners of Public Works (CPW) operates the Hanahan Water Treatment Plant, a conventional treatment (alum coagulation and filtration) plant that provides water for a retail population of 331,000 and a wholesale population of 75,000 primarily in the City of Charleston. The plant also serves the communities of North Charleston, City of Hanahan, James Island, St. Andrews, Town of Hollywood, Town of Ravenel, and Town of Meggett. The state approved plant capacity is 118 MGD; average flow during 1998 was 50 MGD, with a range of 33 to 69 MGD. Prior to 1998, the source water was the Edisto River. On May 5, 1998, the plant switched to using the Bushy Park Reservoir as the primary source water.

Figure 1 shows a simple schematic of the Hanahan Water Treatment Plant. Treatment consists of coagulation with aluminum sulfate followed by four-stage tapered flocculation, sedimentation, and GAC filtration at 2 gpm/ft^2. The mixed media filters contain GAC (Filtrasorb 300), sand, and gravel. Originally installed for TOC removal, the GAC in the filter has not been replaced since installation (1991) and no longer provides significant TOC removal. Chlorine and ammonia are added prior to rapid mix. Typical aluminum sulfate dose is 40 to 80 mg/L. Organic polymer is added during flocculation as a flocculant aid. Powdered activated carbon is added at a 1 to 2 mg/L dose prior to GAC. Fluoride, orthophosphate, lime, chlorine, and ammonia are added to the finished water.

5.1.1 Treatment plant design information

Table 1 summarizes the Hanahan 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

On May 5, 1998, the Hanahan Water Treatment Plant replaced the Edisto River with Bushy Park Reservoir as the primary source water for the plant. Both sources contain high levels of organic matter, but Bushy Park Reservoir TOC levels are lower and less variable than the Edisto River. The plant practices predisinfection with chloramines to control biological growth in the sedimentation basins and filters. Although raw water TOC levels are high, the plant typically achieves 60 to 70 percent TOC removal after treatment. Charleston CPW is currently studying replacing the filter media with sand and anthracite for improved particle removal. After filtration, phosphoric acid and lime are added for corrosion control.

5.2 Tabular Summary of Source and Finished Water Quality

Tables 2 and 3 summarize average source and finished water quality at the Hanahan Water Treatment Plant, based on sampling between July 1997 and April 1998, when the Edisto River was the primary source water for the plant. A summary of source and finished water quality for sampling between May and December 1998 is given in Tables 4 and 5. For these data, the Bushy Park Reservoir was the primary plant source water. These data constitute preliminary ICR monitoring results and have not necessarily undergone EPA review.

Both source waters are characterized by high TOC levels, averaging 11.2 and 6.1 mg/L for the Edisto River and Bushy Park Reservoir, respectively. Edisto River TOC concentration varied widely, ranging from 2.9 to 16.0 mg/L. The Bushy Park Reservoir TOC concentration ranged from 5.0 to 8.1 mg/L. Although bromide levels averaged 89 µg/L for the Edisto River, the values varied widely, from 23 to 256 µg/L. For the Bushy Park Reservoir water source, bromide concentration was not as variable, averaging 106 µg/L and ranging between 61 and 140 µg/L. The variability in bromide concentration should impact DBP speciation after chlorination, with higher levels of brominated species formed when bromide levels are higher. Specific UV absorbance (TSUVA, defined as UV_{254}/TOC) averaged 4.9 and 4.5 L/mg-m in the Edisto River and Bushy Park Reservoir water, respectively. These levels were reduced to between 2.0 and 2.1 after treatment. Treating water from the Edisto River, the plant averaged a 70 percent TOC removal, yielding an average treated water TOC concentration of 3.2 mg/L. After switching to the Bushy Park Reservoir as the primary plant source water, the average treated water TOC concentration was 2.1 mg/L, a 60 percent TOC reduction from raw water levels.

For the most part, distribution system (DS) DBPs varied widely. For treated Edisto River water, DS-THM4 levels ranged from 19 to 86 µg/L. DS-THM4 levels averaged 49 µg/L, in compliance with the Stage 1 MCL, but exceeding the placeholder for Stage 2 MCL. DS-HAA5 averaged 43 µg/L, lower than the Stage 1 MCL of 60 µg/L, but exceeding the placeholder for Stage 2 MCL. DS-HAA5 concentrations also showed a wide seasonal variability. DS-THM4 concentrations for treated Bushy Park Reservoir water were less variable, but were formed at higher concentrations than those observed for treated Edisto River water. DS-THM4 averaged 74 µg/L, in compliance with the Stage 1 MCL, but well in excess of the placeholder for Stage 2 MCL. DS-HAA5 showed wide variability, and averaged 35 µg/L, lower than that measured for treated Edisto River water. Again, DS-HAA5 levels were below the Stage 1 MCL, but exceeded the placeholder for Stage 2 MCL. Overall, the change in primary source water from the Edisto River to the Bushy Park Reservoir yielded an increase in DS-THM4 and a decrease in DS-HAA5.

Unit Process	Process Description
Disinfectant Addition	Chemical: Chlorine gas Chemical Code: CL2 Measurement Formula: Cl_2 Dose rate (mg/L): 4.50
Disinfectant Addition	Chemical: Anhydrous ammonia Chemical Code: NH3A Measurement Formula: NH_3 Dose rate (mg/L): 1.50
Rapid Mix	Type of Mixer: Mechanical Baffling Type: Unbaffled (Mixed tank) Liquid Volume (gal): 48,604 Short Circuiting Factor: NA_V Mean Velocity Gradient (sec^{-1}): 972 Coagulant Addition: Aluminum sulfate (alum) Coagulant Dose (mg/L): 50
Flocculation	Type of Mixer: Mechanical Liquid Volume (gal): 2,512,764 Short Circuiting Factor: NA_V Baffling Type: Superior (Serpentine) Stage Sequence Number: 1 Stage Mean Velocity Gradient (sec^{-1}): 33 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 2 Stage Mean Velocity Gradient (sec^{-1}): 22 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 3 Stage Mean Velocity Gradient (sec^{-1}): 14 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 4 Stage Mean Velocity Gradient (sec^{-1}): 1 Stage Liquid Volume (gal): 628,191
Sedimentation	Surface Area (ft^2): 197,401 Liquid Volume (gal): 24,250,703 Baffling Type: Unbaffled Short Circuiting Factor: NA_V
Filtration	Surface Area (ft^2): 13,600 Liquid Volume (gal): 496,336 Total Media Depth (in): 42 Depth of GAC (in): 24 Media Type: GAC/Sand Type of Activated Carbon: F300 Minimum Water Depth to Top of Media (ft): 5.4 Depth from Top of Media to Top of Backwash Trough (ft): 3.5
Disinfectant Addition	Chemical Type: Chlorine gas Measurement Formula: Cl_2 Dose Rate (mg/L): 5.00
Rapid Mix (Post Mix Box)	Type of Mixer: Mechanical Baffling Type: Unbaffled Liquid Volume (gal): 70,858 Short Circuiting Factor: NA_V Mean Velocity Gradient (sec^{-1}): 330
Clearwell	Surface Area (ft^2): 52,988

	Liquid Volume (gal): 7,500,000 Minimum Liquid Volume (gal): 5,357,143 Baffling Type: Superior (Serpentine) Short Circuiting Factor: NA_V Covered Indicator Code: Yes
Disinfectant Addition	Chemical: Anhydrous ammonia Chemical Code: NH3A Measurement Formula: NH_3 Dose rate (mg/L): 1.50

NA_V: Not available

Table 1 Summary of treatment plant design data

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	18	6	12	28	10
pH ()	7.1	0.5	6.8	8.2	10
Alkalinity (mg/L as $CaCO_3$)	18	5	9	24	10
Total hardness (mg/L as $CaCO_3$)	28	4	23	34	10
Calcium hardness (mg/L as $CaCO_3$)	23	4	19	30	10
TOC (mg/L)	11.2	4.0	2.9	16.0	10
UV_{254} (1/cm)	0.523	0.171	0.178	0.723	9
Bromide (µg/L)	89	91	23	256	9
TSUVA (L/mg-m)	4.9	0.6	4.4	6.1	9

Table 2 Summary of source water quality at the Hanahan Water Treatment Plant between July 1997 and April 1998 (Edisto River water source)

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	18	8	1	27	10
pH ()	8.3	0.3	7.8	8.8	10
Turbidity (ntu)	0.20	0.04	0.16	0.27	10
TOC (mg/L)	3.2	0.9	1.3	4.3	10
UV_{254} (1/cm)	0.064	0.018	0.038	0.090	9
TSUVA (L/mg-m)	2.1	0.5	1.2	3.0	9
DS-THM4 (µg/L)	49	28	19	86	12
DS-HAA5 (µg/L)	43	21	25	75	12
DS-HAA6 (µg/L)	50	28	19	86	12

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

Table 3 Summary of finished water quality at the Hanahan Water Treatment Plant between July 1997 and April 1998 (Edisto River water source)

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	26	5	18	31	8
pH ()	6.8	0.3	6.4	7.2	8
Alkalinity (mg/L as $CaCO_3$)	28	4	23	35	8
Total hardness (mg/L as $CaCO_3$)	25	4	20	31	8
Calcium hardness (mg/L as $CaCO_3$)	17	4	11	23	8
TOC (mg/L)	6.1	1.2	5.0	8.1	7
UV_{254} (1/cm)	0.266	0.064	0.204	0.367	8
Bromide (µg/L)	106	31	61	140	8
TSUVA (L/mg-m)	4.5	0.3	4.2	4.8	7

Table 4 Summary of source water quality at the Hanahan Water Treatment Plant between May and December 1998 (Bushy Park Reservoir water source)

Water quality parameter	Mean	Standard deviation	Minimum	Maximum	Count
Temperature (°C)	24	5	16	29	8
pH ()	8.4	0.2	8.1	8.8	8
Turbidity (ntu)	0.21	0.07	0.15	0.32	8
TOC (mg/L)	2.5	0.2	2.2	2.8	7
UV_{254} (1/cm)	0.049	0.007	0.042	0.059	8
TSUVA (L/mg-m)	2.0	0.4	1.5	2.7	7
DS-THM4 (µg/L)	74	7	60	90	12
DS-HAA5 (µg/L)	35	21	7	65	12
DS-HAA6 (µg/L)	43	22	13	72	12

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

Table 5 Summary of finished water quality at the Hanahan Water Treatment Plant between May and December 1998 (Bushy Park Reservoir water source)

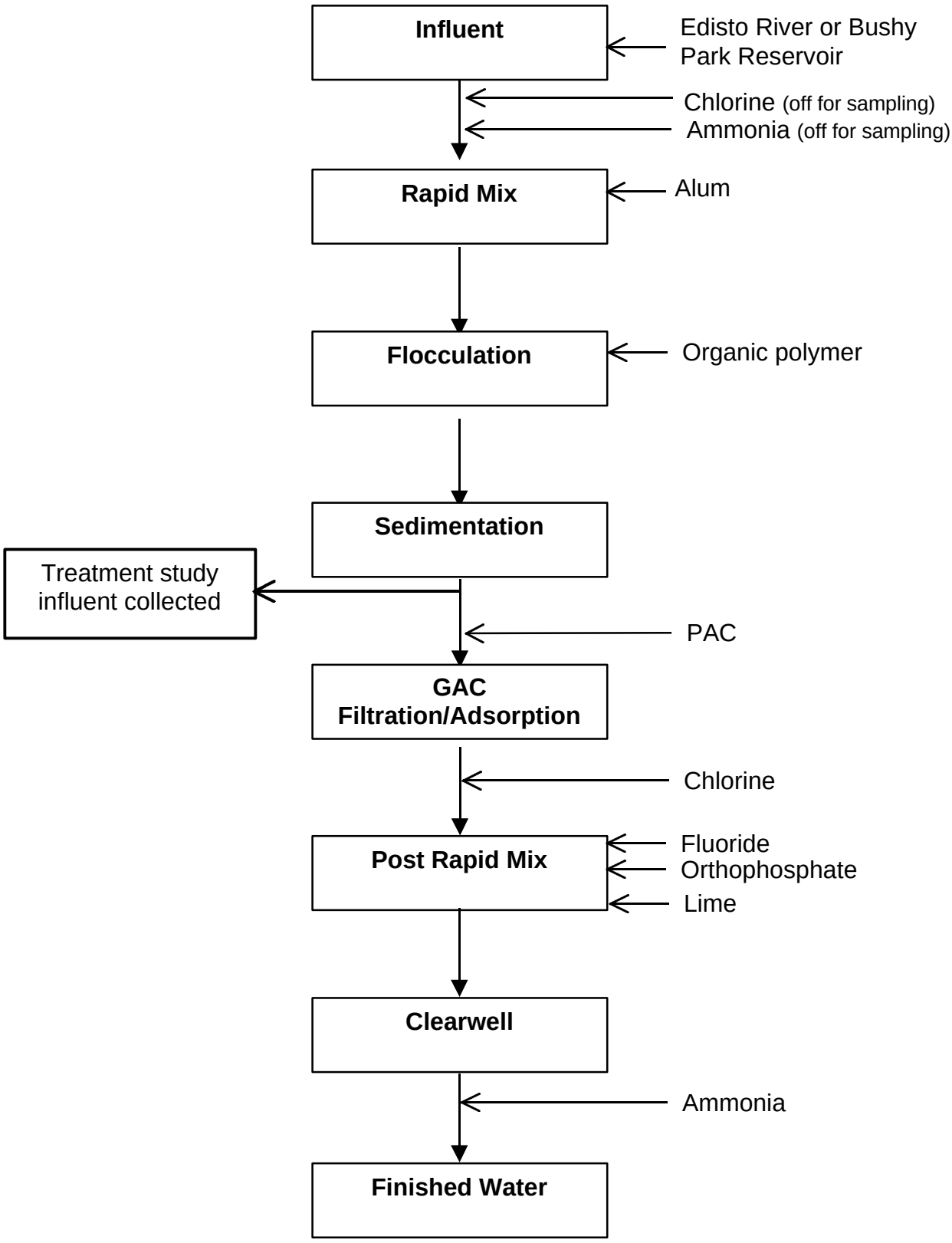


Figure 1 Treatment plant schematic

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 6. The four samples represent the winter, spring, summer, and fall seasons. During all sessions, water was sampled after sedimentation.

Under normal plant operation, chlorine and ammonia are added prior to rapid mix. One day prior to sampling, these feeds were turned off. The settled water was sampled to ensure that total chlorine concentration was below detectable levels. During the spring and summer sessions, approximately 0.1 mg/L total chlorine residual was detected in the combined settled water effluent. All feed locations for chlorine and ammonia were thoroughly checked by plant operations staff. A line leaking plant finished water was suspected. Since the total chlorine residual was very close to nondetectable levels, sampling continued, and the treatment study influent water was analyzed for THMs and HAAs as a precaution. All THM and HAA species analyzed were below minimum reporting level (BMRL). This includes samples taken from the treatment study influent water during the spring, summer, and fall sessions.

The water samples were taken in 55-gallon drums. The 55-gallon drums were of plastic construction and were extensively cleaned at S&H's laboratory facility prior to use. The cleaning process included 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).

During the day of each sampling event, the plant settled water (treatment study influent sampling point) was sampled and analyzed on-site for TOC, UV_{254}, pH, alkalinity, turbidity, and total hardness. The data was compared to historic data to verify the representativeness of plant operation during treatment study influent sampling. Table 7 summarizes the data obtained during each session. Once the representativeness of the water sample was verified by comparison to historic data, sampling into the 55-gallon drums proceeded. Plant operation and treatment parameters (e.g., chemical doses) were confirmed as within acceptable normal variation prior to drum sampling.

For all sessions, the water sampled for the treatment study was shipped the day of sampling and arrived at S&H after two days. The sample was shipped at ambient temperature. Upon arrival, the drums were stored 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 8. The two measured values did not differ by more than 0.1 mg/L.

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 8, there was little to no change in the 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 9 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. However, no backwashing was necessary during this treatment study. Typically, 90 percent of the GAC bed was packed in the second column. Both columns were of equal inner diameters.

The GAC was packed in chromatography columns with Teflon fittings. The GAC support consisted of appropriately sized stainless steel screens, glass wool, and Teflon beads. The support system differed depending on the column inner diameter. Standard 8.0 and 11.0 mm inner diameter columns required a stainless steel support system as shown in Figure 5 (a). When 10 mm inner diameter columns were used, the support system shown in Figure 5 (b) 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 10. 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 8.0 and 11.0 mm were used. Reynolds numbers used ranged from 0.50 to 0.75.

6.3.3 Procedures specific to the treatment study

6.3.3.1 GAC Preparation Procedures

A representative batch of Filtrasorb 300 (F-300), a bituminous-coal based GAC, was obtained from the manufacturer, Calgon Carbon Corporation. The GAC is a 8x30 mesh size (average particle diameter, d_p = 1.48 mm). Using a riffle splitter, a small (30-50 g) representative sample of the GAC was obtained. Using a jar mill, the GAC was ground to a 100x200 mesh size, which yielded GAC with average particle diameter, d_p, of 0.113 mm. Care was taken to frequently remove and sieve the GAC in the jar mill. The GAC was ground until the entire sample passed through the 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 12-24 hours, followed by placement in a vacuum for at least 1 hour to displace the air within the pores.

6.3.3.2 RSSCT Column Setup

The GAC support for 10.0 mm inner diameter columns consisted of a stainless steel screen (60 or 100 mesh size), Teflon beads, glass wool, a 200 mesh size stainless steel screen, and a 100 mesh size stainless steel screen. The column support is detailed in Figure 5. The support for 8.0 and 11.0 mm inner diameter columns consisted of a 200 mesh size stainless steel screen and a 100 mesh size stainless steel screen placed on top of the Teflon fitting. For all column inner diameter sizes, 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.

6.4 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 11.

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. 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 12 summarizes the run termination criteria used, percent breakthrough reached at the twelfth sample, and the corresponding full-scale equivalent run time.

For the 10 minute EBCT contactor operated during the January session, the run was terminated when the effluent TOC concentration reached 70 percent of the running average influent TOC concentration. Two more influent TOC samples taken as the 20 minute EBCT contactor run continued, yielded an average 5 percent increase in TOC concentration over the running average influent TOC concentration. Therefore, based on all influent samples, the calculated percent TOC breakthrough shown in Table 12 is 69 percent at the end of the run, although the percent TOC breakthrough at the termination of the 10 minute EBCT run based on the running average influent TOC concentration was 70 percent.

A tabular summary of the all data analyzed during the treatment study is given in Appendix A. As required by EPA, the data was input into the *ICR Treatment Studies Data Collection Spreadsheets*. These files are included in electronic form at the end of this report.

6.6 Simulated Distribution System (SDS) Chlorination Conditions

The target simulated distribution system (SDS) conditions are summarized in Table 13. During all sessions, a 28-hour holding time was targeted. The samples were buffered at pH 8.5 using a borate/phosphate buffer combination, based on the pH maintained in the distribution system. The incubation temperature varied seasonally, from 10 to 30°C, based on average distribution system temperatures.

Chlorine dose was based on a target free chlorine residual of 2.8 to 3.0 after 2 hours, representing the end of the clearwell. Chlorine demand testing was performed on the treatment study influent water during the first session (January) to determine what the 28-hour free chlorine residual would be based on the 2-hour free chlorine residual target. The results showed that a 2-hour residual of 2.5 mg/L yielded a 28-hour residual of 1.6 mg/L. A target 28-hour residual of 1.5 mg/L was chosen for all sessions. Since chlorine demand testing was performed at 10°C, chlorination for a target 28-hour chlorine residual of 1.5 mg/L at higher temperatures would probably yield 2-hour chlorine residuals higher than 2.5 mg/L. A check of the 2-hour chlorine residual was made during the July and October sessions. For the treatment study influent water during the July session (30°C incubation temperature), a dose that yielded a 28-hour residual within 0.1 mg/L of the target 1.5 mg/L resulted in a 2-hour chlorine residual of 3.0 mg/L. During the October session (20°C incubation temperature) the 2-hour chlorine residual was 2.7 mg/L. A 2-hour chlorine residual was not measured during the April session (20°C incubation temperature).

For GAC influent water, during all four sessions, the average and standard deviation obtained for each parameter are summarized in Table 14. The same data are summarized in Table 15 for the effluent samples from the 10 minute EBCT columns, and in Table 16 for the effluent samples taken from the 20 minute EBCT columns.

6.7 Analytical Methods

A list of all analytical methods used during the study is shown in Table 17. A summary listing the laboratories involved for analytical support and the period over which analyses were conducted by each laboratory is shown in Table 18. Contact information for the laboratories involved is summarized in Table 19. To ensure that treatment study influent samples taken were representative, the Charleston CPW laboratory conducted analyses on plant settled water the morning of each of the four sampling events. Table 20 summarizes the methods used and lab MRLs.

Session	Sampling Date
1	January 26, 1998
2	April 28, 1998
3	July 20, 1998
4	October 12, 1998

Table 6 Sampling dates for quarterly GAC bench-scale treatment study sessions

Session	TOC (mg/L)	UV_{254} (1/cm)	Turbidity (ntu)	pH	Alkalinity (mg/L as $CaCO_3$)	Total hardness (mg/L as $CaCO_3$)
January	3.8	0.060	0.54	6.4	7	40
April	3.3	0.076	0.38	6.4	7	43
July	2.0	0.042	0.16	6.3	9	27
October	2.7	0.054	0.59	6.2	9	25

Table 7 Summary of sample representativeness data

Session	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
January	3.4	3.3	-2.9	3.2	3.2
April	3.4	3.5	+2.9	3.2	3.3
July	2.0*	NA		NA	2.1**
October	2.9	2.8	-3.4	2.6	2.6

NA: Not analyzed
*Value based on sample analyzed on-site by Charleston CPW
**Value based on first sample analyzed from RSSCT influent

Table 8 Summary of TOC sampling before and after water shipment

Unit Process	Process Description
Rapid Mix (Full-Scale)	Type of Mixer: Mechanical Baffling Type: Unbaffled (Mixed tank) Liquid Volume (gal): 48,604 Short Circuiting Factor: NA_V Mean Velocity Gradient (sec^{-1}): 972 Coagulant Addition: Aluminum sulfate (alum) Coagulant Dose (mg/L): 50
Flocculation (Full-Scale)	Type of Mixer: Mechanical Liquid Volume (gal): 2,512,764 Short Circuiting Factor: NA_V Baffling Type: Superior (Serpentine) Stage Sequence Number: 1 Stage Mean Velocity Gradient (sec^{-1}): 33 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 2 Stage Mean Velocity Gradient (sec^{-1}): 22 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 3 Stage Mean Velocity Gradient (sec^{-1}): 14 Stage Liquid Volume (gal): 628,191 Stage Sequence Number: 4 Stage Mean Velocity Gradient (sec^{-1}): 1 Stage Liquid Volume (gal): 628,191
Sedimentation (Full-Scale)	Surface Area (ft^2): 197,401 Liquid Volume (gal): 24,250,703 Baffling Type: Unbaffled Short Circuiting Factor: NA_V
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 9 Summary of design data for each pretreatment process prior to GAC

Design parameter	Design value during session			
	1 January	2 April	3 July	4 October
GAC manufacturer	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.	Calgon Carbon Co.
GAC brand name	F-300	F-300	F-300	F-300
GAC type	Bituminous	Bituminous	Bituminous	Bituminous
GAC mesh size	8x30	8x30	8x30	8x30
Particle diameter, d_{LC} (mm)	1.480	1.480	1.480	1.480
General design parameters				
Minimum Reynold's number, $Re_{SC, min}$ ()	0.50	0.50	0.75	0.50
Full-scale operating temperature (°C)	10	20	30	20
Kinematic viscosity, ν_{LC} (m^2/s)	1.31E-06	1.00E-06	8.01E-07	1.00E-06
Bed porosity, ε_{LC} ()	0.45	0.45	0.45	0.45
Measured dry bed density, ρ_{SC} (g/cm^3)	0.481	0.462	0.454	0.467
RSSCT design parameters				
RSSCT mesh size	100x200	100x200	100x200	100x200
Particle diameter, d_{SC} (mm)	0.113	0.113	0.113	0.113
Scaling factor, SF	13.16	13.16	13.16	13.16
Hydraulic loading rate, v_{SC} (m/hr)	9.41	7.23	8.65	7.23
Column diameter, D_{SC} (mm)	10.0	11.0	8.0	10.0
Flow rate, Q_{SC} (mL/min)	12.3	11.4	7.2	9.5
Estimated run length				
RSSCT Influent TOC concentration (mg/L)	3.5	3.3	2.0	2.6
Bed volumes to 50% TOC breakthrough, BV_{50}	4258	4688	8813	6266
Estimated total run time, BV_T	14902	16409	30845	21931
RSSCT 1				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	10.4	10	10	10
Estimated full-scale run time, t_{LC}^T (days)	108	114	214	152
Estimated RSSCT run time, t_{SC}^T (days)	8.2	8.7	16.3	11.6
Volume water required, V_{SC} (L)	145	143	170	158
Mass GAC required, m_{SC} (g)	4.69	4.02	2.50	3.36
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	0.79	0.76	0.76	0.76
Bed length, l_{SC} (cm)	12.4	9.2	11.0	9.2
RSSCT 2				
Full-scale empty-bed contact time, $EBCT_{LC}$ (min)	20.8	20	20	20
Estimated full-scale run time, t_{LC}^T (days)	215	228	428	305
Estimated RSSCT run time, t_{SC}^T (days)	16.4	17.3	32.6	23.2
Volume water required, V_{SC} (L)	290	286	340	315
Mass GAC required, m_{SC} (g)	9.37	8.04	5.00	6.72
RSSCT empty-bed contact time, $EBCT_{SC}$ (min)	1.58	1.52	1.52	1.52
Bed length, l_{SC} (cm)	24.8	18.3	21.9	18.3

Table 10 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 11 Experimental design summary

Session	10 minute EBCT			20 minute EBCT		
	Run termination criteria	Run time (days)	Percent TOC breakthrough	Run termination criteria	Run time (days)	Percent TOC breakthrough
January	1	86	69	1	190	71
April	1	81	75	1	188	71
July	1	130	72	1	278	75
October	1	124	71	1	262	75

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

Parameter	Session 1 January		Session 2 April		Session 3 July		Session 4 October	
	Value	Tolerance	Value	Tolerance	Value	Tolerance	Value	Tolerance
Incubation time (hours)	28.0	1.0	28.0	1.0	28.0	1.0	28.0	1.0
Incubation temperature (°C)	10.0	2.0	20.0	2.0	30.0	2.0	20.0	2.0
pH	8.50	0.20	8.50	0.20	8.50	0.20	8.50	0.20
Free chlorine residual (mg/L)	1.50	0.25	1.50	0.25	1.50	0.25	1.50	0.25

Table 13 Simulated distribution system (SDS) chlorination target conditions

Parameter	Session 1 January		Session 2 April		Session 3 July		Session 4 October	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	28.1	0.2	27.9	0.1	27.8	0.5	28.1	0.2
Incubation temperature (°C)	9.9	0.1	18.7	0.7	29.6	0.7	19.9	0.1
pH	8.41	0.06	8.45	0.05	8.48	0.04	8.41	0.05
Free chlorine residual (mg/L)	1.53	0.04	1.46	0.06	1.59	0.10	1.46	0.19

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

Table 14 Summary of experimental SDS chlorination conditions for GAC influent water

Parameter	Session 1 January		Session 2 April		Session 3 July		Session 4 October	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	28.1	0.2	27.9	0.1	28.1	0.3	27.6	1.3
Incubation temperature (°C)	10.1	0.1	18.1	0.1	28.5	0.7	19.8	0.1
pH	8.43	0.03	8.39	0.04	8.47	0.04	8.50	0.03
Free chlorine residual (mg/L)	1.52	0.12	1.37	0.06	1.84	0.35	1.45	0.09

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

Table 15 Summary of experimental SDS chlorination conditions for 10 minute EBCT contactor

Parameter	Session 1 January		Session 2 April		Session 3 July		Session 4 October	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Incubation time (hours)	28.1	0.1	28.0	0.1	28.0	0.2	28.1	0.2
Incubation temperature (°C)	9.9	0.1	18.6	0.4	30.0	0.4	19.8	0.1
pH	8.46	0.03	8.46	0.03	8.48	0.03	8.52	0.03
Free chlorine residual (mg/L)	1.52	0.09	1.48	0.06	1.59	0.07	1.53	0.05

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

Table 16 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 (DCAA, TCAA, MBAA, DBAA, BCAA, BDCAA)	All	EPA 552.2	1.0 µg/L (each analyte)
HAA (MCAA, CDBAA)	All	EPA 552.2	2.0 µg/L (each analyte)
HAA (TBAA)	All	EPA 552.2	4.0 µg/L
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 17 Summary of analytical methods and MRLs

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

Table 18 Summary of laboratories conducting analyses

	Summers & Hooper, Inc.	Montgomery Watson Laboratories	Charleston CPW
ICR lab ID number	ICROH033	ICRCA013	ICRSC004
Contact name:	Stuart Hooper	Andrew Eaton	Dixie Fanning
Contact phone number	(513) 679-2200	(626) 568-6400	(843) 863-4030
Contact fax number	(513) 679-2201	(626) 568-6324	(843) 863-4033

Table 19 Laboratory contact information

Analyte	Session	Method	Minimum reporting level (MRL)
Alkalinity	All	SM 2320 B	1.0 mg/L as $CaCO_3$
pH	All	4500-H^+ B	NA
Total hardness	All	SM 2340 C	1.0 mg/L as $CaCO_3$
Total organic carbon (TOC)	All	SM 5310 C	1.0 mg/L
Turbidity	All	SM 2130 B	0.01 ntu
UV absorbance at 254 nm (UV_{254})	All	SM 5910 B	0.005 cm^{-1}

SM: *Standard Methods*
NA: Not applicable

Table 20 Summary of analytical methods and MRLs for treatment study influent water representativeness sampling conducted by Charleston CPW

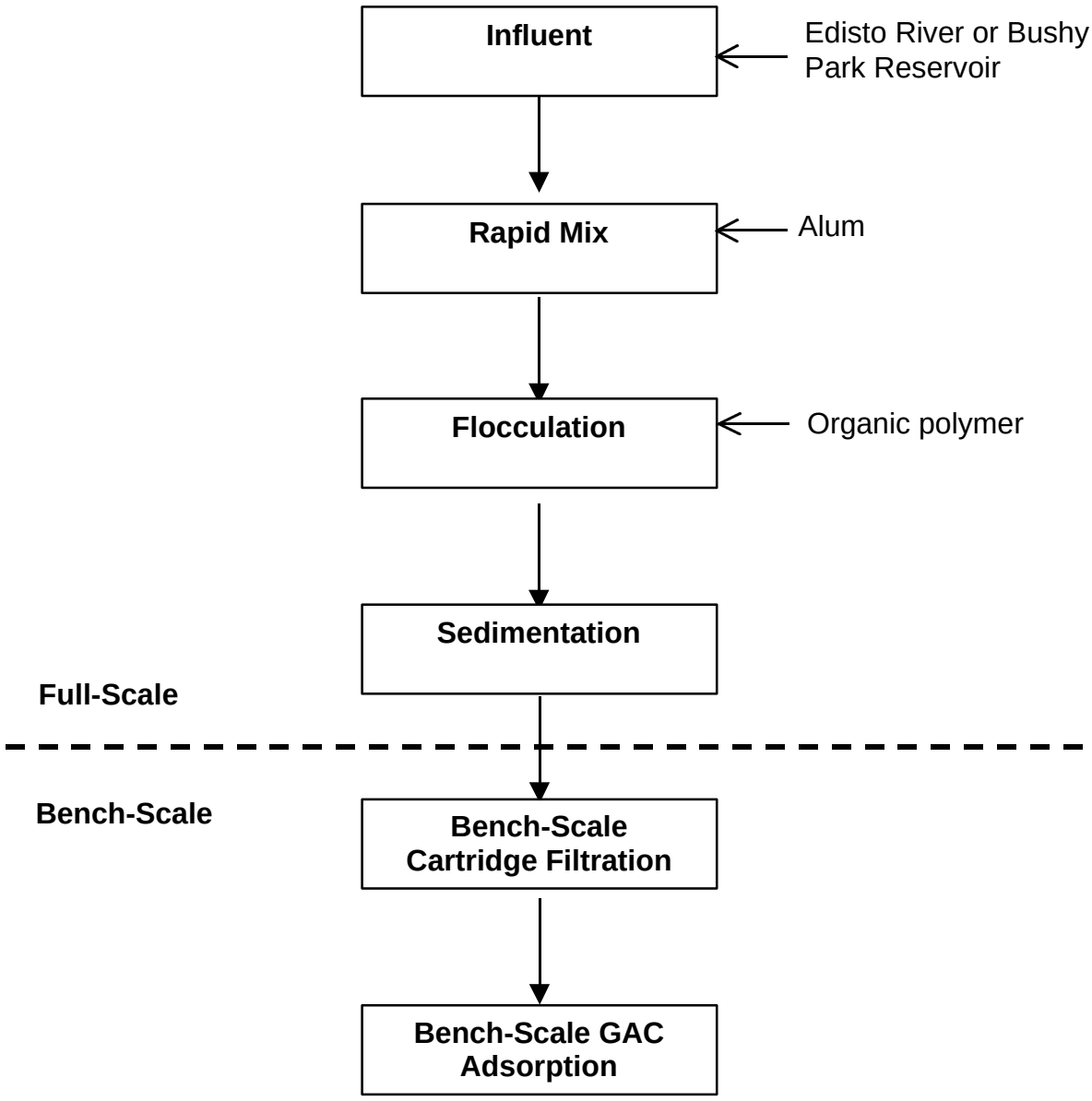


Figure 2 Schematic of pretreatment processes prior to bench-scale GAC

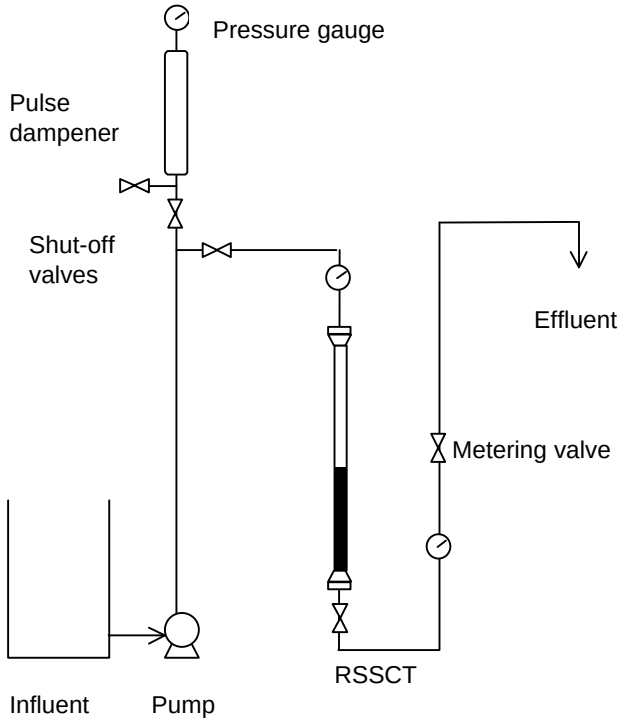


Figure 3 RSSCT system schematic for 10 minute EBCT full-scale equivalent contactors

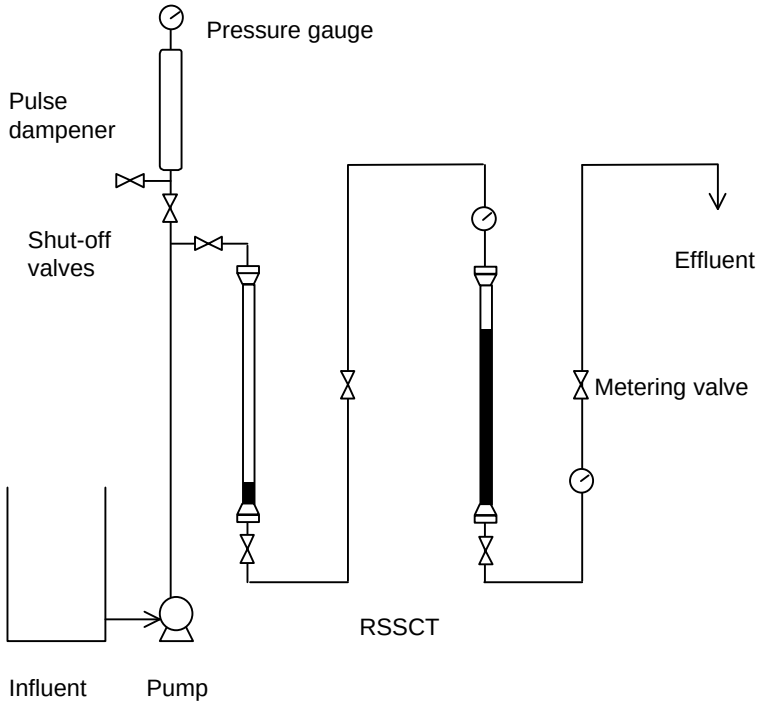
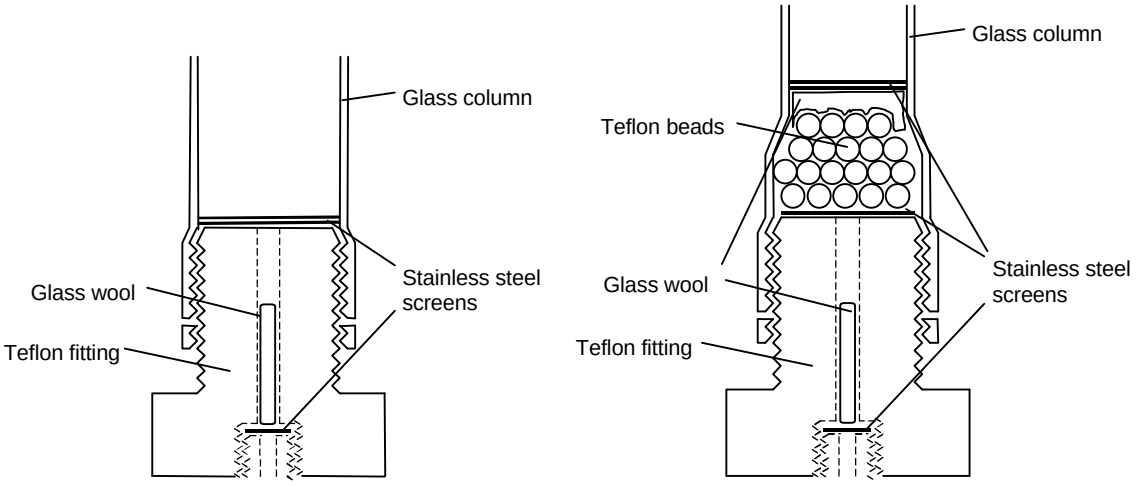


Figure 4 RSSCT system schematic for 20 minute EBCT full-scale equivalent contactor



(a) Standard 8.0 or 11mm inner diameter column (b) 10 mm inner diameter column

Figure 5 RSSCT column GAC support system

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

Due to a calculation error, the actual full-scale equivalent EBCTs simulated by the RSSCTs operated during the January session were 10.4 and 20.8 minutes, 4 percent longer than the design EBCT. Because the actual EBCT simulated is within 5 percent of the design, the results obtained during the January run are summarized and referred to throughout this report as contactors with full-scale equivalent EBCTs of 10 and 20 minutes.

Under normal plant operation, chlorine and ammonia are added prior to rapid mix. For all sessions, on the day prior to sampling, these feeds were turned off. The settled water was sampled to ensure that total chlorine concentration was below detectable levels. During the spring and summer sampling sessions, approximately 0.1 mg/L total chlorine residual was detected in the combined settled water effluent. All feed locations for chlorine and ammonia were thoroughly checked by plant operations staff. A line leaking plant finished water was suspected. Since the total chlorine residual was very close to nondetectable levels, sampling continued, and the treatment study influent water was analyzed for instantaneous THMs and HAAs (without further chlorination). The analysis results showed that all THM and HAA species were BMRL. The BMRL results include samples taken from the treatment study influent water during the spring, summer, and fall sessions.

7.3 Pretreated Influent Water Quality Data

The average pretreated influent to GAC water quality for each quarterly sample is summarized in Table 21. The water was pretreated by full-scale alum coagulation, flocculation, sedimentation, and bench-scale cartridge filtration. For the first two sessions (January and April) the plant source water was the Edisto River, a source characterized by high TOC and color levels. On May 5, 1998 the plant switched to a new water source, the Bushy Park Reservoir. This source is

less variable in water quality, and contains lower TOC and color levels than the Edisto River. The treated water quality during the first two sessions can be compared to that for the second two sessions to evaluate the impact of the change in source water on GAC influent water quality. However, a seasonal impact on water quality is present and is cannot be separated from the change in source water. The Bushy Park Reservoir yielded lower calcium and total hardness levels, which decreased by 49 and 32 percent, respectively. TOC concentrations decreased by an average of 27 percent. This was matched by a 24 percent decrease in UV_{254}. Bromide concentration increased from an average of 20 µg/L during the first two sessions, to an average 118 µg/L during the second two sessions. The six-fold increase in bromide concentration in the Bushy Park Reservoir water is expected to lead to shifts in DBP speciation to more brominated species as compared to DBP formation with the Edisto River water. However, the increase in bromide concentration may not have been solely due to the change in source water. The summary of source water quality for the Edisto River water in Table 2 shows that bromide concentration ranged from 23 to 256 µg/L and averaged 89 µg/L.

To compare SDS-DBP formation between the two water sources, constant incubation temperatures are needed. Since the April and October sessions both utilized an incubation temperature of 20°C, GAC influent SDS-DBP formation during these two sessions is comparable to evaluate the impact of source water. For these two sessions, TOC concentration and UV_{254} decreased by 17 and 18 percent, respectively. The bromide concentration, however, increased by 400 percent, from 28 to 140 µg/L. Although SDS-HAA6 and SDS-TOX levels decreased with the new water source, by 29 and 27 percent, respectively, SDS-THM4 levels increased by 12 percent. The increase in SDS-THM4 levels is associated with the increase in bromide concentration associated with the Bushy Park Reservoir water source. Table 22 summarizes the THM species formed during the two sessions. Although chloroform levels dropped by 41 percent, bromodichloromethane and dibromochloromethane showed significant increases, and accounted for the increase in GAC influent SDS-THM4 after the plant switched to the Bushy Park Reservoir water source. Again, the increase in bromide concentration may not have been solely due to the change in source water, but may also have been a seasonal effect.

Water Quality Parameter	Session 1 January		Session 2 April		Session 3 July		Session 4 October	
	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation	Mean	Standard deviation
Temperature (°C)	18.3	1.4	17.8	1.7	19.1	1.0	17.3	1.6
pH	6.41	0.03	6.43	0.03	6.25	0.09	6.41	0.18
Turbidity (ntu)	0.10	0.00	0.13	0.06	0.23	0.08	0.20	0.05
Alkalinity (mg/L as $CaCO_3$)	7	0	11	0	7	2	8	5
Calcium hardness (mg/L as $CaCO_3$)	42	0	40	0	22	1	20	0
Total hardness (mg/L as $CaCO_3$)	45	1	45	0	32	1	29	0
Ammonia (mg/L)	BMRL	NA	BMRL	NA	BMRL	NA	BMRL	NA
Bromide (mg/L)	0.012	0.017	0.028	0.003	0.096	0.001	0.140	0.000
TOC (mg/L)	3.33	0.10	3.18	0.08	2.13	0.06	2.64	0.19
UV_{254} (1/cm)	0.067	0.000	0.073	0.002	0.046	0.002	0.060	0.000
Specific UV absorbance, TSUVA (L/mg-m)	2.0	--	2.3	--	2.2	--	2.3	--
SDS-THM4 (µg/L)	75	2	114	1	140	7	128	10
SDS-HAA5 (µg/L)	57	4	64	12	35	6	37	7
SDS-HAA6 (µg/L)	60	4	69	13	44	8	49	9
SDS-HAA9 (µg/L)	64	4	73	14	53	9	61	12
SDS-TOX (µg Cl^-/L)	317	3	417	4	284	13	305	5
SDS-chlorine demand (mg/L)	2.4	0.0	3.3	0.0	3.1	0.1	2.8	0.1

NA: not applicable

Table 21 Summary of GAC influent water quality

Session	Source water	THM4 (µg/L)	THM concentration (µg/L)			
			Choroform	Bromodi-chloromethane	Dibromo-chloromethane	Bromoform
April	Edisto River	114	94	2	18	BMRL
October	Bushy Park Reservoir	127	55	27	42	3.3

Table 22 Summary of GAC influent SDS-THM formation during two sessions with comparable SDS chlorination conditions

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 6 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. Although similar in influent TOC concentration and influent pH, the January and April sessions yielded a large difference in TOC breakthrough performance. Initial breakthrough (point at which effluent concentrations begin to increase significantly above the nonadsorbable fraction) occurred after about 10 days during the April session, while for the January run, initial breakthrough occurred after 23 days of full-scale equivalent operation. The best performance occurred during the July session, which had the lowest influent TOC concentration (2.1 mg/L) and pH (6.2). For the Edisto River water source (January and April), run times to an effluent TOC concentration of 1.0 mg/L ranged from 27 to 39 days for the 10 minute EBCT contactors. For the Bushy Park Reservoir water source (July and October), run times ranged from 51 to 70 days. Run times to 70 percent TOC breakthrough ranged from 61 to 91 days for the Edisto River source and 104 to 122 days for the Bushy Park Reservoir source. The earlier breakthrough patterns observed for the Edisto River sessions was expected due to the higher TOC concentrations in the GAC influent. In general, GAC performance improves with decreasing influent TOC concentration. The patterns displayed by TOC breakthrough were repeated for effluent UV_{254} breakthrough profiles, 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 July session, followed by the October session. However, the April session, when TOC breakthrough occurred earliest, also yielded the earliest breakthrough of SDS-THM4. At higher run times, above 70 days, SDS-THM4 breakthrough for the three runs was similar. The January run, which utilized the lowest SDS incubation temperature (10°C), exhibited the lowest GAC effluent concentrations. Figures 9 through 11 show the breakthrough curves for 10 minute EBCT contactors for SDS-HAA5, SDS-HAA6, and SDS-HAA9. Effluent breakthrough for the Edisto River water source was characterized by earlier breakthrough than the runs using the Bushy Park Reservoir water source. Influent concentrations, especially for SDS-HAA5, were lower for the Bushy Park Reservoir water source runs (July and October). Effluent SDS-TOX breakthrough patterns (Figure 12) followed the relative order seen for TOC breakthrough. The April 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 0.3 to 0.6 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 April session, when influent SDS-CLD was highest, and the SDS incubation temperature used was also highest.

The RSSCT effluent TOC breakthrough profiles for the 20-minute EBCT contactors are shown in Figure 14. For the Edisto River water source, run times to an effluent TOC concentration of

1.0 mg/L ranged from 81 to 94 days, while for the Bushy Park Reservoir water source, run times ranged from 125 to 182 days. Run times to 70 percent TOC breakthrough ranged from 182 to 188 days for the Edisto River water source, and from 229 to 251 days for the Bushy Park Reservoir water source. These run times are longer than those observed for the 10 minute EBCT contactor results due to the longer EBCT. The relative order of breakthrough was the same as that observed for the 10 minute EBCT contactors. 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 THMs and HAAs described for the 10 minute EBCT contactor were also evident in the 20-minute EBCT contactor breakthrough profiles. Figure 21 shows the measured GAC effluent SDS chlorine demand.

In summary, improved GAC performance and longer run times were observed for the July and October runs, which utilized the Bushy Park Reservoir source water. Trends observed for TOC and UV_{254} where reflected by SDS-HAA and SDS-TOX breakthrough. SDS-THM4 breakthrough did not match TOC and UV_{254} breakthrough as closely. Settled water pH, which was maintained in the GAC influent, remained fairly constant through all four sessions, and probably 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 23 and 24, were fairly consistent with a RSD not exceeding 12 percent.

Table 25 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 26. 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 1.0 mg/L for 10 minute EBCT contactors ranged from 27 to 70 days, with a RSD of 45 percent. Run times to meet the placeholder for Stage 2 THM4 MCL, ranged from 24 to 53 days, with a RSD of 31 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 27 through 34. For example, Table 27 shows that when the placeholder for Stage 2 MCL for THM4 (with a 20 percent safety factor) was exceeded, the TOC concentration was 1.6 mg/L, the SDS-HAA5 concentration was 20 µg/L, and the SDS-TOX concentration was 118 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 formed chloroform ($CHCl_3$), bromodichloromethane (BDCM), dibromochloromethane (DBCM), and bromoform ($CHBr_3$), respectively. For the January and April runs, using Edisto River water, the formation of $CHCl_3$ dominated SDS-THM4. Moderate levels of SDS-DBCM were formed, low levels of SDS-BDCM were formed, and SDS-$CHBr_3$ rarely exceeded the MRL. During the July and October sessions, based on the Bushy Park Reservoir water source, bromide was measured at higher levels, and this impacted THM4 speciation. While formed $CHCl_3$ concentrations were still significant, much higher levels of SDS-BDCM, SDS-DBCM, and SDS-$CHBr_3$ were measured in the GAC effluent. The effluent concentrations were reflected by an increase in influent concentrations. Due to high bromide to TOC ratios, effluent SDS-$CHBr_3$ exhibited a peak concentrations, after which levels decreased. Furthermore, effluent SDS-BDCM and SDS-$CHBr_3$ effluent levels exceeded the measured influent concentration, due to the higher bromide to TOC ratio in the GAC effluent. 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 except for MCAA, MBAA, TBAA were formed at significant concentrations in the GAC effluent. Effluent formed levels of DCAA and TCAA usually reached about 50 to 60 percent of formed influent levels, except for the January run, where effluent concentrations reached higher 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 100 to 125 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 a 10 to 20 percent of SDS-HAA9.

Effluent sample number	Effluent pH				Effluent temperature			
	January	April	July	October	January	April	July	October
1	8.3	7.3	7.5	7.4	22	21	23	22
2	7.4	7.8	7.1	7.2	22	21	23	22
3	7.4	7.3	7.0	7.0	22	21	23	21
4	7.4	7.3	7.0	7.1	22	22	22	21
5	7.3	7.3	7.0	7.1	22	21	22	21
6	7.4	7.3	7.0	7.1	22	21	23	20
7	7.4	7.3	7.0	7.1	21	21	23	21
8	7.4	7.2	7.0	7.0	21	21	23	21
9	7.4	7.3	7.1	6.7	22	21	23	19
10	7.3	7.3	7.0	6.8	21	21	23	20
11	7.5	7.3	7.0	6.7	21	21	23	20
12	7.6	7.0	6.8	6.6	21	23	23	20
13	8.1	7.0	6.8	6.7	20	23	24	20
Mean	7.5	7.3	7.0	7.0	21	21	23	21
Standard deviation	±0.3	±0.2	±0.2	±0.2	±0.6	±0.9	±0.3	±0.8
Relative percent error	4	3	2	3	3	4	1	4

Table 23 GAC effluent pH and temperature data for 10 minute EBCT contactors

Effluent sample number	Effluent pH				Effluent temperature			
	January	April	July	October	January	April	July	October
1	8.6	8.1	8.0	8.3	22	20	22	22
2	6.7	7.7	7.1	6.8	20	21	22	19
3	6.5	7.9	7.1	6.9	22	20	23	21
4	6.8	8.5	7.3	6.9	21	21	23	19
5	6.8	9.3	6.9	6.8	21	21	22	19
6	7.4	8.3	7.1	6.8	22	22	22	20
7	7.4	7.5	7.0	6.7	22	21	24	20
8	7.7	7.9	6.8	6.8	23	22	23	22
9	8.0	7.1	6.9	6.8	22	21	22	22
10	8.9	7.1	6.8	6.7	23	23	22	22
11	9.2	7.0	7.0	6.9	22	22	22	22
12	8.7	7.1	6.9	6.7	22	21	23	21
13	8.0	7.1		6.8	23	21		22
Mean	7.7	7.7	7.1	6.9	22	21	23	21
Standard deviation	±0.9	±0.7	±0.3	±0.4	±0.7	±0.7	±0.6	±1.2
Relative percent error	12	9	5	6	3	3	3	6

Table 24 GAC effluent pH and temperature data for 20 minute EBCT contactors

Parameter	Units	Value	Run time (days)				Mean	Standard deviation	Relative standard deviation (%)
			Session						
			1 January	2 April	3 July	4 October			
TOC	(mg/L)	2.0	72	55	*	129	85	±39	45%
		1.0	39	27	70	51	47	±18	39%
		$c/c_0 = 50\%$†	56	41	74	67	60	±15	24%
UV-254	(1/cm)	0.040	81	61	*	*	71	±14	20%
		0.020	44	30	92	64	57	±27	47%
		$c/c_0 = 50\%$†	66	53	115	93	82	±28	34%
SDS-THM4	(µg/L)	80	*	*	88	76	82	±8	10%
		64	*	55	68	55	60	±8	13%
		32	53	24	49	39	41	±13	31%
SDS-HAA5	(µg/L)	48	*	77	*	*	77		
		24	57	34	*	*	46	±16	35%
SDS-HAA6	(µg/L)	48	*	69	*	*	69		
		24	53	31	106	104	74	±38	51%
SDS-HAA9	(µg/L)	48	*	61	*	*	61		
		24	50	29	67	90	59	±26	43%
SDS-TOX	(µg Cl^-/L)	120	53	31	77	69	58	±21	36%
		70	39	21	54	47	40	±14	35%
Study length#	(days)	--	86	81	130	124	105	±25	24%

†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.

#Study length value is based on last SDS-DBP sample taken, and does not necessarily include additional TOC sampling.

Table 25 Run times to selected GAC effluent criteria (10 minute EBCT)

Parameter	Units	Value	Run time (days)				Mean	Standard deviation	Relative standard deviation (%)
			Session						
			1 January	2 April	3 July	4 October			
TOC	(mg/L)	2.0	157	151	*	268	192	±66	34%
		1.0	94	81	182	125	121	±45	37%
		$c/c_0 = 50\%^{\dagger}$	126	106	196	151	145	±39	27%
UV-254	(1/cm)	0.040	189	160	*	*	174	±20	12%
		0.020	111	91	237	159	150	±65	43%
		$c/c_0 = 50\%^{\dagger}$	155	145	250	223	193	±51	26%
SDS-THM4	(µg/L)	80	*	165	208	201	191	±23	12%
		64	*	130	172	167	156	±23	15%
		32	125	81	137	107	112	±24	22%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	138	105	*	*	122	±23	19%
SDS-HAA6	(µg/L)	48	*	178	*	*	178		
		24	129	87	250	198	166	±72	44%
SDS-HAA9	(µg/L)	48	*	151	*	*	151		
		24	111	85	218	169	146	±60	41%
SDS-TOX	(µg Cl^-/L)	120	132	95	217	168	153	±52	34%
		70	100	79	158	125	115	±34	30%
Study length	(days)	--	190	188	278	277	233	±51	22%

†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 26 Run times to selected GAC effluent criteria (20 minute EBCT)

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	3.3	2.0	72	10,400	2.0	0.037	44	31	34	37	162
			1.0	39	5,670	1.0	0.015	22	9	11	13	70
			1.7†	56	8,060	1.7	0.028	34	23	26	29	128
UV_{254}	(1/cm)	0.067	0.040	81	11,680	2.2	0.040	48	32	35	39	179
			0.020	44	6,360	1.3	0.020	26	13	16	18	87
			0.034†	66	9,500	1.9	0.034	41	30	34	37	149
SDS-THM4	(µg/L)	75	80	*	*							
			64	*	*							
			32	53	7,570	1.6	0.026	32	20	23	26	118
SDS-HAA5	(µg/L)	57	48	*	*							
			24	57	8,240	1.7	0.029	35	24	27	30	132
SDS-HAA6	(µg/L)	60	48	*	*							
			24	53	7,690	1.6	0.026	33	21	24	27	120
SDS-HAA9	(µg/L)	64	48	*	*							
			24	50	7,260	1.6	0.024	31	19	22	24	111
SDS-TOX	(µg Cl^-/L)	317	120	53	7,690	1.6	0.026	33	21	24	27	120
			70	39	5,670	1.0	0.015	22	9	11	13	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.
#Data not available for listed parameter at given breakthrough criterion.

Table 27 Run times to selected GAC effluent criteria (10 minute EBCT) during session 1, January

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	3.3	2.0	157	11,300	2.0	0.034	42	29	32	35	151
			1.0	94	6,790	1.0	0.012	18	9	12	14	58
			1.7†	126	9,090	1.7	0.026	33	21	24	26	113
UV_{254}	(1/cm)	0.067	0.040	189	13,570	2.3	0.040	44	31	34	36	174
			0.020	111	7,990	1.4	0.020	26	18	21	24	94
			0.034†	155	11,190	2.0	0.034	41	28	32	35	150
SDS-THM4	(µg/L)	75	80	*	*							
			64	*	*							
			32	125	8,980	1.6	0.025	32	21	24	26	112
SDS-HAA5	(µg/L)	57	48	*	*							
			24	138	9,970	1.8	0.029	37	24	27	30	128
SDS-HAA6	(µg/L)	60	48	*	*							
			24	129	9,250	1.7	0.026	34	21	24	26	115
SDS-HAA9	(µg/L)	64	48	*	*							
			24	111	7,990	1.4	0.020	26	18	21	24	94
SDS-TOX	(µg Cl^-/L)	317	120	132	9,530	1.7	0.027	35	22	25	28	120
			70	100	7,180	1.2	0.014	21	13	16	18	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 (20 minute EBCT) during session 1, 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)	3.2	2.0	55	7,860	2.0	0.037	63	39	44	49	213
			1.0	27	3,950	1.0	0.018	37	12	15	17	120
			1.6†	41	5,930	1.6	0.030	52	31	35	40	166
UV_{254}	(1/cm)	0.073	0.040	61	8,790	2.1	0.040	68	39	43	48	231
			0.020	30	4,300	1.1	0.020	37	19	23	27	115
			0.037†	53	7,630	2.0	0.037	62	40	45	50	208
SDS-THM4	(µg/L)	114	80	*	*							
			64	55	7,980	2.0	0.038	64	39	43	48	215
			32	24	3,490	0.8	0.014	32	9	12	14	80
SDS-HAA5	(µg/L)	64	48	77	11,080	2.3	0.048	76	48	53	58	270
			24	34	4,960	1.4	0.024	44	24	28	33	149
SDS-HAA6	(µg/L)	69	48	69	9,910	2.2	0.044	72	43	48	53	250
			24	31	4,460	1.2	0.021	38	20	24	28	124
SDS-HAA9	(µg/L)	73	48	61	8,780	2.1	0.040	68	39	43	48	231
			24	29	4,180	1.1	0.019	36	17	21	24	115
SDS-TOX	(µg Cl^-/L)	417	120	31	4,390	1.2	0.021	38	19	23	27	120
			70	21	3,030	0.7	0.011	24	6	9	10	70

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

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

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

Table 29 Run times to selected GAC effluent criteria (10 minute EBCT) during session 2, April

Parameter	Units	Influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	3.2	2.0	151	10,910	2.0	0.038	73	39	44	48	225
			1.0	81	5,820	1.0	0.014	32	14	17	20	76
			1.6†	106	7,630	1.6	0.028	53	25	29	32	165
UV_{254}	(1/cm)	0.073	0.040	160	11,500	2.1	0.040	77	41	45	50	234
			0.020	91	6,580	1.2	0.020	40	21	25	29	107
			0.037†	145	10,420	2.0	0.037	70	36	41	45	216
SDS-THM4	(µg/L)	114	80	165	11,860	2.1	0.041	80	41	46	51	239
			64	130	9,350	1.8	0.032	64	30	34	37	195
			32	81	5,810	1.0	0.014	32	14	17	19	76
SDS-HAA5	(µg/L)	64	48	*	*							
			24	105	7,580	1.6	0.027	53	24	28	31	162
SDS-HAA6	(µg/L)	69	48	178	12,780	2.2	0.043	87	43	48	52	252
			24	87	6,290	1.2	0.018	37	20	24	28	94
SDS-HAA9	(µg/L)	73	48	151	10,850	2.0	0.038	73	39	44	48	224
			24	85	6,090	1.1	0.016	36	17	21	24	86
SDS-TOX	(µg Cl^-/L)	417	120	95	6,850	1.3	0.022	42	19	23	26	120
			70	79	5,660	0.9	0.013	30	12	15	17	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 30 Run times to selected GAC effluent criteria (20 minute EBCT) during session 2, April

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.1	2.0	*	*							
			1.0	70	10,140	1.0	0.015	66	14	20	27	104
			1.1†	74	10,710	1.1	0.016	71	15	21	28	113
UV_{254}	(1/cm)	0.046	0.040	*	*							
			0.020	92	13,190	1.3	0.020	83	16	23	29	138
			0.023†	115	16,620	1.4	0.023	93	18	26	33	155
SDS-THM4	(µg/L)	140	80	88	12,600	1.3	0.019	80	16	23	29	138
			64	68	9,850	1.0	0.014	64	13	19	26	99
			32	49	7,000	0.5	0.007	32	6	8	9	45
SDS-HAA5	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	44	48	*	*							
			24	106	15,320	1.4	0.022	90	17	24	31	147
SDS-HAA9	(µg/L)	53	48	*	*							
			24	67	9,600	0.9	0.014	62	12	18	24	91
SDS-TOX	(µg Cl^-/L)	284	120	77	11,150	1.1	0.017	74	16	22	29	120
			70	54	7,830	0.8	0.010	52	10	14	16	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 31 Run times to selected GAC effluent criteria (10 minute EBCT) during session 3, July

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.1	2.0	*	*							
			1.0	182	13,120	1.0	0.012	68	11	17	19	101
			1.1†	196	14,110	1.1	0.014	75	12	17	21	107
UV_{254}	(1/cm)	0.046	0.040	*	*							
			0.020	237	17,090	1.3	0.020	88	15	21	26	135
			0.023†	250	17,960	1.5	0.023	94	17	24	29	153
SDS-THM4	(µg/L)	140	80	208	15,000	1.1	0.016	80	13	18	23	114
			64	172	12,350	0.9	0.011	64	10	15	17	88
			32	137	9,850	0.5	0.005	32	4	7	7	39
SDS-HAA5	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	44	48	*	*							
			24	250	17,990	1.5	0.023	95	17	24	29	154
SDS-HAA9	(µg/L)	53	48	*	*							
			24	218	15,680	1.2	0.017	83	13	19	24	121
SDS-TOX	(µg Cl^-/L)	284	120	217	15,620	1.2	0.017	82	13	19	24	120
			70	158	11,380	0.8	0.009	57	8	12	14	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.
#Data not available for listed parameter at given breakthrough criterion.

Table 32 Run times to selected GAC effluent criteria (20 minute EBCT) during session 3, July

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.6	2.0	129	18,540	2.0	0.037	#	#	#	#	#
			1.0	51	7,280	1.0	0.015	58	7	11	13	81
			1.3†	67	9,700	1.3	0.021	73	10	15	19	115
UV_{254}	(1/cm)	0.060	0.040	*	*							
			0.020	64	9,200	1.3	0.020	71	10	15	20	107
			0.030†	93	13,370	1.8	0.030	90	14	20	25	164
SDS-THM4	(µg/L)	128	80	76	10,940	1.4	0.024	80	10	15	17	136
			64	55	7,880	1.1	0.017	64	8	13	16	89
			32	39	5,580	0.6	0.008	32	4	6	6	42
SDS-HAA5	(µg/L)	37	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	49	48	*	*							
			24	104	15,020	1.8	0.032	93	16	24	30	172
SDS-HAA9	(µg/L)	61	48	*	*							
			24	90	12,900	1.7	0.029	89	13	19	24	161
SDS-TOX	(µg Cl^-/L)	305	120	69	9,980	1.3	0.022	75	10	15	19	120
			70	47	6,770	0.9	0.013	50	6	9	11	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time, value of listed parameter is left blank.
#Data not available for listed parameter at given breakthrough criterion.

Table 33 Run times to selected GAC effluent criteria (10 minute EBCT) during session 4, October

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (single contactor)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.6	2.0	268	19,300	2.0	0.036	88	20	29	38	186
			1.0	125	9,020	1.0	0.012	54	9	14	17	71
			1.3†	151	10,890	1.3	0.018	61	10	15	20	100
UV_{254}	(1/cm)	0.060	0.040	*	*							
			0.020	159	11,460	1.4	0.020	61	11	16	21	111
			0.030†	223	16,030	1.8	0.030	85	18	27	34	160
SDS-THM4	(µg/L)	128	80	201	14,460	1.7	0.027	80	17	25	32	147
			64	167	12,020	1.5	0.022	64	12	18	23	119
			32	107	7,680	0.6	0.007	32	3	4	4	39
SDS-HAA5	(µg/L)	37	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	49	48	*	*							
			24	198	14,230	1.7	0.027	78	16	24	31	145
SDS-HAA9	(µg/L)	61	48	*	*							
			24	169	12,180	1.5	0.022	65	12	18	24	122
SDS-TOX	(µg Cl^-/L)	305	120	168	12,060	1.5	0.022	64	12	18	24	120
			70	125	8,970	1.0	0.012	53	9	14	17	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 34 Run times to selected GAC effluent criteria (20 minute EBCT) during session 4, October

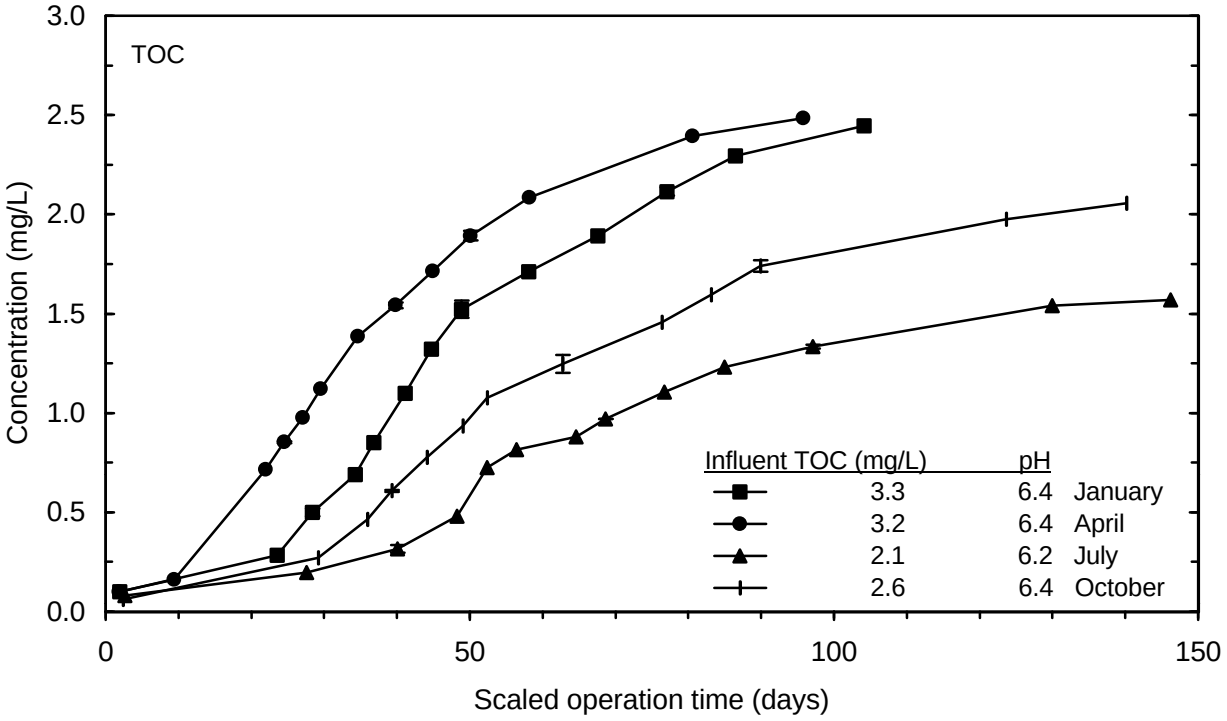


Figure 6 TOC breakthrough for 10 minute EBCT contactors for each session

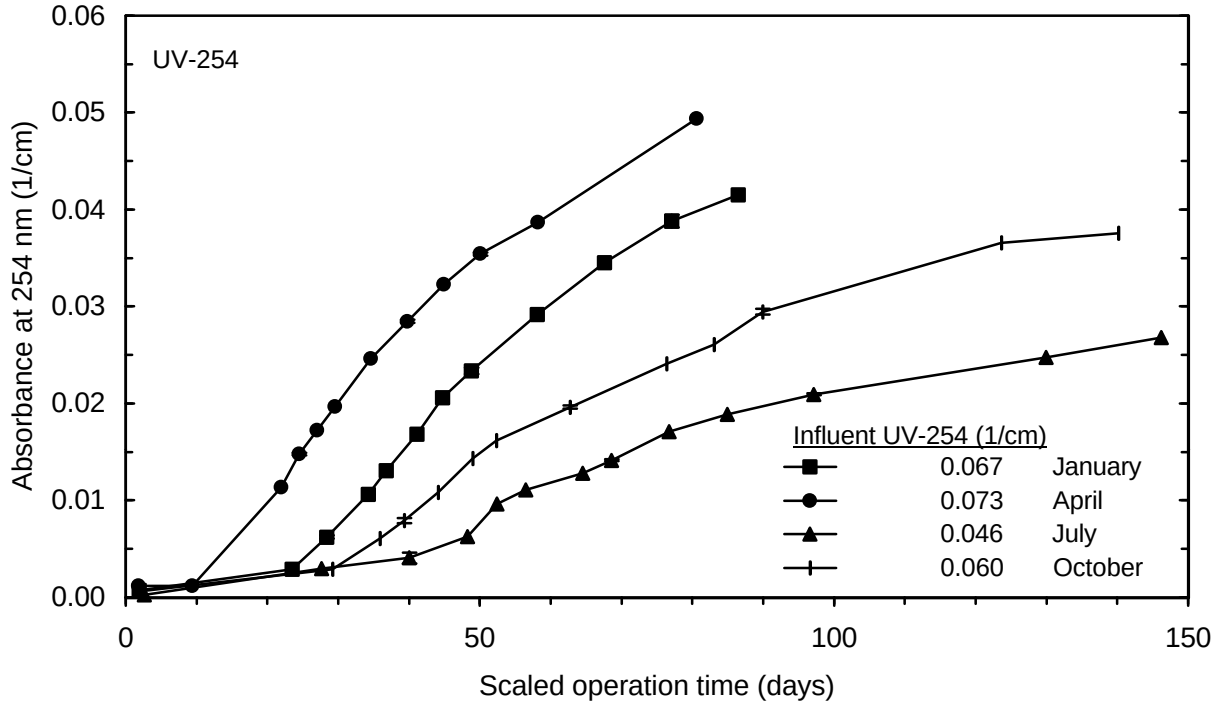


Figure 7 UV-254 breakthrough for 10 minute EBCT contactors for each session

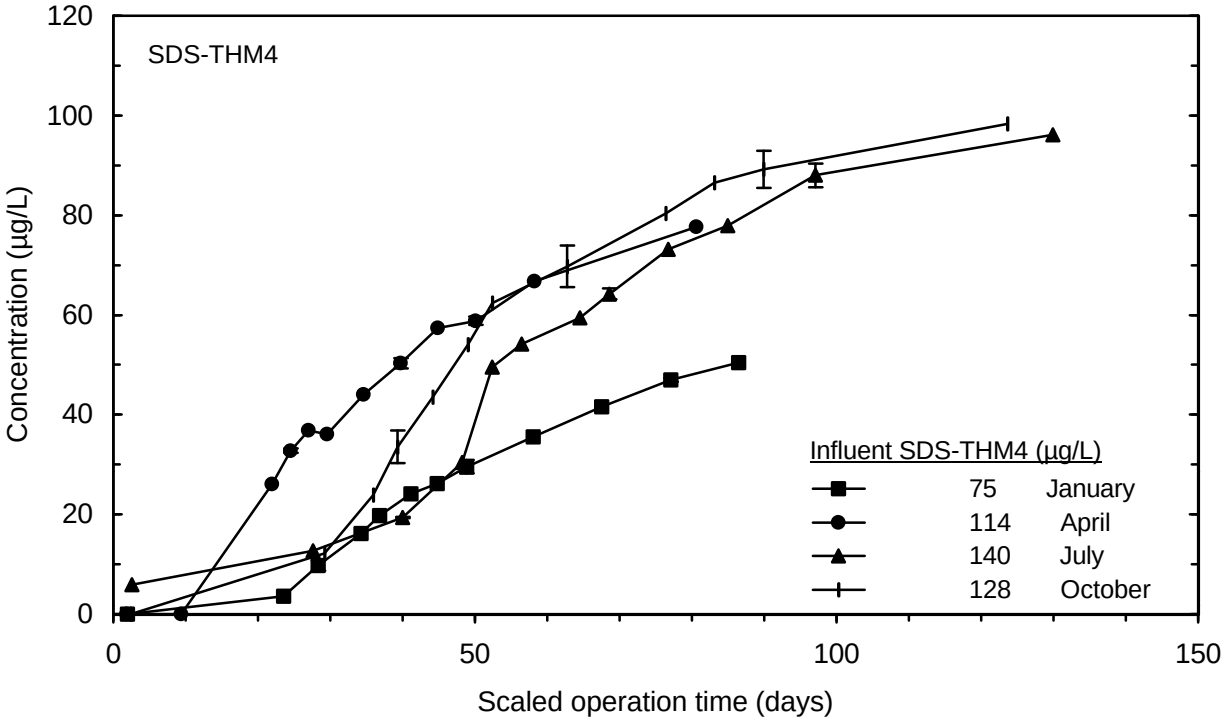


Figure 8 SDS-THM4 breakthrough for 10 minute EBCT contactors for each session

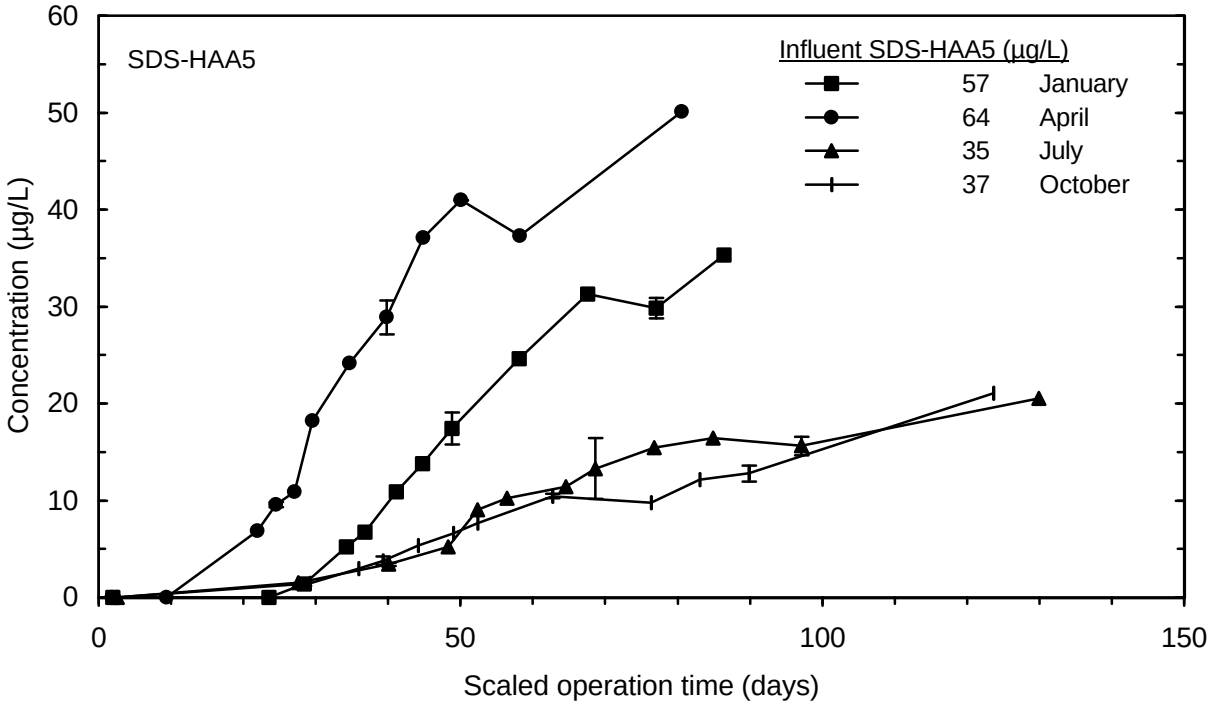


Figure 9 SDS-HAA5 breakthrough for 10 minute EBCT contactors for each session

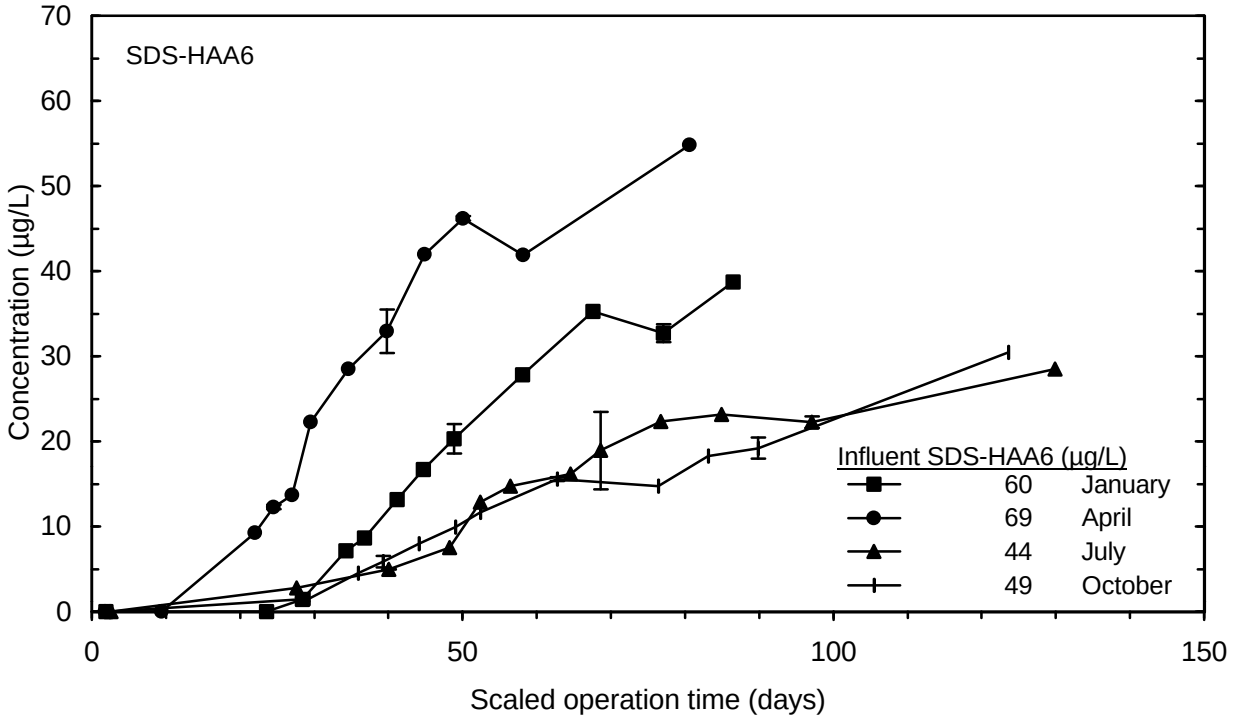


Figure 10 SDS-HAA6 breakthrough for 10 minute EBCT contactors for each session

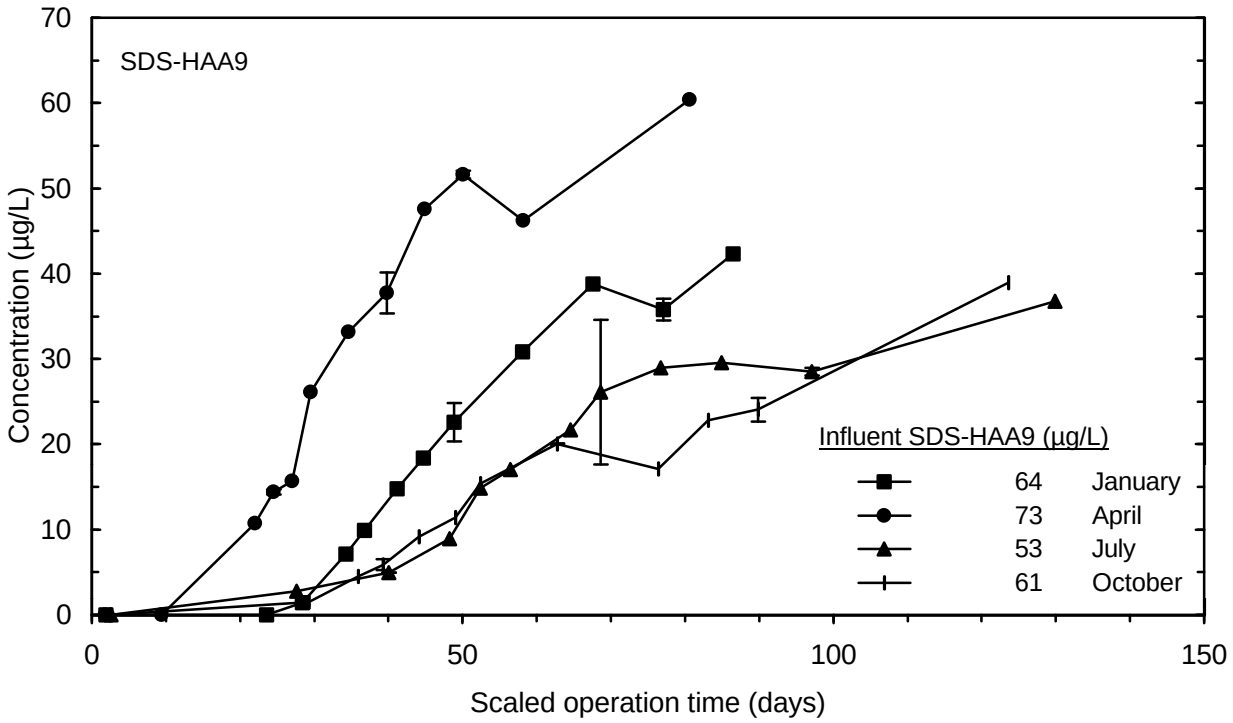


Figure 11 SDS-HAA9 breakthrough for 10 minute EBCT contactors for each session

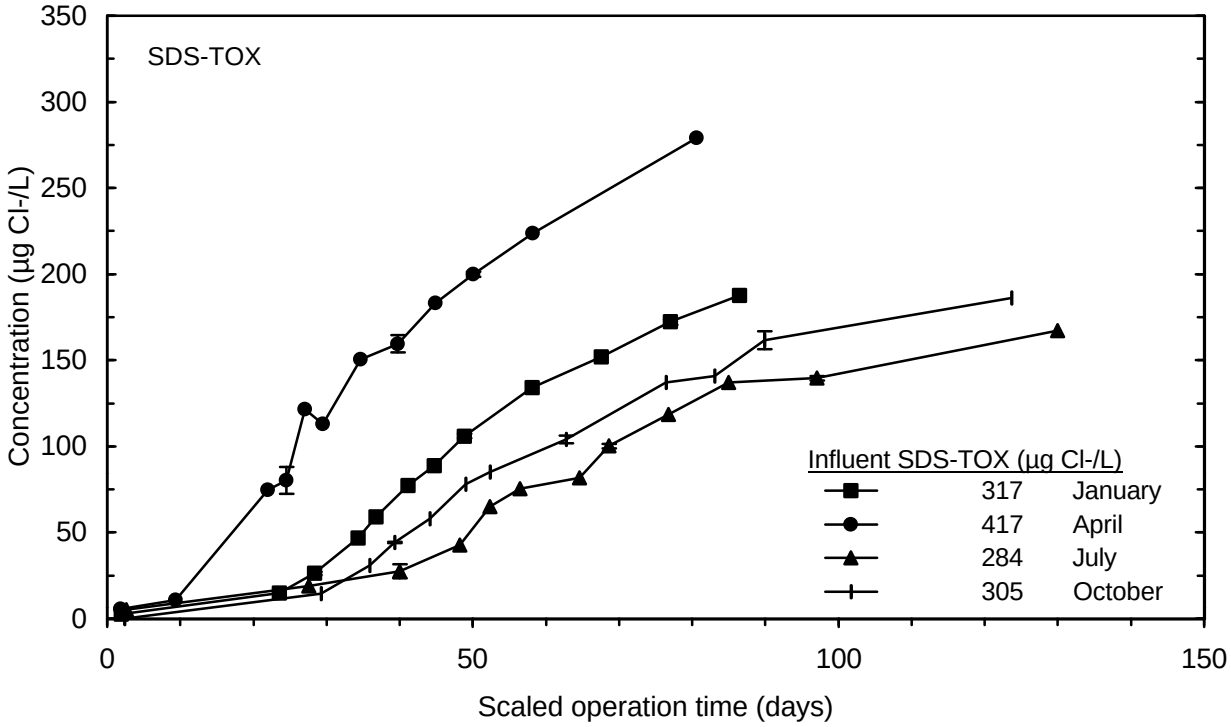


Figure 12 SDS-TOX breakthrough for 10 minute EBCT contactors for each session

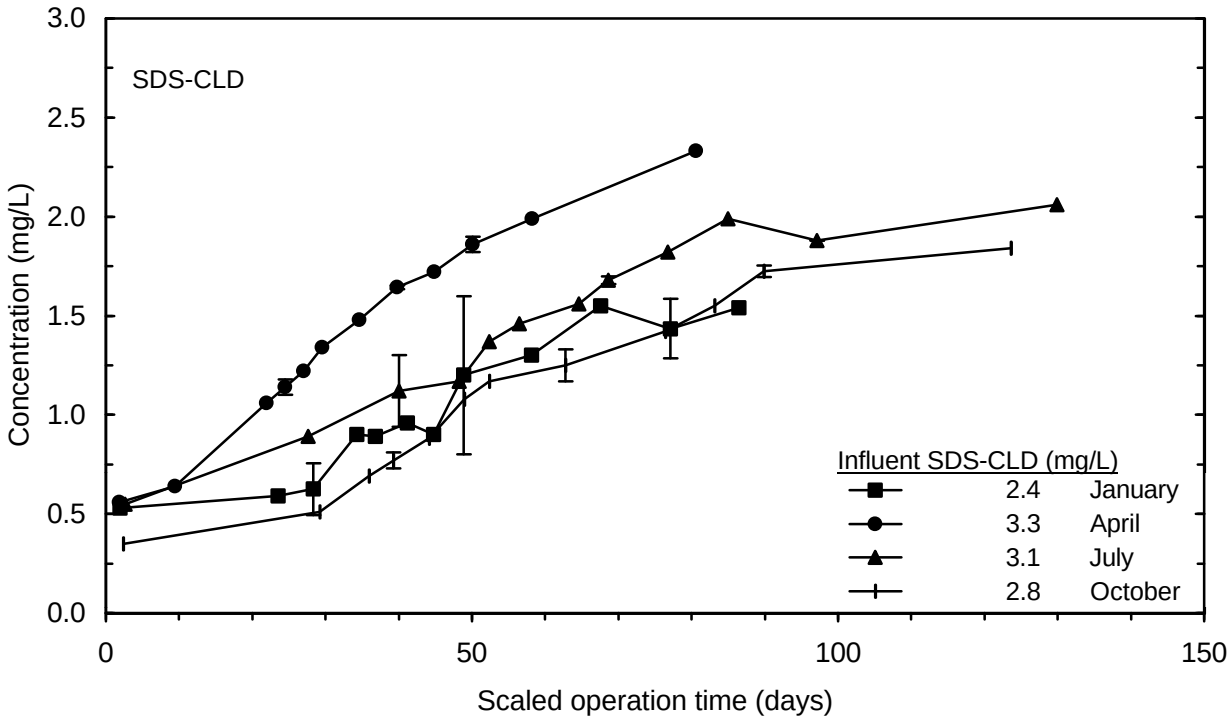


Figure 13 SDS-CLD breakthrough for 10 minute EBCT contactors for each session

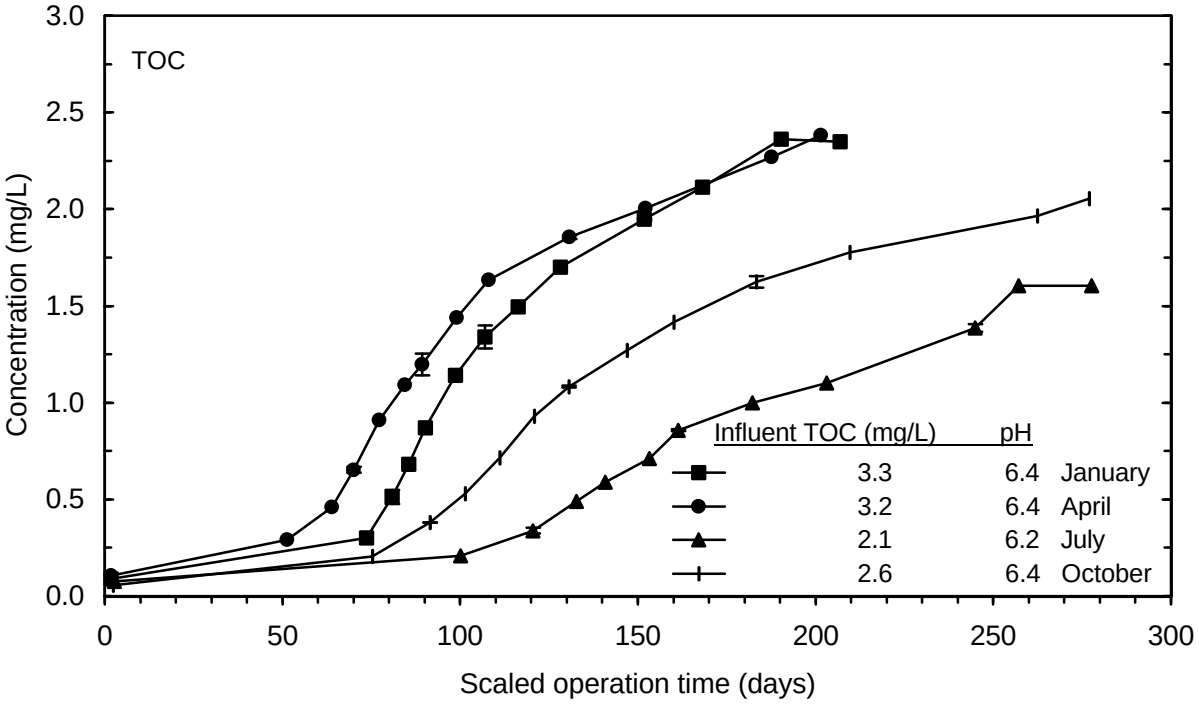


Figure 14 TOC breakthrough for 20 minute EBCT contactors for each session

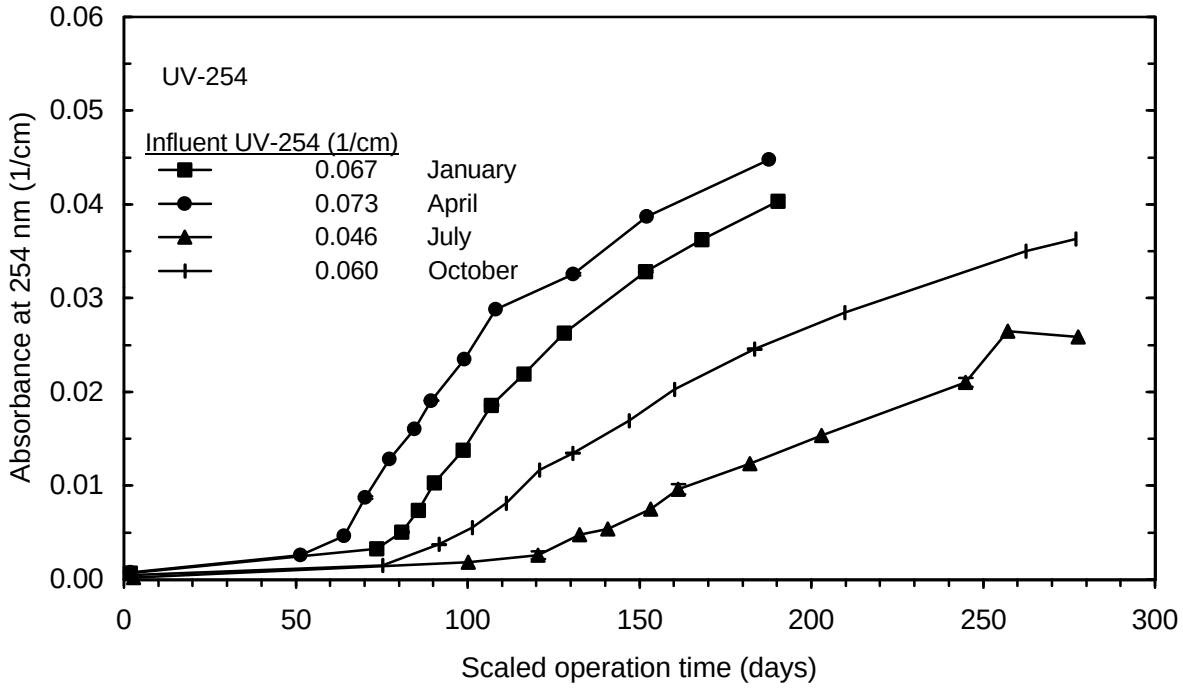


Figure 15 UV-254 breakthrough for 20 minute EBCT contactors for each session

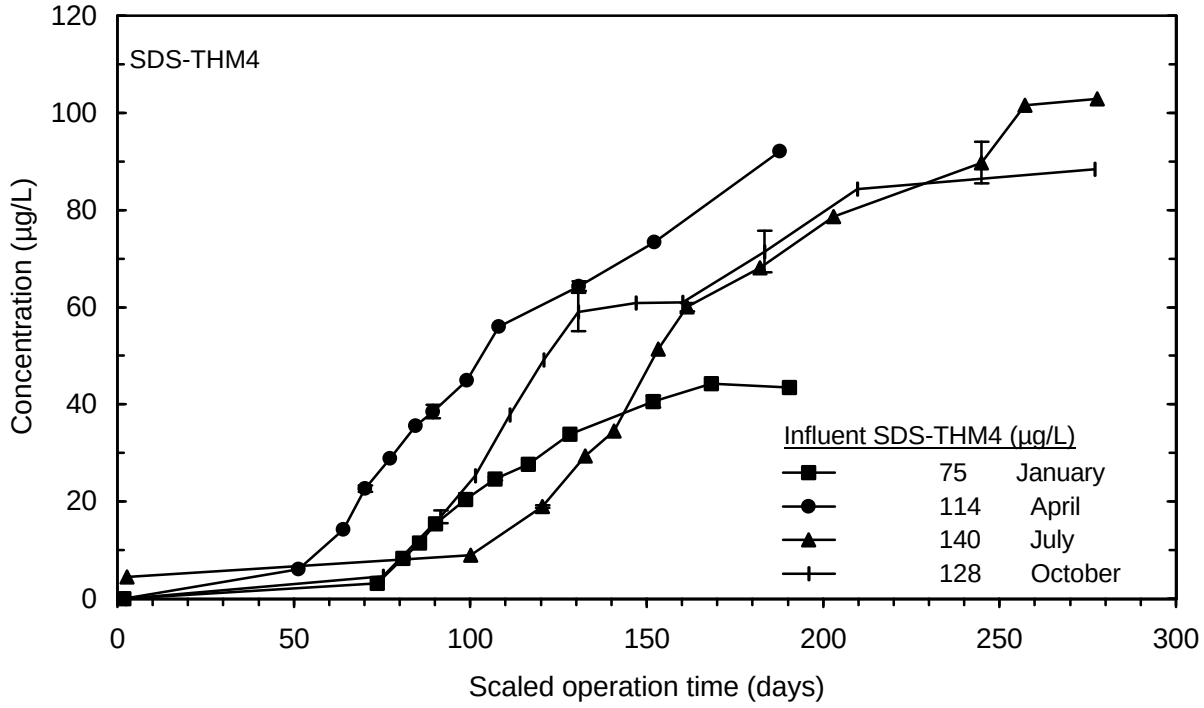


Figure 16 SDS-THM4 breakthrough for 20 minute EBCT contactors for each session

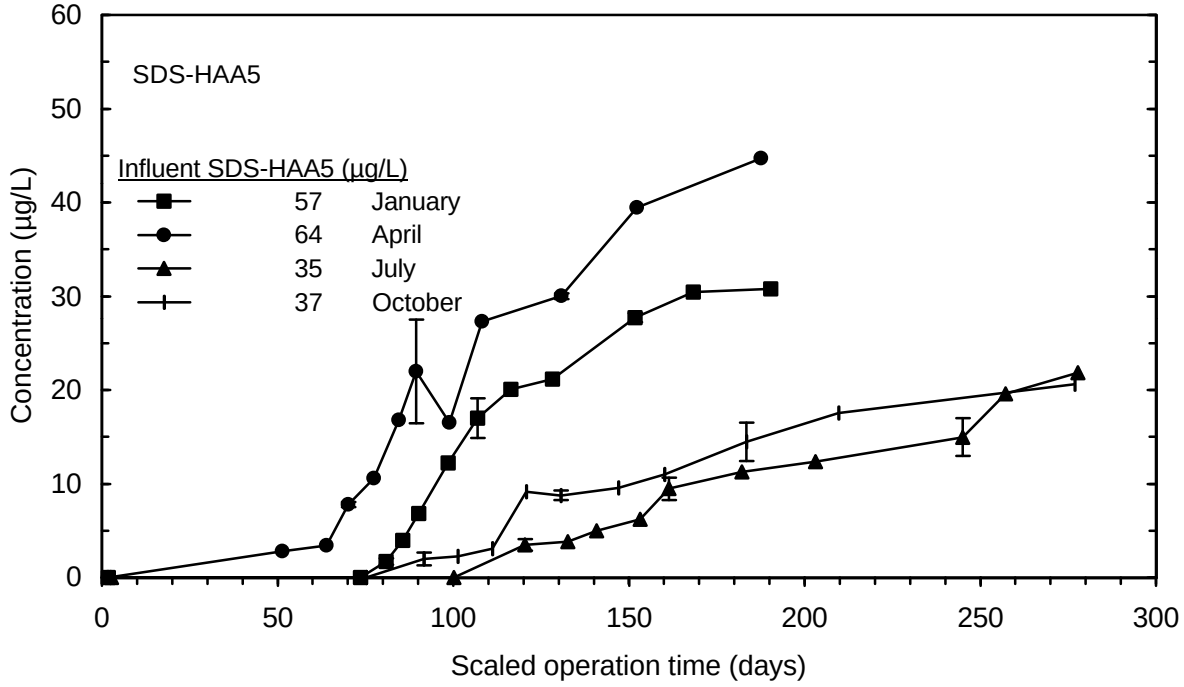


Figure 17 SDS-HAA5 breakthrough for 20 minute EBCT contactors for each session

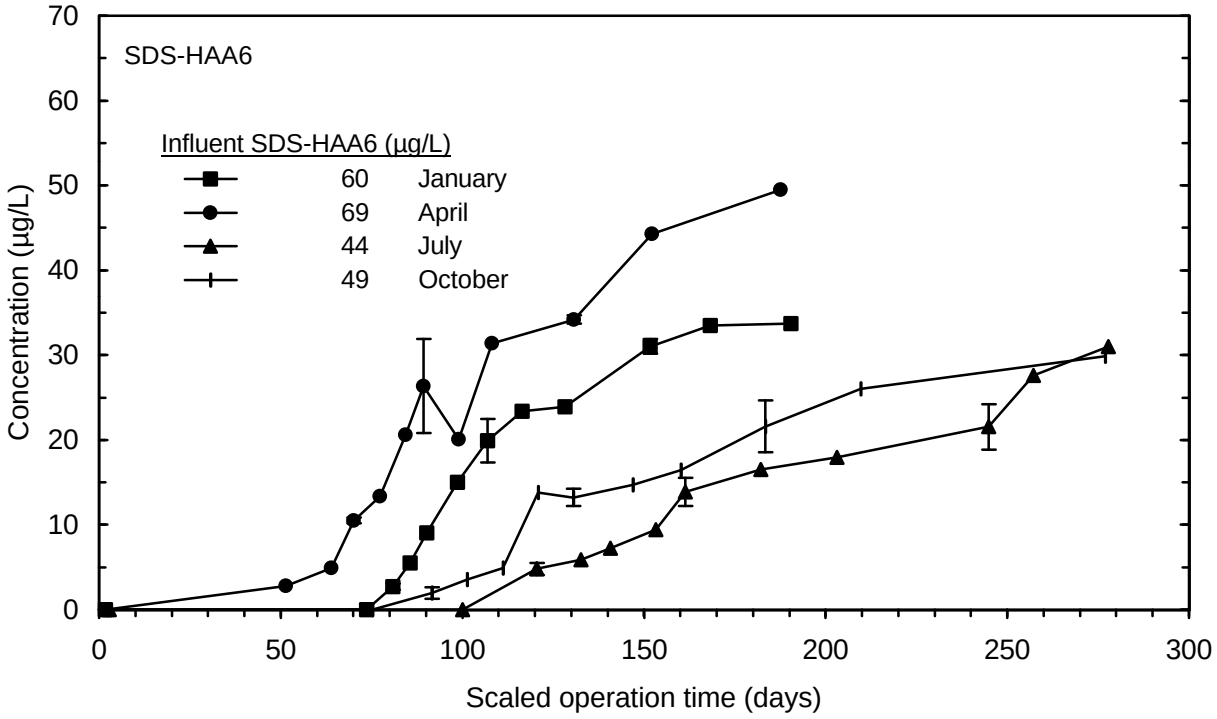


Figure 18 SDS-HAA6 breakthrough for 20 minute EBCT contactors for each session

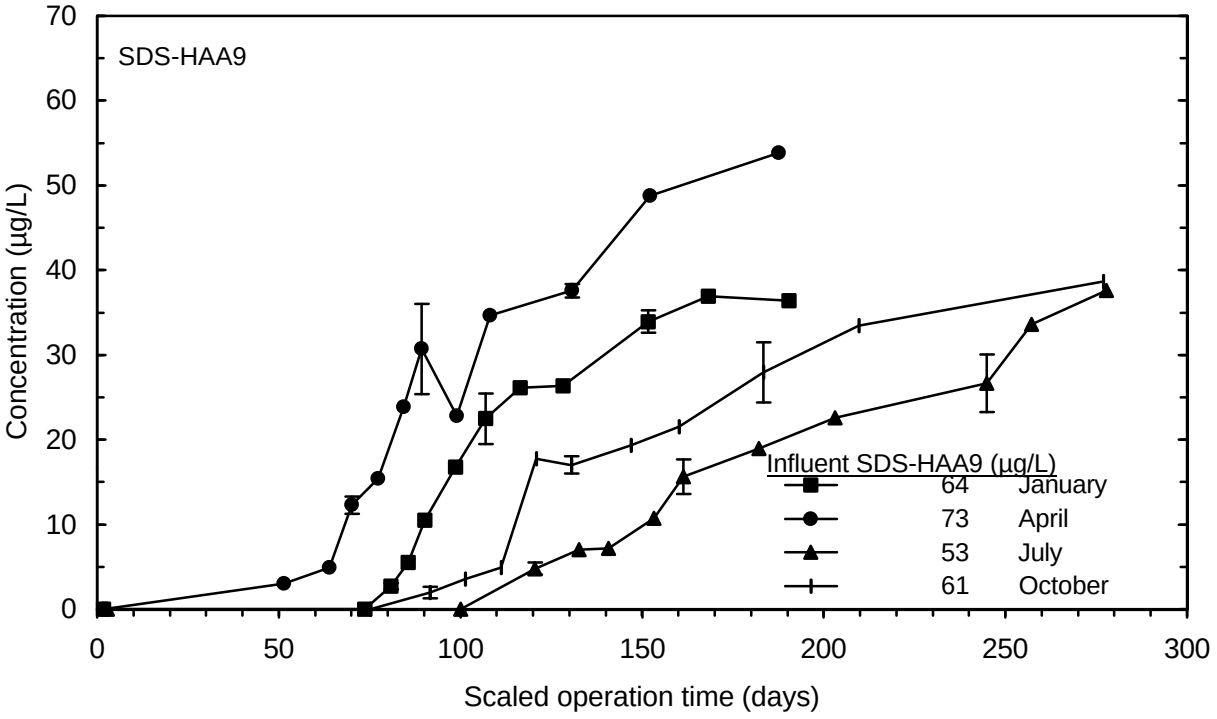


Figure 19 SDS-HAA9 breakthrough for 20 minute EBCT contactors for each session

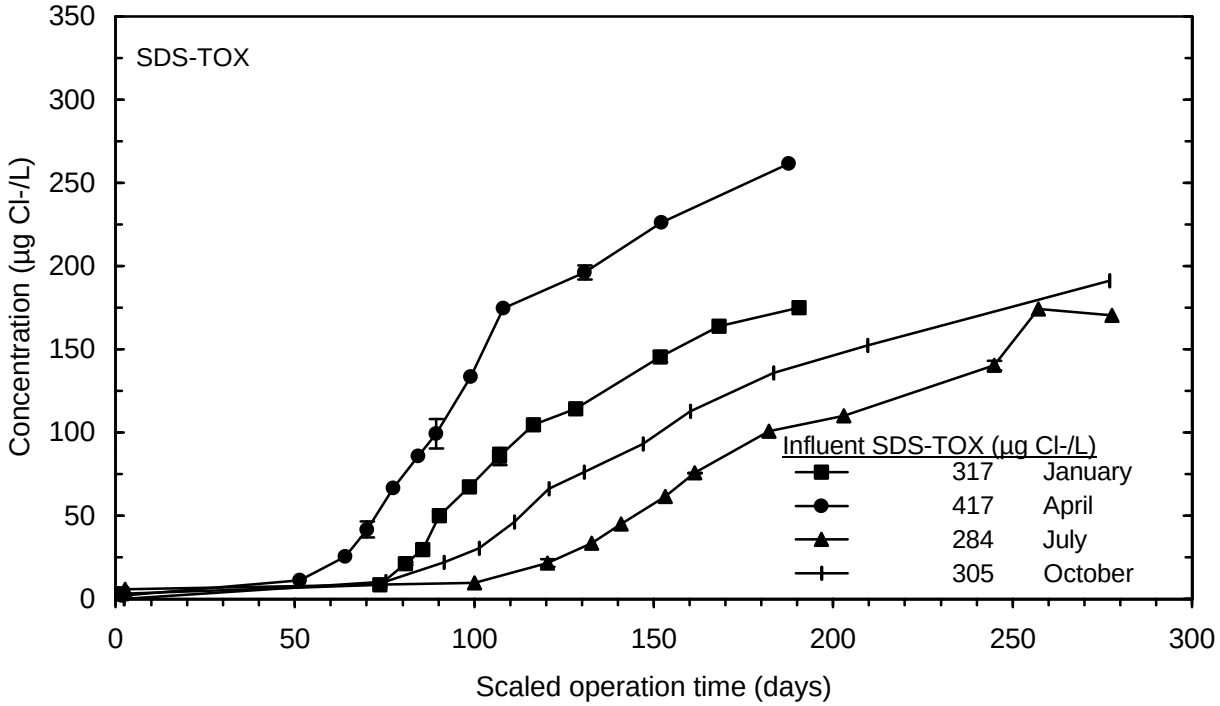


Figure 20 SDS-TOX breakthrough for 20 minute EBCT contactors for each session

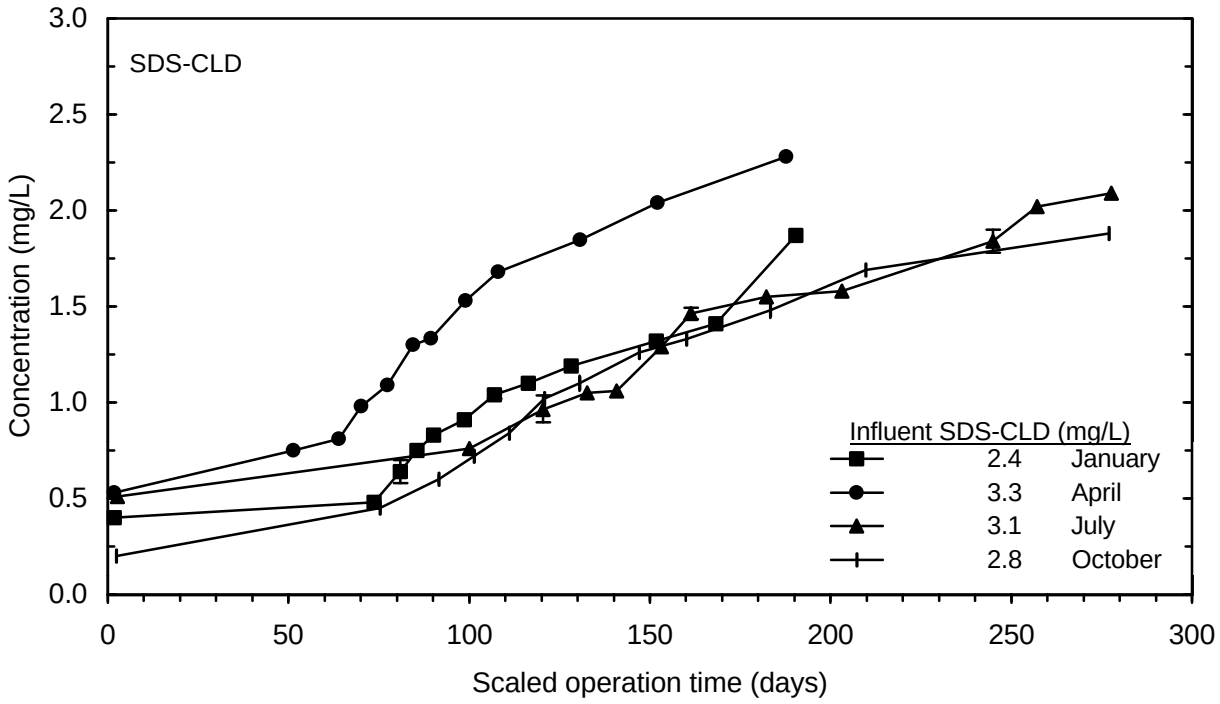


Figure 21 SDS-CLD breakthrough for 20 minute EBCT contactors for each session

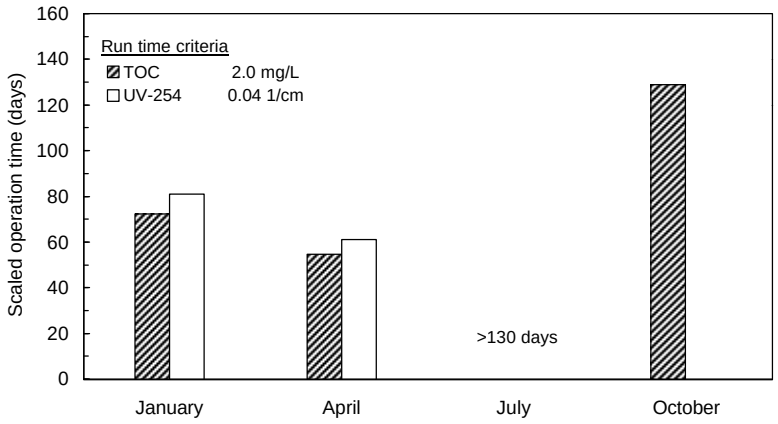


Figure 22 GAC Scaled operation times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (high) for each session (10 minute EBCT)

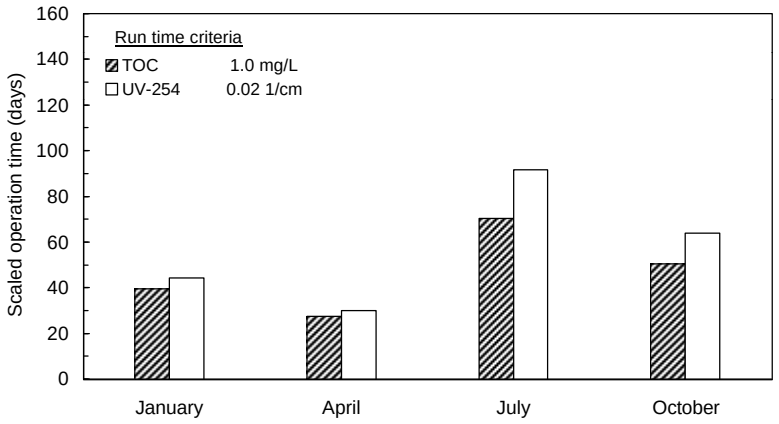


Figure 23 GAC Scaled operation times based on single contactor breakthrough curves for TOC and UV-254 effluent criteria (low) for each session (10 minute EBCT)

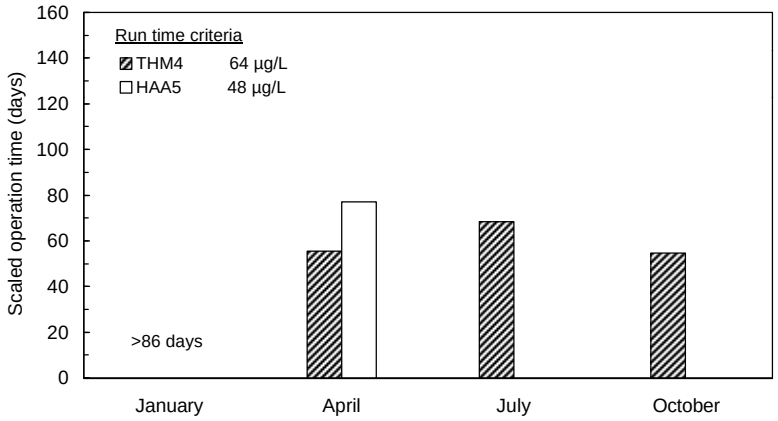


Figure 24 GAC Scaled operation times based on single contactor breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria for each session (10 minute

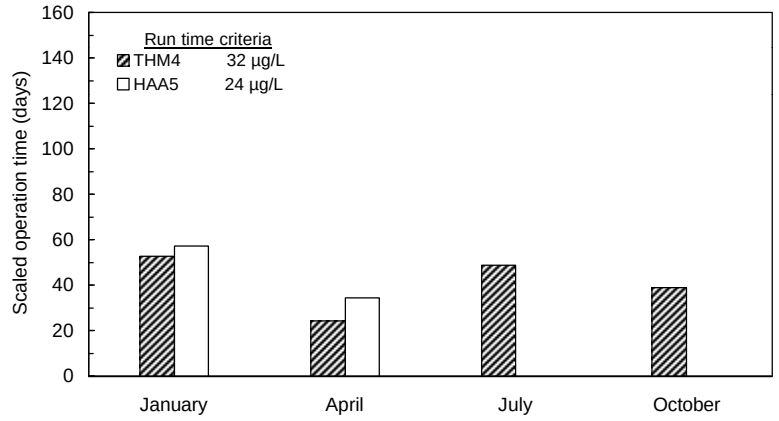


Figure 25 GAC Scaled operation times based on single contactor breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria for each session (10 minute

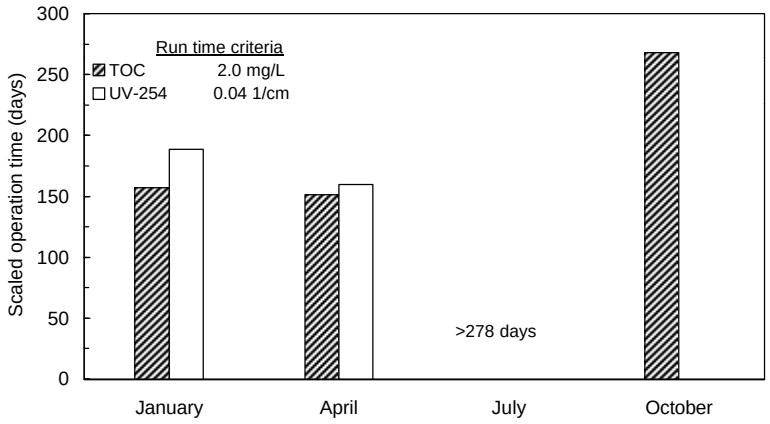


Figure 26 GAC Scaled operation times based on single breakthrough curves for TOC and UV-254 effluent criteria for each session (20 minute EBCT)

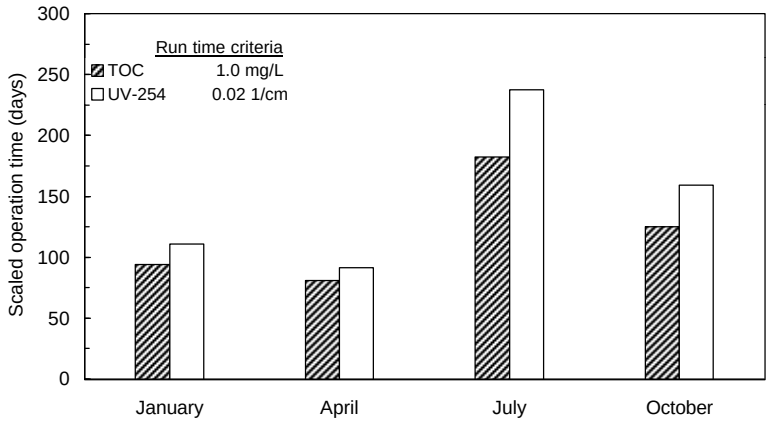


Figure 27 GAC Scaled operation times based on single breakthrough curves for TOC and UV-254 effluent criteria for each session (20 minute EBCT)

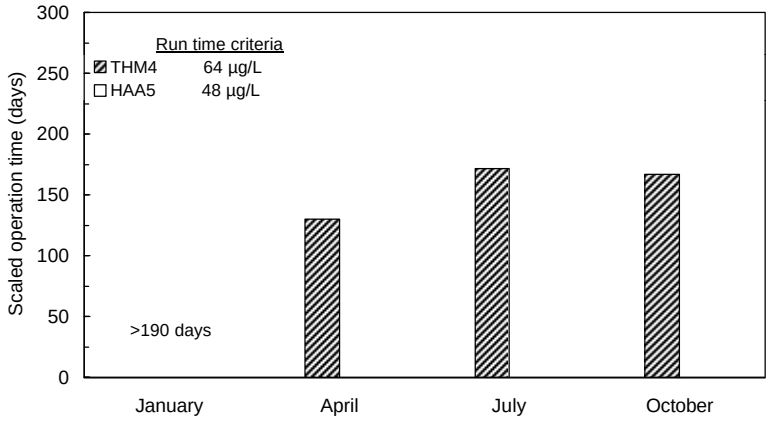


Figure 28 GAC Scaled operation times based on single breakthrough curves for Stage 1 THM4 and HAA5 effluent criteria for each session (20 minute EBCT)

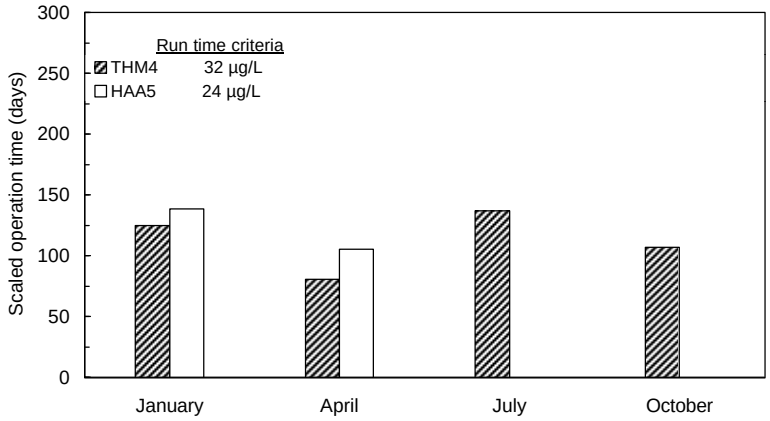


Figure 29 GAC Scaled operation times based on single breakthrough curves for Stage 2 THM4 and HAA5 effluent criteria for each session (20 minute EBCT

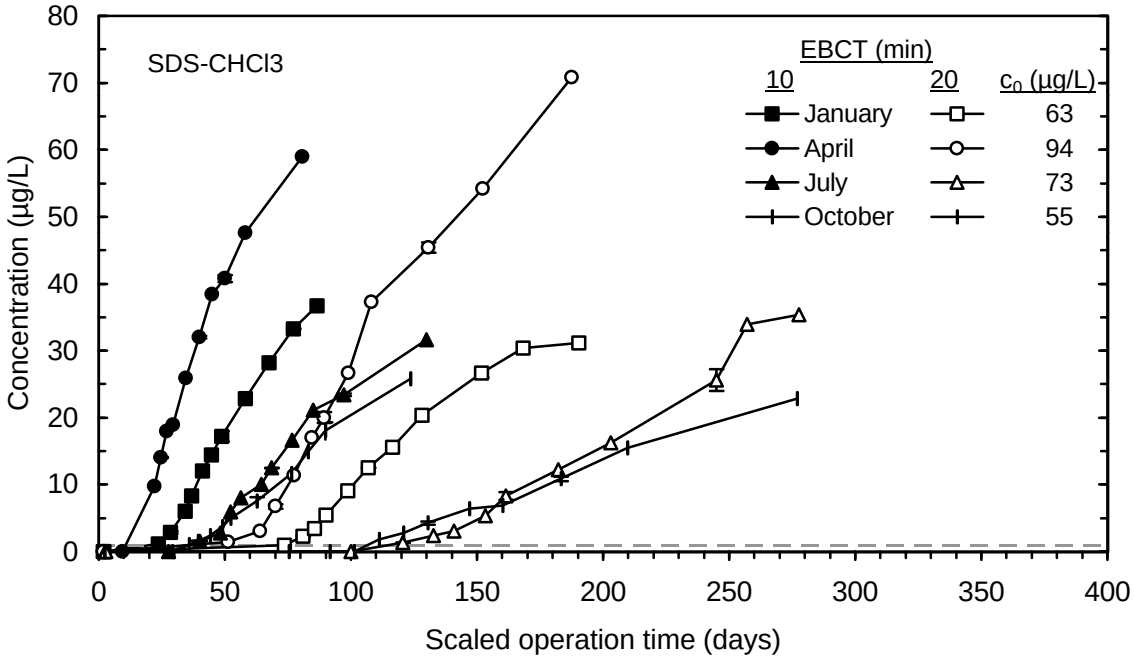


Figure 30 SDS-CHCl3 breakthrough for 10 and 20 minute EBCT contactors for each session

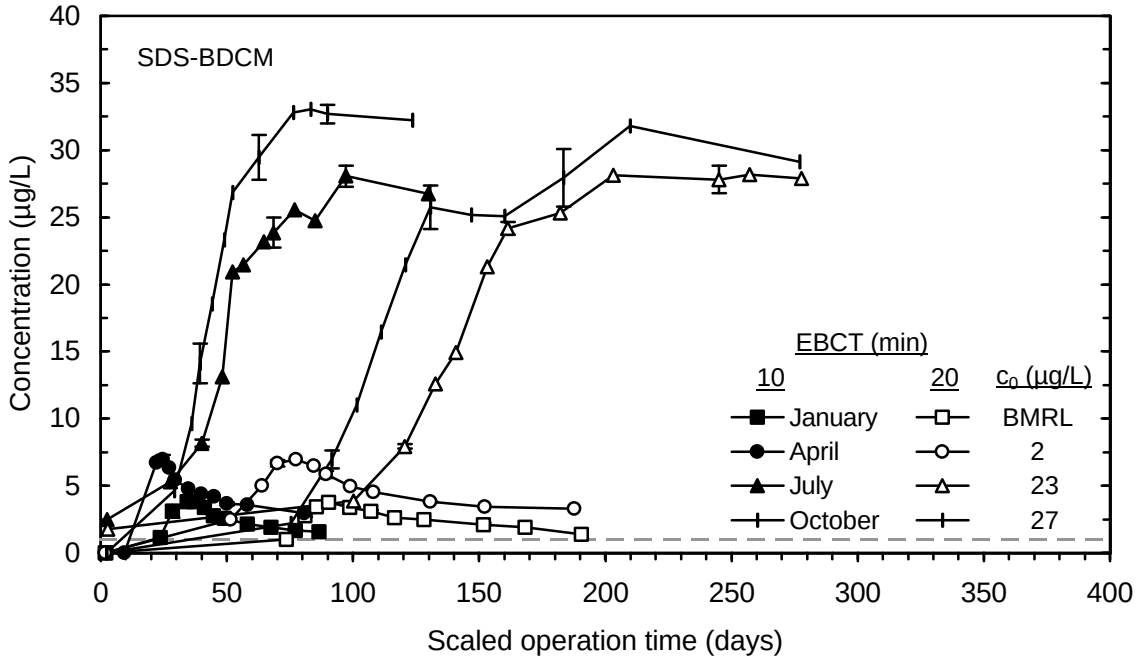


Figure 31 SDS-BDCM breakthrough for 10 and 20 minute EBCT contactors for each session

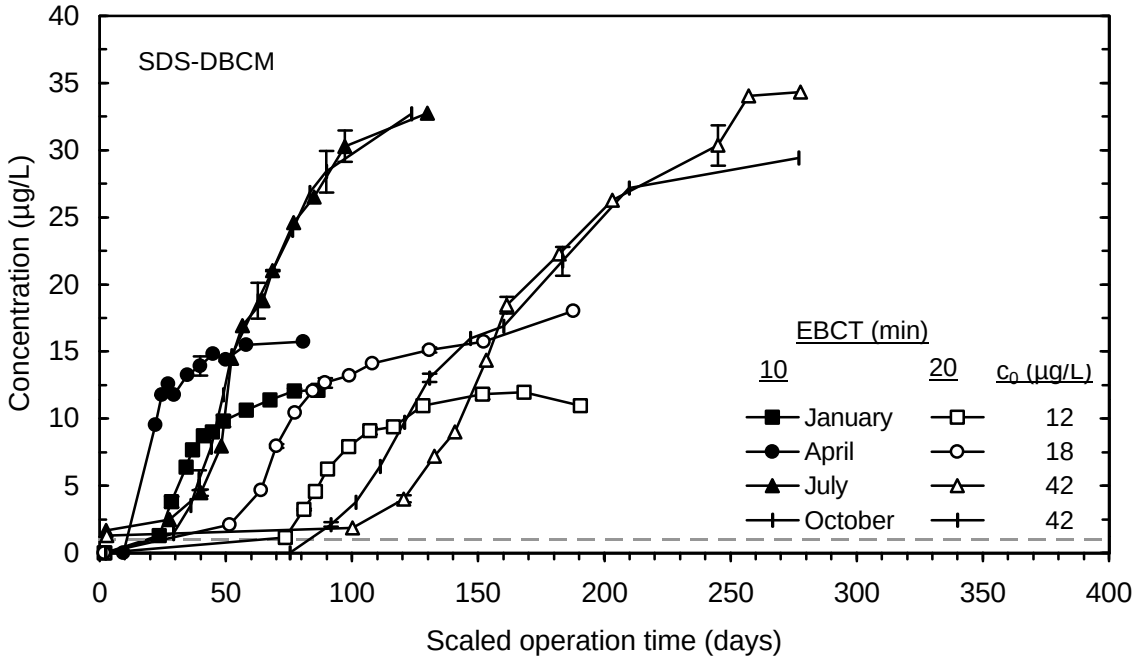


Figure 32 SDS-DBCM breakthrough for 10 and 20 minute EBCT contactors for each session

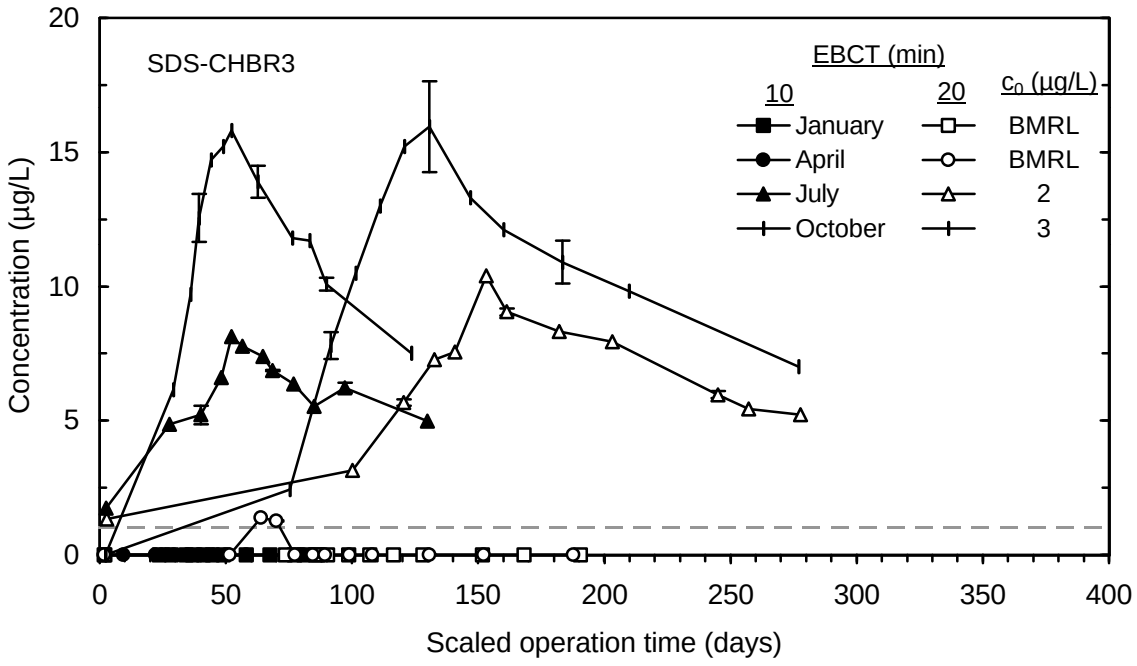


Figure 33 SDS-CHBR3 breakthrough for 10 and 20 minute EBCT contactors for each session

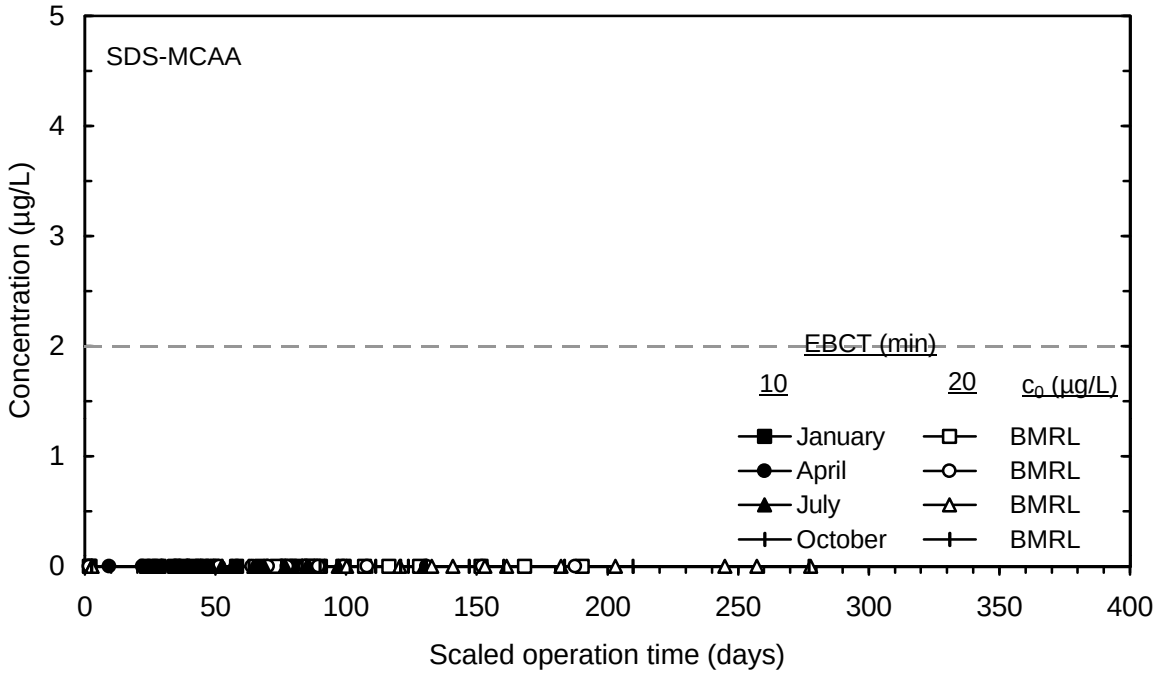


Figure 34 SDS-MCAA breakthrough for 10 and 20 minute EBCT contactors for each session

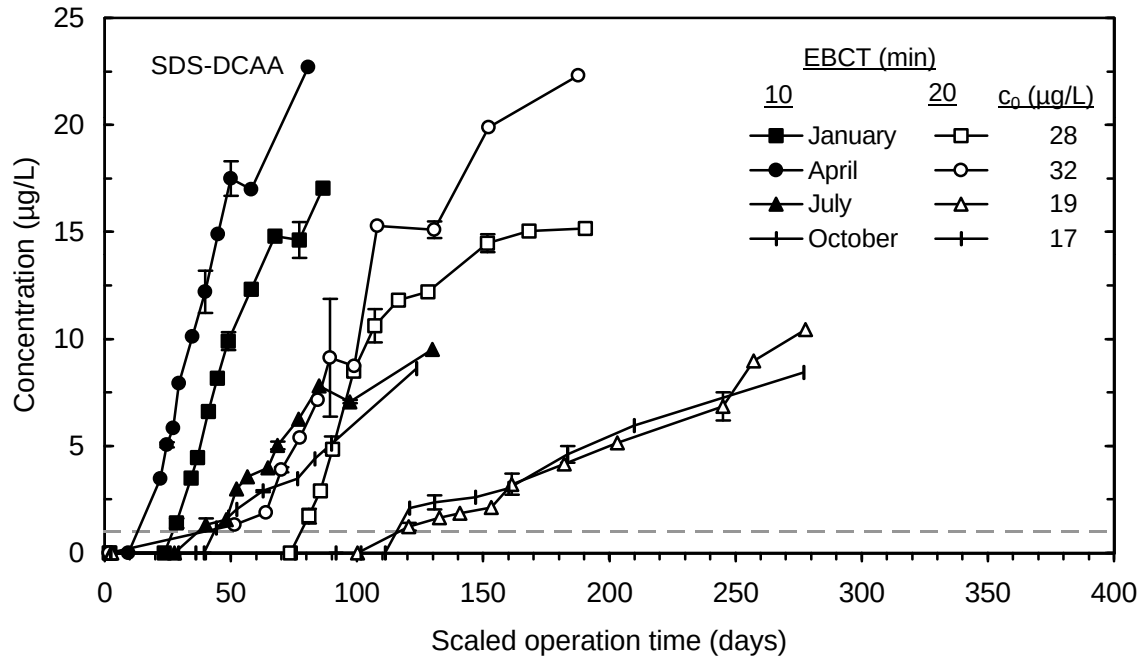


Figure 35 SDS-DCAA breakthrough for 10 and 20 minute EBCT contactors for each session

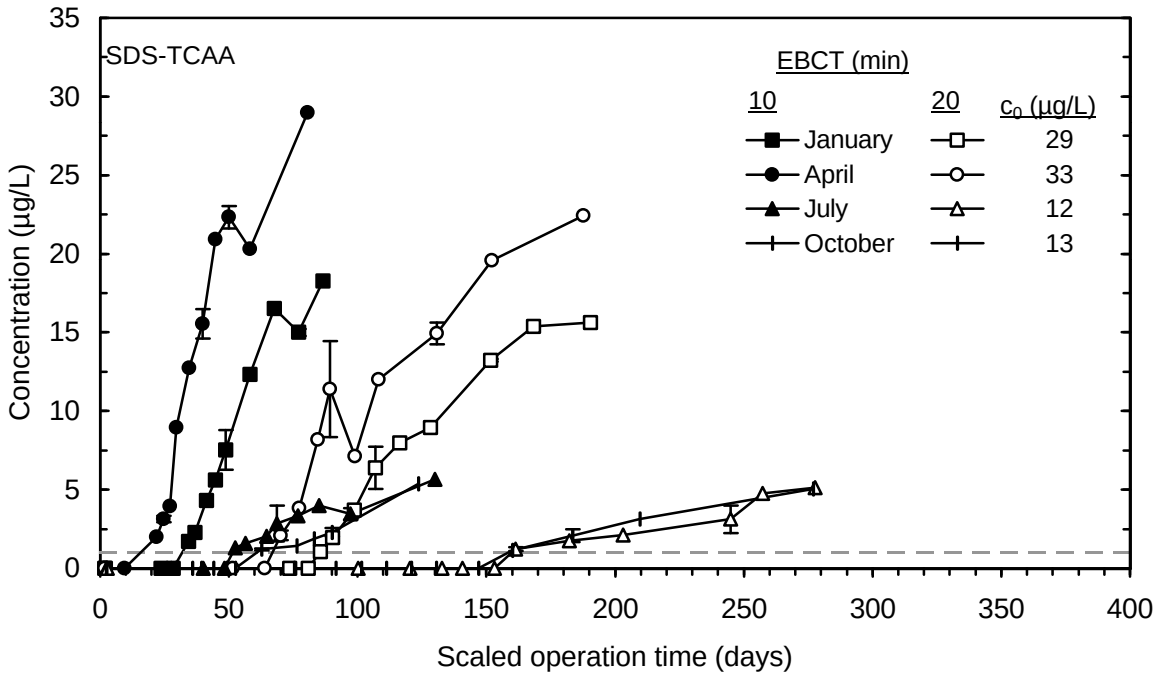


Figure 36 SDS-TCAA breakthrough for 10 and 20 minute EBCT contactors for each session

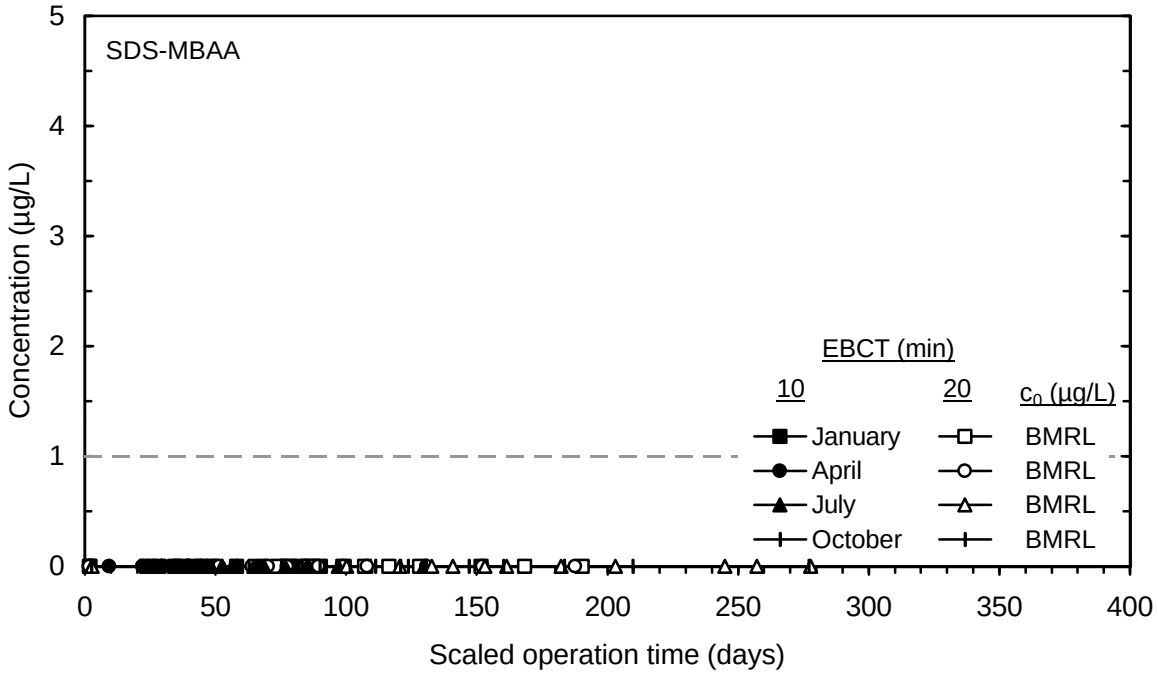


Figure 37 SDS-MBAA breakthrough for 10 and 20 minute EBCT contactors for each session

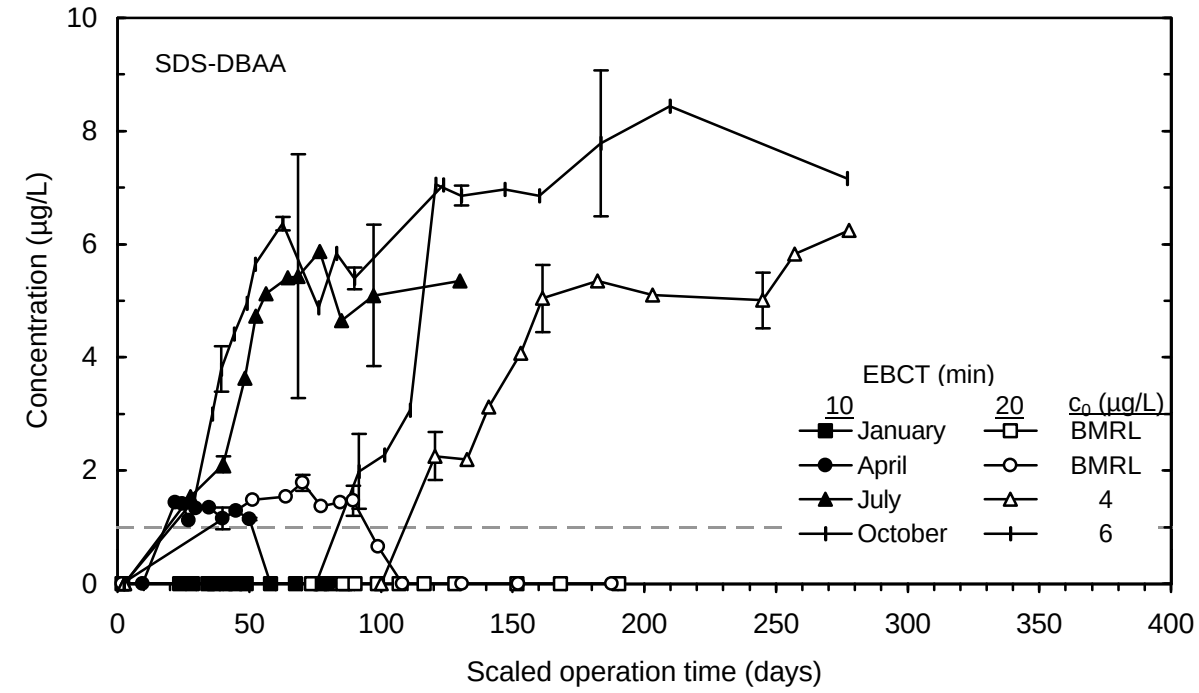


Figure 38 SDS-DBAA breakthrough for 10 and 20 minute EBCT contactors for each session

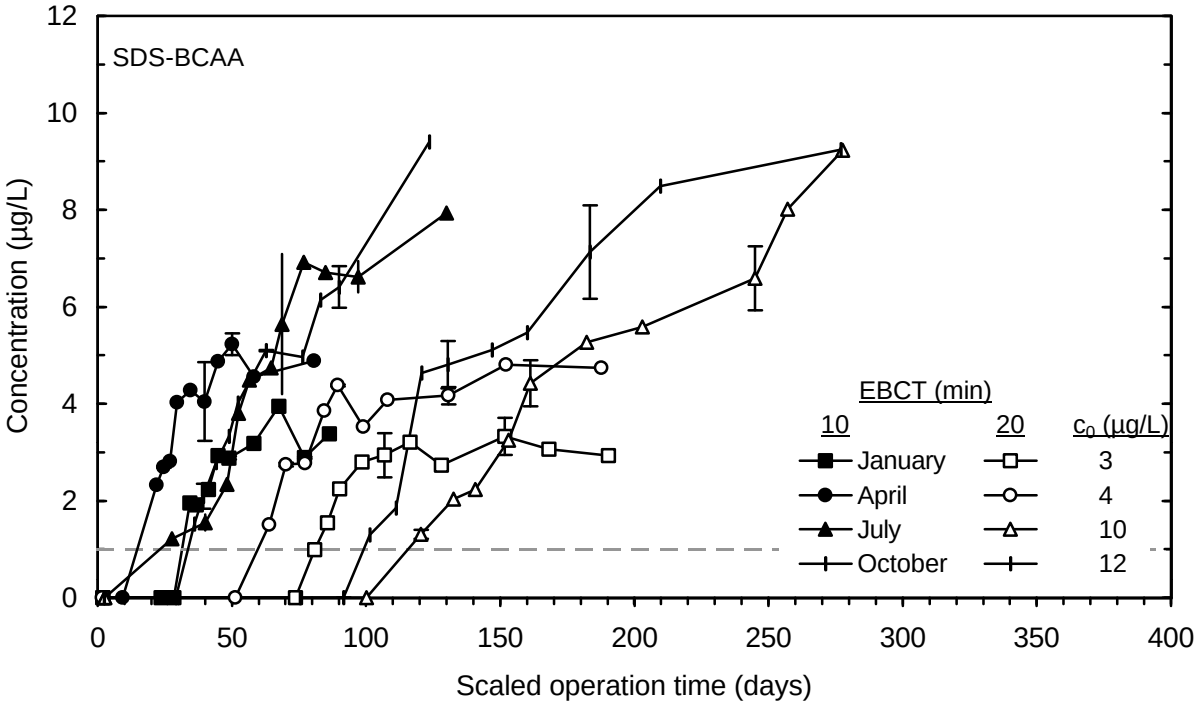


Figure 39 SDS-BCAA breakthrough for 10 and 20 minute EBCT contactors for each session

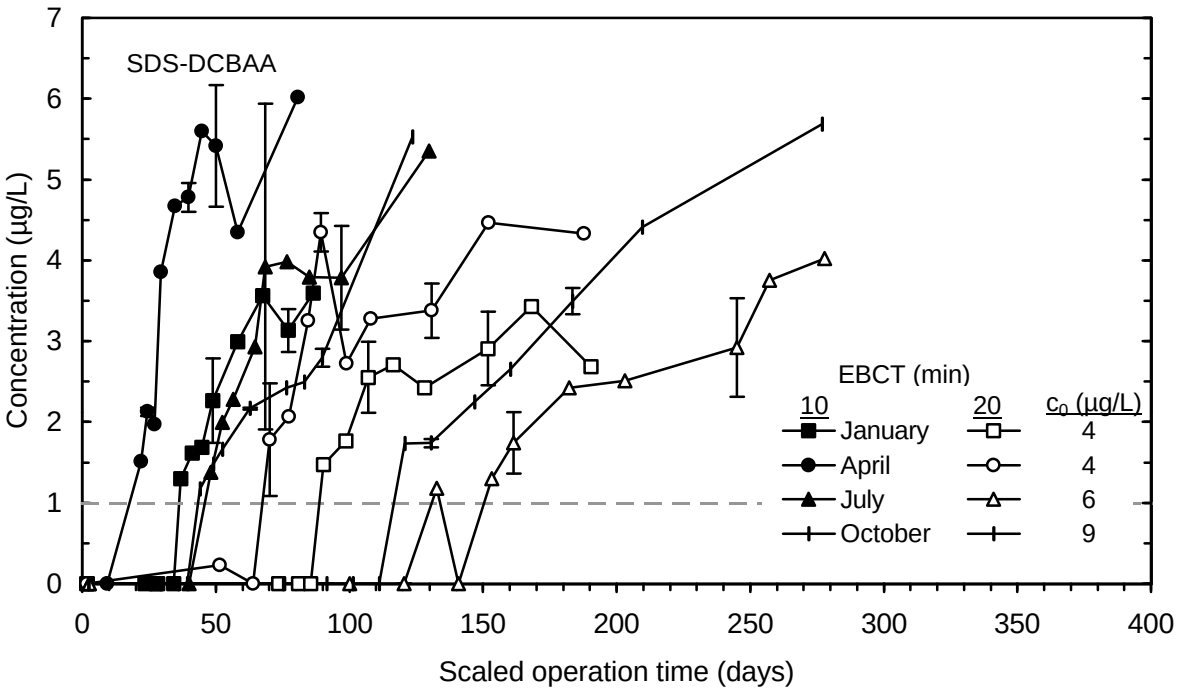


Figure 40 SDS-DCBAA breakthrough for 10 and 20 minute EBCT contactors for each session

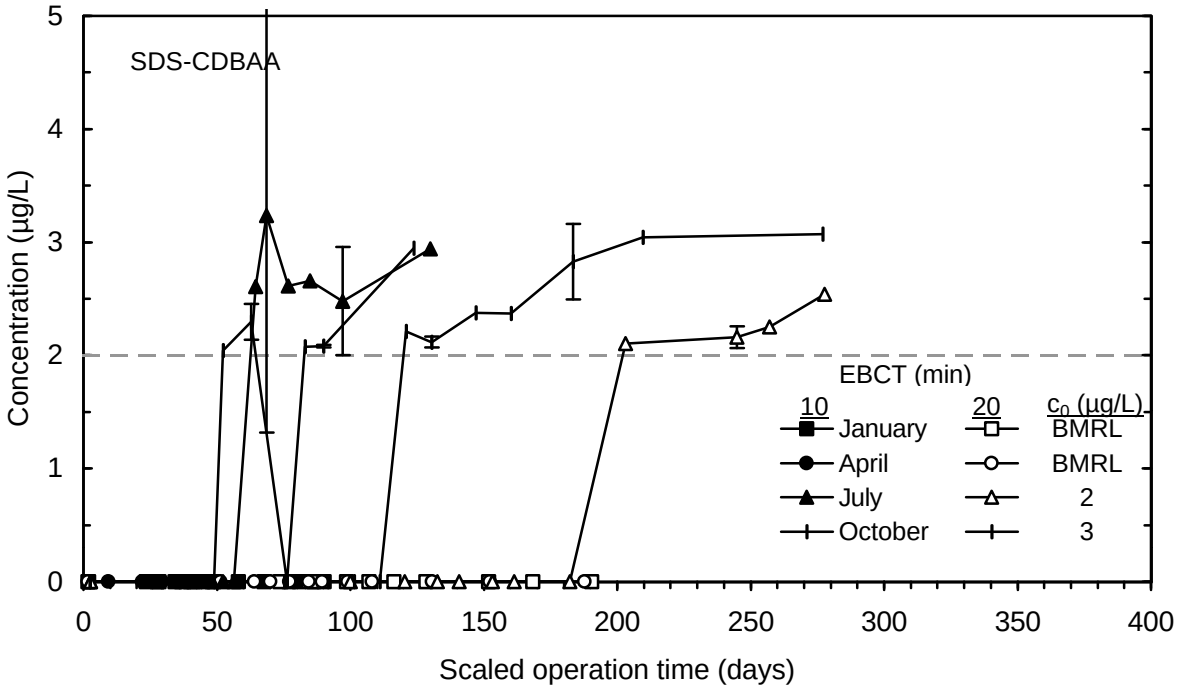


Figure 41 SDS-CDBAA breakthrough for 10 and 20 minute EBCT contactors for each session

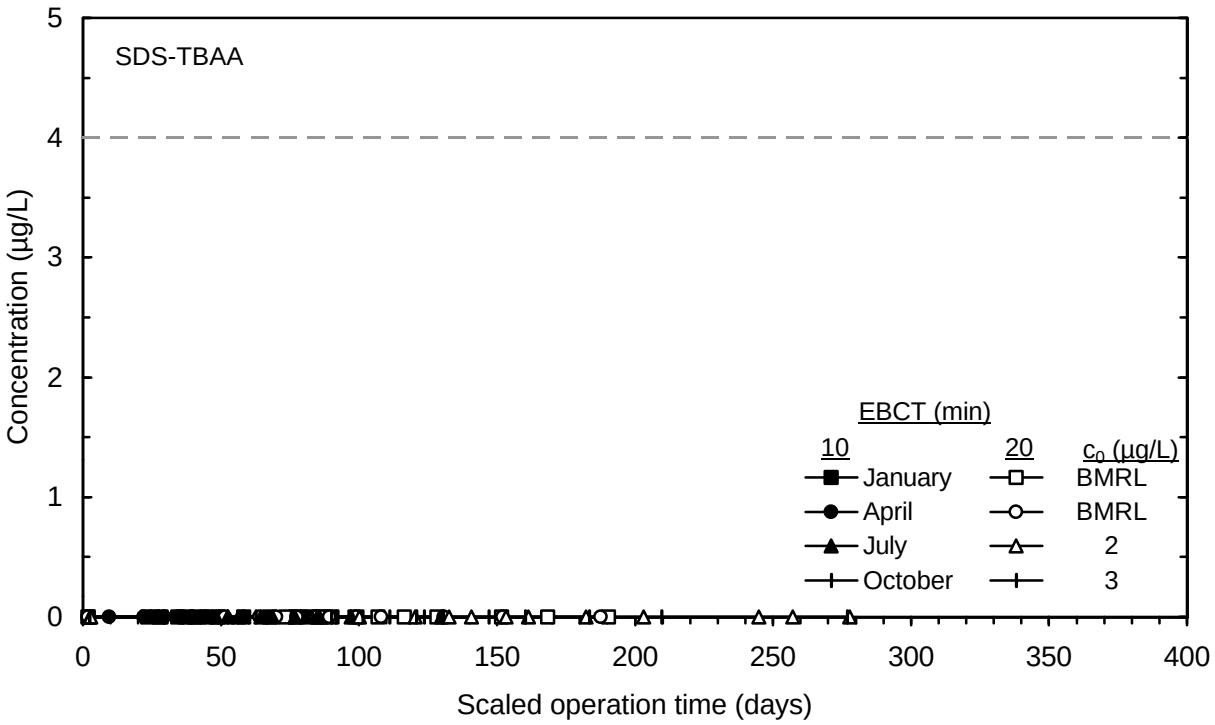


Figure 42 SDS-TBAA breakthrough for 10 and 20 minute EBCT contactors for each session

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 January session, Figures 43 through 50 compare the 10-minute 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 April, July, and October 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 19, 66, 41, and 38 percent longer during the January, April, July, and October sessions, respectively, for the 20 minute EBCT contactor over the 10 minute EBCT contactor. In some cases, such as during the July session, the two curves converged towards the end of the run. In a few cases (SDS-HAA breakthrough for the October session), only a slight difference was observed between the 10 and 20 minute EBCT runs.

For all parameters analyzed, the throughput in bed volumes for both EBCTs to various run time criteria are summarized in Tables 35 through 38. 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 January 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 April, July, and October 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 concentration	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)	3.3	2.0	10,400	26,110	11,300	29,940	9	15
			1.0	5,670	10,840	6,790	13,130	20	21
			1.7†	8,060	18,660	9,090	21,390	13	15
UV-254	(1/cm)	0.067	0.040	11,680	29,950	13,570	*	16	
			0.020	6,360	12,570	7,990	15,450	26	23
			0.034†	9,500	21,490	11,190	25,860	18	20
SDS-THM4	(µg/L)	75	80	*	*	*	*		
			64	*	*	*	*		
			32	7,570	15,790	8,980	19,440	19	23
SDS-HAA5	(µg/L)	57	48	*	*	*	*		
			24	8,240	18,160	9,970	21,600	21	19
SDS-HAA6	(µg/L)	60	48	*	*	*	*		
			24	7,690	16,280	9,250	19,390	20	19
SDS-HAA9	(µg/L)	64	48	*	*	*	*		
			24	7,260	14,930	7,990	17,790	10	19
SDS-TOX	(µg Cl^-/L)	317	120	7,690	16,150	9,530	19,460	24	20
			70	5,670	10,510	7,180	13,420	27	28

†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 35 Summary of throughput to selected GAC effluent criteria during session 1, January

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)	3.2	2.0	7,860	20,440	10,910	29,040	39	42
			1.0	3,950	7,720	5,820	11,340	47	47
			1.6†	5,930	13,070	7,630	18,330	29	40
UV-254	(1/cm)	0.073	0.040	8,790	19,100	11,500	27,360	31	43
			0.020	4,300	8,550	6,580	13,030	53	52
			0.037†	7,630	16,420	10,420	23,380	37	42
SDS-THM4	(µg/L)	114	80	*	*	11,860	*		
			64	7,980	18,130	9,350	21,510	17	19
			32	3,490	7,440	5,810	10,800	66	45
SDS-HAA5	(µg/L)	64	48	11,080	*	*	*		
			24	4,960	10,370	7,580	15,240	53	47
SDS-HAA6	(µg/L)	69	48	9,910	28,150	12,780	*	29	
			24	4,460	9,100	6,290	13,600	41	49
SDS-HAA9	(µg/L)	73	48	8,780	20,900	10,850	33,600	24	61
			24	4,180	8,170	6,090	12,730	46	56
SDS-TOX	(µg Cl^-/L)	417	120	4,390	8,680	6,850	13,140	56	51
			70	3,030	5,400	5,660	9,470	87	75

†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 36 Summary of throughput to selected GAC effluent criteria during session 2, April

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)	2.1	2.0	*	*	*	*		
			1.0	10,140	22,090	13,120	27,830	29	26
			1.1†	10,710	24,150	14,110	30,050	32	24
UV-254	(1/cm)	0.046	0.040	*	*	*	*		
			0.020	13,190	29,280	17,090	34,800	30	19
			0.023†	16,620	35,820	17,960	42,200	8	18
SDS-THM4	(µg/L)	140	80	12,600	30,710	15,000	37,430	19	22
			64	9,850	21,370	12,350	27,090	25	27
			32	7,000	11,640	9,850	16,340	41	40
SDS-HAA5	(µg/L)	35	48	*	*	*	*		
			24	*	*	*	*		
SDS-HAA6	(µg/L)	44	48	*	*	*	*		
			24	15,320	31,970	17,990	41,020	17	28
SDS-HAA9	(µg/L)	53	48	*	*	*	*		
			24	9,600	22,280	15,680	31,860	63	43
SDS-TOX	(µg Cl^-/L)	284	120	11,150	24,580	15,620	31,150	40	27
			70	7,830	15,380	11,380	20,760	45	35

†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 37 Summary of throughput to selected GAC effluent criteria during session 3, July

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)	2.6	2.0	18,540	*	19,300	*	4	
			1.0	7,280	15,480	9,020	18,860	24	22
			1.3†	9,700	21,300	10,890	24,860	12	17
UV-254	(1/cm)	0.060	0.040	*	*	*	*		
			0.020	9,200	19,450	11,460	23,180	25	19
			0.030†	13,370	30,910	16,030	36,140	20	17
SDS-THM4	(µg/L)	128	80	10,940	29,960	14,460	43,020	32	44
			64	7,880	19,140	12,020	26,290	53	37
			32	5,580	9,950	7,680	13,830	38	39
SDS-HAA5	(µg/L)	37	48	*	*	*	*		
			24	*	*	*	*		
SDS-HAA6	(µg/L)	49	48	*	*	*	*		
			24	15,020	31,330	14,230	32,880	-5	5
SDS-HAA9	(µg/L)	61	48	*	*	*	*		
			24	12,900	24,050	12,180	24,370	-6	1
SDS-TOX	(µg Cl^-/L)	305	120	9,980	20,890	12,060	25,140	21	20
			70	6,770	13,110	8,970	16,780	32	28

†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 38 Summary of throughput to selected GAC effluent criteria during session 4, October

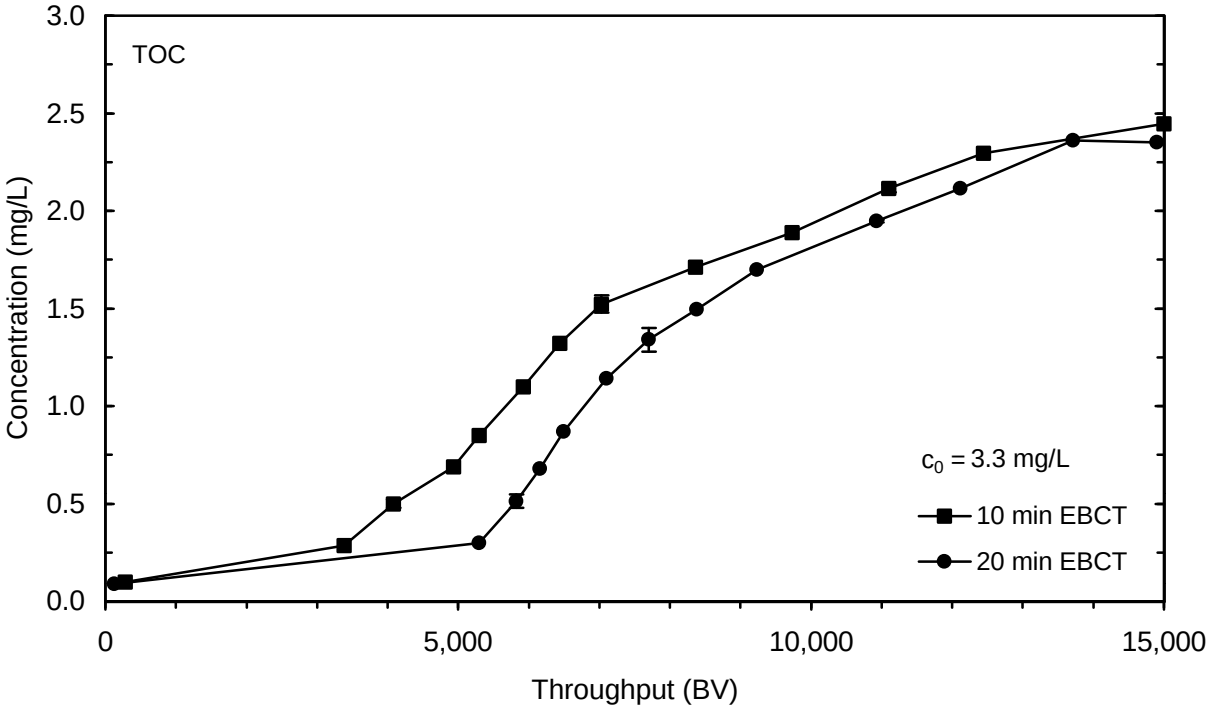


Figure 43 TOC breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

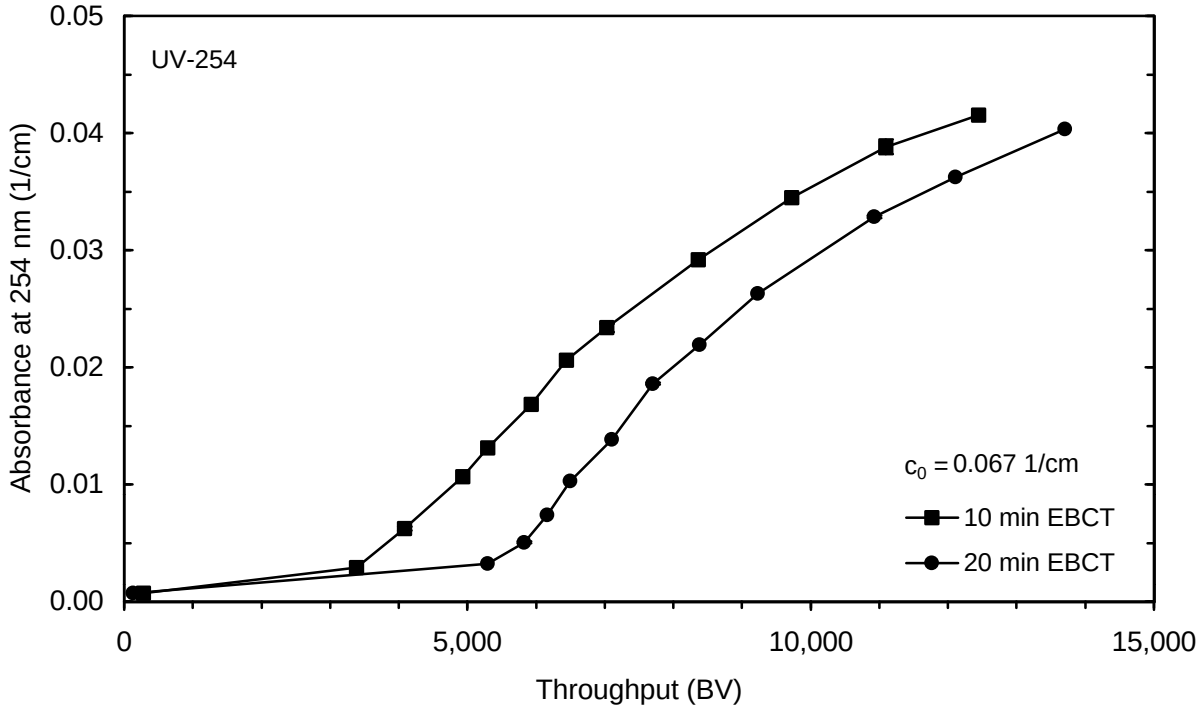


Figure 44 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

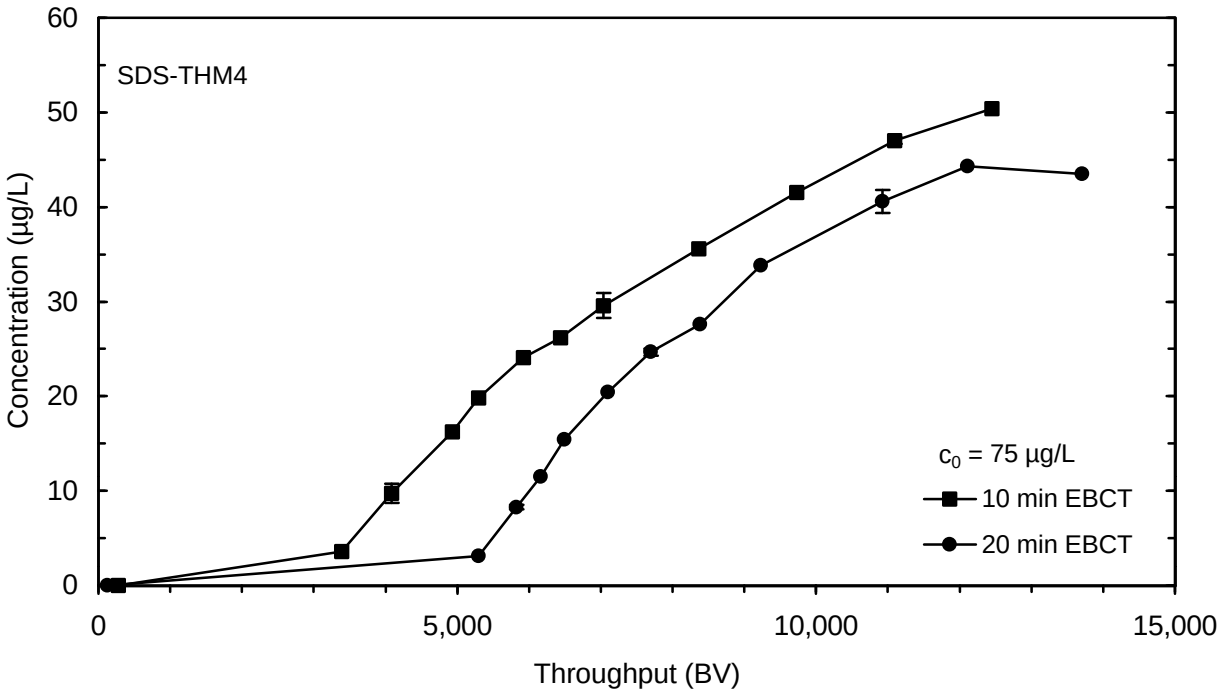


Figure 45 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

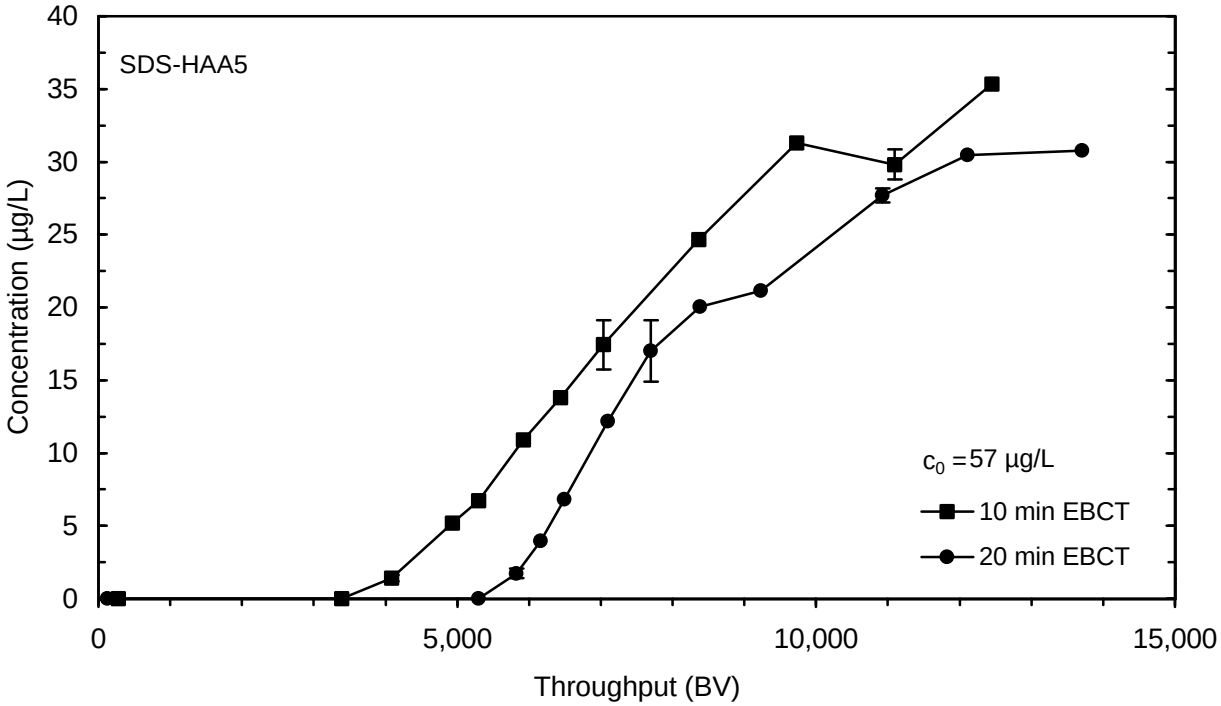


Figure 46 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

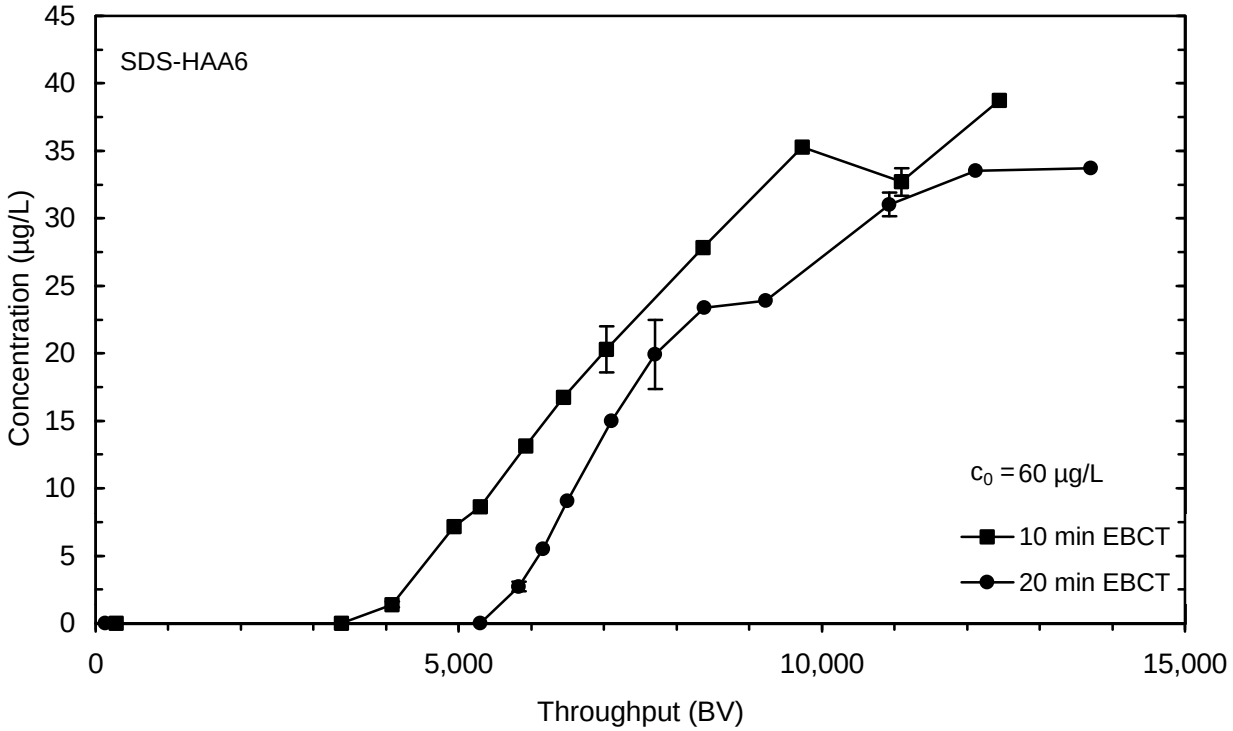


Figure 47 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

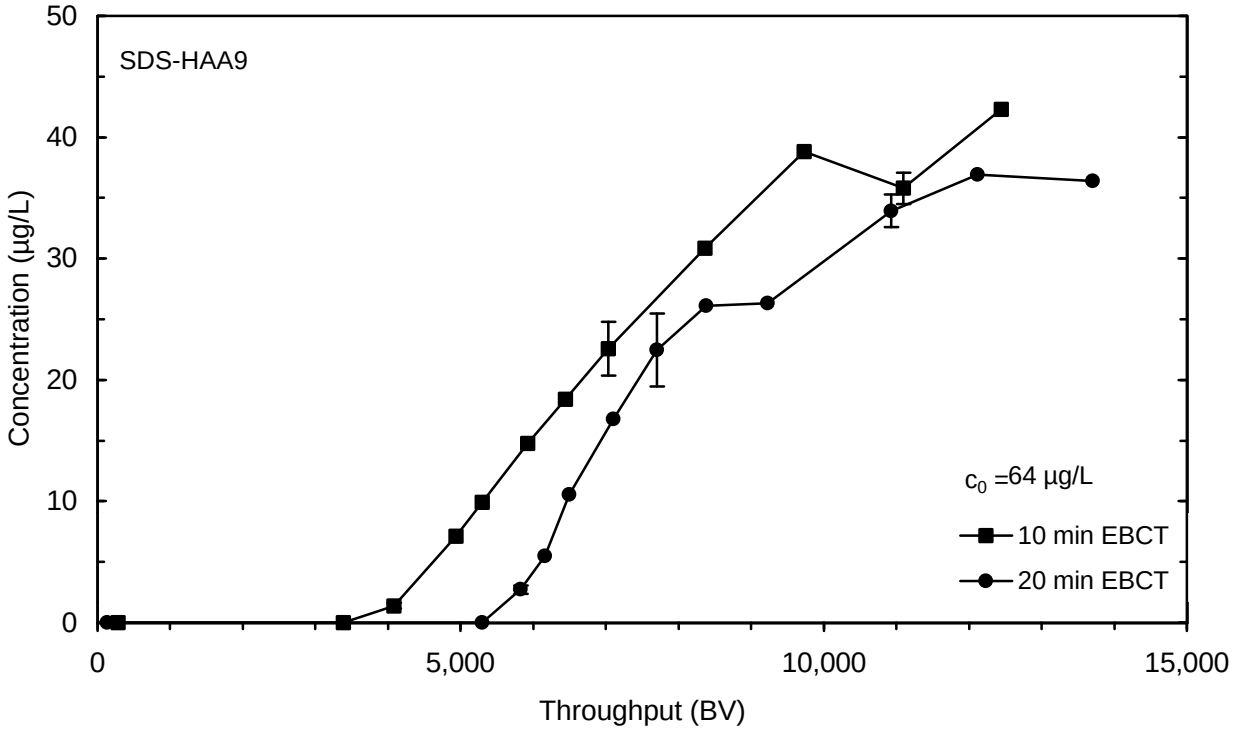


Figure 48 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

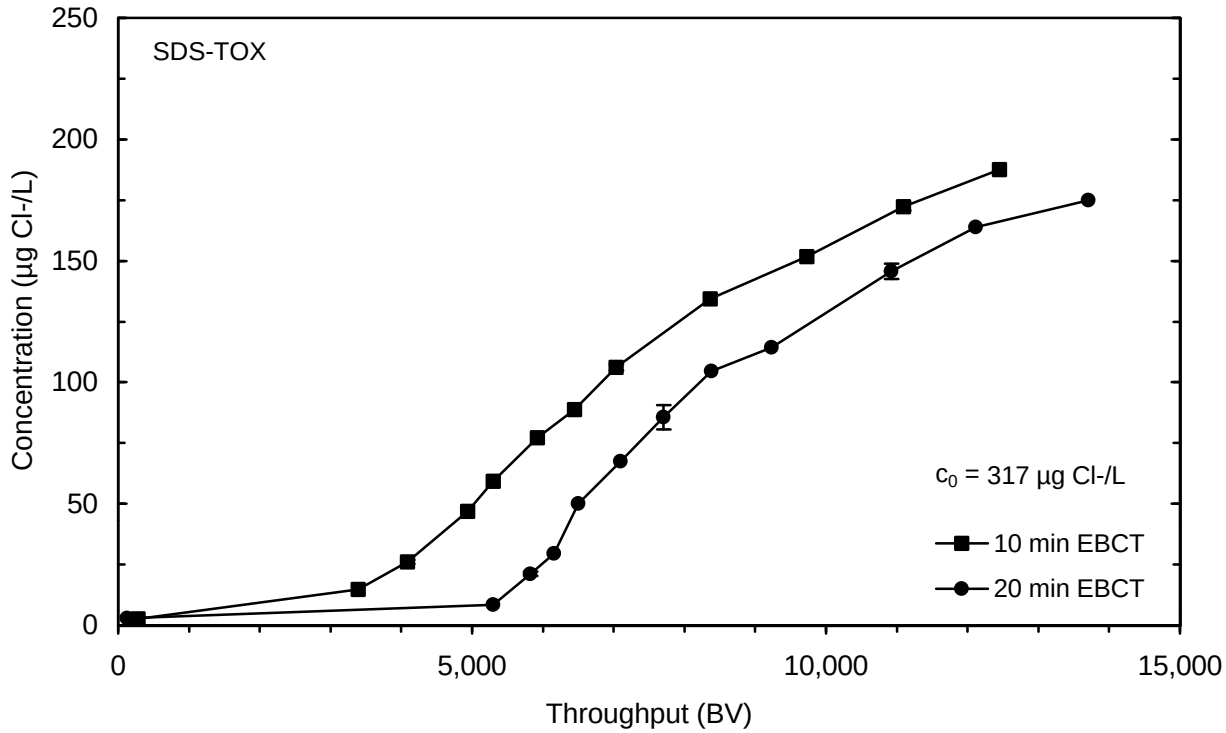


Figure 49 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

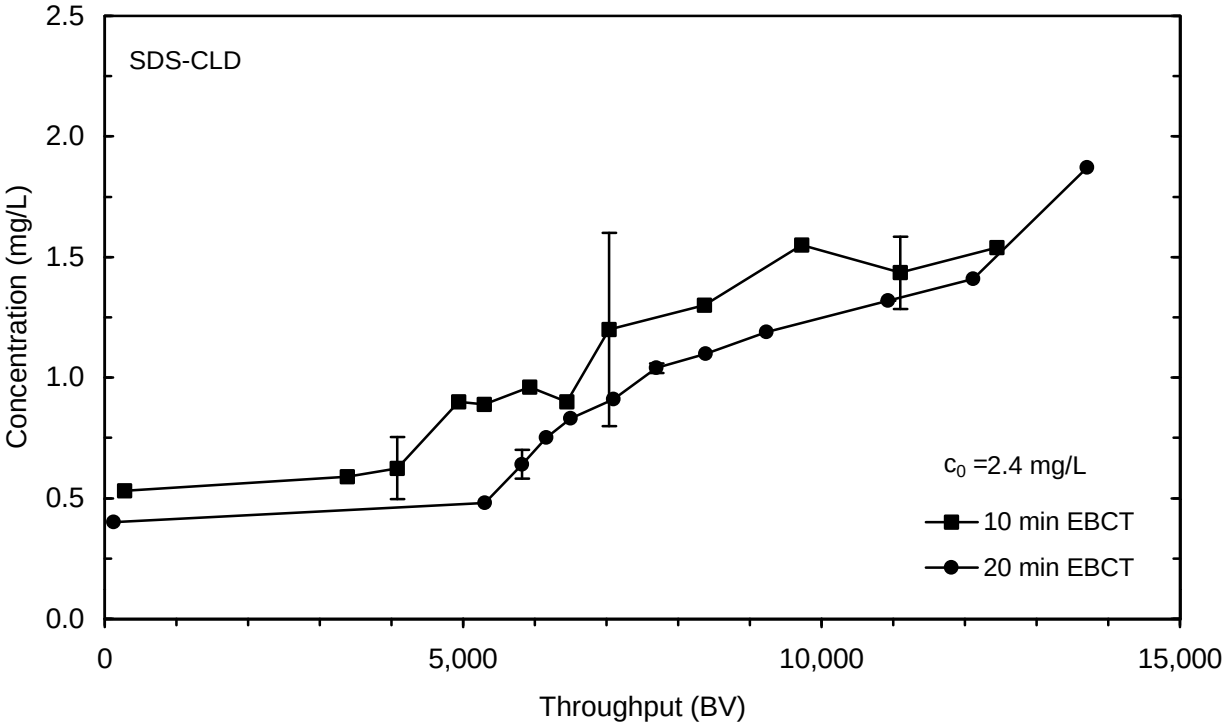


Figure 50 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 1 (January), plotted as throughput in bed volumes treated

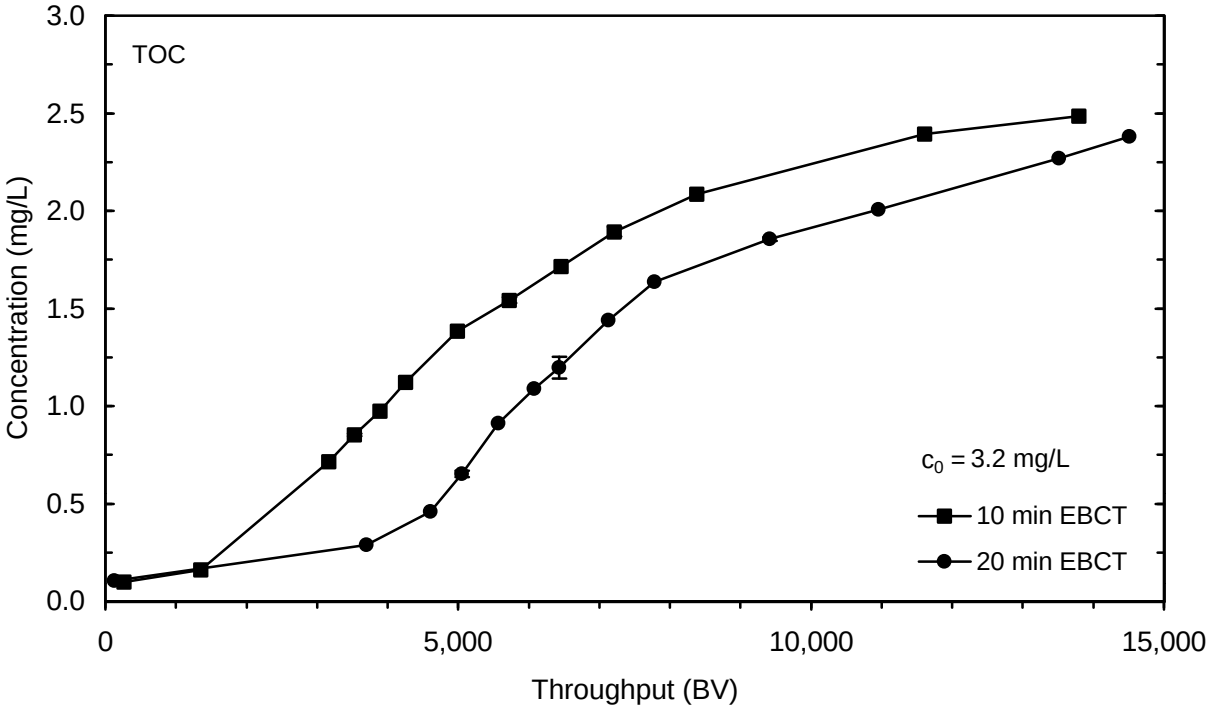


Figure 51 TOC breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

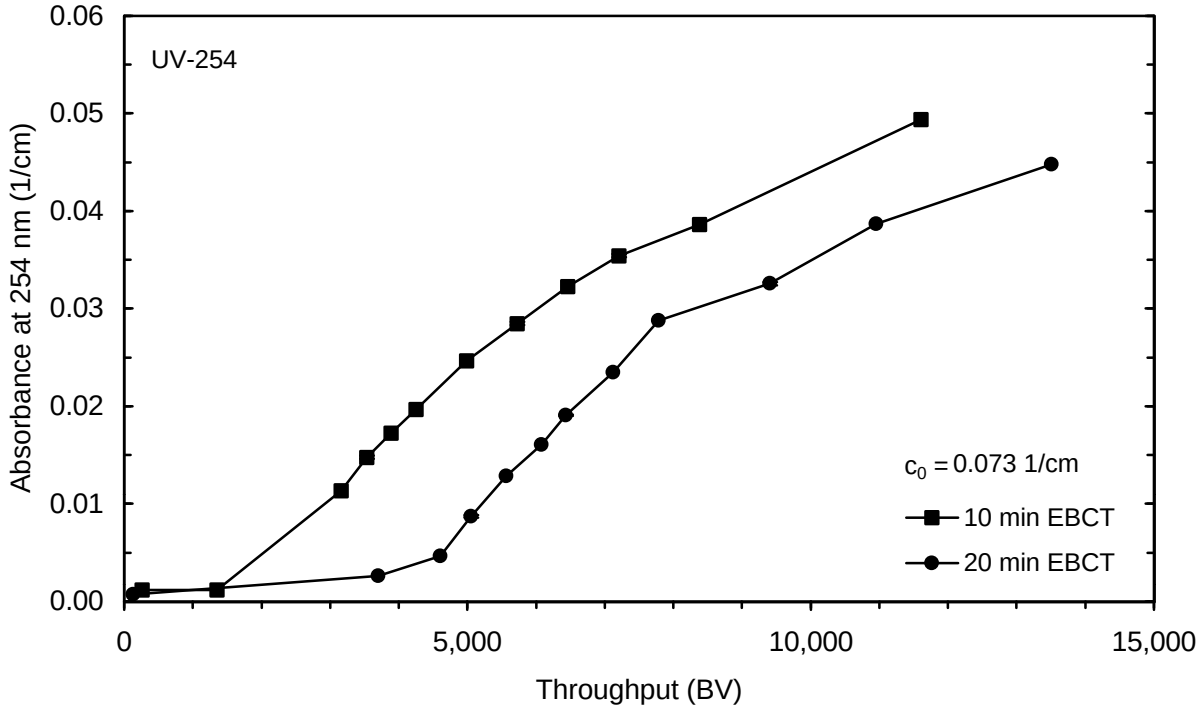


Figure 52 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

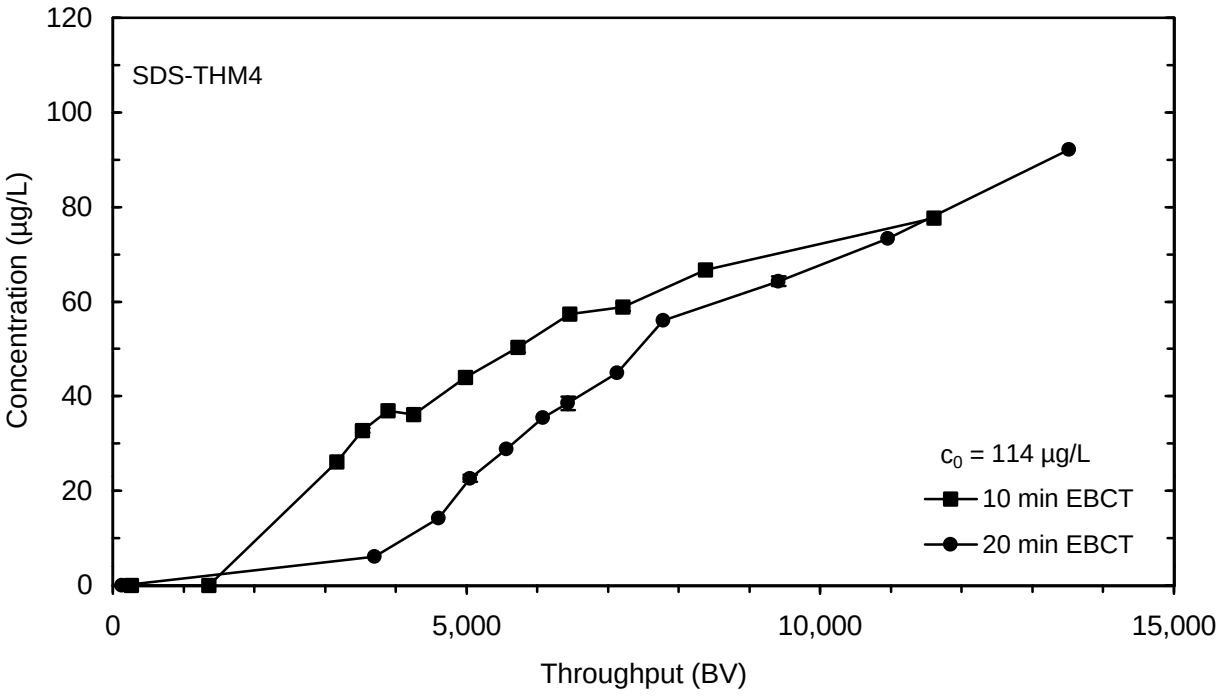


Figure 53 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

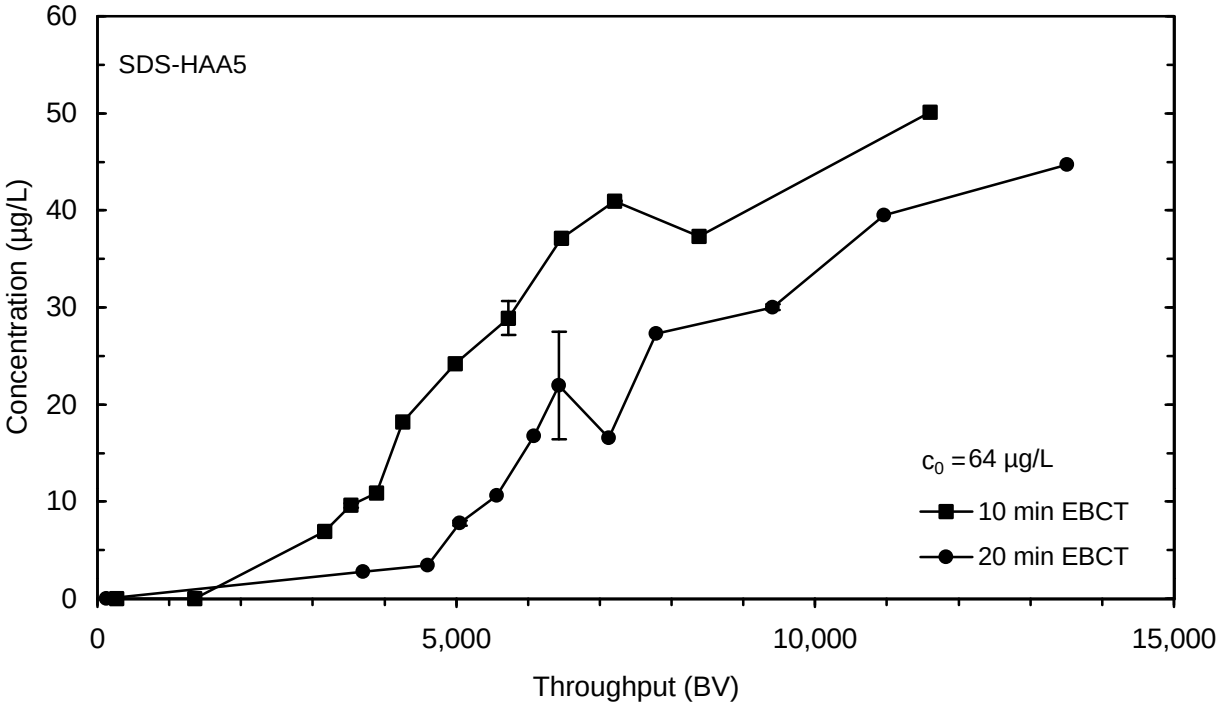


Figure 54 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

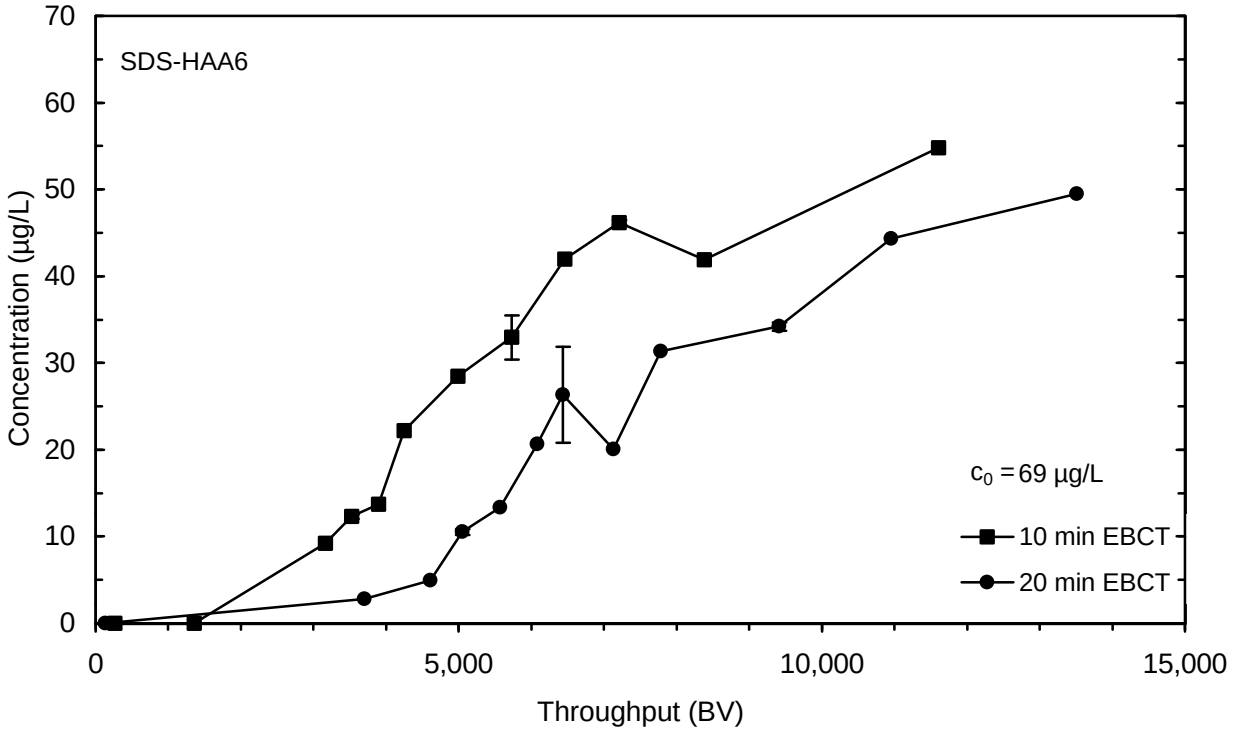


Figure 55 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

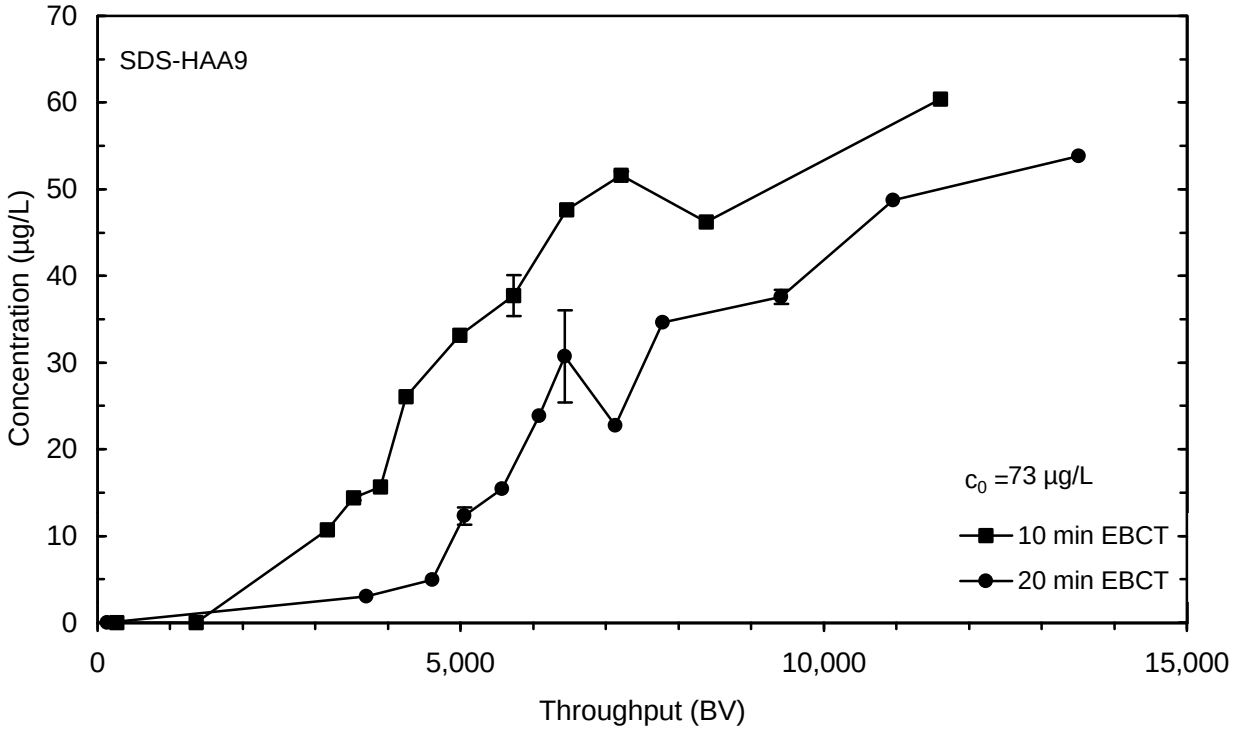


Figure 56 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

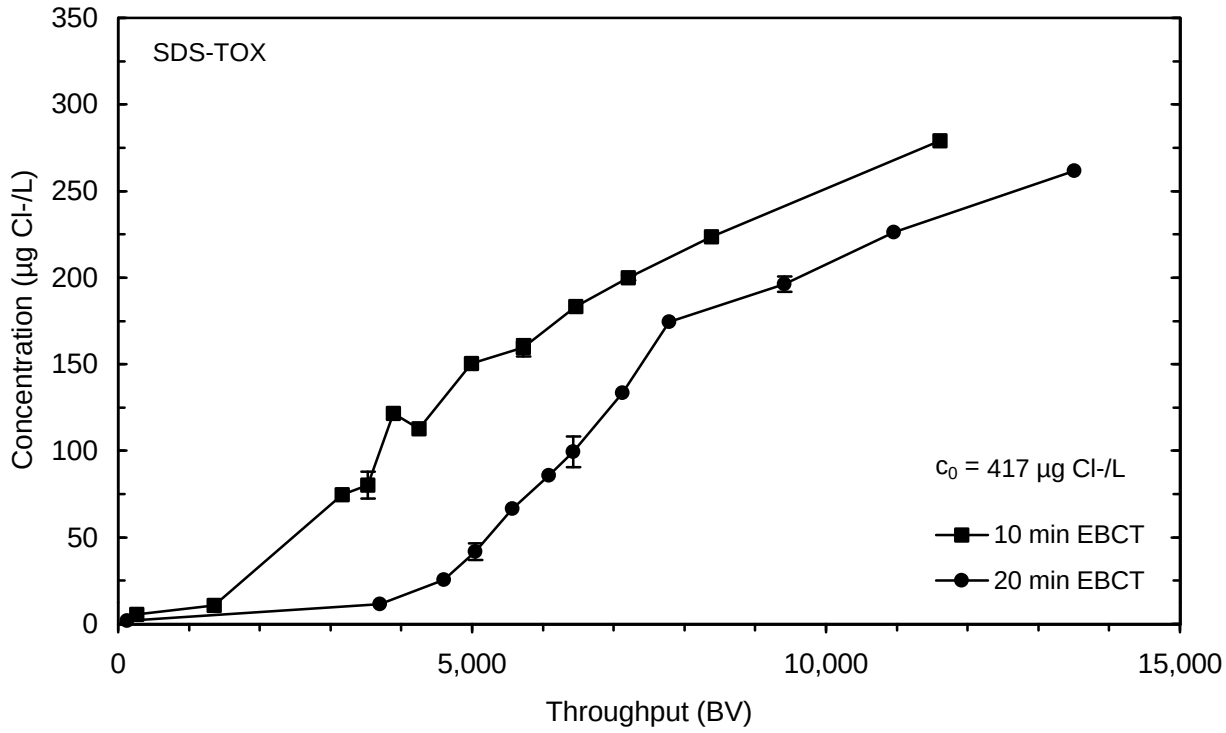


Figure 57 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

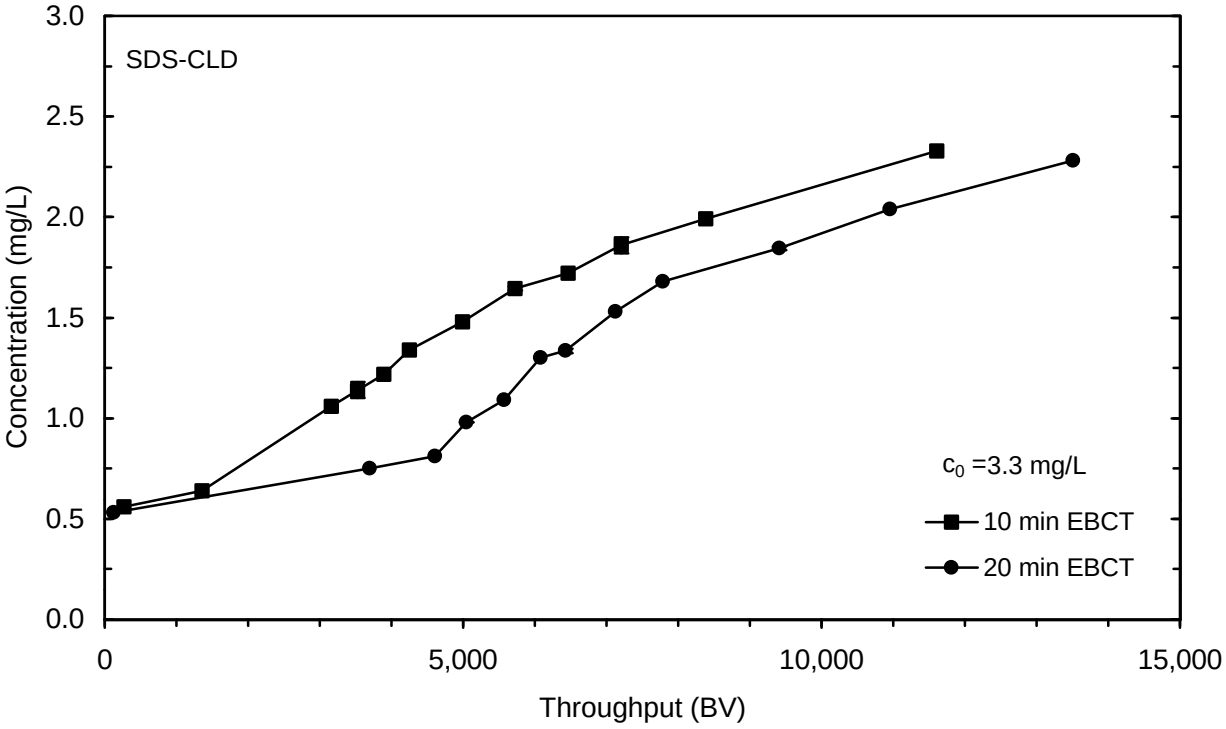


Figure 58 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 2 (April), plotted as throughput in bed volumes treated

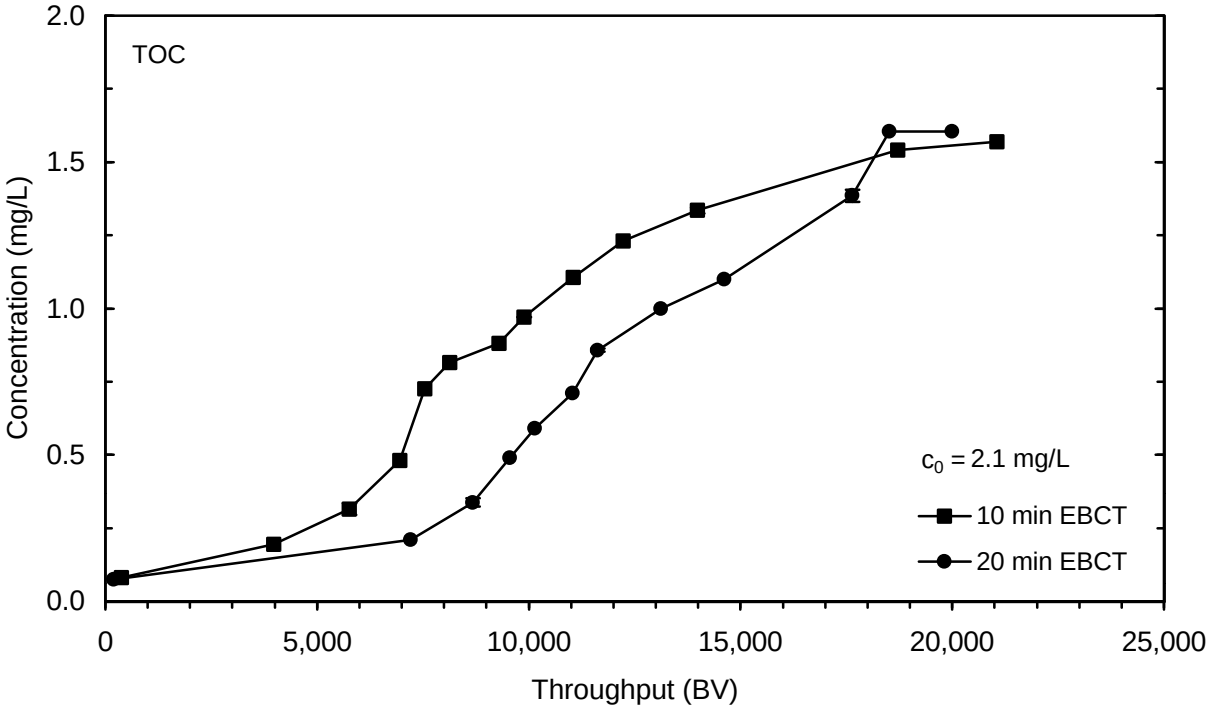


Figure 59 TOC breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

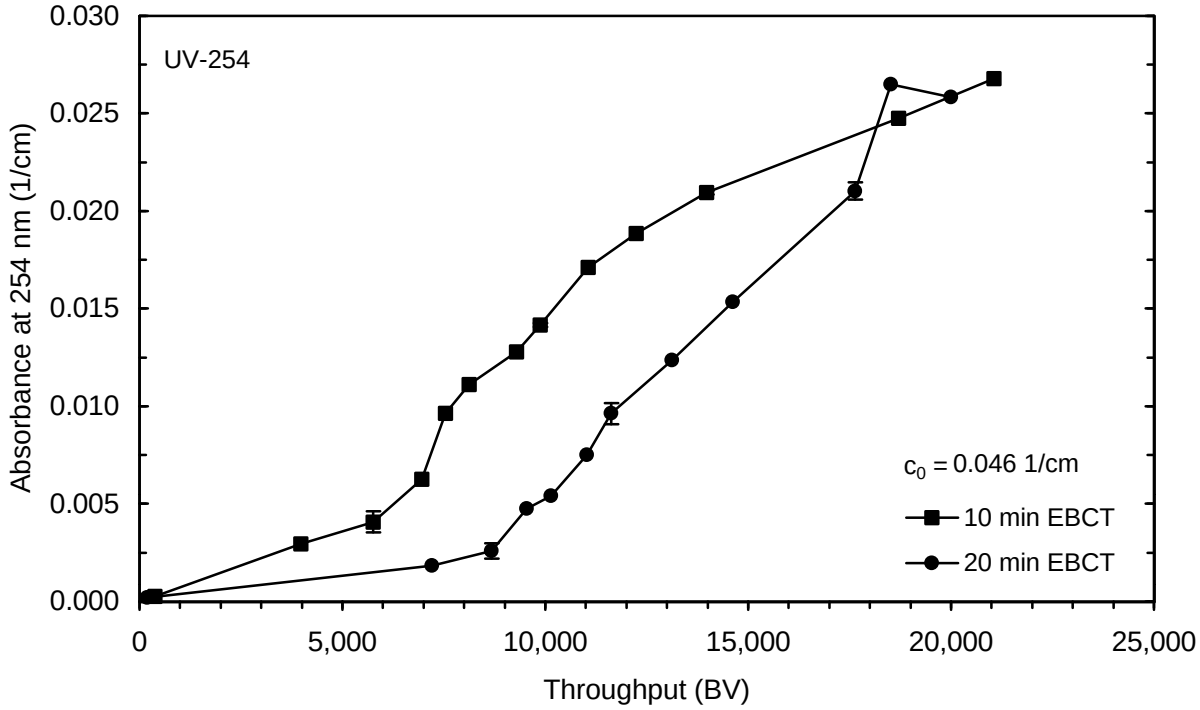


Figure 60 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

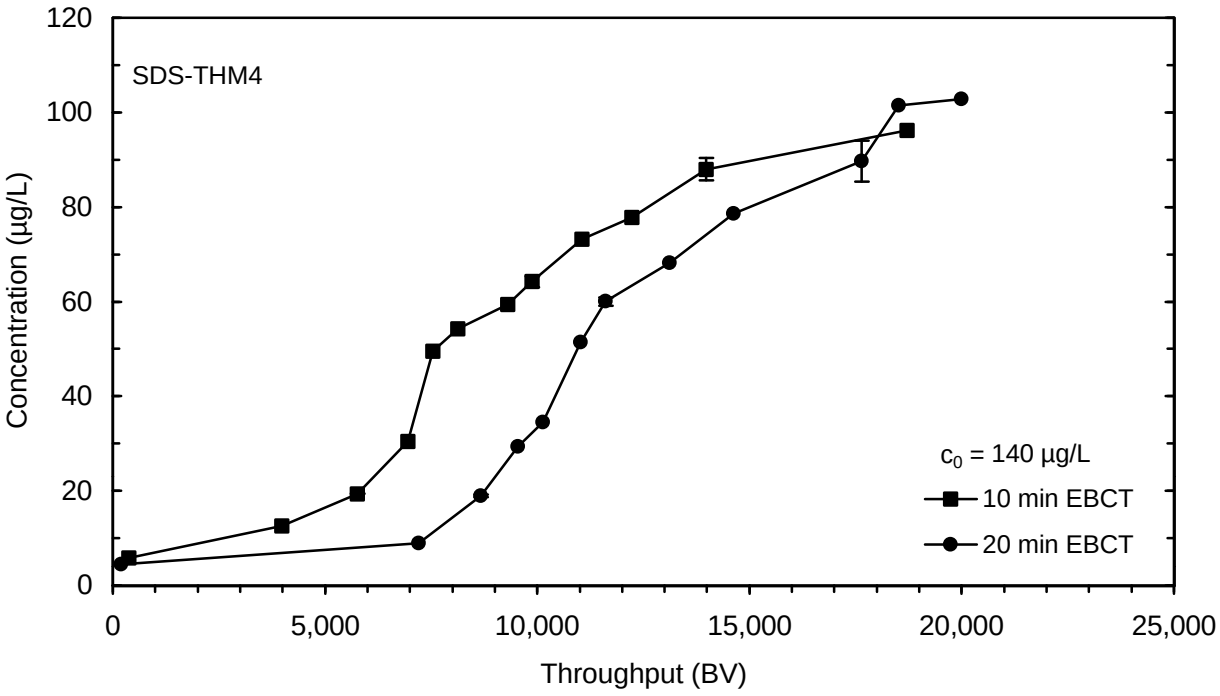


Figure 61 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

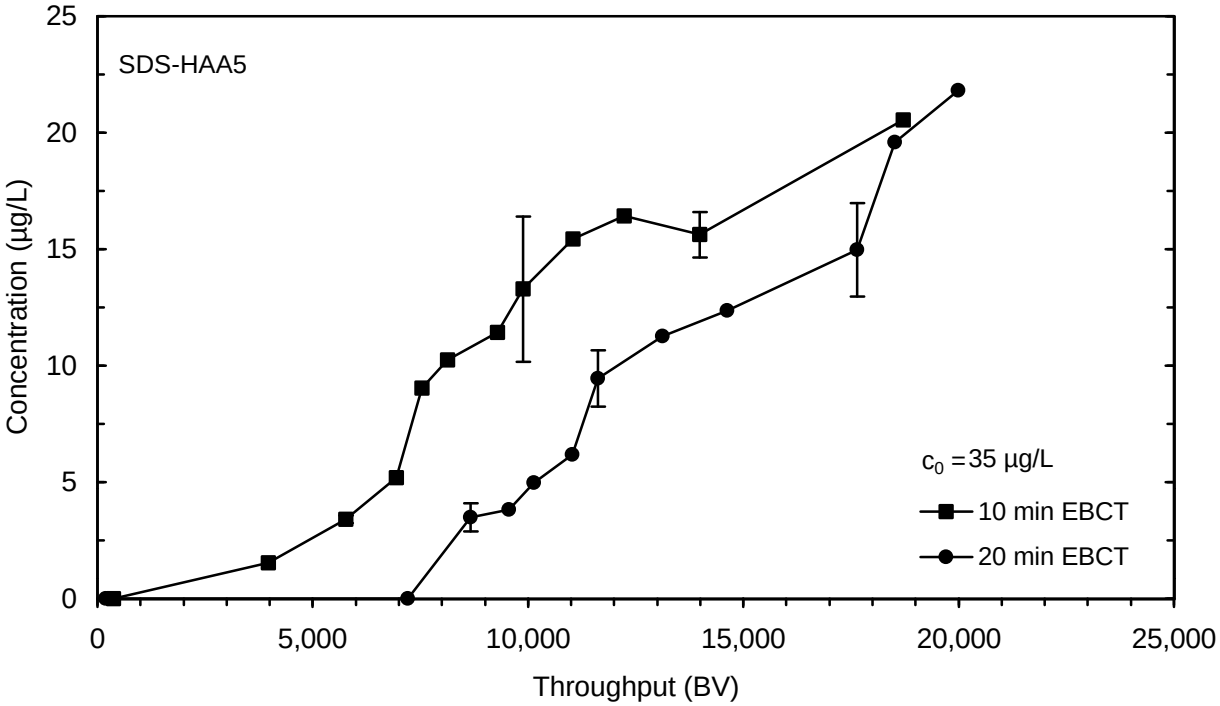


Figure 62 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

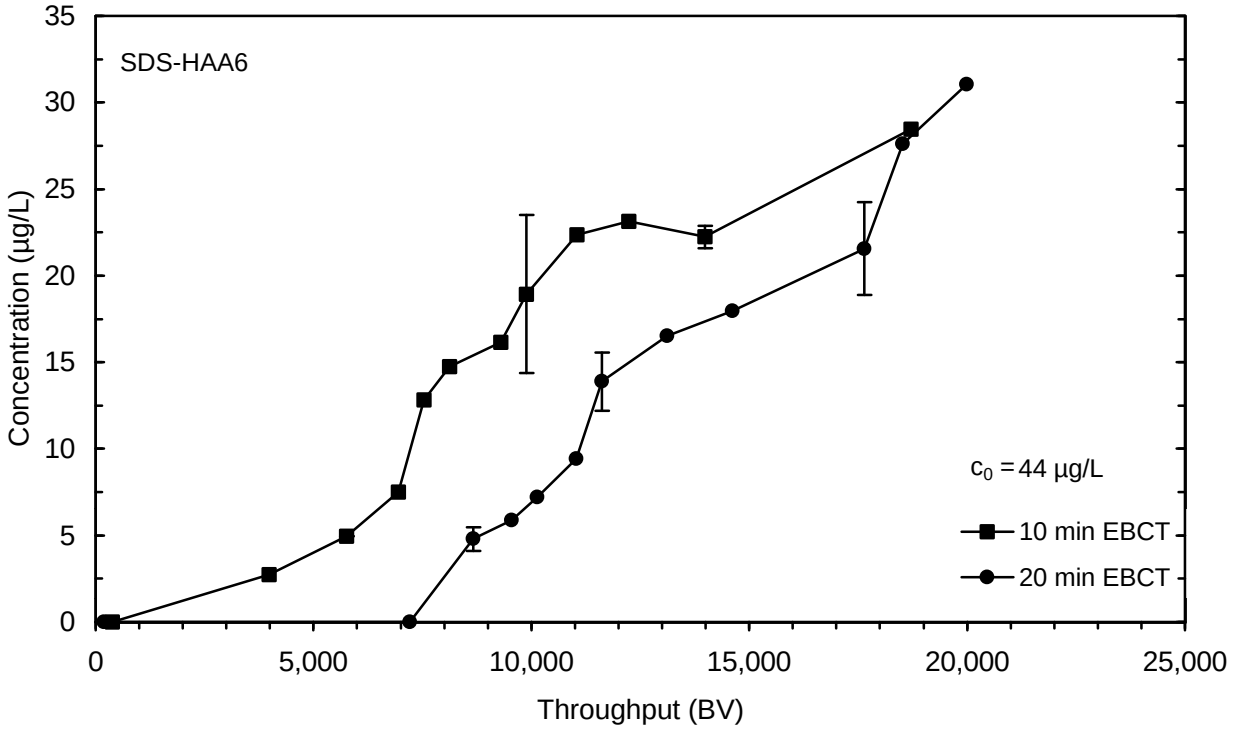


Figure 63 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

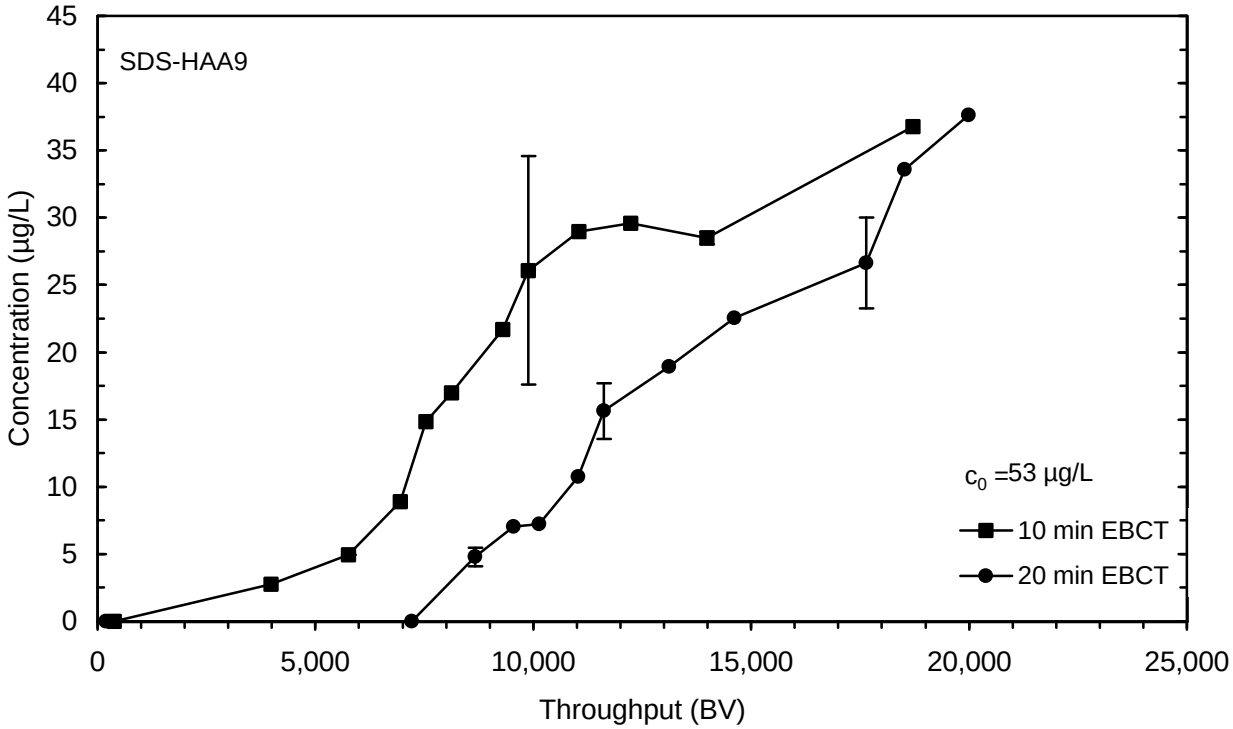


Figure 64 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

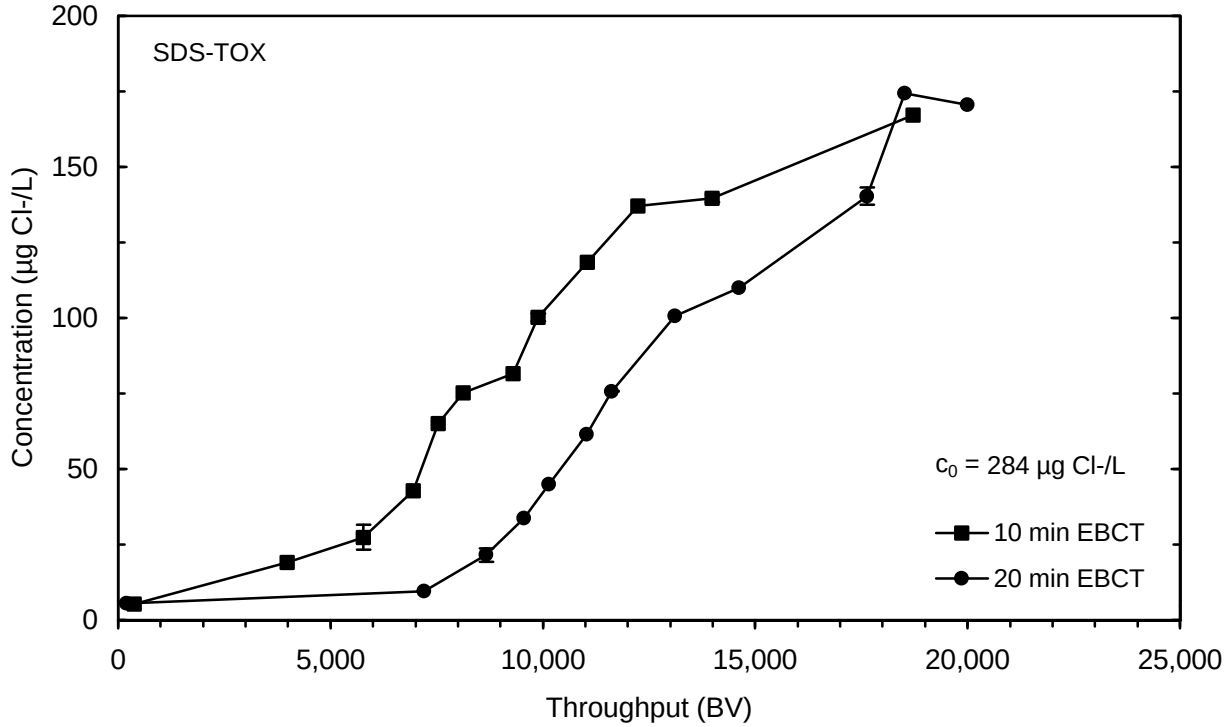


Figure 65 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

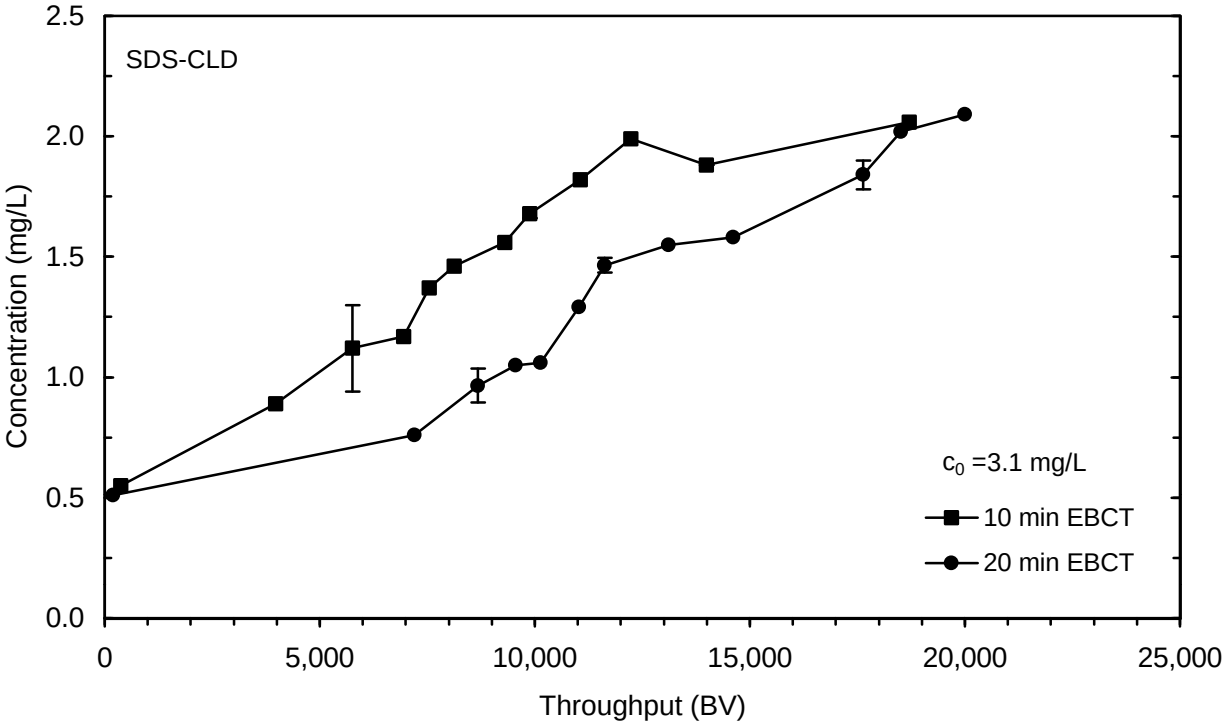


Figure 66 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 3 (July), plotted as throughput in bed volumes treated

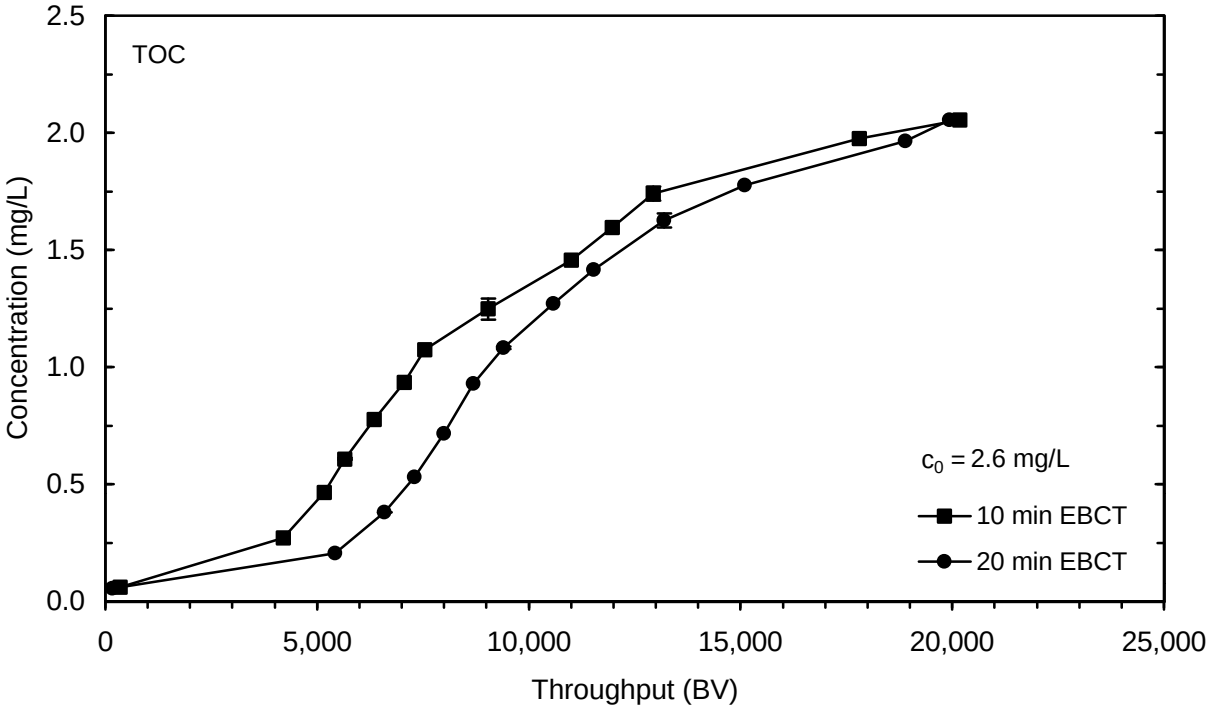


Figure 67 TOC breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

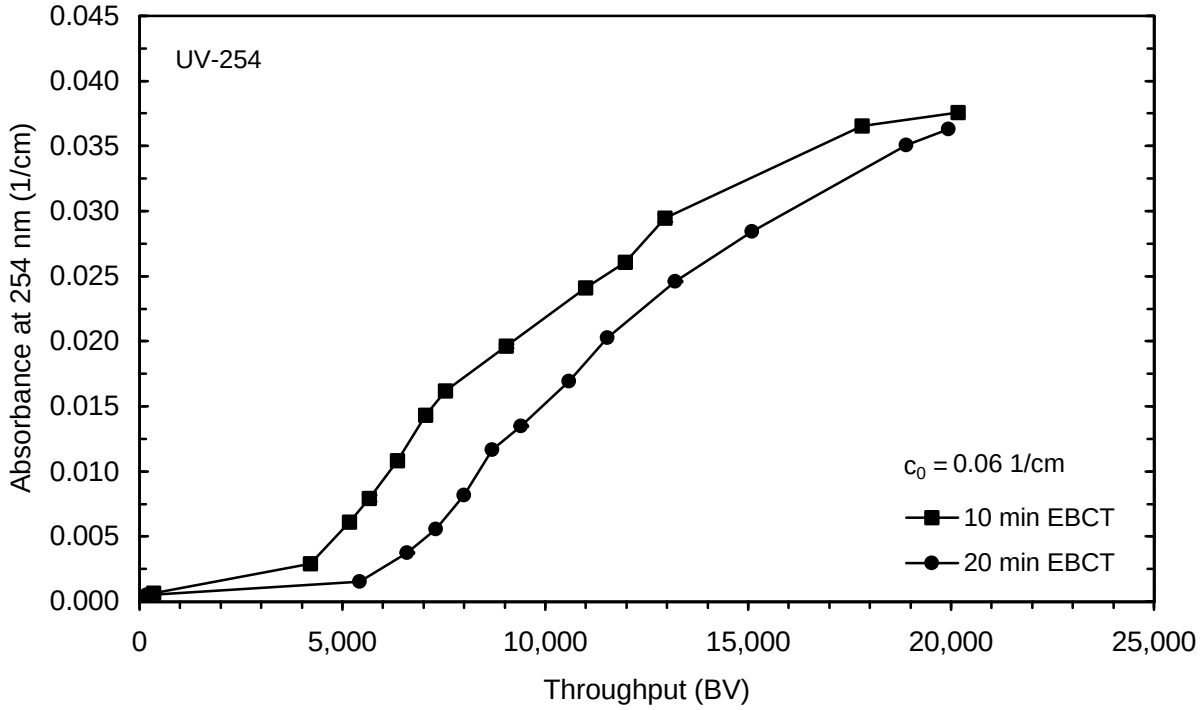


Figure 68 UV-254 breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

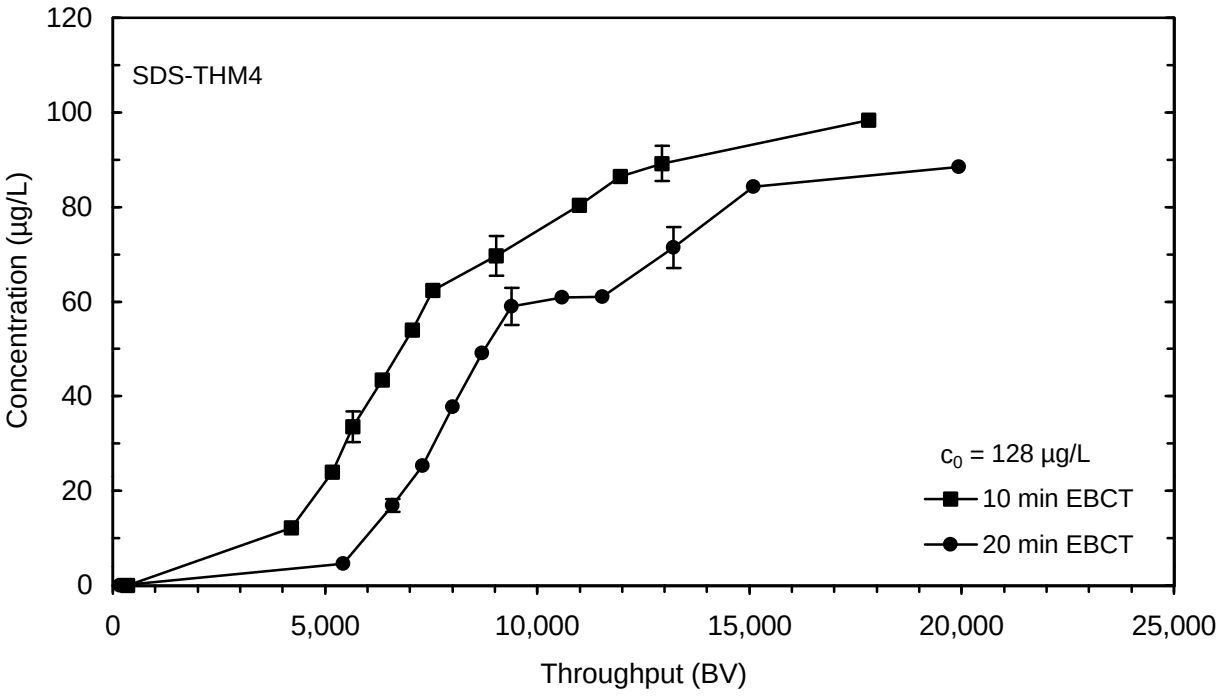


Figure 69 SDS-THM4 breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

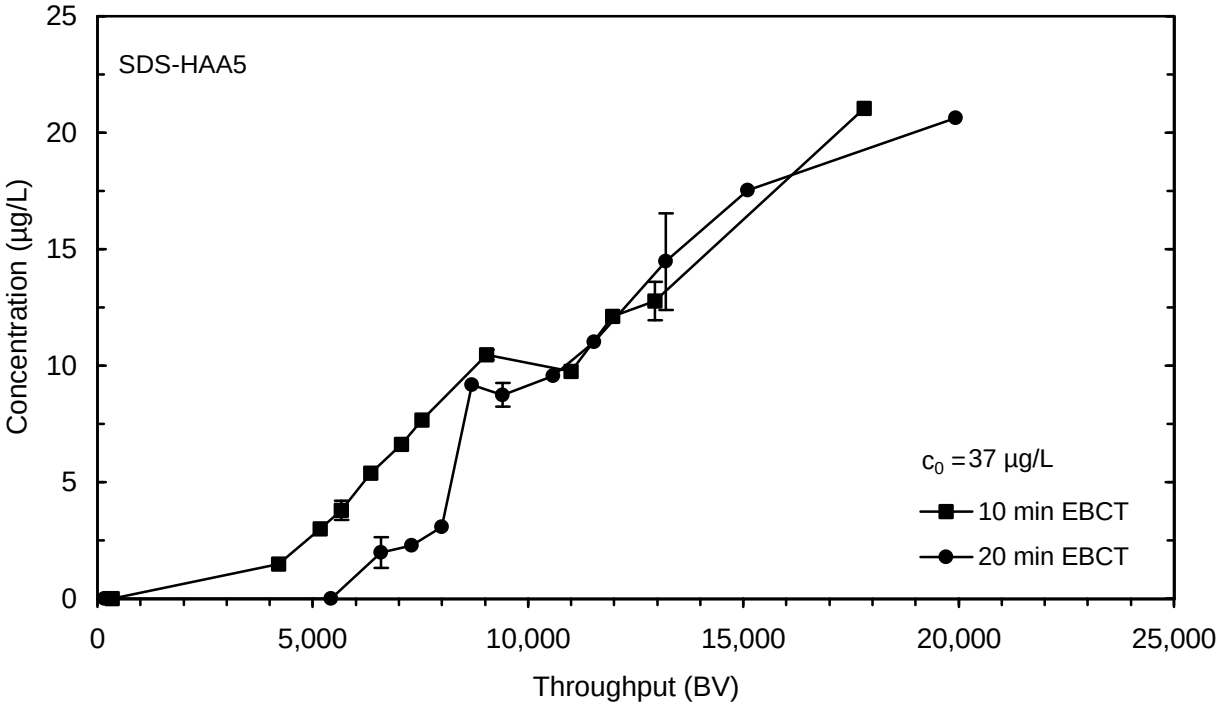


Figure 70 SDS-HAA5 breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

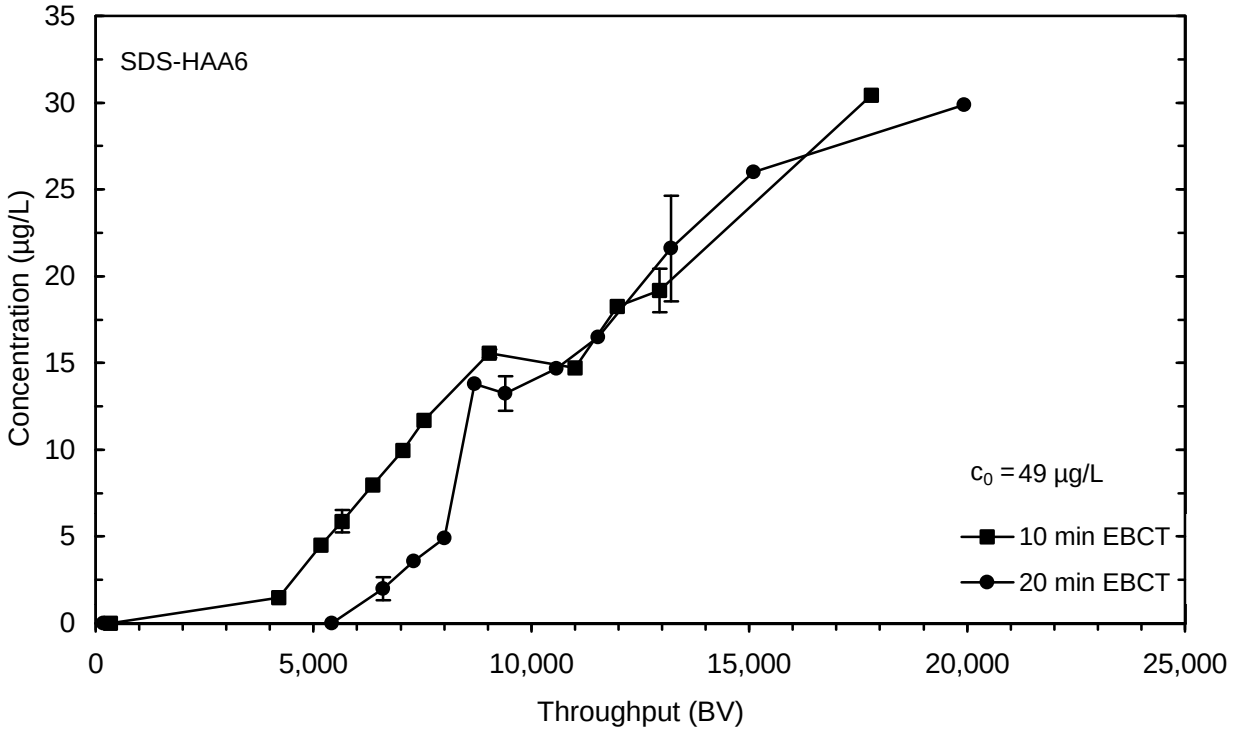


Figure 71 SDS-HAA6 breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

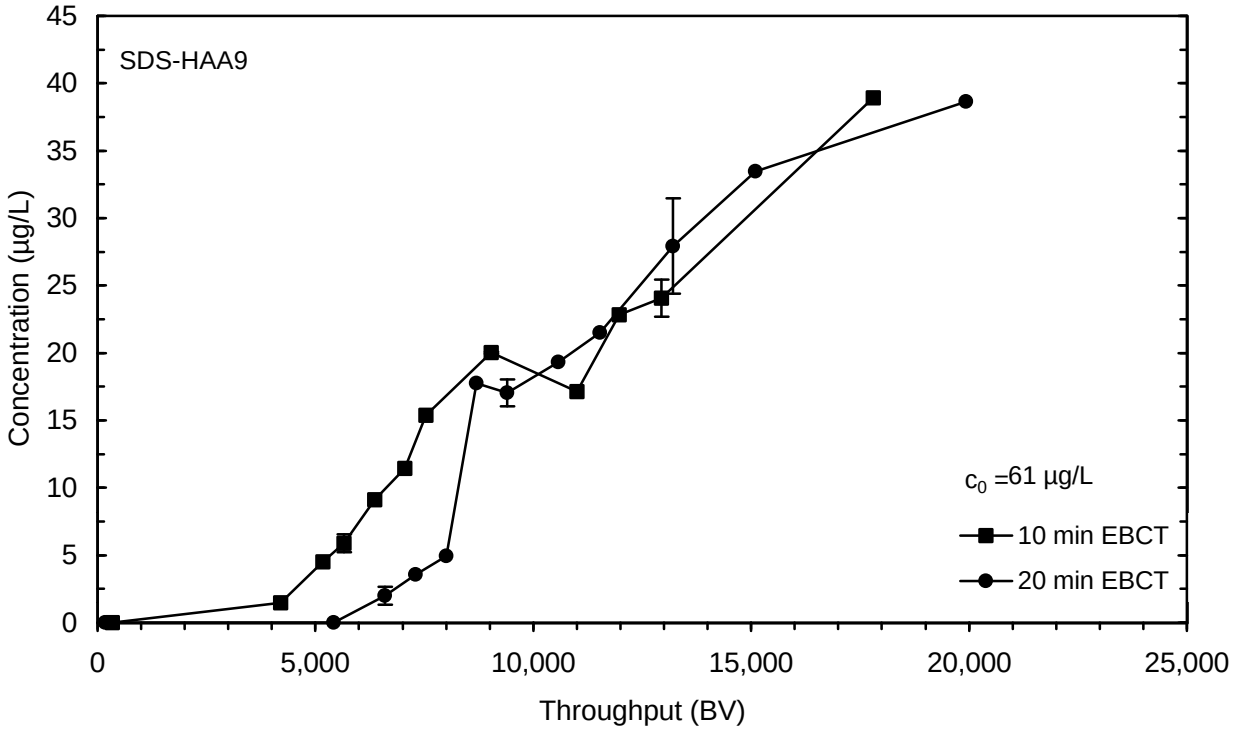


Figure 72 SDS-HAA9 breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

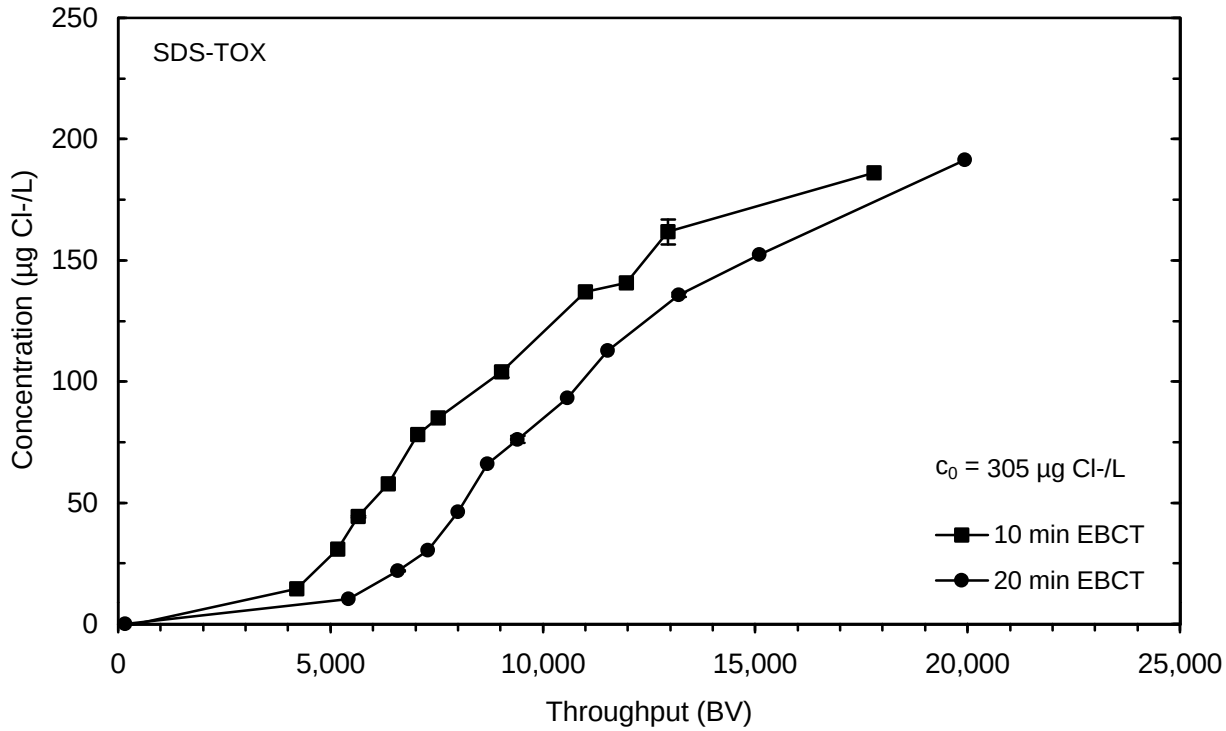


Figure 73 SDS-TOX breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

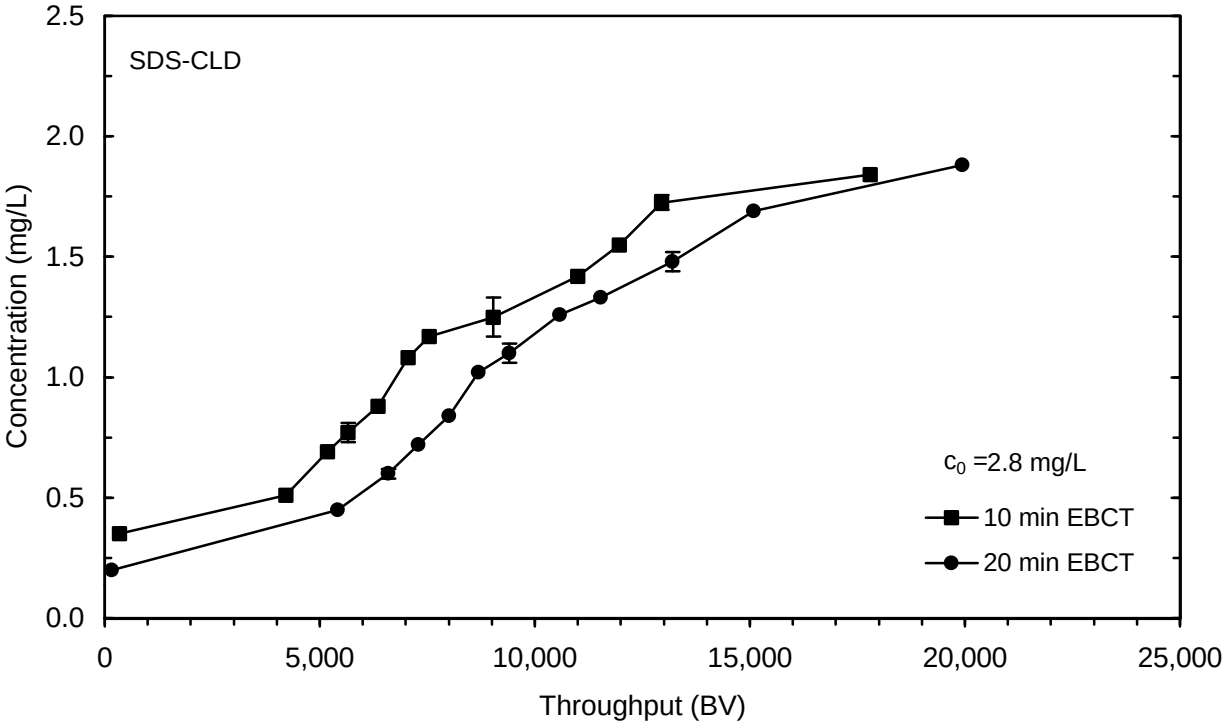


Figure 74 SDS-CLD breakthrough for 10 and 20 minute EBCT contactors during session 4 (October), plotted as throughput in bed volumes treated

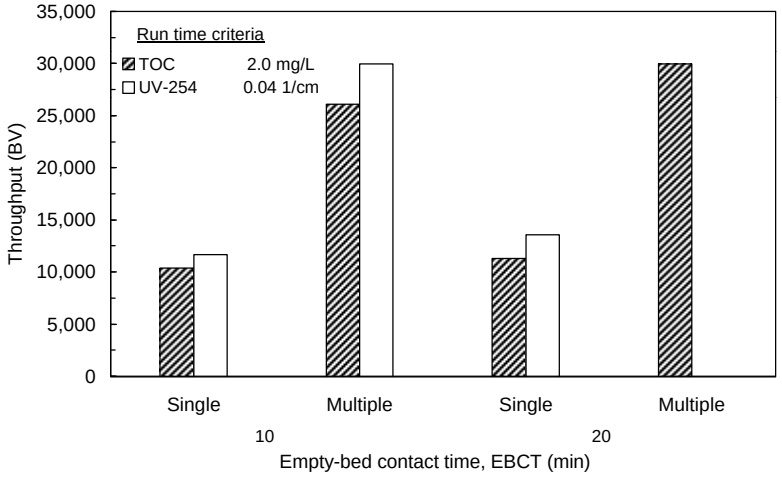


Figure 75 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (January)

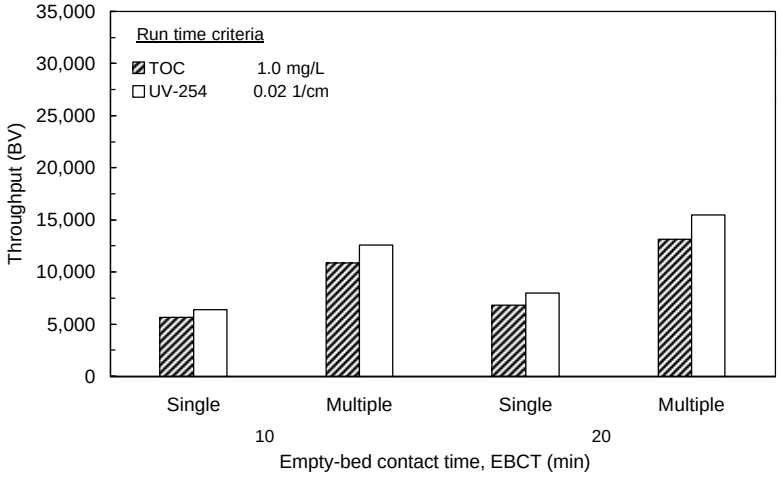


Figure 76 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (January)

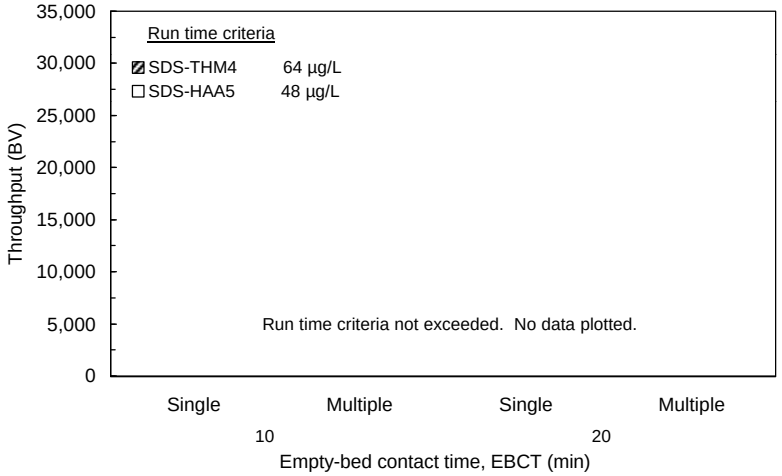


Figure 77 Throughput based on single contactor breakthrough and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 1 (January)

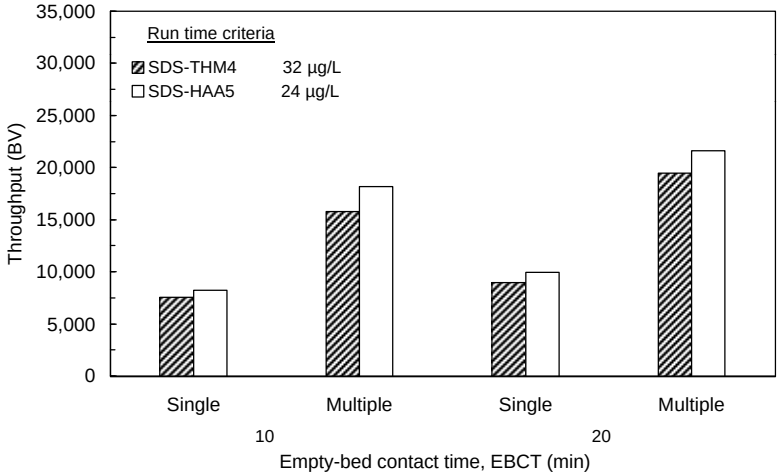


Figure 78 Throughput based on single contactor breakthrough and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 1 (January)

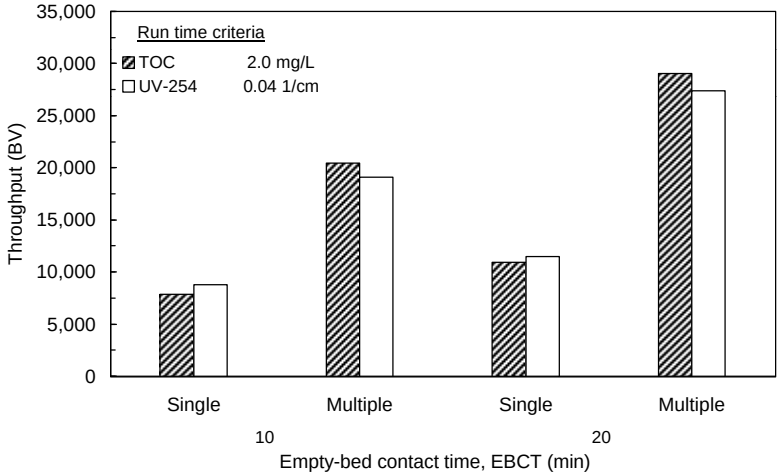


Figure 79 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (April)

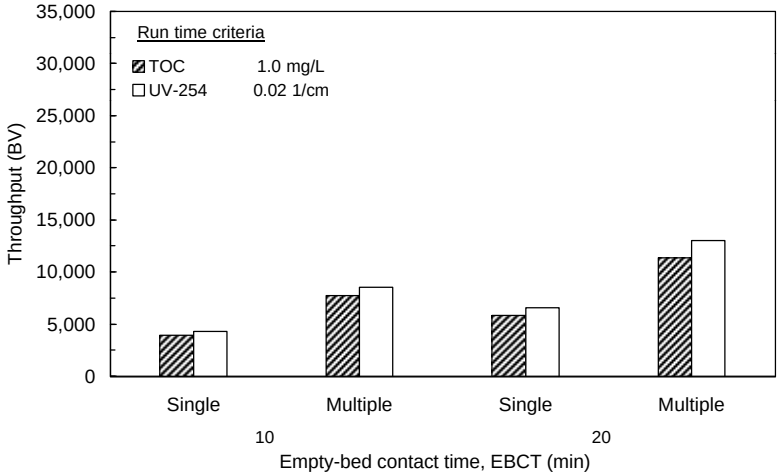


Figure 80 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (April)

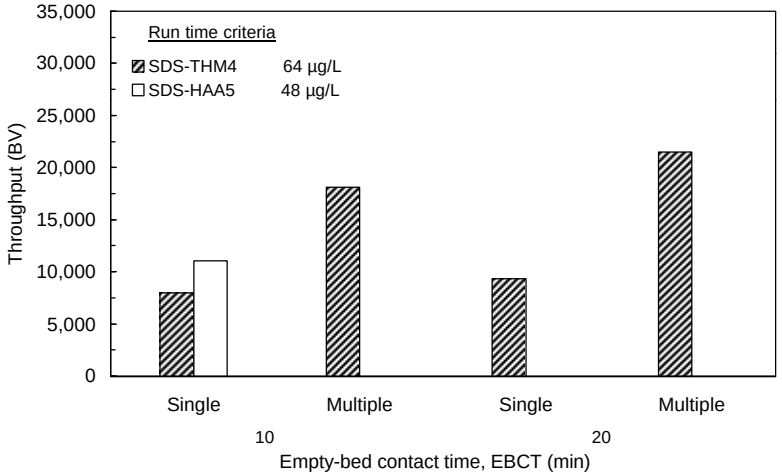


Figure 81 Throughput based on single contactor breakthrough and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 2 (April)

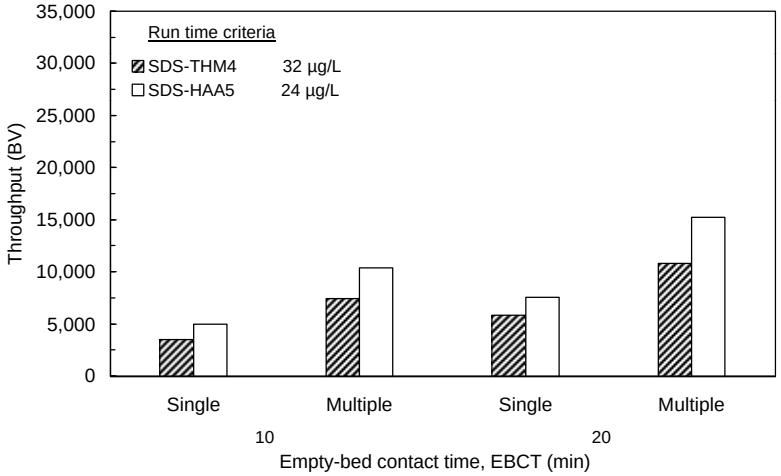


Figure 82 Throughput based on single contactor breakthrough and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 2 (April)

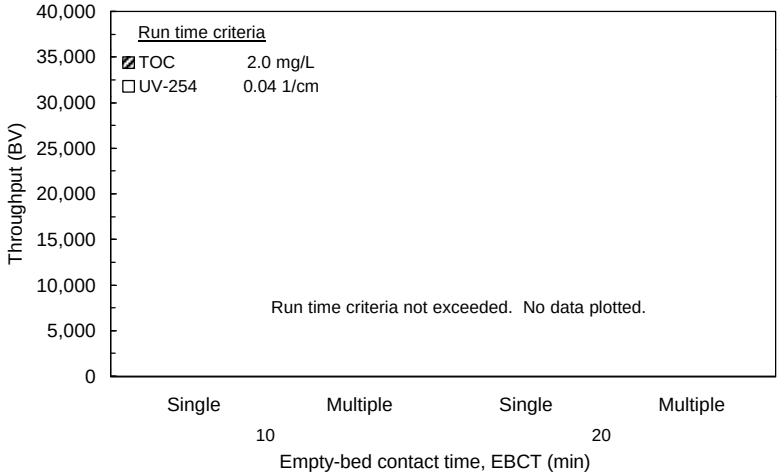


Figure 83 Throughput based on single and multiple contactor breakthrough for TOC and UV-254 effluent criteria (high) during session 3 (July)

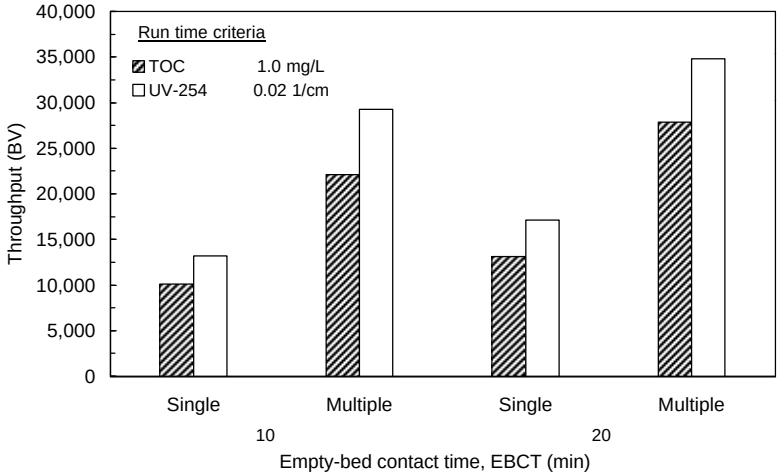


Figure 84 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 3 (July)

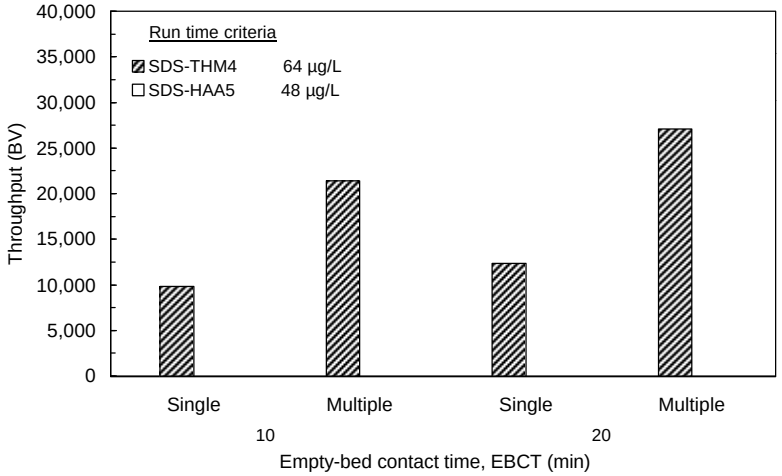


Figure 85 Throughput based on single contactor breakthrough and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 3 (July)

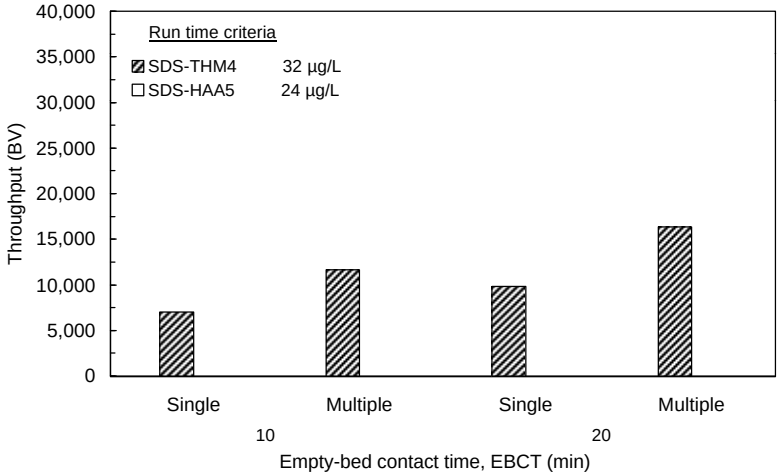


Figure 86 Throughput based on single contactor breakthrough and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 3 (July)

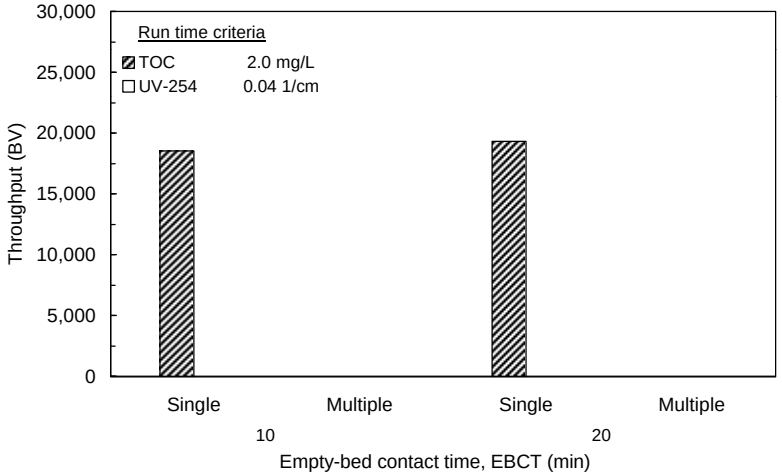


Figure 87 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 4 (October)

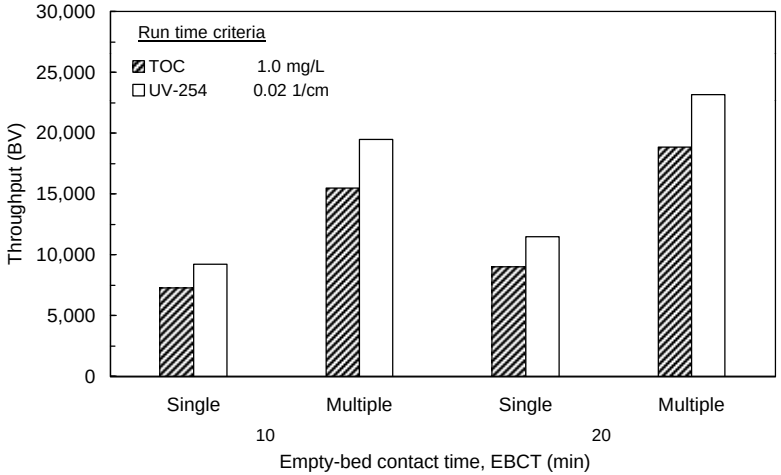


Figure 88 Throughput based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 4 (October)

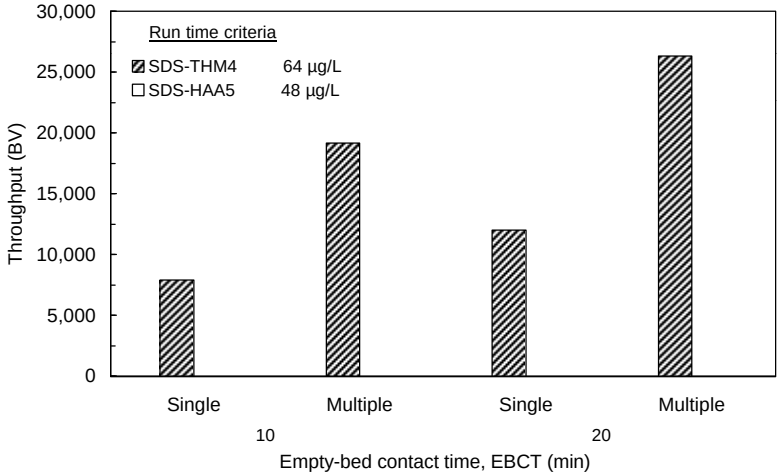


Figure 89 Throughput based on single contactor breakthrough and effluent blending for Stage 1 SDS-THM4 and SDS-HAA5 effluent criteria during session 4 (October)

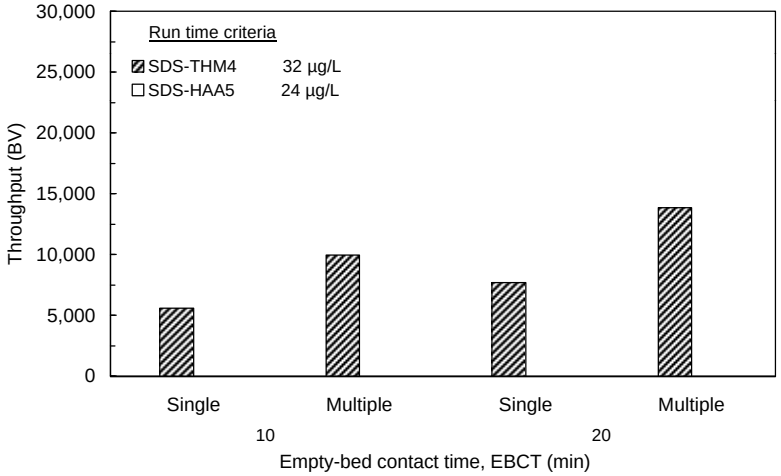


Figure 90 Throughput based on single contactor breakthrough and effluent blending for Stage 2 SDS-THM4 and SDS-HAA5 effluent criteria during session 4 (October)

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 39. As can be seen by the high r^2 for curve fits (mean: 0.98, 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 January 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 39 days. The multiple contactor blended effluent breakthrough curve does not reach an effluent TOC concentration of 1.0 mg/L until after 75 days of single contactor operation time (a 92 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. A similar 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 April session (as shown in Figure 101) is 24 days. After accounting for effluent blending, this run time is estimated to be 52 days, a 117 percent increase.

The single contactor and blended effluent (multiple contactors) comparisons are presented for the April, July, and October sessions for all parameters in Figures 99 through 122.

Table 40 summarizes the run time for a 10 minute EBCT contactor, assuming a blended effluent, for the January session. For each parameter and criterion, the value of other parameters is given when the run time criterion is met. Table 40 also includes, when applicable, run time calculations based on effluent blending of extrapolated breakthrough curves (described below). Tables 41 through 43 summarize the same information for the April, July, and October sessions. Tables 44 through 47 summarize the same information for the 20-minute EBCT contactor for all sessions.

For single and multiple contactor configurations, Tables 48 through 51 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 158 and 159 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 116 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 52 through 55 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 21 and 22 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 49 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 56, for a 10-minute EBCT, and in Table 57, 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 54 to 153 days, with a RSD of 45 percent. Run times to meet the placeholder for Stage 2 THM4 MCL ranged from 52 to 110 days, with a RSD of 31 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 January session are shown in Figures 123 through 126. The same data are shown for the April, July, and October 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	$1.5t_{max}$	$C(t_{max}) + 0.5[C_{inf} - C(t_{max})]$	(5)
B	$2.0t_{max}$	$C(t_{max}) + 0.6[C_{inf} - C(t_{max})]$	(6)
C	$2.5t_{max}$	$C(t_{max}) + 0.7[C_{inf} - C(t_{max})]$	(7)

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 58 summarizes the best fit parameter values and r^2 values for all curve fits.

Parameter	Coefficient	10 minute EBCT				20 minute EBCT			
		January	April	July	October	January	April	July	October
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	2.34	2.43	1.55	1.99	2.29	2.26	1.71	1.98
	B	32.5	14.5	27.1	21.2	133.4	54.8	60.4	69.5
	D	0.080	0.082	0.056	0.057	0.047	0.045	0.024	0.033
	r^2	0.988	0.992	0.988	0.986	0.985	0.988	0.987	0.992
UV_{254}	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.041	0.048	0.027	0.038	0.039	0.043	0.036	0.036
	B	58.0	20.0	20.0	25.1	293.0	114.7	20.0	83.8
	D	0.088	0.085	0.045	0.051	0.050	0.049	0.013	0.029
	r^2	0.994	0.983	0.989	0.986	0.992	0.985	0.974	0.991
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	50.0	73.1	94.4	91.3	45.2	89.1	102.6	83.1
	B	38.0	15.9	35.1	58.5	335.1	46.7	197.6	120.1
	D	0.082	0.093	0.064	0.088	0.055	0.039	0.033	0.040
	r^2	0.986	0.969	0.980	0.986	0.986	0.980	0.983	0.965
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	33.3	47.1	18.8	26.0	29.6	44.4	23.0	20.4
	B	353.5	68.6	70.0	19.7	2318.5	76.4	101.2	118.1
	D	0.122	0.120	0.074	0.035	0.072	0.042	0.024	0.032
	r^2	0.989	0.972	0.971	0.953	0.980	0.958	0.961	0.954
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	36.4	51.7	26.2	35.3	32.4	48.5	31.4	29.1
	B	319.4	58.8	71.4	19.5	2804.7	69.6	111.9	141.0
	D	0.124	0.120	0.076	0.037	0.076	0.043	0.025	0.034
	r^2	0.987	0.974	0.973	0.950	0.978	0.954	0.961	0.952
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	39.8	56.6	33.0	45.7	35.1	52.1	38.2	37.3
	B	361.1	62.9	177.3	22.7	4122.5	72.5	148.9	183.6
	D	0.127	0.126	0.092	0.038	0.081	0.045	0.027	0.036
	r^2	0.987	0.971	0.976	0.936	0.976	0.945	0.971	0.947
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	185	273	166	183	169	246	178	188
	B	59.5	14.7	46.6	35.7	416.9	215.0	176.7	87.8
	D	0.088	0.078	0.062	0.062	0.055	0.056	0.029	0.030
	r^2	0.994	0.975	0.989	0.986	0.984	0.988	0.981	0.989
SDS-CLD	A_o	0.50	-0.10	0.45	0.18	0.27	0.38	0.37	0.09
	A_f	1.55	2.48	2.08	1.86	2.24	2.28	2.24	1.89
	B	69.5	3.5	13.8	13.2	20.1	24.1	20.1	21.7
	D	0.096	0.048	0.055	0.052	0.022	0.036	0.019	0.025
	r^2	0.960	0.996	0.985	0.982	0.946	0.988	0.979	0.993

Table 39 Summary of logistic function curve fit parameters and r2 values

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	3.3	2.0	181#	26,110	2.0	0.038	44	31	33	36	172
			1.0	75	10,840	1.0	0.016	21	12	14	15	73
			1.7†	130#	18,660	1.7	0.030	37	25	27	30	137
UV_{254}	(1/cm)	0.067	0.040	208#	29,950	2.1	0.040	47	33	35	38	184
			0.020	87#	12,570	1.2	0.020	25	15	18	19	90
			0.034†	149#	21,490	1.8	0.034	40	27	30	33	153
SDS-THM4	(µg/L)	75	80	*	*							
			64	*	*							
			32	110#	15,790	1.5	0.026	32	21	23	25	117
SDS-HAA5	(µg/L)	57	48	*	*							
			24	126#	18,160	1.6	0.030	36	24	27	29	134
SDS-HAA6	(µg/L)	60	48	*	*							
			24	113#	16,280	1.5	0.027	33	22	24	26	121
SDS-HAA9	(µg/L)	64	48	*	*							
			24	104#	14,930	1.4	0.025	30	19	22	24	110
SDS-TOX	(µg Cl^-/L)	317	120	112#	16,150	1.5	0.027	33	21	24	26	120
			70	73	10,510	1.0	0.016	20	12	13	15	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 (10 minute EBCT) during session 1, 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	142#	20,440	2.0	0.041	67	40	44	48	237
			1.0	54	7,720	1.0	0.018	33	17	20	22	106
			1.6†	91#	13,070	1.6	0.031	53	31	35	38	177
UV_{254}	(1/cm)	0.073	0.040	133#	19,100	1.9	0.040	66	39	42	46	229
			0.020	59	8,550	1.1	0.020	37	19	22	25	118
			0.037†	114#	16,420	1.8	0.037	61	36	40	44	209
SDS-THM4	(µg/L)	114	80	*	*							
			64	126#	18,130	1.9	0.039	64	38	42	46	222
			32	52	7,440	1.0	0.017	32	16	19	21	102
SDS-HAA5	(µg/L)	64	48	*	*							
			24	72	10,370	1.3	0.024	42	24	27	31	141
SDS-HAA6	(µg/L)	69	48	195#	28,150	2.2	0.047	75	44	48	52	268
			24	63	9,100	1.2	0.021	38	21	24	27	126
SDS-HAA9	(µg/L)	73	48	145#	20,900	2.0	0.042	68	40	44	48	239
			24	57	8,170	1.1	0.019	35	18	21	24	113
SDS-TOX	(µg Cl^-/L)	417	120	60	8,680	1.1	0.020	37	20	23	26	120
			70	37	5,400	0.7	0.011	22	9	10	12	70

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

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

#Run time estimated from breakthrough curve extrapolation procedure.

Table 41 Run times to selected GAC effluent criteria based on effluent blending (10 minute EBCT) during session 2, April

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.1	2.0	*	*							
			1.0	153#	22,090	1.0	0.015	66	13	19	24	109
			1.1†	168#	24,150	1.1	0.017	70	15	20	25	118
UV_{254}	(1/cm)	0.046	0.040	*	*							
			0.020	203#	29,280	1.2	0.020	78	17	23	28	137
			0.023†	249#	35,820	1.3	0.023	85	19	25	31	154
SDS-THM4	(µg/L)	140	80	213#	30,710	1.2	0.021	80	17	24	29	141
			64	148#	21,370	1.0	0.015	64	13	18	23	105
			32	81	11,640	0.5	0.007	32	6	9	10	46
SDS-HAA5	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	44	48	*	*							
			24	222#	31,970	1.2	0.021	82	18	24	30	145
SDS-HAA9	(µg/L)	53	48	*	*							
			24	155#	22,280	1.0	0.016	66	14	19	24	110
SDS-TOX	(µg Cl^-/L)	284	120	171#	24,580	1.1	0.017	71	15	20	26	120
			70	107	15,380	0.7	0.011	45	9	12	16	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 (10 minute EBCT) during session 3, July

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	108	15,480	1.0	0.016	52	8	11	14	85
			1.3†	148#	21,300	1.3	0.022	68	11	17	21	122
UV_{254}	(1/cm)	0.060	0.040	*	*							
			0.020	135	19,450	1.2	0.020	64	10	15	18	110
			0.030†	215#	30,910	1.6	0.030	81	17	24	30	161
SDS-THM4	(µg/L)	128	80	208#	29,960	1.6	0.029	80	16	23	29	158
			64	133#	19,140	1.2	0.020	64	10	15	18	110
			32	69	9,950	0.6	0.009	32	4	6	8	46
SDS-HAA5	(µg/L)	37	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	49	48	*	*							
			24	218#	31,330	1.6	0.030	81	17	24	30	162
SDS-HAA9	(µg/L)	61	48	*	*							
			24	167#	24,050	1.4	0.025	73	13	19	24	136
SDS-TOX	(µg Cl^-/L)	305	120	145#	20,890	1.3	0.022	68	11	16	21	120
			70	91	13,110	0.8	0.013	45	6	9	11	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.
#Run time estimated from breakthrough curve extrapolation procedure.

Table 43 Run times to selected GAC effluent criteria based on effluent blending (10 minute EBCT) during session 4, October

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	3.3	2.0	416#	29,940	2.0	0.037	42	30	32	35	167
			1.0	182	13,130	1.0	0.015	19	12	14	15	68
			1.7†	297#	21,390	1.7	0.029	35	24	26	28	132
UV_{254}	(1/cm)	0.067	0.040	*	*							
			0.020	215#	15,450	1.3	0.020	25	16	18	20	90
			0.034†	359#	25,860	1.9	0.034	39	27	30	32	153
SDS-THM4	(µg/L)	75	80	*	*							
			64	*	*							
			32	270#	19,440	1.6	0.027	32	22	24	26	120
SDS-HAA5	(µg/L)	57	48	*	*							
			24	300#	21,600	1.7	0.029	35	24	26	29	133
SDS-HAA6	(µg/L)	60	48	*	*							
			24	269#	19,390	1.6	0.027	32	22	24	26	120
SDS-HAA9	(µg/L)	64	48	*	*							
			24	247#	17,790	1.4	0.024	29	20	22	24	108
SDS-TOX	(µg Cl^-/L)	317	120	270#	19,460	1.6	0.027	32	22	24	26	120
			70	186	13,420	1.0	0.016	20	13	14	16	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 44 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 1, 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	403#	29,040	2.0	0.041	74	39	42	46	237
			1.0	157	11,340	1.0	0.017	34	16	19	21	96
			1.6†	255#	18,330	1.6	0.030	58	29	32	35	176
UV_{254}	(1/cm)	0.073	0.040	380#	27,360	2.0	0.040	72	38	41	45	230
			0.020	181	13,030	1.2	0.020	41	19	22	25	115
			0.037†	325#	23,380	1.8	0.037	67	35	38	41	211
SDS-THM4	(µg/L)	114	80	*	*							
			64	299#	21,510	1.8	0.035	64	33	36	40	200
			32	150	10,800	0.9	0.016	32	15	17	19	89
SDS-HAA5	(µg/L)	64	48	*	*							
			24	212#	15,240	1.4	0.025	49	24	27	30	145
SDS-HAA6	(µg/L)	69	48	*	*							
			24	189#	13,600	1.2	0.022	44	21	24	27	126
SDS-HAA9	(µg/L)	73	48	467#	33,600	2.1	0.044	78	41	45	48	251
			24	177	12,730	1.1	0.019	40	19	22	24	112
SDS-TOX	(µg Cl^-/L)	417	120	182#	13,140	1.2	0.021	42	20	23	26	120
			70	131	9,470	0.8	0.012	26	12	14	16	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 45 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 2, April

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.1	2.0	*	*							
			1.0	387#	27,830	1.0	0.016	66	12	17	21	107
			1.1†	417#	30,050	1.1	0.017	70	14	19	23	116
UV_{254}	(1/cm)	0.046	0.040	*	*							
			0.020	483#	34,800	1.2	0.020	77	16	21	26	132
			0.023†	586#	42,200	1.3	0.023	85	18	24	29	151
SDS-THM4	(µg/L)	140	80	520#	37,430	1.2	0.021	80	17	23	27	140
			64	376#	27,090	1.0	0.015	64	12	17	20	103
			32	227	16,340	0.5	0.008	32	5	7	8	44
SDS-HAA5	(µg/L)	35	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	44	48	*	*							
			24	570#	41,020	1.3	0.023	84	18	24	29	148
SDS-HAA9	(µg/L)	53	48	*	*							
			24	442#	31,860	1.1	0.018	73	15	20	24	123
SDS-TOX	(µg Cl^-/L)	284	120	433#	31,150	1.1	0.018	71	14	20	24	120
			70	288#	20,760	0.7	0.010	48	8	12	14	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.
#Run time estimated from breakthrough curve extrapolation procedure.

Table 46 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 3, July

Parameter	Units	Mean influent concentration	Breakthrough criterion	Value of listed parameter when breakthrough criterion is met (blended effluent)								
				Run time (days)	Throughput (bed volumes)	TOC (mg/L)	UV_{254} (1/cm)	SDS-THM4 (µg/L)	SDS-HAA5 (µg/L)	SDS-HAA6 (µg/L)	SDS-HAA9 (µg/L)	SDS-TOX (µg Cl^-/L)
TOC	(mg/L)	2.6	2.0	*	*							
			1.0	262	18,860	1.0	0.015	45	9	13	17	82
			1.3†	345#	24,860	1.3	0.022	62	13	19	24	119
UV_{254}	(1/cm)	0.060	0.040	*	*							
			0.020	322#	23,180	1.3	0.020	59	12	18	23	110
			0.030†	502#	36,140	1.6	0.030	75	18	25	32	160
SDS-THM4	(µg/L)	128	80	598#	43,020	1.7	0.033	80	20	28	35	175
			64	365#	26,290	1.4	0.023	64	14	20	26	126
			32	192	13,830	0.7	0.009	32	5	8	10	50
SDS-HAA5	(µg/L)	37	48	*	*							
			24	*	*							
SDS-HAA6	(µg/L)	49	48	*	*							
			24	457#	32,880	1.5	0.028	72	17	24	31	150
SDS-HAA9	(µg/L)	61	48	*	*							
			24	338#	24,370	1.3	0.021	61	13	19	24	116
SDS-TOX	(µg Cl^-/L)	305	120	349#	25,140	1.3	0.022	62	13	19	25	120
			70	233	16,780	0.9	0.013	41	7	11	14	70

†GAC effluent concentration equal to 50 percent of the average influent concentration.
*Effluent concentration criteria not exceeded during GAC run time (including extrapolation procedure). Value of listed parameter is left blank.
#Run time estimated from breakthrough curve extrapolation procedure.

Table 47 Run times to selected GAC effluent criteria based on effluent blending (20 minute EBCT) during session 4, October

Parameter	Units	Mean influent concentration	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)	3.3	2.0	72	181	157	416	117	129	151	165
			1.0	39	75	94	182	139	142	91	93
			1.7†	56	130	126	297	126	129	131	135
UV-254	(1/cm)	0.067	0.040	81	208	189	*	132		156	
			0.020	44	87	111	215	151	146	98	93
			0.034†	66	149	155	359	136	141	126	131
SDS-THM4	(µg/L)	75	80	*	*	*	*				
			64	*	*	*	*				
			32	53	110	125	270	137	146	108	116
SDS-HAA5	(µg/L)	57	48	*	*	*	*				
			24	57	126	138	300	142	138	120	117
SDS-HAA6	(µg/L)	60	48	*	*	*	*				
			24	53	113	129	269	141	138	112	110
SDS-HAA9	(µg/L)	64	48	*	*	*	*				
			24	50	104	111	247	120	138	106	123
SDS-TOX	(µg Cl^-/L)	317	120	53	112	132	270	148	141	110	104
			70	39	73	100	186	153	155	85	87

†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 48 Summary of GAC run times to selected GAC effluent criteria during session 1, 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	55	142	151	403	177	184	160	166
			1.0	27	54	81	157	195	194	95	95
			1.6†	41	91	106	255	157	181	120	140
UV-254	(1/cm)	0.073	0.040	61	133	160	380	162	186	117	138
			0.020	30	59	91	181	206	205	99	98
			0.037†	53	114	145	325	173	185	115	124
SDS-THM4	(µg/L)	114	80	*	*	165	*				
			64	55	126	130	299	134	137	127	130
			32	24	52	81	150	233	190	113	86
SDS-HAA5	(µg/L)	64	48	77	*	*	*				
			24	34	72	105	212	205	194	109	101
SDS-HAA6	(µg/L)	69	48	69	195	178	*	158		184	
			24	31	63	87	189	182	199	104	116
SDS-HAA9	(µg/L)	73	48	61	145	151	467	147	222	138	210
			24	29	57	85	177	191	212	95	109
SDS-TOX	(µg Cl^-/L)	417	120	31	60	95	182	212	203	98	92
			70	21	37	79	131	273	251	78	67

†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 49 Summary of GAC run times to selected GAC effluent criteria during session 2, April

Parameter	Units	Mean influent concentration	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)	2.1	2.0	*	*	*	*				
			1.0	70	153	182	387	159	152	118	112
			1.1†	74	168	196	417	163	149	125	113
UV-254	(1/cm)	0.046	0.040	*	*	*	*				
			0.020	92	203	237	483	159	138	122	104
			0.023†	115	249	250	586	116	136	116	135
SDS-THM4	(µg/L)	140	80	88	213	208	520	138	144	144	149
			64	68	148	172	376	151	153	117	119
			32	49	81	137	227	182	181	66	66
SDS-HAA5	(µg/L)	35	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	44	48	*	*	*	*				
			24	106	222	250	570	135	157	109	128
SDS-HAA9	(µg/L)	53	48	*	*	*	*				
			24	67	155	218	442	227	186	132	103
SDS-TOX	(µg Cl^-/L)	284	120	77	171	217	433	180	153	120	99
			70	54	107	158	288	191	170	96	82

†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 50 Summary of GAC run times to selected GAC effluent criteria during session 3, July

Parameter	Units	Mean influent concentration	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)	2.6	2.0	129	*	268	*	108			
			1.0	51	108	125	262	148	144	113	109
			1.3†	67	148	151	345	125	133	120	128
UV-254	(1/cm)	0.060	0.040	*	*	*	*				
			0.020	64	135	159	322	149	138	111	102
			0.030†	93	215	223	502	140	134	131	125
SDS-THM4	(µg/L)	128	80	76	208	201	598	164	187	174	197
			64	55	133	167	365	205	175	143	119
			32	39	69	107	192	175	178	78	80
SDS-HAA5	(µg/L)	37	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	49	48	*	*	*	*				
			24	104	218	198	457	89	110	109	131
SDS-HAA9	(µg/L)	61	48	*	*	*	*				
			24	90	167	169	338	89	103	87	100
SDS-TOX	(µg Cl^-/L)	305	120	69	145	168	349	142	141	109	108
			70	47	91	125	233	165	156	94	87

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

Parameter	Units	Mean influent concentration	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)	3.3	2.0	400	160	370	140	8	13	60	62
			1.0	730	380	610	320	16	16	48	48
			1.7†	510	220	460	190	10	14	57	59
UV-254	(1/cm)	0.067	0.040	350	140	310	*	11		60	
			0.020	650	330	520	270	20	18	49	48
			0.034†	440	190	370	160	16	16	57	57
SDS-THM4	(µg/L)	75	80	*	*	*	*				
			64	*	*	*	*				
			32	550	260	460	210	16	19	53	54
SDS-HAA5	(µg/L)	57	48	*	*	*	*				
			24	500	230	420	190	16	17	54	55
SDS-HAA6	(µg/L)	60	48	*	*	*	*				
			24	540	250	450	210	17	16	54	53
SDS-HAA9	(µg/L)	64	48	*	*	*	*				
			24	570	280	520	230	9	18	51	56
SDS-TOX	(µg Cl^-/L)	317	120	540	260	430	210	20	19	52	51
			70	730	390	580	310	21	21	47	47

†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 52 Summary of carbon usage rates to selected GAC effluent criteria during session 1, 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	530	200	380	140	28	30	62	63
			1.0	1,050	540	710	370	32	31	49	48
			1.6†	700	320	540	230	23	28	54	57
UV-254	(1/cm)	0.073	0.040	470	220	360	150	23	32	53	58
			0.020	960	480	630	320	34	33	50	49
			0.037†	540	250	400	180	26	28	54	55
SDS-THM4	(µg/L)	114	80	*	*	350	*				
			64	520	230	440	190	15	17	56	57
			32	1,190	560	710	380	40	32	53	46
SDS-HAA5	(µg/L)	64	48	370	*	*	*				
			24	830	400	550	270	34	33	52	51
SDS-HAA6	(µg/L)	69	48	420	150	320	*	24		64	
			24	930	460	660	300	29	35	51	55
SDS-HAA9	(µg/L)	73	48	470	200	380	120	19	40	57	68
			24	990	510	680	330	31	35	48	51
SDS-TOX	(µg Cl^-/L)	417	120	940	480	600	320	36	33	49	47
			70	1,370	770	730	440	47	43	44	40

†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 53 Summary of carbon usage rates to selected GAC effluent criteria during session 2, April

Parameter	Units	Mean influent concentration	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)	2.1	2.0	*	*	*	*				
			1.0	410	190	320	150	22	21	54	53
			1.1†	390	170	290	140	26	18	56	52
UV-254	(1/cm)	0.046	0.040	*	*	*	*				
			0.020	310	140	240	120	23	14	55	50
			0.023†	250	120	230	100	8	17	52	57
SDS-THM4	(µg/L)	140	80	330	130	280	110	15	15	61	61
			64	420	190	340	150	19	21	55	56
			32	590	360	420	250	29	31	39	40
SDS-HAA5	(µg/L)	35	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	44	48	*	*	*	*				
			24	270	130	230	100	15	23	52	57
SDS-HAA9	(µg/L)	53	48	*	*	*	*				
			24	430	190	260	130	40	32	56	50
SDS-TOX	(µg Cl^-/L)	284	120	370	170	270	130	27	24	54	52
			70	530	270	360	200	32	26	49	44

†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 54 Summary of carbon usage rates to selected GAC effluent criteria during session 3, July

Parameter	Units	Mean influent concentration	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)	2.6	2.0	220	*	210	*	5			
			1.0	570	270	460	220	19	19	53	52
			1.3†	430	190	380	170	12	11	56	55
UV-254	(1/cm)	0.060	0.040	*	*	*	*				
			0.020	450	210	360	180	20	14	53	50
			0.030†	310	130	260	110	16	15	58	58
SDS-THM4	(µg/L)	128	80	380	140	290	100	24	29	63	66
			64	530	220	340	160	36	27	58	53
			32	740	420	540	300	27	29	43	44
SDS-HAA5	(µg/L)	37	48	*	*	*	*				
			24	*	*	*	*				
SDS-HAA6	(µg/L)	49	48	*	*	*	*				
			24	280	130	290	130	-4	0	54	55
SDS-HAA9	(µg/L)	61	48	*	*	*	*				
			24	320	170	340	170	-6	0	47	50
SDS-TOX	(µg Cl^-/L)	305	120	420	200	340	160	19	20	52	53
			70	610	320	460	250	25	22	48	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 55 Summary of carbon usage rates to selected GAC effluent criteria during session 4, October

Parameter	Units	Value	Run time (days)				Mean	Standard deviation	Relative standard deviation (%)
			Session						
			1 January	2 April	3 July	4 October			
TOC	(mg/L)	2.0	181#	142#	*	*	162	±28	17%
		1.0	75	54	153#	108	97	±43	45%
		$c/c_0 = 50\%$†	130#	91#	168#	148#	134	±33	24%
UV-254	(1/cm)	0.040	208#	133#	*	*	170	±53	31%
		0.020	87#	59	203#	135	121	±63	52%
		$c/c_0 = 50\%$†	149#	114#	249#	215#	182	±61	34%
SDS-THM4	(µg/L)	80	*	*	213#	208#	211	±4	2%
		64	*	126#	148#	133#	136	±12	8%
		32	110#	52	81	69	78	±24	31%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	126#	72	*	*	99	±38	39%
SDS-HAA6	(µg/L)	48	*	195#	*	*	195		
		24	113#	63	222#	218#	154	±79	51%
SDS-HAA9	(µg/L)	48	*	145#	*	*	145		
		24	104#	57	155#	167#	121	±51	42%
SDS-TOX	(µg Cl^-/L)	120	112#	60	171#	145#	122	±48	39%
		70	73	37	107	91	77	±30	39%
Extrapolated run time (days)		--	216	202	325	309	263	±63	24%

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

Parameter	Units	Value	Run time (days)				Mean	Standard deviation	Relative standard deviation (%)
			Session						
			1 January	2 April	3 July	4 October			
TOC	(mg/L)	2.0	416#	403#	*	*	410	±9	2%
		1.0	182	157	387#	262	247	±103	42%
		$c/c_0 = 50\%^{\dagger}$	297#	255#	417#	345#	329	±70	21%
UV-254	(1/cm)	0.040	*	380#	*	*	380		
		0.020	215#	181	483#	322#	300	±136	45%
		$c/c_0 = 50\%^{\dagger}$	359#	325#	586#	502#	443	±122	28%
SDS-THM4	(µg/L)	80	*	*	520#	598#	559	±55	10%
		64	*	299#	376#	365#	347	±42	12%
		32	270#	150	227	192	210	±51	24%
SDS-HAA5	(µg/L)	48	*	*	*	*			
		24	300#	212#	*	*	256	±62	24%
SDS-HAA6	(µg/L)	48	*	*	*	*			
		24	269#	189#	570#	457#	371	±174	47%
SDS-HAA9	(µg/L)	48	*	467#	*	*	467		
		24	247#	177	442#	338#	301	±115	38%
SDS-TOX	(µg Cl^-/L)	120	270#	182#	433#	349#	309	±107	35%
		70	186	131	288#	233	210	±67	32%
Extrapolated run time (days)		--	476	469	694	692	583	±127	22%

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

Parameter	Coefficient	10 minute EBCT				20 minute EBCT			
		January	April	July	October	January	April	July	October
TOC	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	3.27	2.80	2.89	2.90	3.33	2.75	2.98	2.88
	B	9.1	7.2	6.7	9.5	8.1	9.2	6.3	6.3
	D	0.090	0.057	0.058	0.084	0.030	0.028	0.023	0.027
	r^2	0.950	0.946	0.949	0.972	0.960	0.956	0.967	0.949
UV_{254}	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	0.064	0.055	0.055	0.051	0.067	0.055	0.055	0.053
	B	13.5	10.5	10.0	10.2	12.6	12.6	10.7	9.3
	D	0.074	0.056	0.051	0.067	0.026	0.024	0.022	0.023
	r^2	0.936	0.937	0.945	0.928	0.954	0.946	0.939	0.943
SDS-THM4	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	52.4	49.2	100.3	83.4	54.5	49.5	103.1	82.6
	B	14.1	8.8	9.3	9.3	11.8	12.2	10.7	8.7
	D	0.096	0.069	0.057	0.075	0.033	0.033	0.025	0.031
	r^2	0.931	0.904	0.939	0.948	0.905	0.939	0.960	0.946
SDS-HAA5	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	26.3	27.2	29.0	24.7	28.3	27.2	29.4	24.5
	B	7.1	9.5	9.5	13.5	14.9	9.8	11.0	13.2
	D	0.046	0.055	0.050	0.079	0.023	0.023	0.022	0.028
	r^2	0.820	0.892	0.871	0.927	0.947	0.806	0.914	0.904
SDS-HAA6	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	29.3	31.7	33.8	29.6	31.5	31.6	34.2	29.3
	B	7.6	8.3	9.6	12.6	12.4	9.3	10.0	11.9
	D	0.059	0.057	0.059	0.087	0.025	0.025	0.024	0.031
	r^2	0.834	0.901	0.886	0.937	0.935	0.830	0.904	0.908
SDS-HAA9	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	30.5	34.0	37.1	33.1	31.0	33.5	37.2	34.2
	B	12.4	5.8	7.4	16.8	9.4	5.4	8.6	10.8
	D	0.089	0.055	0.057	0.108	0.025	0.024	0.025	0.031
	r^2	0.896	0.877	0.873	0.923	0.866	0.799	0.914	0.885
SDS-TOX	A_o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	A_f	162	183	223	194	169	184	224	194
	B	23.3	10.6	10.6	13.6	71.3	14.0	11.0	10.3
	D	0.096	0.052	0.051	0.078	0.046	0.024	0.022	0.025
	r^2	0.923	0.898	0.924	0.957	0.945	0.915	0.928	0.946

Table 58 Summary of logistic function curve fit parameters and r2 values for curve fits after breakthrough curve extrapolation

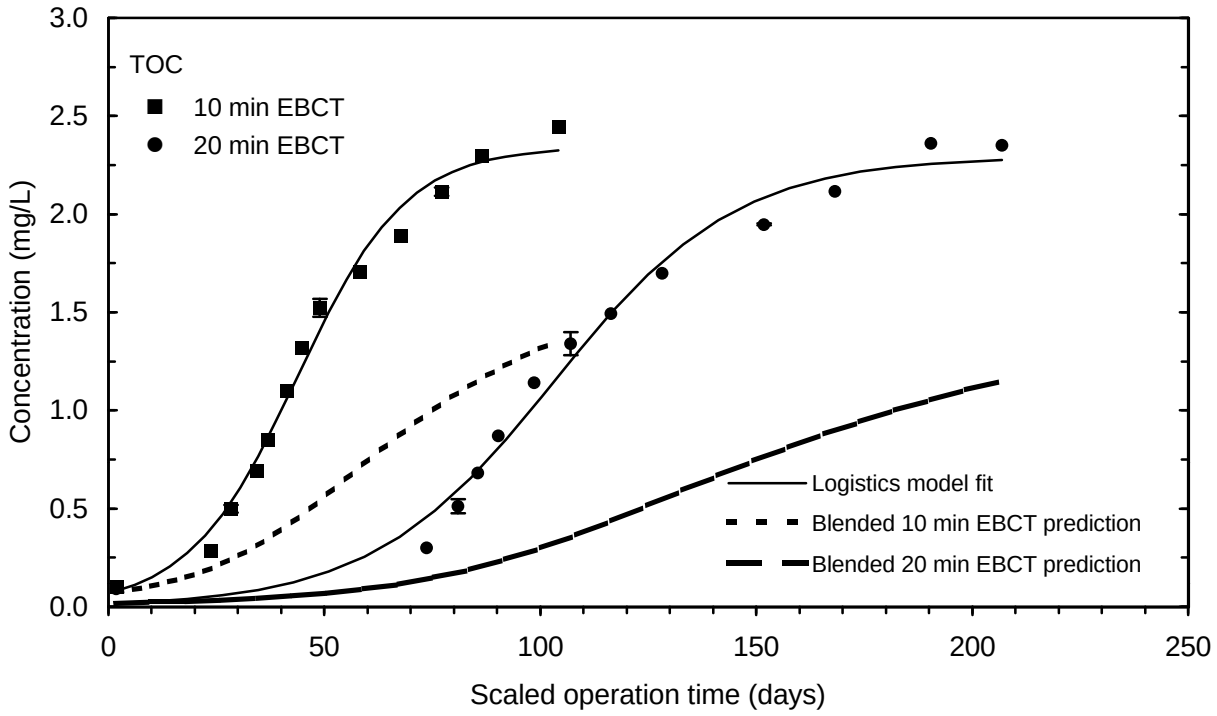


Figure 91 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

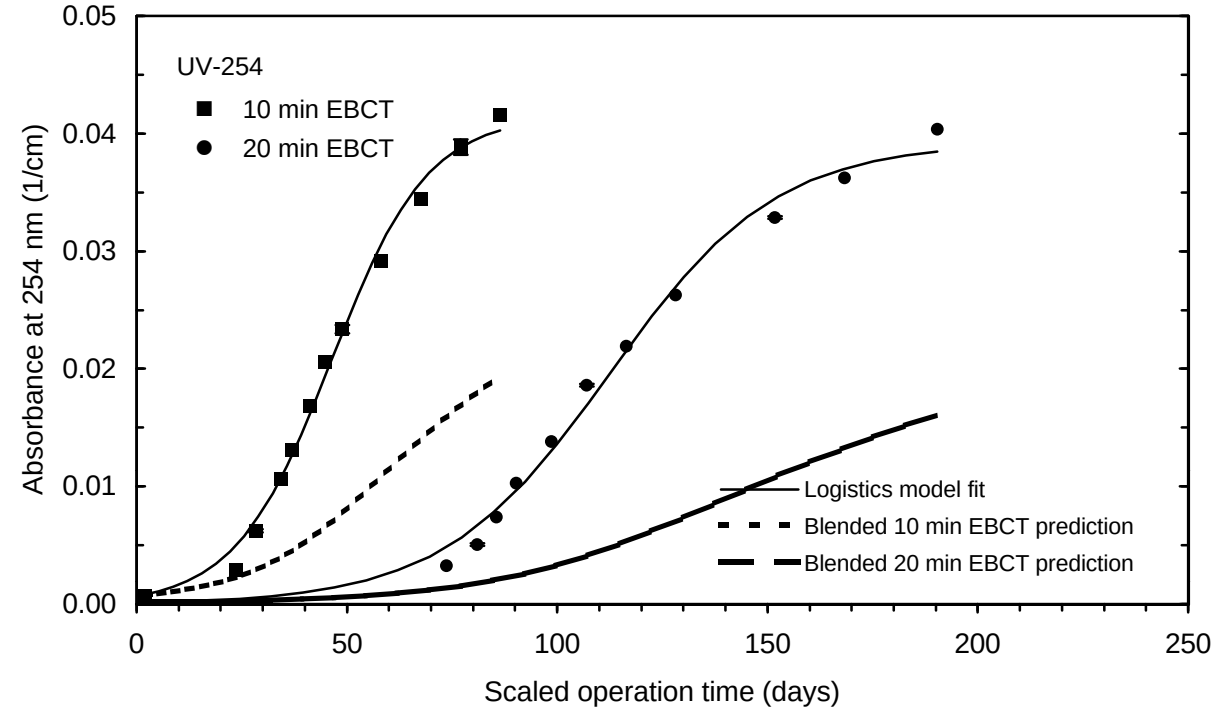


Figure 92 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

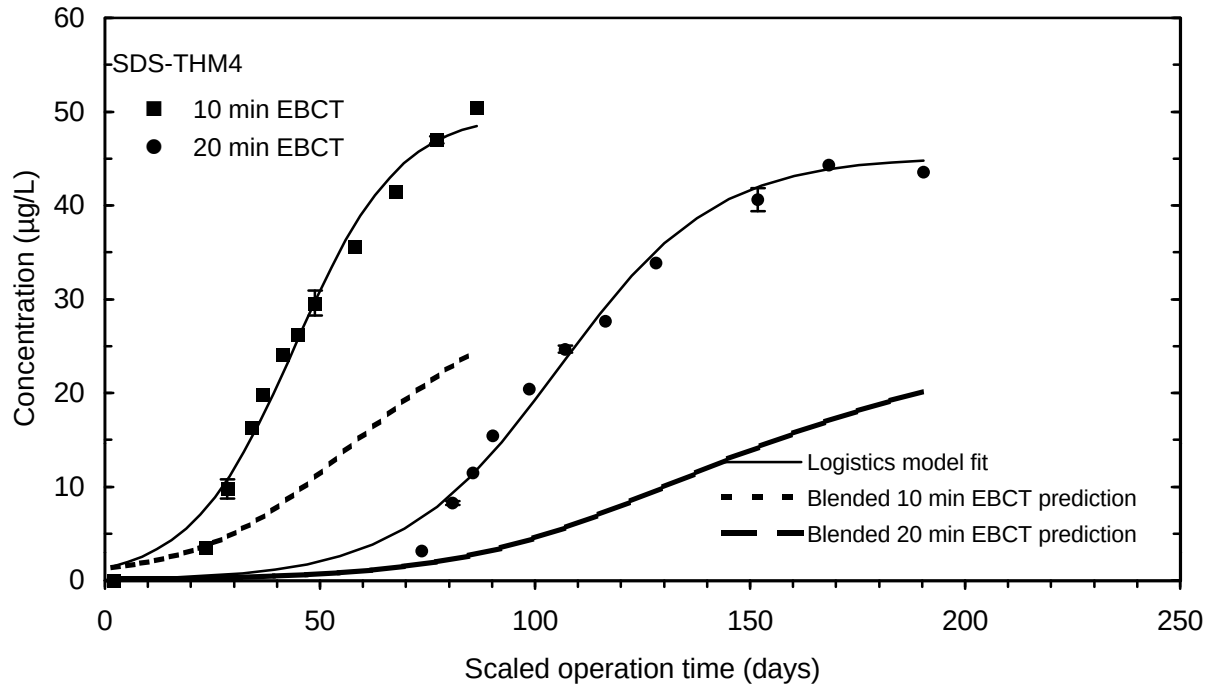


Figure 93 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

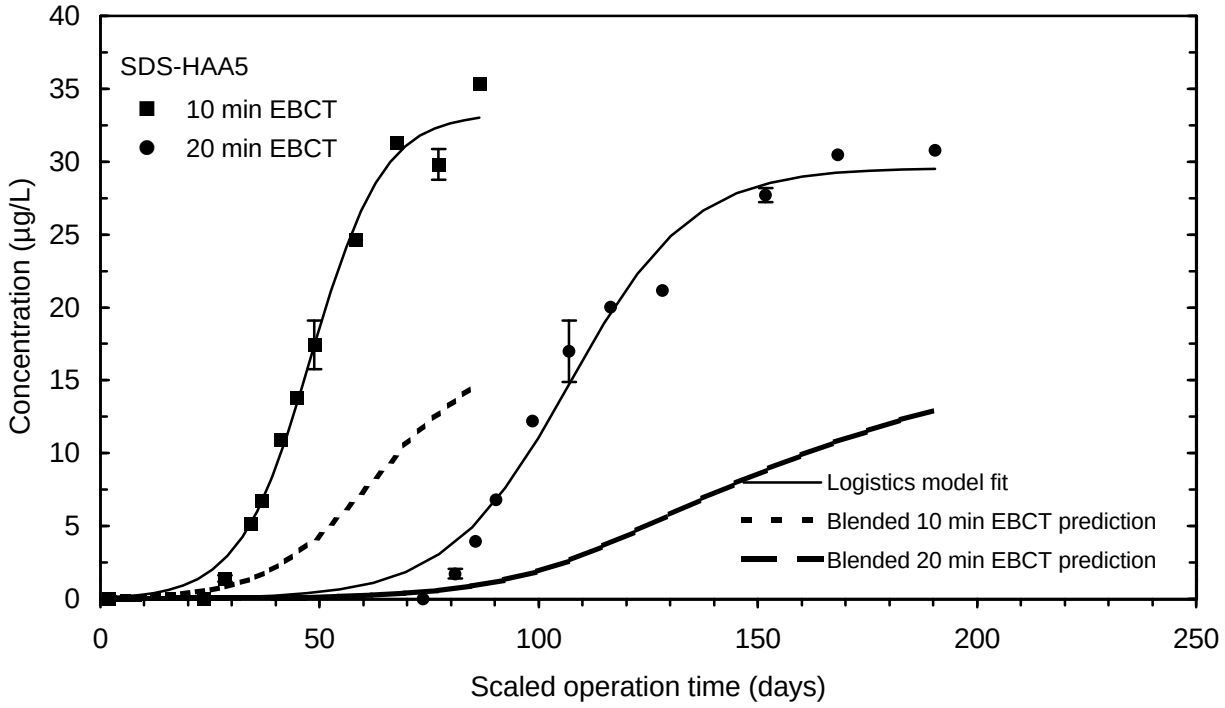


Figure 94 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

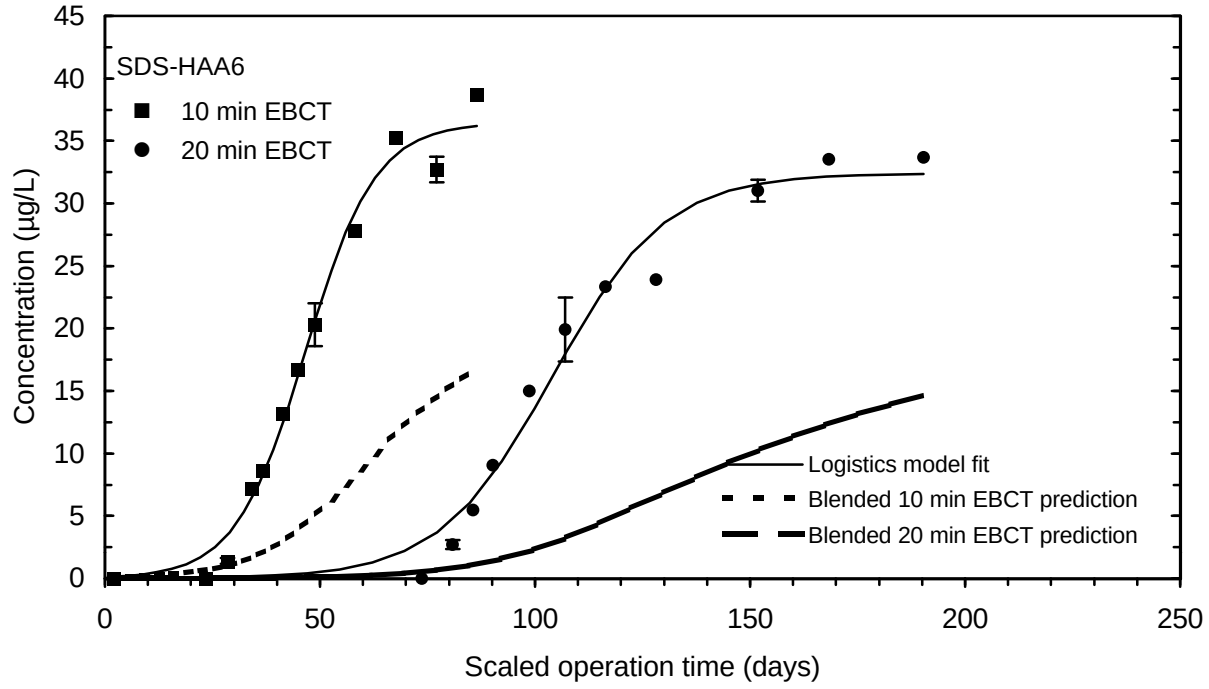


Figure 95 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

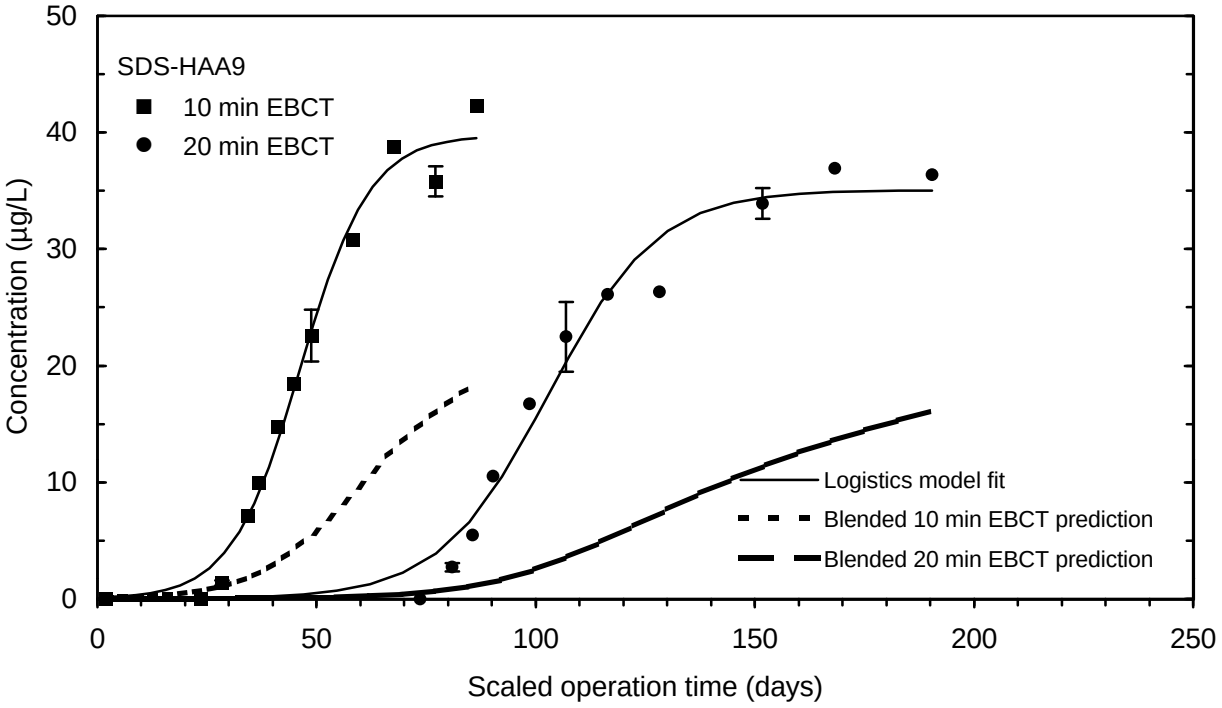


Figure 96 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

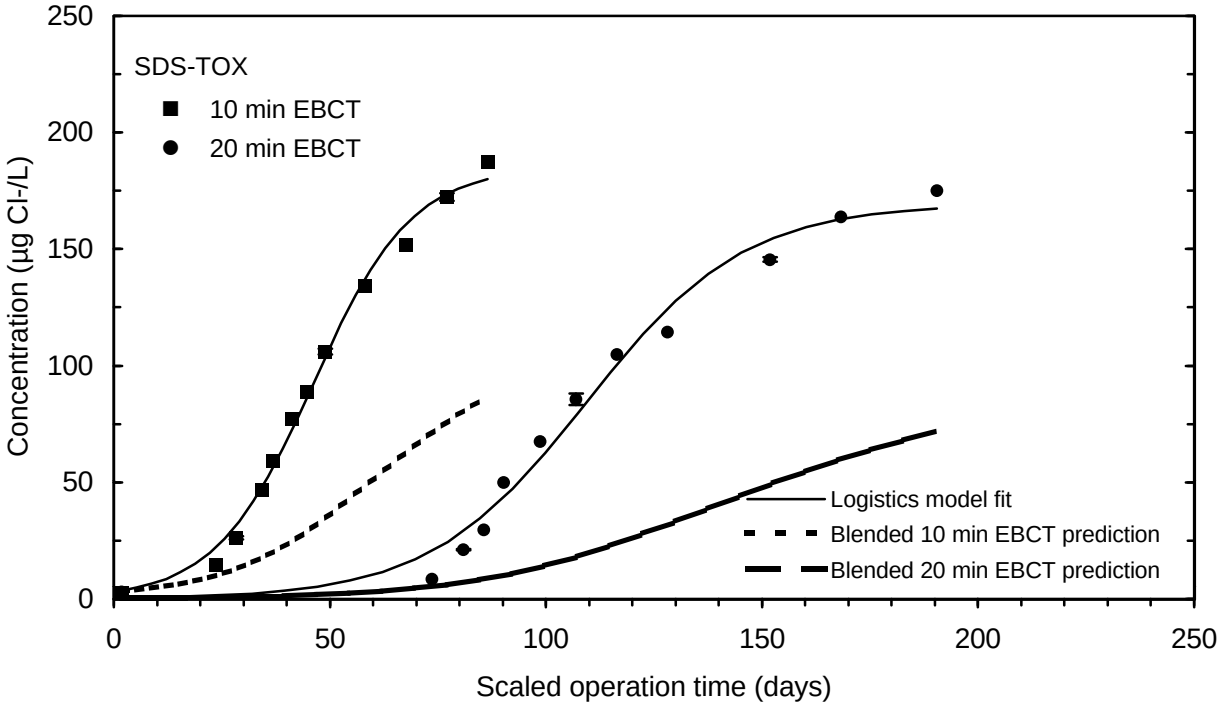


Figure 97 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

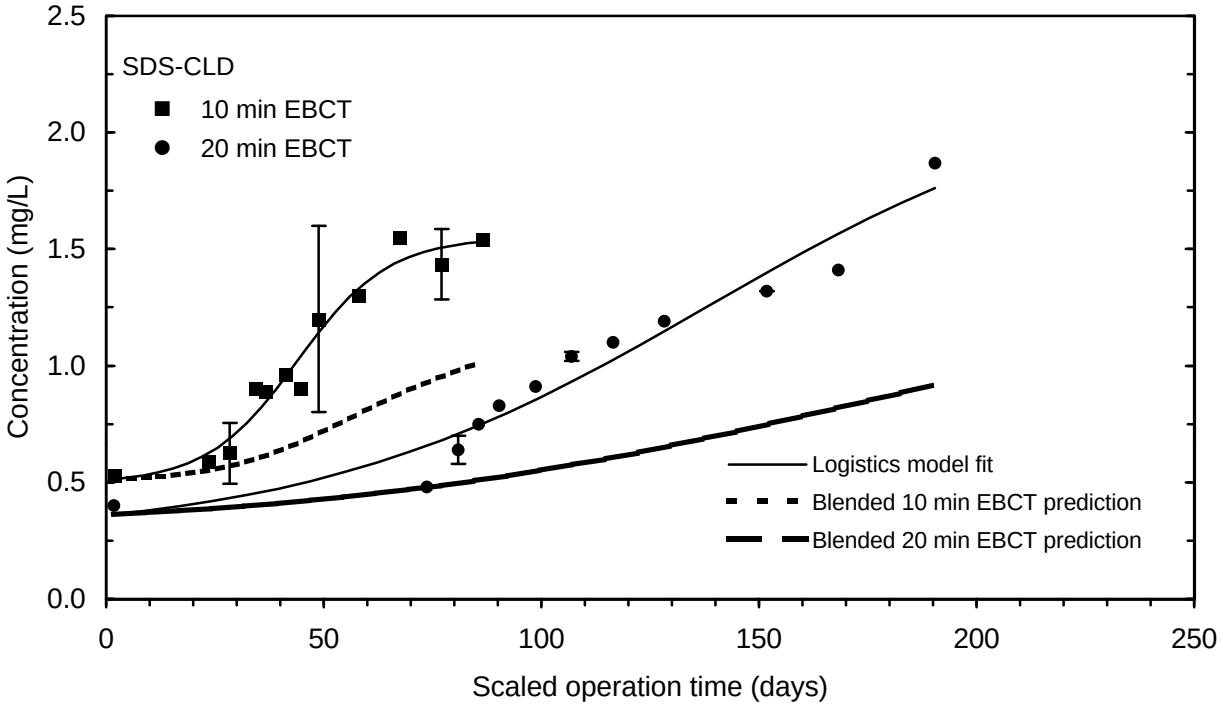


Figure 98 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 1 (January)

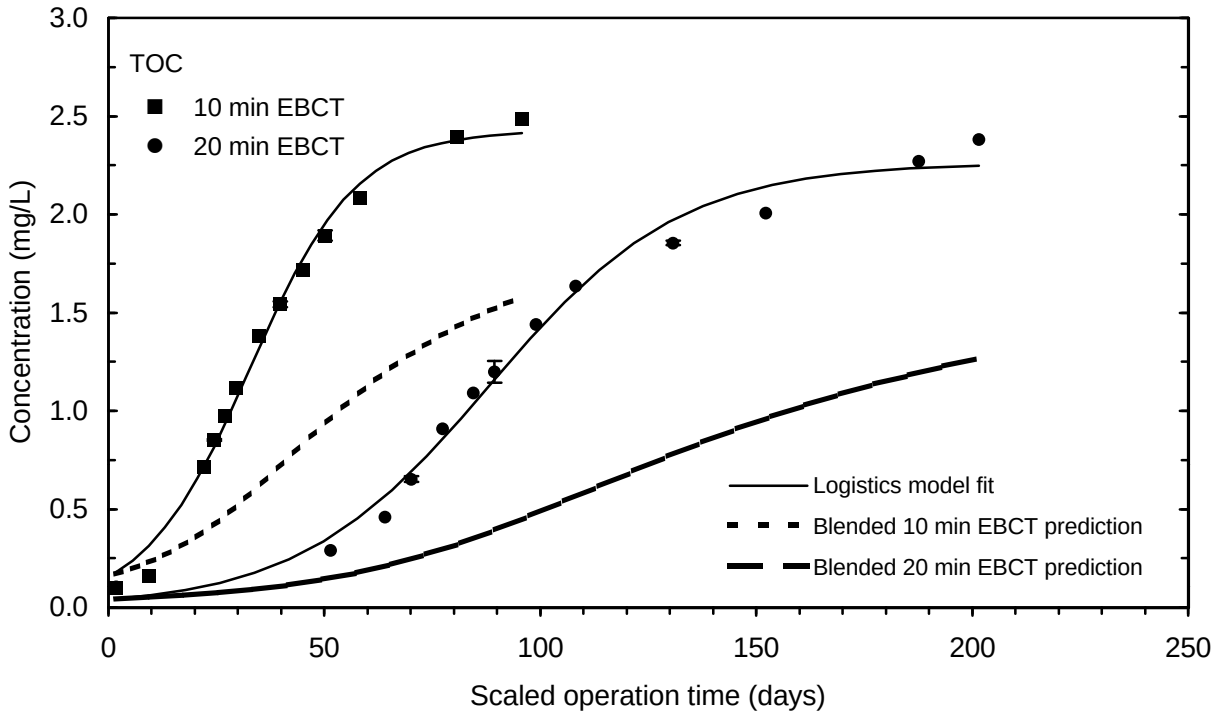


Figure 99 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

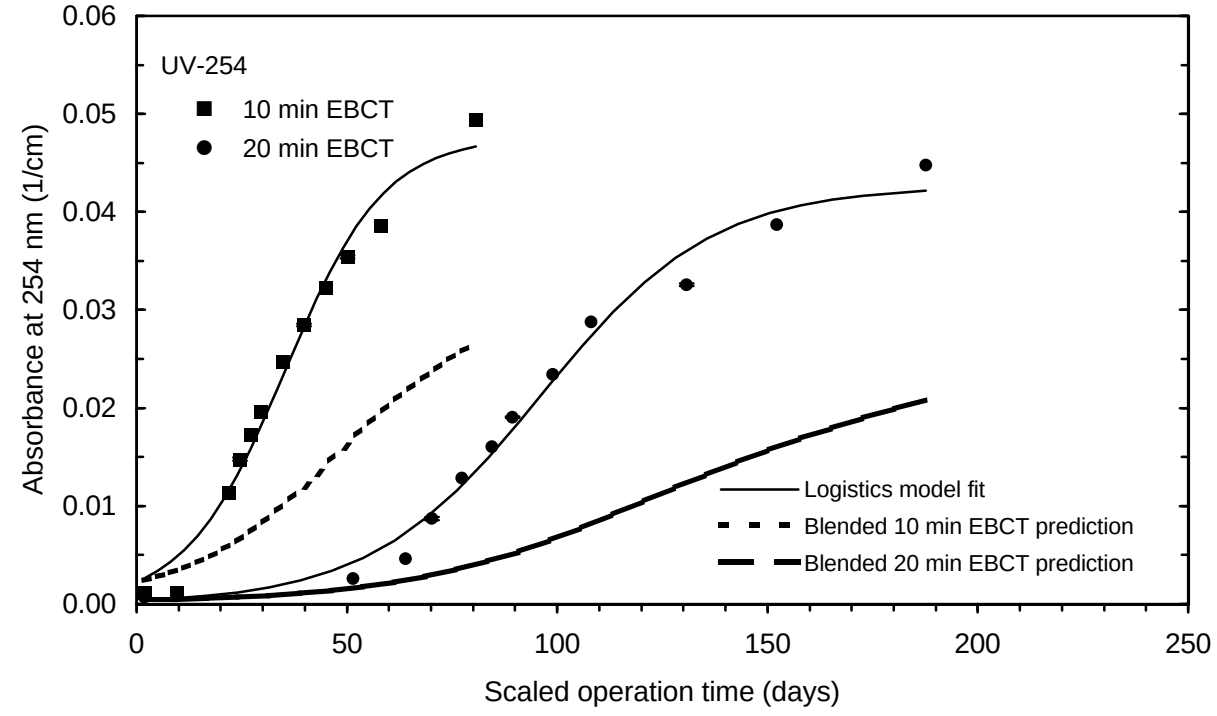


Figure 100 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

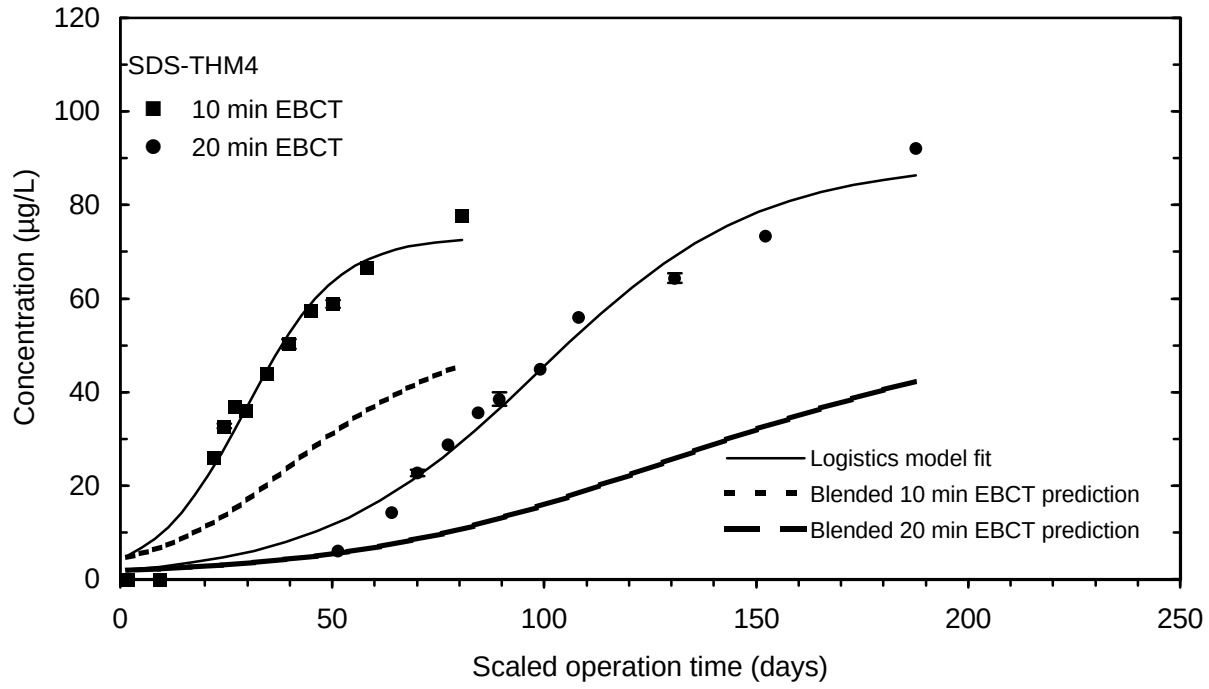


Figure 101 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

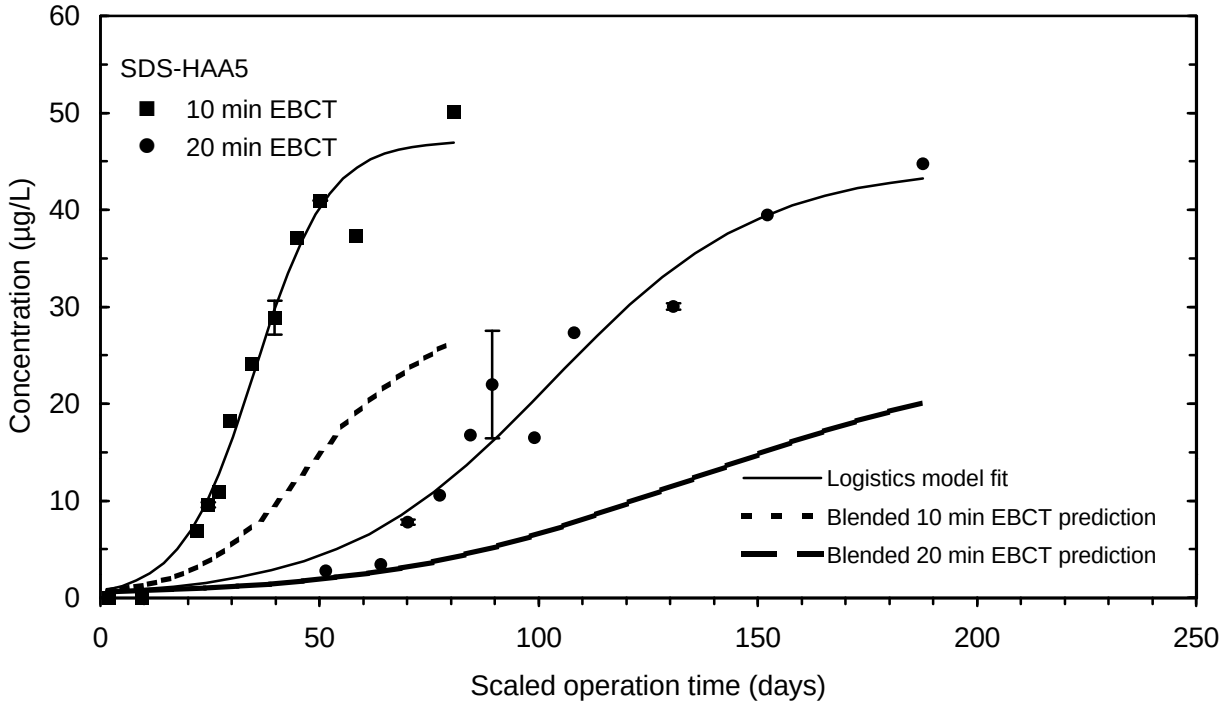


Figure 102 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

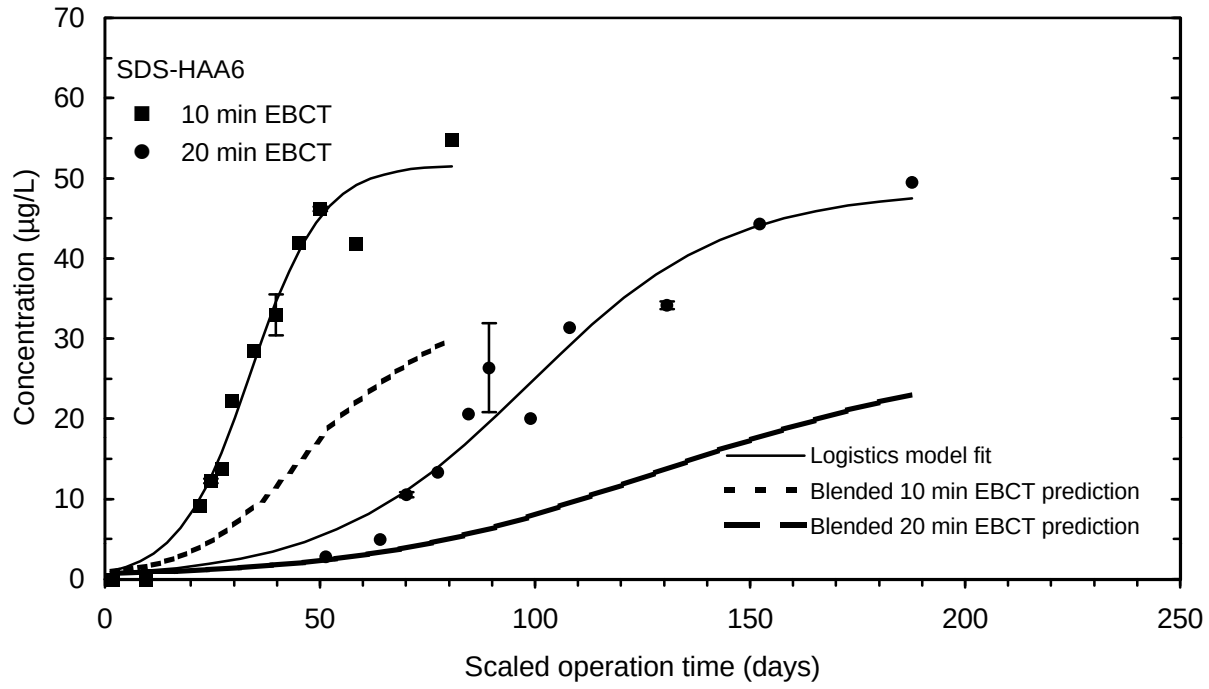


Figure 103 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

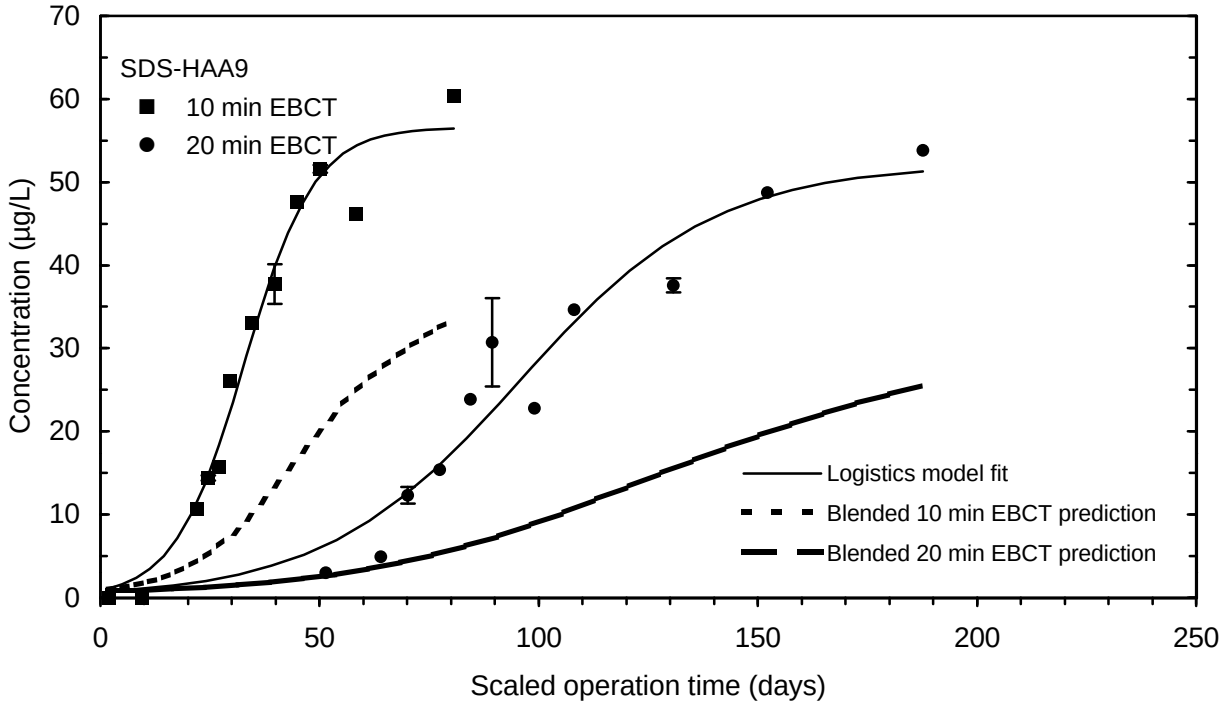


Figure 104 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

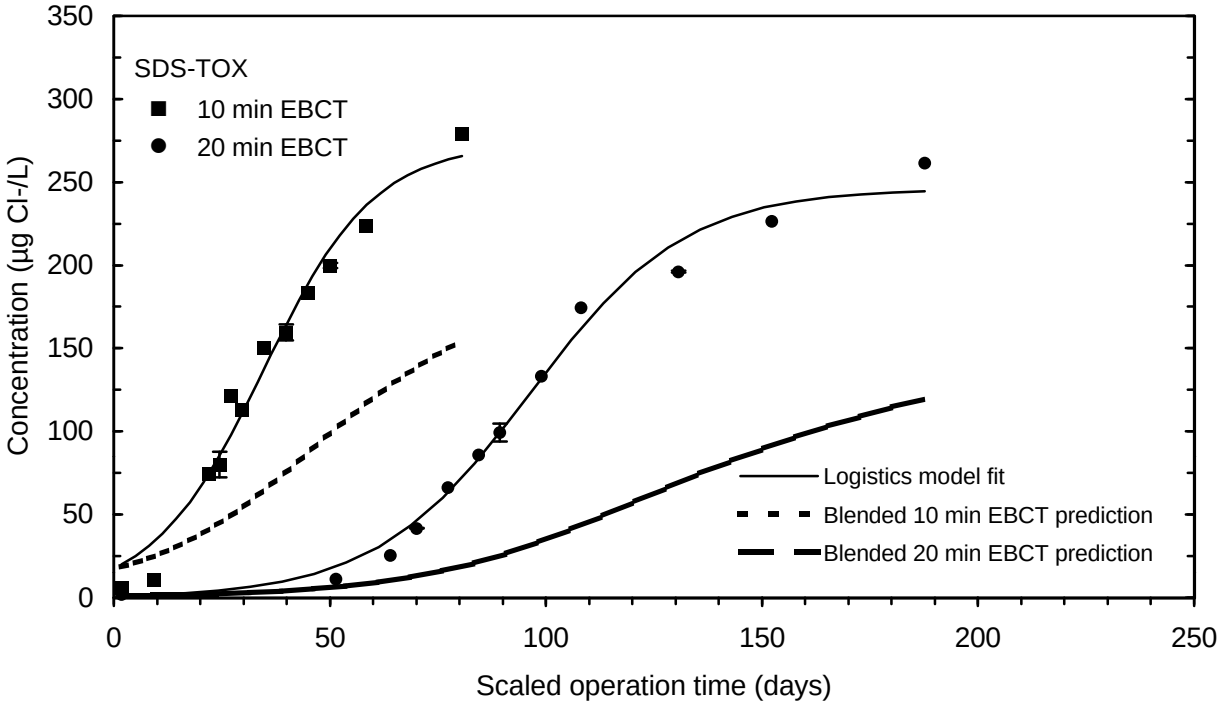


Figure 105 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

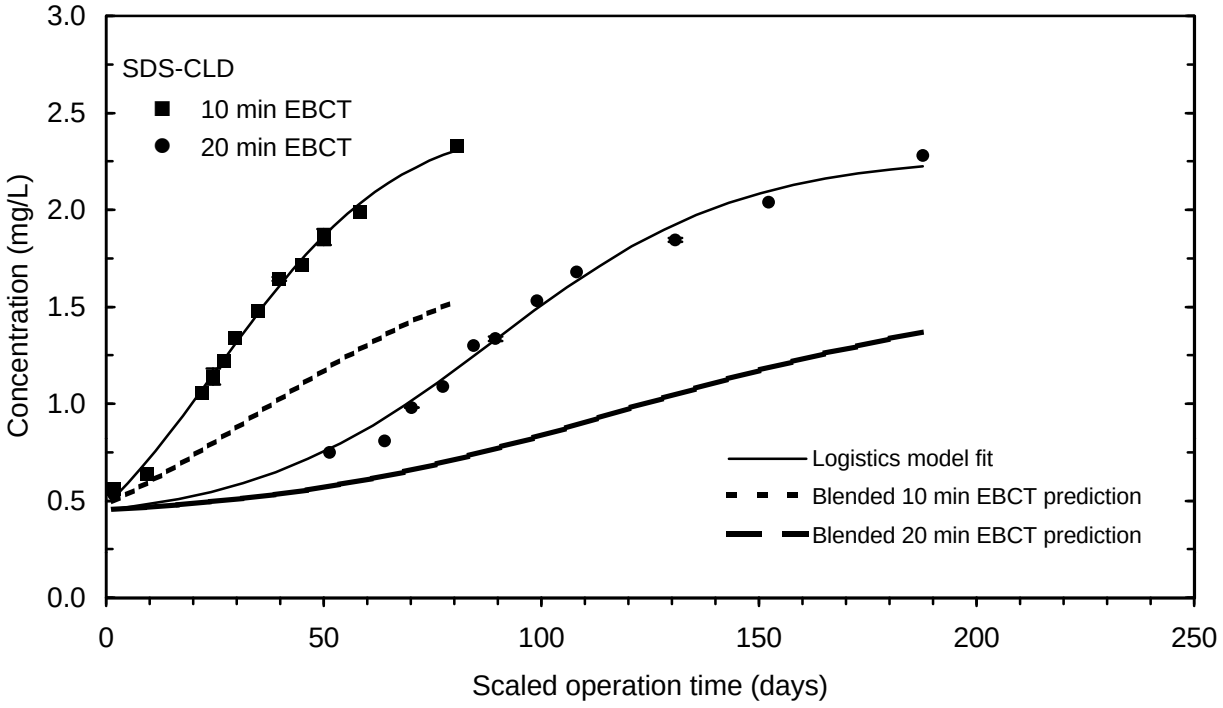


Figure 106 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 2 (April)

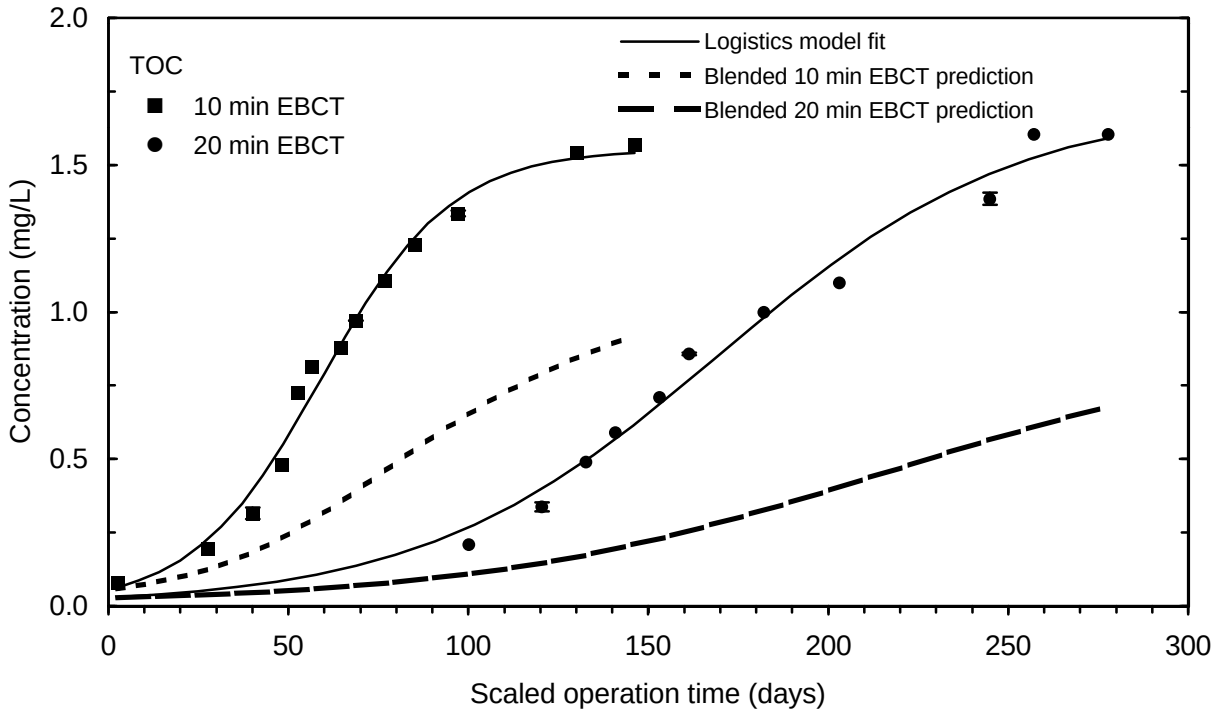


Figure 107 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

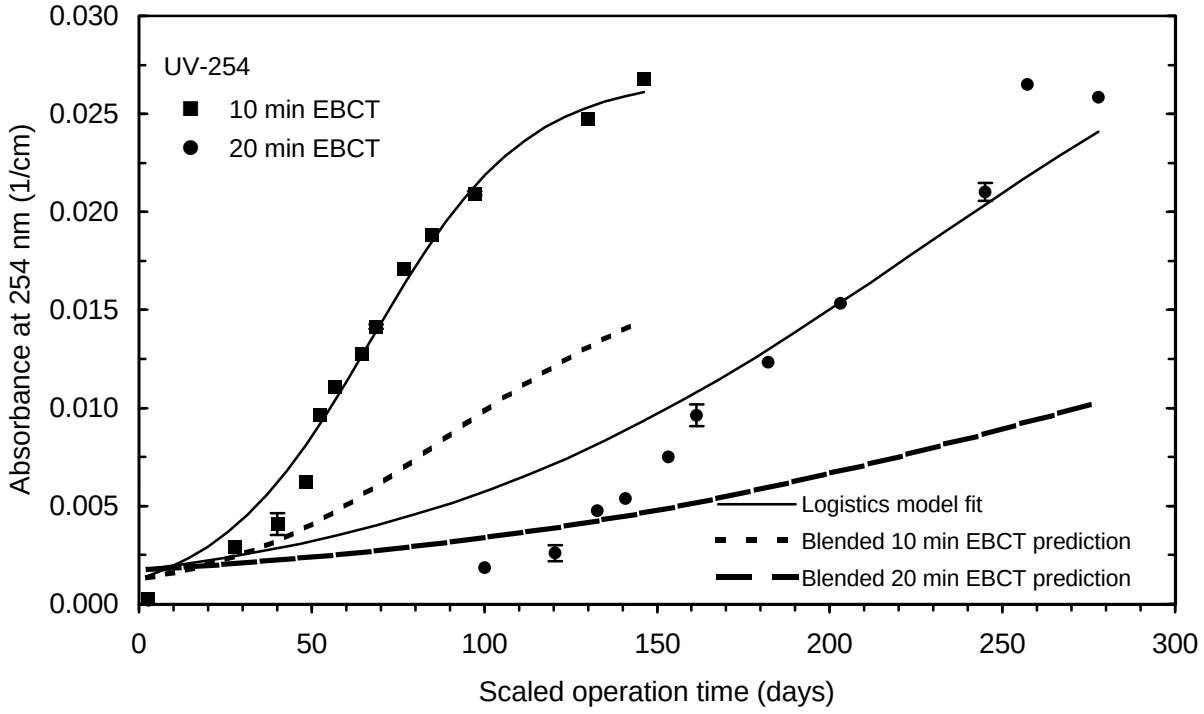


Figure 108 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

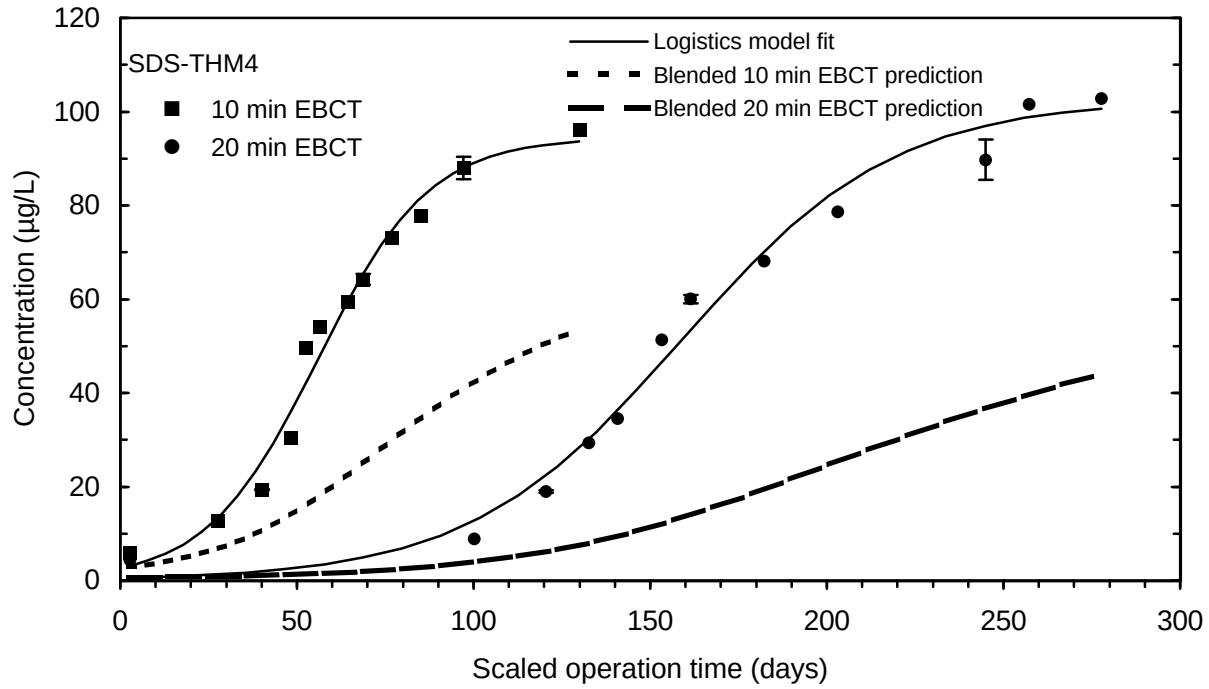


Figure 109 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

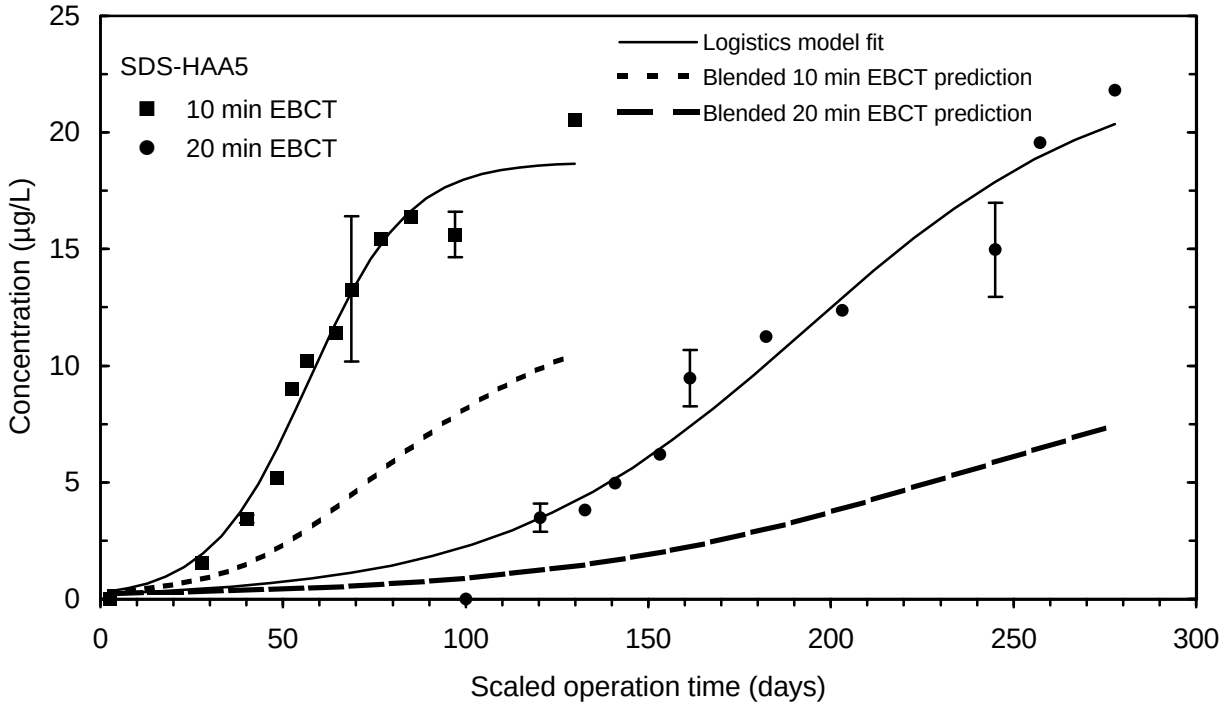


Figure 110 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

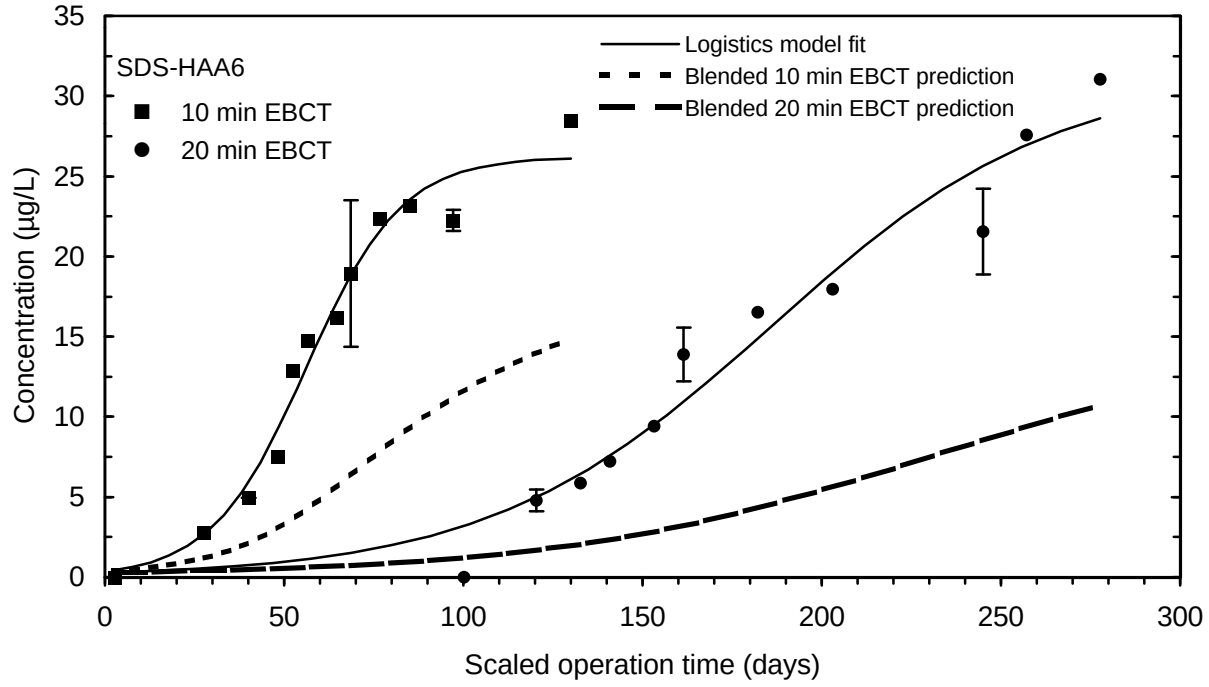


Figure 111 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

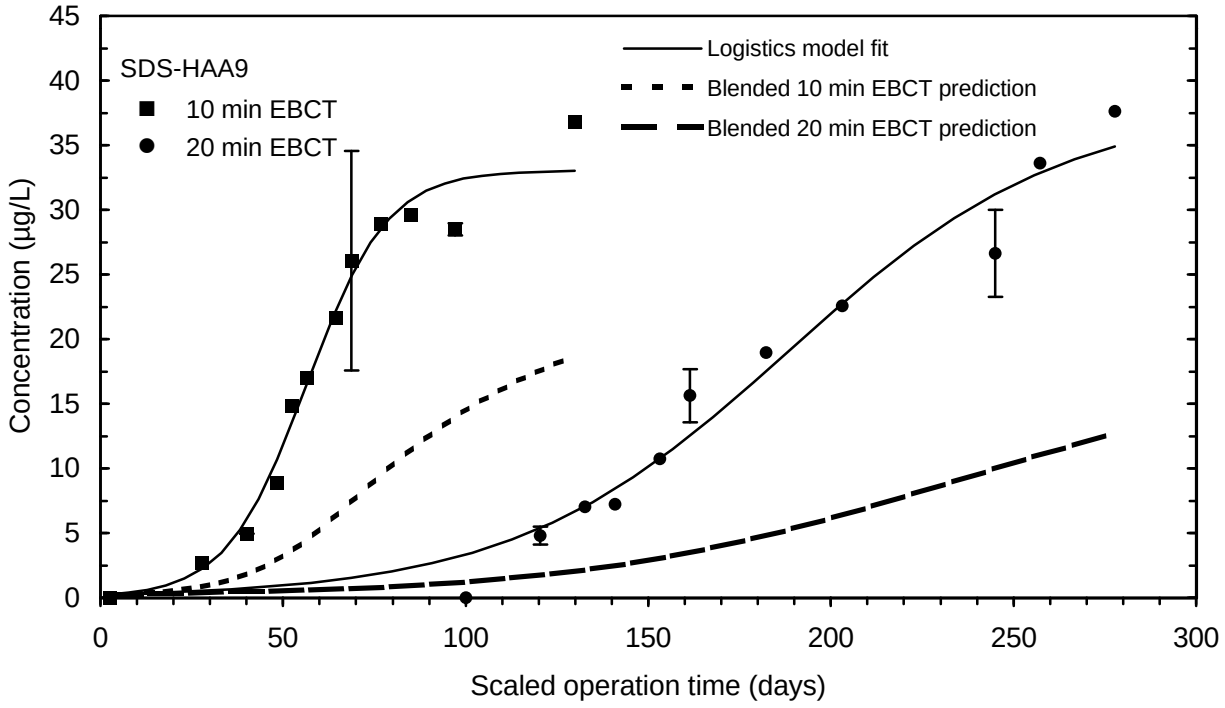


Figure 112 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

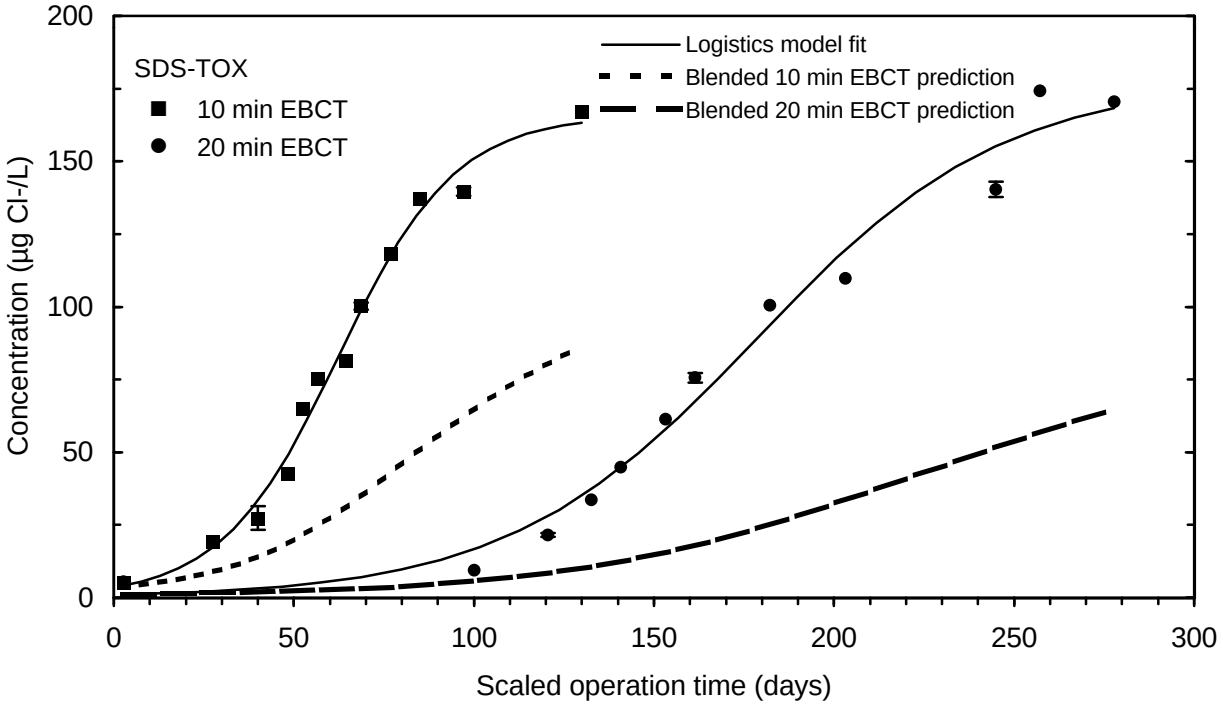


Figure 113 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

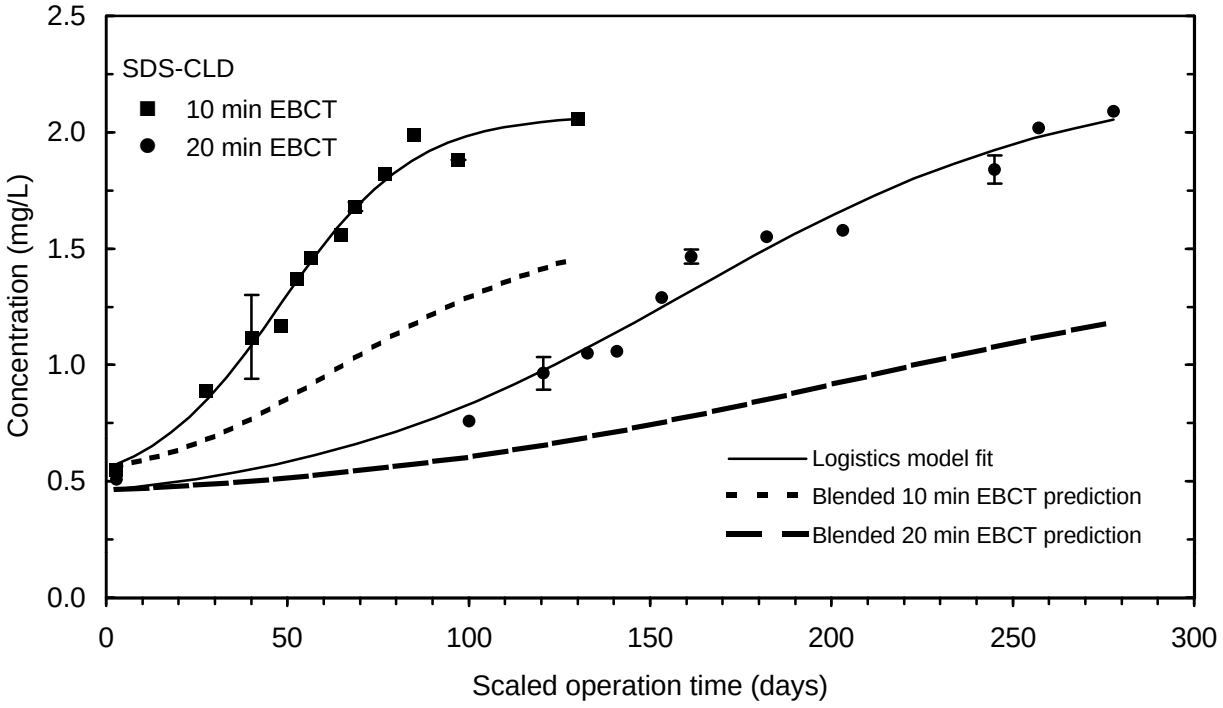


Figure 114 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 3 (July)

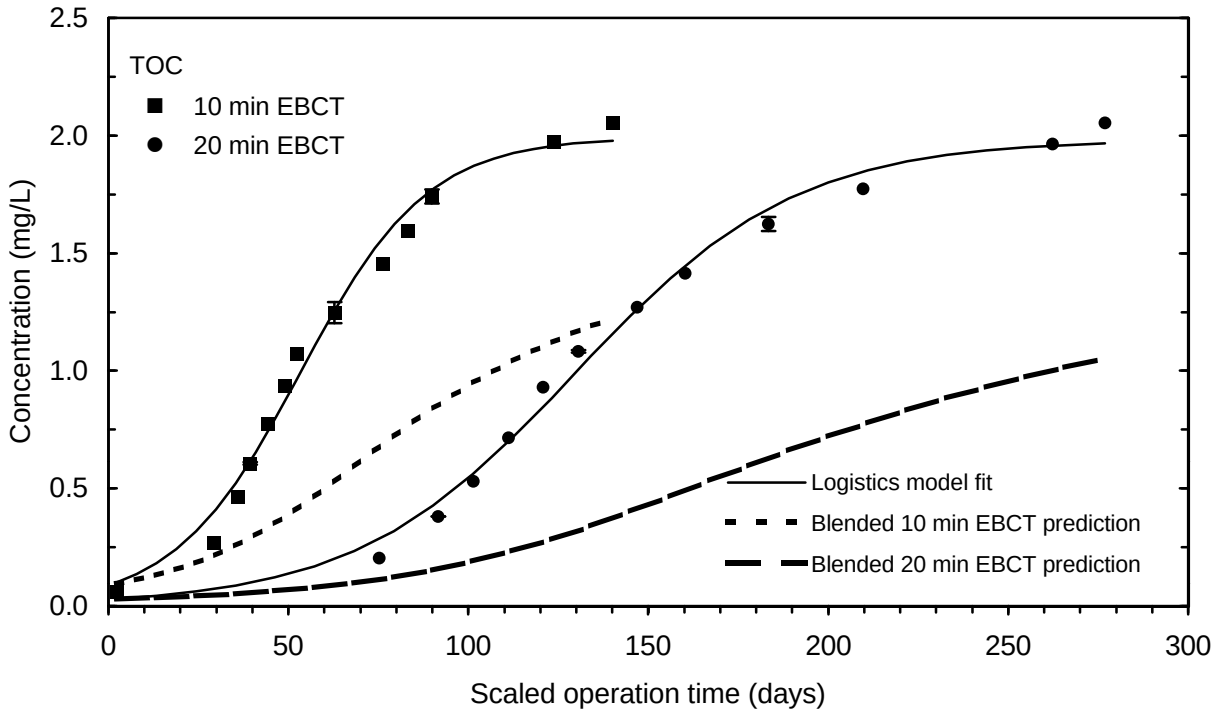


Figure 115 TOC breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

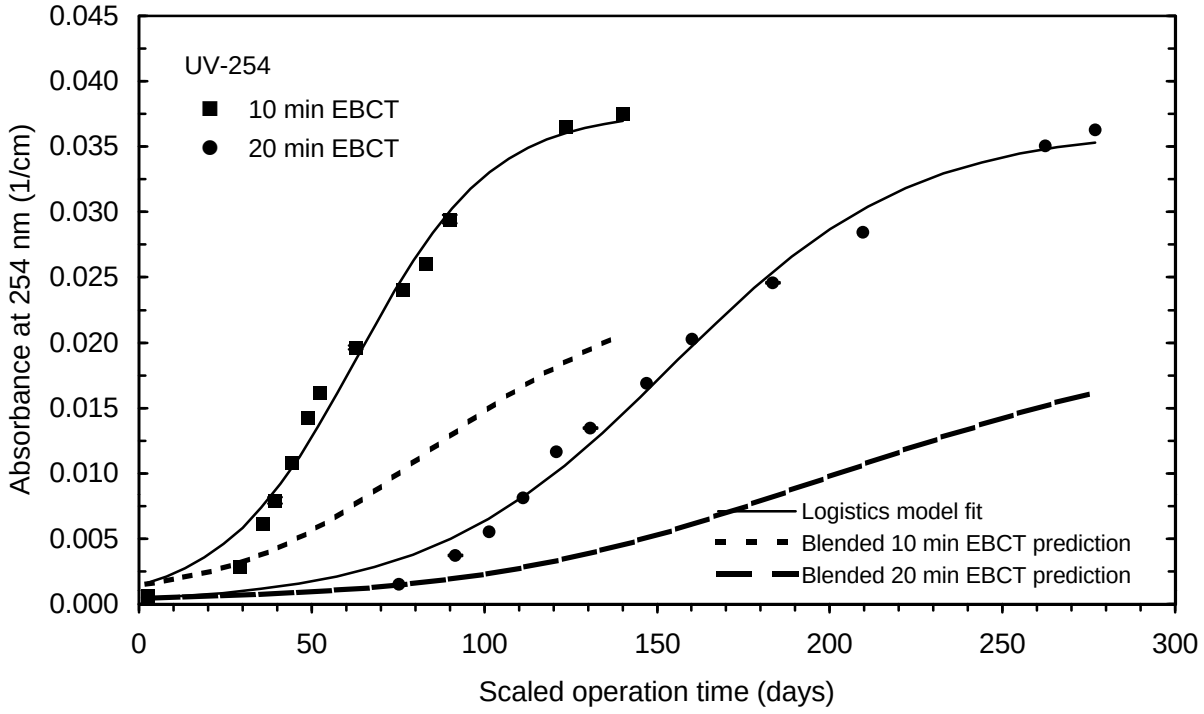


Figure 116 UV-254 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

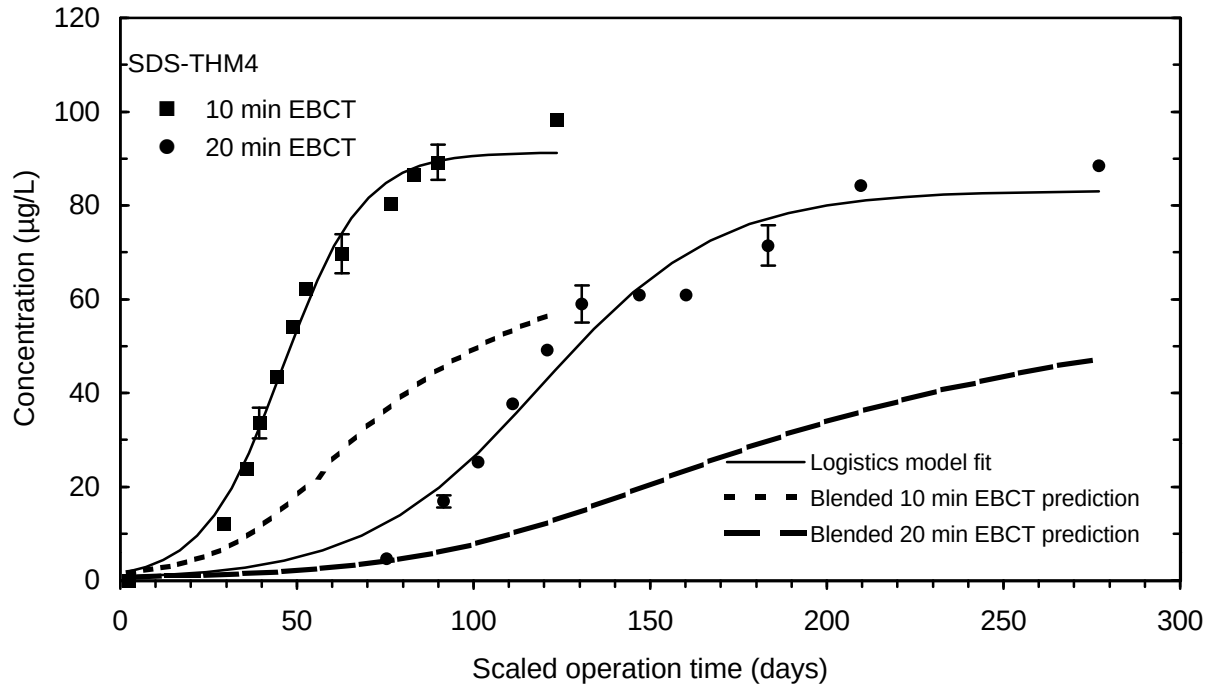


Figure 117 SDS-THM4 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

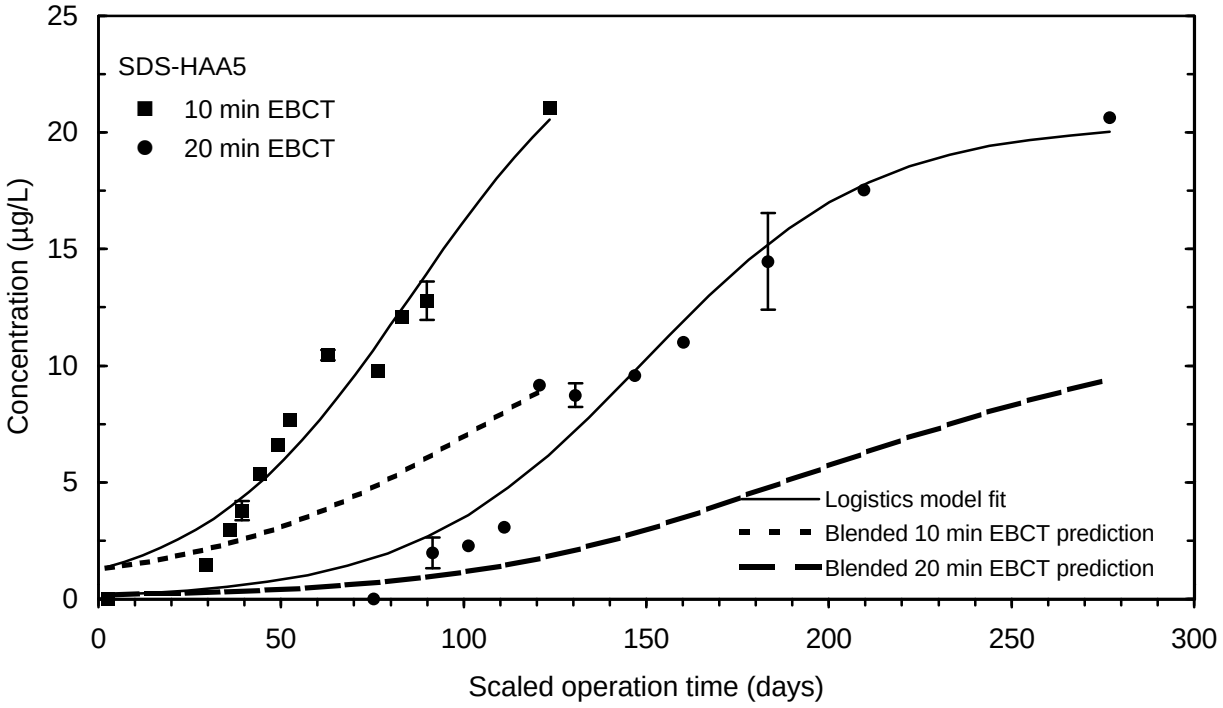


Figure 118 SDS-HAA5 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

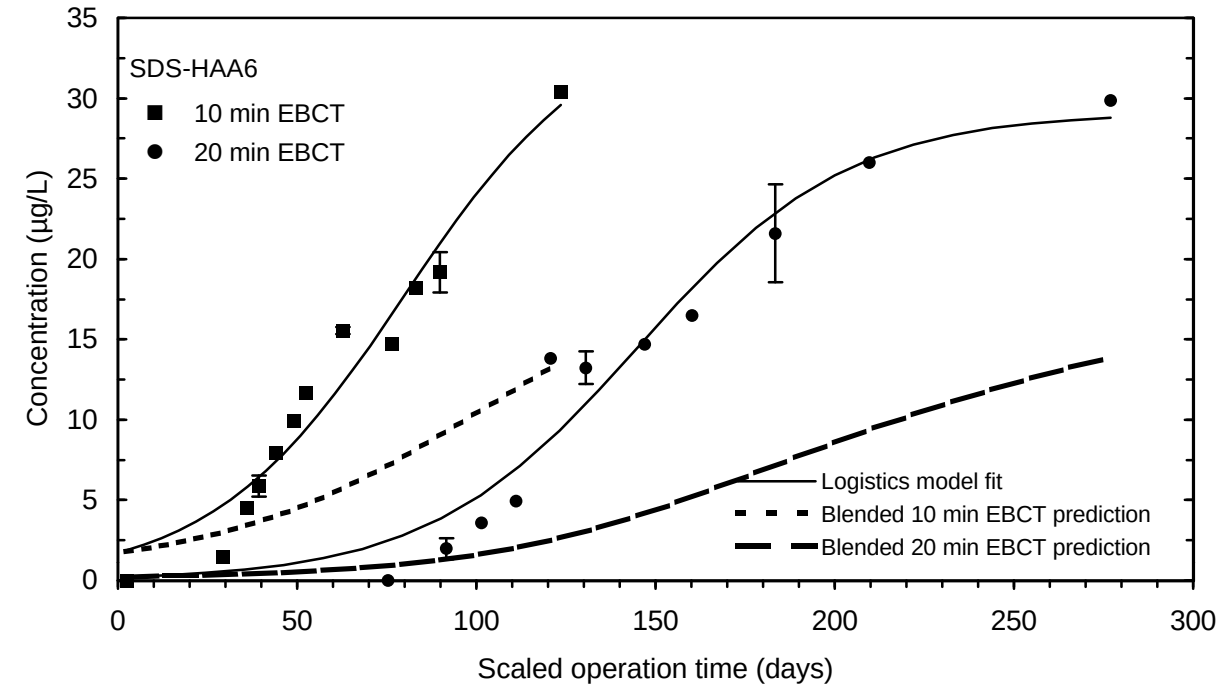


Figure 119 SDS-HAA6 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

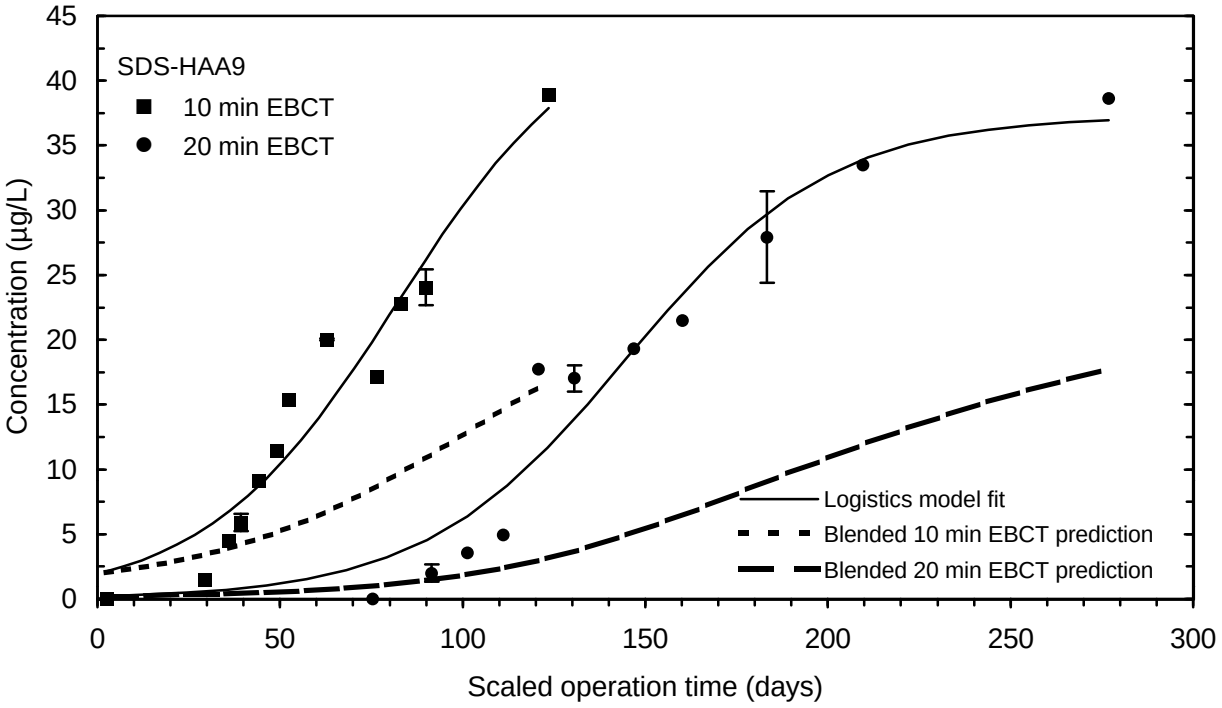


Figure 120 SDS-HAA9 breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

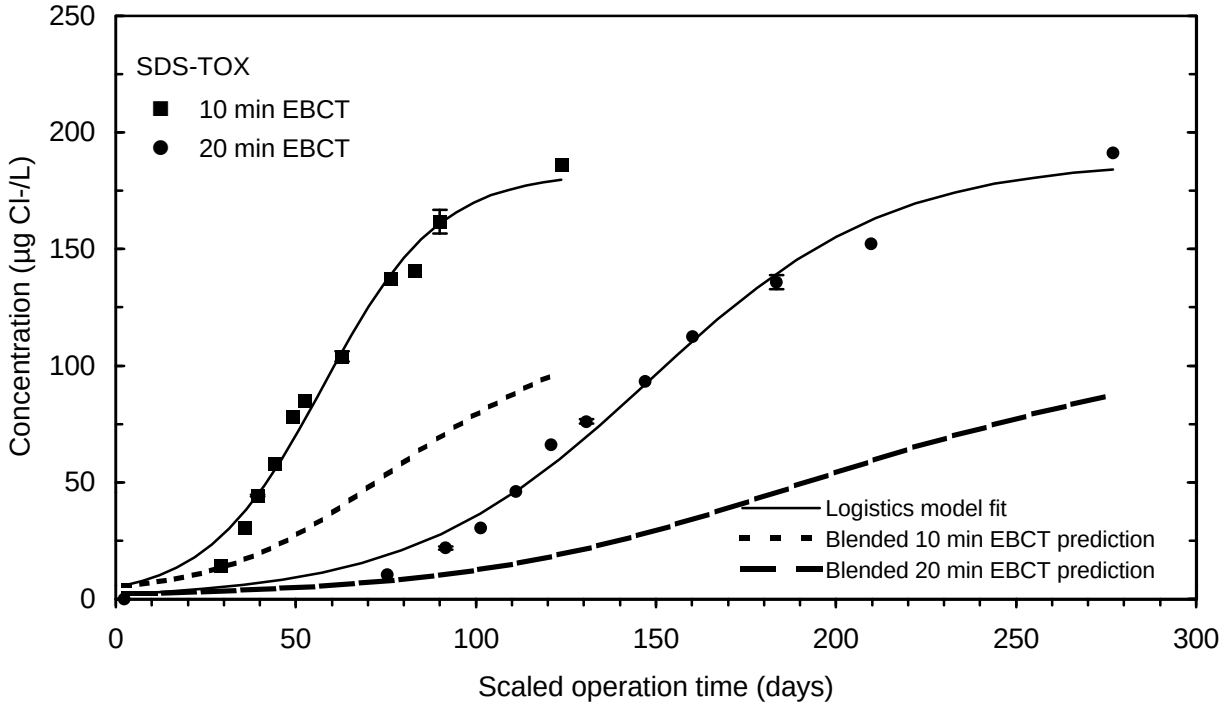


Figure 121 SDS-TOX breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

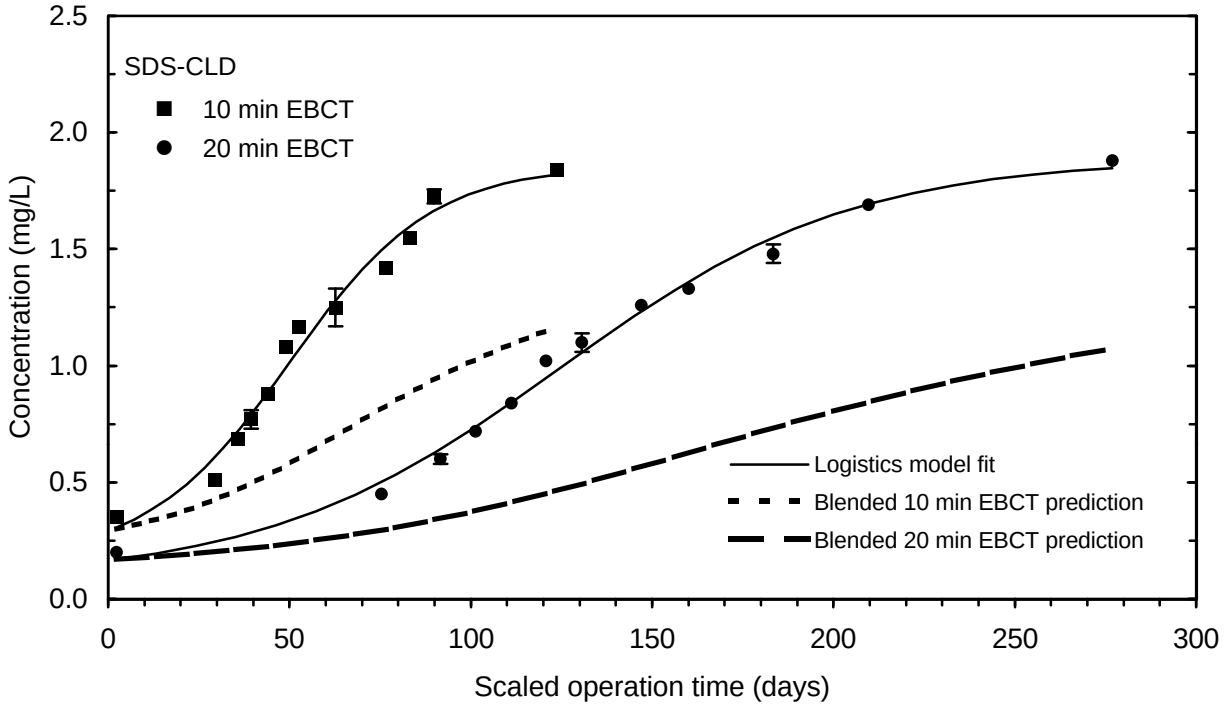


Figure 122 SDS-CLD breakthrough and effluent blending for 10 and 20 minute EBCT contactors during session 4 (October)

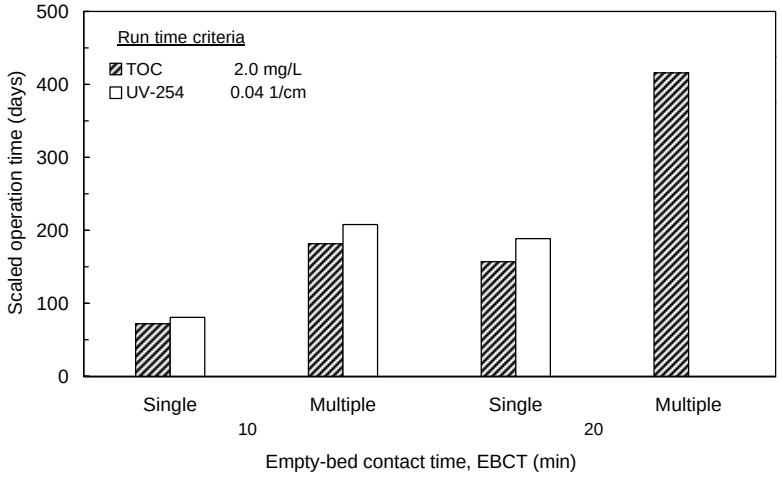


Figure 123 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 1 (January)

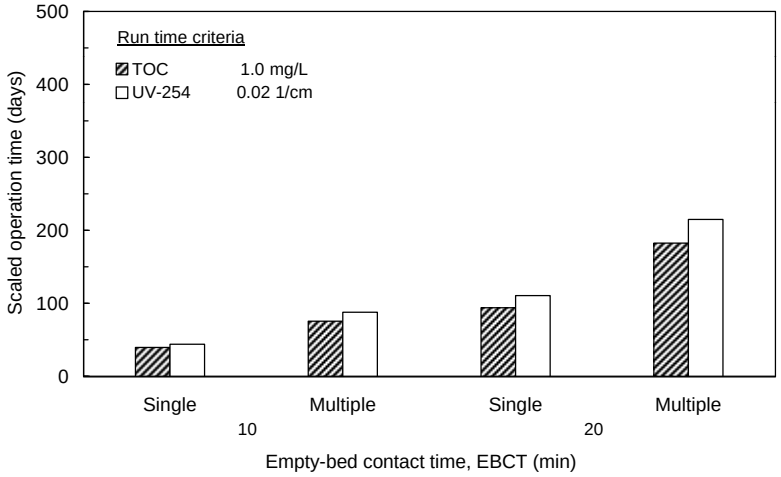


Figure 124 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 1 (January)

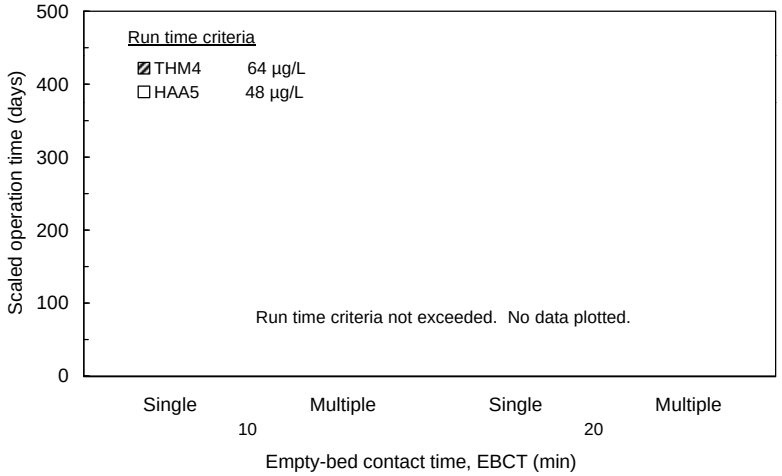


Figure 125 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 1 (January)

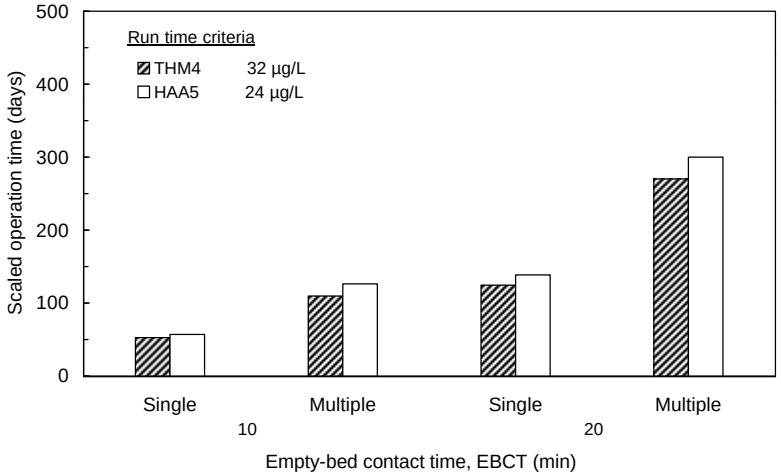


Figure 126 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 1 (January)

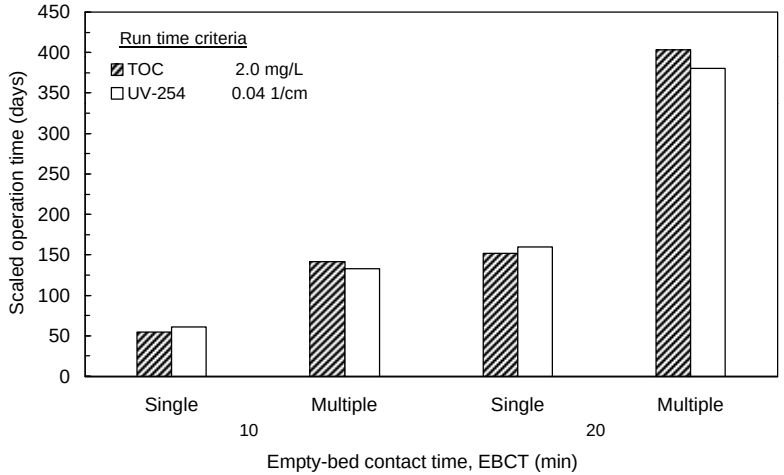


Figure 127 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 2 (April)

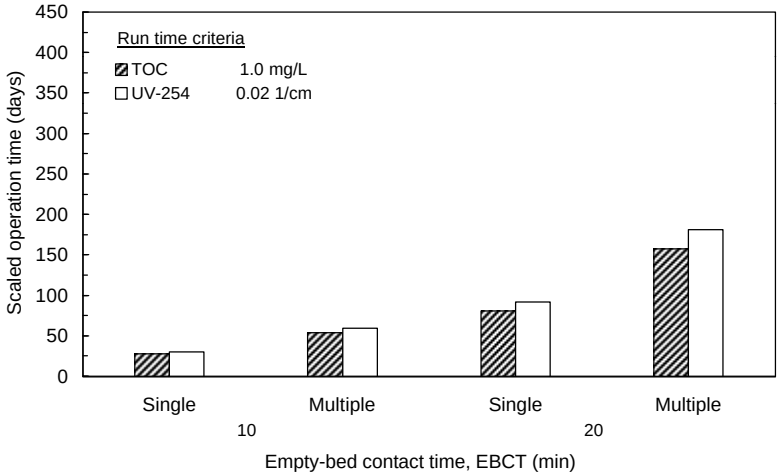


Figure 128 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 2 (April)

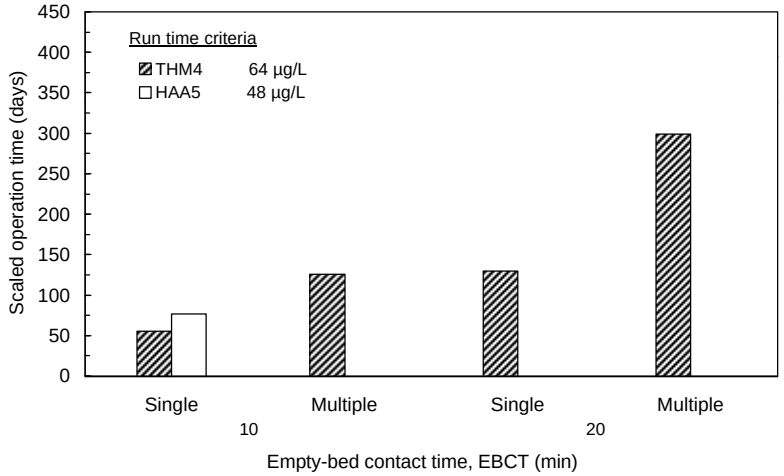


Figure 129 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 2 (April)

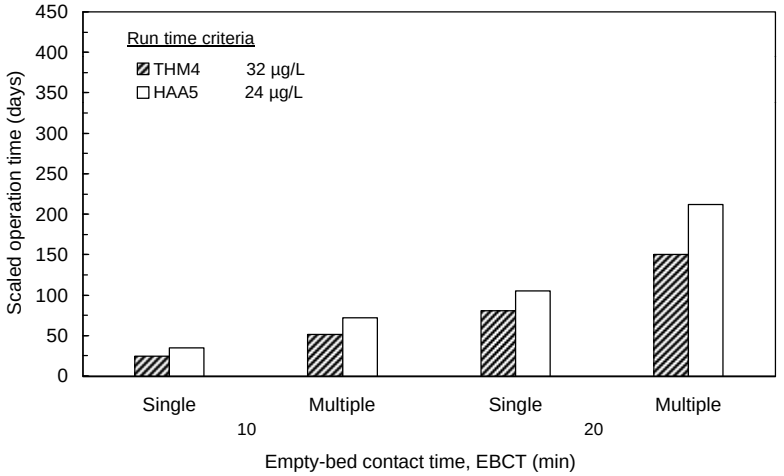


Figure 130 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 2 (April)

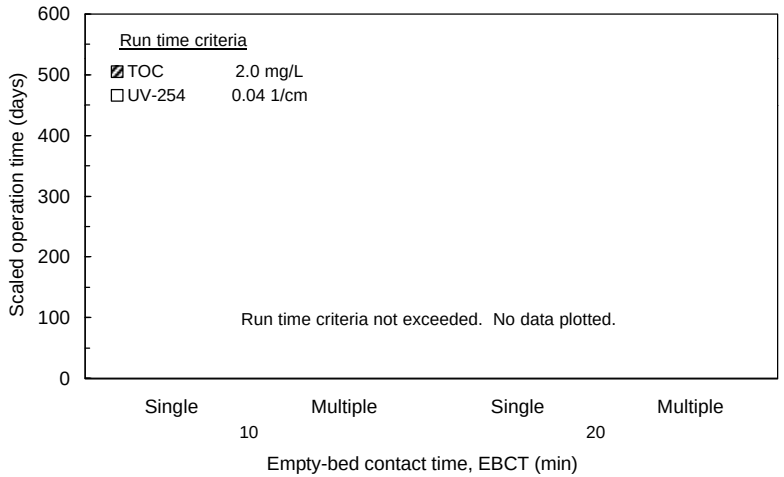


Figure 131 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 3 (July)

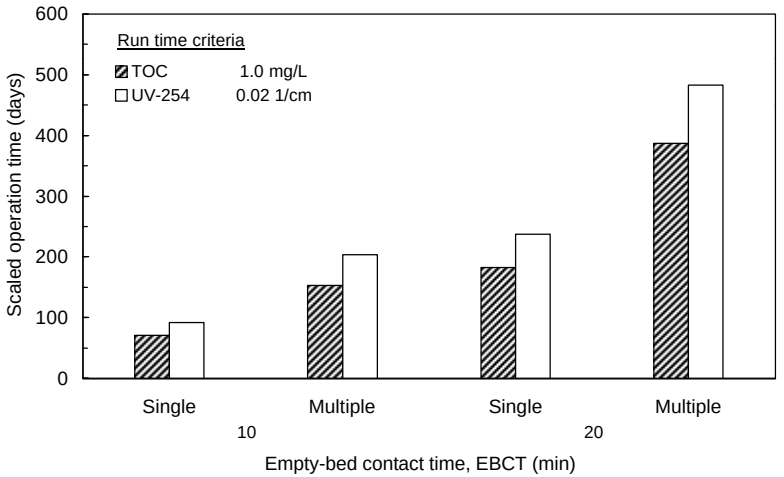


Figure 132 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 3 (July)

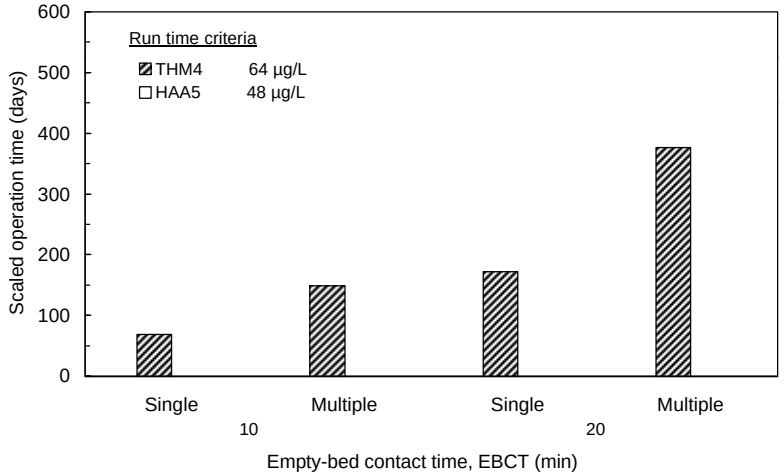


Figure 133 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 3 (July)

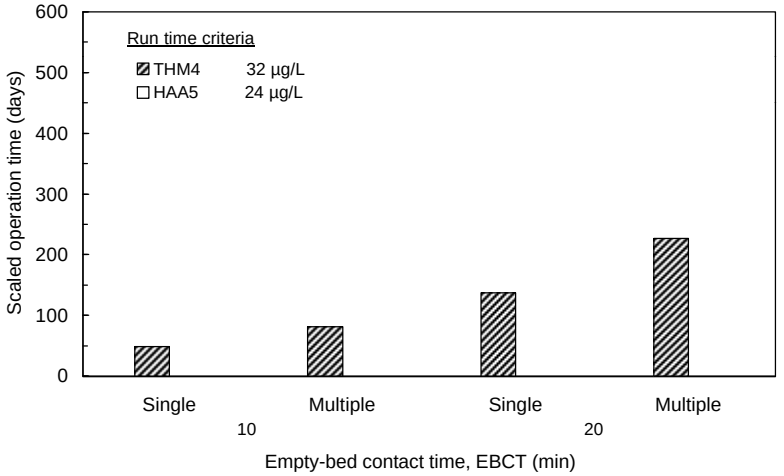


Figure 134 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 3 (July)

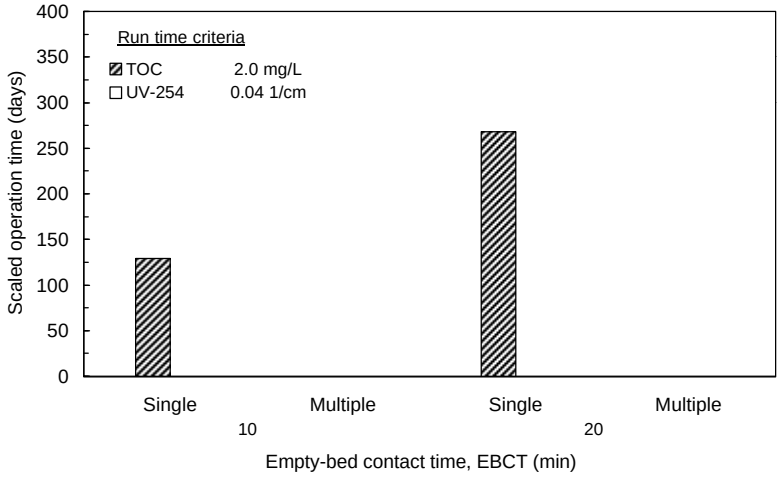


Figure 135 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (high) during session 4 (October)

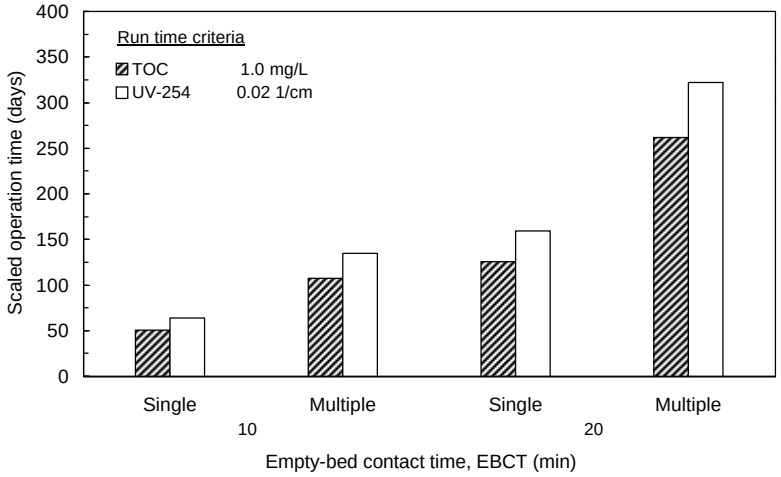


Figure 136 GAC run times based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria (low) during session 4 (October)

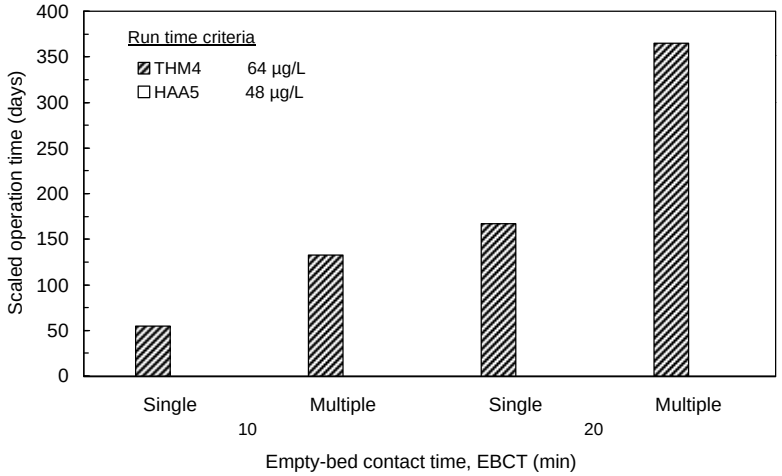


Figure 137 GAC run times based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 4 (October)

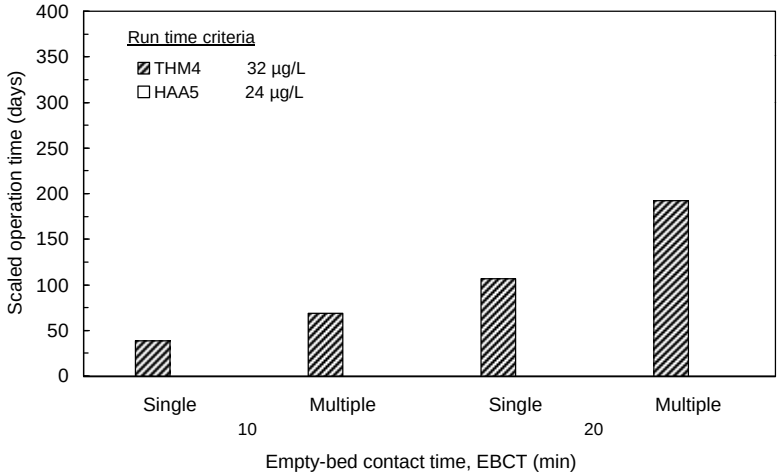


Figure 138 GAC run times based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 4 (October)

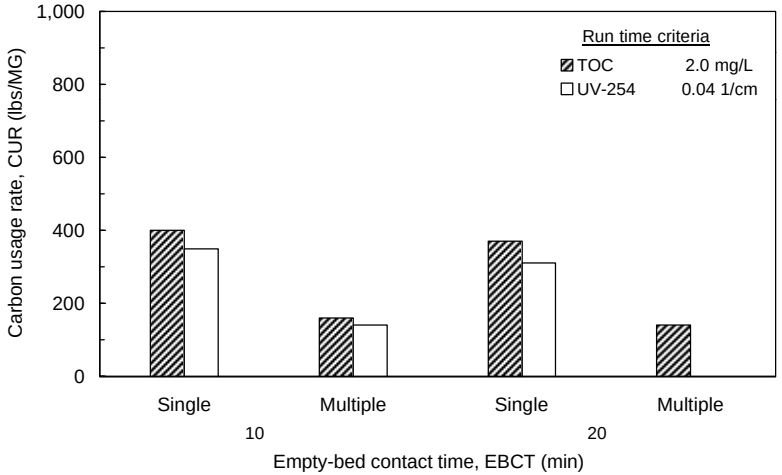


Figure 139 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 1 (January)

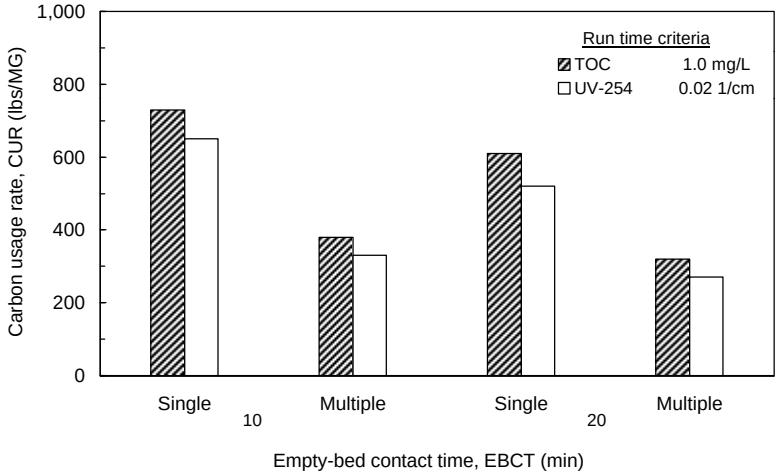


Figure 140 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 1 (January)

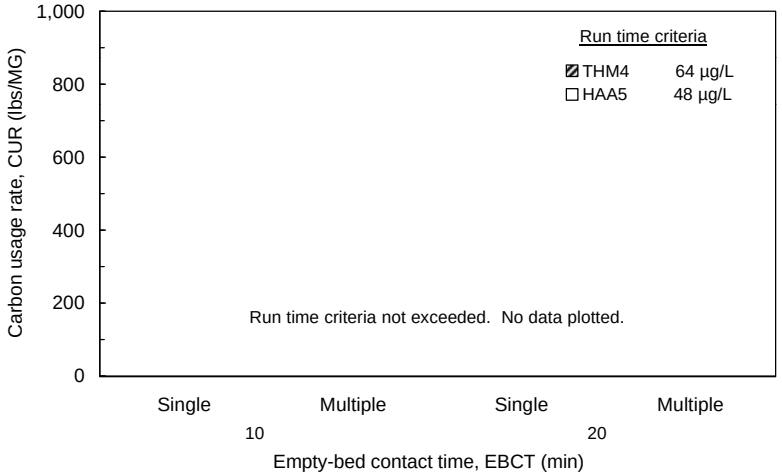


Figure 141 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 1 (January)

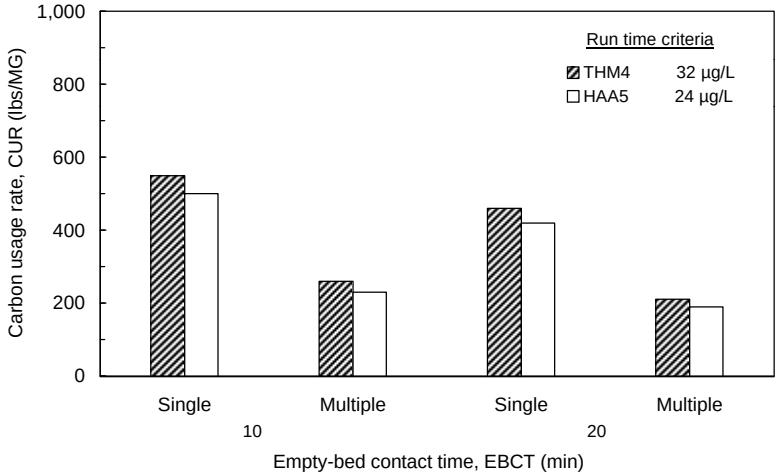


Figure 142 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 1 (January)

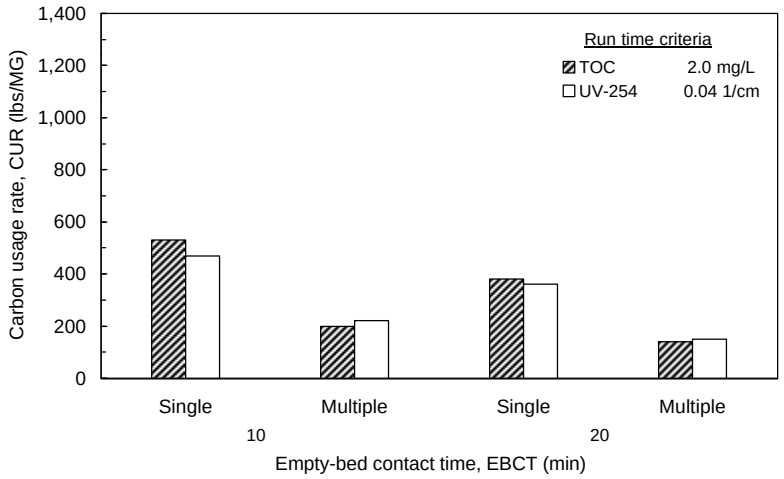


Figure 143 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 2 (April)

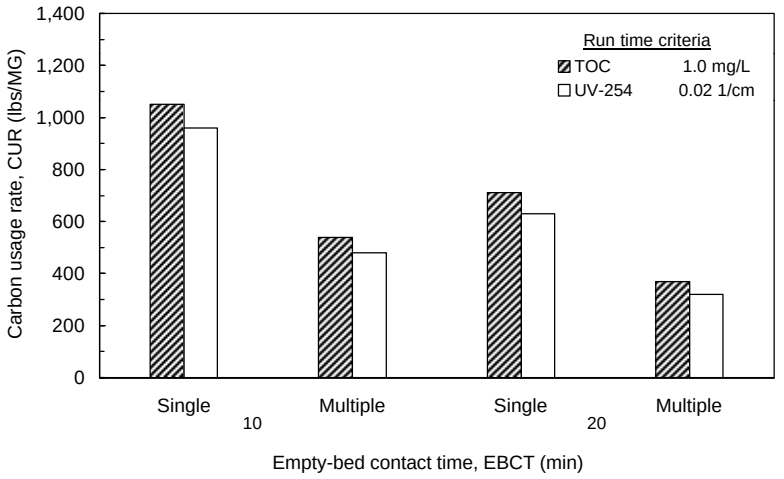


Figure 144 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 2 (April)

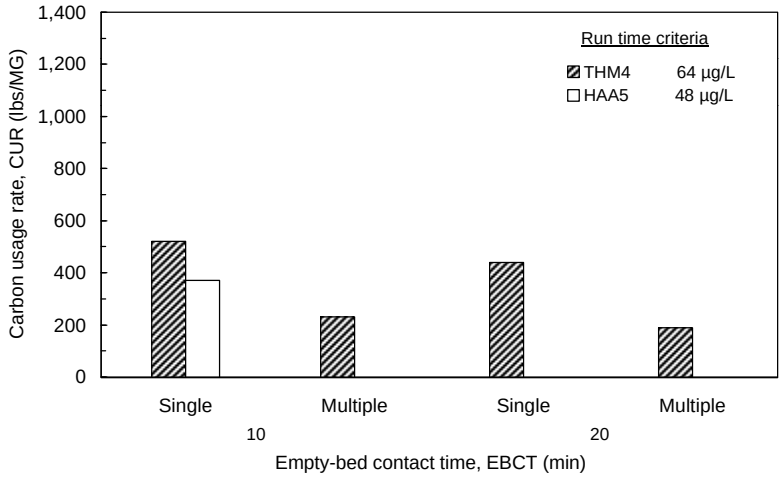


Figure 145 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 2 (April)

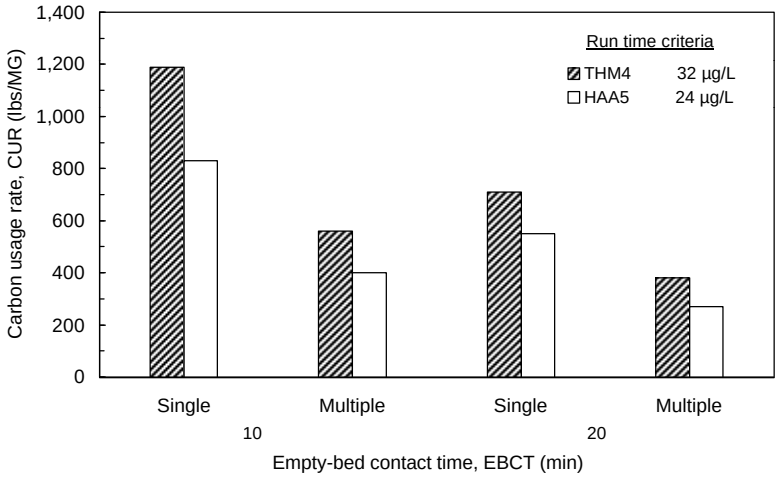


Figure 146 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 2 (April)

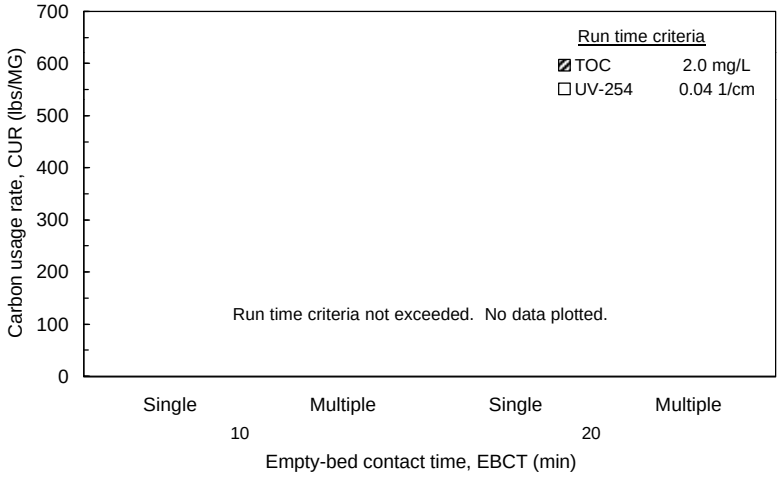


Figure 147 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 3 (July)

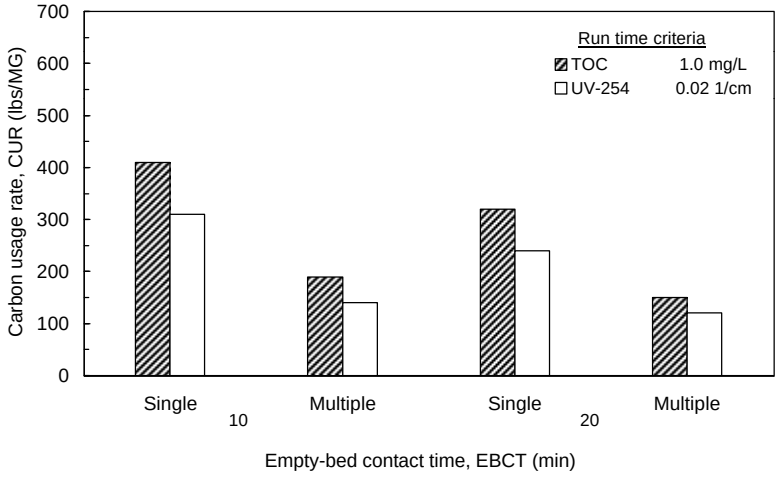


Figure 148 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 3 (July)

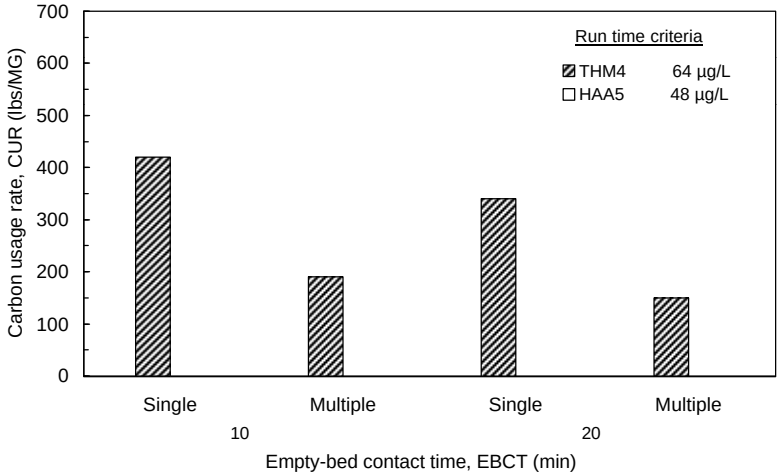


Figure 149 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 3 (July)

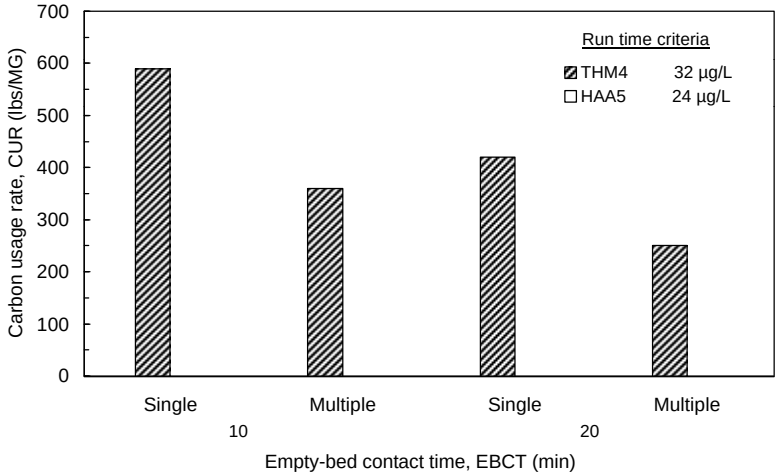


Figure 150 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 3 (July)

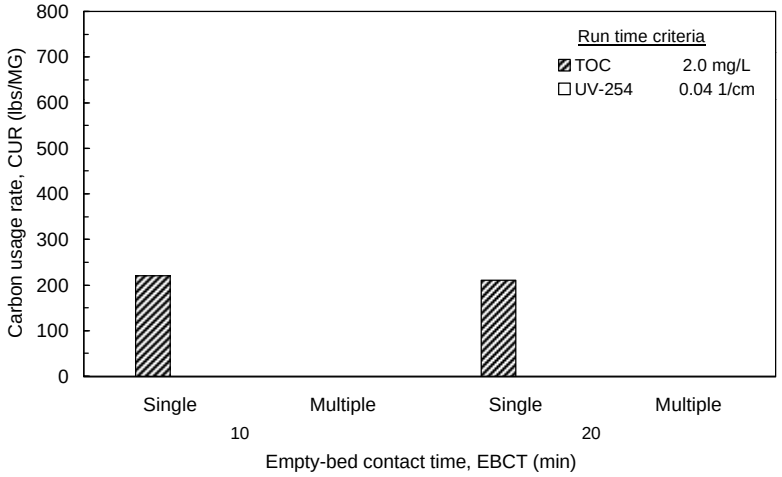


Figure 151 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 4 (October)

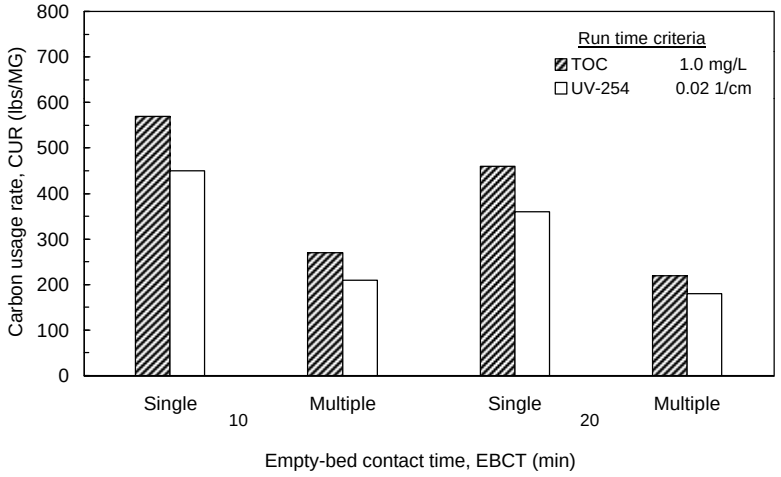


Figure 152 Carbon usage rates based on single contactor breakthrough and effluent blending for TOC and UV-254 effluent criteria during session 4 (October)

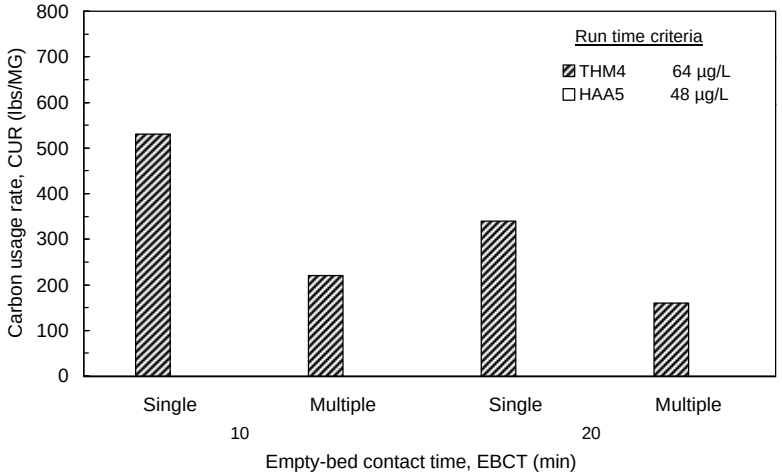


Figure 153 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 1 THM4 and HAA5 effluent criteria during session 4 (October)

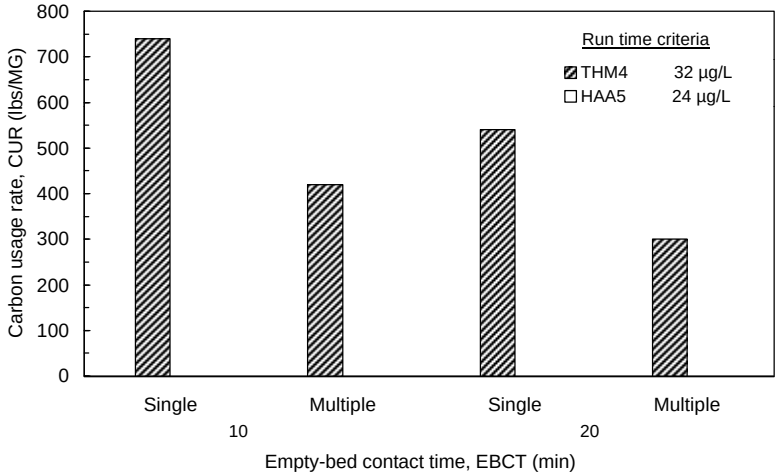


Figure 154 Carbon usage rates based on single contactor breakthrough and effluent blending for Stage 2 THM4 and HAA5 effluent criteria during session 4 (October)

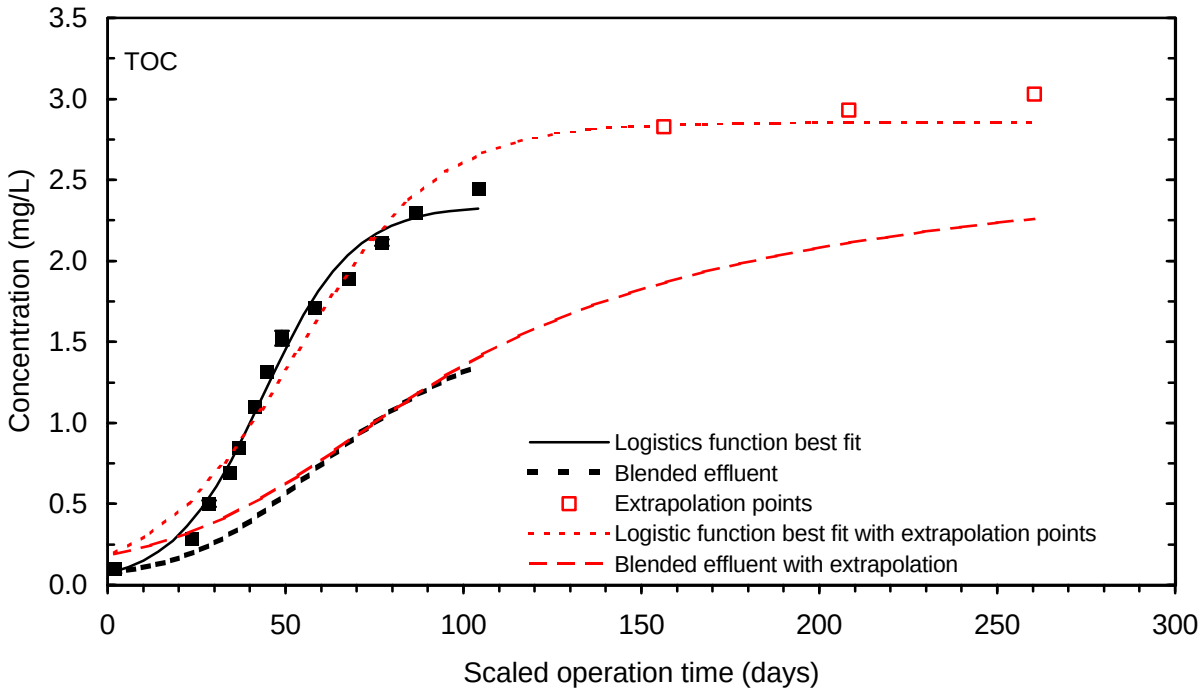


Figure 155 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 1, January

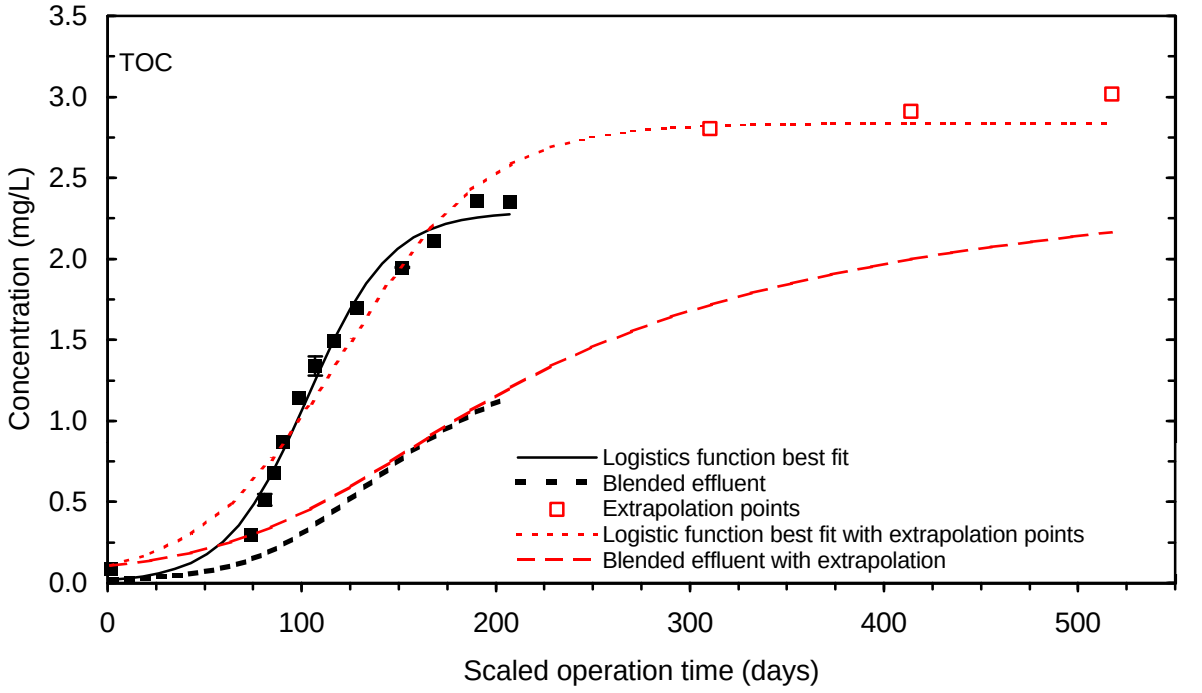


Figure 156 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 1, January

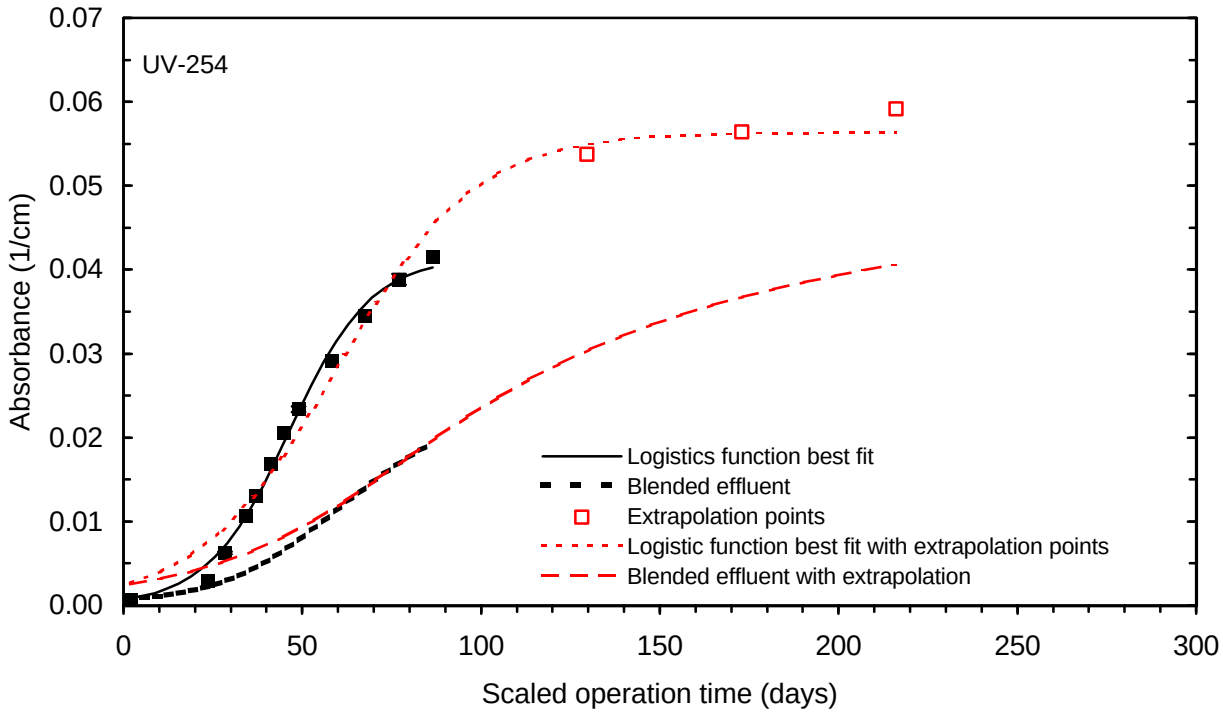


Figure 157 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 1, January

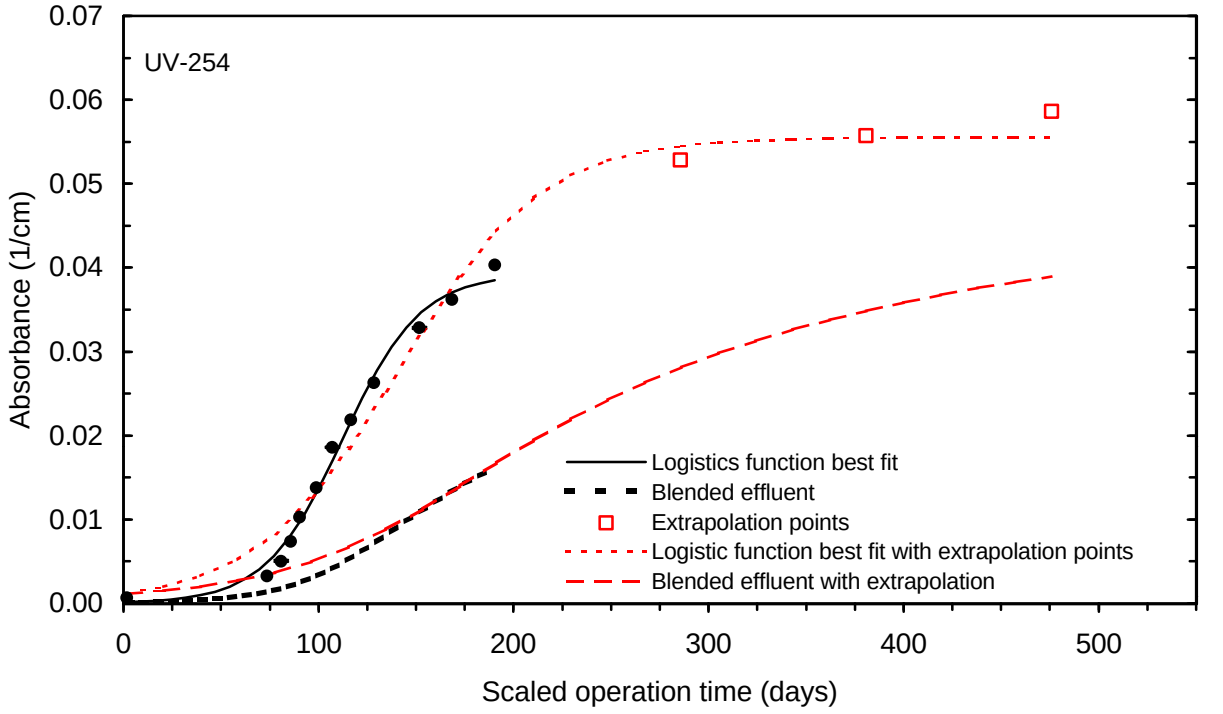


Figure 158 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 1, January

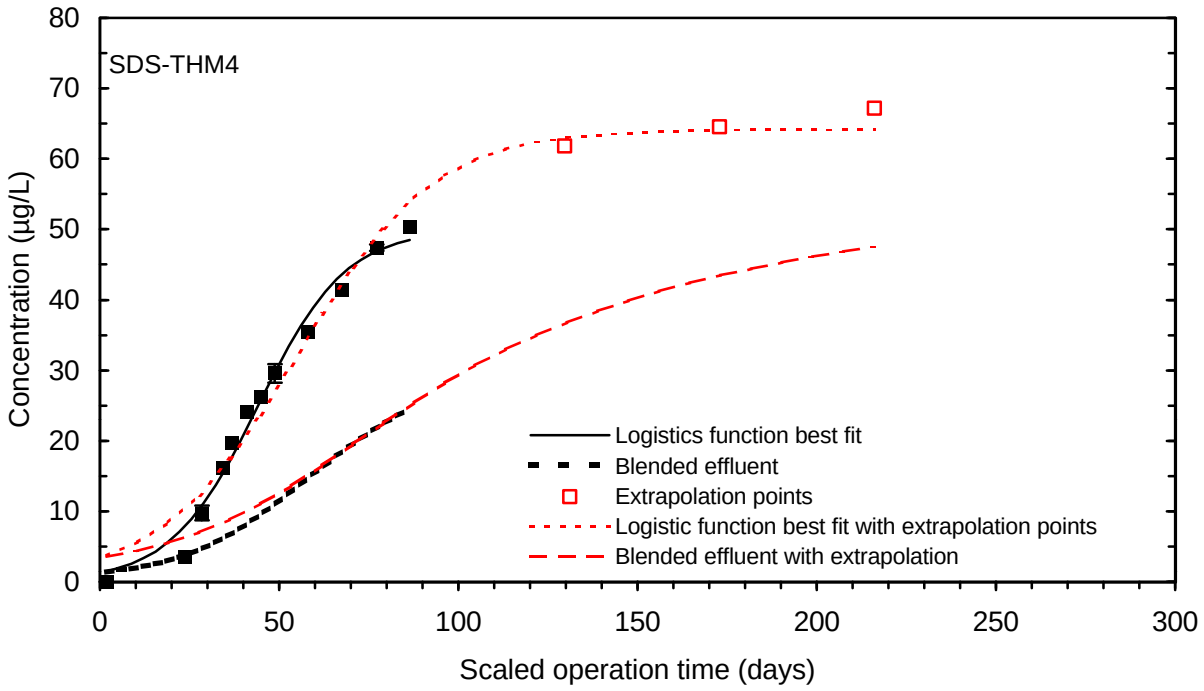


Figure 159 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 1, January

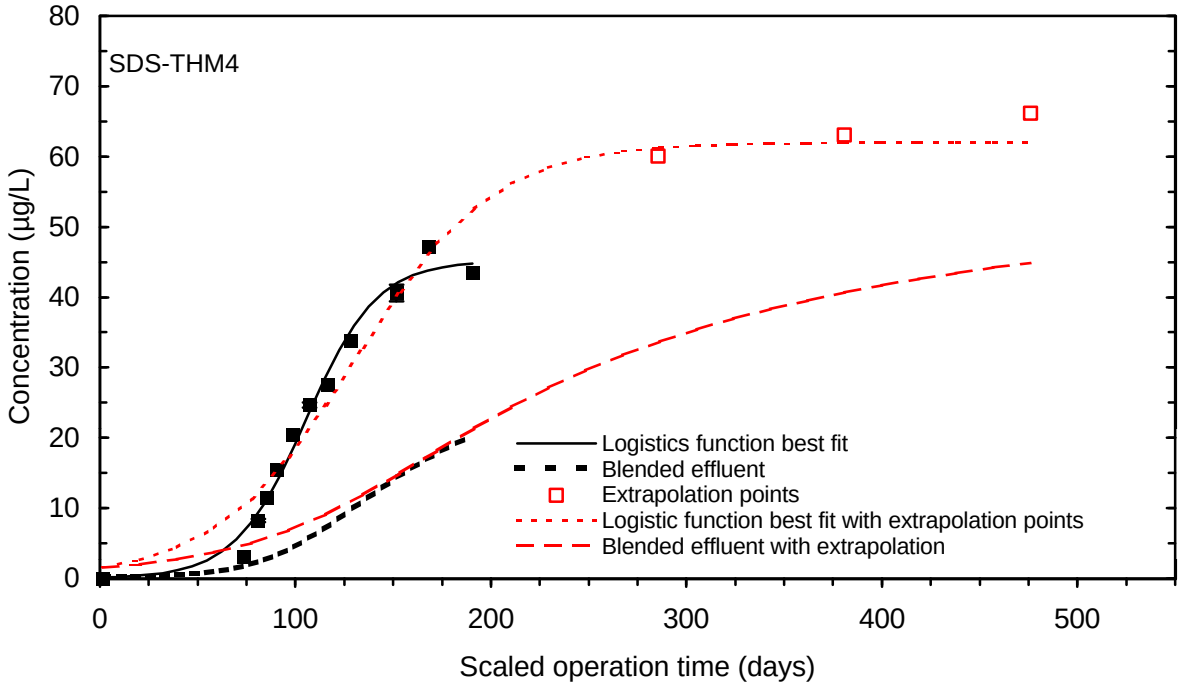


Figure 160 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 1, January

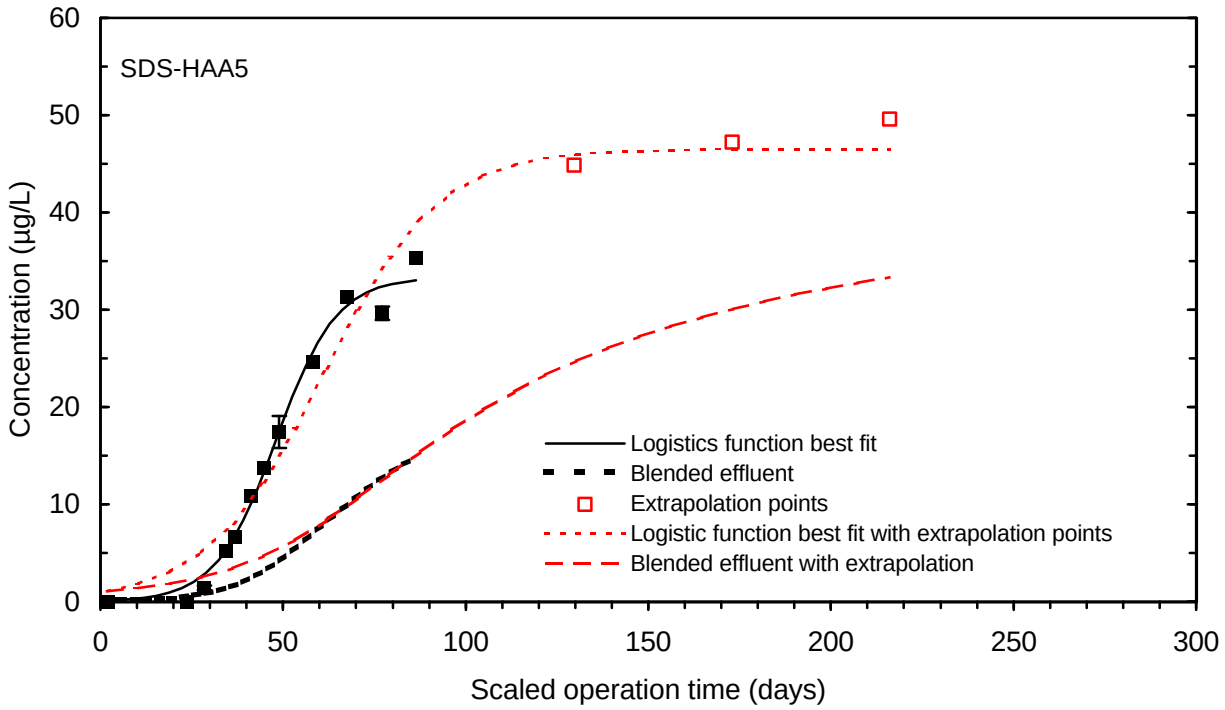


Figure 161 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 1, January

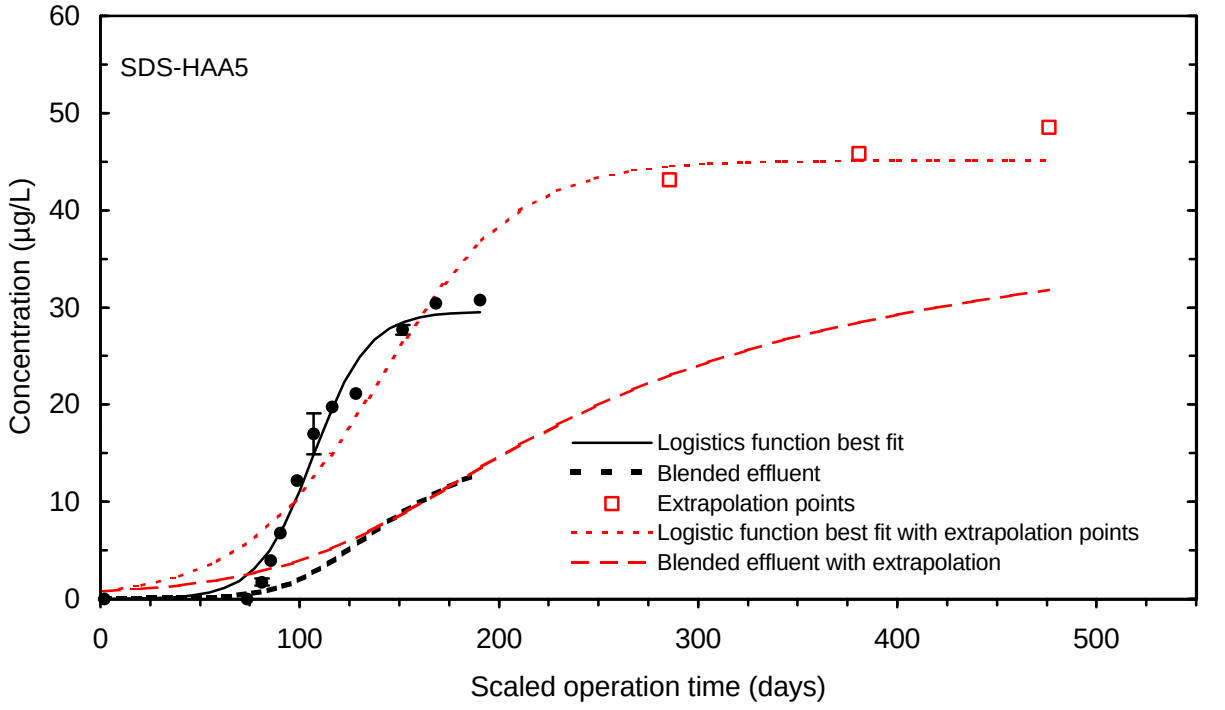


Figure 162 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 1, January

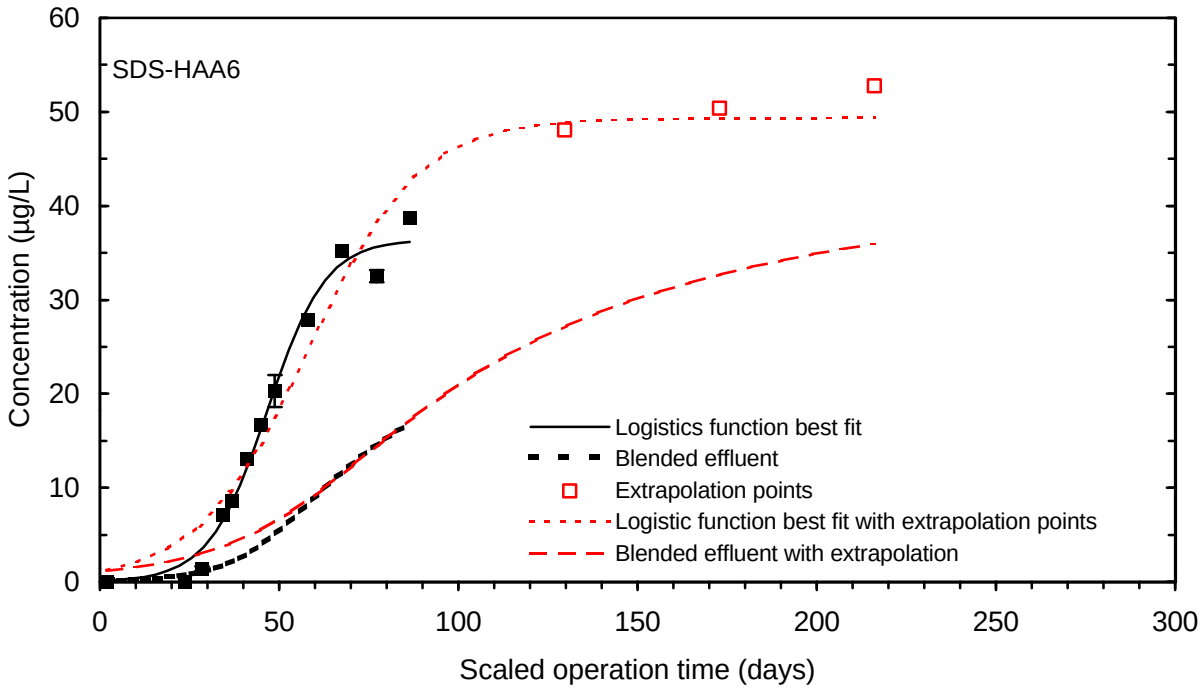


Figure 163 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 1, January

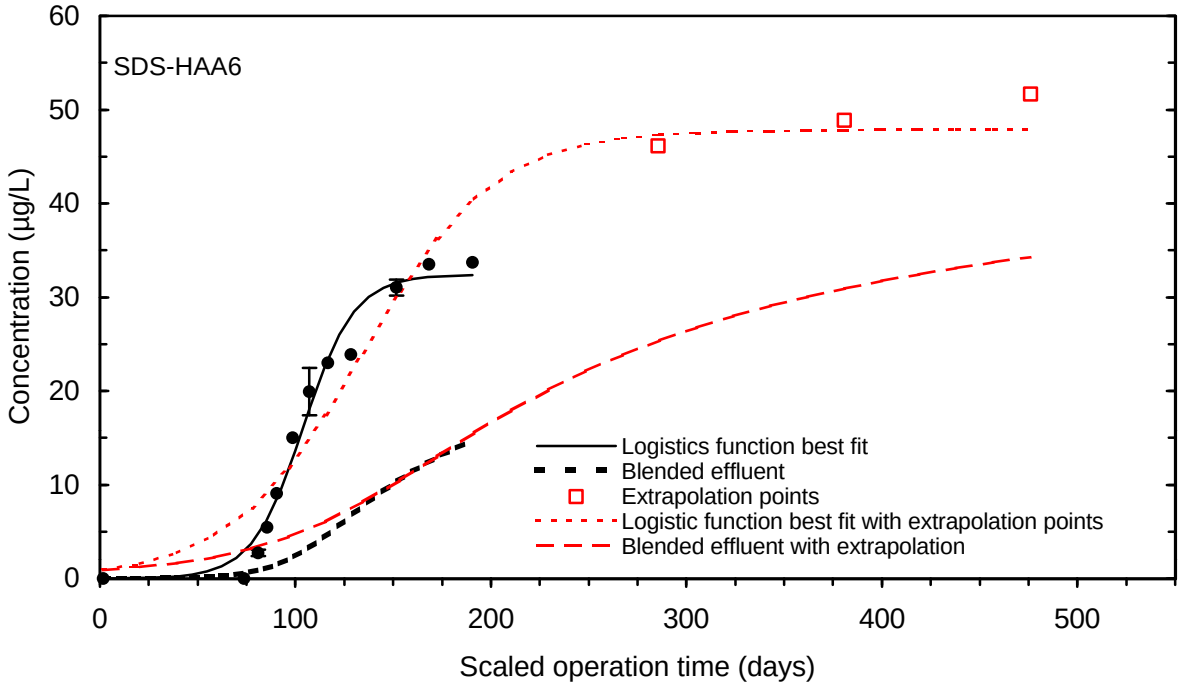


Figure 164 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 1, January

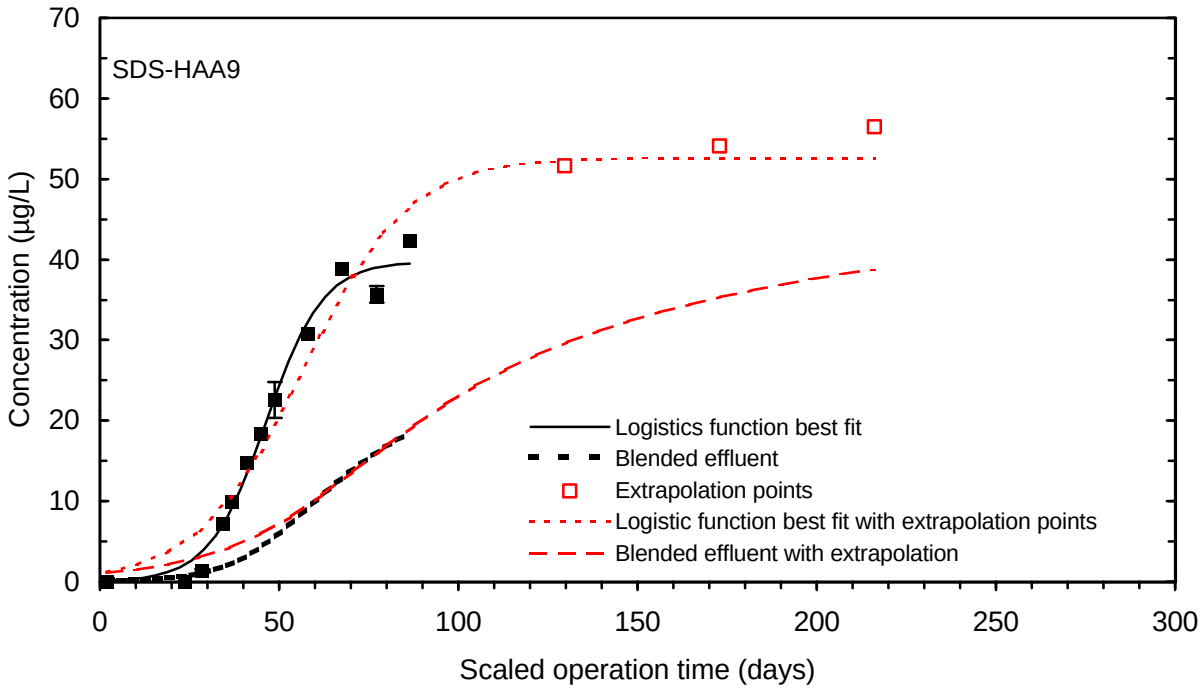


Figure 165 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 1, January

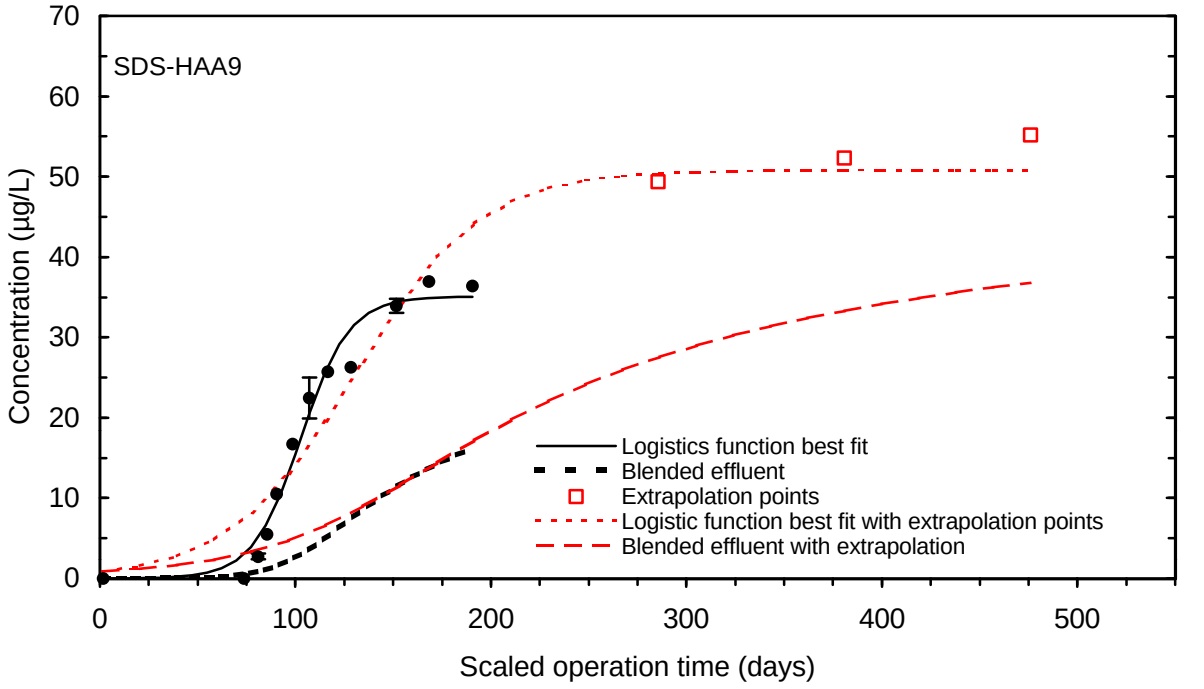


Figure 166 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 1, January

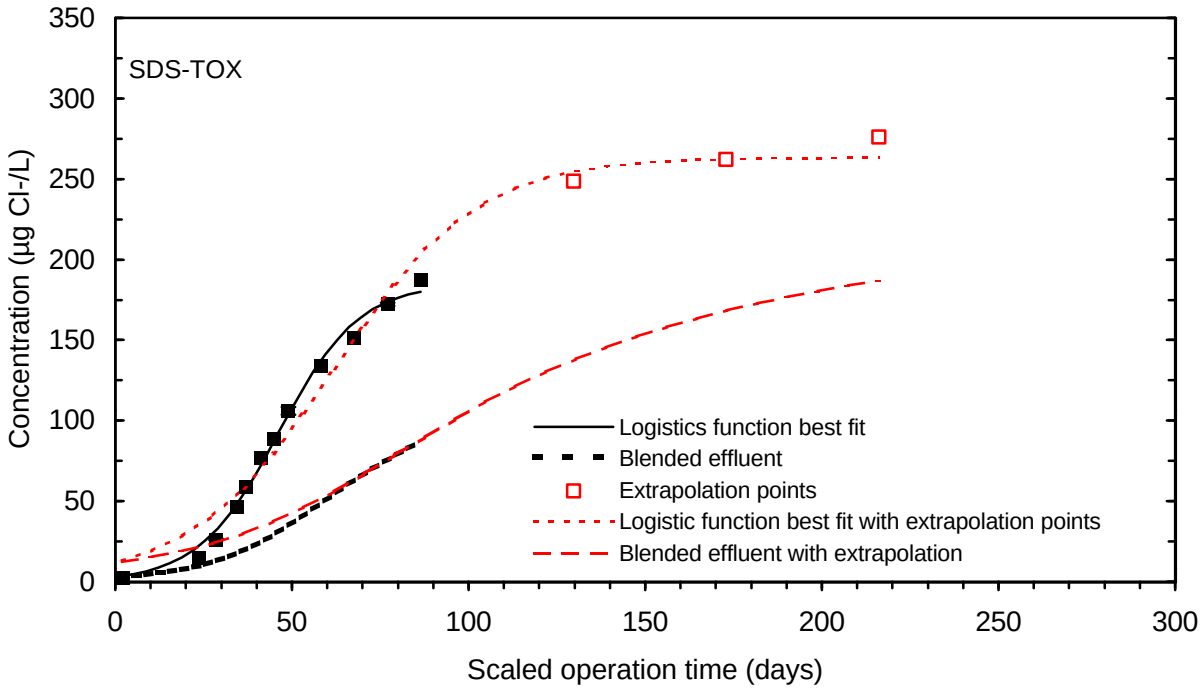


Figure 167 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 1, January

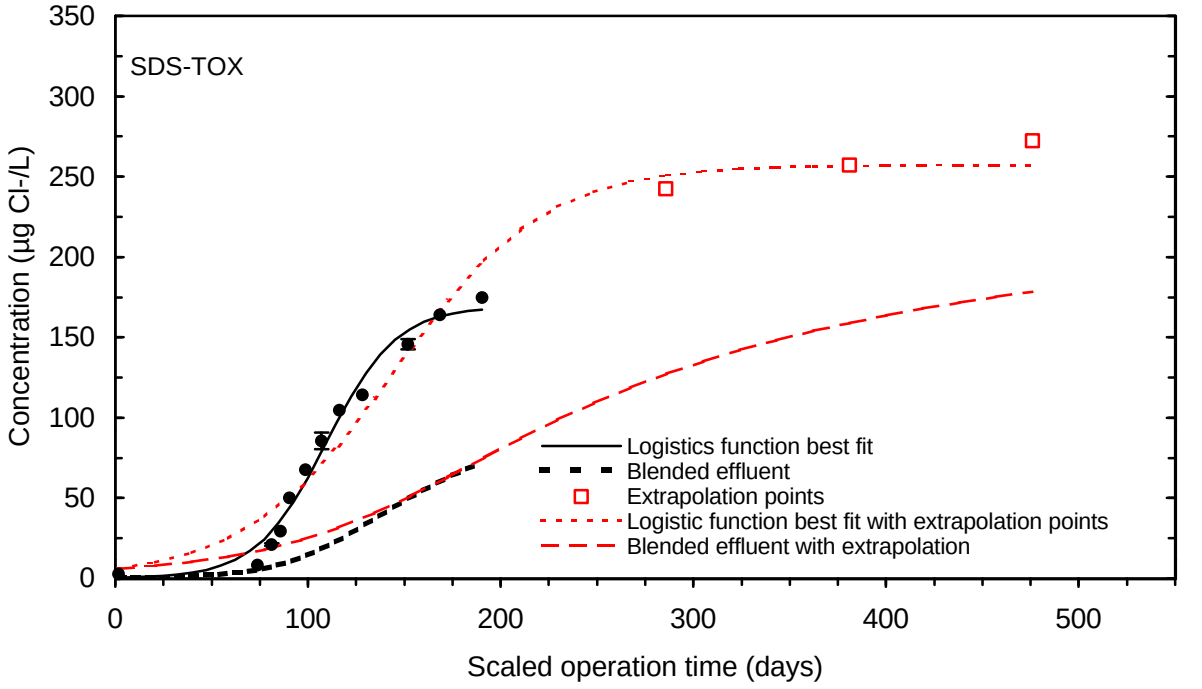


Figure 168 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 1, January

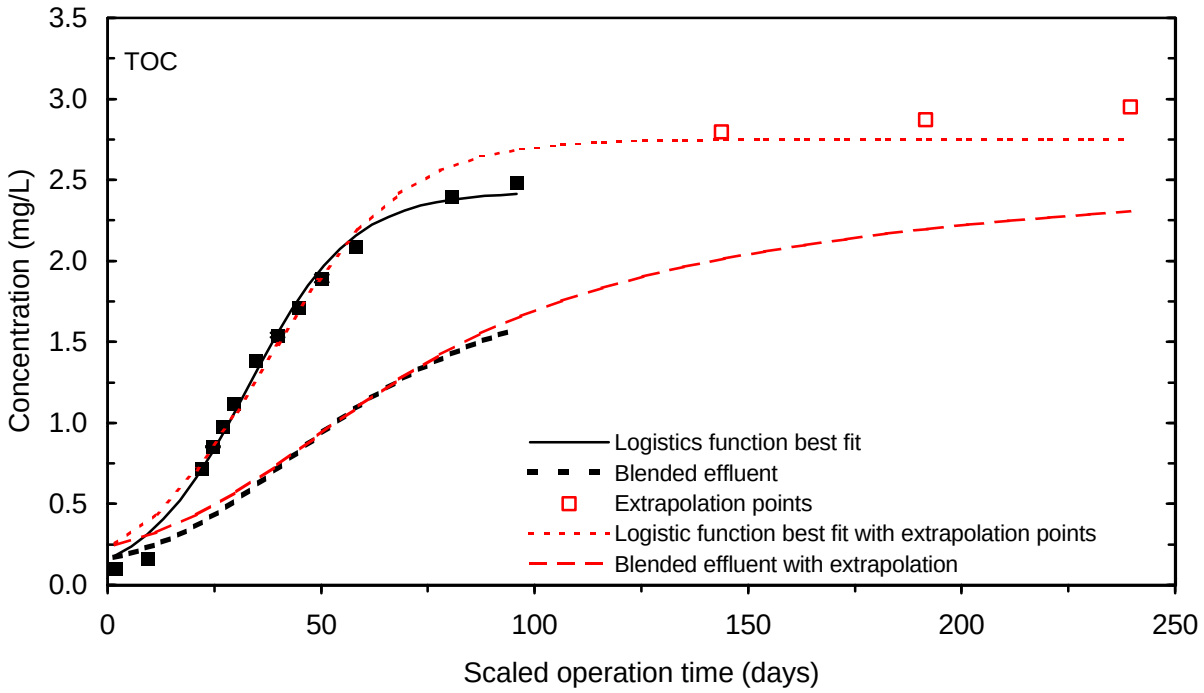


Figure 169 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 2, April

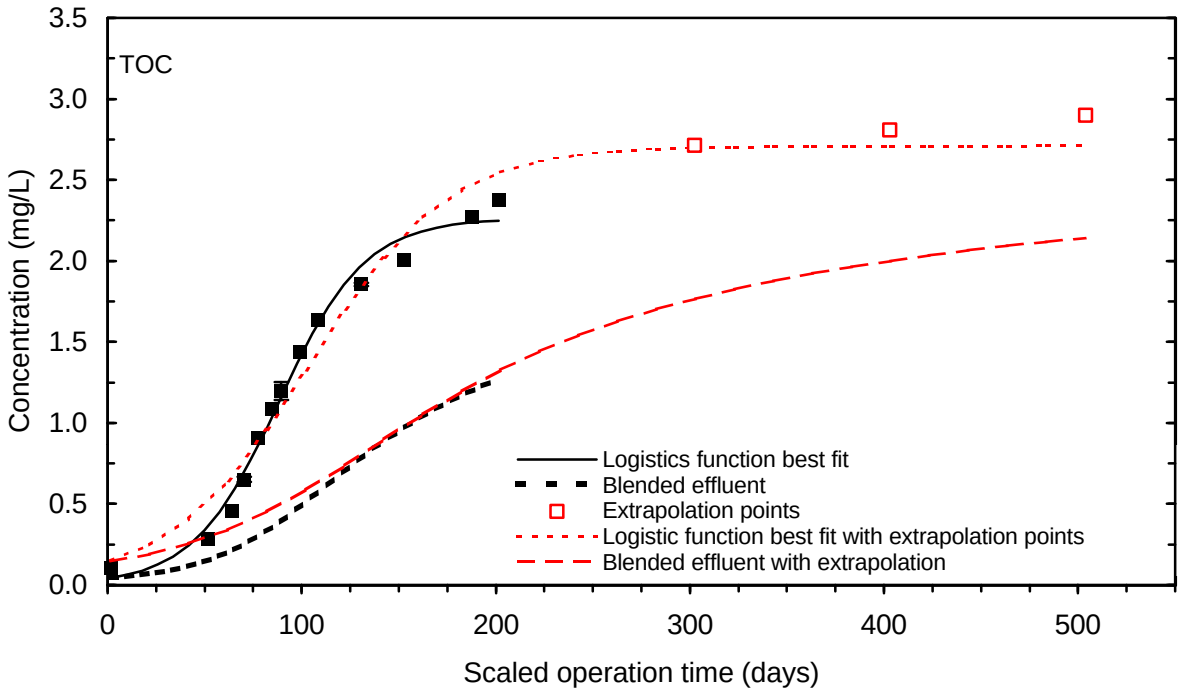


Figure 170 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 2, April

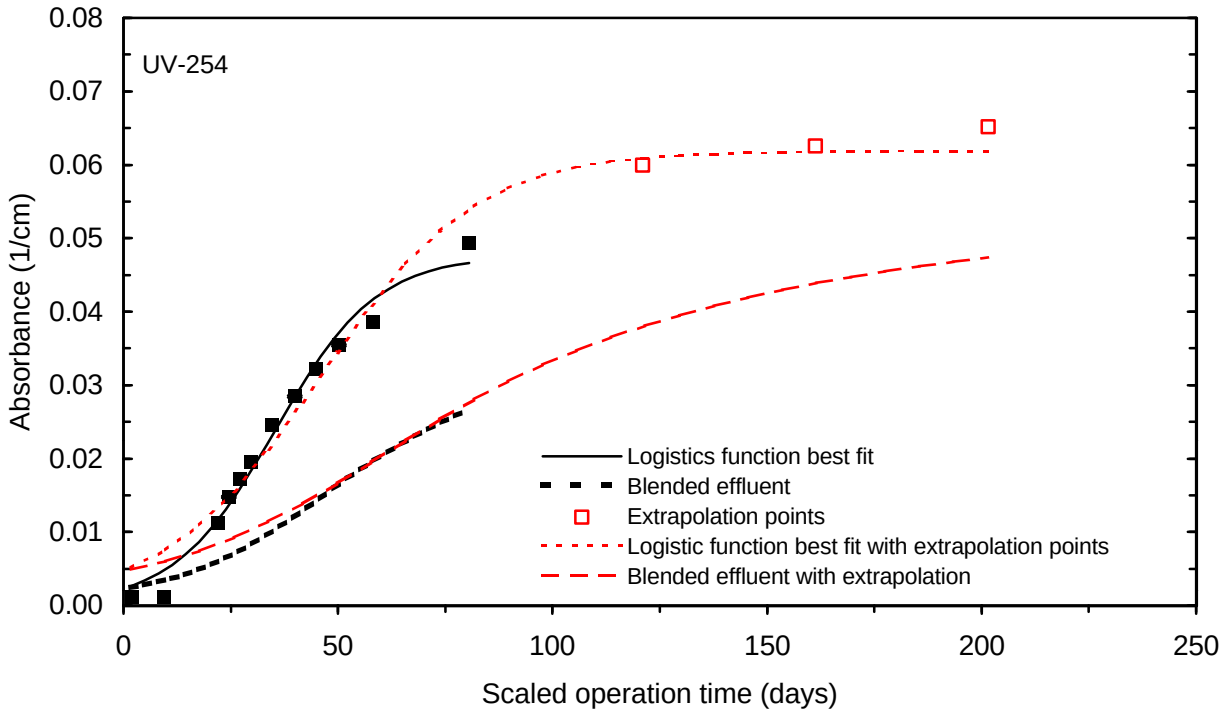


Figure 171 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 2, April

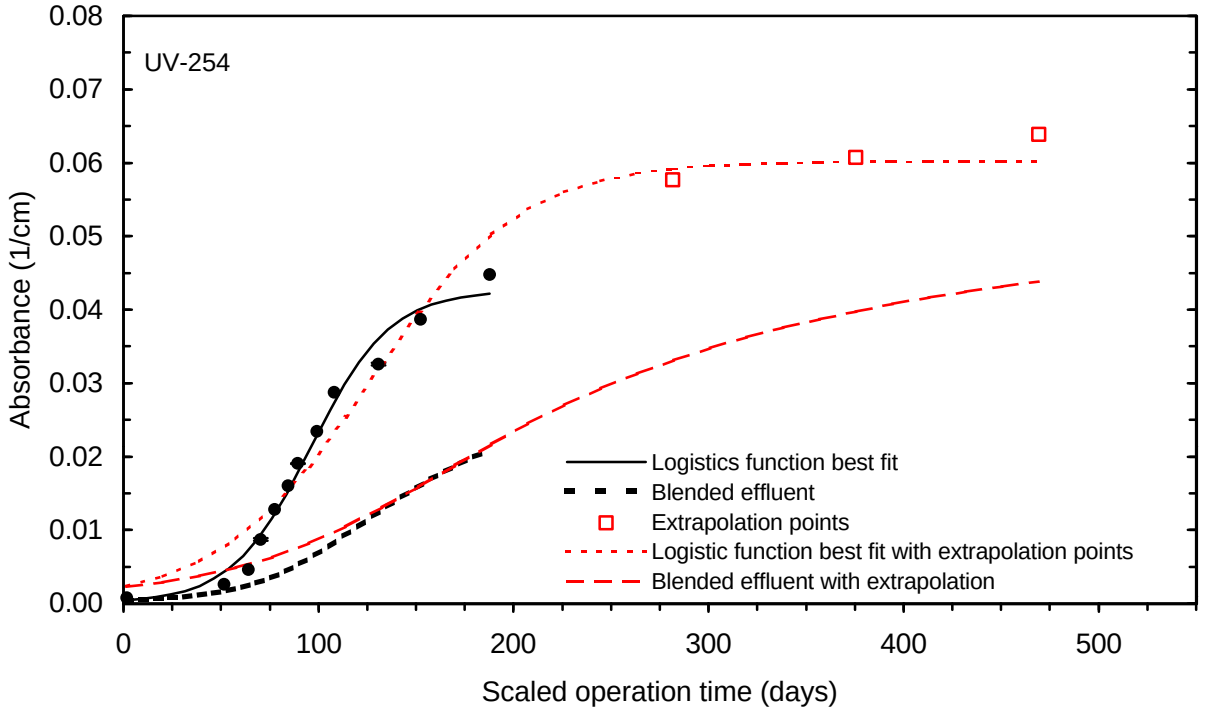


Figure 172 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 2, April

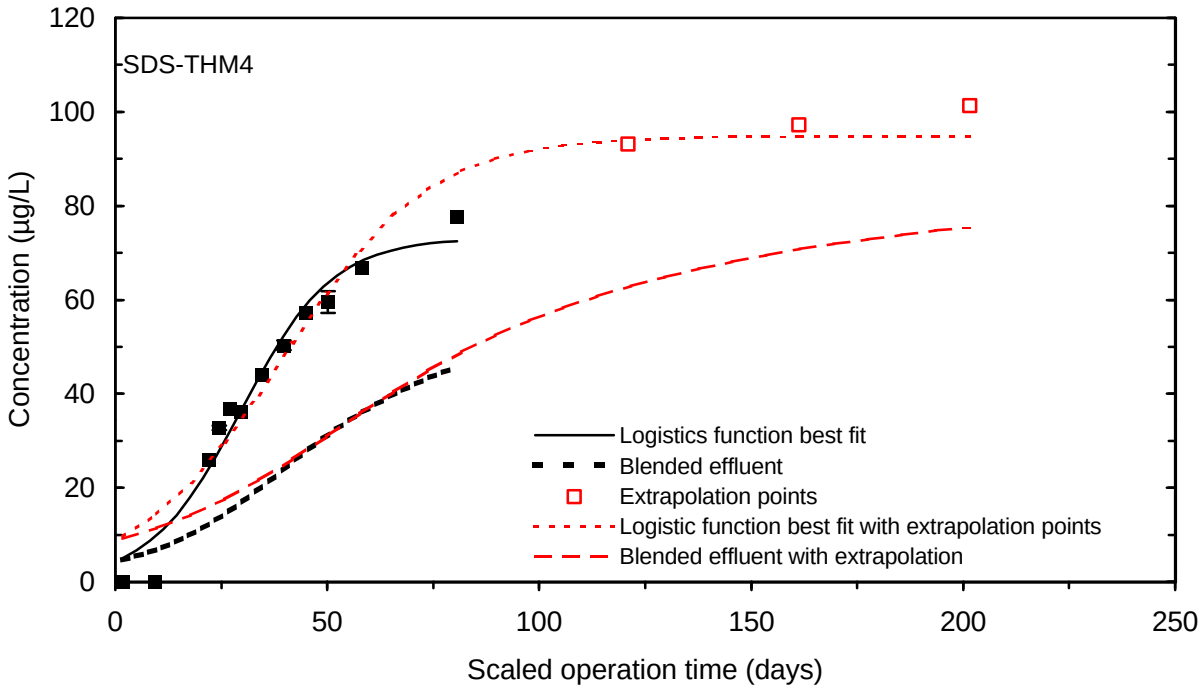


Figure 173 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 2, April

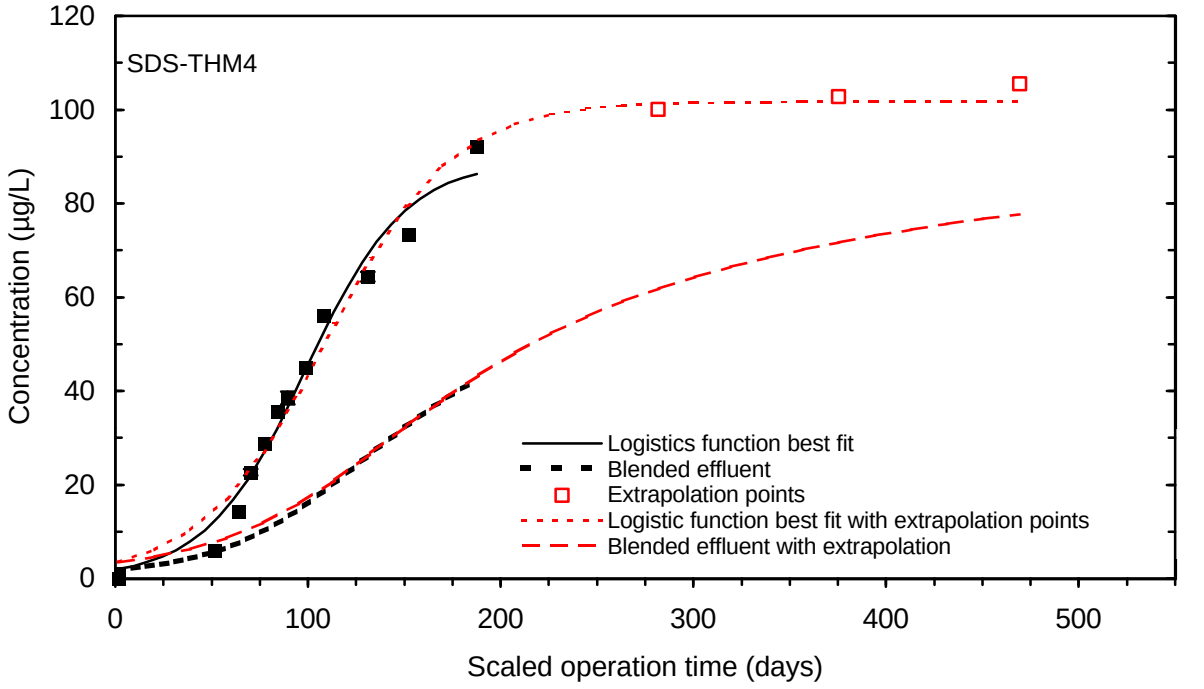


Figure 174 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 2, April

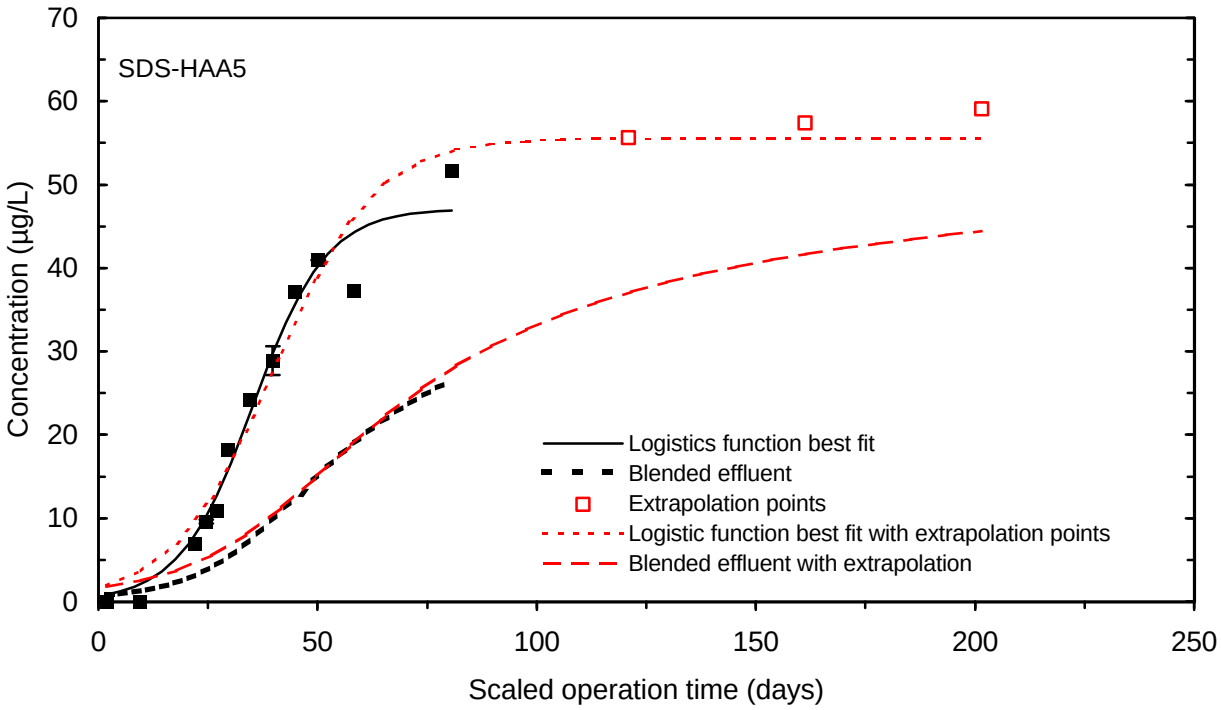


Figure 175 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 2, April

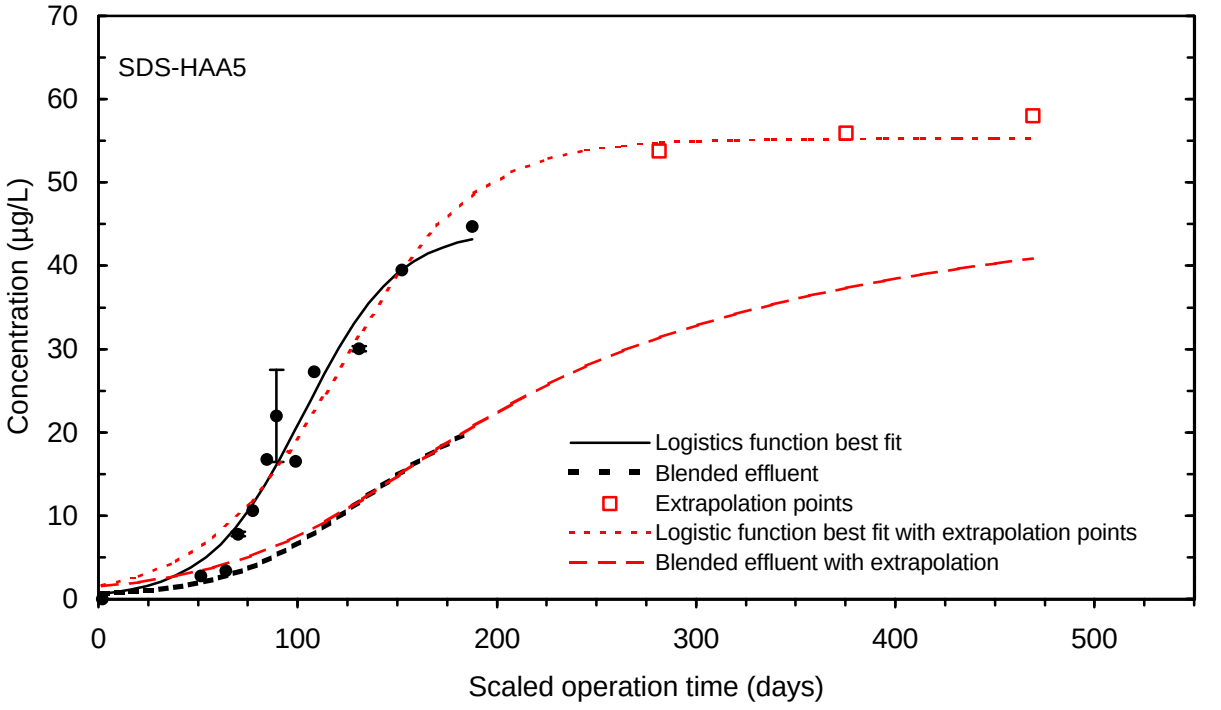


Figure 176 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 2, April

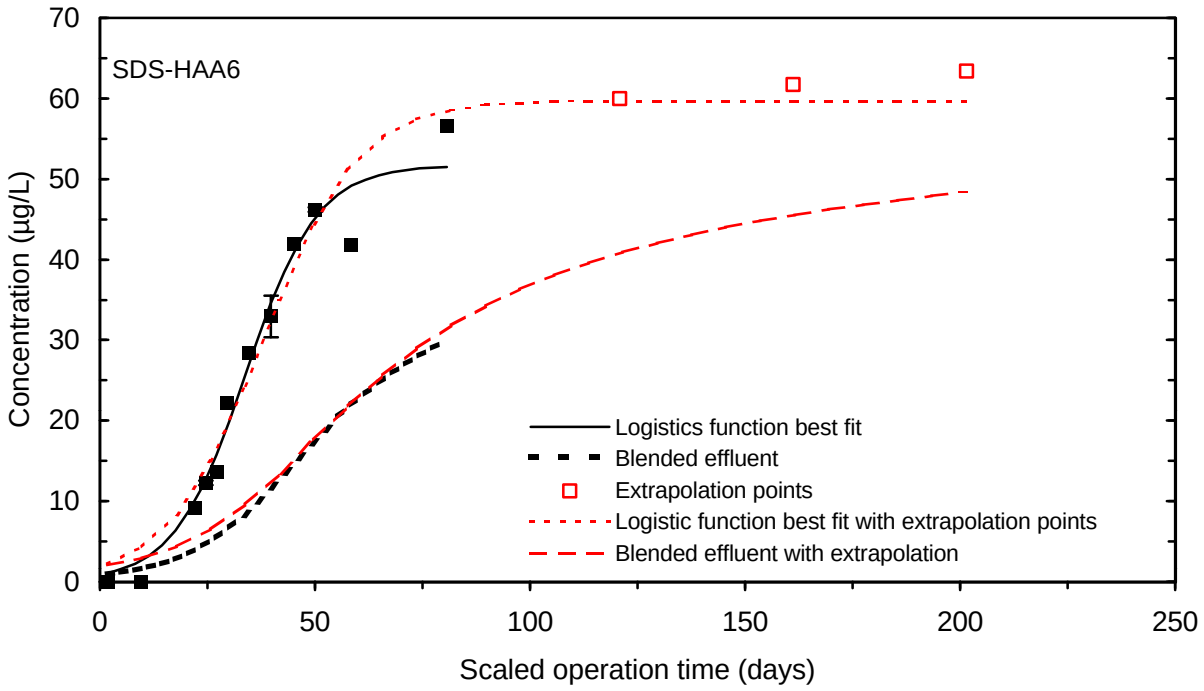


Figure 177 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 2, April

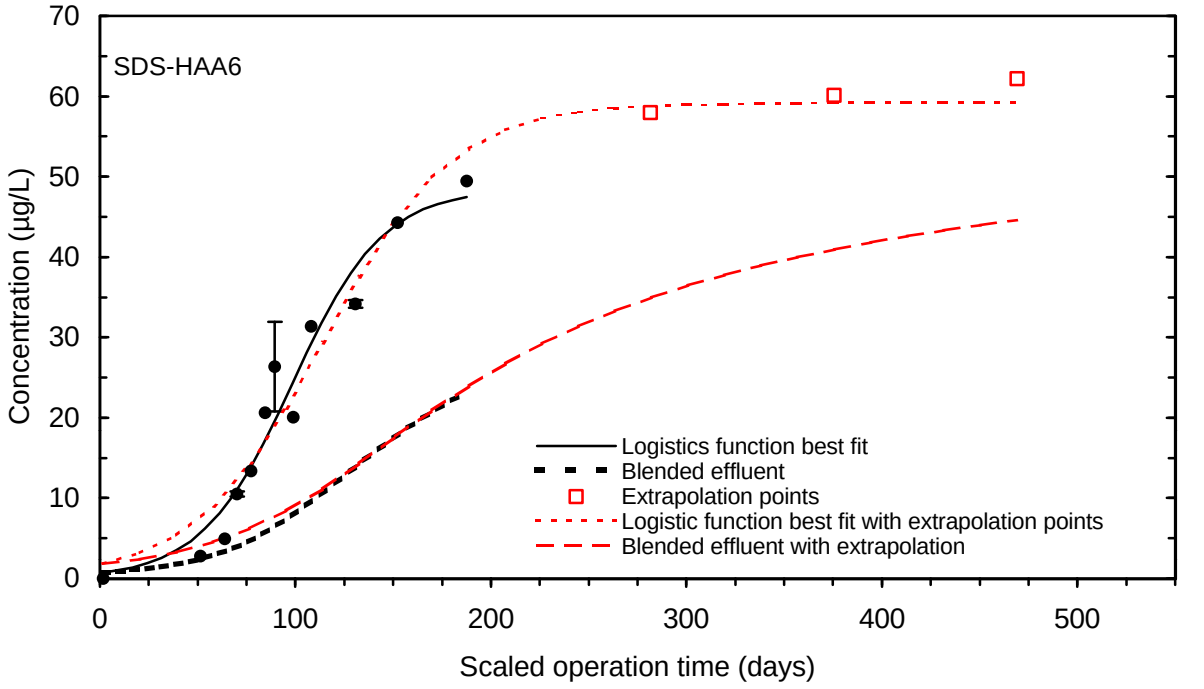


Figure 178 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 2, April

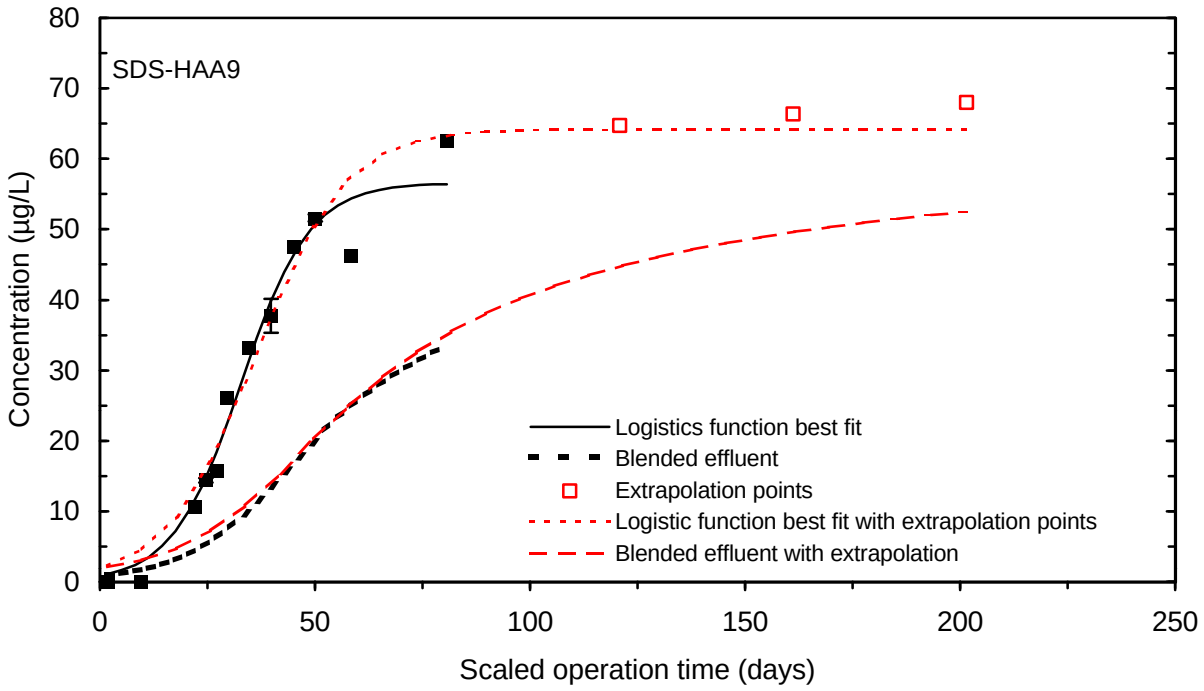


Figure 179 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 2, April

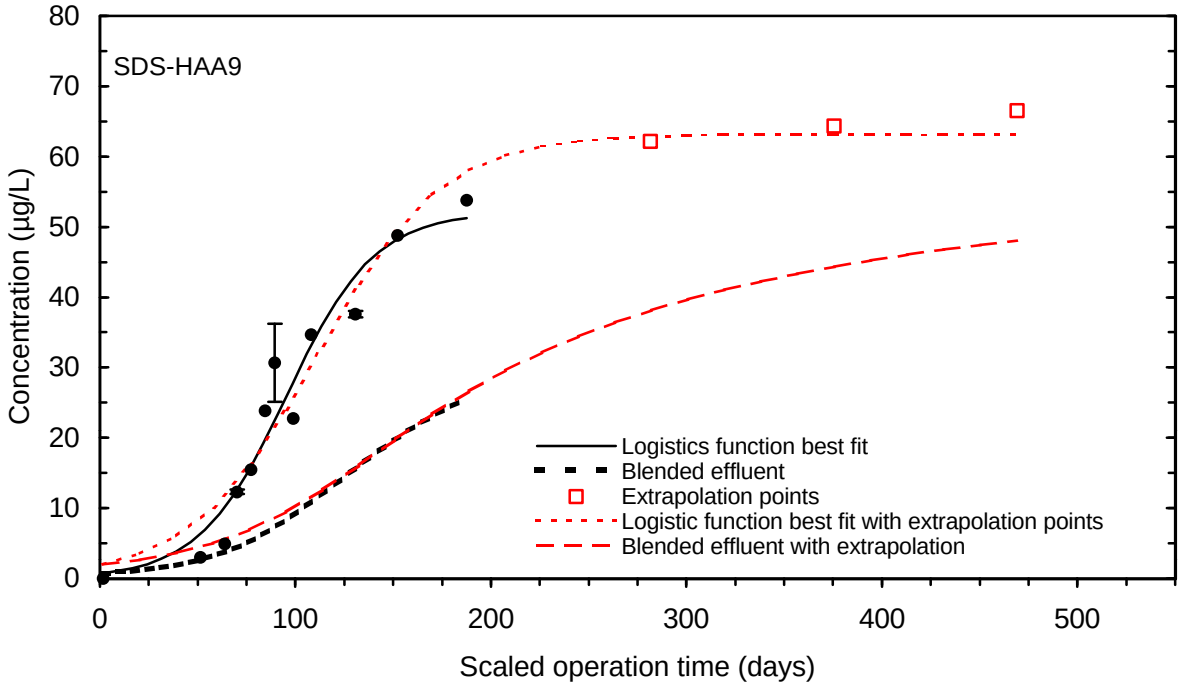


Figure 180 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 2, April

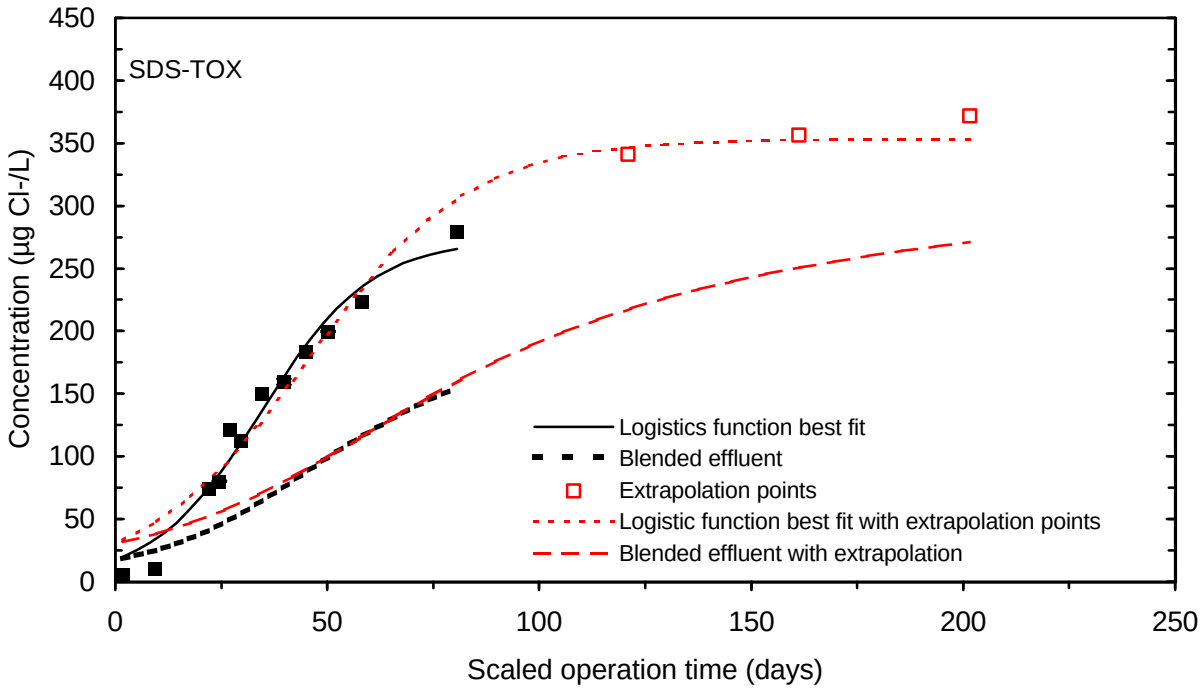


Figure 181 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 2, April

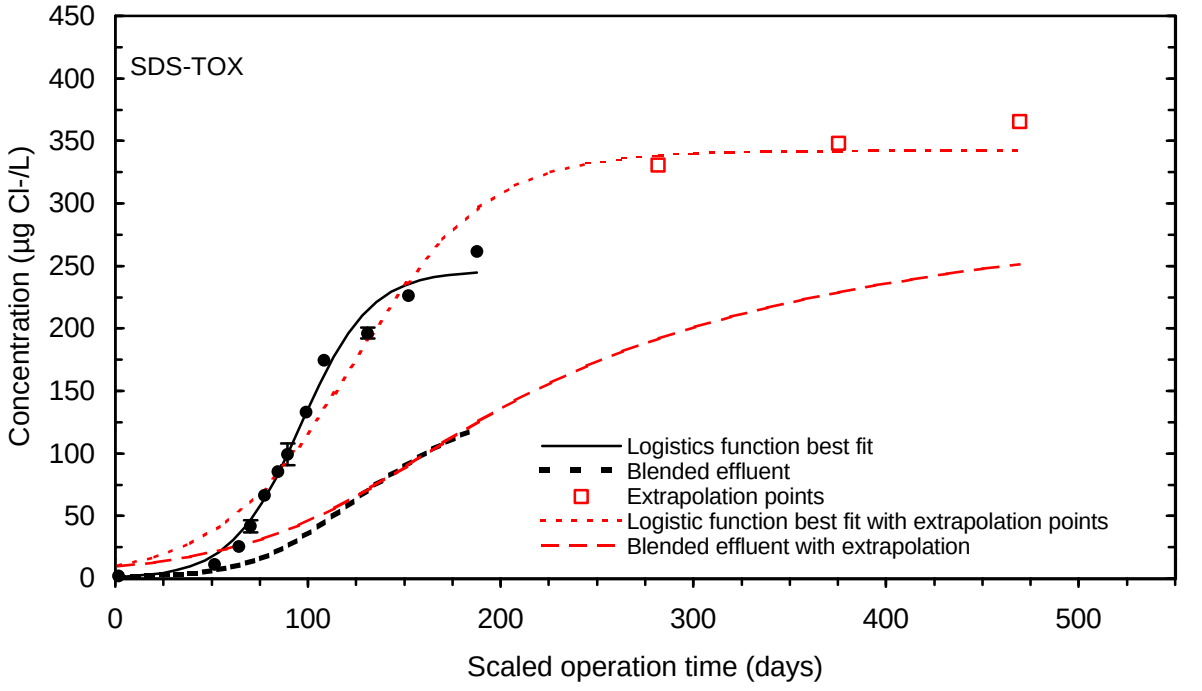


Figure 182 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 2, April

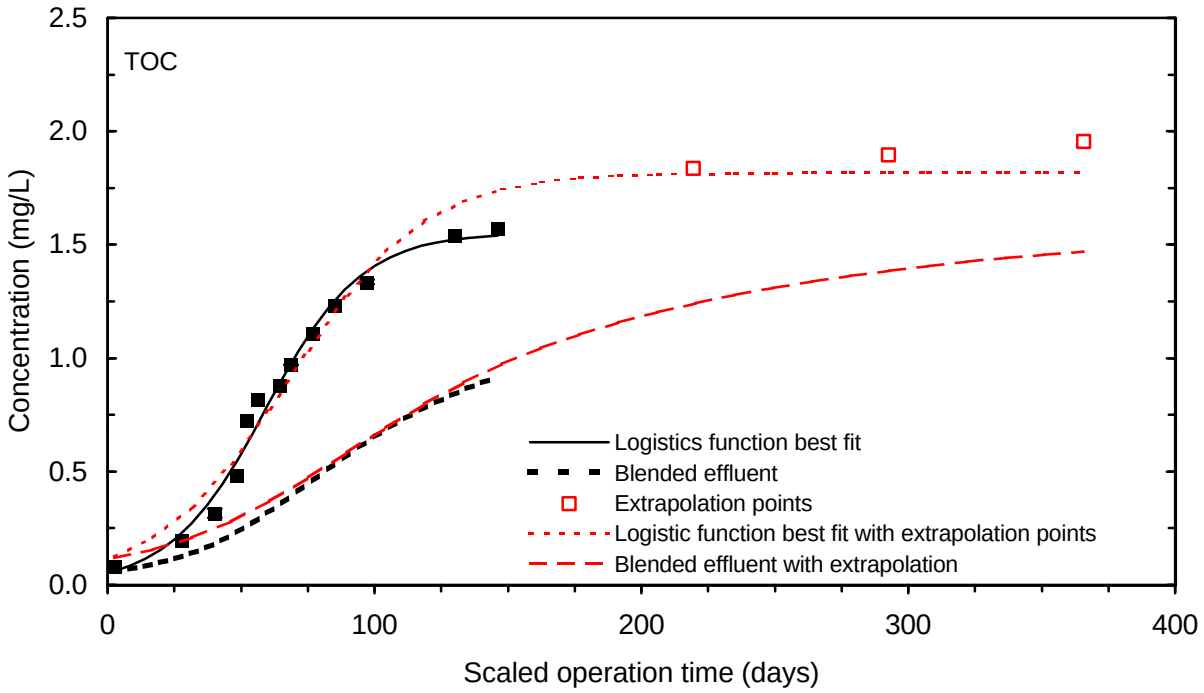


Figure 183 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 3, July

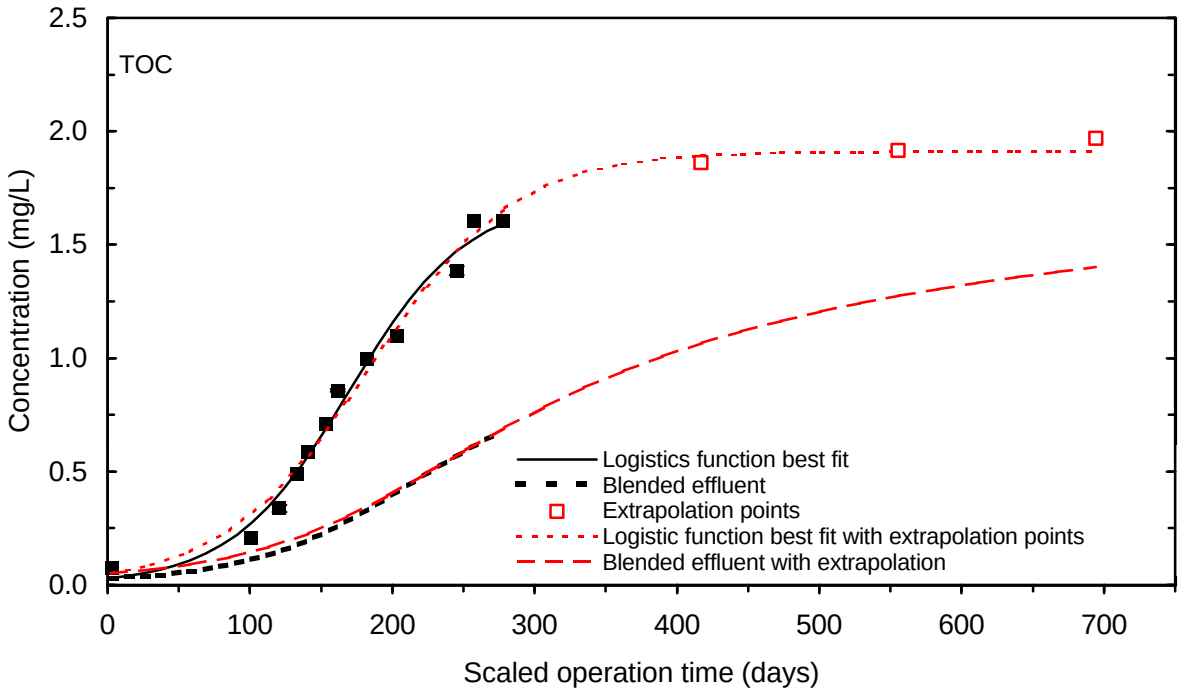


Figure 184 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 3, July

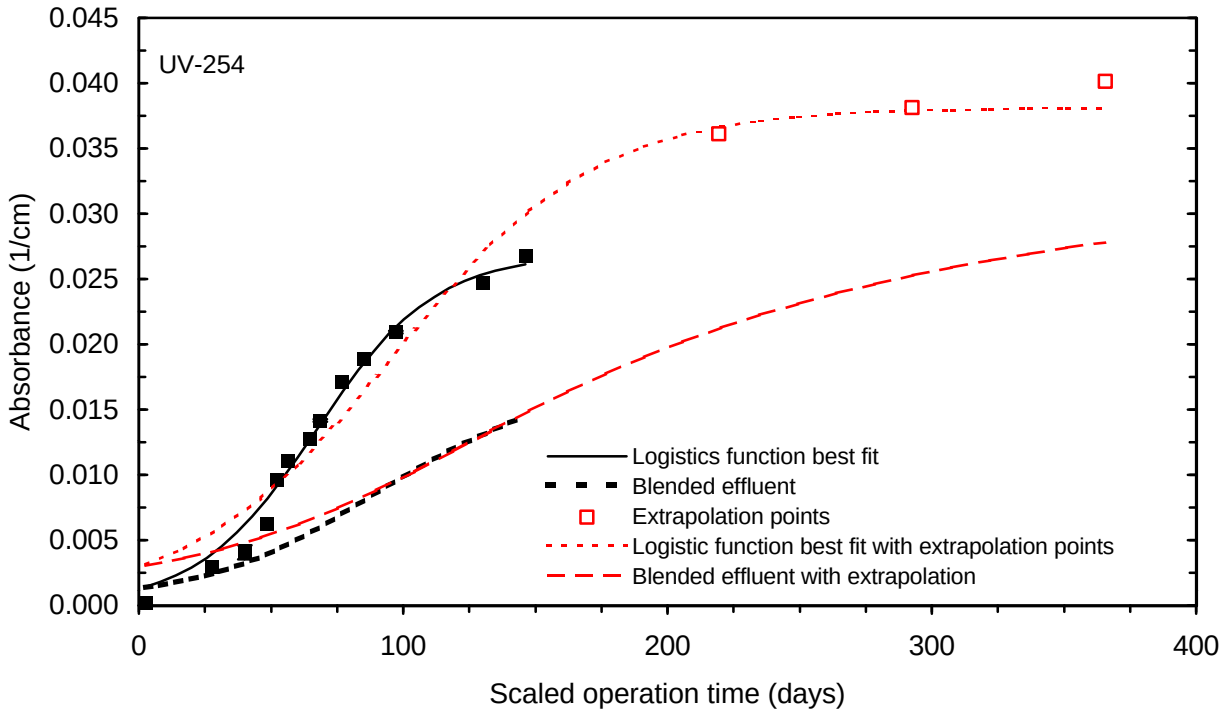


Figure 185 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 3, July

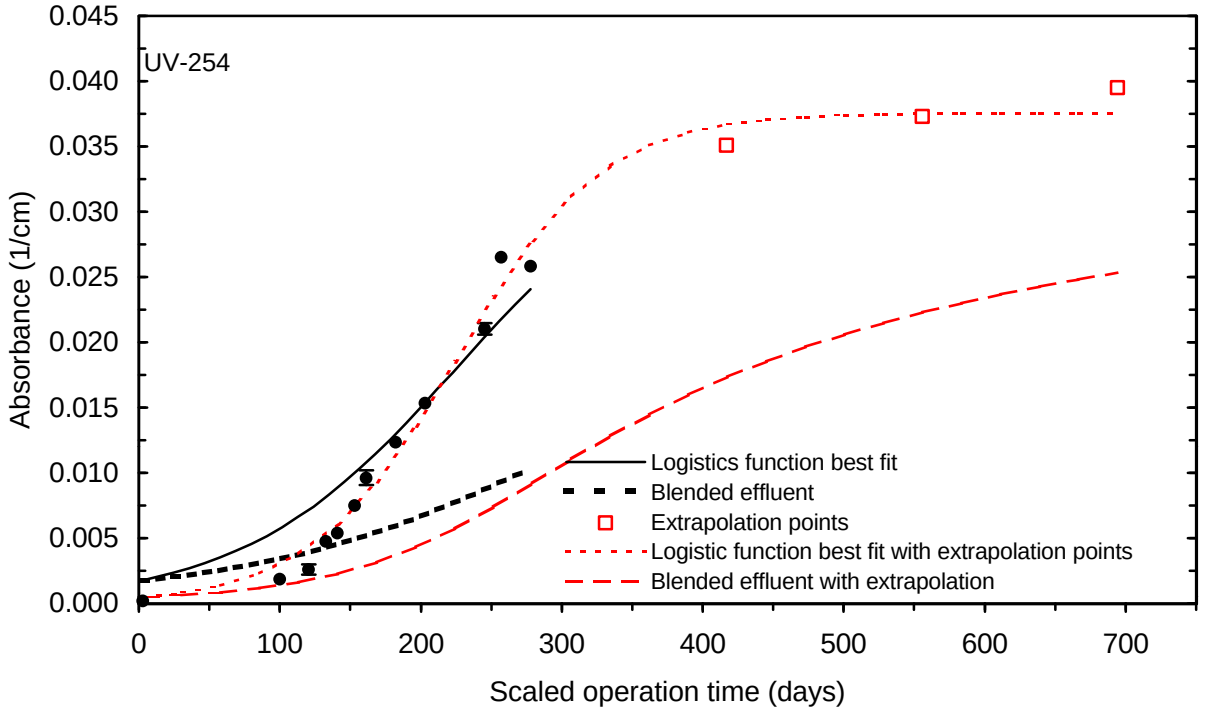


Figure 186 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 3, July

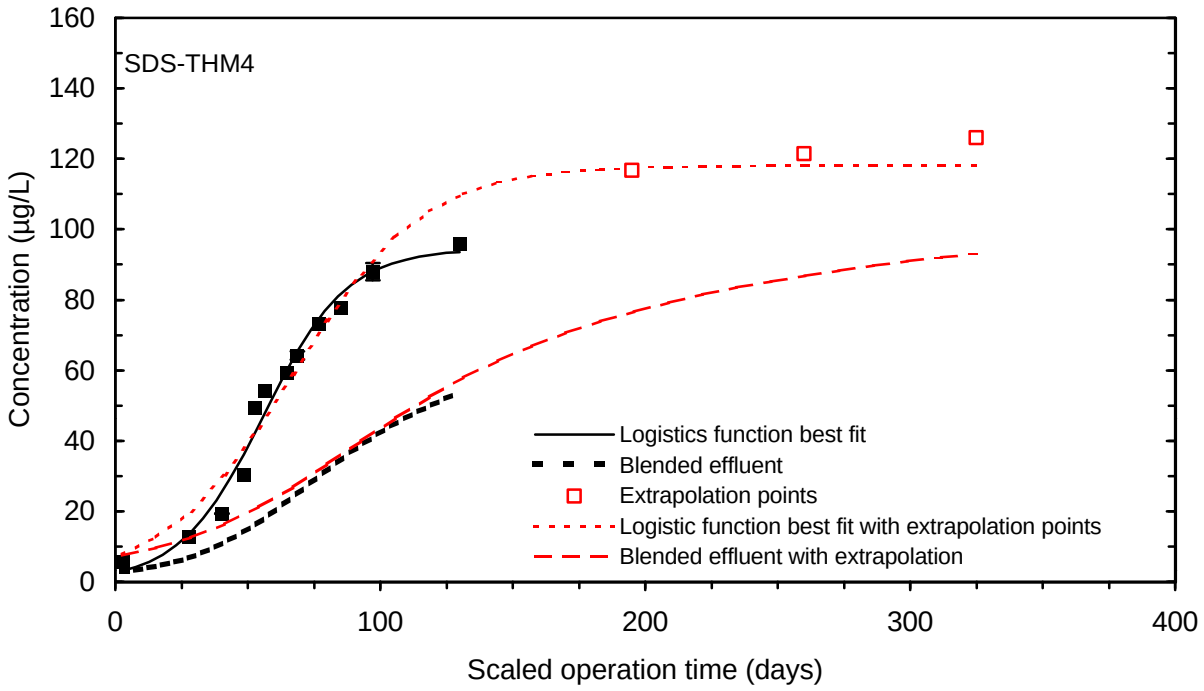


Figure 187 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 3, July

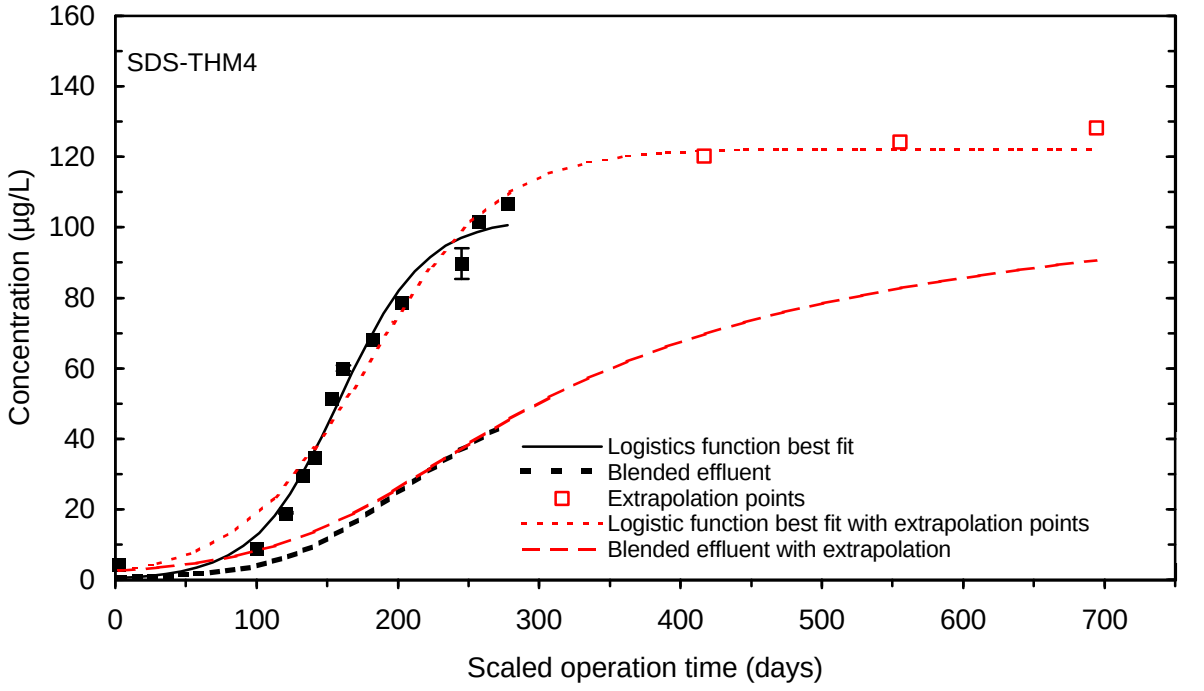


Figure 188 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 3, July

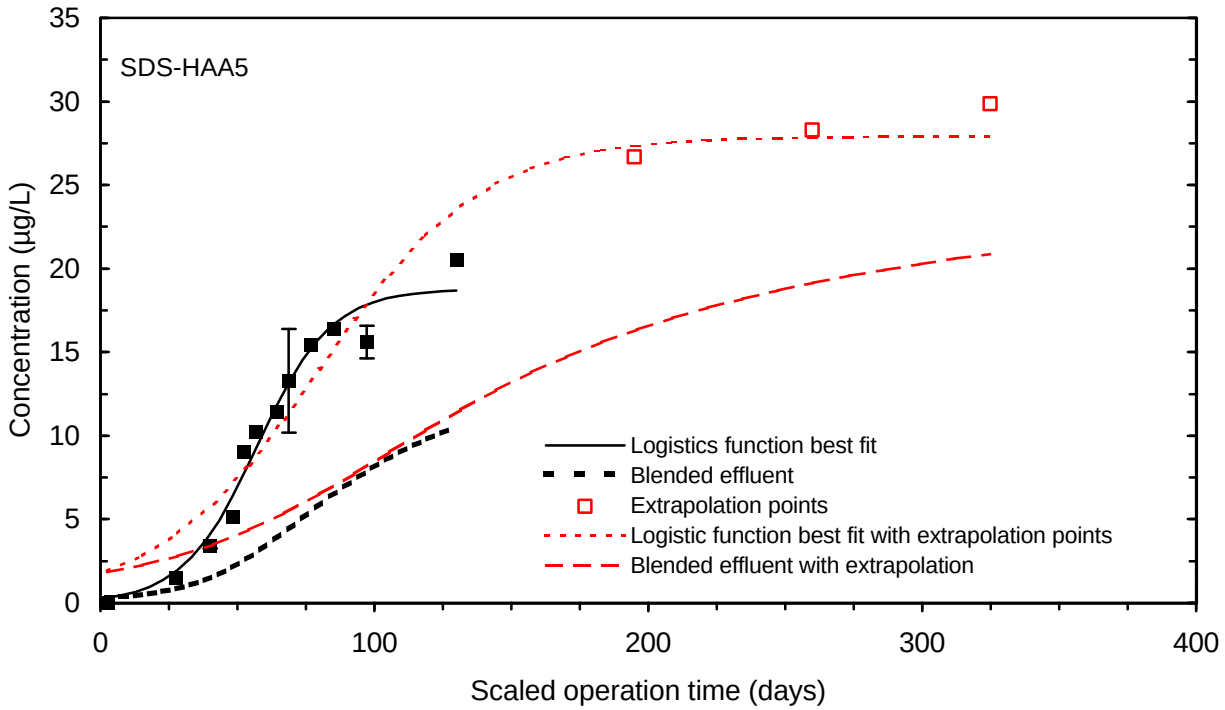


Figure 189 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 3, July

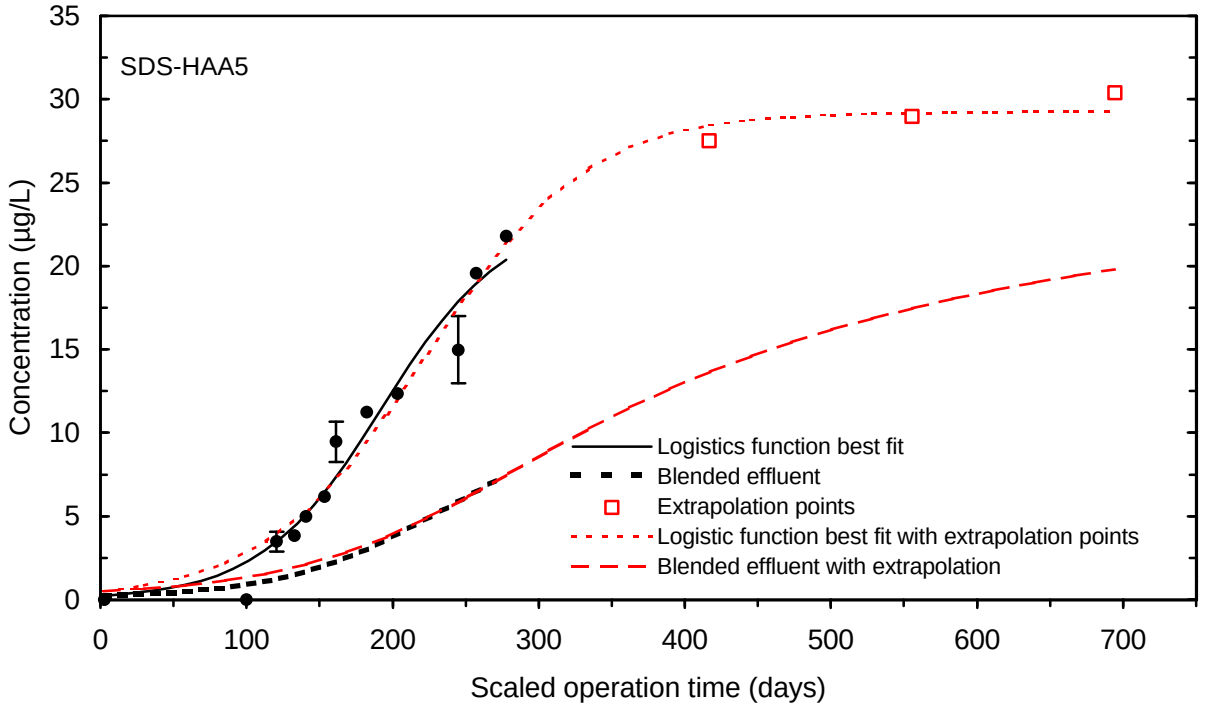


Figure 190 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 3, July

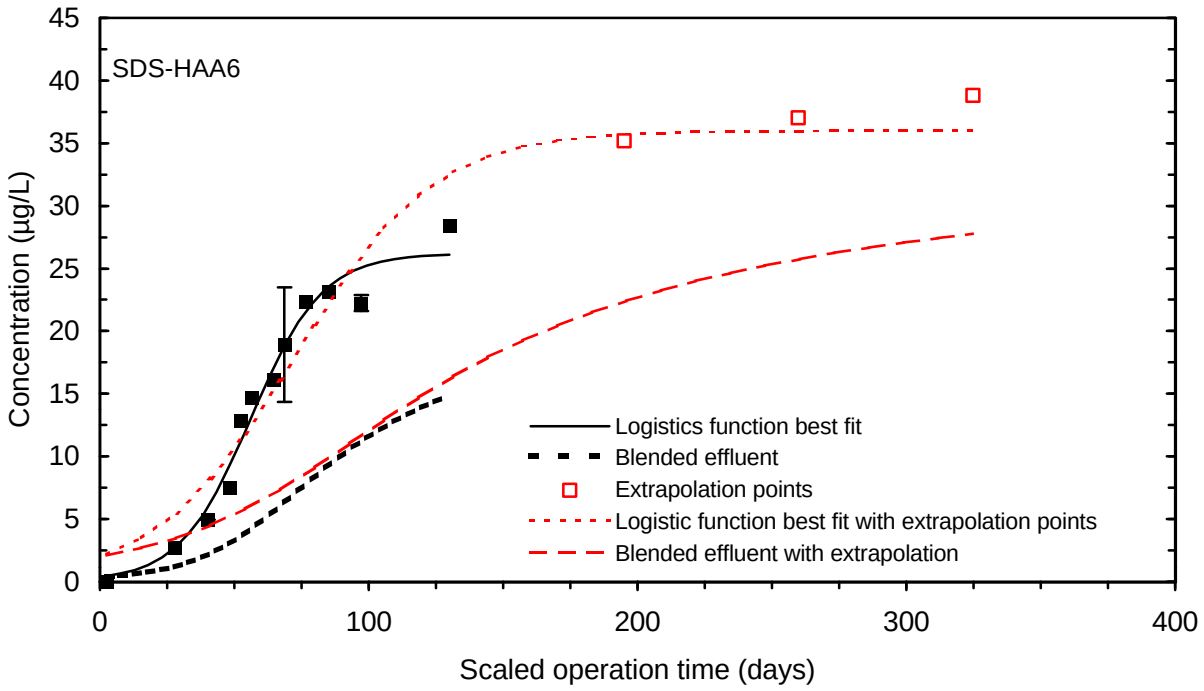


Figure 191 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 3, July

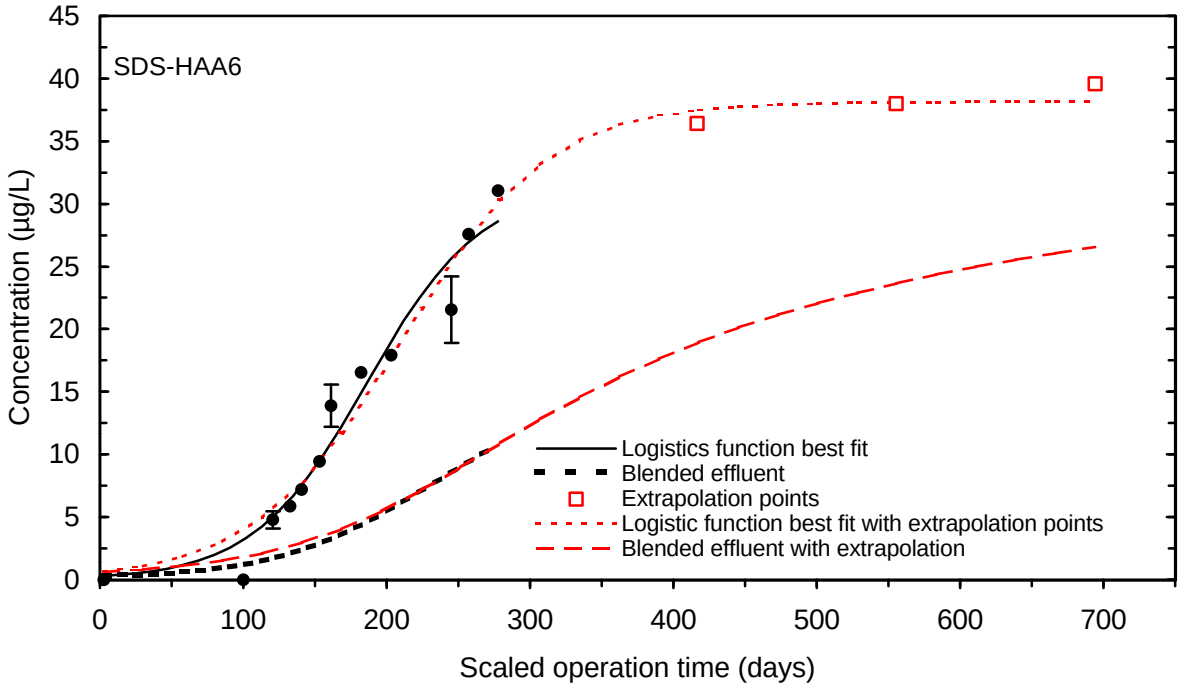


Figure 192 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 3, July

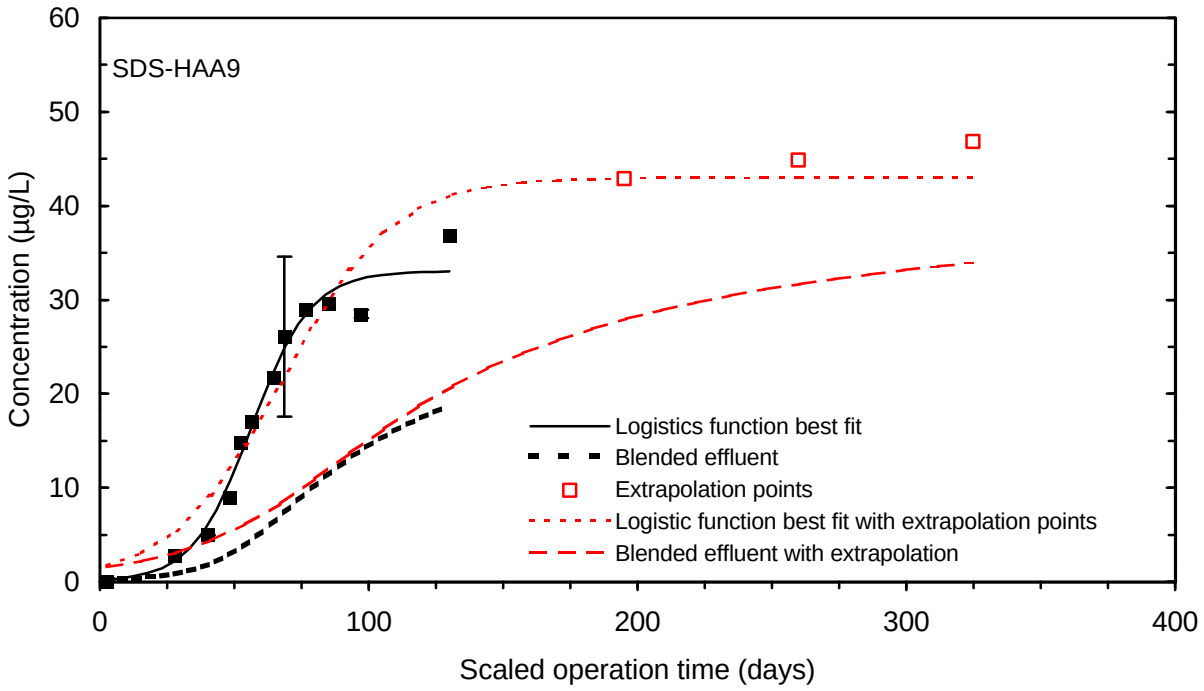


Figure 193 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 3, July

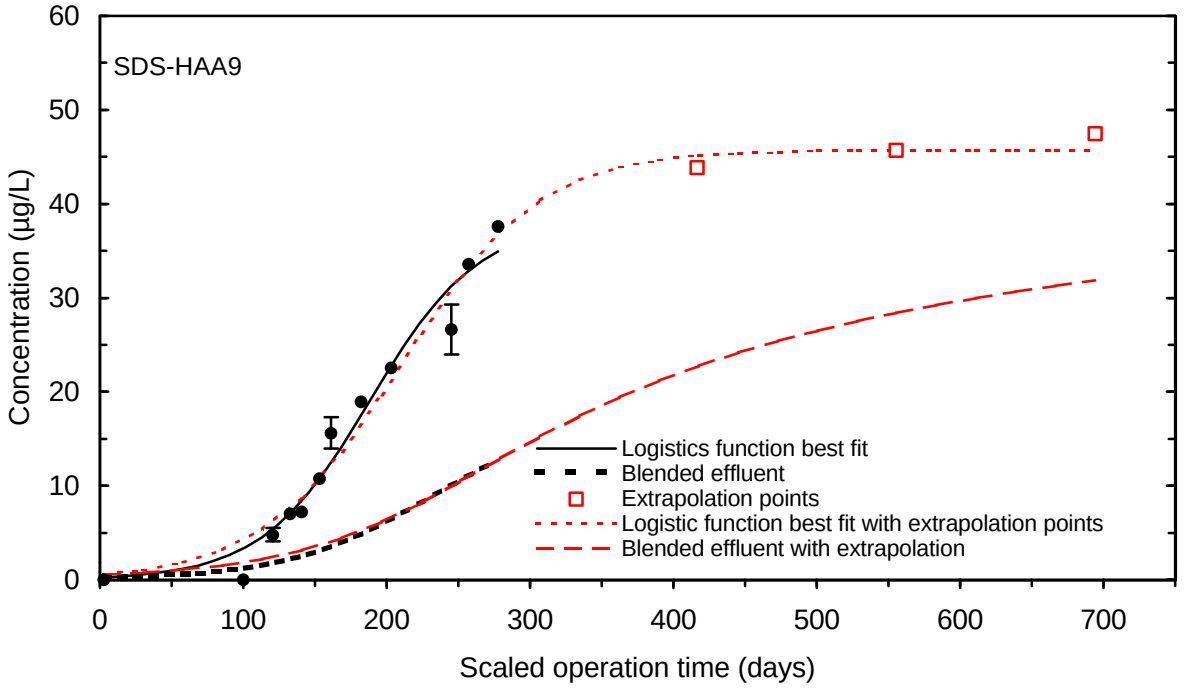


Figure 194 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 3, July

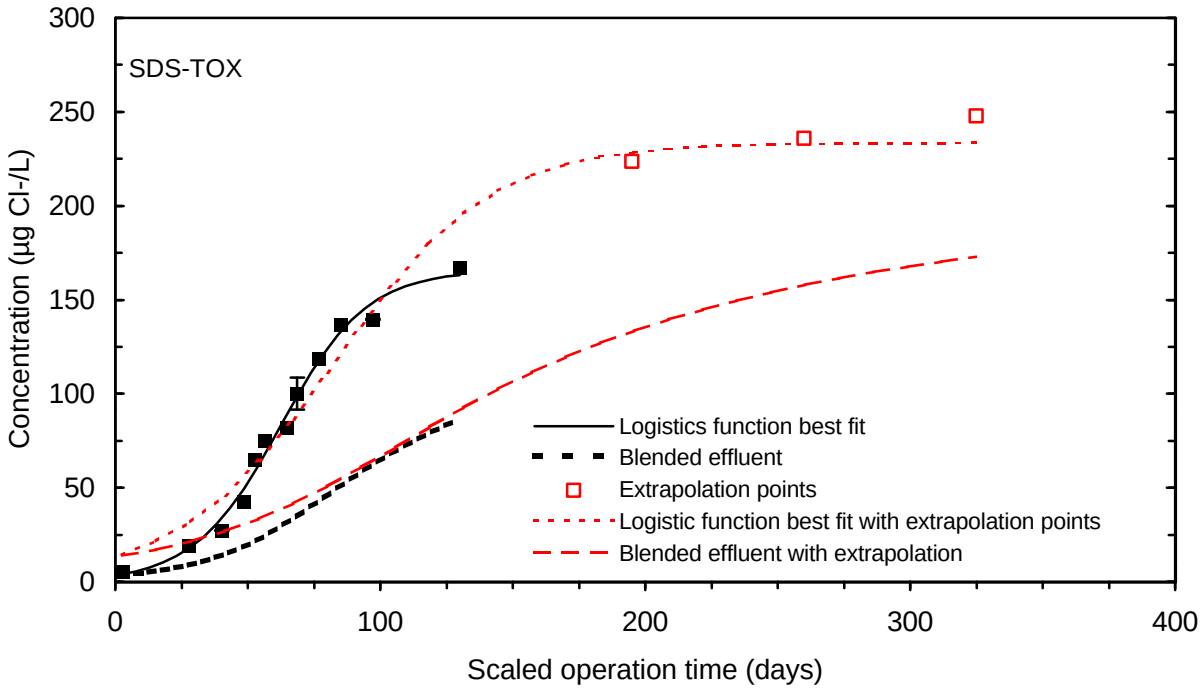


Figure 195 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 3, July

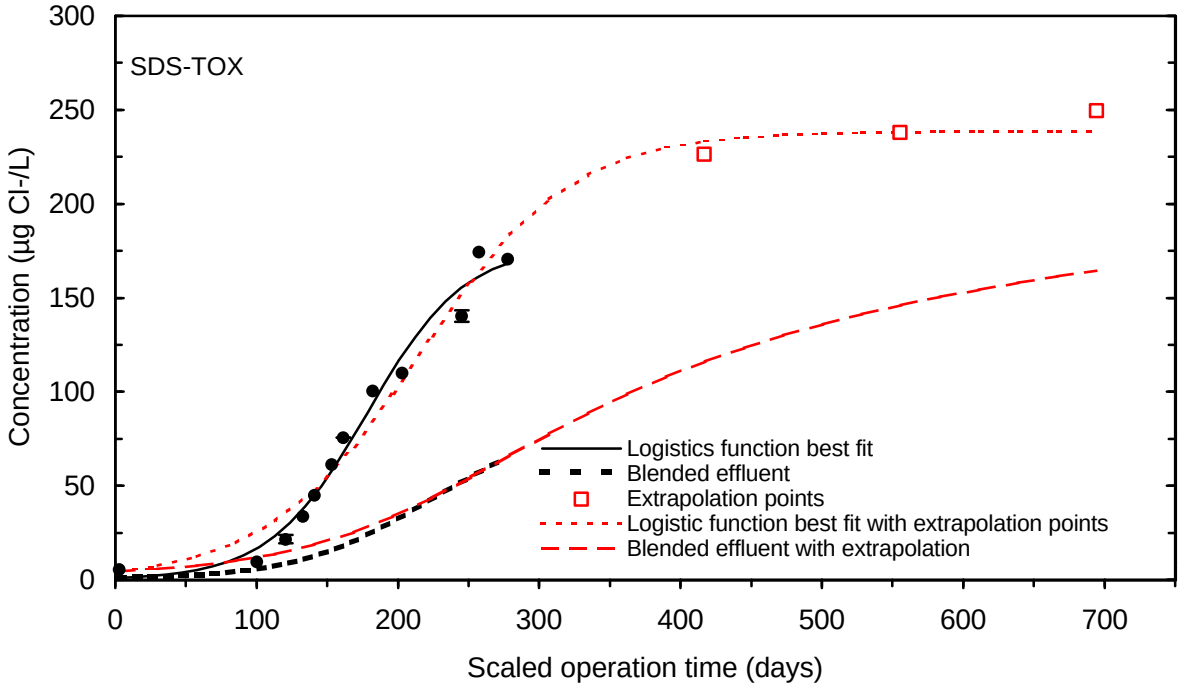


Figure 196 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 3, July

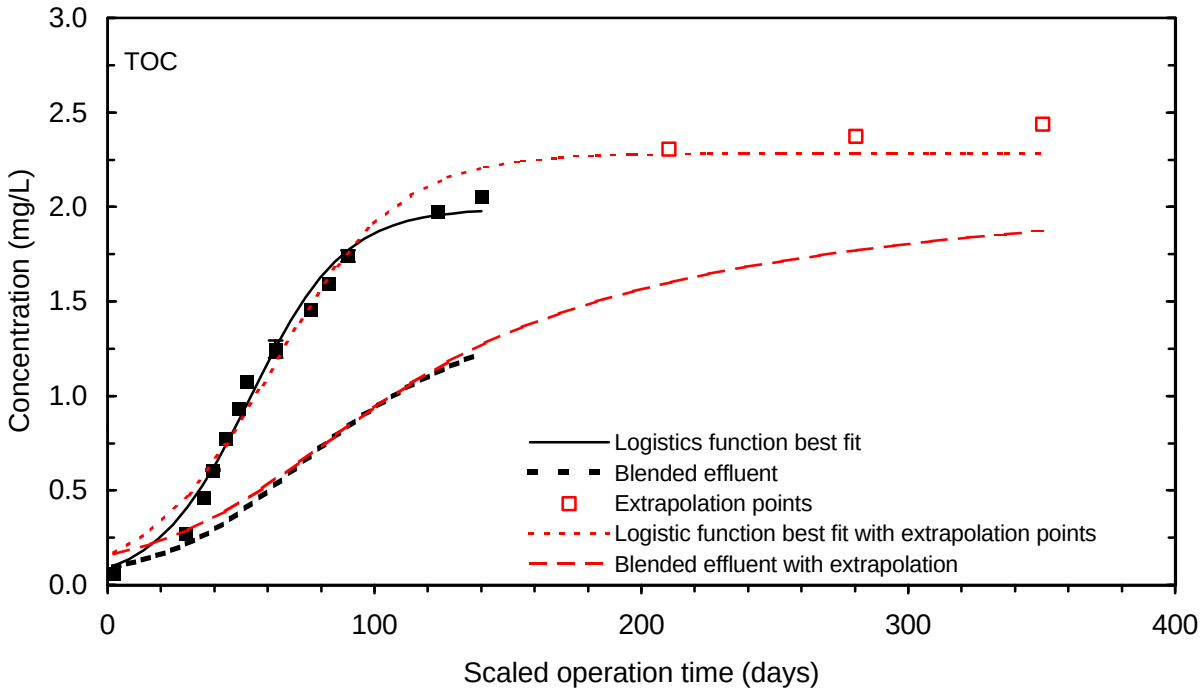


Figure 197 Single contactor and blended effluent extrapolated TOC breakthrough curve (10 minute EBCT) during session 4, October

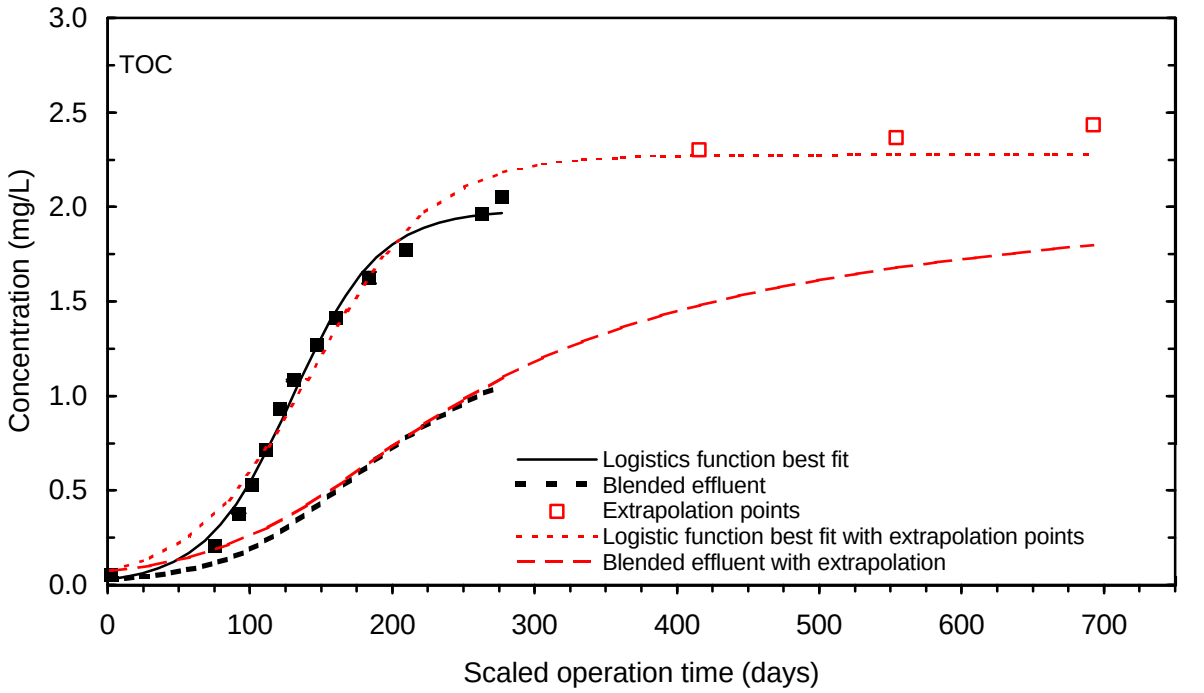


Figure 198 Single contactor and blended effluent extrapolated TOC breakthrough curve (20 minute EBCT) during session 4, October

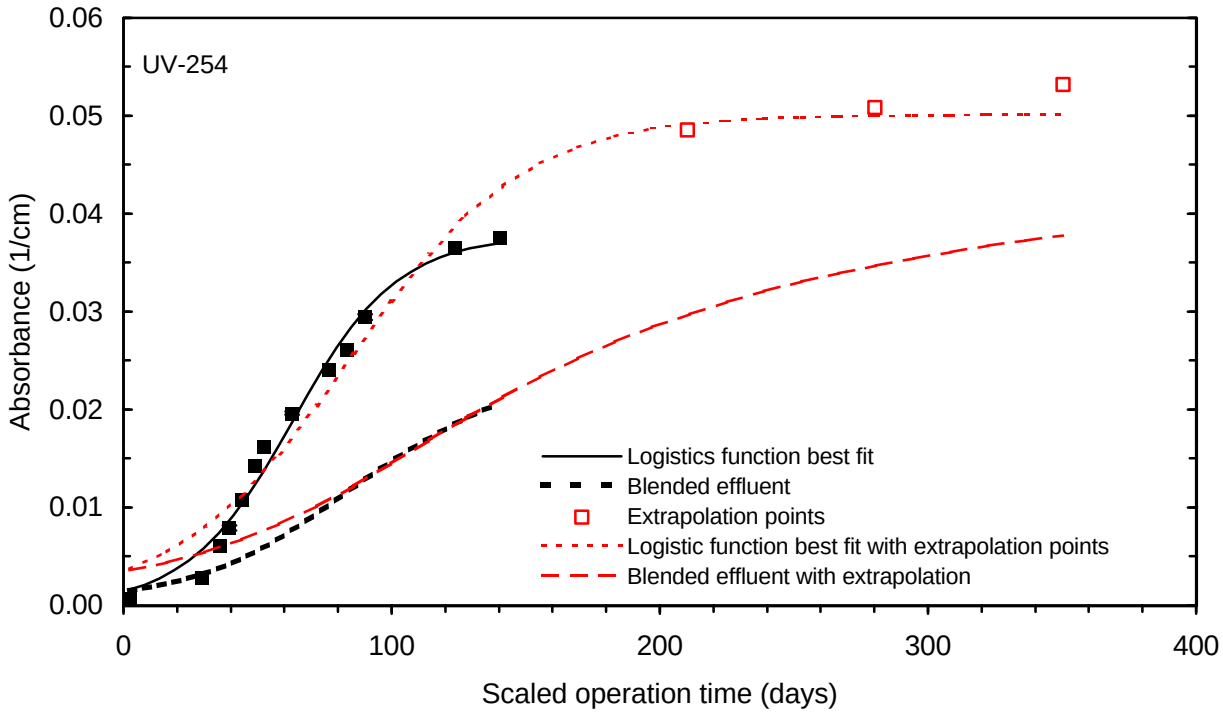


Figure 199 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (10 minute EBCT) during session 4, October

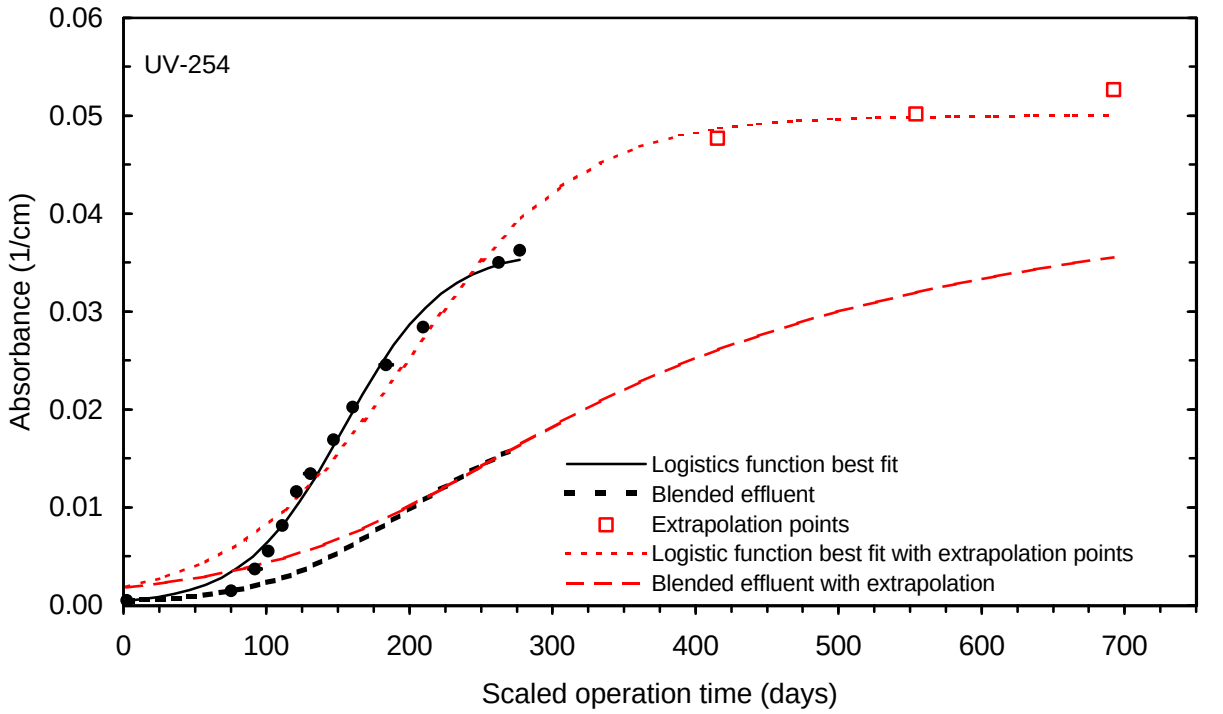


Figure 200 Single contactor and blended effluent extrapolated UV-254 breakthrough curve (20 minute EBCT) during session 4, October

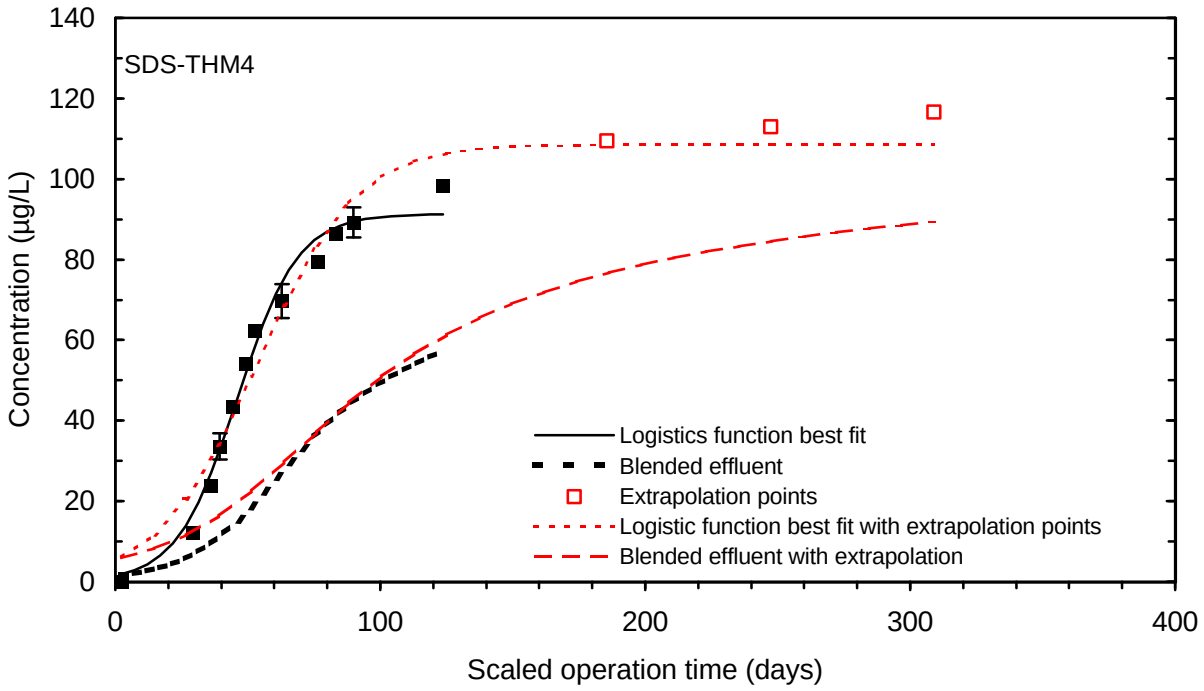


Figure 201 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (10 minute EBCT) during session 4, October

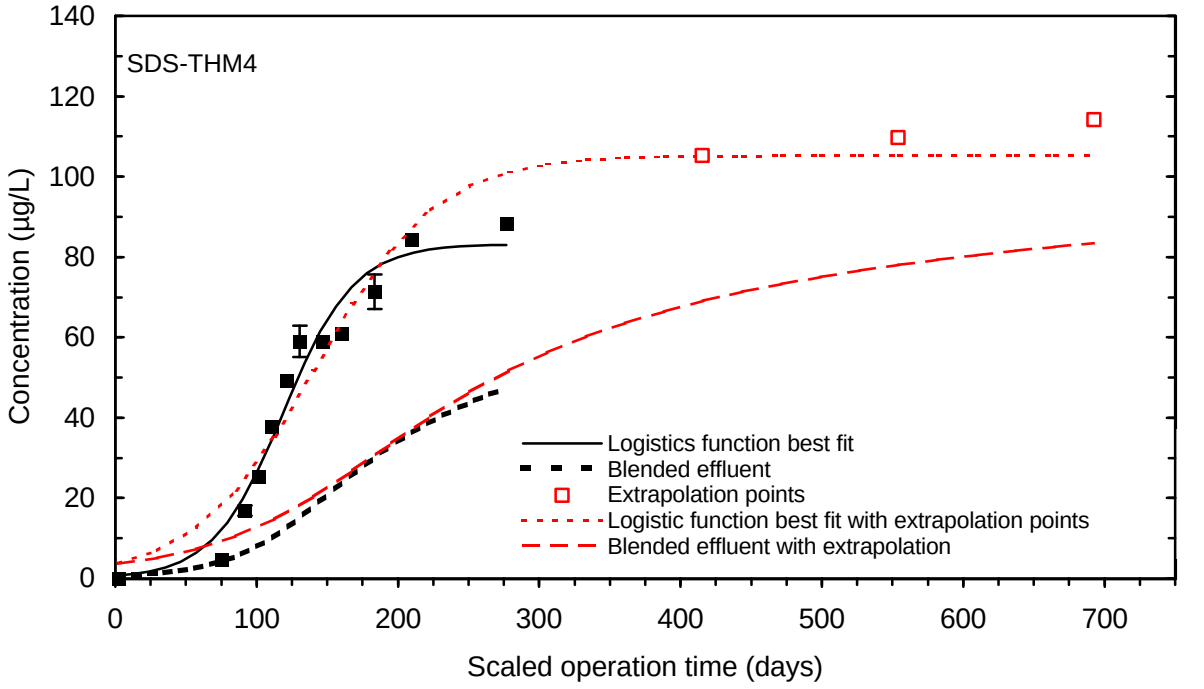


Figure 202 Single contactor and blended effluent extrapolated SDS-THM4 breakthrough curve (20 minute EBCT) during session 4, October

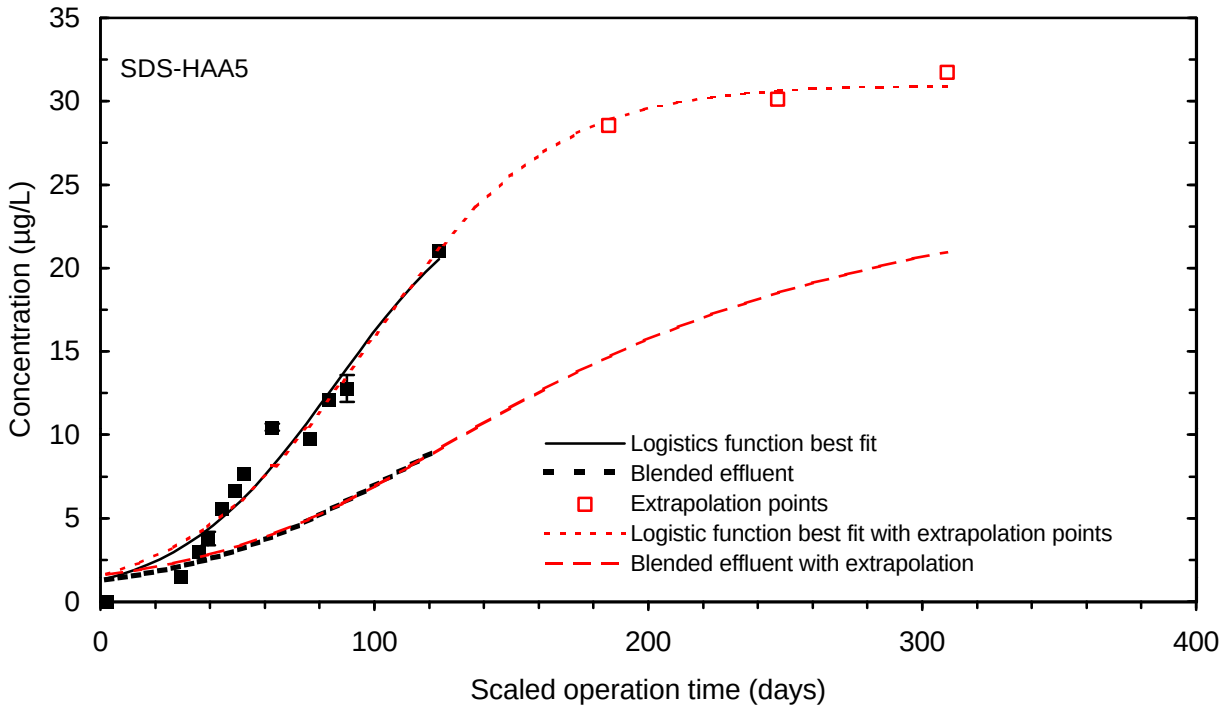


Figure 203 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (10 minute EBCT) during session 4, October

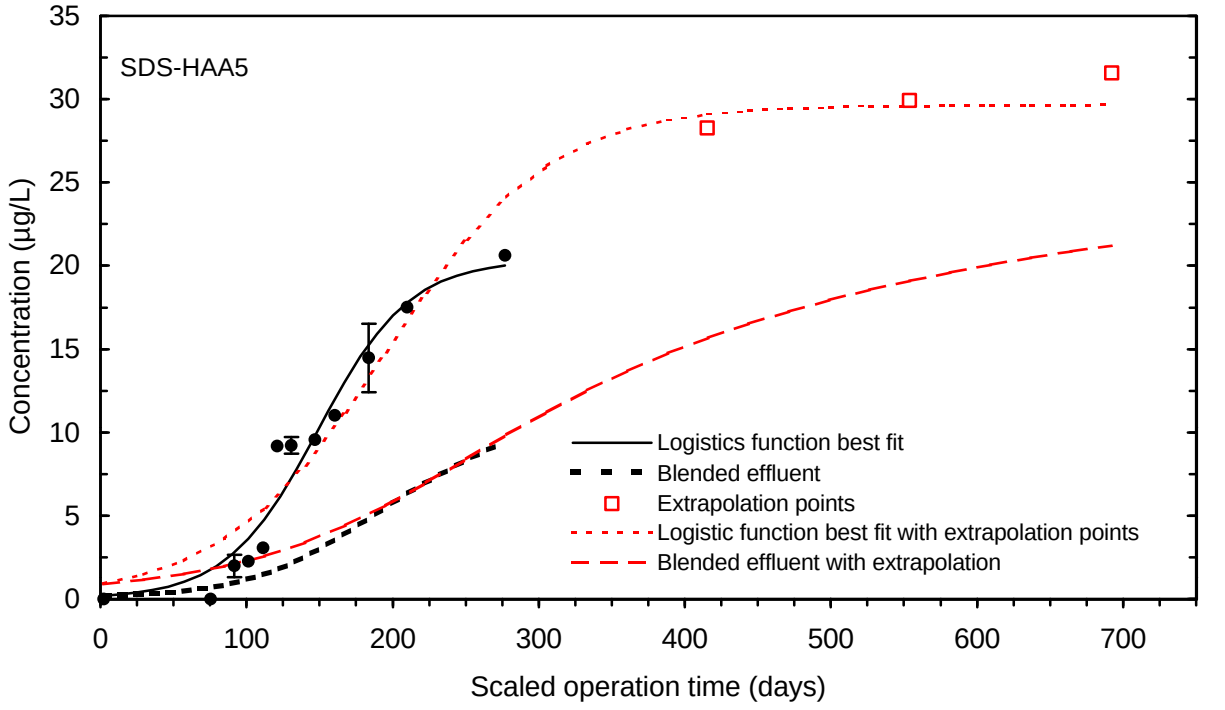


Figure 204 Single contactor and blended effluent extrapolated SDS-HAA5 breakthrough curve (20 minute EBCT) during session 4, October

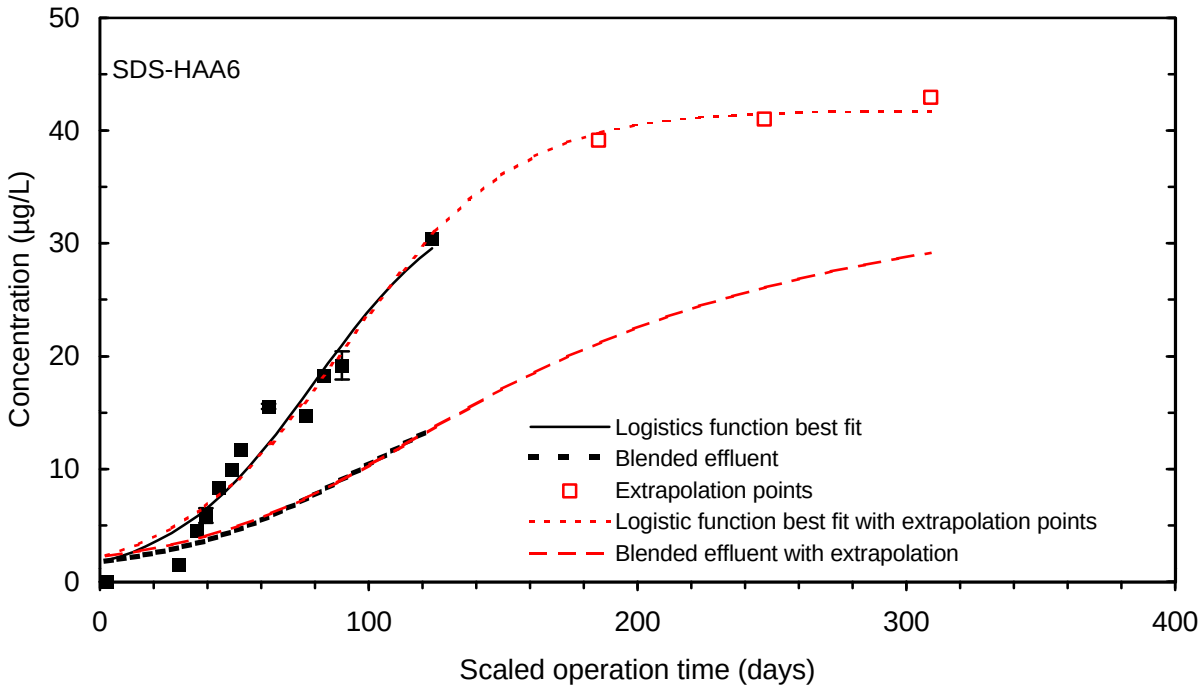


Figure 205 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (10 minute EBCT) during session 4, October

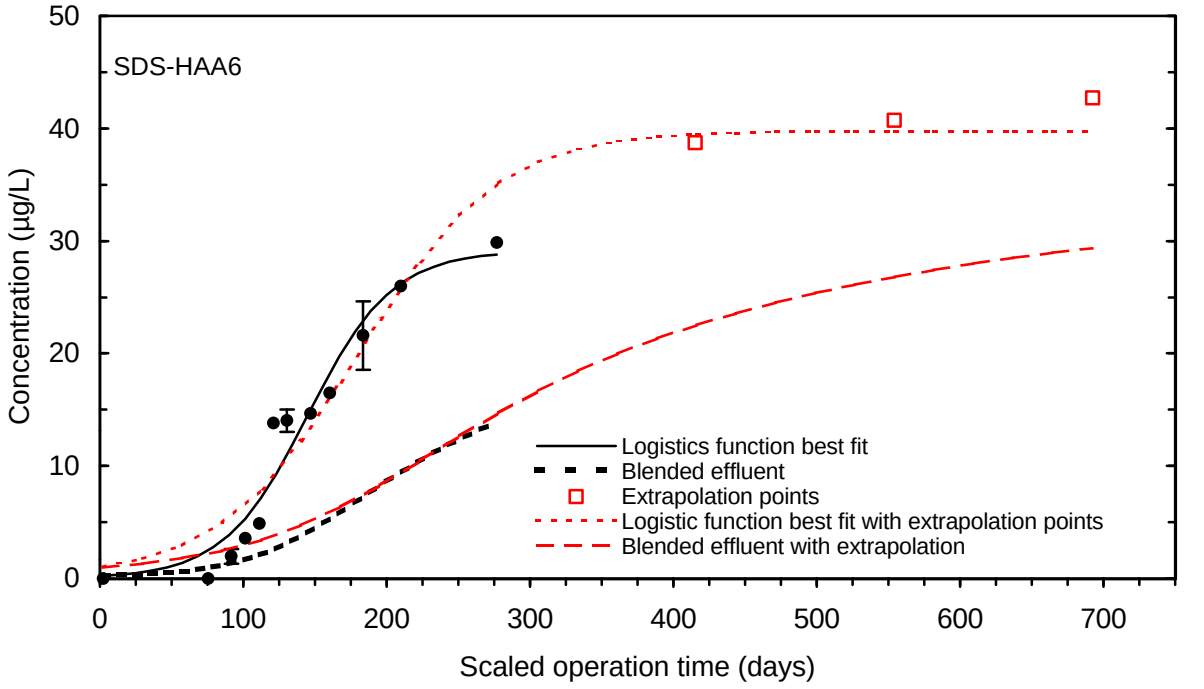


Figure 206 Single contactor and blended effluent extrapolated SDS-HAA6 breakthrough curve (20 minute EBCT) during session 4, October

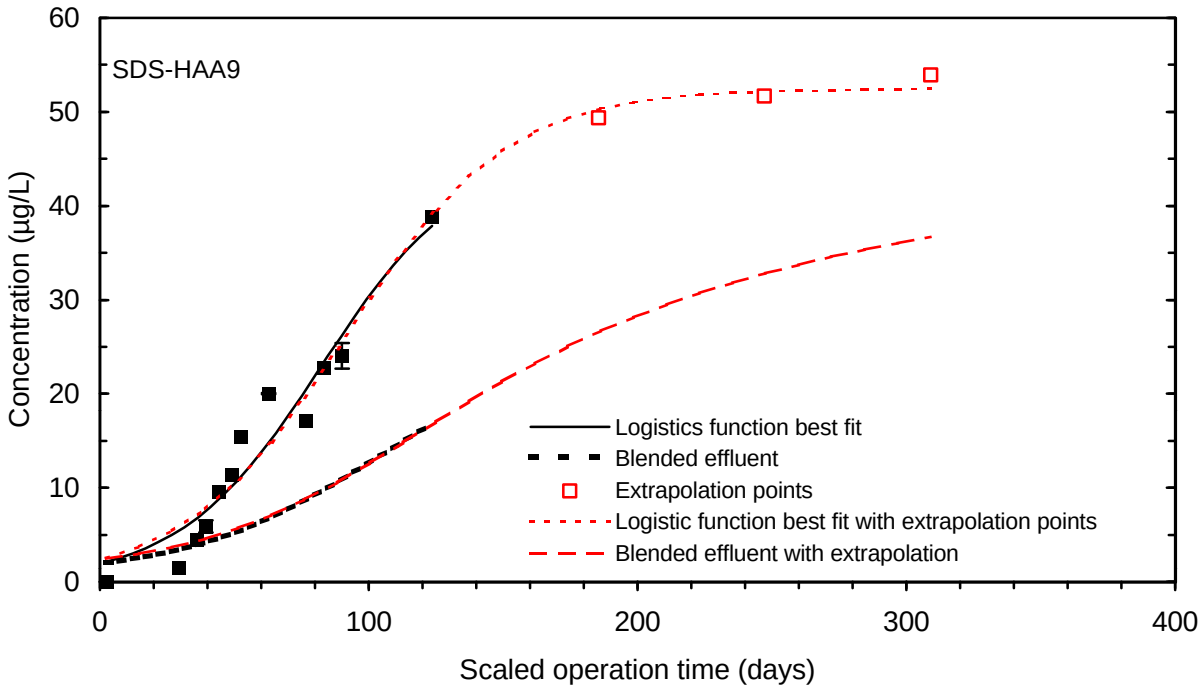


Figure 207 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (10 minute EBCT) during session 4, October

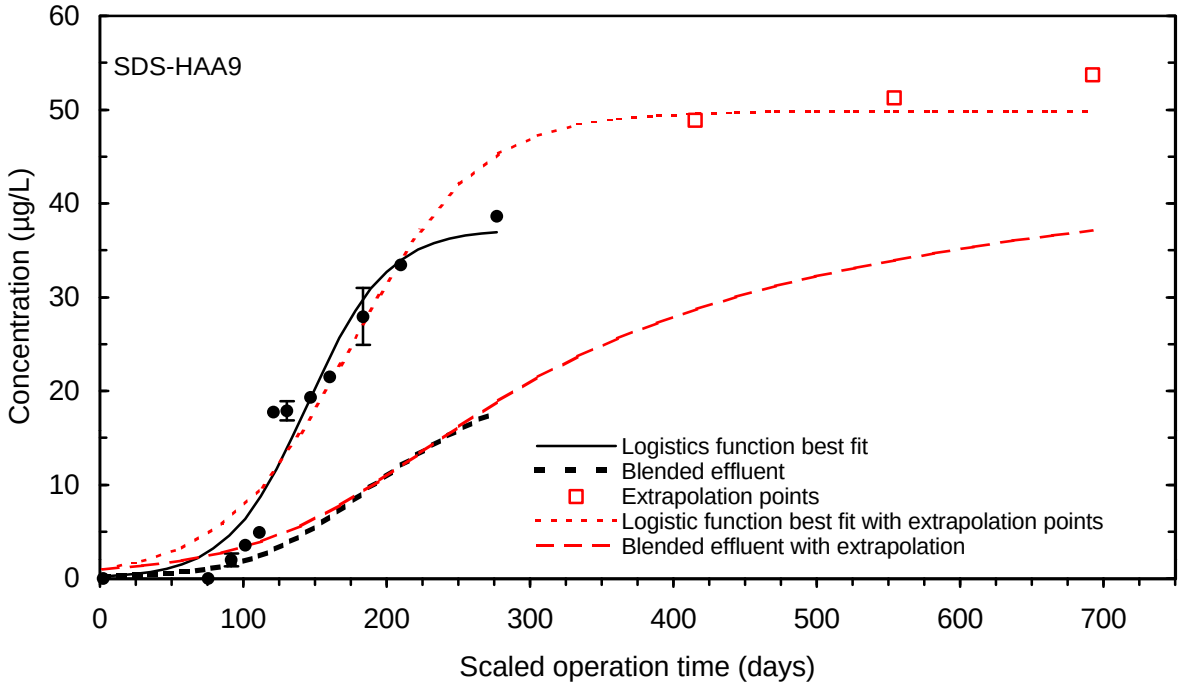


Figure 208 Single contactor and blended effluent extrapolated SDS-HAA9 breakthrough curve (20 minute EBCT) during session 4, October

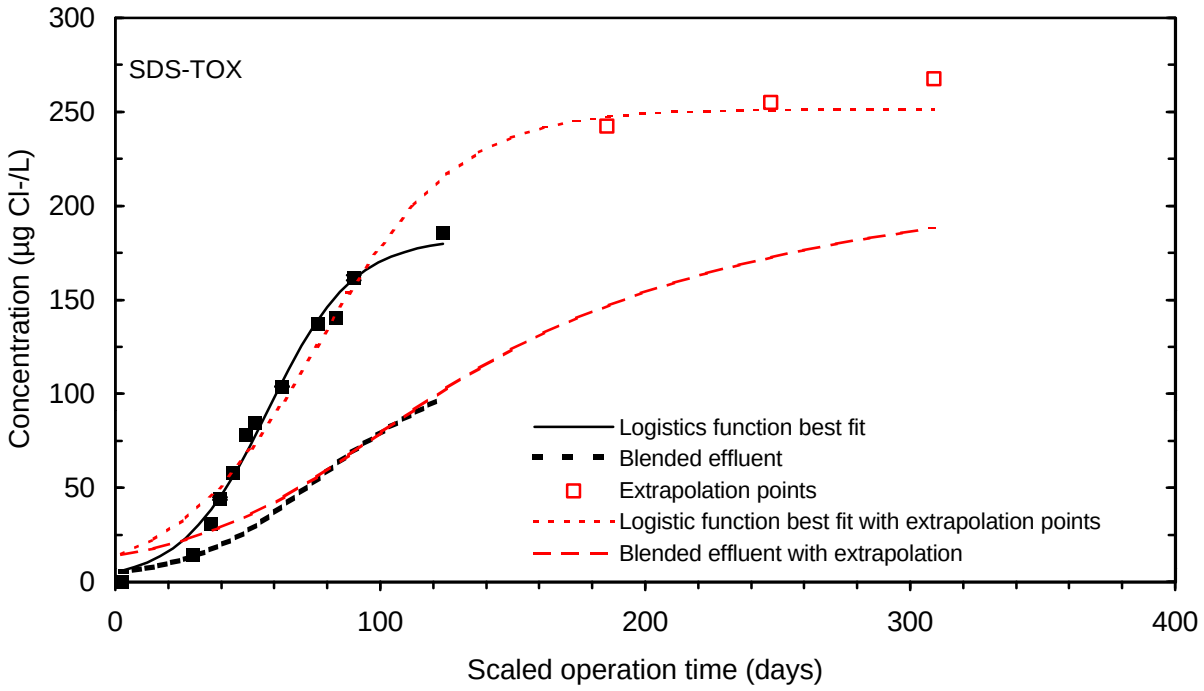


Figure 209 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (10 minute EBCT) during session 4, October

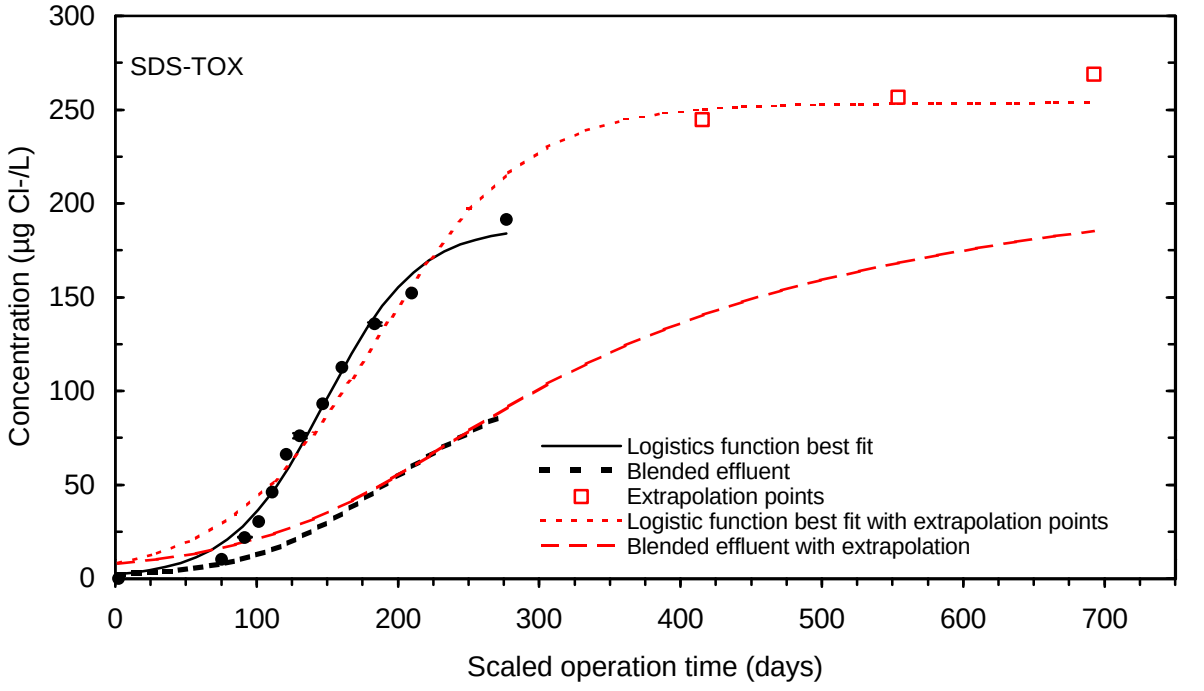


Figure 210 Single contactor and blended effluent extrapolated SDS-TOX breakthrough curve (20 minute EBCT) during session 4, October

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 percent 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 January session are shown in Figure 211. The Edisto River water source was utilized during this session. High initial relative levels of chlorine demand were present, due to inorganic chlorine demand. The normalized breakthrough of TOC occurred first, and was followed closely by the normalized breakthrough of SDS-THM4. Therefore, TOC was a good, slightly conservative, indicator for SDS-THM4 breakthrough. Normalized SDS-THM4 breakthrough was followed by normalized UV_{254} and SDS-TOX, which matched each other closely. Normalized SDS-HAA breakthrough occurred last, but reached normalized TOC breakthrough levels towards the end of the run. In general, similar patterns were observed for the January session 20 minute EBCT contactor (Figure 212). Normalized SDS-THM4 breakthrough did not follow that for TOC as closely however, showing a slight lag. In this case, TOC was a more conservative indicator for normalized SDS-THM4 breakthrough.

During the April session, normalized SDS-THM4 matched that for TOC, especially at the beginning of each EBCT run (Figures 213 and 214). Later, TOC was a more conservative indicator of normalized SDS-THM4 breakthrough, as the normalized SDS-THM4 profile shifted to the right relative to normalized TOC breakthrough. Normalized SDS-HAA breakthrough at times exceeded TOC breakthrough, although TOC usually served as a conservative indicator of SDS-HAA breakthrough. Normalized UV_{254} served as a good direct predictor of normalized SDS-TOX breakthrough for both EBCTs.

For the July session, which utilized the Bushy Park Reservoir water source, normalized TOC breakthrough was a good predictor of that of SDS-THM4 for both EBCT runs (Figures 215 and 216). For both EBCTs, normalized SDS-TOX breakthrough occurred earlier than that for normalized UV_{254}, and normalized SDS-HAA breakthrough occurred at lower levels relative to TOC breakthrough.

Similar results were observed during the October session, shown in Figures 217 and 218. However, for the 10 minute EBCT contactor, normalized SDS-THM4 breakthrough exceeded that for TOC during most of the run. In this case, TOC did not serve as a conservative indicator of SDS-THM4 breakthrough. During most of the 20 minute EBCT run, however, TOC did serve as a conservative indicator of SDS-THM4 breakthrough. For both EBCTs, normalized SDS-TOX and UV_{254} breakthrough patterns were well matched, and TOC was a conservative indicator for the breakthrough of SDS-HAA.

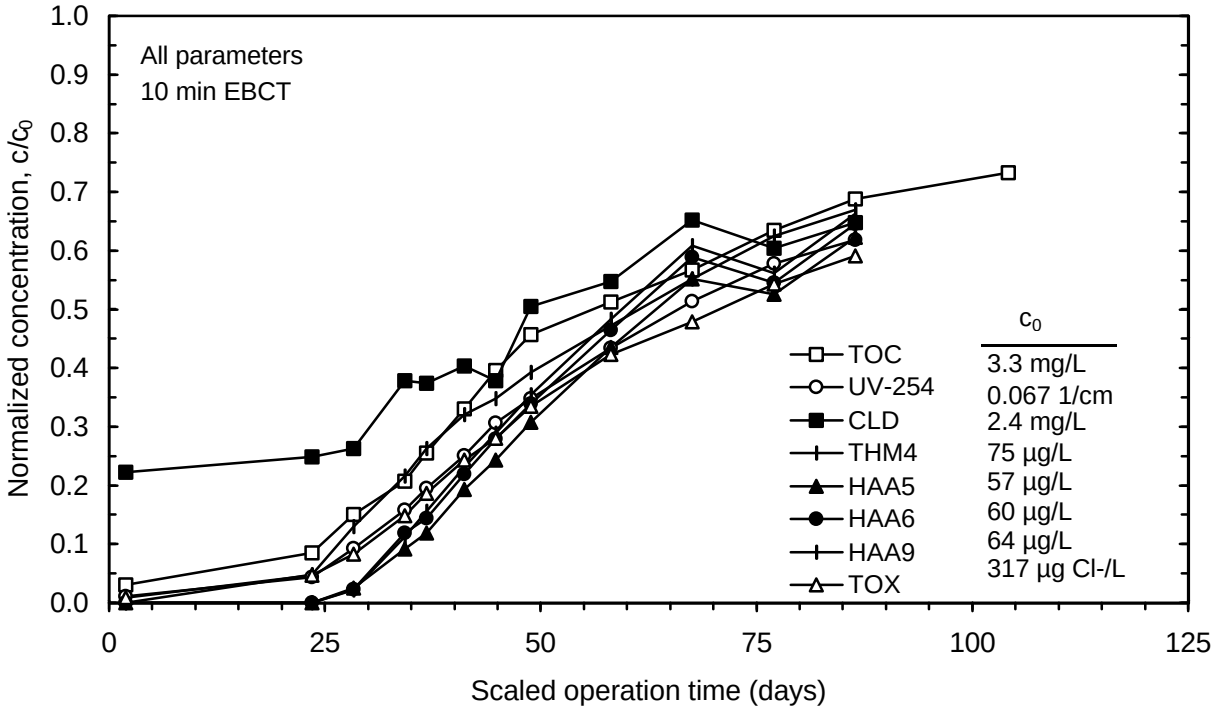


Figure 211 Normalized breakthrough patterns (10 minute EBCT) during session 1, January

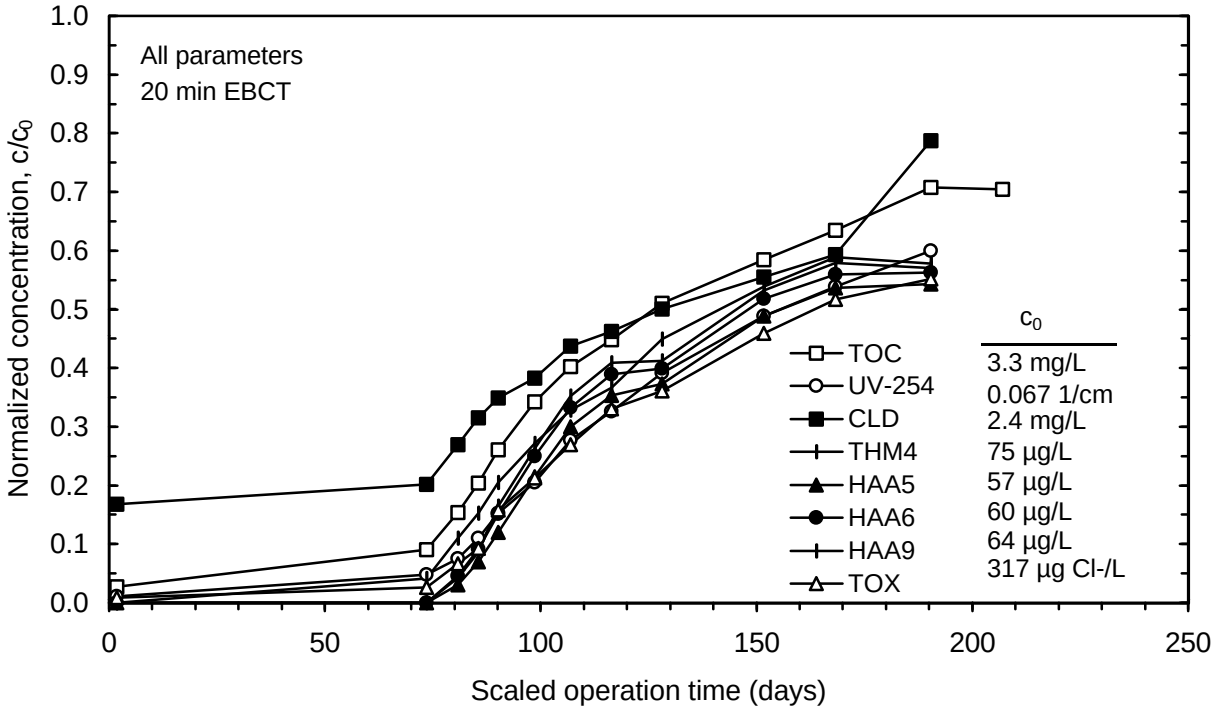


Figure 212 Normalized breakthrough patterns (20 minute EBCT) during session 1, January

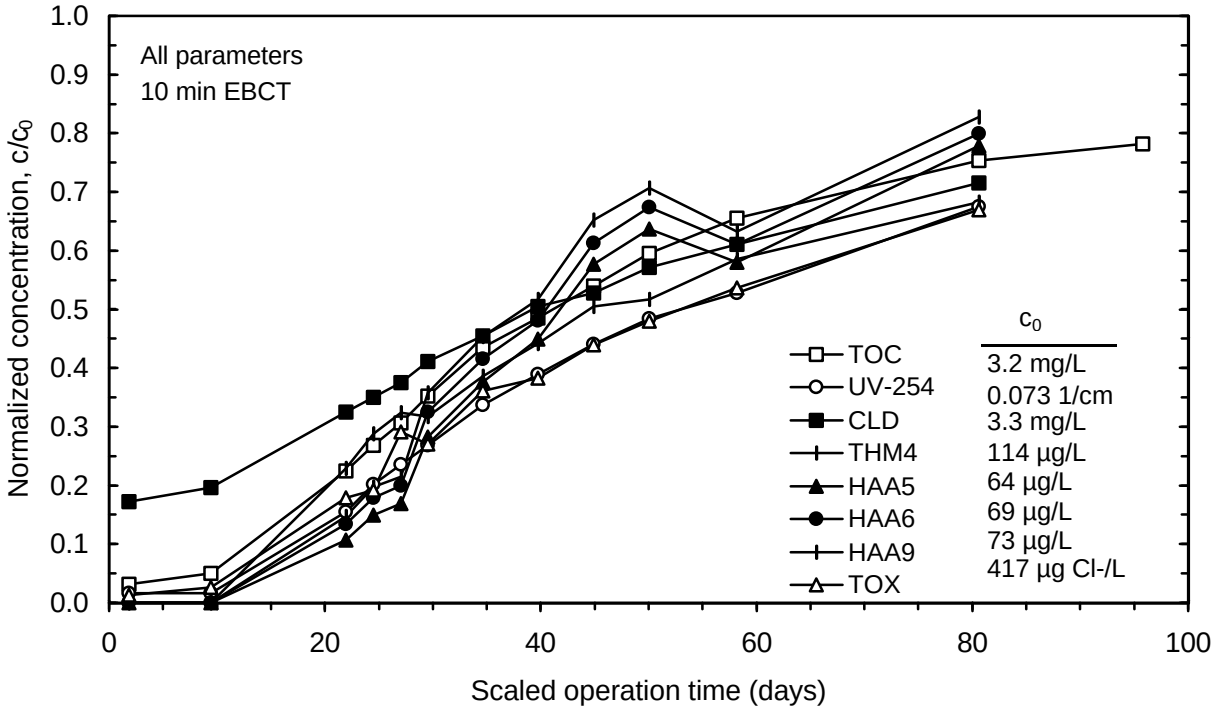


Figure 213 Normalized breakthrough patterns (10 minute EBCT) during session 2, April

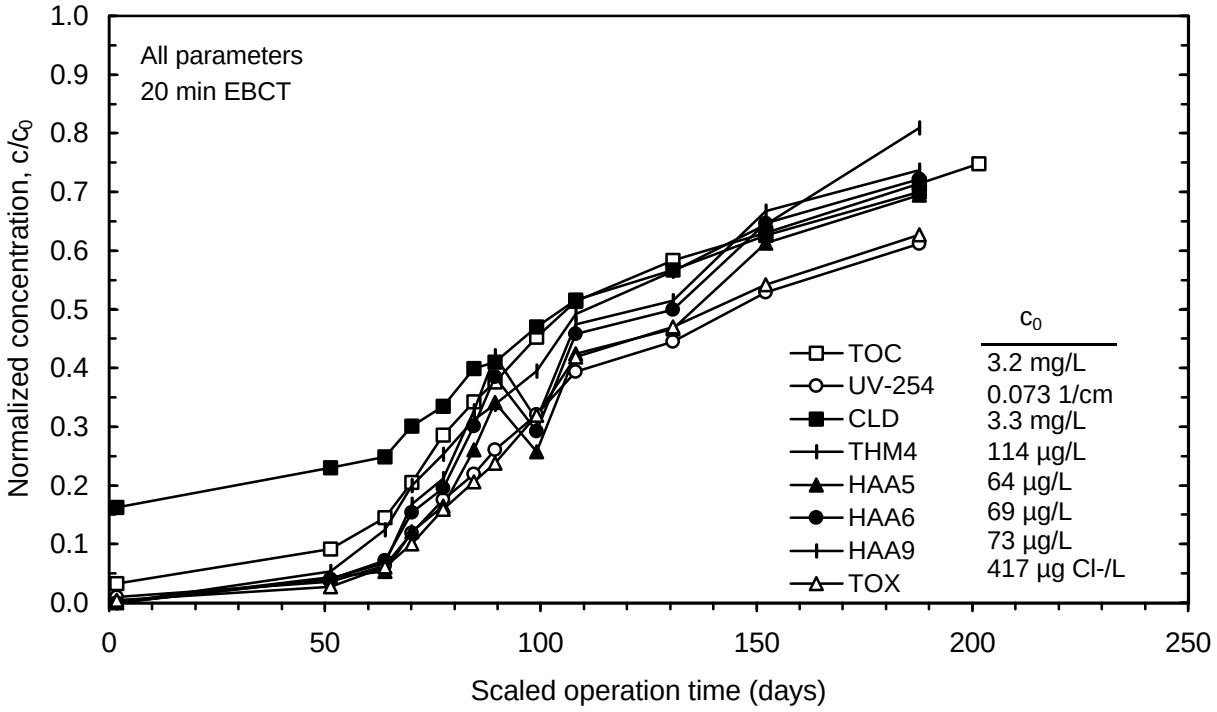


Figure 214 Normalized breakthrough patterns (20 minute EBCT) during session 2, April

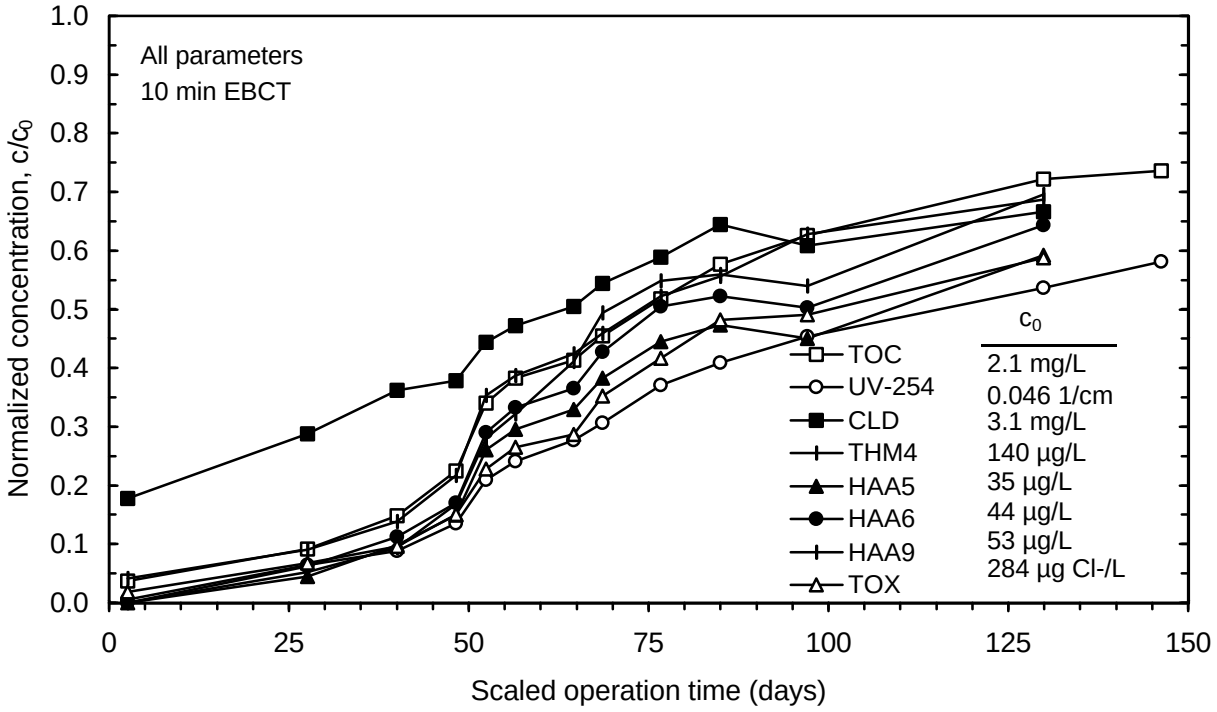


Figure 215 Normalized breakthrough patterns (10 minute EBCT) during session 3, July

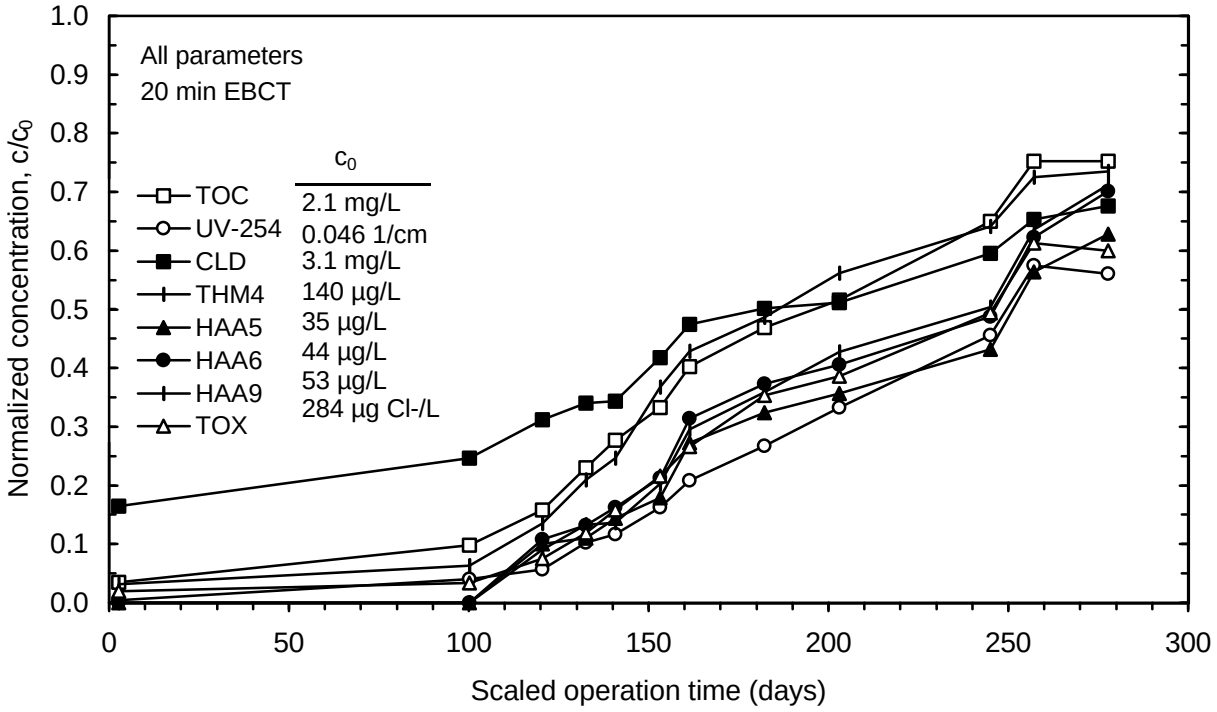


Figure 216 Normalized breakthrough patterns (20 minute EBCT) during session 3, July

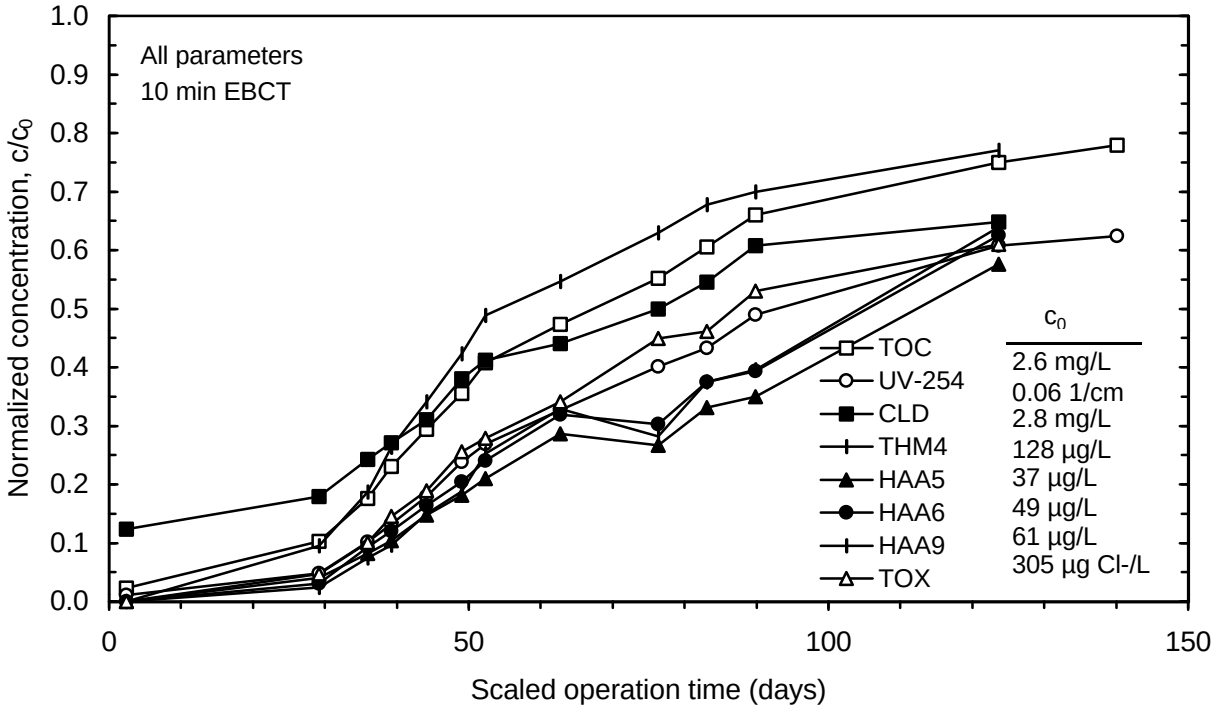


Figure 217 Normalized breakthrough patterns (10 minute EBCT) during session 4, October

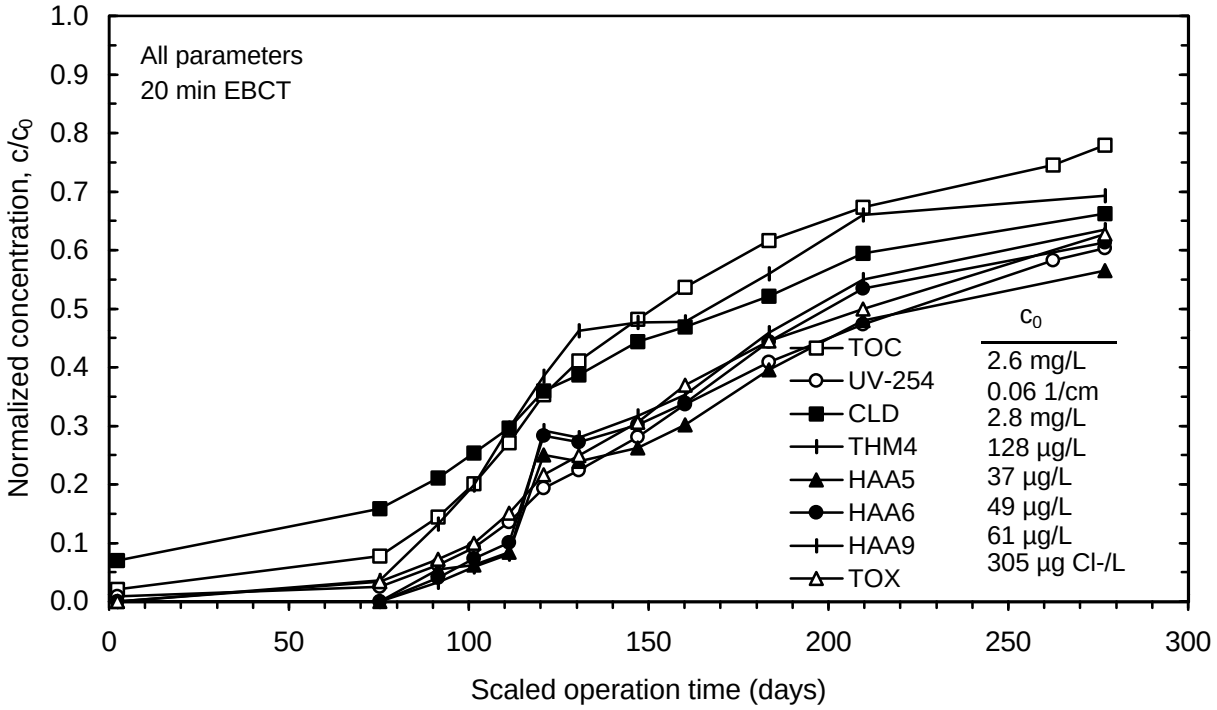


Figure 218 Normalized breakthrough patterns (20 minute EBCT) during session 4, October

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 (percent 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-THM4 during the July and October sessions yielded higher levels of formed THM4 per mg TOC than the runs performed during the January and April session. This effect may have been an impact of the season or water source used. The bromide levels measured during the July and October sessions were much higher than those measured during the January and April sessions, leading to higher concentrations of formed THMs. There was no apparent impact of EBCT on the correlation between TOC and SDS-DBPs. SDS-HAA and SDS-TOX did not show any impact of season, water source, or EBCT on the relationship between formed concentrations and TOC concentration. Similar results were observed for the correlations between UV_{254} and SDS-DBPs, shown in Figure 220.

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 percent breakthrough of the surrogate parameter (TOC or UV_{254}) directly predicts the percent 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. TOC was a conservative indicator for the formation SDS-HAA and SDS-TOX. In general, UV_{254} under predicted the percent DBP breakthrough of SDS-THM4 and SDS-HAA (Figure 222), especially in the latter half of the runs. UV_{254} served as a good direct predictor of SDS-TOX breakthrough.

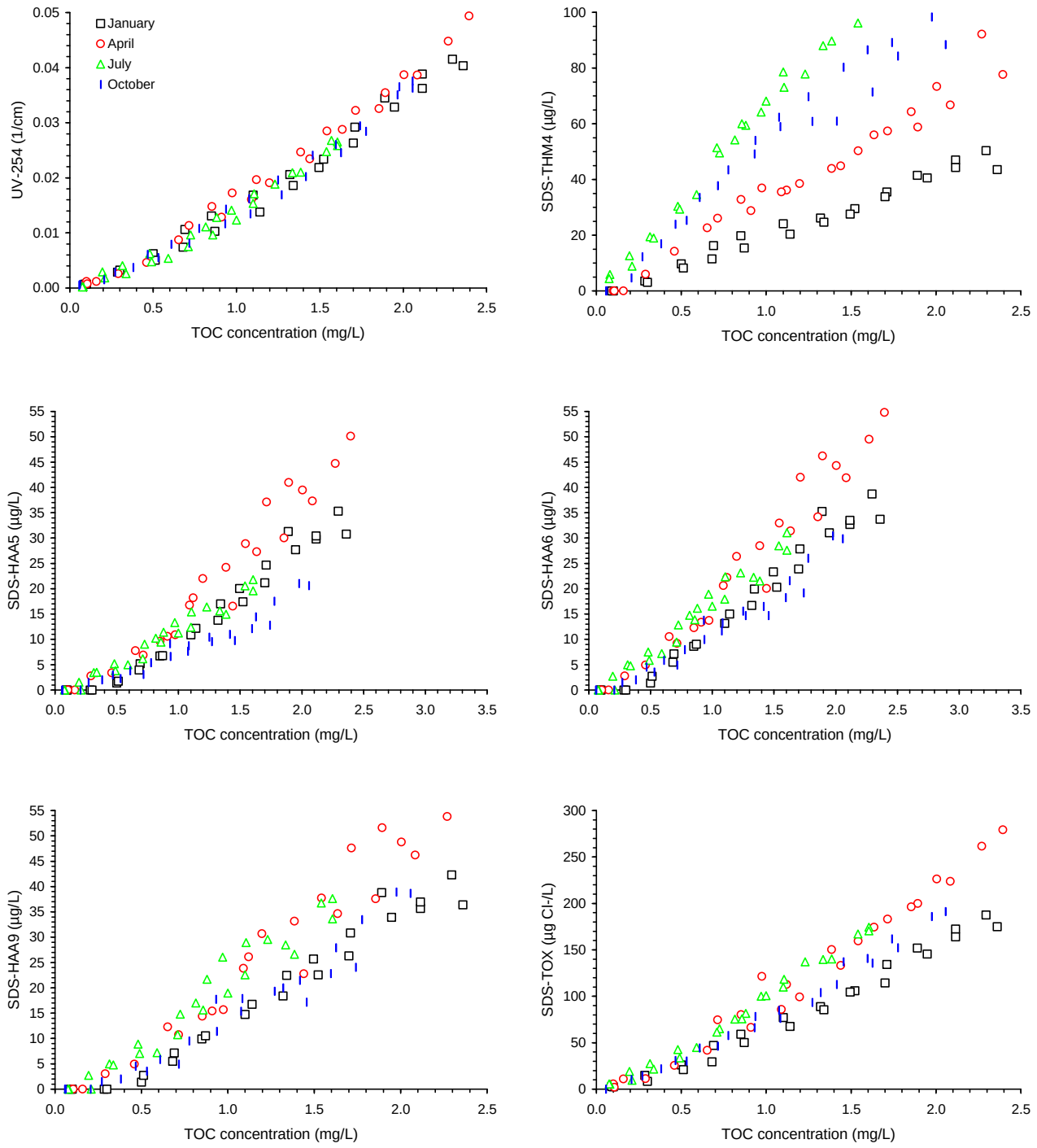


Figure 219 Correlation based on GAC effluent TOC concentration for both 10 and 20 minute EBCT contactors and all sessions

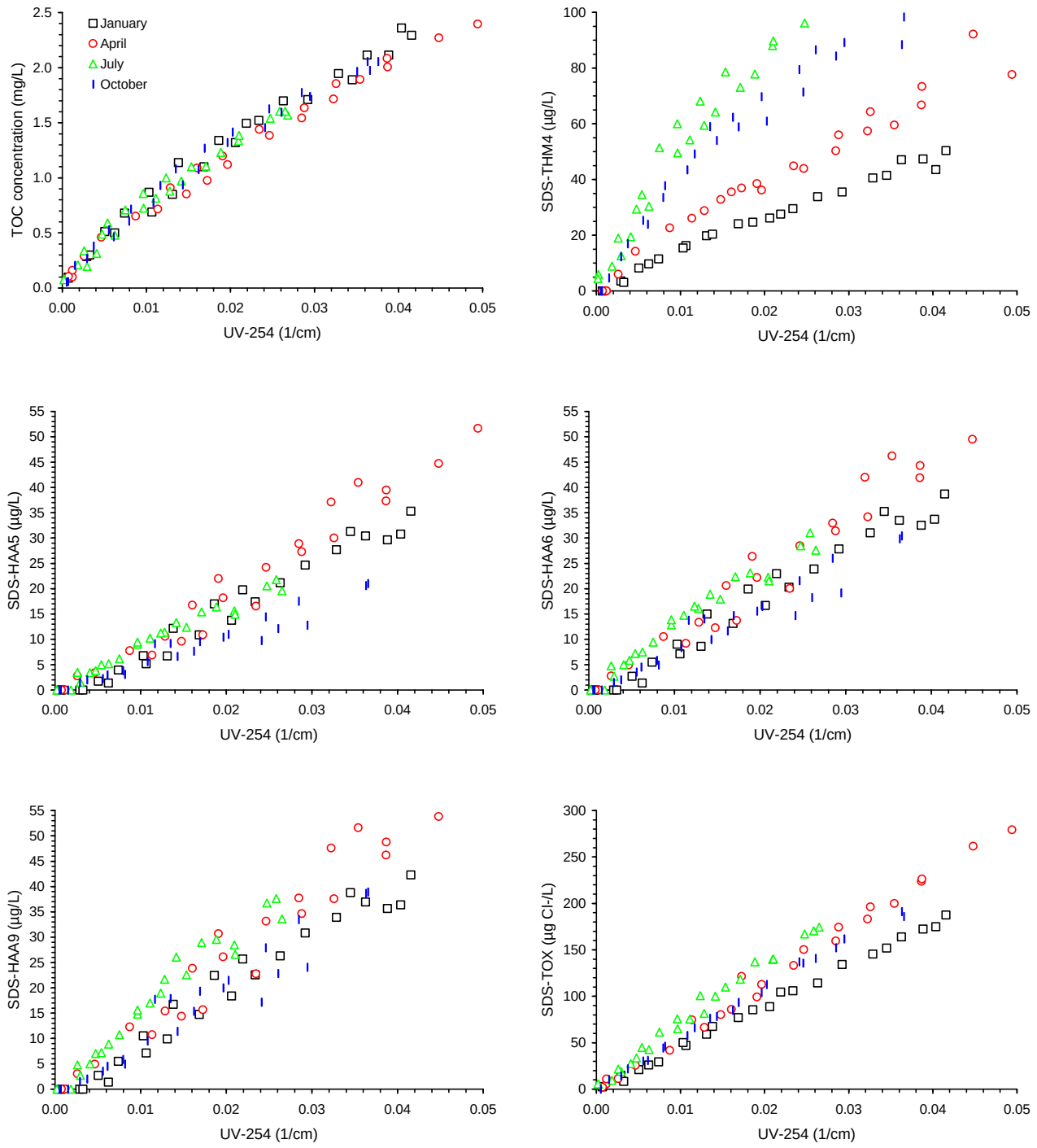


Figure 220 Correlation based on GAC effluent UV-254 for both 10 and 20 minute EBCT contactors and all sessions

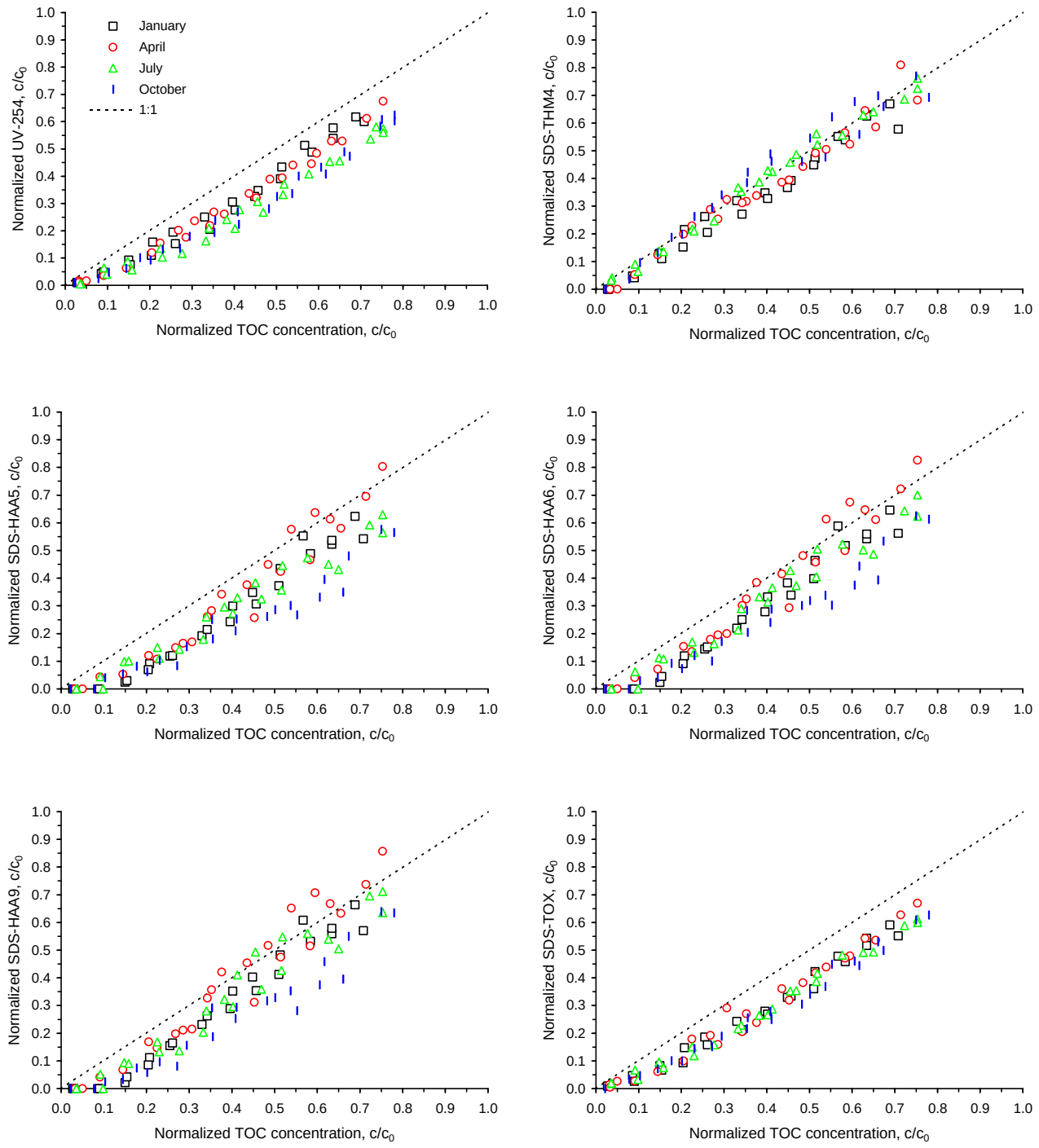


Figure 221 Correlation based on normalized GAC effluent TOC concentration for both 10 and 20 minute EBCT contactors and all sessions

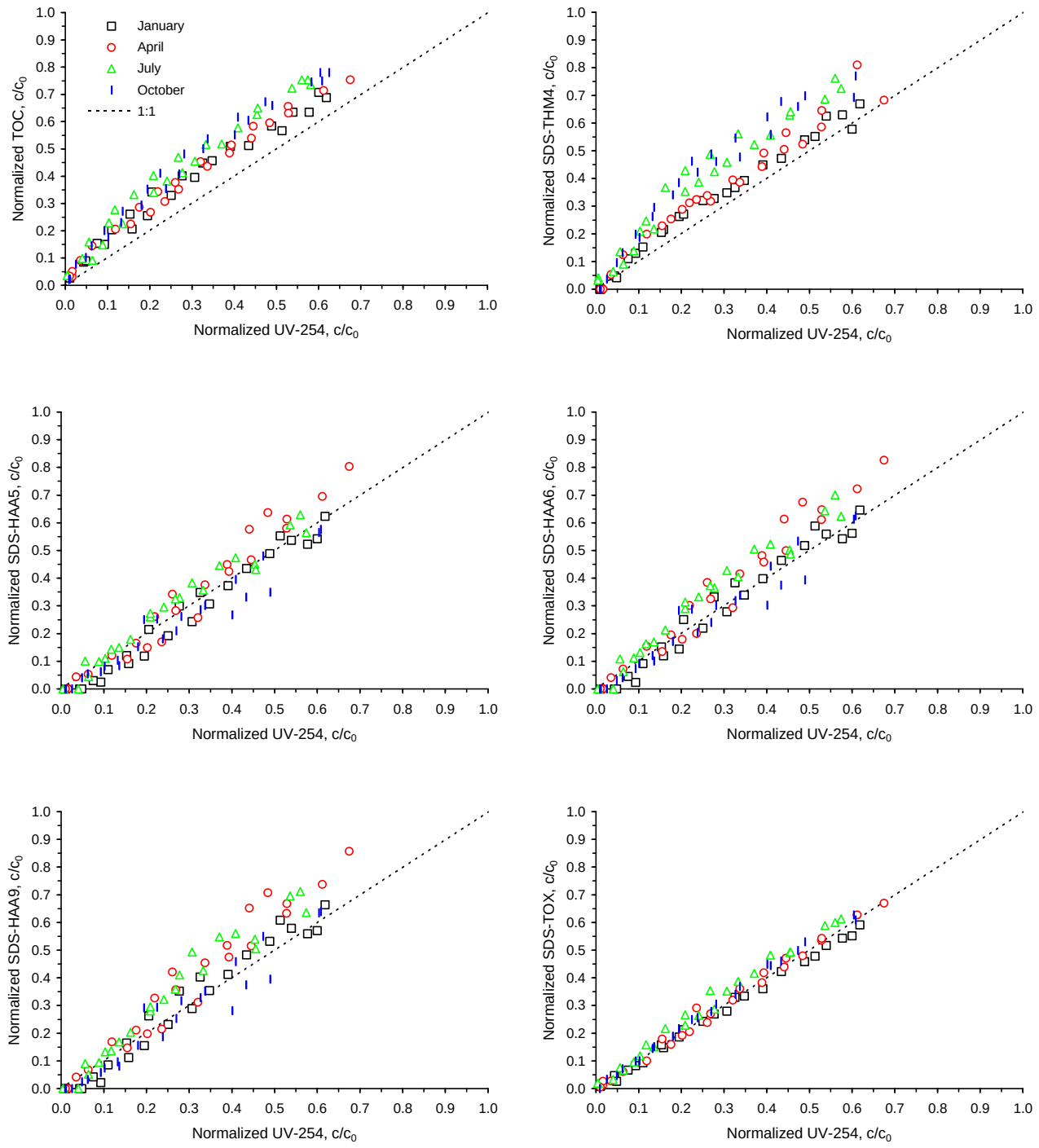


Figure 222 Correlation based on normalized GAC effluent UV-254 for both 10 and 20 minute EBCT contactors and all sessions

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 Hanahan Water Treatment Plant water source pretreatment can be evaluated. The correlation is given by the following equation:

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

where TOC_0 is the mean influent TOC concentration, in mg/L. 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 5,930 to 10,710 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 28 percent better than that predicted by Equation 9. For the 20 minute EBCT contactor runs the BV_{50} ranged from 7,630 to 14,110 bed volumes during the four seasonal sessions. Therefore, the run times were an average 57 percent higher than that predicted by the correlation between influent TOC and BV_{50}.

The superior performance as compared to an average water is likely due to the relatively low influent to GAC pH utilized during this study, which was based on the settled water pH. The influent pH ranged between 6.2 and 6.4. Furthermore, as shown by Figure 223, the improvement in GAC performance as the influent TOC concentration decreased was usually about that expected by the slope in the correlation. By this analysis, GAC performance by the two water sources used in this study was similar, after accounting for the differences in influent TOC concentration. During all four sessions the 20 minute EBCT column outperformed the 10 minute EBCT contactor.

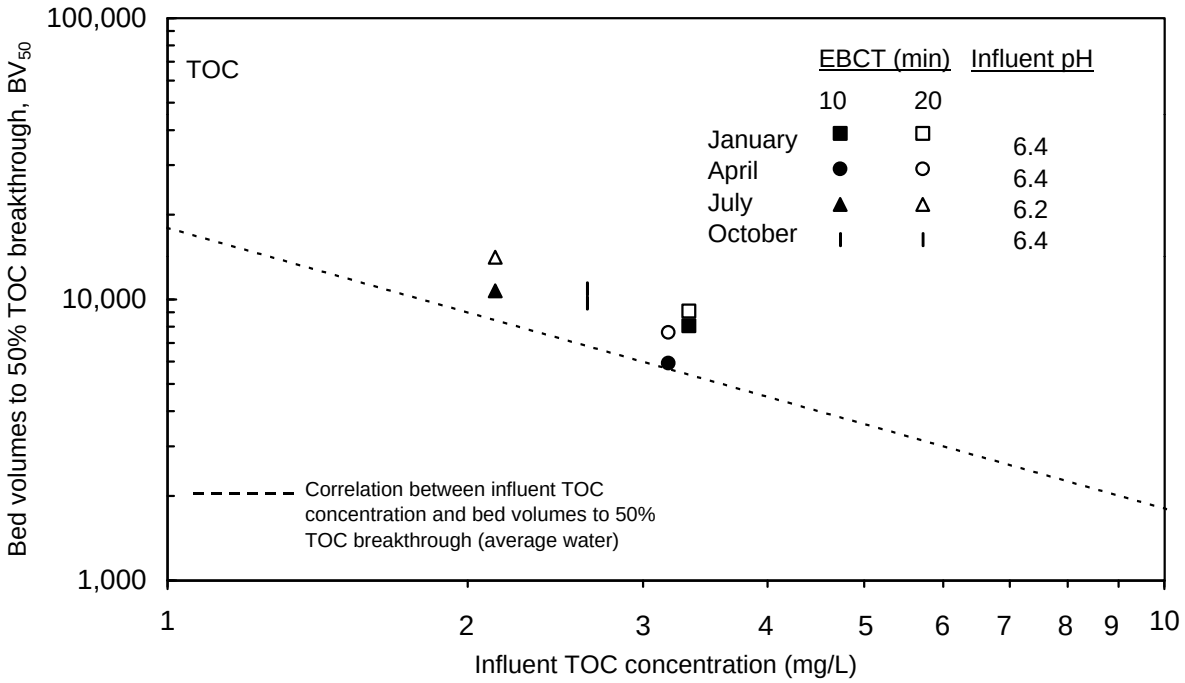


Figure 223 Comparison between GAC performance during treatment study testing and average water GAC performance

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 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 118 MGD, 7 concrete gravity (1975 ft^2) or 44 steel pressure contactors were required (20 ft diameter; 314 ft^2). Hydraulic loading at plant capacity is 5.9 gpm/ft^2. Plant production varies throughout the year, and the average production during each month in which water was sampled, which varied from 45 to 58 MGD, was used for modeling purposes. Hydraulic loading under average plant flow conditions ranged from 2.2 to 2.8 gpm/ft^2. The economic input data to the model are summarized in Table 59.

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. Relative to the placeholders for Stage 2 DBP MCLs, THM4 formation was much higher than HAA5 formation, and thus run time calculations are based on 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 60 summarizes the estimated run times to comply with the placeholders for Stage 2 DBP MCLs.

The blended effluent analysis presented in Section 10 was a good approximation for 10 or more contactors operated in parallel. However, for the blended effluents of 7 parallel concrete gravity contactors, the estimated run times are not applicable. Instead, the following equation is used:

$$\overline{C_n} = \frac{1}{n}\sum_{i=1}^{n} C_i \qquad (10)$$

where C_n is the concentration of the blend of n contactors in parallel and C_i is the effluent concentration of the ith adsorber (Roberts and Summers, 1982). The values for C_i are determined from the single contactor breakthrough curve, and the equation is valid under the assumption that contactors are replaced at regular intervals. This analysis was performed for both EBCTs and all sessions under the assumption that 7 concrete gravity contactors would be

operated in parallel. The resulting estimated run times are slightly shorter than those for the blended effluent as determined by Equation 4. When necessary, breakthrough curve extrapolation procedures (to at most 250 percent of the maximum run time) were applied to the 7 contactor configuration. Table 60 also summarizes the estimated run times to comply with proposed Stage 2 DBP MCLs using 7 contactors.

Table 61 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 32 to 44 cents/1,000 gal. Costs were highest based on the April 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 17 and 57 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 26 and 45 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.

Another option for the Hanahan Water Treatment Plant is to replace the GAC in the filters with virgin or reactivated GAC, and to reactivate these when needed. The Stoney Filter Plant contains 20 filters (530 ft^2 each). The plant has the ability to build six more contactors at the Stoney Filter Plant, for a total of 26 contactors. However, the media capacity in these filters allows for a GAC EBCT of only 2.5 minutes at plant capacity flow. Although only 10 and 20 minute EBCTs were examined in this treatment study, based on the results obtained, run times for a 2.5 minute EBCT contactor are estimated to be 10 to 20 days. Therefore, the GAC in one to two contactors would be reactivated daily. However, since plant flow averages about 40 to 50 percent of plant capacity, the actual EBCT will be higher and run times longer. The EPA model was used to estimate the O&M costs for GAC treatment and includes capital costs for the reactivation facility (Table 62). The O&M costs shown in Table 62 are only slightly higher than those estimated for 10 or 20 minute EBCT contactors. However, the total costs were estimated 44 percent lower than the most cost-effective option summarized in Table 61. The cost estimates do not include the costs of building six contactors or other capital costs associated with converting the filters to contactors.

Parameter	Value
Capital recovery interest rate (%)	10
Capital recovery period (years)	20
Overhead & profit factor (% of construction costs)	15
Special sitework factor (% of construction costs)	5
Construction contingencies (% of construction costs)	10
Engineering fee factor (% of construction costs)	15
ENR construction cost index (CCI base year 1913) and date	5,986 (March 1999)
Producers Price Index (PPI base year 1967=100) and date	369 (February 1999)
Labor rate + fringe ($/manhour)	20
Labor overhead factor (% of labor)	31
Electric rate ($/kWh)	0.04
Fuel oil rate ($/gallon)	1.0
Natural gas rate ($/cu.ft.)	0.0085
Process water rate ($/1,000 gal)	0.32
Modifications to existing plant (% of construction cost)	15

Table 59 Economic input data to cost model

EBCT (min)	Session	Run time (days) for number of parallel contactors		
		Single	7	10 or more
10	January	53	96†	110†
	April	24	46	52
	July	49	72	81
	October	39	62	69
	Mean	41	69	78
	St. dev.	13	21	24
20	January	125	236†	270†
	April	81	139	150
	July	137	205	227
	October	107	172	192
	Mean	112	188	210
	St. dev.	24	42	51

†Extrapolation beyond maximum run time required for estimate

Table 60 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	January	24	8	32	35	7	42
	April	30	14	44	34	10	44
	July	19	10	29	27	8	35
	October	23	11	34	33	9	41
	Mean	24	11	35	32	8	41
	St. dev.	5	2	7	3	1	4
Steel pressure	January	39	8	48	71	8	79
	April	38	14	52	68	11	78
	July	31	10	41	55	8	64
	October	37	11	48	66	9	75
	Mean	36	11	47	65	9	74
	St. dev.	4	2	5	7	1	7

Table 61 Summary of GAC adsorption costs for compliance with the placeholders for Stage 2 MCLs

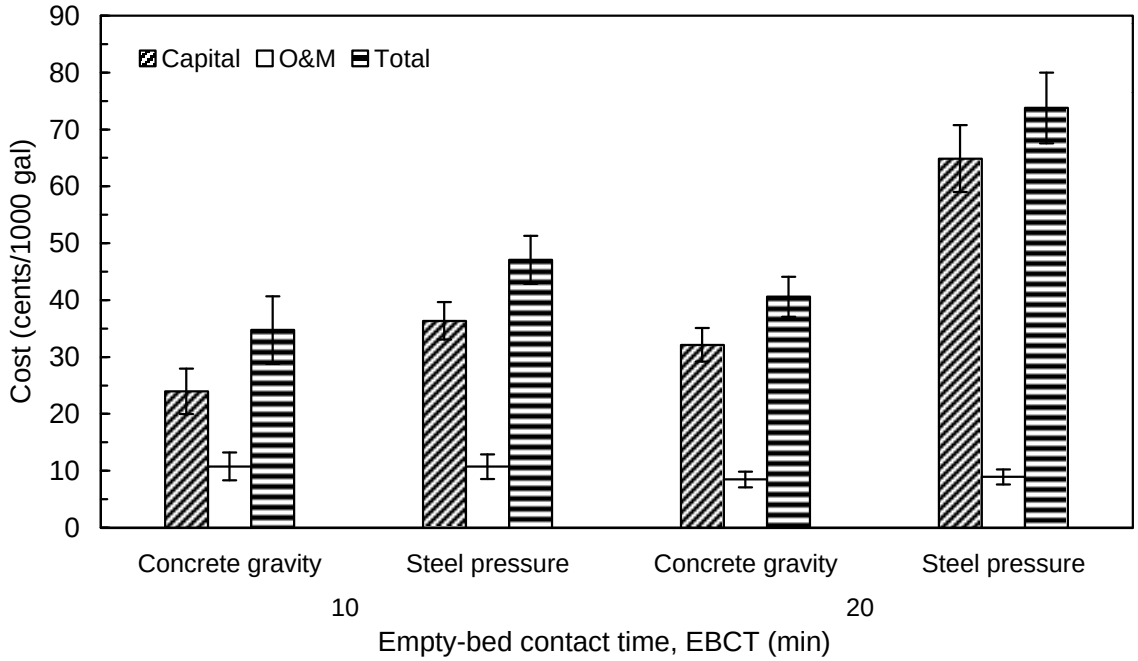


Figure 224 Average costs for GAC treatment with on-site reactivation

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 parameters for determining GAC reactivation frequencies. This study showed that by operating GAC contactors to maintain compliance with the Stage 2 THM4 MCL, the placeholder for Stage 2 HAA5 MCL would be met. To meet the placeholder for Stage 2 THM4 MCL, GAC run times ranged from 24 to 53 days for 10 minute EBCT contactors. In practice, however, multiple contactors are operated in staggered fashion and their effluents are blended prior to chlorination. 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 new contactors. Based on this configuration, GAC run times for compliance with the placeholder for Stage 2 THM4 MCL ranged from 52 to 110 days for 10 EBCT minute contactors. For 20 minute EBCT contactors, run times ranged from 150 to 270 days.

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, the estimate for total costs for GAC treatment averaged 35 and 47 cents/1,000 gal for concrete gravity and steel pressure contactors, respectively. For 20 minute EBCT contactors, total costs averaged 41 and 74 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. For the Edisto River water source, GAC treatment costs using concrete gravity contactors averaged 38 and 43 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. For steel pressure contactors, costs averaged 50 and 79 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. GAC treatment costs were slightly lower based on the Bushy Park Reservoir water source: average costs using concrete gravity contactors were 32 and 38 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively. For steel pressure contactors, average costs were 45 and 70 cents/1,000 gal for 10 and 20 minute EBCT contactors, respectively.

Four sessions were conducted to capture seasonal variability in source water quality. After the first two sessions (January and April), the plant stopped using the Edisto River and began using the Bushy Park Reservoir as source water. Therefore, the July and October sessions were run using Bushy Park Reservoir water. Although GAC influent TOC concentrations were lower for the two runs using Bushy Park Reservoir water, the bromide concentration increased by a factor of six, from an average of 20 to 118 µg/L. Higher bromide levels can yield higher concentrations of brominated DBP species, because of the high bromide to TOC ratio. In fact, even with a 19 percent decrease in the TOC concentration, the GAC influent SDS-THM4 measured during the October session was 12 percent higher than that measured during the April session, due to increased concentrations of the brominated species. In addition, 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 bromoform, effluent concentrations were measured higher than influent levels. 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 28 percent better than predicted . At a 20 minute EBCT, contactor performance was 57 percent better than predicted. The superior performance as compared to an average water is likely due to the relatively low GAC influent pH (6.2 to 6.4) utilized during this study, which was based on the settled water pH.

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, although in cases normalized SDS-THM4 breakthrough exceeded that for TOC. TOC did serve as a conservative indicator of normalized SDS-HAA and SDS-TOX breakthrough. UV_{254} typically served as either a conservative or 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 63.

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 (EPA Method 552.2)

An initial calibration curve is extracted and analyzed for each set of samples to be analyzed for haloacetic acids. The concentrations of each of the levels of aqueous calibration standards are given in Table 64.

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

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

plotting the areas against the concentrations of the seven calibration extracts. The curve is defined as first order; correlation coefficients must be greater than 0.9900.

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 65.

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

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

Analyte	Count	Mean RPD	Percentiles 25th	50th	75th
TOC	24	2.2	0.6	1.4	3.7
UV-254	24	2.4	0.5	1.0	2.0
pH	24	0.8	0.1	0.3	0.8
Temperature	24	0.2	0.0	0.0	0.5
SDS-TOX	24	3.9	1.0	2.1	4.7
SDS-THM4	24	3.7	1.5	2.9	5.1
SDS-HAA5	24	10.5	3.6	8.0	14.7
SDS-HAA6	24	9.7	2.9	8.1	13.2
SDS-HAA9	24	10.0	3.3	9.0	13.2
SDS-chlorine residual	24	3.9	0.9	2.5	3.9
THM Species					
SDS-$CHCl_3$	23	3.7	1.1	3.5	5.9
SDS-BDCM	24	4.8	2.9	3.6	5.8
SDS-DBCM	24	4.3	1.9	3.6	5.2
SDS-$CHBr_3$	13	4.3	2.1	3.1	6.7
HAA Species					
SDS-MCAA	0	NA	NA	NA	NA
SDS-DCAA	22	9.4	3.1	7.1	15.0
SDS-TCAA	17	13.2	4.7	10.2	19.3
SDS-MBAA	0	NA	NA	NA	NA
SDS-DBAA	17	13.5	4.8	10.6	18.1
SDS-BCAA	22	7.9	1.3	7.0	11.3
SDS-TBAA	0	NA	NA	NA	NA
SDS-CDBAA	7	14.9	3.4	6.9	15.5
SDS-DCBAA	18	14.5	4.2	11.9	19.9

RPD: relative percent difference
NA: not applicable

Table 63 Summary of field duplicate precision for both EBCTs and all quarters

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

Table 64 Haloacetic acid aqueous calibration standard concentrations (EPA Method 552.2)

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

Table 65 Trihalomethane aqueous calibration standard concentrations (EPA Method 551.1)

17 *References*

17 References

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Appendix A: Summary of Treatment Study Data

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: Charleston CPW **Study#:** 101

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:** 6.4	**Scaling Factor:** 13.2																	
1	9801-171	101.10.Eff-1	1/29/98 11:45	1/29/98 16:18		0.15	2	0.10	0.001	21.8	8.3	2.00	1.47	0.53	10.0	8.39	28.4				
2	9801-193	101.10.Eff-9	1/31/98 3:13	1/31/98 7:34		1.79	24	0.29	0.003	22.2	7.4	2.08	1.49	0.59	10.0	8.48	28.3				
3	9801-198	101.10.Eff-11	1/31/98 12:02	1/31/98 16:23		2.15	28	0.49	0.006	21.7	7.4	2.17	1.48	0.69	10.0	8.42	28.3				
3d	9801-199	101.10.Eff-11d	1/31/98 12:02	1/31/98 16:23		2.15	28	0.51	0.006	21.9	7.4	2.18	1.62	0.56	10.0	8.44	28.3				
4	9802-3	101.10.Eff-16	1/31/98 22:56	2/1/98 3:03		2.60	34	0.69	0.011	21.6	7.4	2.26	1.36	0.90	10.0	8.45	28.2				
5	9802-5	101.10.Eff-17d	2/1/98 3:13	2/1/98 7:58		2.80	37	0.85	0.013	21.7	7.3	2.34	1.45	0.89	10.0	8.44	28.3				
6	9802-10	101.10.Eff-19	2/1/98 12:24	2/1/98 14:41		3.13	41	1.10	0.017	21.9	7.4	2.45	1.49	0.96	10.0	8.46	28.2				
7	9802-14	101.10.Eff-21	2/1/98 18:57	2/1/98 21:15		3.40	45	1.32	0.021	21.2	7.4	2.62	1.72	0.90	10.2	8.45	28.1				
8	9802-17	101.10.Eff-23	2/2/98 1:26	2/2/98 5:41		3.71	49	1.50	0.023	21.4	7.4	2.72	1.72	1.00	10.2	8.41	28.0				
8d	9802-18	101.10.Eff-23d	2/2/98 1:26	2/2/98 5:41		3.71	49	1.54	0.024	21.4	7.3	2.74	1.34	1.40	10.2	8.45	28.0				
9	9802-29	101.10.Eff-27	2/2/98 18:20	2/2/98 22:33		4.41	58	1.71	0.029	21.8	7.4	2.83	1.53	1.30	10.2	8.45	28.0				
10	9802-39	101.10.Eff-30	2/3/98 11:32	2/3/98 15:50		5.13	68	1.89	0.035	20.9	7.3	2.93	1.38	1.55	10.2	8.41	27.8				
11	9802-52	101.10.Eff-34	2/4/98 4:51	2/4/98 9:12		5.86	77	2.13	0.039	20.6	7.4	3.05	1.54	1.51	10.2	8.38	27.9				
11d	9802-53	101.10.Eff-34d	2/4/98 4:51	2/4/98 9:12		5.86	77	2.11	0.039	20.4	7.4	3.04	1.68	1.36	10.2	8.39	27.9				
12	9802-63	101.10.Eff-36	2/4/98 22:01	2/5/98 2:15		6.57	86	2.29	0.042	20.7	7.5	3.09	1.55	1.54	9.9	8.46	28.1				
13	9802-83	101.10.Eff-39	2/6/98 7:22	2/6/98 9:34		7.92	104	2.45		20.4	8.1										
Effluent C	**EBCT:** 20 min	**Carbon Type:** Bituminous	**Influent pH:** 6.4	**Scaling Factor:** 13.2																	
1	9801-172	101.20.Eff-1	1/29/98 11:45	1/29/98 16:18		0.14	2	0.09	0.001	22.2	8.6	2.00	1.60	0.40	10.0	8.41	28.4				
2	9802-43	101.20.Eff-14	2/3/98 22:45	2/4/98 3:13		5.59	74	0.30	0.003	20.4	6.7	2.07	1.59	0.48	10.2	8.42	27.8				
3	9802-56	101.20.Eff-17	2/4/98 12:03	2/4/98 16:26		6.15	81	0.50	0.005	21.5	6.7	2.16	1.55	0.61	9.9	8.50	28.0				
3d	9802-57	101.20.Eff-17d	2/4/98 12:03	2/4/98 16:26		6.15	81	0.53	0.005	21.5	6.3	2.18	1.51	0.67	9.9	8.47	28.1				
4	9802-60	101.20.Eff-19	2/4/98 20:44	2/5/98 0:53		6.50	86	0.68	0.007	21.3	6.8	2.25	1.50	0.75	9.9	8.45	28.1				
5	9802-69	101.20.Eff-21	2/5/98 5:10	2/5/98 9:26		6.86	90	0.87	0.010	21.2	6.8	2.35	1.52	0.83	9.9	8.42	28.1				
6	9802-80	101.20.Eff-24	2/5/98 20:28	2/6/98 0:44		7.49	99	1.14	0.014	21.6	7.4	2.48	1.57	0.91	9.9	8.48	28.0				
7	9802-93	101.20.Eff-28	2/6/98 11:38	2/6/98 15:57		8.13	107	1.31	0.019	21.8	7.4	2.57	1.54	1.03	9.9	8.44	28.0				
7d	9802-94	101.20.Eff-28d	2/6/98 11:38	2/6/98 15:57		8.13	107	1.37	0.019	21.8	7.4	2.60	1.55	1.05	9.9	8.46	28.1				
8	9802-100	101.20.Eff-32	2/7/98 4:52	2/7/98 9:11		8.84	116	1.50	0.022	22.6	7.7	2.67	1.57	1.10	9.9	8.45	28.1				
9	9802-103	101.20.Eff-35	2/8/98 2:22	2/8/98 6:39		9.74	128	1.70	0.026	21.5	8.0	2.77	1.58	1.19	9.9	8.48	28.1				
10	9802-120	101.20.Eff-44	2/9/98 21:18	2/10/98 1:39		11.53	152	1.94	0.033	22.7	8.9	2.84	1.52	1.32	9.9	8.48	28.1				
10d	9802-121	101.20.Eff-44d	2/9/98 21:18	2/10/98 1:39		11.53	152	1.95	0.033	22.7	8.9	2.84	1.52	1.32	9.9	8.49	28.1				
11	9802-131	101.20.Eff-46	2/11/98 3:26	2/11/98 7:44		12.78	168	2.12	0.036	22.4	9.2	2.96	1.55	1.41	9.8	8.43	27.9				
12	9802-157	101.20.Eff-52	2/12/98 19:51	2/13/98 0:07		14.47	190	2.36	0.040	21.8	8.7	3.07	1.20	1.87	9.9	8.46	28.0				
13	9802-177	101.20.Eff-53	2/14/98 2:00	2/14/98 6:20		15.73	207	2.35		22.5	8.0										

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 #1

Client: Charleston CPW **Study#:** 101

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9801-171	101.10.Eff-1	2	0.10	3	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9801-193	101.10.Eff-9	24	0.29	15	1.1	1.2	1.3	ND	**3.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9801-198	101.10.Eff-11	28	0.49	26	2.8	2.9	3.6	ND	**9.3**	ND	1	ND	ND	ND	ND	ND	ND	ND	**1**	**1**		
3d	9801-199	101.10.Eff-11d	28	0.51	27	2.9	3.3	4.0	ND	**10.3**	ND	2	ND	ND	ND	ND	ND	ND	ND	**2**	**2**		
4	9802-3	101.10.Eff-16	34	0.69	47	6.0	3.8	6.4	ND	**16.2**	ND	3	2	ND	ND	2	ND	ND	ND	**7**	**7**		
5	9802-5	101.10.Eff-17d	37	0.85	59	8.3	3.8	7.7	ND	**19.8**	ND	4	2	ND	ND	2	1	ND	ND	**9**	**10**		
6	9802-10	101.10.Eff-19	41	1.10	77	12.0	3.4	8.7	ND	**24.1**	ND	7	4	ND	ND	2	2	ND	ND	**13**	**15**		
7	9802-14	101.10.Eff-21	45	1.32	89	14.4	2.8	9.0	ND	**26.2**	ND	8	6	ND	ND	3	2	ND	ND	**17**	**18**		
8	9802-17	101.10.Eff-23	49	1.50	105	16.8	2.5	9.6	ND	**28.9**	ND	10	8	ND	ND	3	3	ND	ND	**21**	**24**		
8d	9802-18	101.10.Eff-23d	49	1.54	107	17.6	2.6	10.0	ND	**30.2**	ND	10	7	ND	ND	3	2	ND	ND	**19**	**21**		
9	9802-29	101.10.Eff-27	58	1.71	134	22.8	2.1	10.6	ND	**35.6**	ND	12	12	ND	ND	3	3	ND	ND	**28**	**31**		
10	9802-39	101.10.Eff-30	68	1.89	152	28.2	1.9	11.4	ND	**41.5**	ND	15	17	ND	ND	4	4	ND	ND	**35**	**39**		
11	9802-52	101.10.Eff-34	77	2.13	172	33.2	1.7	12.0	ND	**46.8**	ND	14	15	ND	ND	3	3	ND	ND	**32**	**35**		
11d	9802-53	101.10.Eff-34d	77	2.11	173	33.3	1.7	12.2	ND	**47.2**	ND	15	15	ND	ND	3	3	ND	ND	**33**	**36**		
12	9802-63	101.10.Eff-36	86	2.29	188	36.7	1.6	12.1	ND	**50.4**	ND	17	18	ND	ND	3	4	ND	ND	**39**	**42**		
13	9802-83	101.10.Eff-39	104	2.45																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9801-172	101.20.Eff-1	2	0.09	3	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9802-43	101.20.Eff-14	74	0.30	8	1.0	1.0	1.2	ND	**3.1**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9802-56	101.20.Eff-17	81	0.50	21	2.3	2.8	3.3	ND	**8.4**	ND	2	ND	ND	ND	1	ND	ND	ND	**3**	**3**		
3d	9802-57	101.20.Eff-17d	81	0.53	22	2.2	2.7	3.2	ND	**8.2**	ND	2	ND	ND	ND	1	ND	ND	ND	**3**	**3**		
4	9802-60	101.20.Eff-19	86	0.68	30	3.5	3.4	4.6	ND	**11.5**	ND	3	1	ND	ND	2	ND	ND	ND	**5**	**5**		
5	9802-69	101.20.Eff-21	90	0.87	50	5.4	3.8	6.3	ND	**15.4**	ND	5	2	ND	ND	2	1	ND	ND	**9**	**11**		
6	9802-80	101.20.Eff-24	99	1.14	68	9.1	3.4	7.9	ND	**20.4**	ND	8	4	ND	ND	3	2	ND	ND	**15**	**17**		
7	9802-93	101.20.Eff-28	107	1.31	88	12.5	3.1	9.2	ND	**24.9**	ND	11	7	ND	ND	3	3	ND	ND	**21**	**24**		
7d	9802-94	101.20.Eff-28d	107	1.37	83	12.5	3.0	9.0	ND	**24.5**	ND	10	6	ND	ND	3	2	ND	ND	**19**	**21**		
8	9802-100	101.20.Eff-32	116	1.50	105	15.6	2.6	9.4	ND	**27.6**	ND	12	8	ND	ND	3	3	ND	ND	**23**	**26**		
9	9802-103	101.20.Eff-35	128	1.70	114	20.4	2.5	11.0	ND	**33.8**	ND	12	9	ND	ND	3	2	ND	ND	**24**	**26**		
10	9802-120	101.20.Eff-44	152	1.94	144	27.0	2.2	12.0	ND	**41.2**	ND	15	13	ND	ND	4	3	ND	ND	**31**	**35**		
10d	9802-121	101.20.Eff-44d	152	1.95	147	26.3	2.0	11.6	ND	**40.0**	ND	14	13	ND	ND	3	3	ND	ND	**31**	**33**		
11	9802-131	101.20.Eff-46	168	2.12	164	30.4	1.9	12.0	ND	**44.3**	ND	15	15	ND	ND	3	3	ND	ND	**34**	**37**		
12	9802-157	101.20.Eff-52	190	2.36	175	31.2	1.4	10.9	ND	**43.5**	ND	15	16	ND	ND	3	3	ND	ND	**34**	**36**		
13	9802-177	101.20.Eff-53	207	2.35																			

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: Charleston CPW **Study#:** 101

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 (mg/L as CaCO3)	Turb. (ntu)
Influent A		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.4		**Scaling Factor:** 13.2														
1	9801-174	101.INF.A-1	1/29/98 17:05	1/29/98 17:05		0.27	4											7	46	42	
2	9802-65	101.Inf.A-2	2/5/98 9:00	2/5/98 9:00		6.94	91											7	45	42	
Influent B		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.4		**Scaling Factor:** 13.2														
1	9801-170	101.INF.B-1	1/29/98 14:40	1/29/98 14:40		0.17	2	3.23	0.067	18.5	6.5	3.90	1.53	2.37	10.0	8.37	28.3				0.10
2	9801-197	101.INF.B-2	1/31/98 12:05	1/31/98 12:05		2.07	27	3.34			6.4										
3	9802-38	101.Inf.B-3	2/3/98 15:20	2/3/98 15:20		5.20	68	3.23			6.4										
4	9802-66	101.Inf.B-4	2/5/98 9:05	2/5/98 9:05		6.94	91	3.30	0.067	16.2	6.4	3.92	1.57	2.35	9.9	8.37	28.1				0.10
5	9802-123	101.INF.B-5	2/10/98 8:00	2/10/98 8:00		11.90	157	3.41		19.3	6.4										
6	9802-170	101.INF.B-6	2/13/98 16:04	2/13/98 16:04		15.23	200	3.49	0.068	19.2	6.4	3.90	1.49	2.41	9.9	8.48	28.0				0.10
PreStudy		**EBCT:**	**Carbon Type:**		**Influent pH:** 0		**Scaling Factor:** 0														
1	9801-165	Settled (on arrival)	1/28/98 11:30					3.34													
2	9801-166	Filtered (on arrival)	1/28/98 1:45					3.22													
3	9801-158	Plant filtered water	1/26/98 8:00	1/26/98 8:00				3.17													
4	9801-159	Plant settled water	1/26/98 8:00	1/26/98 8:00				3.37													

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 1.50 mg/L **pH:** 8.5 **Temperature:** 10.0 ºC **Holding time:** 28.0 hrs

Study Comments

Due to a sampling error, 101.10.Eff-12 and 101.10.Eff-13 were not taken.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #1

Client: Charleston CPW **Study#:** 101

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)											NH3-N (mg/L)	Brom (µg/L)
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9		
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9801-174	101.INF.A-1	4																			ND	ND
2	9802-65	101.Inf.A-2	91																			ND	24
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9801-170	101.INF.B-1	2	3.23	320	62.7	ND	12.2	ND	**74.9**	ND	31	31	ND	ND	3	4	ND	ND	**65**	**69**		
2	9801-197	101.INF.B-2	27	3.34																			
3	9802-38	101.Inf.B-3	68	3.23																			
4	9802-66	101.Inf.B-4	91	3.30	318	64.3	ND	12.8	ND	**77.1**	ND	26	28	ND	ND	3	4	ND	ND	**58**	**62**		
5	9802-123	101.INF.B-5	157	3.41																			
6	9802-170	101.INF.B-6	200	3.49	314	61.9	ND	11.9	ND	**73.8**	ND	26	28	ND	ND	3	4	ND	ND	**57**	**61**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:** 0			**Scaling Factor:** 0														
1	9801-165	Settled (on arrival)		3.34																			
2	9801-166	Filtered (on arrival)		3.22																			
3	9801-158	Plant filtered water		3.17																			
4	9801-159	Plant settled water		3.37																			

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: Charleston CPW **Study#:** 106

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:** 6.4		**Scaling Factor:** 13.2														
1	9805-158	106.10.Eff-1	5/8/98 14:47	5/8/98 19:14		0.14	2	0.10	0.001	20.6	7.3	2.10	1.54	0.56	18.1	8.48	27.8				
2	9805-159	106.10.Eff-2	5/9/98 4:30	5/9/98 9:08		0.71	9	0.16	0.001	20.7	7.8	2.07	1.43	0.64	18.1	8.41	27.8				
3	9805-167	106.10.Eff-3	5/10/98 3:25	5/10/98 8:04		1.67	22	0.71	0.011	20.7	7.3	2.40	1.34	1.06	18.1	8.44	27.8				
4	9805-168	106.10.Eff-4	5/10/98 8:04	5/10/98 12:40		1.86	25	0.85	0.015	21.5	7.3	2.51	1.35	1.16	18.1	8.35	27.8				
4d	9805-169	106.10.Eff-4d	5/10/98 8:04	5/10/98 12:40		1.86	25	0.85	0.015	21.5	7.3	2.52	1.40	1.12	18.1	8.38	27.8				
5	9805-172	106.10.Eff-5	5/10/98 12:40	5/10/98 17:15		2.05	27	0.97	0.017	21.4	7.3	2.60	1.38	1.22	18.1	8.41	27.8				
6	9805-176	106.10.Eff-6	5/10/98 17:15	5/10/98 21:47		2.24	30	1.12	0.020	21.2	7.3	2.69	1.35	1.34	18.1	8.36	27.9				
7	9805-180	106.10.Eff-8	5/11/98 2:27	5/11/98 7:13		2.63	35	1.38	0.025	20.5	7.3	2.85	1.37	1.48	18.1	8.37	28.0				
8	9805-193	106.10.Eff-10	5/11/98 11:53	5/11/98 16:30		3.02	40	1.55	0.029	21.1	7.2	2.96	1.32	1.64	18.1	8.34	27.9				
8d	9805-194	106.10.Eff-10d	5/11/98 11:53	5/11/98 16:30		3.02	40	1.54	0.028	21.1	7.3	2.96	1.31	1.65	18.1	8.34	27.9				
9	9805-202	106.10.Eff-12	5/11/98 21:10	5/12/98 1:50		3.41	45	1.71	0.032	20.7	7.3	3.07	1.35	1.72	18.1	8.36	27.9				
10	9805-214	106.10.Eff-14	5/12/98 6:39	5/12/98 11:14		3.80	50	1.88	0.036	21.1	7.3	3.18	1.34	1.84	18.2	8.43	27.9				
10d	9805-215	106.10.Eff-14d	5/12/98 6:39	5/12/98 11:14		3.80	50	1.90	0.035	21.1	7.3	3.20	1.32	1.88	18.2	8.38	28.0				
11	9805-226	106.10.Eff-16	5/12/98 22:30	5/13/98 1:06		4.42	58	2.09	0.039	20.9	7.3	3.31	1.32	1.99	18.2	8.42	28.0				
12	9805-278	106.10.Eff-20	5/14/98 14:22	5/14/98 18:57		6.12	81	2.40	0.049	22.9	7.0	3.74	1.41	2.33	18.5	8.43	27.9				
13	9805-324	106.10.Eff-21	5/15/98 18:05	5/15/98 22:38		7.28	96	2.49		23.3	7.0										
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous		**Influent pH:** 6.4		**Scaling Factor:** 13.2														
1	9805-160	106.20.Eff-1	5/8/98 14:47	5/8/98 19:02		0.14	2	0.11	0.001	20.3	8.0	1.90	1.37	0.53	18.1	8.43	27.8				
2	9805-217	106.20.Eff-10	5/12/98 9:16	5/12/98 13:28		3.90	51	0.29	0.003	20.6	7.7	2.15	1.40	0.75	18.2	8.44	28.0				
3	9805-232	106.20.Eff-14	5/13/98 14:11	5/13/98 6:29		4.86	64	0.46	0.005	20.3	7.9	2.26	1.45	0.81	18.2	8.48	28.1				
4	9805-261	106.20.Eff-16	5/13/98 19:23	5/13/98 23:41		5.33	70	0.66	0.009	21.4	8.5	2.48	1.50	0.98	18.5	8.48	27.9				
4d	9805-262	106.20.Eff-16d	5/13/98 19:23	5/13/98 23:41		5.33	70	0.65	0.009	21.4	8.5	2.48	1.50	0.98	18.5	8.48	27.9				
5	9805-271	106.20.Eff-19	5/14/98 8:30	5/14/98 12:55		5.88	77	0.91	0.013	20.8	9.3	2.66	1.57	1.09	18.5	8.43	27.9				
6	9805-280	106.20.Eff-22	5/14/98 21:30	5/15/98 1:52		6.42	84	1.09	0.016	21.5	8.3	2.79	1.49	1.30	18.5	8.47	27.9				
7	9805-310	106.20.Eff-24	5/15/98 6:17	5/15/98 10:56		6.79	89	1.17	0.019	20.8	7.5	2.86	1.52	1.34	18.5	8.44	27.9				
7d	9805-311	106.20.Eff-24d	5/15/98 6:17	5/15/98 10:56		6.79	89	1.23	0.019	20.7	7.5	2.89	1.56	1.33	18.5	8.42	27.9				
8	9805-327	106.20.Eff-26	5/15/98 23:59	5/16/98 4:22		7.52	99	1.44	0.023	21.5	7.8	3.02	1.49	1.53	18.5	8.48	27.9				
9	9805-349	106.20.Eff-31	5/17/98 1:38	5/17/98 5:59	0.37	8.21	108	1.64	0.029	20.6	7.1	3.19	1.51	1.68	18.7	8.46	28.1				
10	9805-396	106.20.Eff-35	5/18/98 18:52	5/18/98 23:09	0.37	9.93	131	1.86	0.033	22.6	7.1	3.36	1.51	1.85	18.7	8.50	28.2				
10d	9805-397	106.20.Eff-35d	5/18/98 18:52	5/18/98 23:09	0.37	9.93	131	1.85	0.033	22.6	7.1	3.35	1.51	1.84	18.7	8.45	28.2				
11	9805-427	106.20.Eff-38	5/20/98 10:01	5/20/98 14:25	0.37	11.57	152	2.00	0.039	22.3	7.0	3.46	1.42	2.04	19.4	8.41	28.0				
12	9805-456	106.20.Eff-40	5/23/98 2:44	5/23/98 7:05	0.37	14.26	188	2.27	0.045	20.6	7.1	3.65	1.37	2.28	19.4	8.44	28.0				
13	9805-466	106.20.Eff-41	5/24/98 4:03	5/24/98 8:23	0.37	15.32	202	2.38		20.7	7.1										

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: Charleston CPW **Study#:** 106

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9805-158	106.10.Eff-1	2	0.10	6	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9805-159	106.10.Eff-2	9	0.16	11	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9805-167	106.10.Eff-3	22	0.71	75	9.8	6.7	9.6	ND	**26.1**	ND	3	2	ND	1	2	2	ND	ND	**9**	**11**		
4	9805-168	106.10.Eff-4	25	0.85	84	14.1	7.1	11.8	ND	**33.0**	ND	5	3	ND	1	3	2	ND	ND	**12**	**15**		
4d	9805-169	106.10.Eff-4d	25	0.85	76	14.0	6.8	11.7	ND	**32.5**	ND	5	3	ND	1	3	2	ND	ND	**12**	**14**		
5	9805-172	106.10.Eff-5	27	0.97	122	18.0	6.3	12.6	ND	**36.9**	ND	6	4	ND	1	3	2	ND	ND	**14**	**16**		
6	9805-176	106.10.Eff-6	30	1.12	113	18.9	5.4	11.8	ND	**36.1**	ND	8	9	ND	1	4	4	ND	ND	**22**	**26**		
7	9805-180	106.10.Eff-8	35	1.38	150	25.9	4.8	13.3	ND	**44.0**	ND	10	13	ND	1	4	5	ND	ND	**28**	**33**		
8	9805-193	106.10.Eff-10	40	1.55	157	31.9	4.3	13.6	ND	**49.8**	ND	12	15	ND	1	4	5	ND	ND	**32**	**37**		
8d	9805-194	106.10.Eff-10d	40	1.54	162	32.1	4.4	14.3	ND	**50.8**	ND	13	16	ND	1	4	5	ND	ND	**34**	**39**		
9	9805-202	106.10.Eff-12	45	1.71	183	38.4	4.2	14.8	ND	**57.4**	ND	15	21	ND	1	5	6	ND	ND	**42**	**48**		
10	9805-214	106.10.Eff-14	50	1.88	201	41.0	3.7	14.5	ND	**59.3**	ND	18	22	ND	1	5	5	ND	ND	**46**	**51**		
10d	9805-215	106.10.Eff-14d	50	1.90	199	40.5	3.6	14.3	ND	**58.4**	ND	17	23	ND	1	5	6	ND	ND	**46**	**52**		
11	9805-226	106.10.Eff-16	58	2.09	224	47.6	3.6	15.5	ND	**66.7**	ND	17	20	ND	ND	5	4	ND	ND	**42**	**46**		
12	9805-278	106.10.Eff-20	81	2.40	279	59.0	2.9	15.7	ND	**77.7**	ND	22	28	ND	ND	5	6	ND	ND	**55**	**60**		
13	9805-324	106.10.Eff-21	96	2.49																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9805-160	106.20.Eff-1	2	0.11	2	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9805-217	106.20.Eff-10	51	0.29	11	1.5	2.5	2.1	ND	**6.0**	ND	1	ND	ND	1	ND	0	ND	ND	**3**	**3**		
3	9805-232	106.20.Eff-14	64	0.46	26	3.1	5.0	4.7	1.4	**14.2**	ND	2	ND	ND	2	2	ND	ND	ND	**5**	**5**		
4	9805-261	106.20.Eff-16	70	0.66	44	6.6	6.6	7.9	1.3	**22.3**	ND	4	2	ND	2	3	2	ND	ND	**11**	**13**		
4d	9805-262	106.20.Eff-16d	70	0.65	39	6.9	6.8	8.0	1.3	**23.0**	ND	4	2	ND	2	3	1	ND	ND	**10**	**12**		
5	9805-271	106.20.Eff-19	77	0.91	66	11.4	7.0	10.4	ND	**28.8**	ND	5	4	ND	1	3	2	ND	ND	**13**	**15**		
6	9805-280	106.20.Eff-22	84	1.09	86	17.0	6.5	12.0	ND	**35.5**	ND	7	8	ND	1	4	3	ND	ND	**21**	**24**		
7	9805-310	106.20.Eff-24	89	1.17	95	20.4	6.0	12.8	ND	**39.2**	ND	8	10	ND	2	4	4	ND	ND	**24**	**28**		
7d	9805-311	106.20.Eff-24d	89	1.23	104	19.6	5.7	12.5	ND	**37.8**	ND	11	13	ND	1	4	4	ND	ND	**29**	**33**		
8	9805-327	106.20.Eff-26	99	1.44	133	26.7	5.0	13.2	ND	**44.9**	ND	8	6	ND	1	3	3	ND	ND	**18**	**21**		
9	9805-349	106.20.Eff-31	108	1.64	175	37.3	4.5	14.1	ND	**56.0**	ND	15	12	ND	ND	4	3	ND	ND	**31**	**35**		
10	9805-396	106.20.Eff-35	131	1.86	194	45.0	3.8	15.0	ND	**63.8**	ND	15	15	ND	ND	4	4	ND	ND	**34**	**38**		
10d	9805-397	106.20.Eff-35d	131	1.85	198	45.8	3.8	15.2	ND	**64.8**	ND	15	15	ND	ND	4	3	ND	ND	**34**	**37**		
11	9805-427	106.20.Eff-38	152	2.00	226	54.2	3.4	15.7	ND	**73.4**	ND	20	20	ND	ND	5	4	ND	ND	**44**	**49**		
12	9805-456	106.20.Eff-40	188	2.27	262	70.8	3.3	18.0	ND	**92.1**	ND	22	22	ND	ND	5	4	ND	ND	**49**	**54**		
13	9805-466	106.20.Eff-41	202	2.38																			

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: Charleston CPW **Study#:** 106

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 (mg/L as CaCO3)	Turb. (ntu)
Influent A	**EBCT:**	**Carbon Type:**		**Influent pH:** 6.4	**Scaling Factor:** 13.2																
1	9805-147	106.INF.A-1	5/8/98 15:25	5/8/98 15:25		0.07	1											10	45	40	
2	9805-272	106.INF.A-2	5/14/98 14:35	5/14/98 14:35		6.04	79											11	45	40	
Influent B	**EBCT:**	**Carbon Type:**		**Influent pH:** 6.4	**Scaling Factor:** 13.2																
1	9805-148	106.INF.B-1	5/8/98 15:30	5/8/98 15:30		0.08	1	3.18	0.073	19.4	6.4	4.74	1.52	3.22	18.1	8.50	27.9				0.10
2	9805-213	106.INF.B-2	5/12/98 11:35	5/12/98 11:35		3.91	51	3.13		16.6	6.4										
3	9805-273	106.INF.B-3	5/14/98 14:35	5/14/98 14:35		6.04	79	3.16	0.075	15.3	6.4	4.70	1.44	3.26	18.5	8.40	27.9				0.10
4	9805-404	106.INF.B-4	5/19/98 9:05	5/19/98 9:05		10.81	142	3.31		18.5	6.5										
5	9805-462	106.INF.B-5	5/23/98 12:30	5/23/98 12:30		14.95	197	3.12	0.071	19.0	6.4	4.70	1.41	3.29	19.4	8.46	28.0				0.20
PreStudy	**EBCT:**	**Carbon Type:**		**Influent pH:** 0	**Scaling Factor:** 0																
1	9805-71	Cartridge filtered water	5/3/98 12:00					3.25													
2	9804-484	Plant raw water	4/28/98 0:00					10.38													
3	9804-485	Plant settled water	4/28/98 0:00					3.37													
4	9804-486	Plant filtered water	4/28/98 0:00					3.21													
5	9804-531	Settled (on arrival)	4/30/98 14:50					3.46													
6	9805-149	106.INST.DBPs	5/8/98 16:40																		

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 1.50 mg/L **pH:** 8.5 **Temperature:** 20.0 ºC **Holding time:** 28.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #2

Client: Charleston CPW **Study#:** 106

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)											NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9805-147	106.INF.A-1	1																			ND	26
2	9805-272	106.INF.A-2	79																			ND	30
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.4			**Scaling Factor:** 13.2														
1	9805-148	106.INF.B-1	1	3.18	422	92.3	2.0	18.0	ND	**112.3**	ND	28	23	ND	ND	3	3	ND	ND	**54**	**57**		
2	9805-213	106.INF.B-2	51	3.13																			
3	9805-273	106.INF.B-3	79	3.16	415	95.4	2.0	16.6	ND	**114.0**	ND	33	40	ND	ND	5	6	ND	ND	**78**	**84**		
4	9805-404	106.INF.B-4	142	3.31																			
5	9805-462	106.INF.B-5	197	3.12	414	94.8	2.0	18.3	ND	**115.1**	ND	35	34	ND	ND	4	4	ND	ND	**73**	**78**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:** 0			**Scaling Factor:** 0														
1	9805-71	Cartridge filtered water		3.25																			
2	9804-484	Plant raw water		10.38																			
3	9804-485	Plant settled water		3.37																			
4	9804-486	Plant filtered water		3.21																			
5	9804-531	Settled (on arrival)		3.46																			
6	9805-149	106.INST.DBPs				2.2	ND	ND	ND	**2.2**	ND	ND	1	ND	ND	ND	ND	ND	ND	**1**	**1**		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3

Client: Charleston CPW **Study#:** 127

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:** 6.3		**Scaling Factor:** 13.2														
1	9807-473	127.10.Eff-1	7/27/98 14:39	7/27/98 21:51		0.20	3	0.08	0.000	22.9	7.5	2.00	1.45	0.55	28.8	8.51	27.6				
2	9807-477	127.10.Eff-5	7/29/98 12:06	7/29/98 19:36		2.10	28	0.20	0.003	23.2	7.1	2.08	1.19	0.89	28.8	8.57	27.3				
3	9807-479	127.10.Eff-7	7/30/98 10:45	7/30/98 18:15		3.04	40	0.30	0.004	22.6	7.0	2.58	1.37	1.21	28.1	8.39	28.2				
3d	9807-504	127.10.Eff-7d	7/30/98 10:45	7/30/98 18:15		3.04	40	0.33	0.004	22.6	6.9	2.58	1.55	1.03	28.1	8.45	28.2				
4	9807-481	127.10.Eff-9	7/31/98 1:45	7/31/98 9:15		3.67	48	0.48	0.006	22.3	7.0	2.91	1.74	1.17	28.1	8.46	28.2				
5	9807-482	127.10.Eff-10	7/31/98 9:15	7/31/98 16:47		3.98	52	0.72	0.010	22.4	7.0	3.38	2.01	1.37	28.1	8.49	28.2				
6	9807-483	127.10.Eff-11	7/31/98 16:47	8/1/98 0:07		4.29	56	0.81	0.011	22.7	7.0	3.54	2.08	1.46	28.1	8.48	28.3				
7	9807-485	127.10.Eff-13	8/1/98 7:32	8/1/98 14:56		4.91	65	0.88	0.013	23.1	7.0	3.67	2.11	1.56	28.1	8.45	28.3				
8	9807-486	127.10.Eff-14	8/1/98 14:56	8/1/98 22:18		5.21	69	0.97	0.014	22.9	7.0	3.84	2.17	1.67	28.1	8.44	28.3				
8d	9807-506	127.10.Eff-14d	8/1/98 14:56	8/1/98 22:18		5.21	69	0.97	0.014	22.9	7.0	3.84	2.15	1.69	28.1	8.46	28.3				
9	9807-488	127.10.Eff-16	8/2/98 5:43	8/2/98 13:09		5.83	77	1.11	0.017	23.2	7.1	4.11	2.29	1.82	28.1	8.46	28.4				
10	9807-490	127.10.Eff-18	8/2/98 20:53	8/3/98 3:57		6.45	85	1.23	0.019	22.8	7.0	4.34	2.35	1.99	28.1	8.49	28.4				
11	9807-493	127.10.Eff-21	8/3/98 18:51	8/4/98 2:18		7.38	97	1.33	0.021	22.6	7.0	3.60	1.72	1.88	29.8	8.43	27.8				
11d	9807-510	127.10.Eff-21d	8/3/98 18:51	8/4/98 2:18		7.38	97	1.34	0.021	22.6	7.0	3.60	1.72	1.88	29.8	8.46	27.8				
12	9807-497	127.10.Eff-25	8/6/98 6:42	8/6/98 14:12		9.87	130	1.54	0.025	22.8	6.8	3.83	1.77	2.06	29.8	8.41	27.8				
13	9807-498	127.10.Eff-26	8/7/98 12:33	8/7/98 19:53		11.11	146	1.57	0.027	23.5	6.8										
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9807-513	127.20.Eff-1	7/27/98 15:11	7/27/98 22:28		0.21	3	0.08	0.000	22.3	8.0	2.00	1.49	0.51	28.8	8.51	27.6				
2	9807-527	127.20.Eff-15	8/4/98 0:40	8/4/98 8:06		7.61	100	0.21	0.002	22.0	7.1	2.33	1.57	0.76	29.8	8.48	28.0				
3	9807-530	127.20.Eff-18	8/5/98 13:51	8/5/98 21:07		9.15	120	0.33	0.003	23.0	7.1	2.48	1.48	1.00	29.8	8.46	28.0				
3d	9807-545	127.20.Eff-18d	8/5/98 13:51	8/5/98 21:07		9.15	120	0.34	0.002	23.0	7.0	2.48	1.55	0.93	29.8	8.45	28.1				
4	9807-532	127.20.Eff-20	8/6/98 12:03	8/6/98 19:25		10.08	133	0.49	0.005	22.8	7.3	2.64	1.59	1.05	29.8	8.47	28.1				
5	9807-534	127.20.Eff-22	8/7/98 2:50	8/7/98 10:30		10.70	141	0.59	0.005	22.3	6.9	2.76	1.70	1.06	29.8	8.45	28.1				
6	9807-536	127.20.Eff-24	8/8/98 1:23	8/8/98 9:01		11.64	153	0.71	0.007	22.2	7.1	2.84	1.55	1.29	30.1	8.49	28.2				
7	9807-537	127.20.Eff-25	8/8/98 16:26	8/8/98 23:45		12.26	161	0.85	0.010	23.8	6.9	2.99	1.54	1.45	30.1	8.46	28.3				
7d	9807-547	127.20.Eff-25d	8/8/98 16:26	8/8/98 23:45		12.26	161	0.86	0.009	23.8	7.0	2.99	1.51	1.48	30.1	8.46	28.3				
8	9807-540	127.20.Eff-28	8/10/98 6:17	8/10/98 13:52		13.84	182	1.00	0.012	22.7	6.8	3.13	1.58	1.55	30.1	8.45	28.3				
9	9807-541	127.20.Eff-29	8/11/98 20:16	8/12/98 4:01		15.43	203	1.10	0.015	21.9	6.8	3.22	1.64	1.58	30.3	8.51	27.8				
10	9808-249	127.20.Eff-33	8/15/98 0:50	8/15/98 8:14		18.61	245	1.38	0.021	22.0	6.8	3.50	1.63	1.87	30.2	8.49	27.9				
10d	9807-550	127.20.Eff-33d	8/15/98 0:50	8/15/98 8:14		18.61	245	1.40	0.021	22.1	6.8	3.50	1.69	1.81	30.2	8.52	27.9				
11	9808-250	127.20.Eff-34	8/15/98 23:04	8/16/98 6:40		19.54	257	1.61	0.027	22.1	7.0	3.71	1.69	2.02	30.2	8.52	28.0				
12	9808-252	127.20.Eff-36	8/17/98 12:34	8/17/98 20:07		21.10	278	1.61	0.026	23.3	6.9	3.72	1.63	2.09	30.2	8.52	28.0				

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3

Client: Charleston CPW **Study#:** 127

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9807-473	127.10.Eff-1	3	0.08	5	ND	2.5	1.6	1.7	**5.8**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9807-477	127.10.Eff-5	28	0.20	19	ND	5.3	2.5	4.9	**12.6**	ND	ND	ND	ND	2	1	ND	ND	ND	**3**	**3**		
3	9807-479	127.10.Eff-7	40	0.30	29	1.5	8.3	4.6	5.0	**19.5**	ND	1	ND	ND	2	2	ND	ND	ND	**5**	**5**		
3d	9807-504	127.10.Eff-7d	40	0.33	25	1.6	8.0	4.4	5.4	**19.4**	ND	1	ND	ND	2	1	ND	ND	ND	**5**	**5**		
4	9807-481	127.10.Eff-9	48	0.48	43	2.8	13.1	8.0	6.6	**30.4**	ND	2	ND	ND	4	2	1	ND	ND	**8**	**9**		
5	9807-482	127.10.Eff-10	52	0.72	65	5.9	20.9	14.5	8.1	**49.5**	ND	3	1	ND	5	4	2	ND	ND	**13**	**15**		
6	9807-483	127.10.Eff-11	56	0.81	75	8.0	21.5	16.9	7.8	**54.2**	ND	4	2	ND	5	4	2	ND	ND	**15**	**17**		
7	9807-485	127.10.Eff-13	65	0.88	82	10.0	23.2	18.8	7.4	**59.4**	ND	4	2	ND	5	5	3	3	ND	**16**	**22**		
8	9807-486	127.10.Eff-14	69	0.97	100	12.5	24.4	21.0	6.9	**64.8**	ND	5	3	ND	7	6	5	4	ND	**21**	**30**		
8d	9807-506	127.10.Eff-14d	69	0.97	101	12.5	23.3	21.0	6.9	**63.7**	ND	5	2	ND	4	5	3	2	ND	**17**	**22**		
9	9807-488	127.10.Eff-16	77	1.11	118	16.6	25.5	24.6	6.4	**73.1**	ND	6	3	ND	6	7	4	3	ND	**22**	**29**		
10	9807-490	127.10.Eff-18	85	1.23	137	21.1	24.7	26.5	5.5	**77.9**	ND	8	4	ND	5	7	4	3	ND	**23**	**30**		
11	9807-493	127.10.Eff-21	97	1.33	140	23.5	28.5	30.9	6.3	**89.2**	ND	7	3	ND	6	6	3	2	ND	**23**	**28**		
11d	9807-510	127.10.Eff-21d	97	1.34	139	23.3	27.7	29.7	6.1	**86.8**	ND	7	4	ND	4	7	4	3	ND	**22**	**29**		
12	9807-497	127.10.Eff-25	130	1.54	167	31.6	26.7	32.8	5.0	**96.1**	ND	10	6	ND	5	8	5	3	ND	**28**	**37**		
13	9807-498	127.10.Eff-26	146	1.57																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9807-513	127.20.Eff-1	3	0.08	6	ND	1.8	1.3	1.3	**4.4**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9807-527	127.20.Eff-15	100	0.21	10	ND	3.9	1.9	3.2	**8.9**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9807-530	127.20.Eff-18	120	0.33	23	1.3	8.0	4.2	5.6	**19.1**	ND	1	ND	ND	2	1	ND	ND	ND	**5**	**5**		
3d	9807-545	127.20.Eff-18d	120	0.34	20	1.3	7.9	3.9	5.7	**18.8**	ND	1	ND	ND	2	1	ND	ND	ND	**4**	**4**		
4	9807-532	127.20.Eff-20	133	0.49	34	2.3	12.6	7.2	7.3	**29.3**	ND	2	ND	ND	2	2	1	ND	ND	**6**	**7**		
5	9807-534	127.20.Eff-22	141	0.59	45	3.0	14.9	9.0	7.6	**34.5**	ND	2	ND	ND	3	2	ND	ND	ND	**7**	**7**		
6	9807-536	127.20.Eff-24	153	0.71	61	5.3	21.3	14.4	10.4	**51.4**	ND	2	ND	ND	4	3	1	ND	ND	**9**	**11**		
7	9807-537	127.20.Eff-25	161	0.85	76	8.6	23.9	18.8	9.1	**60.5**	ND	3	1	ND	5	5	2	ND	ND	**15**	**17**		
7d	9807-547	127.20.Eff-25d	161	0.86	76	8.1	24.4	18.1	9.0	**59.6**	ND	3	1	ND	5	4	2	ND	ND	**13**	**15**		
8	9807-540	127.20.Eff-28	182	1.00	101	12.2	25.3	22.3	8.3	**68.1**	ND	4	2	ND	5	5	2	ND	ND	**17**	**19**		
9	9807-541	127.20.Eff-29	203	1.10	110	16.3	28.1	26.3	7.9	**78.6**	ND	5	2	ND	5	6	3	2	ND	**18**	**23**		
10	9808-249	127.20.Eff-33	245	1.38	139	24.8	27.3	29.6	5.9	**87.6**	ND	7	4	ND	5	7	3	2	ND	**23**	**28**		
10d	9807-550	127.20.Eff-33d	245	1.40	142	26.4	28.3	31.1	6.0	**91.9**	ND	7	3	ND	5	6	3	2	ND	**20**	**25**		
11	9808-250	127.20.Eff-34	257	1.61	174	33.9	28.2	34.0	5.4	**101.5**	ND	9	5	ND	6	8	4	2	ND	**28**	**34**		
12	9808-252	127.20.Eff-36	278	1.61	171	35.4	27.9	34.3	5.2	**102.9**	ND	10	5	ND	6	9	4	3	ND	**31**	**38**		

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: Charleston CPW **Study#:** 127

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 (mg/L as CaCO3)	Turb. (ntu)
Influent A		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9807-553	127.Inf.A-1	7/27/98 15:05	7/27/98 15:05		0.07	1											8	31	21	
2	9807-554	127.Inf.A-2	8/7/98 9:50	8/7/98 9:50		10.85	143											6	33	23	
Influent B		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9807-555	127.Inf.B-1	7/27/98 15:10	7/27/98 15:10		0.07	1	2.11	0.046	20.2	6.4	4.80	1.55	3.25	28.8	8.49	27.3				0.15
2	9807-556	127.Inf.B-2	7/31/98 8:30	7/31/98 8:30		3.79	50	2.21		18.0	6.1										
3	9807-557	127.Inf.B-3	8/5/98 11:20	8/5/98 11:20		8.91	117	2.16		18.1	6.2										
4	9807-558	127.Inf.B-4	8/7/98 9:45	8/7/98 9:45		10.84	143	2.11	0.044	18.4	6.2	4.75	1.71	3.04	29.8	8.44	28.1				0.30
5	9807-559	127.Inf.B-5	8/9/98 12:00	8/9/98 12:00		12.94	170	2.03		20.0	6.3										
6	9807-560	127.Inf.B-6	8/17/98 16:15	8/17/98 16:15		21.11	278	2.17	0.048	19.7	6.3	4.50	1.52	2.98	30.2	8.51	28.1				0.25
PreStudy		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9807-569	Instantaneous DBP's	7/28/98 16:00																		

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 1.50 mg/L **pH:** 8.5 **Temperature:** 30.0 ºC **Holding time:** 28.0 hrs

Study Comments

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #3

Client: Charleston CPW **Study#:** 127

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)											NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9807-553	127.Inf.A-1	1																			ND	95
2	9807-554	127.Inf.A-2	143																			ND	96
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9807-555	127.Inf.B-1	1	2.11	298	71.4	21.4	39.8	2.5	**135.0**	ND	23	15	ND	4	11	7	3	ND	**53**	**63**		
2	9807-556	127.Inf.B-2	50	2.21																			
3	9807-557	127.Inf.B-3	117	2.16																			
4	9807-558	127.Inf.B-4	143	2.11	280	69.7	23.4	42.1	2.2	**137.4**	ND	17	11	ND	4	9	6	2	ND	**41**	**49**		
5	9807-559	127.Inf.B-5	170	2.03																			
6	9807-560	127.Inf.B-6	278	2.17	274	78.5	23.2	43.4	2.4	**147.5**	ND	17	9	ND	4	9	5	2	ND	**39**	**46**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9807-569	Instantaneous DBP's				ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: Charleston CPW **Study#:** 172

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:** 6.3		**Scaling Factor:** 13.2														
1	9810-312	172.10.Eff-1	10/16/98 16:21	10/16/98 22:21		0.18	2	0.06	0.001	21.6	7.4	2.03	1.68	0.35	19.8	8.54	27.9				
2	9810-315	172.10.Eff-4	10/18/98 17:17	10/18/98 23:17		2.22	29	0.27	0.003	21.8	7.2	1.88	1.37	0.51	19.9	8.52	28.1				
3	9810-317	172.10.Eff-6	10/19/98 5:24	10/19/98 11:35		2.73	36	0.46	0.006	20.9	7.0	2.05	1.36	0.69	19.9	8.51	28.2				
4	9810-318	172.10.Eff-7	10/19/98 11:35	10/19/98 17:41		2.98	39	0.61	0.008	21.2	7.1	2.16	1.37	0.79	19.9	8.51	28.2				
4d	9810-342	172.10.Eff-7d	10/19/98 11:35	10/19/98 17:41		2.98	39	0.60	0.008	21.2	7.1	2.16	1.41	0.75	19.9	8.54	28.3				
5	9810-320	172.10.Eff-9	10/19/98 20:27	10/20/98 2:28		3.35	44	0.78	0.011	20.6	7.1	2.29	1.41	0.88	19.9	8.53	28.3				
6	9810-322	172.10.Eff-11	10/20/98 5:18	10/20/98 11:24		3.72	49	0.94	0.014	20.4	7.0	2.43	1.35	1.08	19.9	8.52	28.4				
7	9810-323	172.10.Eff-12	10/20/98 11:24	10/20/98 17:32		3.98	52	1.08	0.016	21.3	7.1	2.54	1.37	1.17	19.8	8.50	25.0				
8	9810-326	172.10.Eff-15	10/21/98 6:11	10/21/98 12:35		4.77	63	1.42	0.020	20.9	7.0	2.69	1.48	1.21	19.8	8.47	25.0				
8d	9810-344	172.10.Eff-15d	10/21/98 6:11	10/21/98 12:35		4.77	63	1.23	0.020	21.0	7.0	2.69	1.40	1.29	19.8	8.49	25.1				
9	9810-328	172.10.Eff-17	10/22/98 7:06	10/22/98 13:27		5.80	76	1.46	0.024	19.3	6.6	2.95	1.53	1.42	19.8	8.46	28.2				
10	9810-329	172.10.Eff-18	10/22/98 19:32	10/23/98 1:31		6.31	83	1.60	0.026	19.8	6.8	3.07	1.52	1.55	19.8	8.50	28.2				
11	9810-330	172.10.Eff-19	10/23/98 7:53	10/23/98 13:57		6.83	90	1.73	0.029	19.5	6.6	3.19	1.48	1.71	19.8	8.46	28.2				
11d	9810-345	172.10.Eff-19d	10/23/98 7:53	10/23/98 13:57		6.83	90	1.75	0.030	19.6	6.7	3.19	1.45	1.74	19.8	8.50	28.2				
12	9810-335	172.10.Eff-24	10/25/98 21:28	10/26/98 3:26		9.39	124	1.98	0.037	20.0	6.6	3.39	1.55	1.84	19.8	8.45	28.1				
13	9810-336	172.10.Eff-25	10/27/98 3:25	10/27/98 9:43		10.65	140	2.05	0.038	20.4	6.7										
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9810-352	172.20.Eff-1	10/16/98 16:21	10/16/98 22:15		0.18	2	0.06	0.001	21.6	8.3	1.75	1.55	0.20	19.8	8.61	28.0				
2	9810-356	172.20.Eff-5	10/22/98 5:11	10/22/98 11:28		5.72	75	0.21	0.002	18.7	6.8	1.93	1.48	0.45	19.8	8.53	28.2				
3	9810-358	172.20.Eff-7	10/23/98 11:03	10/23/98 16:48		6.96	92	0.38	0.004	21.0	6.8	2.08	1.47	0.61	19.8	8.52	28.3				
3d	9810-382	172.20.Eff-7d	10/23/98 11:03	10/23/98 16:48		6.96	92	0.38	0.004	21.0	6.9	2.08	1.49	0.59	19.8	8.51	28.3				
4	9810-361	172.20.Eff-10	10/24/98 4:45	10/24/98 10:53		7.70	101	0.53	0.006	18.8	6.9	2.20	1.48	0.72	19.8	8.50	28.3				
5	9810-363	172.20.Eff-12	10/24/98 22:36	10/25/98 4:43		8.44	111	0.71	0.008	19.4	6.8	2.35	1.51	0.84	19.8	8.51	28.3				
6	9810-365	172.20.Eff-14	10/25/98 16:21	10/25/98 22:11		9.18	121	0.93	0.012	20.4	6.8	2.53	1.51	1.02	19.8	8.51	28.1				
7	9810-368	172.20.Eff-17	10/26/98 10:10	10/26/98 16:05		9.92	131	1.08	0.013	20.3	6.7	2.66	1.58	1.08	19.8	8.50	28.1				
7d	9810-384	172.20.Eff-17d	10/26/98 10:10	10/26/98 16:05		9.92	131	1.09	0.014	20.4	6.7	2.66	1.54	1.12	19.8	8.50	28.1				
8	9810-370	172.20.Eff-19	10/27/98 16:00	10/27/98 21:54		11.16	147	1.27	0.017	22.3	6.8	2.81	1.55	1.26	19.8	8.52	28.1				
9	9810-372	172.20.Eff-21	10/28/98 16:03	10/28/98 22:04		12.17	160	1.42	0.020	21.8	6.8	2.91	1.58	1.33	19.9	8.53	27.8				
10	9810-377	172.20.Eff-26	10/30/98 10:28	10/30/98 16:22		13.93	183	1.61	0.025	22.3	6.8	3.08	1.62	1.46	19.9	8.52	27.8				
10d	9810-386	172.20.Eff-26d	10/30/98 10:28	10/30/98 16:22		13.93	183	1.64	0.025	22.3	6.7	3.08	1.58	1.50	19.9	8.54	27.9				
11	9810-381	172.20.Eff-30	11/1/98 10:27	11/1/98 16:14		15.93	210	1.77	0.028	21.6	6.8	3.18	1.49	1.69	20.0	8.51	28.2				
12	9811-14	172.20.Eff-33	11/5/98 10:31	11/5/98 16:30		19.94	262	1.96	0.035	21.3	6.7										
13	9811-15	172.20.Eff-34	11/6/98 14:30	11/6/98 17:32		21.04	277	2.05	0.036	21.7	6.8	3.39	1.51	1.88	19.7	8.50	28.0				

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: Charleston CPW **Study#:** 172

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)										NH3-N	Brom
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9	(mg/L)	(µg/L)
Effluent C		**EBCT:** 10 min	**Carbon Type:** Bituminous			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9810-312	172.10.Eff-1	2	0.06	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9810-315	172.10.Eff-4	29	0.27	14	ND	4.6	1.4	6.1	**12.2**	ND	ND	ND	ND	1	ND	ND	ND	ND	**1**	**1**		
3	9810-317	172.10.Eff-6	36	0.46	31	1.0	9.7	3.5	9.7	**23.9**	ND	ND	ND	ND	3	2	ND	ND	ND	**5**	**5**		
4	9810-318	172.10.Eff-7	39	0.61	44	1.4	13.3	5.1	12.1	**31.9**	ND	ND	ND	ND	4	2	ND	ND	ND	**6**	**6**		
4d	9810-342	172.10.Eff-7d	39	0.60	44	1.6	14.8	5.8	13.0	**35.2**	ND	ND	ND	ND	4	2	ND	ND	ND	**6**	**6**		
5	9810-320	172.10.Eff-9	44	0.78	58	2.4	18.5	7.9	14.7	**43.5**	ND	1	ND	ND	4	3	1	ND	ND	**8**	**9**		
6	9810-322	172.10.Eff-11	49	0.94	78	3.7	23.3	11.8	15.2	**54.0**	ND	2	ND	ND	5	3	1	ND	ND	**10**	**11**		
7	9810-323	172.10.Eff-12	52	1.08	85	5.0	26.8	14.7	15.8	**62.3**	ND	2	ND	ND	6	4	2	2	ND	**12**	**15**		
8	9810-326	172.10.Eff-15	63	1.42	105	7.8	30.3	19.5	14.2	**71.8**	ND	3	1	ND	6	5	2	2	ND	**15**	**20**		
8d	9810-344	172.10.Eff-15d	63	1.23	103	7.3	28.6	18.1	13.6	**67.6**	ND	3	1	ND	6	5	2	2	ND	**16**	**20**		
9	9810-328	172.10.Eff-17	76	1.46	137	11.7	32.8	24.0	11.8	**80.3**	ND	3	1	ND	5	5	2	ND	ND	**15**	**17**		
10	9810-329	172.10.Eff-18	83	1.60	141	14.9	33.0	26.8	11.7	**86.5**	ND	4	2	ND	6	6	2	2	ND	**18**	**23**		
11	9810-330	172.10.Eff-19	90	1.73	159	18.7	33.0	29.2	10.2	**91.1**	ND	5	2	ND	5	7	3	2	ND	**20**	**25**		
11d	9810-345	172.10.Eff-19d	90	1.75	164	17.4	32.4	27.6	10.0	**87.3**	ND	5	2	ND	5	6	3	2	ND	**19**	**23**		
12	9810-335	172.10.Eff-24	124	1.98	186	25.8	32.2	32.7	7.5	**98.3**	ND	9	5	ND	7	9	6	3	ND	**30**	**39**		
13	9810-336	172.10.Eff-25	140	2.05																			
Effluent C		**EBCT:** 20 min	**Carbon Type:** Bituminous			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9810-352	172.20.Eff-1	2	0.06	ND	ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
2	9810-356	172.20.Eff-5	75	0.21	10	ND	2.2	ND	2.4	**4.6**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		
3	9810-358	172.20.Eff-7	92	0.38	22	ND	6.6	2.0	7.5	**16.2**	ND	ND	ND	ND	2	ND	ND	ND	ND	**2**	**2**		
3d	9810-382	172.20.Eff-7d	92	0.38	22	ND	7.3	2.2	8.1	**17.5**	ND	ND	ND	ND	2	ND	ND	ND	ND	**2**	**2**		
4	9810-361	172.20.Eff-10	101	0.53	30	ND	11.0	3.8	10.5	**25.3**	ND	ND	ND	ND	2	1	ND	ND	ND	**4**	**4**		
5	9810-363	172.20.Eff-12	111	0.71	46	1.8	16.4	6.4	13.0	**37.7**	ND	ND	ND	ND	3	2	ND	ND	ND	**5**	**5**		
6	9810-365	172.20.Eff-14	121	0.93	66	2.8	21.4	9.7	15.2	**49.1**	ND	2	ND	ND	7	5	2	2	ND	**14**	**18**		
7	9810-368	172.20.Eff-17	131	1.08	75	4.1	24.9	12.9	15.1	**57.0**	ND	2	ND	ND	7	5	2	2	ND	**14**	**18**		
7d	9810-384	172.20.Eff-17d	131	1.09	77	4.4	26.6	13.2	16.8	**61.0**	ND	2	ND	ND	7	4	2	2	ND	**13**	**17**		
8	9810-370	172.20.Eff-19	147	1.27	93	6.4	25.2	16.0	13.3	**60.9**	ND	3	ND	ND	7	5	2	2	ND	**15**	**19**		
9	9810-372	172.20.Eff-21	160	1.42	113	6.9	25.1	16.9	12.1	**61.0**	ND	3	1	ND	7	5	3	2	ND	**16**	**22**		
10	9810-377	172.20.Eff-26	183	1.61	136	11.0	29.0	22.3	11.3	**73.6**	ND	4	2	ND	7	7	3	3	ND	**20**	**26**		
10d	9810-386	172.20.Eff-26d	183	1.64	135	10.7	26.9	21.2	10.5	**69.3**	ND	5	2	ND	8	8	4	3	ND	**23**	**30**		
11	9810-381	172.20.Eff-30	210	1.77	152	15.5	31.8	27.2	9.8	**84.3**	ND	6	3	ND	8	8	4	3	ND	**26**	**33**		
12	9811-14	172.20.Eff-33	262	1.96																			
13	9811-15	172.20.Eff-34	277	2.05	191	22.9	29.1	29.4	7.0	**88.4**	ND	8	5	ND	7	9	6	3	ND	**30**	**39**		

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: Charleston CPW **Study#:** 172

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 (mg/L as CaCO3)	Turb. (ntu)
Influent A		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9810-392	172.Inf.A-1	10/16/98 16:45	10/16/98 16:45		0.07	1											12	29	20	
2	9810-393	172.Inf.A-2	10/27/98 8:15	10/27/98 8:15		10.72	141											5	29	20	
Influent B		**EBCT:**	**Carbon Type:**		**Influent pH:** 6.3		**Scaling Factor:** 13.2														
1	9810-394	172.Inf.B-1	10/16/98 16:45	10/16/98 16:45		0.07	1	2.73	0.060	18.1	6.6	4.50	1.57	2.93	19.8	8.42	28.0				0.15
2	9810-395	172.Inf.B-2	10/21/98 9:20	10/21/98 9:20		4.76	63	2.68		17.1	6.6										
3	9810-396	172.Inf.B-3	10/23/98 9:45	10/23/98 9:45		6.78	89	2.76		15.1	6.4										
4	9810-397	172.Inf.B-4	10/27/98 8:20	10/27/98 8:20		10.72	141	2.69	0.060	15.8	6.4	4.40	1.57	2.83	19.8	8.45	28.1				0.25
5	9810-398	172.Inf.B-5	10/30/98 9:55	10/30/98 9:55		13.79	181	2.71		18.8	6.2										
6	9810-399	172.Inf.B-6	11/6/98 9:35	11/6/98 9:35		20.77	273	2.25	0.060	18.8	6.2	4.00	1.24	2.76	20.0	8.36	28.3				0.20
PreStudy		**EBCT:**	**Carbon Type:**		**Influent pH:** 0		**Scaling Factor:** 0														
1	9810-262	Filtered.CCPW	10/12/98 9:30					2.56													
2	9810-263	Raw.CCPW	10/12/98 9:30					6.42													
3	9810-264	Settled Drum.CCPW	10/12/98 9:30					2.88													
4	9810-309	CCPW.Settled on	10/16/98 0:00					2.75													
5	9810-310	ccpw.filtered s&h	10/16/98 0:00					2.62													
6	9810-400	CCPW Instant DBPs	10/16/98 14:30	10/16/98 14:30																	

***Target SDS Chlorination Conditions**

Free Cl2 Residual: 1.50 mg/L **pH:** 8.5 **Temperature:** 20.0 ºC **Holding time:** 28.0 hrs

Study Comments

Residuals for 3 samples, 9810-323, -326, and -344, were inadvertantly taken at 25 hours instead of at the SDS residence time of 28 hours.

Summers & Hooper, Inc.

RSSCT Sampling Summary Report

Study title: ICR RSSCT #4

Client: Charleston CPW **Study#:** 172

#	SamplesID	ClientSampleID	F-S L (days)	TOC (mg/L)	TOX (µg Cl-/L)	Trihalomethanes (µg/L)					Haloacetic Acids (µg/L)											NH3-N (mg/L)	Brom (µg/L)
						CF	BDCM	DBCM	BF	TTHM	MCAA	DCAA	TCAA	MBAA	DBAA	BCAA	BDCAA	DBCAA	TBAA	HAA6	HAA9		
Influent A		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9810-392	172.Inf.A-1	1																			ND	140
2	9810-393	172.Inf.A-2	141																			ND	140
Influent B		**EBCT:**	**Carbon Type:**			**Influent pH:** 6.3			**Scaling Factor:** 13.2														
1	9810-394	172.Inf.B-1	1	2.73	304	53.5	25.8	40.3	2.7	**122.4**	ND	15	9	ND	4	10	6	2	ND	**38**	**47**		
2	9810-395	172.Inf.B-2	63	2.68																			
3	9810-396	172.Inf.B-3	89	2.76																			
4	9810-397	172.Inf.B-4	141	2.69	311	60.9	30.2	44.3	3.8	**139.2**	ND	19	17	ND	6	14	11	3	ND	**56**	**69**		
5	9810-398	172.Inf.B-5	181	2.71																			
6	9810-399	172.Inf.B-6	273	2.25	301	51.5	26.2	40.1	3.4	**121.2**	ND	18	14	ND	7	13	10	4	ND	**52**	**66**		
PreStudy		**EBCT:**	**Carbon Type:**			**Influent pH:** 0			**Scaling Factor:** 0														
1	9810-262	Filtered.CCPW		2.56																			
2	9810-263	Raw.CCPW		6.42																			
3	9810-264	Settled Drum.CCPW		2.88																			
4	9810-309	CCPW.Settled on Arrival		2.75																			
5	9810-310	ccpw.filtered s&h		2.62																			
6	9810-400	CCPW Instant DBPs				ND	ND	ND	ND	**ND**	ND	ND	ND	ND	ND	ND	ND	ND	ND	**ND**	**ND**		

Summers & Hooper, Inc.
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Laboratory Report

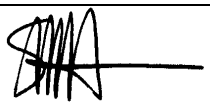
Client:

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Phone: 803-863-4002 Fax: 803-863-4015

Study Title: ICR RSSCT #1

Study #: 101

Reviewed By: 

Stuart M. Hooper

Date Reviewed: 6/15/99

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

Summers & Hooper, Inc.
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Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: Plant filtered water **S&H ID:** 9801-158 **Date Sampled:** 1/26/98 8:00:00 AM

#	Analysis Type		Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR	TOC	3.17	mg/L	SM 5310 C	1	0.50	1/26/98		1/28/98	7-0-174
2	TOC-ICR	TOC (Dupl)	3.16	mg/L	SM 5310 C	1	0.50	1/26/98		1/28/98	7-0-174
			3.17	**mg/L**	**0.3 % RPD**						

Sample ID: Plant settled water **S&H ID:** 9801-159 **Date Sampled:** 1/26/98 8:00:00 AM

#	Analysis Type		Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR	TOC	3.40	mg/L	SM 5310 C	1	0.50	1/26/98		1/28/98	7-0-174
4	TOC-ICR	TOC (Dupl)	3.34	mg/L	SM 5310 C	1	0.50	1/26/98		1/28/98	7-0-174
			3.37	**mg/L**	**1.8 % RPD**						

Sample ID: Settled (on arrival) **S&H ID:** 9801-165 **Date Sampled:** 1/28/98 11:30:00 AM

#	Analysis Type		Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR	TOC	3.35	mg/L	SM 5310 C	1	0.50	1/28/98		1/28/98	7-0-174
6	TOC-ICR	TOC (Dupl)	3.33	mg/L	SM 5310 C	1	0.50	1/28/98		1/28/98	7-0-174
			3.34	**mg/L**	**0.6 % RPD**						

Sample ID: Filtered (on arrival) **S&H ID:** 9801-166 **Date Sampled:** 1/28/98 1:45:00 AM

#	Analysis Type		Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR	TOC	3.20	mg/L	SM 5310 C	1	0.50	1/28/98		1/28/98	7-0-174
8	TOC-ICR	TOC (Dupl)	3.24	mg/L	SM 5310 C	1	0.50	1/28/98		1/28/98	7-0-174
			3.22	**mg/L**	**1.2 % RPD**						

Sample ID: 101.INF.B-1 **S&H ID:** 9801-170 **Date Sampled:** 1/29/98 2:40:00 PM

#	Analysis Type		Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	Cl2Dose	Chlorine Dose	3.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
10	Cl2Res	Chlorine Residual	1.53	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
11	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
12	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
13	HAA-ICR	Bromochloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
14	HAA-ICR	Bromodichloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
15	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

16	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
17	HAA-ICR	Dichloroacetic acid	30.5	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
18	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
19	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
20	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
21	HAA-ICR	Trichloroacetic acid	31.1	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
22	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
23	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
24	pH	pH	6.5	Unit	SM 4500-H+ B	1	n/a	1/29/98		1/29/98	n/a
25	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
26	TEMP	Temperature	18.5	ºC	SM 2550 B	1	n/a	1/29/98		1/29/98	n/a
27	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
28	TOC-ICR	TOC	3.22	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
29	TOC-ICR	TOC (Dupl)	3.24	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
			3.23	**mg/L**	**0.6 % RPD**						
30	TOX-ICR	TOX	326	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
31	TOX-ICR	TOX (Dupl)	314	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			320	**µg Cl-/L**	**3.7 % RPD**						
32	THM-ICR	1,2,3-Trichloropropane (Surrogate)	88.4	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
33	THM-ICR	Bromodichloromethane	12.2	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
34	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
35	THM-ICR	Chloroform	62.7	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
36	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
37	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	1/29/98		1/29/98	9-0-7
38	UV-ICR	UV	0.066	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
39	UV-ICR	UV (Dupl)	0.067	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
			0.067	**1/cm**	**1.5 % RPD**						

Sample ID: 101.10.Eff-1 **S&H ID:** 9801-171 **Date Sampled:** 1/29/98 4:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
40	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
41	Cl2Res	Chlorine Residual	1.47	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
42	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
43	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
44	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
45	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
46	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
47	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

#											
48	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
49	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
50	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
51	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
52	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
53	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
54	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
55	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	1/29/98		1/29/98	n/a
56	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
57	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	1/29/98		1/29/98	n/a
58	TIME	Cl2 Incubation Time	28.4	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
59	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
60	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
			ND	**mg/L**							
61	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
62	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			ND	**µg Cl-/L**							
63	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
64	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
65	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
66	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
67	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
68	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
69	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
			ND	**1/cm**							

Sample ID: 101.20.Eff-1 **S&H ID:** 9801-172 **Date Sampled:** 1/29/98 4:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
70	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
71	Cl2Res	Chlorine Residual	1.60	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
72	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.6	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
73	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
74	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
75	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
76	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
77	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
78	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
79	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
80	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
81	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
82	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
83	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
84	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
85	pH	pH	8.6	Unit	SM 4500-H+ B	1	n/a	1/29/98		1/29/98	n/a
86	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
87	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	1/29/98		1/29/98	n/a
88	TIME	Cl2 Incubation Time	28.4	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
89	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
90	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/29/98		1/30/98	7-0-176
			ND	**mg/L**							
91	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
92	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			ND	**µg Cl-/L**							
93	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.4	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
94	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
95	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
96	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
97	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
98	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
99	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/29/98		1/30/98	8-0-123
			ND	**1/cm**							

Sample ID: 101.INF.A-1 **S&H ID:** 9801-174 **Date Sampled:** 1/29/98 5:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
100	ALK	Alkalinity	7	mg/L	SM 2320 B	1	5	1/29/98		1/30/98	1-0-13
101	ALK	Alkalinity (Dupl)	7	mg/L	SM 2320 B	1	5	1/29/98		1/30/98	1-0-13
			7	**mg/L**	**0.0 % RPD**						
102	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	1/29/98		2/18/98	MW73290
103	BR	Bromide	ND	mg/L	EPA 300.0 A	1	0.020	1/29/98		2/19/98	MW73379
104	CaHard	Calcium Hardness	42	mg/L CaCO3	SM 3500-Ca D	1	10	1/29/98		1/30/98	33-0-13
105	CaHard	Calcium Hardness (Dupl)	42	mg/L CaCO3	SM 3500-Ca D	1	10	1/29/98		1/30/98	33-0-13
			42	**mg/L CaCO3**	**0.0 % RPD**						
106	TotHard	Total Hardness	47	mg/L CaCO3	SM 2340 C	1	5	1/29/98		1/30/98	3-0-13
107	TotHard	Total Hardness (Dupl)	45	mg/L CaCO3	SM 2340 C	1	5	1/29/98		1/30/98	3-0-13
			46	**mg/L CaCO3**	**4.3 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-9 **S&H ID:** 9801-193 **Date Sampled:** 1/31/98 7:34:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
108	Cl2Dose	Chlorine Dose	2.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
109	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
110	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.4	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
111	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
112	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
113	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
114	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
115	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
116	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
117	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
118	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
119	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
120	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
121	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
122	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
123	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	1/31/98		1/31/98	n/a
124	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
125	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	1/31/98		1/31/98	n/a
126	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
127	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
128	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
			ND	**mg/L**							
129	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
130	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			ND	**µg Cl-/L**							
131	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
132	THM-ICR	Bromodichloromethane	1.3	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
133	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
134	THM-ICR	Chloroform	1.1	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
135	THM-ICR	Dibromochloromethane	1.2	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
136	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
137	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.INF.B-2 **S&H ID:** 9801-197 **Date Sampled:** 1/31/98 12:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
138	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	1/31/98		1/31/98	n/a
139	TOC-ICR	TOC	3.34	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
140	TOC-ICR	TOC (Dupl)	3.32	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
			3.33	**mg/L**	**0.6 % RPD**						

Sample ID: 101.10.Eff-11 **S&H ID:** 9801-198 **Date Sampled:** 1/31/98 4:23:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
141	Cl2Dose	Chlorine Dose	2.17	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
142	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
143	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
144	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
145	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
146	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
147	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
148	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
149	HAA-ICR	Dichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
150	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
151	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
152	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
153	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
154	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
155	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
156	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	1/31/98		1/31/98	n/a
157	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
158	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	1/31/98		1/31/98	n/a
159	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
160	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
161	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
			ND	**mg/L**							
162	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
163	TOX-ICR	TOX (Dupl)	28	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			26	**µg Cl-/L**	**15.4 % RPD**						
164	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
165	THM-ICR	Bromodichloromethane	3.6	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
166	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
167	THM-ICR	Chloroform	2.8	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

168	THM-ICR	Dibromochloromethane	2.9	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
169	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
170	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
			ND	**1/cm**							

Sample ID: 101.10.Eff-11d **S&H ID:** 9801-199 **Date Sampled:** 1/31/98 4:23:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
171	Cl2Dose	Chlorine Dose	2.18	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
172	Cl2Res	Chlorine Residual	1.62	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
173	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
174	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
175	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
176	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
177	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
178	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
179	HAA-ICR	Dichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
180	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
181	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
182	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
183	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
184	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
185	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
186	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	1/31/98		1/31/98	n/a
187	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
188	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	1/31/98		1/31/98	n/a
189	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
190	TOC-ICR	TOC	0.52	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
191	TOC-ICR	TOC (Dupl)	0.50	mg/L	SM 5310 C	1	0.50	1/31/98		1/31/98	7-0-177
			0.51	**mg/L**	**3.9 % RPD**						
192	TOX-ICR	TOX	26	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
193	TOX-ICR	TOX (Dupl)	27	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			27	**µg Cl-/L**	**3.7 % RPD**						
194	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
195	THM-ICR	Bromodichloromethane	4.0	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
196	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
197	THM-ICR	Chloroform	2.9	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
198	THM-ICR	Dibromochloromethane	3.3	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

199	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
200	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	1/31/98		2/1/98	8-0-124
			ND	**1/cm**							

Sample ID: 101.10.Eff-16 **S&H ID:** 9802-3 **Date Sampled:** 2/1/98 3:03:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
201	Cl2Dose	Chlorine Dose	2.26	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
202	Cl2Res	Chlorine Residual	1.36	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
203	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
204	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
205	HAA-ICR	Bromochloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
206	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
207	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
208	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
209	HAA-ICR	Dichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
210	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
211	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/10/98	0-80-0
212	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/10/98	0-80-0
213	HAA-ICR	Trichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/10/98	0-80-0
214	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
215	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
216	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/1/98		2/1/98	n/a
217	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
218	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	2/1/98		2/1/98	n/a
219	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
220	TOC-ICR	TOC	0.70	mg/L	SM 5310 C	1	0.50	2/1/98		2/1/98	7-0-178
221	TOC-ICR	TOC (Dupl)	0.68	mg/L	SM 5310 C	1	0.50	2/1/98		2/1/98	7-0-178
			0.69	**mg/L**	**2.9 % RPD**						
222	TOX-ICR	TOX	46	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
223	TOX-ICR	TOX (Dupl)	48	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/4/98	12-0-90
			47	**µg Cl-/L**	**4.3 % RPD**						
224	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
225	THM-ICR	Bromodichloromethane	6.4	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
226	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
227	THM-ICR	Chloroform	6.0	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
228	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
229	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	2/1/98		2/1/98	8-0-124
230	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	2/1/98		2/1/98	8-0-124

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

			0.010	**1/cm**	**10.0 % RPD**						

Sample ID: 101.10.Eff-17d **S&H ID:** 9802-5 **Date Sampled:** 2/1/98 7:58:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
231	Cl2Dose	Chlorine Dose	2.34	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
232	Cl2Res	Chlorine Residual	1.45	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
233	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.2	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
234	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
235	HAA-ICR	Bromochloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
236	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
237	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/11/98	0-80-0
238	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
239	HAA-ICR	Dichloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
240	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
241	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/11/98	0-80-0
242	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/11/98	0-80-0
243	HAA-ICR	Trichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
244	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
245	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
246	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	2/1/98		2/1/98	n/a
247	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
248	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	2/1/98		2/1/98	n/a
249	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
250	TOC-ICR	TOC	0.84	mg/L	SM 5310 C	1	0.50	2/1/98		2/1/98	7-0-178
251	TOC-ICR	TOC (Dupl)	0.86	mg/L	SM 5310 C	1	0.50	2/1/98		2/1/98	7-0-178
			0.85	**mg/L**	**2.4 % RPD**						
252	TOX-ICR	TOX	59	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/6/98	12-0-91
253	TOX-ICR	TOX (Dupl)	59	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/6/98	12-0-91
			59	**µg Cl-/L**	**0.0 % RPD**						
254	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.0	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
255	THM-ICR	Bromodichloromethane	7.7	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
256	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
257	THM-ICR	Chloroform	8.4	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
258	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
259	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	2/1/98		2/1/98	8-0-124
260	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	2/1/98		2/1/98	8-0-124
			0.013	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-19 **S&H ID:** 9802-10 **Date Sampled:** 2/1/98 2:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
261	Cl2Dose	Chlorine Dose	2.45	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/2/98		2/2/98	n/a
262	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/2/98		2/3/98	n/a
263	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.8	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
264	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
265	HAA-ICR	Bromochloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
266	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
267	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/11/98	0-80-0
268	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
269	HAA-ICR	Dichloroacetic acid	6.6	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
270	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
271	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/3/98	2/10/98	2/11/98	0-80-0
272	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/3/98	2/10/98	2/11/98	0-80-0
273	HAA-ICR	Trichloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	2/3/98	2/10/98	2/11/98	0-80-0
274	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/3/98	n/a
275	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
276	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/1/98		2/1/98	n/a
277	TEMP	Cl2 Temperature	10.0	ºC	SM 2550 B	1	n/a	2/2/98		2/3/98	n/a
278	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	2/1/98		2/1/98	n/a
279	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	2/2/98		2/3/98	n/a
280	TOC-ICR	TOC	1.09	mg/L	SM 5310 C	1	0.50	2/1/98		2/2/98	7-0-179
281	TOC-ICR	TOC (Dupl)	1.11	mg/L	SM 5310 C	1	0.50	2/1/98		2/2/98	7-0-179
			1.10	**mg/L**	**1.8 % RPD**						
282	TOX-ICR	TOX	78	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/6/98	12-0-91
283	TOX-ICR	TOX (Dupl)	76	µg Cl-/L	SM 5320 B	1	25	2/3/98		2/6/98	12-0-91
			77	**µg Cl-/L**	**2.6 % RPD**						
284	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.2	%	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
285	THM-ICR	Bromodichloromethane	8.7	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
286	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
287	THM-ICR	Chloroform	12.0	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
288	THM-ICR	Dibromochloromethane	3.4	µg/L	EPA 551.1	1	1.0	2/3/98	2/13/98	2/13/98	0-82-0
289	UV-ICR	UV	0.017	1/cm	SM 5910 B	1	0.009	2/1/98		2/2/98	8-0-125
290	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	2/1/98		2/2/98	8-0-125
			0.017	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-21 **S&H ID:** 9802-14 **Date Sampled:** 2/1/98 9:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
291	Cl2Dose	Chlorine Dose	2.62	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
292	Cl2Res	Chlorine Residual	1.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
293	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.0	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
294	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
295	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
296	HAA-ICR	Bromodichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
297	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
298	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
299	HAA-ICR	Dichloroacetic acid	8.2	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
300	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
301	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
302	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
303	HAA-ICR	Trichloroacetic acid	5.6	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
304	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
305	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
306	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/1/98		2/1/98	n/a
307	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
308	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	2/1/98		2/1/98	n/a
309	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
310	TOC-ICR	TOC	1.34	mg/L	SM 5310 C	1	0.50	2/1/98		2/2/98	7-0-179
311	TOC-ICR	TOC (Dupl)	1.30	mg/L	SM 5310 C	1	0.50	2/1/98		2/2/98	7-0-179
			1.32	**mg/L**	**3.0 % RPD**						
312	TOX-ICR	TOX	89	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
313	TOX-ICR	TOX (Dupl)	89	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
			89	**µg Cl-/L**	**0.0 % RPD**						
314	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
315	THM-ICR	Bromodichloromethane	9.0	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
316	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
317	THM-ICR	Chloroform	14.4	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
318	THM-ICR	Dibromochloromethane	2.8	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
319	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	2/1/98		2/2/98	8-0-125
320	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	2/1/98		2/2/98	8-0-125
			0.021	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-23 **S&H ID:** 9802-17 **Date Sampled:** 2/2/98 5:41:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
321	Cl2Dose	Chlorine Dose	2.72	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
322	Cl2Res	Chlorine Residual	1.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
323	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
324	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
325	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
326	HAA-ICR	Bromodichloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
327	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
328	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
329	HAA-ICR	Dichloroacetic acid	10.1	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
330	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
331	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
332	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
333	HAA-ICR	Trichloroacetic acid	8.2	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
334	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
335	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
336	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
337	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
338	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	2/2/98		2/2/98	n/a
339	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
340	TOC-ICR	TOC	1.50	mg/L	SM 5310 C	1	0.50	2/2/98		2/2/98	7-0-179
341	TOC-ICR	TOC (Dupl)	1.50	mg/L	SM 5310 C	1	0.50	2/2/98		2/2/98	7-0-179
			1.50	**mg/L**	**0.0 % RPD**						
342	TOX-ICR	TOX	104	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
343	TOX-ICR	TOX (Dupl)	107	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
			106	**µg Cl-/L**	**2.8 % RPD**						
344	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
345	THM-ICR	Bromodichloromethane	9.6	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
346	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
347	THM-ICR	Chloroform	16.8	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
348	THM-ICR	Dibromochloromethane	2.5	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
349	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	2/2/98		2/2/98	8-0-125
350	UV-ICR	UV (Dupl)	0.023	1/cm	SM 5910 B	1	0.009	2/2/98		2/2/98	8-0-125
			0.023	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-23d **S&H ID:** 9802-18 **Date Sampled:** 2/2/98 5:41:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
351	Cl2Dose	Chlorine Dose	2.74	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
352	Cl2Res	Chlorine Residual	1.34	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
353	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.2	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
354	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
355	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
356	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
357	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
358	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
359	HAA-ICR	Dichloroacetic acid	9.7	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
360	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
361	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
362	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
363	HAA-ICR	Trichloroacetic acid	6.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
364	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
365	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
366	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
367	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
368	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	2/2/98		2/2/98	n/a
369	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
370	TOC-ICR	TOC	1.52	mg/L	SM 5310 C	1	0.50	2/2/98		2/2/98	7-0-179
371	TOC-ICR	TOC (Dupl)	1.57	mg/L	SM 5310 C	1	0.50	2/2/98		2/2/98	7-0-179
			1.54	**mg/L**	**3.2 % RPD**						
372	TOX-ICR	TOX	109	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
373	TOX-ICR	TOX (Dupl)	104	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
			107	**µg Cl-/L**	**4.7 % RPD**						
374	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
375	THM-ICR	Bromodichloromethane	10.0	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
376	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
377	THM-ICR	Chloroform	17.6	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
378	THM-ICR	Dibromochloromethane	2.6	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
379	UV-ICR	UV	0.024	1/cm	SM 5910 B	1	0.009	2/2/98		2/2/98	8-0-125
380	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	2/2/98		2/2/98	8-0-125
			0.024	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-27 **S&H ID:** 9802-29 **Date Sampled:** 2/2/98 10:33:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
381	Cl2Dose	Chlorine Dose	2.83	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
382	Cl2Res	Chlorine Residual	1.53	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
383	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.8	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
384	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
385	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
386	HAA-ICR	Bromodichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
387	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
388	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
389	HAA-ICR	Dichloroacetic acid	12.3	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
390	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
391	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
392	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
393	HAA-ICR	Trichloroacetic acid	12.3	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
394	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
395	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
396	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/2/98		2/2/98	n/a
397	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
398	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	2/2/98		2/2/98	n/a
399	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
400	TOC-ICR	TOC	1.71	mg/L	SM 5310 C	1	0.50	2/2/98		2/3/98	7-0-180
401	TOC-ICR	TOC (Dupl)	1.71	mg/L	SM 5310 C	1	0.50	2/2/98		2/3/98	7-0-180
			1.71	**mg/L**	**0.0 % RPD**						
402	TOX-ICR	TOX	136	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
403	TOX-ICR	TOX (Dupl)	132	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
			134	**µg Cl-/L**	**3.0 % RPD**						
404	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
405	THM-ICR	Bromodichloromethane	10.6	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
406	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
407	THM-ICR	Chloroform	22.8	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
408	THM-ICR	Dibromochloromethane	2.1	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
409	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	2/2/98		2/4/98	8-0-126
410	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	2/2/98		2/4/98	8-0-126
			0.029	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.Inf.B-3 **S&H ID:** 9802-38 **Date Sampled:** 2/3/98 3:20:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
411	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	2/3/98		2/3/98	n/a
412	TOC-ICR	TOC	3.19	mg/L	SM 5310 C	1	0.50	2/3/98		2/4/98	7-0-181
413	TOC-ICR	TOC (Dupl)	3.28	mg/L	SM 5310 C	1	0.50	2/3/98		2/4/98	7-0-181
			3.23	**mg/L**	**2.8 % RPD**						

Sample ID: 101.10.Eff-30 **S&H ID:** 9802-39 **Date Sampled:** 2/3/98 3:50:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
414	Cl2Dose	Chlorine Dose	2.93	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
415	Cl2Res	Chlorine Residual	1.38	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
416	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.0	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
417	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
418	HAA-ICR	Bromochloroacetic acid	3.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
419	HAA-ICR	Bromodichloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
420	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
421	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
422	HAA-ICR	Dichloroacetic acid	14.8	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
423	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
424	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
425	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
426	HAA-ICR	Trichloroacetic acid	16.5	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
427	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
428	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
429	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	2/3/98		2/3/98	n/a
430	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
431	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	2/3/98		2/3/98	n/a
432	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
433	TOC-ICR	TOC	1.88	mg/L	SM 5310 C	1	0.50	2/3/98		2/4/98	7-0-181
434	TOC-ICR	TOC (Dupl)	1.90	mg/L	SM 5310 C	1	0.50	2/3/98		2/4/98	7-0-181
			1.89	**mg/L**	**1.1 % RPD**						
435	TOX-ICR	TOX	155	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
436	TOX-ICR	TOX (Dupl)	148	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/6/98	12-0-91
			152	**µg Cl-/L**	**4.6 % RPD**						
437	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
438	THM-ICR	Bromodichloromethane	11.4	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
439	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
440	THM-ICR	Chloroform	28.2	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

441	THM-ICR	Dibromochloromethane	1.9	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
442	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	2/3/98		2/4/98	8-0-126
443	UV-ICR	UV (Dupl)	0.034	1/cm	SM 5910 B	1	0.009	2/3/98		2/4/98	8-0-126
			0.035	**1/cm**	**2.9 % RPD**						

Sample ID: 101.20.Eff-14 **S&H ID:** 9802-43 **Date Sampled:** 2/4/98 3:13:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
444	Cl2Dose	Chlorine Dose	2.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
445	Cl2Res	Chlorine Residual	1.59	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
446	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.8	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
447	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
448	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
449	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
450	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
451	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
452	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
453	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
454	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
455	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
456	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
457	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
458	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
459	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
460	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
461	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	2/4/98		2/4/98	n/a
462	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
463	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
464	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
			ND	**mg/L**							
465	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
466	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
			ND	**µg Cl-/L**							
467	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
468	THM-ICR	Bromodichloromethane	1.2	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
469	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
470	THM-ICR	Chloroform	1.0	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
471	THM-ICR	Dibromochloromethane	1.0	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

472	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	2/4/98	2/4/98	8-0-126
473	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	2/4/98	2/4/98	8-0-126
			ND	**1/cm**						

Sample ID: 101.10.Eff-34 **S&H ID:** 9802-52 **Date Sampled:** 2/4/98 9:12:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
474	Cl2Dose	Chlorine Dose	3.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
475	Cl2Res	Chlorine Residual	1.54	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
476	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
477	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
478	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
479	HAA-ICR	Bromodichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
480	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
481	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
482	HAA-ICR	Dichloroacetic acid	14.3	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
483	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
484	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
485	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
486	HAA-ICR	Trichloroacetic acid	15.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
487	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
488	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
489	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
490	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
491	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	2/4/98		2/4/98	n/a
492	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
493	TOC-ICR	TOC	2.10	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
494	TOC-ICR	TOC (Dupl)	2.15	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
			2.13	**mg/L**	**2.3 % RPD**						
495	TOX-ICR	TOX	168	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
496	TOX-ICR	TOX (Dupl)	175	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
			172	**µg Cl-/L**	**4.1 % RPD**						
497	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
498	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	98.8	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
			100.2	**%**	**2.8 % RPD**						
499	THM-ICR	Bromodichloromethane	12.2	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
500	THM-ICR	Bromodichloromethane (Lab Dupl)	11.8	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
			12.0	**µg/L**	**3.3 % RPD**						
501	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

502	THM-ICR	Bromoform (Lab Dupl)	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
			ND	**µg/L**							
503	THM-ICR	Chloroform	33.7	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
504	THM-ICR	Chloroform (Lab Dupl)	32.7	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
			33.2	**µg/L**	**3.0 % RPD**						
505	THM-ICR	Dibromochloromethane	1.7	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
506	THM-ICR	Dibromochloromethane (Lab Dupl)	1.6	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
			1.6	**µg/L**	**6.3 % RPD**						
507	UV-ICR	UV	0.038	1/cm	SM 5910 B	1	0.009	2/4/98		2/4/98	8-0-126
508	UV-ICR	UV (Dupl)	0.039	1/cm	SM 5910 B	1	0.009	2/4/98		2/4/98	8-0-126
			0.039	**1/cm**	**2.6 % RPD**						

Sample ID: 101.10.Eff-34d **S&H ID:** 9802-53 **Date Sampled:** 2/4/98 9:12:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
509	Cl2Dose	Chlorine Dose	3.04	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/4/98		2/4/98	n/a
510	Cl2Res	Chlorine Residual	1.68	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/4/98		2/5/98	n/a
511	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	111.6	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
512	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	103.2	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			107.4	**%**	**7.8 % RPD**						
513	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.6	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
514	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	100.8	%	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			97.2	**%**	**7.4 % RPD**						
515	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
516	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	2.9	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			2.9	**µg/L**	**0.0 % RPD**						
517	HAA-ICR	Bromodichloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
518	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	3.2	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			3.3	**µg/L**	**3.0 % RPD**						
519	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
520	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
			ND	**µg/L**							
521	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
522	HAA-ICR	Dibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			ND	**µg/L**							
523	HAA-ICR	Dichloroacetic acid	15.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
524	HAA-ICR	Dichloroacetic acid (Lab Dupl)	15.2	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			15.1	**µg/L**	**1.3 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

525	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
526	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			ND	**µg/L**							
527	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
528	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	2/5/98	2/10/98	2/11/98	0-80-0
			ND	**µg/L**							
529	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
530	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	2/5/98	2/10/98	2/11/98	0-80-0
			ND	**µg/L**							
531	HAA-ICR	Trichloroacetic acid	15.0	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
532	HAA-ICR	Trichloroacetic acid (Lab Dupl)	15.5	µg/L	EPA 552.2	1	1.0	2/5/98	2/10/98	2/11/98	0-80-0
			15.3	**µg/L**	**3.3 % RPD**						
533	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/5/98	n/a
534	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
535	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
536	TEMP	Cl2 Temperature	10.2	ºC	SM 2550 B	1	n/a	2/4/98		2/5/98	n/a
537	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	2/4/98		2/4/98	n/a
538	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	2/4/98		2/5/98	n/a
539	TOC-ICR	TOC	2.10	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
540	TOC-ICR	TOC (Dupl)	2.11	mg/L	SM 5310 C	1	0.50	2/4/98		2/4/98	7-0-181
			2.11	**mg/L**	**0.5 % RPD**						
541	TOX-ICR	TOX	178	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
542	TOX-ICR	TOX (Dupl)	169	µg Cl-/L	SM 5320 B	1	25	2/5/98		2/9/98	12-0-92
			174	**µg Cl-/L**	**5.2 % RPD**						
543	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
544	THM-ICR	Bromodichloromethane	12.2	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
545	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
546	THM-ICR	Chloroform	33.3	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
547	THM-ICR	Dibromochloromethane	1.7	µg/L	EPA 551.1	1	1.0	2/5/98	2/13/98	2/13/98	0-82-0
548	UV-ICR	UV	0.039	1/cm	SM 5910 B	1	0.009	2/4/98		2/4/98	8-0-126
549	UV-ICR	UV (Dupl)	0.039	1/cm	SM 5910 B	1	0.009	2/4/98		2/4/98	8-0-126
			0.039	**1/cm**	**0.0 % RPD**						

Sample ID: 101.20.Eff-17 **S&H ID:** 9802-56 **Date Sampled:** 2/4/98 4:26:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
550	Cl2Dose	Chlorine Dose	2.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
551	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
552	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.0	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

553	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
554	HAA-ICR	Bromochloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
555	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
556	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
557	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
558	HAA-ICR	Dichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
559	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
560	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
561	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
562	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
563	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
564	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
565	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
566	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
567	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	2/4/98		2/4/98	n/a
568	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
569	TOC-ICR	TOC	0.50	mg/L	SM 5310 C	1	0.50	2/4/98		2/5/98	7-0-182
570	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	2/4/98		2/5/98	7-0-182
			ND	**mg/L**							
571	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
572	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
			ND	**µg Cl-/L**							
573	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
574	THM-ICR	Bromodichloromethane	3.3	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
575	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
576	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
577	THM-ICR	Dibromochloromethane	2.8	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
578	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	2/4/98		2/5/98	8-0-127
579	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	2/4/98		2/5/98	8-0-127
			ND	**1/cm**							

Sample ID: 101.20.Eff-17d **S&H ID:** 9802-57 **Date Sampled:** 2/4/98 4:26:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
580	Cl2Dose	Chlorine Dose	2.18	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
581	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
582	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.8	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
583	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

584	HAA-ICR	Bromochloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
585	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
586	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
587	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
588	HAA-ICR	Dichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
589	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
590	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
591	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
592	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
593	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
594	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
595	pH	pH	6.3	Unit	SM 4500-H+ B	1	n/a	2/4/98		2/4/98	n/a
596	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
597	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	2/4/98		2/4/98	n/a
598	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
599	TOC-ICR	TOC	0.52	mg/L	SM 5310 C	1	0.50	2/4/98		2/5/98	7-0-182
600	TOC-ICR	TOC (Dupl)	0.54	mg/L	SM 5310 C	1	0.50	2/4/98		2/5/98	7-0-182
			0.53	**mg/L**	**3.8 % RPD**						
601	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
602	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
			ND	**µg Cl-/L**							
603	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
604	THM-ICR	Bromodichloromethane	3.2	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
605	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
606	THM-ICR	Chloroform	2.2	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
607	THM-ICR	Dibromochloromethane	2.7	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
608	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	2/4/98		2/5/98	8-0-127
609	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	2/4/98		2/5/98	8-0-127
			ND	**1/cm**							

Sample ID: 101.20.Eff-19 **S&H ID:** 9802-60 **Date Sampled:** 2/5/98 12:53:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
610	Cl2Dose	Chlorine Dose	2.25	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
611	Cl2Res	Chlorine Residual	1.50	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
612	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	112.8	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
613	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
614	HAA-ICR	Bromochloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
615	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

616	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
617	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
618	HAA-ICR	Dichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
619	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
620	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
621	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
622	HAA-ICR	Trichloroacetic acid	1.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
623	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
624	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
625	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	2/5/98		2/5/98	n/a
626	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
627	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	2/5/98		2/5/98	n/a
628	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
629	TOC-ICR	TOC	0.67	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
630	TOC-ICR	TOC (Dupl)	0.68	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
			0.68	**mg/L**	**1.5 % RPD**						
631	TOX-ICR	TOX	30	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
632	TOX-ICR	TOX (Dupl)	29	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/9/98	12-0-92
			30	**µg Cl-/L**	**3.3 % RPD**						
633	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
634	THM-ICR	Bromodichloromethane	4.6	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
635	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
636	THM-ICR	Chloroform	3.5	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
637	THM-ICR	Dibromochloromethane	3.4	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
638	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
639	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
			ND	**1/cm**							

Sample ID: 101.10.Eff-36 **S&H ID:** 9802-63 **Date Sampled:** 2/5/98 2:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
640	Cl2Dose	Chlorine Dose	3.09	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
641	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
642	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	111.2	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
643	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
644	HAA-ICR	Bromochloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
645	HAA-ICR	Bromodichloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
646	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
647	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

648	HAA-ICR	Dichloroacetic acid	17.1	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
649	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
650	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
651	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
652	HAA-ICR	Trichloroacetic acid	18.3	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
653	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
654	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
655	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	2/5/98		2/5/98	n/a
656	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
657	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	2/5/98		2/5/98	n/a
658	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
659	TOC-ICR	TOC	2.28	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
660	TOC-ICR	TOC (Dupl)	2.31	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
			2.29	**mg/L**	**1.3 % RPD**						
661	TOX-ICR	TOX	191	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
662	TOX-ICR	TOX (Dupl)	184	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
			188	**µg Cl-/L**	**3.7 % RPD**						
663	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
664	THM-ICR	Bromodichloromethane	12.1	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
665	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
666	THM-ICR	Chloroform	36.7	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
667	THM-ICR	Dibromochloromethane	1.6	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
668	UV-ICR	UV	0.042	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
669	UV-ICR	UV (Dupl)	0.042	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
			0.042	**1/cm**	**0.0 % RPD**						

Sample ID: 101.Inf.A-2 **S&H ID:** 9802-65 **Date Sampled:** 2/5/98 9:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
670	ALK	Alkalinity	8	mg/L	SM 2320 B	1	5	2/5/98		2/5/98	1-0-13
671	ALK	Alkalinity (Dupl)	7	mg/L	SM 2320 B	1	5	2/5/98		2/5/98	1-0-13
			8	**mg/L**	**12.5 % RPD**						
672	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	2/5/98		2/26/98	MW73654
673	BR	Bromide	0.024	mg/L	EPA 300.0 A	1	0.020	2/5/98		3/3/98	MW73902
674	CaHard	Calcium Hardness	42	mg/L CaCO3	SM 3500-Ca D	1	10	2/5/98		2/5/98	33-0-13
675	CaHard	Calcium Hardness (Dupl)	42	mg/L CaCO3	SM 3500-Ca D	1	10	2/5/98		2/5/98	33-0-13
			42	**mg/L CaCO3**	**0.0 % RPD**						
676	TotHard	Total Hardness	46	mg/L CaCO3	SM 2340 C	1	5	2/5/98		2/5/98	3-0-13
677	TotHard	Total Hardness (Dupl)	43	mg/L CaCO3	SM 2340 C	1	5	2/5/98		2/5/98	3-0-13
			45	**mg/L CaCO3**	**6.7 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.Inf.B-4 **S&H ID:** 9802-66 **Date Sampled:** 2/5/98 9:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
678	Cl2Dose	Chlorine Dose	3.92	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
679	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
680	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
681	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.2	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
682	HAA-ICR	Bromochloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
683	HAA-ICR	Bromodichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
684	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
685	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
686	HAA-ICR	Dichloroacetic acid	26.1	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
687	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
688	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
689	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
690	HAA-ICR	Trichloroacetic acid	28.4	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
691	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
692	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
693	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	2/5/98		2/5/98	n/a
694	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
695	TEMP	Temperature	16.2	ºC	SM 2550 B	1	n/a	2/5/98		2/5/98	n/a
696	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
697	TOC-ICR	TOC	3.36	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
698	TOC-ICR	TOC (Dupl)	3.25	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
			3.30	**mg/L**	**3.3 % RPD**						
699	TOX-ICR	TOX	320	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
700	TOX-ICR	TOX (Dupl)	316	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
			318	**µg Cl-/L**	**1.3 % RPD**						
701	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.6	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
702	THM-ICR	Bromodichloromethane	12.8	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
703	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
704	THM-ICR	Chloroform	64.3	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
705	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
706	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	2/5/98		2/5/98	9-0-7
707	UV-ICR	UV	0.067	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
708	UV-ICR	UV (Dupl)	0.067	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
			0.067	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.20.Eff-21 **S&H ID:** 9802-69 **Date Sampled:** 2/5/98 9:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
709	Cl2Dose	Chlorine Dose	2.35	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/6/98		2/6/98	n/a
710	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/6/98		2/7/98	n/a
711	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	111.6	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
712	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
713	HAA-ICR	Bromochloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
714	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
715	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
716	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
717	HAA-ICR	Dichloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
718	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
719	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/7/98	2/10/98	2/11/98	0-80-0
720	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/7/98	2/10/98	2/11/98	0-80-0
721	HAA-ICR	Trichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	2/7/98	2/10/98	2/11/98	0-80-0
722	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/7/98	n/a
723	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
724	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	2/5/98		2/5/98	n/a
725	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/6/98		2/7/98	n/a
726	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	2/5/98		2/5/98	n/a
727	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/6/98		2/7/98	n/a
728	TOC-ICR	TOC	0.87	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
729	TOC-ICR	TOC (Dupl)	0.87	mg/L	SM 5310 C	1	0.50	2/5/98		2/5/98	7-0-182
			0.87	**mg/L**	**0.0 % RPD**						
730	TOX-ICR	TOX	51	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
731	TOX-ICR	TOX (Dupl)	49	µg Cl-/L	SM 5320 B	1	25	2/7/98		2/11/98	12-0-93
			50	**µg Cl-/L**	**4.0 % RPD**						
732	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
733	THM-ICR	Bromodichloromethane	6.3	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
734	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
735	THM-ICR	Chloroform	5.4	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
736	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	2/7/98	2/13/98	2/13/98	0-82-0
737	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
738	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	2/5/98		2/5/98	8-0-127
			0.010	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.20.Eff-24 **S&H ID:** 9802-80 **Date Sampled:** 2/6/98 12:44:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
739	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/98		2/9/98	n/a
740	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/98		2/10/98	n/a
741	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	90.4	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
742	HAA-ICR	2-Bromopropionic acid (Surrogate)	107.2	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
743	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
744	HAA-ICR	Bromodichloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
745	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
746	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
747	HAA-ICR	Dichloroacetic acid	8.5	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
748	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
749	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
750	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
751	HAA-ICR	Trichloroacetic acid	3.7	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
752	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/10/98	n/a
753	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/9/98	n/a
754	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
755	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/9/98		2/10/98	n/a
756	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	2/6/98		2/6/98	n/a
757	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/9/98		2/10/98	n/a
758	TOC-ICR	TOC	1.13	mg/L	SM 5310 C	1	0.50	2/6/98		2/6/98	7-0-183
759	TOC-ICR	TOC (Dupl)	1.15	mg/L	SM 5310 C	1	0.50	2/6/98		2/6/98	7-0-183
			1.14	**mg/L**	**1.8 % RPD**						
760	TOX-ICR	TOX	69	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
761	TOX-ICR	TOX (Dupl)	66	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
			68	**µg Cl-/L**	**4.4 % RPD**						
762	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
763	THM-ICR	Bromodichloromethane	7.9	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
764	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
765	THM-ICR	Chloroform	9.1	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
766	THM-ICR	Dibromochloromethane	3.4	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
767	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	2/6/98		2/6/98	8-0-128
768	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	2/6/98		2/6/98	8-0-128
			0.014	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.10.Eff-39 **S&H ID:** 9802-83 **Date Sampled:** 2/6/98 9:34:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
769	pH	pH	8.1	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
770	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	2/6/98		2/6/98	n/a
771	TOC-ICR	TOC	2.46	mg/L	SM 5310 C	1	0.50	2/6/98		2/6/98	7-0-183
772	TOC-ICR	TOC (Dupl)	2.43	mg/L	SM 5310 C	1	0.50	2/6/98		2/6/98	7-0-183
			2.45	**mg/L**	**1.2 % RPD**						

Sample ID: 101.20.Eff-28 **S&H ID:** 9802-93 **Date Sampled:** 2/6/98 3:57:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
773	Cl2Dose	Chlorine Dose	2.57	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/98		2/9/98	n/a
774	Cl2Res	Chlorine Residual	1.54	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/98		2/10/98	n/a
775	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.8	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
776	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.4	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
777	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
778	HAA-ICR	Bromodichloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
779	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
780	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
781	HAA-ICR	Dichloroacetic acid	11.0	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
782	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
783	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
784	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
785	HAA-ICR	Trichloroacetic acid	7.0	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
786	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/10/98	n/a
787	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/9/98	n/a
788	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
789	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/9/98		2/10/98	n/a
790	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	2/6/98		2/6/98	n/a
791	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/9/98		2/10/98	n/a
792	TOC-ICR	TOC	1.28	mg/L	SM 5310 C	1	0.50	2/6/98		2/7/98	7-0-184
793	TOC-ICR	TOC (Dupl)	1.34	mg/L	SM 5310 C	1	0.50	2/6/98		2/7/98	7-0-184
			1.31	**mg/L**	**4.6 % RPD**						
794	TOX-ICR	TOX	87	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
795	TOX-ICR	TOX (Dupl)	89	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
			88	**µg Cl-/L**	**2.3 % RPD**						
796	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
797	THM-ICR	Bromodichloromethane	9.2	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

798	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
799	THM-ICR	Chloroform	12.5	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
800	THM-ICR	Dibromochloromethane	3.1	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
801	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	2/6/98		2/8/98	8-0-129
802	UV-ICR	UV (Dupl)	0.018	1/cm	SM 5910 B	1	0.009	2/6/98		2/8/98	8-0-129
			0.018	**1/cm**	**5.6 % RPD**						

Sample ID: 101.20.Eff-28d **S&H ID:** 9802-94 **Date Sampled:** 2/6/98 3:57:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
803	Cl2Dose	Chlorine Dose	2.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/98		2/9/98	n/a
804	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/98		2/10/98	n/a
805	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.0	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
806	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
807	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
808	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
809	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
810	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
811	HAA-ICR	Dichloroacetic acid	10.2	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
812	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
813	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
814	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
815	HAA-ICR	Trichloroacetic acid	5.7	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
816	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/10/98	n/a
817	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/9/98	n/a
818	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	2/6/98		2/6/98	n/a
819	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/9/98		2/10/98	n/a
820	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	2/6/98		2/6/98	n/a
821	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/9/98		2/10/98	n/a
822	TOC-ICR	TOC	1.37	mg/L	SM 5310 C	1	0.50	2/6/98		2/7/98	7-0-184
823	TOC-ICR	TOC (Dupl)	1.37	mg/L	SM 5310 C	1	0.50	2/6/98		2/7/98	7-0-184
			1.37	**mg/L**	**0.0 % RPD**						
824	TOX-ICR	TOX	83	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
825	TOX-ICR	TOX (Dupl)	84	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
			84	**µg Cl-/L**	**1.2 % RPD**						
826	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
827	THM-ICR	Bromodichloromethane	9.0	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
828	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
829	THM-ICR	Chloroform	12.5	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

830	THM-ICR	Dibromochloromethane	3.0	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
831	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	2/6/98		2/8/98	8-0-129
832	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	2/6/98		2/8/98	8-0-129
			0.019	**1/cm**	**0.0 % RPD**						

Sample ID: 101.20.Eff-32 **S&H ID:** 9802-100 **Date Sampled:** 2/7/98 9:11:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
833	Cl2Dose	Chlorine Dose	2.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/98		2/9/98	n/a
834	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/98		2/10/98	n/a
835	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	95.2	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
836	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	98.8	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			97.0	**%**	**3.7 % RPD**						
837	HAA-ICR	2-Bromopropionic acid (Surrogate)	103.2	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
838	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	100.4	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			101.8	**%**	**2.8 % RPD**						
839	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
840	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	3.4	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			3.3	**µg/L**	**6.1 % RPD**						
841	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
842	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	2.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			2.8	**µg/L**	**3.6 % RPD**						
843	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
844	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
			ND	**µg/L**							
845	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
846	HAA-ICR	Dibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			ND	**µg/L**							
847	HAA-ICR	Dichloroacetic acid	11.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
848	HAA-ICR	Dichloroacetic acid (Lab Dupl)	11.8	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			11.8	**µg/L**	**0.0 % RPD**						
849	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
850	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			ND	**µg/L**							
851	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
852	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
			ND	**µg/L**							

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

853	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
854	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
			ND	**µg/L**							
855	HAA-ICR	Trichloroacetic acid	8.0	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
856	HAA-ICR	Trichloroacetic acid (Lab Dupl)	8.5	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
			8.3	**µg/L**	**6.0 % RPD**						
857	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/10/98	n/a
858	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/9/98	n/a
859	pH	pH	7.7	Unit	SM 4500-H+ B	1	n/a	2/7/98		2/7/98	n/a
860	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/9/98		2/10/98	n/a
861	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	2/7/98		2/7/98	n/a
862	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/9/98		2/10/98	n/a
863	TOC-ICR	TOC	1.50	mg/L	SM 5310 C	1	0.50	2/7/98		2/7/98	7-0-184
864	TOC-ICR	TOC (Dupl)	1.49	mg/L	SM 5310 C	1	0.50	2/7/98		2/7/98	7-0-184
			1.50	**mg/L**	**0.7 % RPD**						
865	TOX-ICR	TOX	105	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
866	TOX-ICR	TOX (Dupl)	105	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/11/98	12-0-93
			105	**µg Cl-/L**	**0.0 % RPD**						
867	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
868	THM-ICR	Bromodichloromethane	9.4	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
869	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
870	THM-ICR	Chloroform	15.6	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
871	THM-ICR	Dibromochloromethane	2.6	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
872	UV-ICR	UV	0.022	1/cm	SM 5910 B	1	0.009	2/7/98		2/8/98	8-0-129
873	UV-ICR	UV (Dupl)	0.022	1/cm	SM 5910 B	1	0.009	2/7/98		2/8/98	8-0-129
			0.022	**1/cm**	**0.0 % RPD**						

Sample ID: 101.20.Eff-35 **S&H ID:** 9802-103 **Date Sampled:** 2/8/98 6:39:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
874	Cl2Dose	Chlorine Dose	2.77	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/9/98		2/9/98	n/a
875	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/9/98		2/10/98	n/a
876	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.4	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
877	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
878	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
879	HAA-ICR	Bromodichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
880	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
881	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

882	HAA-ICR	Dichloroacetic acid	12.2	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
883	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
884	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/10/98	2/17/98	2/17/98	0-85-0
885	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/10/98	2/17/98	2/17/98	0-85-0
886	HAA-ICR	Trichloroacetic acid	9.0	µg/L	EPA 552.2	1	1.0	2/10/98	2/17/98	2/17/98	0-85-0
887	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/10/98	n/a
888	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/9/98		2/9/98	n/a
889	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	2/8/98		2/8/98	n/a
890	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/9/98		2/10/98	n/a
891	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	2/8/98		2/8/98	n/a
892	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/9/98		2/10/98	n/a
893	TOC-ICR	TOC	1.68	mg/L	SM 5310 C	1	0.50	2/8/98		2/8/98	7-0-185
894	TOC-ICR	TOC (Dupl)	1.71	mg/L	SM 5310 C	1	0.50	2/8/98		2/8/98	7-0-185
			1.69	**mg/L**	**1.8 % RPD**						
895	TOX-ICR	TOX	114	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/16/98	12-0-94
896	TOX-ICR	TOX (Dupl)	114	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/16/98	12-0-94
			114	**µg Cl-/L**	**0.0 % RPD**						
897	THM-ICR	1,2,3-Trichloropropane (Surrogate)	103.6	%	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
898	THM-ICR	Bromodichloromethane	11.0	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
899	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
900	THM-ICR	Chloroform	20.4	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
901	THM-ICR	Dibromochloromethane	2.5	µg/L	EPA 551.1	1	1.0	2/10/98	2/13/98	2/13/98	0-82-0
902	UV-ICR	UV	0.026	1/cm	SM 5910 B	1	0.009	2/8/98		2/8/98	8-0-129
903	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	2/8/98		2/8/98	8-0-129
			0.026	**1/cm**	**0.0 % RPD**						

Sample ID: 101.20.Eff-44 **S&H ID:** 9802-120 **Date Sampled:** 2/10/98 1:39:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
904	Cl2Dose	Chlorine Dose	2.84	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/11/98		2/11/98	n/a
905	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/11/98		2/12/98	n/a
906	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.6	%	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
907	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
908	HAA-ICR	Bromochloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
909	HAA-ICR	Bromodichloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
910	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/12/98	2/17/98	2/17/98	0-85-0
911	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
912	HAA-ICR	Dichloroacetic acid	14.7	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
913	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

914	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/12/98	2/17/98	2/17/98	0-85-0
915	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/12/98	2/17/98	2/17/98	0-85-0
916	HAA-ICR	Trichloroacetic acid	13.3	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
917	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/11/98		2/12/98	n/a
918	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/11/98		2/11/98	n/a
919	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	2/10/98		2/10/98	n/a
920	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/11/98		2/12/98	n/a
921	TEMP	Temperature	22.7	ºC	SM 2550 B	1	n/a	2/10/98		2/10/98	n/a
922	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/11/98		2/12/98	n/a
923	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
924	TOC-ICR	TOC (Dupl)	1.93	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
			1.94	**mg/L**	**1.5 % RPD**						
925	TOX-ICR	TOX	146	µg Cl-/L	SM 5320 B	1	25	2/12/98		2/16/98	12-0-94
926	TOX-ICR	TOX (Dupl)	142	µg Cl-/L	SM 5320 B	1	25	2/12/98		2/16/98	12-0-94
			144	**µg Cl-/L**	**2.8 % RPD**						
927	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
928	THM-ICR	Bromodichloromethane	12.0	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
929	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
930	THM-ICR	Chloroform	27.0	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
931	THM-ICR	Dibromochloromethane	2.2	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
932	UV-ICR	UV	0.033	1/cm	SM 5910 B	1	0.009	2/10/98		2/11/98	8-0-130
933	UV-ICR	UV (Dupl)	0.033	1/cm	SM 5910 B	1	0.009	2/10/98		2/11/98	8-0-130
			0.033	**1/cm**	**0.0 % RPD**						

Sample ID: 101.20.Eff-44d **S&H ID:** 9802-121 **Date Sampled:** 2/10/98 1:39:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
934	Cl2Dose	Chlorine Dose	2.84	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/10/98		2/11/98	n/a
935	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/10/98		2/12/98	n/a
936	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.2	%	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
937	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
938	HAA-ICR	Bromochloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
939	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
940	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/12/98	2/17/98	2/17/98	0-85-0
941	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
942	HAA-ICR	Dichloroacetic acid	14.3	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
943	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
944	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/12/98	2/17/98	2/17/98	0-85-0
945	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/12/98	2/17/98	2/17/98	0-85-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

946	HAA-ICR	Trichloroacetic acid	13.2	µg/L	EPA 552.2	1	1.0	2/12/98	2/17/98	2/17/98	0-85-0
947	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/10/98		2/12/98	n/a
948	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/10/98		2/11/98	n/a
949	pH	pH	8.9	Unit	SM 4500-H+ B	1	n/a	2/10/98		2/10/98	n/a
950	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/10/98		2/12/98	n/a
951	TEMP	Temperature	22.7	ºC	SM 2550 B	1	n/a	2/10/98		2/10/98	n/a
952	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	2/10/98		2/12/98	n/a
953	TOC-ICR	TOC	1.93	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
954	TOC-ICR	TOC (Dupl)	1.97	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
			1.95	**mg/L**	**2.1 % RPD**						
955	TOX-ICR	TOX	146	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/16/98	12-0-94
956	TOX-ICR	TOX (Dupl)	148	µg Cl-/L	SM 5320 B	1	25	2/10/98		2/16/98	12-0-94
			147	**µg Cl-/L**	**1.4 % RPD**						
957	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.4	%	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
958	THM-ICR	Bromodichloromethane	11.6	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
959	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
960	THM-ICR	Chloroform	26.3	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
961	THM-ICR	Dibromochloromethane	2.0	µg/L	EPA 551.1	1	1.0	2/12/98	2/13/98	2/14/98	0-82-0
962	UV-ICR	UV	0.033	1/cm	SM 5910 B	1	0.009	2/10/98		2/11/98	8-0-130
963	UV-ICR	UV (Dupl)	0.033	1/cm	SM 5910 B	1	0.009	2/10/98		2/11/98	8-0-130
			0.033	**1/cm**	**0.0 % RPD**						

Sample ID: 101.INF.B-5 **S&H ID:** 9802-123 **Date Sampled:** 2/10/98 8:00:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
964	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	2/10/98		2/10/98	n/a
965	TEMP	Temperature	19.3	ºC	SM 2550 B	1	n/a	2/10/98		2/10/98	n/a
966	TOC-ICR	TOC	3.28	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
967	TOC-ICR	TOC (Dupl)	3.54	mg/L	SM 5310 C	1	0.50	2/10/98		2/11/98	7-0-188
			3.41	**mg/L**	**7.6 % RPD**						

Sample ID: 101.20.Eff-46 **S&H ID:** 9802-131 **Date Sampled:** 2/11/98 7:44:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
968	Cl2Dose	Chlorine Dose	2.96	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/12/98		2/12/98	n/a
969	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/12/98		2/13/98	n/a
970	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
971	HAA-ICR	2-Bromopropionic acid (Surrogate)	101.6	%	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
972	HAA-ICR	Bromochloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

973	HAA-ICR	Bromodichloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
974	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/13/98	2/17/98	2/17/98	0-85-0
975	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
976	HAA-ICR	Dichloroacetic acid	15.1	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
977	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
978	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/13/98	2/17/98	2/17/98	0-85-0
979	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/13/98	2/17/98	2/17/98	0-85-0
980	HAA-ICR	Trichloroacetic acid	15.4	µg/L	EPA 552.2	1	1.0	2/13/98	2/17/98	2/17/98	0-85-0
981	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	2/12/98		2/13/98	n/a
982	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/12/98		2/12/98	n/a
983	pH	pH	9.2	Unit	SM 4500-H+ B	1	n/a	2/11/98		2/11/98	n/a
984	TEMP	Cl2 Temperature	9.8	ºC	SM 2550 B	1	n/a	2/12/98		2/13/98	n/a
985	TEMP	Temperature	22.4	ºC	SM 2550 B	1	n/a	2/11/98		2/11/98	n/a
986	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	2/12/98		2/13/98	n/a
987	TOC-ICR	TOC	2.13	mg/L	SM 5310 C	1	0.50	2/11/98		2/11/98	7-0-188
988	TOC-ICR	TOC (Dupl)	2.10	mg/L	SM 5310 C	1	0.50	2/11/98		2/11/98	7-0-188
			2.12	**mg/L**	**1.4 % RPD**						
989	TOX-ICR	TOX	164	µg Cl-/L	SM 5320 B	1	25	2/13/98		2/16/98	12-0-94
990	TOX-ICR	TOX (Dupl)	164	µg Cl-/L	SM 5320 B	1	25	2/13/98		2/16/98	12-0-94
			164	**µg Cl-/L**	**0.0 % RPD**						
991	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
992	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	98.4	%	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
			100.2	**%**	**3.6 % RPD**						
993	THM-ICR	Bromodichloromethane	12.7	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
994	THM-ICR	Bromodichloromethane (Lab Dupl)	11.3	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
			12.0	**µg/L**	**11.7 % RPD**						
995	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
996	THM-ICR	Bromoform (Lab Dupl)	ND	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
			ND	**µg/L**							
997	THM-ICR	Chloroform	32.3	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
998	THM-ICR	Chloroform (Lab Dupl)	28.5	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
			30.4	**µg/L**	**12.5 % RPD**						
999	THM-ICR	Dibromochloromethane	2.1	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
1000	THM-ICR	Dibromochloromethane (Lab Dupl)	1.7	µg/L	EPA 551.1	1	1.0	2/13/98	2/18/98	2/18/98	0-83-0
			1.9	**µg/L**	**21.1 % RPD**						
1001	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	2/11/98		2/11/98	8-0-130
1002	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	2/11/98		2/11/98	8-0-130
			0.036	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.20.Eff-52 **S&H ID:** 9802-157 **Date Sampled:** 2/13/98 12:07:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1003	Cl2Dose	Chlorine Dose	3.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/14/98		2/14/98	n/a
1004	Cl2Res	Chlorine Residual	1.20	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/14/98		2/15/98	n/a
1005	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1006	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1007	HAA-ICR	Bromochloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1008	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1009	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/15/98	2/17/98	2/17/98	0-85-0
1010	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1011	HAA-ICR	Dichloroacetic acid	15.2	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1012	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1013	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/15/98	2/17/98	2/17/98	0-85-0
1014	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/15/98	2/17/98	2/17/98	0-85-0
1015	HAA-ICR	Trichloroacetic acid	15.6	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1016	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/14/98		2/15/98	n/a
1017	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/14/98		2/14/98	n/a
1018	pH	pH	8.7	Unit	SM 4500-H+ B	1	n/a	2/13/98		2/13/98	n/a
1019	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/14/98		2/15/98	n/a
1020	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	2/13/98		2/13/98	n/a
1021	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/14/98		2/15/98	n/a
1022	TOC-ICR	TOC	2.36	mg/L	SM 5310 C	1	0.50	2/13/98		2/13/98	7-0-190
1023	TOC-ICR	TOC (Dupl)	2.36	mg/L	SM 5310 C	1	0.50	2/13/98		2/13/98	7-0-190
			2.36	**mg/L**	**0.0 % RPD**						
1024	TOX-ICR	TOX	172	µg Cl-/L	SM 5320 B	1	25	2/15/98		2/16/98	12-0-94
1025	TOX-ICR	TOX (Dupl)	178	µg Cl-/L	SM 5320 B	1	25	2/15/98		2/16/98	12-0-94
			175	**µg Cl-/L**	**3.4 % RPD**						
1026	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1027	THM-ICR	Bromodichloromethane	10.9	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1028	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1029	THM-ICR	Chloroform	31.2	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1030	THM-ICR	Dibromochloromethane	1.4	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1031	UV-ICR	UV	0.040	1/cm	SM 5910 B	1	0.009	2/13/98		2/13/98	8-0-131
1032	UV-ICR	UV (Dupl)	0.040	1/cm	SM 5910 B	1	0.009	2/13/98		2/13/98	8-0-131
			0.040	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.INF.B-6 **S&H ID:** 9802-170 **Date Sampled:** 2/13/98 4:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1033	Cl2Dose	Chlorine Dose	3.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	2/14/98		2/14/98	n/a
1034	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	2/14/98		2/15/98	n/a
1035	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.6	%	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1036	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1037	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1038	HAA-ICR	Bromodichloroacetic acid	3.7	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1039	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/15/98	2/17/98	2/17/98	0-85-0
1040	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1041	HAA-ICR	Dichloroacetic acid	26.2	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1042	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1043	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	2/15/98	2/17/98	2/17/98	0-85-0
1044	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	2/15/98	2/17/98	2/17/98	0-85-0
1045	HAA-ICR	Trichloroacetic acid	27.9	µg/L	EPA 552.2	1	1.0	2/15/98	2/17/98	2/17/98	0-85-0
1046	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	2/14/98		2/15/98	n/a
1047	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	2/14/98		2/14/98	n/a
1048	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	2/13/98		2/13/98	n/a
1049	TEMP	Cl2 Temperature	9.9	ºC	SM 2550 B	1	n/a	2/14/98		2/15/98	n/a
1050	TEMP	Temperature	19.2	ºC	SM 2550 B	1	n/a	2/13/98		2/13/98	n/a
1051	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	2/14/98		2/15/98	n/a
1052	TOC-ICR	TOC	3.46	mg/L	SM 5310 C	1	0.50	2/13/98		2/14/98	7-0-191
1053	TOC-ICR	TOC (Dupl)	3.52	mg/L	SM 5310 C	1	0.50	2/13/98		2/14/98	7-0-191
			3.49	**mg/L**	**1.7 % RPD**						
1054	TOX-ICR	TOX	317	µg Cl-/L	SM 5320 B	2	25	2/15/98		2/16/98	12-0-94
1055	TOX-ICR	TOX (Dupl)	310	µg Cl-/L	SM 5320 B	1	25	2/15/98		2/16/98	12-0-94
			314	**µg Cl-/L**	**2.2 % RPD**						
1056	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1057	THM-ICR	Bromodichloromethane	11.9	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1058	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1059	THM-ICR	Chloroform	61.9	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1060	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	2/15/98	2/18/98	2/18/98	0-83-0
1061	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	2/13/98		2/13/98	9-0-7
1062	UV-ICR	UV	0.068	1/cm	SM 5910 B	1	0.009	2/13/98		2/13/98	8-0-131
1063	UV-ICR	UV (Dupl)	0.068	1/cm	SM 5910 B	1	0.009	2/13/98		2/13/98	8-0-131
			0.068	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Sample ID: 101.20.Eff-53 **S&H ID:** 9802-177 **Date Sampled:** 2/14/98 6:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1064	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	2/14/98		2/14/98	n/a
1065	TEMP	Temperature	22.5	ºC	SM 2550 B	1	n/a	2/14/98		2/14/98	n/a
1066	TOC-ICR	TOC	2.34	mg/L	SM 5310 C	1	0.50	2/14/98		2/14/98	7-0-191
1067	TOC-ICR	TOC (Dupl)	2.36	mg/L	SM 5310 C	1	0.50	2/14/98		2/14/98	7-0-191
			2.35	**mg/L**	**0.9 % 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.
6 Knollcrest Drive
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Quality Control Report

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 101
Study Title: ICR RSSCT #1

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

QC Batch ID: 1-0-13

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%		01/30/98	9801-174	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		01/30/98	9801-174	5		
		100	**98**	**mg/L**	**98%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			01/30/98	9801-180	5		
Standard	Standard	100	99	mg/L	99%		01/30/98	9801-179	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		01/30/98	9801-179	5		
		100	**99**	**mg/L**	**99%**	**1.0 %**					
Matrix Spike	Matrix Spike	100	96	mg/L	96%		02/05/98	9802-65	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		02/05/98	9802-65	5		
		100	**97**	**mg/L**	**97%**	**2.1 %**					
Method Blank	Method Blank		ND*	mg/L			02/05/98	9802-68	5		
Standard	Standard	100	98	mg/L	98%		02/05/98	9802-67	5		
Standard (Dupl)	Standard	100	97	mg/L	97%		02/05/98	9802-67	5		
		100	**97**	**mg/L**	**97%**	**1.0 %**					

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

QC Batch ID: 3-0-13

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	95	94	mg/L CaCO3	99%		01/30/98	9801-174	5		
Matrix Spike (Dupl)	Matrix Spike	95	95	mg/L CaCO3	100%		01/30/98	9801-174	5		
		95	**95**	**mg/L CaCO3**	**100%**	**1.1 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			01/30/98	9801-182	5		
Standard	Standard	100	97	mg/L CaCO3	97%		01/30/98	9801-181	5	90-110%	
Standard (Dupl)	Standard	100	98	mg/L CaCO3	98%		01/30/98	9801-181	5	90-110%	
		100	**98**	**mg/L CaCO3**	**98%**	**1.0 %**				90-110%	10%
Matrix Spike	Matrix Spike	95	94	mg/L CaCO3	99%		02/05/98	9802-65	5		
Matrix Spike (Dupl)	Matrix Spike	95	95	mg/L CaCO3	100%		02/05/98	9802-65	5		
		95	**95**	**mg/L CaCO3**	**100%**	**1.1 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			02/05/98	9802-72	5		
Standard	Standard	100	97	mg/L CaCO3	97%		02/05/98	9802-71	5	90-110%	
Standard (Dupl)	Standard	100	100	mg/L CaCO3	100%		02/05/98	9802-71	5	90-110%	
		100	**98**	**mg/L CaCO3**	**98%**	**3.1 %**				90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

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

QC Batch ID: 7-0-174

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.32	mg/L	108%		9801-159	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.25	mg/L	106%		9801-159	0.5		
		4.00	**4.29**	**mg/L**	**107%**	**1.6 %**				
Method Blank	Method Blank		ND*	mg/L			9801-162	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9801-162	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9801-5	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9801-5	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.82	mg/L	95%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.85	mg/L	96%		9801-152	0.5	90-110%	
		4.00	**3.83**	**mg/L**	**96%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-176

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.98	mg/L	100%		9801-177	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.09	mg/L	102%		9801-177	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**2.7 %**				
Method Blank	Method Blank		ND*	mg/L			9801-187	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9801-187	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9801-5	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9801-5	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	4.00	mg/L	100%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9801-152	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**1.0 %**			90-110%	10%

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

QC Batch ID: 7-0-177

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.20	mg/L	105%		9801-191	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.13	mg/L	103%		9801-191	0.5		
		4.00	**4.17**	**mg/L**	**104%**	**1.7 %**				
Method Blank	Method Blank		ND*	mg/L			9801-189	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9801-189	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard	Standard	0.50	0.54	mg/L	108%		9801-5	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9801-5	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.08	mg/L	102%		9801-152	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**2.2 %**			90-110%	10%
Standard	Standard	10.00	10.28	mg/L	103%		9801-7	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.40	mg/L	104%		9801-7	0.5	90-110%	
		10.00	**10.34**	**mg/L**	**103%**	**1.2 %**			90-110%	10%

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

QC Batch ID: 7-0-178

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.26	mg/L	106%		9802-5	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.13	mg/L	103%		9802-5	0.5		
		4.00	**4.19**	**mg/L**	**105%**	**3.1 %**				
Method Blank	Method Blank		ND*	mg/L			9802-6	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-6	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9801-5	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.47	mg/L	94%		9801-5	0.5	50-150%	
		0.50	**0.47**	**mg/L**	**94%**	**2.1 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9801-152	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**0.5 %**			90-110%	10%

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

QC Batch ID: 7-0-179

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.25	mg/L	106%		9802-16	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.25	mg/L	106%		9802-16	0.5		
		4.00	**4.25**	**mg/L**	**106%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9802-19	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-19	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9801-121	0.5	50-150%	
		0.50	**0.48**	**mg/L**	**96%**	**2.1 %**			50-150%	20%
Standard	Standard	4.00	4.21	mg/L	105%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.21	mg/L	105%		9801-152	0.5	90-110%	
		4.00	**4.21**	**mg/L**	**105%**	**0.0 %**			90-110%	10%
Standard	Standard	10.00	10.54	mg/L	105%		9801-7	0.5	90-110%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard (Dupl)	Standard	10.00	10.58	mg/L	106%		9801-7	0.5	90-110%	
		10.00	**10.56**	**mg/L**	**106%**	**0.4 %**			90-110%	10%

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

QC Batch ID: 7-0-180

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.01	mg/L	100%		9802-29	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.20	mg/L	105%		9802-29	0.5		
		4.00	**4.10**	**mg/L**	**102%**	**4.6 %**				
Method Blank	Method Blank		ND*	mg/L			9802-33	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-33	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.47	mg/L	94%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
		0.50	**0.47**	**mg/L**	**94%**	**2.1 %**			50-150%	20%
Standard	Standard	4.00	4.07	mg/L	102%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9801-152	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**1.7 %**			90-110%	10%

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

QC Batch ID: 7-0-181

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.90	mg/L	97%		9802-52	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.89	mg/L	97%		9802-52	0.5		
		4.00	**3.89**	**mg/L**	**97%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9802-40	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-40	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
		0.50	**0.48**	**mg/L**	**96%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.92	mg/L	98%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9801-152	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**3.3 %**			90-110%	10%

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

QC Batch ID: 7-0-182

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.04	mg/L	101%		9802-61	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.17	mg/L	104%		9802-61	0.5		
		4.00	**4.10**	**mg/L**	**102%**	**3.4 %**				

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Method Blank	Method Blank		ND*	mg/L			9802-78	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-78	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.55	mg/L	110%		9801-121	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**7.5 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9801-152	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**1.5 %**			90-110%	10%

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

QC Batch ID: 7-0-183

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.11	mg/L	103%		9802-83	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.20	mg/L	105%		9802-83	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**2.2 %**				
Method Blank	Method Blank		ND*	mg/L			9802-85	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-85	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**6.0 %**			50-150%	20%
Standard	Standard	4.00	4.14	mg/L	103%		9802-76	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.10	mg/L	102%		9802-76	0.5	90-110%	
		4.00	**4.12**	**mg/L**	**103%**	**1.0 %**			90-110%	10%

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

QC Batch ID: 7-0-184

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.95	mg/L	99%		9802-100	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.03	mg/L	101%		9802-100	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**2.3 %**				
Method Blank	Method Blank		ND*	mg/L			9802-95	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-95	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.47	mg/L	94%		9801-121	0.5	50-150%	
		0.50	**0.48**	**mg/L**	**96%**	**2.1 %**			50-150%	20%
Standard	Standard	4.00	4.00	mg/L	100%		9801-152	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9801-152	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

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

QC Batch ID: 7-0-185

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.90	mg/L	97%		9802-102	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.00	mg/L	100%		9802-102	0.5		
		4.00	**3.95**	**mg/L**	**99%**	**2.5 %**				
Method Blank	Method Blank		ND*	mg/L			9802-104	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-104	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9801-121	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%		9802-76	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.09	mg/L	102%		9802-76	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**2.5 %**			90-110%	10%

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

QC Batch ID: 7-0-188

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.36	mg/L	109%		9802-131	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.23	mg/L	106%		9802-131	0.5		
		4.00	**4.29**	**mg/L**	**107%**	**3.0 %**				
Method Blank	Method Blank		ND*	mg/L			9802-132	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-132	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.42	mg/L	84%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.45	mg/L	90%		9801-121	0.5	50-150%	
		0.50	**0.43**	**mg/L**	**86%**	**7.0 %**			50-150%	20%
Standard	Standard	4.00	4.08	mg/L	102%		9802-76	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9802-76	0.5	90-110%	
		4.00	**4.06**	**mg/L**	**101%**	**1.0 %**			90-110%	10%

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

QC Batch ID: 7-0-190

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.29	mg/L	107%		9802-151	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.31	mg/L	108%		9802-151	0.5		
		4.00	**4.30**	**mg/L**	**108%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9802-161	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-161	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard	Standard	0.50	0.47	mg/L	94%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.48	mg/L	96%		9801-121	0.5	50-150%	
		0.50	**0.47**	**mg/L**	**94%**	**2.1 %**			50-150%	20%
Standard	Standard	4.00	4.09	mg/L	102%		9802-76	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.15	mg/L	104%		9802-76	0.5	90-110%	
		4.00	**4.12**	**mg/L**	**103%**	**1.5 %**			90-110%	10%

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

QC Batch ID: 7-0-191

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.07	mg/L	102%		9802-175	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.11	mg/L	103%		9802-175	0.5		
		4.00	**4.09**	**mg/L**	**102%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9802-172	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9802-172	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.44	mg/L	88%		9801-121	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.47	mg/L	94%		9801-121	0.5	50-150%	
		0.50	**0.46**	**mg/L**	**92%**	**6.5 %**			50-150%	20%
Standard	Standard	4.00	4.18	mg/L	104%		9802-169	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.12	mg/L	103%		9802-169	0.5	90-110%	
		4.00	**4.15**	**mg/L**	**104%**	**1.4 %**			90-110%	10%

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

QC Batch ID: 8-0-123

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Method Blank	Method Blank		ND*	1/cm			9801-188	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9801-188	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9801-188	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9801-188	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9801-119	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9801-119	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9801-120	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9801-120	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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

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

QC Batch ID: 8-0-124

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-7	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-7	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-7	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-7	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9801-119	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9801-119	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9801-120	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9801-120	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: 8-0-125

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-21	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-21	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-21	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-21	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9801-119	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9801-119	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%		9801-120	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%		9801-120	0.009	85-115%	
		0.088	**0.089**	**1/cm**	**101%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-126

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-55	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-55	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-55	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-55	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard	Standard	0.009	0.008	1/cm	89%		9801-119	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9801-119	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%		9801-120	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9801-120	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-127

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-77	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-77	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-77	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-77	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9801-119	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9801-119	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%		9801-120	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9801-120	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: 8-0-128

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-90	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-90	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-90	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-90	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9802-91	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9802-91	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%		9802-92	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9802-92	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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

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

QC Batch ID: 8-0-129

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-105	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-105	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-105	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-105	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9802-91	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9802-91	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%		9802-92	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9802-92	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: 8-0-130

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-138	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-138	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-138	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-138	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9802-91	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9802-91	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%		9802-92	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9802-92	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-131

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9802-166	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-166	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9802-166	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9802-166	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard	Standard	0.009	0.008	1/cm	89%		9802-91	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9802-91	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%		9802-92	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9802-92	0.009	85-115%	
		0.088	**0.085**	**1/cm**	**97%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 9-0-7

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

QC Batch ID: 12-0-90

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%		9802-50	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9802-51	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9802-49	25		

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

QC Batch ID: 12-0-91

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous (Dupl)	Standard	25	28	µg Cl-/L	112%		9802-88	25	75-125%	
Standard - TCP Aqueous	Standard	200	193	µg Cl-/L	96%		9802-89	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9802-87	25		

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

QC Batch ID: 12-0-92

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	191	µg Cl-/L	95%		9802-60	25		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Matrix Spike (Dupl)	Matrix Spike	200	190	µg Cl-/L	95%		9802-60	25		
		200	**190**	**µg Cl-/L**	**95%**	**0.5 %**				
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9802-113	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9802-114	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9802-112	25		

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

QC Batch ID: 12-0-93

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9802-135	25	75-125%	
Standard - TCP Aqueous	Standard	200	201	µg Cl-/L	100%		9802-136	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9802-134	25		

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

QC Batch ID: 12-0-94

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	400	387	µg Cl-/L	97%		9802-157	25		
Matrix Spike (Dupl)	Matrix Spike	400	366	µg Cl-/L	92%		9802-157	25		
		400	**377**	**µg Cl-/L**	**94%**	**5.6 %**				
Standard - TCP Aqueous	Standard	25	28	µg Cl-/L	112%		9802-207	25	75-125%	
Standard - TCP Aqueous	Standard	200	196	µg Cl-/L	98%		9802-208	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9802-206	25		

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

QC Batch ID: 33-0-13

										Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**Date Run**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	96	96	mg/L CaCO3	100%		01/30/98	9801-174	10		
Matrix Spike (Dupl)	Matrix Spike	96	99	mg/L CaCO3	103%		01/30/98	9801-174	10		
		96	**97**	**mg/L CaCO3**	**101%**	**3.1 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			01/30/98	9801-185	10		
Standard	Standard	100	98	mg/L CaCO3	98%		01/30/98	9801-184	10	90-110%	
Standard (Dupl)	Standard	100	98	mg/L CaCO3	98%		01/30/98	9801-184	10	90-110%	
		100	**98**	**mg/L CaCO3**	**98%**	**0.0 %**				90-110%	10%
Matrix Spike	Matrix Spike	96	97	mg/L CaCO3	101%		02/05/98	9802-65	10		
Matrix Spike (Dupl)	Matrix Spike	96	97	mg/L CaCO3	101%		02/05/98	9802-65	10		
		96	**97**	**mg/L CaCO3**	**101%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L CaCO3			02/05/98	9802-75	10		
Standard	Standard	100	98	mg/L CaCO3	98%		02/05/98	9802-74	10	90-110%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Standard (Dupl)	Standard	100	101	mg/L CaCO3	101%		02/05/98	9802-74	10	90-110%	
		100	**99**	**mg/L CaCO3**	**99%**	**3.0 %**				90-110%	10%

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

QC Batch ID: 0-82-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	12.2	11.8	µg/L		3.3%	9802-52	1		
Bromodichloromethane	Matrix Spike	40.0	43.6	µg/L	109%		9802-66	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9802-162	1		
Bromodichloromethane	Secondary Source Std	20.0	23.5	µg/L	118%		9802-163	1	70-130%	
Bromodichloromethane	Standard	20.0	20.2	µg/L	101%		9802-164	1	80-120%	
Bromodichloromethane	Standard	20.0	20.7	µg/L	103%		9802-164	1	80-120%	
Bromodichloromethane	Standard	20.0	20.3	µg/L	102%		9802-164	1	80-120%	
Bromodichloromethane	Standard	40.0	43.4	µg/L	109%		9802-165	1	80-120%	
Bromodichloromethane	Standard	40.0	43.2	µg/L	108%		9802-165	1	80-120%	
Bromodichloromethane	Standard	40.0	43.3	µg/L	108%		9802-165	1	80-120%	
Bromoform	Duplicate	ND	ND	µg/L		NA	9802-52	1		
Bromoform	Matrix Spike	40.0	44.6	µg/L	112%		9802-66	1		
Bromoform	Method Blank		ND*	µg/L			9802-162	1		
Bromoform	Secondary Source Std	20.0	20.5	µg/L	102%		9802-163	1	70-130%	
Bromoform	Standard	20.0	20.0	µg/L	100%		9802-164	1	80-120%	
Bromoform	Standard	20.0	18.7	µg/L	93%		9802-164	1	80-120%	
Bromoform	Standard	20.0	21.7	µg/L	109%		9802-164	1	80-120%	
Bromoform	Standard	40.0	39.1	µg/L	98%		9802-165	1	80-120%	
Bromoform	Standard	40.0	42.4	µg/L	106%		9802-165	1	80-120%	
Bromoform	Standard	40.0	42.4	µg/L	106%		9802-165	1	80-120%	
Chloroform	Duplicate	33.7	32.7	µg/L		3.0%	9802-52	1		
Chloroform	Matrix Spike	40.0	37.6	µg/L	94%		9802-66	1		
Chloroform	Method Blank		ND*	µg/L			9802-162	1		
Chloroform	Secondary Source Std	20.0	22.4	µg/L	112%		9802-163	1	70-130%	
Chloroform	Standard	20.0	18.7	µg/L	93%		9802-164	1	80-120%	
Chloroform	Standard	20.0	18.7	µg/L	93%		9802-164	1	80-120%	
Chloroform	Standard	20.0	19.0	µg/L	95%		9802-164	1	80-120%	
Chloroform	Standard	40.0	40.2	µg/L	101%		9802-165	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Chloroform	Standard	40.0	40.0	µg/L	100%		9802-165	1	80-120%
Chloroform	Standard	40.0	39.8	µg/L	99%		9802-165	1	80-120%
Dibromochloromethane	Duplicate	1.7	1.6	µg/L		6.1%	9802-52	1	
Dibromochloromethane	Matrix Spike	40.0	46.1	µg/L	115%		9802-66	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9802-162	1	
Dibromochloromethane	Secondary Source Std	20.0	23.0	µg/L	115%		9802-163	1	70-130%
Dibromochloromethane	Standard	20.0	20.8	µg/L	104%		9802-164	1	80-120%
Dibromochloromethane	Standard	20.0	21.2	µg/L	106%		9802-164	1	80-120%
Dibromochloromethane	Standard	20.0	20.9	µg/L	104%		9802-164	1	80-120%
Dibromochloromethane	Standard	40.0	43.7	µg/L	109%		9802-165	1	80-120%
Dibromochloromethane	Standard	40.0	43.1	µg/L	108%		9802-165	1	80-120%
Dibromochloromethane	Standard	40.0	43.2	µg/L	108%		9802-165	1	80-120%

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

QC Batch ID: 0-83-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	12.7	11.3	µg/L		11.7%	9802-131	1		
Bromodichloromethane	Matrix Spike	40.0	43.2	µg/L	108%		9802-157	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9802-224	1		
Bromodichloromethane	Standard	20.0	20.3	µg/L	102%		9802-164	1	80-120%	
Bromodichloromethane	Standard	40.0	43.5	µg/L	109%		9802-225	1	80-120%	
Bromoform	Duplicate	ND	ND	µg/L		NA	9802-131	1		
Bromoform	Matrix Spike	40.0	45.5	µg/L	114%		9802-157	1		
Bromoform	Method Blank		ND*	µg/L			9802-224	1		
Bromoform	Standard	20.0	21.7	µg/L	109%		9802-164	1	80-120%	
Bromoform	Standard	40.0	43.5	µg/L	109%		9802-225	1	80-120%	
Chloroform	Duplicate	32.3	28.5	µg/L		12.5%	9802-131	1		
Chloroform	Matrix Spike	40.0	41.8	µg/L	104%		9802-157	1		
Chloroform	Method Blank		ND*	µg/L			9802-224	1		
Chloroform	Standard	20.0	19.0	µg/L	95%		9802-164	1	80-120%	
Chloroform	Standard	40.0	39.5	µg/L	99%		9802-225	1	80-120%	
Dibromochloromethane	Duplicate	2.1	1.7	µg/L		21.1%	9802-131	1		
Dibromochloromethane	Matrix Spike	40.0	44.2	µg/L	111%		9802-157	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9802-224	1		
Dibromochloromethane	Standard	20.0	20.9	µg/L	104%		9802-164	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Dibromochloromethane	Standard	40.0	43.8	µg/L	110%		9802-225	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-80-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	2.9	2.9	µg/L		0.0%	9802-53	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.1	µg/L	98%		9802-63	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9802-127	1		
Bromochloroacetic acid	Secondary Source Std	20.0	22.2	µg/L	111%		9802-128	1	70-130%	
Bromochloroacetic acid	Standard	20.0	22.3	µg/L	112%		9802-129	1	80-120%	
Bromochloroacetic acid	Standard	20.0	21.8	µg/L	109%		9802-129	1	80-120%	
Bromochloroacetic acid	Standard	40.0	38.8	µg/L	97%		9802-130	1	80-120%	
Bromodichloroacetic acid	Duplicate	3.3	3.2	µg/L		3.1%	9802-53	1		
Bromodichloroacetic acid	Matrix Spike	40.0	40.5	µg/L	101%		9802-63	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9802-127	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9802-128	1		
Bromodichloroacetic acid	Standard	20.0	23.4	µg/L	117%		9802-129	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	23.7	µg/L	119%		9802-129	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	40.6	µg/L	102%		9802-130	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9802-53	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	42.7	µg/L	107%		9802-63	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9802-127	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9802-128	2		
Chlorodibromoacetic acid	Standard	20.0	23.4	µg/L	117%		9802-129	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	22.2	µg/L	111%		9802-129	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	41.5	µg/L	104%		9802-130	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9802-53	1		
Dibromoacetic acid	Matrix Spike	40.0	40.9	µg/L	102%		9802-63	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9802-127	1		
Dibromoacetic acid	Secondary Source Std	20.0	24.0	µg/L	120%		9802-128	1	70-130%	
Dibromoacetic acid	Standard	20.0	22.9	µg/L	115%		9802-129	1	80-120%	
Dibromoacetic acid	Standard	20.0	23.4	µg/L	117%		9802-129	1	80-120%	
Dibromoacetic acid	Standard	40.0	39.0	µg/L	97%		9802-130	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Dichloroacetic acid	Duplicate	15.0	15.2 µg/L		1.3%	9802-53	1	
Dichloroacetic acid	Matrix Spike	40.0	35.0 µg/L	88%		9802-63	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9802-127	1	
Dichloroacetic acid	Secondary Source Std	20.0	21.9 µg/L	110%		9802-128	1	70-130%
Dichloroacetic acid	Standard	20.0	21.6 µg/L	108%		9802-129	1	80-120%
Dichloroacetic acid	Standard	20.0	22.3 µg/L	112%		9802-129	1	80-120%
Dichloroacetic acid	Standard	40.0	38.7 µg/L	97%		9802-130	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9802-53	1	
Monobromoacetic acid	Matrix Spike	40.0	43.0 µg/L	108%		9802-63	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9802-127	1	
Monobromoacetic acid	Secondary Source Std	20.0	20.4 µg/L	102%		9802-128	1	70-130%
Monobromoacetic acid	Standard	20.0	20.8 µg/L	104%		9802-129	1	80-120%
Monobromoacetic acid	Standard	20.0	21.5 µg/L	108%		9802-129	1	80-120%
Monobromoacetic acid	Standard	40.0	36.7 µg/L	92%		9802-130	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9802-53	2	
Monochloroacetic acid	Matrix Spike	40.0	36.1 µg/L	90%		9802-63	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9802-127	2	
Monochloroacetic acid	Secondary Source Std	20.0	18.5 µg/L	93%		9802-128	2	70-130%
Monochloroacetic acid	Standard	20.0	21.1 µg/L	106%		9802-129	2	80-120%
Monochloroacetic acid	Standard	20.0	21.1 µg/L	106%		9802-129	2	80-120%
Monochloroacetic acid	Standard	40.0	42.9 µg/L	107%		9802-130	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9802-53	4	
Tribromoacetic acid	Matrix Spike	40.0	41.8 µg/L	104%		9802-63	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9802-127	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9802-128	4	
Tribromoacetic acid	Standard	20.0	18.7 µg/L	93%		9802-129	4	80-120%
Tribromoacetic acid	Standard	20.0	19.9 µg/L	99%		9802-129	4	80-120%
Tribromoacetic acid	Standard	40.0	37.9 µg/L	95%		9802-130	4	80-120%
Trichloroacetic acid	Duplicate	15.0	15.5 µg/L		3.3%	9802-53	1	
Trichloroacetic acid	Matrix Spike	40.0	32.7 µg/L	82%		9802-63	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9802-127	1	
Trichloroacetic acid	Secondary Source Std	20.0	24.0 µg/L	120%		9802-128	1	70-130%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Trichloroacetic acid	Standard	20.0	22.9	µg/L	115%		9802-129	1	80-120%
Trichloroacetic acid	Standard	20.0	22.9	µg/L	115%		9802-129	1	80-120%
Trichloroacetic acid	Standard	40.0	38.5	µg/L	96%		9802-130	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-85-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	3.2	3.4	µg/L		6.1%	9802-100	1		
Bromochloroacetic acid	Matrix Spike	40.0	45.9	µg/L	115%		9802-131	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9802-216	1		
Bromochloroacetic acid	Standard	20.0	22.8	µg/L	114%		9802-217	1	80-120%	
Bromochloroacetic acid	Standard	20.0	21.8	µg/L	109%		9802-217	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.6	µg/L	99%		9802-130	1	80-120%	
Bromodichloroacetic acid	Duplicate	2.7	2.8	µg/L		3.6%	9802-100	1		
Bromodichloroacetic acid	Matrix Spike	40.0	46.5	µg/L	116%		9802-131	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9802-216	1		
Bromodichloroacetic acid	Standard	20.0	22.9	µg/L	115%		9802-217	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	21.3	µg/L	106%		9802-217	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	39.2	µg/L	98%		9802-130	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9802-100	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	45.3	µg/L	113%		9802-131	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9802-216	2		
Chlorodibromoacetic acid	Standard	20.0	21.5	µg/L	108%		9802-217	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	23.8	µg/L	119%		9802-217	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	40.2	µg/L	101%		9802-130	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9802-100	1		
Dibromoacetic acid	Matrix Spike	40.0	46.6	µg/L	117%		9802-131	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9802-216	1		
Dibromoacetic acid	Standard	20.0	23.5	µg/L	118%		9802-217	1	80-120%	
Dibromoacetic acid	Standard	20.0	21.4	µg/L	107%		9802-217	1	80-120%	
Dibromoacetic acid	Standard	40.0	39.8	µg/L	99%		9802-130	1	80-120%	
Dichloroacetic acid	Duplicate	11.8	11.8	µg/L		0.0%	9802-100	1		
Dichloroacetic acid	Matrix Spike	40.0	42.3	µg/L	106%		9802-131	1		
Dichloroacetic acid	Method Blank		ND*	µg/L			9802-216	1		
Dichloroacetic acid	Standard	20.0	22.9	µg/L	115%		9802-217	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

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

Dichloroacetic acid	Standard	20.0	21.0 µg/L	105%		9802-217	1	80-120%
Dichloroacetic acid	Standard	40.0	38.6 µg/L	97%		9802-130	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9802-100	1	
Monobromoacetic acid	Matrix Spike	40.0	45.7 µg/L	114%		9802-131	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9802-216	1	
Monobromoacetic acid	Standard	20.0	20.8 µg/L	104%		9802-217	1	80-120%
Monobromoacetic acid	Standard	20.0	21.7 µg/L	109%		9802-217	1	80-120%
Monobromoacetic acid	Standard	40.0	38.7 µg/L	97%		9802-130	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9802-100	2	
Monochloroacetic acid	Matrix Spike	40.0	39.5 µg/L	99%		9802-131	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9802-216	2	
Monochloroacetic acid	Standard	20.0	17.2 µg/L	86%		9802-217	2	80-120%
Monochloroacetic acid	Standard	20.0	21.1 µg/L	106%		9802-217	2	80-120%
Monochloroacetic acid	Standard	40.0	36.6 µg/L	92%		9802-130	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9802-100	4	
Tribromoacetic acid	Matrix Spike	40.0	38.3 µg/L	96%		9802-131	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9802-216	4	
Tribromoacetic acid	Standard	20.0	19.2 µg/L	96%		9802-217	4	80-120%
Tribromoacetic acid	Standard	20.0	20.6 µg/L	103%		9802-217	4	80-120%
Tribromoacetic acid	Standard	40.0	38.4 µg/L	96%		9802-130	4	80-120%
Trichloroacetic acid	Duplicate	8.0	8.5 µg/L		6.1%	9802-100	1	
Trichloroacetic acid	Matrix Spike	40.0	40.9 µg/L	102%		9802-131	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9802-216	1	
Trichloroacetic acid	Standard	20.0	23.1 µg/L	116%		9802-217	1	80-120%
Trichloroacetic acid	Standard	20.0	22.6 µg/L	113%		9802-217	1	80-120%
Trichloroacetic acid	Standard	40.0	38.9 µg/L	97%		9802-130	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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Cincinnati, OH 45237
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QC Results from Montgomery Watson Laboratories

Printed on 6/23/99 9:27:01 PM

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 101
Study Title: ICR RSSCT #1

QC Batch ID: 73290 **Report #:** 40341

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	1.01	101.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.06	106.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.06	106.0%		(80 - 120)

QC Batch ID: 73379 **Report #:** 40341

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.03	150.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.3	0.28	93.0%		(70 - 130)
MSD	Bromide	0.3	0.28	93.0%		(70 - 130)

QC Batch ID: 73654 **Report #:** 40615

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.02	102.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.02	102.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	1.15	115.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	1.15	115.0%		(80 - 120)

QC Batch ID: 73902 **Report #:** 40615

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	0.109	109.0%		(70 - 130)

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

QC Results from Montgomery Watson Laboratories

Ms. Julia Bellamy
Charleston CPW

Study#: 101
Study Title: ICR RSSCT #1

MSD	Bromide	0.1	0.109	109.0%	(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
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Comments

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 101
Study Title: ICR RSSCT #1

Study comments

Due to a sampling error, 101.10.Eff-12 and 101.10.Eff-13 were not taken.

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: 0-93-0 **Description:** MW Labs Report # 40341

HAA TBAA results not reported for samples 9801-127, 9801-130, 9801-173, 9801-155, 9801-156, and 9801-169. From MW Labs: "Recovery outside range on Low LFB."

End of comments

Summers & Hooper, Inc.

6 Knollcrest Drive
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Laboratory Report

Client:

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Phone: 803-863-4002 Fax: 803-863-4015

Study Title: ICR RSSCT #2

Study #: 106

Reviewed By: _____

Stuart M. Hooper

Date Reviewed: 6/15/99

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

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 106
Study Title: ICR RSSCT #2

Sample ID: Plant raw water **S&H ID:** 9804-484 **Date Sampled:** 4/28/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR TOC	10.29	mg/L	SM 5310 C	1	0.50	4/28/98		5/3/98	7-0-255
2	TOC-ICR TOC (Dupl)	10.46	mg/L	SM 5310 C	1	0.50	4/28/98		5/3/98	7-0-255
		10.38	**mg/L**	**1.6 % RPD**						

Sample ID: Plant settled water **S&H ID:** 9804-485 **Date Sampled:** 4/28/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR TOC	3.38	mg/L	SM 5310 C	1	0.50	4/28/98		5/3/98	7-0-255
4	TOC-ICR TOC (Dupl)	3.35	mg/L	SM 5310 C	1	0.50	4/28/98		5/3/98	7-0-255
		3.37	**mg/L**	**0.9 % RPD**						

Sample ID: Plant filtered water **S&H ID:** 9804-486 **Date Sampled:** 4/28/98

#	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	4/28/98		5/3/98	7-0-255
6	TOC-ICR TOC (Dupl)	3.20	mg/L	SM 5310 C	1	0.50	4/28/98		5/3/98	7-0-255
		3.21	**mg/L**	**0.3 % RPD**						

Sample ID: Settled (on arrival) **S&H ID:** 9804-531 **Date Sampled:** 4/30/98 2:50:00 PM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR TOC	3.49	mg/L	SM 5310 C	1	0.50	4/30/98		5/3/98	7-0-255
8	TOC-ICR TOC (Dupl)	3.42	mg/L	SM 5310 C	1	0.50	4/30/98		5/3/98	7-0-255
		3.46	**mg/L**	**2.0 % RPD**						

Sample ID: Cartridge filtered water **S&H ID:** 9805-71 **Date Sampled:** 5/3/98 12:00:00 PM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR TOC	3.27	mg/L	SM 5310 C	1	0.50	5/3/98		5/3/98	7-0-255
10	TOC-ICR TOC (Dupl)	3.23	mg/L	SM 5310 C	1	0.50	5/3/98		5/3/98	7-0-255
		3.25	**mg/L**	**1.2 % RPD**						

Sample ID: 106.INF.A-1 **S&H ID:** 9805-147 **Date Sampled:** 5/8/98 3:25:00 PM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	ALK Alkalinity	10	mg/L	SM 2320 B	1	5	5/8/98		5/9/98	1-0-20
12	ALK Alkalinity (Dupl)	10	mg/L	SM 2320 B	1	5	5/8/98		5/9/98	1-0-20
		10	**mg/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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

13	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	5/8/98		5/27/98	MW78032
14	BR	Bromide	0.026	mg/L	EPA 300.0 A	1	0.020	5/8/98		6/1/98	MW78267
15	CaHardM	Calcium Hardness	40	mg/L CaCO3	EPA 200.7	1	5	5/8/98		6/4/98	MW n/a
16	CaMW	Calcium, Total, ICAP	16	mg/L	EPA 200.7	1	1	5/8/98	6/3/98	6/3/98	MW78329
17	MgMW	Magnesium, Total, ICAP	1	mg/L	EPA 200.7	1	0	5/8/98	6/3/98	6/3/98	MW78330
18	TotHard	Total Hardness as CaCO3 by ICP	45	mg/L CaCO3	SM 2340B	1	7	5/8/98		6/4/98	MW n/a

Sample ID: 106.INF.B-1 **S&H ID:** 9805-148 **Date Sampled:** 5/8/98 3:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
19	Cl2Dose	Chlorine Dose	4.74	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
20	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
21	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	110.4	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
22	HAA-ICR	2-Bromopropionic acid (Surrogate)	91.2	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
23	HAA-ICR	Bromochloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
24	HAA-ICR	Bromodichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
25	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
26	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
27	HAA-ICR	Dichloroacetic acid	27.5	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
28	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
29	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
30	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
31	HAA-ICR	Trichloroacetic acid	23.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
32	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
33	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
34	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	5/8/98		5/8/98	n/a
35	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
36	TEMP	Temperature	19.4	ºC	SM 2550 B	1	n/a	5/8/98		5/8/98	n/a
37	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
38	TOC-ICR	TOC	3.19	mg/L	SM 5310 C	1	0.50	5/8/98		5/11/98	7-0-263
39	TOC-ICR	TOC (Dupl)	3.17	mg/L	SM 5310 C	1	0.50	5/8/98		5/11/98	7-0-263
			3.18	**mg/L**	**0.6 % RPD**						
40	TOX-ICR	TOX	414	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
41	TOX-ICR	TOX (Dupl)	430	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			422	**µg Cl-/L**	**3.8 % RPD**						
42	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
43	THM-ICR	Bromodichloromethane	18.0	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

44	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
45	THM-ICR	Chloroform	92.3	µg/L	EPA 551.1	10	1.0	5/14/98	5/15/98	5/21/98	0-128-0
46	THM-ICR	Dibromochloromethane	2.0	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
47	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	5/8/98		5/8/98	9-0-10
48	UV-ICR	UV	0.074	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
49	UV-ICR	UV (Dupl)	0.073	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
			0.073	**1/cm**	**1.4 % RPD**						

Sample ID: 106.INST.DBPs **S&H ID:** 9805-149 **Date Sampled:** 5/8/98 4:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
50	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	119.2	%	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
51	HAA-ICR	2-Bromopropionic acid (Surrogate)	88.0	%	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
52	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
53	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
54	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/8/98	5/19/98	5/20/98	0-129-0
55	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
56	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
57	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
58	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/8/98	5/19/98	5/20/98	0-129-0
59	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/8/98	5/19/98	5/20/98	0-129-0
60	HAA-ICR	Trichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/8/98	5/19/98	5/20/98	0-129-0
61	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	5/8/98	5/15/98	5/16/98	0-128-0
62	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	5/8/98	5/15/98	5/16/98	0-128-0
63	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/8/98	5/15/98	5/16/98	0-128-0
64	THM-ICR	Chloroform	2.2	µg/L	EPA 551.1	1	1.0	5/8/98	5/15/98	5/16/98	0-128-0
65	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	5/8/98	5/15/98	5/16/98	0-128-0

Sample ID: 106.10.Eff-1 **S&H ID:** 9805-158 **Date Sampled:** 5/8/98 7:14:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
66	Cl2Dose	Chlorine Dose	2.10	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
67	Cl2Res	Chlorine Residual	1.54	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
68	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.8	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
69	HAA-ICR	2-Bromopropionic acid (Surrogate)	92.4	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
70	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
71	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
72	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

73	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
74	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
75	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
76	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
77	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
78	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
79	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
80	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
81	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/8/98		5/8/98	n/a
82	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
83	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	5/8/98		5/8/98	n/a
84	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
85	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	5/8/98		5/9/98	7-0-261
86	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	5/8/98		5/9/98	7-0-261
			ND	**mg/L**							
87	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
88	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			ND	**µg Cl-/L**							
89	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
90	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
91	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
92	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
93	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
94	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
95	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
			ND	**1/cm**							

Sample ID: 106.10.Eff-2 **S&H ID:** 9805-159 **Date Sampled:** 5/9/98 9:08:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
96	Cl2Dose	Chlorine Dose	2.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
97	Cl2Res	Chlorine Residual	1.43	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
98	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
99	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.2	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
100	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
101	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
102	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
103	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
104	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

105	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
106	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
107	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
108	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
109	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
110	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
111	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	5/9/98		5/9/98	n/a
112	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
113	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	5/9/98		5/9/98	n/a
114	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
115	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	5/9/98		5/9/98	7-0-261
116	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	5/9/98		5/9/98	7-0-261
			ND	**mg/L**							
117	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
118	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			ND	**µg Cl-/L**							
119	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
120	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
121	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
122	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
123	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
124	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/9/98		5/11/98	8-0-181
125	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	5/9/98		5/11/98	8-0-181
			ND	**1/cm**							

Sample ID: 106.20.Eff-1 **S&H ID:** 9805-160 **Date Sampled:** 5/8/98 7:02:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
126	Cl2Dose	Chlorine Dose	1.90	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
127	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
128	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
129	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
130	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
131	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
132	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
133	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
134	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
135	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
136	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

137	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
138	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
139	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
140	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
141	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	5/8/98		5/8/98	n/a
142	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
143	TEMP	Temperature	20.3	ºC	SM 2550 B	1	n/a	5/8/98		5/8/98	n/a
144	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
145	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	5/8/98		5/9/98	7-0-261
146	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	5/8/98		5/9/98	7-0-261
			ND	**mg/L**							
147	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
148	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			ND	**µg Cl-/L**							
149	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
150	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
151	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
152	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
153	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
154	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
155	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	5/8/98		5/9/98	8-0-180
			ND	**1/cm**							

Sample ID: 106.10.Eff-3 **S&H ID:** 9805-167 **Date Sampled:** 5/10/98 8:04:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
156	Cl2Dose	Chlorine Dose	2.40	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
157	Cl2Res	Chlorine Residual	1.34	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
158	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
159	HAA-ICR	2-Bromopropionic acid (Surrogate)	91.6	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
160	HAA-ICR	Bromochloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
161	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
162	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
163	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
164	HAA-ICR	Dichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
165	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
166	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
167	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
168	HAA-ICR	Trichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

169	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
170	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
171	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/10/98		5/10/98	n/a
172	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
173	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	5/10/98		5/10/98	n/a
174	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
175	TOC-ICR	TOC	0.72	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
176	TOC-ICR	TOC (Dupl)	0.71	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
			0.71	**mg/L**	**1.4 % RPD**						
177	TOX-ICR	TOX	77	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
178	TOX-ICR	TOX (Dupl)	72	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			75	**µg Cl-/L**	**6.7 % RPD**						
179	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
180	THM-ICR	Bromodichloromethane	9.6	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
181	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
182	THM-ICR	Chloroform	9.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
183	THM-ICR	Dibromochloromethane	6.7	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
184	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
185	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
			0.012	**1/cm**	**8.3 % RPD**						

Sample ID: 106.10.Eff-4 **S&H ID:** 9805-168 **Date Sampled:** 5/10/98 12:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
186	Cl2Dose	Chlorine Dose	2.51	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
187	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
188	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.8	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
189	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.0	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
190	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
191	HAA-ICR	Bromodichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
192	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
193	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
194	HAA-ICR	Dichloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
195	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
196	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
197	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
198	HAA-ICR	Trichloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
199	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

200	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
201	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/10/98		5/10/98	n/a
202	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
203	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	5/10/98		5/10/98	n/a
204	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
205	TOC-ICR	TOC	0.84	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
206	TOC-ICR	TOC (Dupl)	0.86	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
			0.85	**mg/L**	**2.4 % RPD**						
207	TOX-ICR	TOX	86	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
208	TOX-ICR	TOX (Dupl)	82	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			84	**µg Cl-/L**	**4.8 % RPD**						
209	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.0	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
210	THM-ICR	Bromodichloromethane	11.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
211	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
212	THM-ICR	Chloroform	14.1	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
213	THM-ICR	Dibromochloromethane	7.1	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
214	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
215	UV-ICR	UV (Dupl)	0.015	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
			0.015	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-4d **S&H ID:** 9805-169 **Date Sampled:** 5/10/98 12:40:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
216	Cl2Dose	Chlorine Dose	2.52	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
217	Cl2Res	Chlorine Residual	1.40	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
218	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
219	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.2	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
220	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
221	HAA-ICR	Bromodichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
222	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
223	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
224	HAA-ICR	Dichloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
225	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
226	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
227	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
228	HAA-ICR	Trichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
229	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
230	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
231	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/10/98		5/10/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

232	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
233	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	5/10/98		5/10/98	n/a
234	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
235	TOC-ICR	TOC	0.85	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
236	TOC-ICR	TOC (Dupl)	0.86	mg/L	SM 5310 C	1	0.50	5/10/98		5/10/98	7-0-262
			0.85	**mg/L**	**1.2 % RPD**						
237	TOX-ICR	TOX	74	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
238	TOX-ICR	TOX (Dupl)	78	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			76	**µg Cl-/L**	**5.3 % RPD**						
239	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
240	THM-ICR	Bromodichloromethane	11.7	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
241	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
242	THM-ICR	Chloroform	14.0	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
243	THM-ICR	Dibromochloromethane	6.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
244	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
245	UV-ICR	UV (Dupl)	0.015	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
			0.015	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-5 **S&H ID:** 9805-172 **Date Sampled:** 5/10/98 5:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
246	Cl2Dose	Chlorine Dose	2.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
247	Cl2Res	Chlorine Residual	1.38	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
248	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.8	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
249	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
250	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
251	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
252	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
253	HAA-ICR	Dibromoacetic acid	1.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
254	HAA-ICR	Dichloroacetic acid	5.8	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
255	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
256	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/19/98	5/20/98	0-129-0
257	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/19/98	5/20/98	0-129-0
258	HAA-ICR	Trichloroacetic acid	3.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/19/98	5/20/98	0-129-0
259	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
260	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
261	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/10/98		5/10/98	n/a
262	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
263	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	5/10/98		5/10/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

264	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
265	TOC-ICR	TOC	0.96	mg/L	SM 5310 C	1	0.50	5/10/98		5/11/98	7-0-263
266	TOC-ICR	TOC (Dupl)	0.98	mg/L	SM 5310 C	1	0.50	5/10/98		5/11/98	7-0-263
			0.97	**mg/L**	**2.1 % RPD**						
267	TOX-ICR	TOX	125	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
268	TOX-ICR	TOX (Dupl)	118	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			122	**µg Cl-/L**	**5.7 % RPD**						
269	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
270	THM-ICR	Bromodichloromethane	12.6	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
271	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
272	THM-ICR	Chloroform	18.0	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
273	THM-ICR	Dibromochloromethane	6.3	µg/L	EPA 551.1	1	1.0	5/14/98	5/15/98	5/16/98	0-128-0
274	UV-ICR	UV	0.017	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
275	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	5/10/98		5/11/98	8-0-181
			0.017	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-6 **S&H ID:** 9805-176 **Date Sampled:** 5/10/98 9:47:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
276	Cl2Dose	Chlorine Dose	2.69	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
277	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
278	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.0	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
279	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
280	HAA-ICR	Bromochloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
281	HAA-ICR	Bromodichloroacetic acid	3.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
282	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
283	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
284	HAA-ICR	Dichloroacetic acid	7.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
285	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
286	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
287	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/27/98	5/27/98	0-134-0
288	HAA-ICR	Trichloroacetic acid	9.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
289	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
290	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
291	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/10/98		5/10/98	n/a
292	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
293	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	5/10/98		5/10/98	n/a
294	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

295	TOC-ICR	TOC	1.11	mg/L	SM 5310 C	1	0.50	5/10/98		5/11/98	7-0-263
296	TOC-ICR	TOC (Dupl)	1.13	mg/L	SM 5310 C	1	0.50	5/10/98		5/11/98	7-0-263
			1.12	**mg/L**	**1.8 % RPD**						
297	TOX-ICR	TOX	113	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
298	TOX-ICR	TOX (Dupl)	113	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			113	**µg Cl-/L**	**0.0 % RPD**						
299	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
300	THM-ICR	Bromodichloromethane	11.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
301	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
302	THM-ICR	Chloroform	18.9	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
303	THM-ICR	Dibromochloromethane	5.4	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
304	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	5/10/98		5/12/98	8-0-182
305	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	5/10/98		5/12/98	8-0-182
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-8 **S&H ID:** 9805-180 **Date Sampled:** 5/11/98 7:13:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
306	Cl2Dose	Chlorine Dose	2.85	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
307	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
308	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	94.8	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
309	HAA-ICR	2-Bromopropionic acid (Surrogate)	105.2	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
310	HAA-ICR	Bromochloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
311	HAA-ICR	Bromodichloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
312	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
313	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
314	HAA-ICR	Dichloroacetic acid	10.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
315	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
316	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
317	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/27/98	5/27/98	0-134-0
318	HAA-ICR	Trichloroacetic acid	12.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
319	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
320	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
321	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/11/98		5/11/98	n/a
322	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
323	TEMP	Temperature	20.5	ºC	SM 2550 B	1	n/a	5/11/98		5/11/98	n/a
324	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
325	TOC-ICR	TOC	1.38	mg/L	SM 5310 C	1	0.50	5/11/98		5/11/98	7-0-263
326	TOC-ICR	TOC (Dupl)	1.39	mg/L	SM 5310 C	1	0.50	5/11/98		5/11/98	7-0-263

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

			1.38	**mg/L**	**0.7 % RPD**						
327	TOX-ICR	TOX	149	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
328	TOX-ICR	TOX (Dupl)	152	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/20/98	12-0-137
			151	**µg Cl-/L**	**2.0 % RPD**						
329	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
330	THM-ICR	Bromodichloromethane	13.3	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
331	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
332	THM-ICR	Chloroform	25.9	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
333	THM-ICR	Dibromochloromethane	4.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
334	UV-ICR	UV	0.025	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
335	UV-ICR	UV (Dupl)	0.025	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
			0.025	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-10 **S&H ID:** 9805-193 **Date Sampled:** 5/11/98 4:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
336	Cl2Dose	Chlorine Dose	2.96	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
337	Cl2Res	Chlorine Residual	1.32	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
338	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
339	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
340	HAA-ICR	Bromochloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
341	HAA-ICR	Bromodichloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
342	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
343	HAA-ICR	Dibromoacetic acid	1.2	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
344	HAA-ICR	Dichloroacetic acid	11.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
345	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
346	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
347	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/27/98	5/27/98	0-134-0
348	HAA-ICR	Trichloroacetic acid	15.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
349	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
350	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
351	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/11/98		5/11/98	n/a
352	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
353	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	5/11/98		5/11/98	n/a
354	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
355	TOC-ICR	TOC	1.54	mg/L	SM 5310 C	1	0.50	5/11/98		5/12/98	7-0-264
356	TOC-ICR	TOC (Dupl)	1.56	mg/L	SM 5310 C	1	0.50	5/11/98		5/12/98	7-0-264
			1.55	**mg/L**	**1.3 % RPD**						
357	TOX-ICR	TOX	158	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

358	TOX-ICR	TOX (Dupl)	156	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			157	**µg Cl-/L**	**1.3 % RPD**						
359	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.4	%	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
360	THM-ICR	Bromodichloromethane	13.6	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
361	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
362	THM-ICR	Chloroform	31.9	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
363	THM-ICR	Dibromochloromethane	4.3	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
364	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
365	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-10d **S&H ID:** 9805-194 **Date Sampled:** 5/11/98 4:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
366	Cl2Dose	Chlorine Dose	2.96	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
367	Cl2Res	Chlorine Residual	1.31	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
368	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
369	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.0	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
370	HAA-ICR	Bromochloroacetic acid	4.5	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
371	HAA-ICR	Bromodichloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
372	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
373	HAA-ICR	Dibromoacetic acid	1.1	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
374	HAA-ICR	Dichloroacetic acid	12.7	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
375	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
376	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
377	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/27/98	5/27/98	0-134-0
378	HAA-ICR	Trichloroacetic acid	16.0	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
379	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
380	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
381	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	5/11/98		5/11/98	n/a
382	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
383	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	5/11/98		5/11/98	n/a
384	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
385	TOC-ICR	TOC	1.53	mg/L	SM 5310 C	1	0.50	5/11/98		5/12/98	7-0-264
386	TOC-ICR	TOC (Dupl)	1.54	mg/L	SM 5310 C	1	0.50	5/11/98		5/12/98	7-0-264
			1.54	**mg/L**	**0.6 % RPD**						
387	TOX-ICR	TOX	164	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
388	TOX-ICR	TOX (Dupl)	160	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			162	**µg Cl-/L**	**2.5 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

389	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.2	%	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
390	THM-ICR	Bromodichloromethane	14.3	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
391	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
392	THM-ICR	Chloroform	32.1	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
393	THM-ICR	Dibromochloromethane	4.4	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
394	UV-ICR	UV	0.028	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
395	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	5/11/98		5/12/98	8-0-182
			0.029	**1/cm**	**3.4 % RPD**						

Sample ID: 106.10.Eff-12 **S&H ID:** 9805-202 **Date Sampled:** 5/12/98 1:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
396	Cl2Dose	Chlorine Dose	3.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/13/98		5/13/98	n/a
397	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/13/98		5/14/98	n/a
398	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.6	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
399	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
400	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
401	HAA-ICR	Bromodichloroacetic acid	5.6	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
402	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
403	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
404	HAA-ICR	Dichloroacetic acid	14.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
405	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
406	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/14/98	5/27/98	5/27/98	0-134-0
407	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/14/98	5/27/98	5/27/98	0-134-0
408	HAA-ICR	Trichloroacetic acid	20.9	µg/L	EPA 552.2	1	1.0	5/14/98	5/27/98	5/27/98	0-134-0
409	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/14/98	n/a
410	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
411	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/12/98		5/12/98	n/a
412	TEMP	Cl2 Temperature	18.1	ºC	SM 2550 B	1	n/a	5/13/98		5/14/98	n/a
413	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	5/12/98		5/12/98	n/a
414	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/13/98		5/14/98	n/a
415	TOC-ICR	TOC	1.72	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
416	TOC-ICR	TOC (Dupl)	1.71	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
			1.71	**mg/L**	**0.6 % RPD**						
417	TOX-ICR	TOX	185	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
418	TOX-ICR	TOX (Dupl)	181	µg Cl-/L	SM 5320 B	1	25	5/14/98		5/21/98	12-0-138
			183	**µg Cl-/L**	**2.2 % RPD**						
419	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

420	THM-ICR	Bromodichloromethane	14.8	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
421	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
422	THM-ICR	Chloroform	38.4	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
423	THM-ICR	Dibromochloromethane	4.2	µg/L	EPA 551.1	1	1.0	5/14/98	5/21/98	5/21/98	0-130-0
424	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
425	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 106.INF.B-2 **S&H ID:** 9805-213 **Date Sampled:** 5/12/98 11:35:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
426	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	5/12/98		5/12/98	n/a
427	TEMP	Temperature	16.6	ºC	SM 2550 B	1	n/a	5/12/98		5/12/98	n/a
428	TOC-ICR	TOC	3.13	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
429	TOC-ICR	TOC (Dupl)	3.14	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
			3.13	**mg/L**	**0.3 % RPD**						

Sample ID: 106.10.Eff-14 **S&H ID:** 9805-214 **Date Sampled:** 5/12/98 11:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
430	Cl2Dose	Chlorine Dose	3.18	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/14/98		5/14/98	n/a
431	Cl2Res	Chlorine Residual	1.34	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/14/98		5/15/98	n/a
432	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
433	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
434	HAA-ICR	Bromochloroacetic acid	5.3	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
435	HAA-ICR	Bromodichloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
436	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
437	HAA-ICR	Dibromoacetic acid	1.1	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
438	HAA-ICR	Dichloroacetic acid	17.9	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
439	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
440	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
441	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/15/98	5/27/98	5/28/98	0-134-0
442	HAA-ICR	Trichloroacetic acid	22.0	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
443	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/15/98	n/a
444	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
445	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/12/98		5/12/98	n/a
446	TEMP	Cl2 Temperature	18.2	ºC	SM 2550 B	1	n/a	5/14/98		5/15/98	n/a
447	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	5/12/98		5/12/98	n/a
448	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/14/98		5/15/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

449	TOC-ICR	TOC	1.86	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
450	TOC-ICR	TOC (Dupl)	1.90	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
			1.88	**mg/L**	**2.1 % RPD**						
451	TOX-ICR	TOX	201	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
452	TOX-ICR	TOX (Dupl)	201	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
			201	**µg Cl-/L**	**0.0 % RPD**						
453	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.4	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/21/98	0-130-0
454	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	91.2	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
			91.8	**%**	**1.3 % RPD**						
455	THM-ICR	Bromodichloromethane	14.8	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/21/98	0-130-0
456	THM-ICR	Bromodichloromethane (Lab Dupl)	14.2	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
			14.5	**µg/L**	**4.1 % RPD**						
457	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/21/98	0-130-0
458	THM-ICR	Bromoform (Lab Dupl)	ND	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
			ND	**µg/L**							
459	THM-ICR	Chloroform	42.1	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/21/98	0-130-0
460	THM-ICR	Chloroform (Lab Dupl)	40.0	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
			41.0	**µg/L**	**5.1 % RPD**						
461	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/21/98	0-130-0
462	THM-ICR	Dibromochloromethane (Lab Dupl)	3.6	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
			3.7	**µg/L**	**5.4 % RPD**						
463	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
464	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
			0.036	**1/cm**	**2.8 % RPD**						

Sample ID: 106.10.Eff-14d **S&H ID:** 9805-215 **Date Sampled:** 5/12/98 11:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
465	Cl2Dose	Chlorine Dose	3.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/14/98		5/14/98	n/a
466	Cl2Res	Chlorine Residual	1.32	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/14/98		5/15/98	n/a
467	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.6	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
468	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
469	HAA-ICR	Bromochloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
470	HAA-ICR	Bromodichloroacetic acid	5.8	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
471	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
472	HAA-ICR	Dibromoacetic acid	1.2	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
473	HAA-ICR	Dichloroacetic acid	17.1	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
474	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
475	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
476	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/15/98	5/27/98	5/28/98	0-134-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

477	HAA-ICR	Trichloroacetic acid	22.7	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
478	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/15/98	n/a
479	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
480	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/12/98		5/12/98	n/a
481	TEMP	Cl2 Temperature	18.2	ºC	SM 2550 B	1	n/a	5/14/98		5/15/98	n/a
482	TEMP	Temperature	21.1	ºC	SM 2550 B	1	n/a	5/12/98		5/12/98	n/a
483	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/14/98		5/15/98	n/a
484	TOC-ICR	TOC	1.91	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
485	TOC-ICR	TOC (Dupl)	1.90	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
			1.90	**mg/L**	**0.5 % RPD**						
486	TOX-ICR	TOX	198	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
487	TOX-ICR	TOX (Dupl)	200	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
			199	**µg Cl-/L**	**1.0 % RPD**						
488	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
489	THM-ICR	Bromodichloromethane	14.3	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
490	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
491	THM-ICR	Chloroform	40.5	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
492	THM-ICR	Dibromochloromethane	3.6	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
493	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
494	UV-ICR	UV (Dupl)	0.035	1/cm	SM 5910 B	1	0.009	5/12/98		5/12/98	8-0-182
			0.035	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-10 **S&H ID:** 9805-217 **Date Sampled:** 5/12/98 1:28:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
495	Cl2Dose	Chlorine Dose	2.15	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/14/98		5/14/98	n/a
496	Cl2Res	Chlorine Residual	1.40	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/14/98		5/15/98	n/a
497	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.6	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
498	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
499	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
500	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
501	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
502	HAA-ICR	Dibromoacetic acid	1.5	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
503	HAA-ICR	Dichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
504	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
505	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
506	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/15/98	5/27/98	5/28/98	0-134-0
507	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
508	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/15/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

509	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
510	pH	pH	7.6	Unit	SM 4500-H+ B	1	n/a	5/12/98		5/12/98	n/a
511	TEMP	Cl2 Temperature	18.2	ºC	SM 2550 B	1	n/a	5/14/98		5/15/98	n/a
512	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	5/12/98		5/12/98	n/a
513	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/14/98		5/15/98	n/a
514	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
515	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	5/12/98		5/12/98	7-0-264
			ND	**mg/L**							
516	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
517	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
			ND	**µg Cl-/L**							
518	THM-ICR	1,2,3-Trichloropropane (Surrogate)	87.6	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
519	THM-ICR	Bromodichloromethane	2.1	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
520	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
521	THM-ICR	Chloroform	1.5	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
522	THM-ICR	Dibromochloromethane	2.5	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
523	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/12/98		5/14/98	8-0-183
524	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	5/12/98		5/14/98	8-0-183
			ND	**1/cm**							

Sample ID: 106.10.Eff-16 **S&H ID:** 9805-226 **Date Sampled:** 5/13/98 1:06:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
525	Cl2Dose	Chlorine Dose	3.31	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/14/98		5/14/98	n/a
526	Cl2Res	Chlorine Residual	1.32	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/14/98		5/15/98	n/a
527	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.2	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
528	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
529	HAA-ICR	Bromochloroacetic acid	4.6	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
530	HAA-ICR	Bromodichloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
531	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
532	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
533	HAA-ICR	Dichloroacetic acid	17.0	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
534	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
535	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
536	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/15/98	5/27/98	5/28/98	0-134-0
537	HAA-ICR	Trichloroacetic acid	20.3	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
538	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/15/98	n/a
539	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
540	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

541	TEMP	Cl2 Temperature	18.2	ºC	SM 2550 B	1	n/a	5/14/98		5/15/98	n/a
542	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	5/13/98		5/13/98	n/a
543	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/14/98		5/15/98	n/a
544	TOC-ICR	TOC	2.08	mg/L	SM 5310 C	1	0.50	5/13/98		5/13/98	7-0-265
545	TOC-ICR	TOC (Dupl)	2.09	mg/L	SM 5310 C	1	0.50	5/13/98		5/13/98	7-0-265
			2.09	**mg/L**	**0.5 % RPD**						
546	TOX-ICR	TOX	224	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
547	TOX-ICR	TOX (Dupl)	224	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
			224	**µg Cl-/L**	**0.0 % RPD**						
548	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.6	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
549	THM-ICR	Bromodichloromethane	15.5	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
550	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
551	THM-ICR	Chloroform	47.6	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
552	THM-ICR	Dibromochloromethane	3.6	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
553	UV-ICR	UV	0.039	1/cm	SM 5910 B	1	0.009	5/13/98		5/14/98	8-0-183
554	UV-ICR	UV (Dupl)	0.039	1/cm	SM 5910 B	1	0.009	5/13/98		5/14/98	8-0-183
			0.039	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-14 **S&H ID:** 9805-232 **Date Sampled:** 5/13/98 2:11:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
555	Cl2Dose	Chlorine Dose	2.26	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/14/98		5/14/98	n/a
556	Cl2Res	Chlorine Residual	1.45	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/14/98		5/15/98	n/a
557	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	112.0	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
558	HAA-ICR	2-Bromopropionic acid (Surrogate)	92.8	%	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
559	HAA-ICR	Bromochloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
560	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
561	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
562	HAA-ICR	Dibromoacetic acid	1.5	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
563	HAA-ICR	Dichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
564	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
565	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/15/98	5/27/98	5/28/98	0-134-0
566	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/15/98	5/27/98	5/28/98	0-134-0
567	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/15/98	5/27/98	5/28/98	0-134-0
568	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/15/98	n/a
569	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
570	pH	pH	7.9	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
571	TEMP	Cl2 Temperature	18.2	ºC	SM 2550 B	1	n/a	5/14/98		5/15/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

572	TEMP	Temperature	20.3	ºC	SM 2550 B	1	n/a	5/13/98		5/13/98	n/a
573	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	5/14/98		5/15/98	n/a
574	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	5/13/98		5/13/98	7-0-265
575	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	5/13/98		5/13/98	7-0-265
			ND	**mg/L**							
576	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
577	TOX-ICR	TOX (Dupl)	27	µg Cl-/L	SM 5320 B	1	25	5/15/98		5/23/98	12-0-139
			26	**µg Cl-/L**	**11.5 % RPD**						
578	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.6	%	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
579	THM-ICR	Bromodichloromethane	4.7	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
580	THM-ICR	Bromoform	1.4	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
581	THM-ICR	Chloroform	3.1	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
582	THM-ICR	Dibromochloromethane	5.0	µg/L	EPA 551.1	1	1.0	5/15/98	5/21/98	5/22/98	0-130-0
583	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/13/98		5/14/98	8-0-183
584	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	5/13/98		5/14/98	8-0-183
			ND	**1/cm**							

Sample ID: 106.20.Eff-16 **S&H ID:** 9805-261 **Date Sampled:** 5/13/98 11:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
585	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
586	Cl2Res	Chlorine Residual	1.50	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
587	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	105.2	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
588	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
589	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
590	HAA-ICR	Bromodichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
591	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
592	HAA-ICR	Dibromoacetic acid	1.7	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
593	HAA-ICR	Dichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
594	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
595	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
596	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
597	HAA-ICR	Trichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
598	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
599	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
600	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
601	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
602	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	5/13/98		5/13/98	n/a
603	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

604	TOC-ICR	TOC	0.67	mg/L	SM 5310 C	1	0.50	5/13/98		5/15/98	7-0-266
605	TOC-ICR	TOC (Dupl)	0.65	mg/L	SM 5310 C	1	0.50	5/13/98		5/15/98	7-0-266
			0.66	**mg/L**	**3.0 % RPD**						
606	TOX-ICR	TOX	44	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
607	TOX-ICR	TOX (Dupl)	44	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			44	**µg Cl-/L**	**0.0 % RPD**						
608	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
609	THM-ICR	Bromodichloromethane	7.9	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
610	THM-ICR	Bromoform	1.2	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
611	THM-ICR	Chloroform	6.6	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
612	THM-ICR	Dibromochloromethane	6.6	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
613	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	5/13/98		5/15/98	8-0-184
614	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	5/13/98		5/15/98	8-0-184
			ND	**1/cm**							

Sample ID: 106.20.Eff-16d **S&H ID:** 9805-262 **Date Sampled:** 5/13/98 11:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
615	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
616	Cl2Res	Chlorine Residual	1.50	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
617	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.8	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
618	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
619	HAA-ICR	Bromochloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
620	HAA-ICR	Bromodichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
621	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
622	HAA-ICR	Dibromoacetic acid	1.9	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
623	HAA-ICR	Dichloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
624	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
625	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
626	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
627	HAA-ICR	Trichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
628	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
629	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
630	pH	pH	8.5	Unit	SM 4500-H+ B	1	n/a	5/13/98		5/13/98	n/a
631	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
632	TEMP	Temperature	21.4	ºC	SM 2550 B	1	n/a	5/13/98		5/13/98	n/a
633	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
634	TOC-ICR	TOC	0.65	mg/L	SM 5310 C	1	0.50	5/13/98		5/15/98	7-0-266
635	TOC-ICR	TOC (Dupl)	0.64	mg/L	SM 5310 C	1	0.50	5/13/98		5/15/98	7-0-266

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

			0.65	**mg/L**	**1.5 % RPD**						
636	TOX-ICR	TOX	41	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
637	TOX-ICR	TOX (Dupl)	38	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			40	**µg Cl-/L**	**7.5 % RPD**						
638	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.0	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
639	THM-ICR	Bromodichloromethane	8.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
640	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
641	THM-ICR	Chloroform	6.9	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
642	THM-ICR	Dibromochloromethane	6.8	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
643	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	5/13/98		5/15/98	8-0-184
644	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	5/13/98		5/15/98	8-0-184
			0.009	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-19 **S&H ID:** 9805-271 **Date Sampled:** 5/14/98 12:55:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
645	Cl2Dose	Chlorine Dose	2.66	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
646	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
647	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
648	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
649	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
650	HAA-ICR	Bromodichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
651	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
652	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
653	HAA-ICR	Dichloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
654	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
655	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
656	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
657	HAA-ICR	Trichloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
658	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
659	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
660	pH	pH	9.3	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
661	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
662	TEMP	Temperature	20.8	ºC	SM 2550 B	1	n/a	5/14/98		5/14/98	n/a
663	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
664	TOC-ICR	TOC	0.90	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
665	TOC-ICR	TOC (Dupl)	0.92	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
			0.91	**mg/L**	**2.2 % RPD**						
666	TOX-ICR	TOX	70	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

667	TOX-ICR	TOX (Dupl)	63	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			67	**µg Cl-/L**	**10.4 % RPD**						
668	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
669	THM-ICR	Bromodichloromethane	10.4	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
670	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
671	THM-ICR	Chloroform	11.4	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
672	THM-ICR	Dibromochloromethane	7.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
673	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
674	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
			0.013	**1/cm**	**0.0 % RPD**						

Sample ID: 106.INF.A-2 **S&H ID:** 9805-272 **Date Sampled:** 5/14/98 2:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
675	ALK	Alkalinity	12	mg/L	SM 2320 B	1	5	5/14/98		5/15/98	1-0-21
676	ALK	Alkalinity (Dupl)	10	mg/L	SM 2320 B	1	5	5/14/98		5/15/98	1-0-21
			11	**mg/L**	**18.2 % RPD**						
677	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	5/14/98		5/27/98	MW78032
678	BR	Bromide	0.030	mg/L	EPA 300.0 A	1	0.020	5/14/98		6/3/98	MW78351
679	CaHardM	Calcium Hardness	40	mg/L CaCO3	EPA 200.7	1	5	5/14/98		6/4/98	MW n/a
680	CaMW	Calcium, Total, ICAP	16	mg/L	EPA 200.7	1	1	5/14/98	6/3/98	6/3/98	MW78329
681	MgMW	Magnesium, Total, ICAP	1	mg/L	EPA 200.7	1	0	5/14/98	6/3/98	6/3/98	MW78330
682	TotHard	Total Hardness as CaCO3 by ICP	45	mg/L CaCO3	SM 2340B	1	7	5/14/98		6/4/98	MW n/a

Sample ID: 106.INF.B-3 **S&H ID:** 9805-273 **Date Sampled:** 5/14/98 2:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
683	Cl2Dose	Chlorine Dose	4.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
684	Cl2Res	Chlorine Residual	1.44	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
685	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
686	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
687	HAA-ICR	Bromochloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
688	HAA-ICR	Bromodichloroacetic acid	6.3	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
689	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
690	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
691	HAA-ICR	Dichloroacetic acid	32.6	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
692	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
693	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

694	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
695	HAA-ICR	Trichloroacetic acid	40.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
696	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
697	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
698	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
699	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
700	TEMP	Temperature	15.3	ºC	SM 2550 B	1	n/a	5/14/98		5/14/98	n/a
701	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
702	TOC-ICR	TOC	3.18	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
703	TOC-ICR	TOC (Dupl)	3.13	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
			3.16	**mg/L**	**1.6 % RPD**						
704	TOX-ICR	TOX	417	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/23/98	12-0-139
705	TOX-ICR	TOX (Dupl)	413	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/23/98	12-0-139
			415	**µg Cl-/L**	**1.0 % RPD**						
706	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
707	THM-ICR	Bromodichloromethane	16.6	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
708	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
709	THM-ICR	Chloroform	95.4	µg/L	EPA 551.1	10	1.0	5/19/98	5/21/98	5/26/98	0-130-0
710	THM-ICR	Dibromochloromethane	2.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
711	TURB	Turbidity	0.10	ntu	SM 2130 B	1	0.05	5/14/98		5/15/98	9-0-10
712	UV-ICR	UV	0.076	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
713	UV-ICR	UV (Dupl)	0.075	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
			0.075	**1/cm**	**1.3 % RPD**						

Sample ID: 106.10.Eff-20 **S&H ID:** 9805-278 **Date Sampled:** 5/14/98 6:57:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
714	Cl2Dose	Chlorine Dose	3.74	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
715	Cl2Res	Chlorine Residual	1.41	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
716	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
717	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	104.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			106.0	**%**	**3.0 % RPD**						
718	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
719	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	94.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			94.0	**%**	**0.0 % RPD**						
720	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
721	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	4.5	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

			4.7	**µg/L**	**8.5 % RPD**						
722	HAA-ICR	Bromodichloroacetic acid	6.0	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
723	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	5.2	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			5.6	**µg/L**	**14.3 % RPD**						
724	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
725	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
			ND	**µg/L**							
726	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
727	HAA-ICR	Dibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			ND	**µg/L**							
728	HAA-ICR	Dichloroacetic acid	22.7	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
729	HAA-ICR	Dichloroacetic acid (Lab Dupl)	21.2	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			21.9	**µg/L**	**6.8 % RPD**						
730	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
731	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			ND	**µg/L**							
732	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
733	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
			ND	**µg/L**							
734	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
735	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
			ND	**µg/L**							
736	HAA-ICR	Trichloroacetic acid	29.0	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
737	HAA-ICR	Trichloroacetic acid (Lab Dupl)	27.3	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
			28.1	**µg/L**	**6.0 % RPD**						
738	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
739	pH	Cl2 pH - Initial	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
740	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	5/14/98		5/14/98	n/a
741	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
742	TEMP	Temperature	22.9	ºC	SM 2550 B	1	n/a	5/14/98		5/14/98	n/a
743	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
744	TOC-ICR	TOC	2.37	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
745	TOC-ICR	TOC (Dupl)	2.42	mg/L	SM 5310 C	1	0.50	5/14/98		5/15/98	7-0-266
			2.40	**mg/L**	**2.1 % RPD**						
746	TOX-ICR	TOX	280	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/27/98	12-0-141
747	TOX-ICR	TOX (Dupl)	278	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/27/98	12-0-141
			279	**µg Cl-/L**	**0.7 % RPD**						
748	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

749	THM-ICR	Bromodichloromethane	15.7	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
750	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
751	THM-ICR	Chloroform	59.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
752	THM-ICR	Dibromochloromethane	2.9	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
753	UV-ICR	UV	0.049	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
754	UV-ICR	UV (Dupl)	0.049	1/cm	SM 5910 B	1	0.009	5/14/98		5/15/98	8-0-184
			0.049	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-22 **S&H ID:** 9805-280 **Date Sampled:** 5/15/98 1:52:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
755	Cl2Dose	Chlorine Dose	2.79	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
756	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
757	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.2	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
758	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
759	HAA-ICR	Bromochloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
760	HAA-ICR	Bromodichloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
761	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
762	HAA-ICR	Dibromoacetic acid	1.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
763	HAA-ICR	Dichloroacetic acid	7.1	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
764	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
765	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
766	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
767	HAA-ICR	Trichloroacetic acid	8.2	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
768	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
769	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
770	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	5/15/98		5/15/98	n/a
771	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
772	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	5/15/98		5/15/98	n/a
773	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
774	TOC-ICR	TOC	1.08	mg/L	SM 5310 C	1	0.50	5/15/98		5/15/98	7-0-266
775	TOC-ICR	TOC (Dupl)	1.10	mg/L	SM 5310 C	1	0.50	5/15/98		5/15/98	7-0-266
			1.09	**mg/L**	**1.8 % RPD**						
776	TOX-ICR	TOX	90	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
777	TOX-ICR	TOX (Dupl)	82	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			86	**µg Cl-/L**	**9.3 % RPD**						
778	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
779	THM-ICR	Bromodichloromethane	12.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
780	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

781	THM-ICR	Chloroform	17.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
782	THM-ICR	Dibromochloromethane	6.5	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
783	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	5/15/98		5/15/98	8-0-184
784	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	5/15/98		5/15/98	8-0-184
			0.016	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-24 **S&H ID:** 9805-310 **Date Sampled:** 5/15/98 10:56:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
785	Cl2Dose	Chlorine Dose	2.86	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
786	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
787	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	88.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
788	HAA-ICR	2-Bromopropionic acid (Surrogate)	104.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
789	HAA-ICR	Bromochloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
790	HAA-ICR	Bromodichloroacetic acid	4.5	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
791	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
792	HAA-ICR	Dibromoacetic acid	1.6	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
793	HAA-ICR	Dichloroacetic acid	7.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
794	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
795	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
796	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
797	HAA-ICR	Trichloroacetic acid	9.9	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
798	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
799	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
800	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	5/15/98		5/15/98	n/a
801	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
802	TEMP	Temperature	20.8	ºC	SM 2550 B	1	n/a	5/15/98		5/15/98	n/a
803	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
804	TOC-ICR	TOC	1.16	mg/L	SM 5310 C	1	0.50	5/15/98		5/19/98	7-0-269
805	TOC-ICR	TOC (Dupl)	1.18	mg/L	SM 5310 C	1	0.50	5/15/98		5/19/98	7-0-269
			1.17	**mg/L**	**1.7 % RPD**						
806	TOX-ICR	TOX	96	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
807	TOX-ICR	TOX (Dupl)	94	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			95	**µg Cl-/L**	**2.1 % RPD**						
808	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
809	THM-ICR	Bromodichloromethane	12.8	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
810	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
811	THM-ICR	Chloroform	20.4	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
812	THM-ICR	Dibromochloromethane	6.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

813	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	5/15/98		5/17/98	8-0-185
814	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	5/15/98		5/17/98	8-0-185
			0.019	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-24d **S&H ID:** 9805-311 **Date Sampled:** 5/15/98 10:56:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
815	Cl2Dose	Chlorine Dose	2.89	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
816	Cl2Res	Chlorine Residual	1.56	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
817	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
818	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
819	HAA-ICR	Bromochloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
820	HAA-ICR	Bromodichloroacetic acid	4.2	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
821	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
822	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
823	HAA-ICR	Dichloroacetic acid	10.5	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
824	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
825	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
826	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
827	HAA-ICR	Trichloroacetic acid	12.9	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
828	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
829	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
830	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	5/15/98		5/15/98	n/a
831	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
832	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	5/15/98		5/15/98	n/a
833	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
834	TOC-ICR	TOC	1.22	mg/L	SM 5310 C	1	0.50	5/15/98		5/15/98	7-0-266
835	TOC-ICR	TOC (Dupl)	1.23	mg/L	SM 5310 C	1	0.50	5/15/98		5/15/98	7-0-266
			1.23	**mg/L**	**0.8 % RPD**						
836	TOX-ICR	TOX	112	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
837	TOX-ICR	TOX (Dupl)	96	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/26/98	12-0-140
			104	**µg Cl-/L**	**15.4 % RPD**						
838	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
839	THM-ICR	Bromodichloromethane	12.5	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
840	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
841	THM-ICR	Chloroform	19.6	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
842	THM-ICR	Dibromochloromethane	5.7	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
843	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	5/15/98		5/17/98	8-0-185
844	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	5/15/98		5/17/98	8-0-185

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

			0.019	**1/cm**	**0.0 % RPD**						

Sample ID: 106.10.Eff-21 **S&H ID:** 9805-324 **Date Sampled:** 5/15/98 10:38:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
845	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	5/15/98		5/15/98	n/a
846	TEMP	Temperature	23.3	ºC	SM 2550 B	1	n/a	5/15/98		5/15/98	n/a
847	TOC-ICR	TOC	2.47	mg/L	SM 5310 C	1	0.50	5/15/98		5/16/98	7-0-267
848	TOC-ICR	TOC (Dupl)	2.50	mg/L	SM 5310 C	1	0.50	5/15/98		5/16/98	7-0-267
			2.49	**mg/L**	**1.2 % RPD**						

Sample ID: 106.20.Eff-26 **S&H ID:** 9805-327 **Date Sampled:** 5/16/98 4:22:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
849	Cl2Dose	Chlorine Dose	3.02	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/18/98		5/18/98	n/a
850	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/18/98		5/19/98	n/a
851	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.8	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
852	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
853	HAA-ICR	Bromochloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
854	HAA-ICR	Bromodichloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
855	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
856	HAA-ICR	Dibromoacetic acid	1.3	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
857	HAA-ICR	Dichloroacetic acid	7.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
858	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
859	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/19/98	5/27/98	5/28/98	0-134-0
860	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/19/98	5/27/98	5/28/98	0-134-0
861	HAA-ICR	Trichloroacetic acid	5.8	µg/L	EPA 552.2	1	1.0	5/19/98	5/27/98	5/28/98	0-134-0
862	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/19/98	n/a
863	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
864	pH	pH	7.8	Unit	SM 4500-H+ B	1	n/a	5/16/98		5/16/98	n/a
865	TEMP	Cl2 Temperature	18.5	ºC	SM 2550 B	1	n/a	5/18/98		5/19/98	n/a
866	TEMP	Temperature	21.5	ºC	SM 2550 B	1	n/a	5/16/98		5/16/98	n/a
867	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	5/18/98		5/19/98	n/a
868	TOC-ICR	TOC	1.41	mg/L	SM 5310 C	1	0.50	5/16/98		5/16/98	7-0-267
869	TOC-ICR	TOC (Dupl)	1.47	mg/L	SM 5310 C	1	0.50	5/16/98		5/16/98	7-0-267
			1.44	**mg/L**	**4.2 % RPD**						
870	TOX-ICR	TOX	133	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/23/98	12-0-139
871	TOX-ICR	TOX (Dupl)	133	µg Cl-/L	SM 5320 B	1	25	5/19/98		5/23/98	12-0-139
			133	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

872	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.0	%	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
873	THM-ICR	Bromodichloromethane	13.2	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
874	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
875	THM-ICR	Chloroform	26.7	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
876	THM-ICR	Dibromochloromethane	5.0	µg/L	EPA 551.1	1	1.0	5/19/98	5/21/98	5/22/98	0-130-0
877	UV-ICR	UV	0.023	1/cm	SM 5910 B	1	0.009	5/16/98		5/17/98	8-0-185
878	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	5/16/98		5/17/98	8-0-185
			0.024	**1/cm**	**4.2 % RPD**						

Sample ID: 106.20.Eff-31 **S&H ID:** 9805-349 **Date Sampled:** 5/17/98 5:59:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
879	Cl2Dose	Chlorine Dose	3.19	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/21/98		5/21/98	n/a
880	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/21/98		5/22/98	n/a
881	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.8	%	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
882	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
883	HAA-ICR	Bromochloroacetic acid	4.1	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
884	HAA-ICR	Bromodichloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
885	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/1/98	6/2/98	0-138-0
886	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
887	HAA-ICR	Dichloroacetic acid	15.3	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
888	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
889	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/1/98	6/2/98	0-138-0
890	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/22/98	6/1/98	6/2/98	0-138-0
891	HAA-ICR	Trichloroacetic acid	12.0	µg/L	EPA 552.2	1	1.0	5/22/98	6/1/98	6/2/98	0-138-0
892	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/22/98	n/a
893	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/21/98	n/a
894	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	5/17/98		5/17/98	n/a
895	TEMP	Cl2 Temperature	18.7	ºC	SM 2550 B	1	n/a	5/21/98		5/22/98	n/a
896	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	5/17/98		5/17/98	n/a
897	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	5/21/98		5/22/98	n/a
898	TOC-ICR	TOC	1.61	mg/L	SM 5310 C	1	0.50	5/17/98		5/19/98	7-0-269
899	TOC-ICR	TOC (Dupl)	1.66	mg/L	SM 5310 C	1	0.50	5/17/98		5/19/98	7-0-269
			1.64	**mg/L**	**3.0 % RPD**						
900	TOX-ICR	TOX	176	µg Cl-/L	SM 5320 B	1	25	5/22/98		5/29/98	12-0-143
901	TOX-ICR	TOX (Dupl)	173	µg Cl-/L	SM 5320 B	1	25	5/22/98		5/29/98	12-0-143
			175	**µg Cl-/L**	**1.7 % RPD**						
902	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	5/22/98	5/28/98	5/29/98	0-136-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

903	THM-ICR	Bromodichloromethane	14.1	µg/L	EPA 551.1	1	1.0	5/22/98	5/28/98	5/29/98	0-136-0
904	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/22/98	5/28/98	5/29/98	0-136-0
905	THM-ICR	Chloroform	37.3	µg/L	EPA 551.1	1	1.0	5/22/98	5/28/98	5/29/98	0-136-0
906	THM-ICR	Dibromochloromethane	4.5	µg/L	EPA 551.1	1	1.0	5/22/98	5/28/98	5/29/98	0-136-0
907	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	5/17/98		5/18/98	8-0-186
908	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	5/17/98		5/18/98	8-0-186
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-35 **S&H ID:** 9805-396 **Date Sampled:** 5/18/98 11:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
909	Cl2Dose	Chlorine Dose	3.36	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/21/98		5/21/98	n/a
910	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/21/98		5/22/98	n/a
911	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
912	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4	%	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
913	HAA-ICR	Bromochloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
914	HAA-ICR	Bromodichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
915	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/4/98	6/4/98	0-140-0
916	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
917	HAA-ICR	Dichloroacetic acid	14.9	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
918	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
919	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/4/98	6/4/98	0-140-0
920	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/22/98	6/4/98	6/4/98	0-140-0
921	HAA-ICR	Trichloroacetic acid	15.3	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
922	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/22/98	n/a
923	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/21/98	n/a
924	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
925	TEMP	Cl2 Temperature	18.7	ºC	SM 2550 B	1	n/a	5/21/98		5/22/98	n/a
926	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	5/18/98		5/18/98	n/a
927	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	5/21/98		5/22/98	n/a
928	TOC-ICR	TOC	1.85	mg/L	SM 5310 C	1	0.50	5/18/98		5/19/98	7-0-269
929	TOC-ICR	TOC (Dupl)	1.87	mg/L	SM 5310 C	1	0.50	5/18/98		5/19/98	7-0-269
			1.86	**mg/L**	**1.1 % RPD**						
930	TOX-ICR	TOX	194	µg Cl-/L	SM 5320 B	1	25	5/22/98		6/1/98	12-0-144
931	TOX-ICR	TOX (Dupl)	194	µg Cl-/L	SM 5320 B	1	25	5/22/98		6/1/98	12-0-144
			194	**µg Cl-/L**	**0.0 % RPD**						
932	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
933	THM-ICR	Bromodichloromethane	15.0	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
934	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

935	THM-ICR	Chloroform	45.0	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
936	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
937	UV-ICR	UV	0.033	1/cm	SM 5910 B	1	0.009	5/18/98		5/19/98	8-0-187
938	UV-ICR	UV (Dupl)	0.033	1/cm	SM 5910 B	1	0.009	5/18/98		5/19/98	8-0-187
			0.033	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-35d **S&H ID:** 9805-397 **Date Sampled:** 5/18/98 11:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
939	Cl2Dose	Chlorine Dose	3.35	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/21/98		5/21/98	n/a
940	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/21/98		5/22/98	n/a
941	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.2	%	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
942	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.6	%	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
943	HAA-ICR	Bromochloroacetic acid	4.1	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
944	HAA-ICR	Bromodichloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
945	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/4/98	6/4/98	0-140-0
946	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
947	HAA-ICR	Dichloroacetic acid	15.3	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
948	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
949	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/22/98	6/4/98	6/4/98	0-140-0
950	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/22/98	6/4/98	6/4/98	0-140-0
951	HAA-ICR	Trichloroacetic acid	14.6	µg/L	EPA 552.2	1	1.0	5/22/98	6/4/98	6/4/98	0-140-0
952	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/22/98	n/a
953	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/21/98		5/21/98	n/a
954	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	5/18/98		5/18/98	n/a
955	TEMP	Cl2 Temperature	18.7	ºC	SM 2550 B	1	n/a	5/21/98		5/22/98	n/a
956	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	5/18/98		5/18/98	n/a
957	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	5/21/98		5/22/98	n/a
958	TOC-ICR	TOC	1.86	mg/L	SM 5310 C	1	0.50	5/18/98		5/19/98	7-0-269
959	TOC-ICR	TOC (Dupl)	1.84	mg/L	SM 5310 C	1	0.50	5/18/98		5/19/98	7-0-269
			1.85	**mg/L**	**1.1 % RPD**						
960	TOX-ICR	TOX	199	µg Cl-/L	SM 5320 B	1	25	5/22/98		6/1/98	12-0-144
961	TOX-ICR	TOX (Dupl)	198	µg Cl-/L	SM 5320 B	1	25	5/22/98		6/1/98	12-0-144
			199	**µg Cl-/L**	**0.5 % RPD**						
962	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
963	THM-ICR	Bromodichloromethane	15.2	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
964	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
965	THM-ICR	Chloroform	45.8	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0
966	THM-ICR	Dibromochloromethane	3.8	µg/L	EPA 551.1	1	1.0	5/22/98	6/3/98	6/3/98	0-139-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

967	UV-ICR	UV	0.032	1/cm	SM 5910 B	1	0.009	5/18/98		5/19/98	8-0-187
968	UV-ICR	UV (Dupl)	0.032	1/cm	SM 5910 B	1	0.009	5/18/98		5/19/98	8-0-187
			0.032	**1/cm**	**0.0 % RPD**						

Sample ID: 106.INF.B-4 **S&H ID:** 9805-404 **Date Sampled:** 5/19/98 9:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
969	pH	pH	6.5	Unit	SM 4500-H+ B	1	n/a	5/19/98		5/19/98	n/a
970	TEMP	Temperature	18.5	ºC	SM 2550 B	1	n/a	5/19/98		5/19/98	n/a
971	TOC-ICR	TOC	3.29	mg/L	SM 5310 C	1	0.50	5/19/98		5/19/98	7-0-269
972	TOC-ICR	TOC (Dupl)	3.33	mg/L	SM 5310 C	1	0.50	5/19/98		5/19/98	7-0-269
			3.31	**mg/L**	**1.2 % RPD**						

Sample ID: 106.20.Eff-38 **S&H ID:** 9805-427 **Date Sampled:** 5/20/98 2:25:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
973	Cl2Dose	Chlorine Dose	3.46	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/24/98		5/24/98	n/a
974	Cl2Res	Chlorine Residual	1.42	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/24/98		5/25/98	n/a
975	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
976	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
977	HAA-ICR	Bromochloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
978	HAA-ICR	Bromodichloroacetic acid	4.5	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
979	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/25/98	6/4/98	6/5/98	0-140-0
980	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
981	HAA-ICR	Dichloroacetic acid	19.9	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
982	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
983	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/25/98	6/4/98	6/5/98	0-140-0
984	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/25/98	6/4/98	6/5/98	0-140-0
985	HAA-ICR	Trichloroacetic acid	19.6	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
986	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/24/98		5/25/98	n/a
987	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/24/98		5/24/98	n/a
988	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	5/20/98		5/20/98	n/a
989	TEMP	Cl2 Temperature	19.4	ºC	SM 2550 B	1	n/a	5/24/98		5/25/98	n/a
990	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	5/20/98		5/20/98	n/a
991	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/24/98		5/25/98	n/a
992	TOC-ICR	TOC	2.00	mg/L	SM 5310 C	1	0.50	5/20/98		5/21/98	7-0-275
993	TOC-ICR	TOC (Dupl)	2.01	mg/L	SM 5310 C	1	0.50	5/20/98		5/21/98	7-0-275
			2.00	**mg/L**	**0.5 % RPD**						
994	TOX-ICR	TOX	229	µg Cl-/L	SM 5320 B	1	25	5/25/98		6/3/98	12-0-145
995	TOX-ICR	TOX (Dupl)	224	µg Cl-/L	SM 5320 B	1	25	5/25/98		6/3/98	12-0-145

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

			227	**µg Cl-/L**	**2.2 % RPD**						
996	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	5/25/98	6/3/98	6/3/98	0-139-0
997	THM-ICR	Bromodichloromethane	15.7	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/3/98	0-139-0
998	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/3/98	0-139-0
999	THM-ICR	Chloroform	54.2	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/3/98	0-139-0
1000	THM-ICR	Dibromochloromethane	3.4	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/3/98	0-139-0
1001	UV-ICR	UV	0.039	1/cm	SM 5910 B	1	0.009	5/20/98		5/21/98	8-0-188
1002	UV-ICR	UV (Dupl)	0.039	1/cm	SM 5910 B	1	0.009	5/20/98		5/21/98	8-0-188
			0.039	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-40 **S&H ID:** 9805-456 **Date Sampled:** 5/23/98 7:05:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1003	Cl2Dose	Chlorine Dose	3.65	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/24/98		5/24/98	n/a
1004	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/24/98		5/25/98	n/a
1005	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.2	%	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1006	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.2	%	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1007	HAA-ICR	Bromochloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1008	HAA-ICR	Bromodichloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1009	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/25/98	6/4/98	6/5/98	0-140-0
1010	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1011	HAA-ICR	Dichloroacetic acid	22.3	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1012	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1013	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/25/98	6/4/98	6/5/98	0-140-0
1014	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/25/98	6/4/98	6/5/98	0-140-0
1015	HAA-ICR	Trichloroacetic acid	22.4	µg/L	EPA 552.2	1	1.0	5/25/98	6/4/98	6/5/98	0-140-0
1016	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/24/98		5/25/98	n/a
1017	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/24/98		5/24/98	n/a
1018	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	5/23/98		5/23/98	n/a
1019	TEMP	Cl2 Temperature	19.4	ºC	SM 2550 B	1	n/a	5/24/98		5/25/98	n/a
1020	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	5/23/98		5/23/98	n/a
1021	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/24/98		5/25/98	n/a
1022	TOC-ICR	TOC	2.26	mg/L	SM 5310 C	1	0.50	5/23/98		5/23/98	7-0-279
1023	TOC-ICR	TOC (Dupl)	2.28	mg/L	SM 5310 C	1	0.50	5/23/98		5/23/98	7-0-279
			2.27	**mg/L**	**0.9 % RPD**						
1024	TOX-ICR	TOX	256	µg Cl-/L	SM 5320 B	1	25	5/25/98		6/3/98	12-0-145
1025	TOX-ICR	TOX (Dupl)	267	µg Cl-/L	SM 5320 B	1	25	5/25/98		6/3/98	12-0-145
			262	**µg Cl-/L**	**4.2 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

1026	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	5/25/98	6/3/98	6/4/98	0-139-0
1027	THM-ICR	Bromodichloromethane	18.0	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/4/98	0-139-0
1028	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/4/98	0-139-0
1029	THM-ICR	Chloroform	70.8	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/4/98	0-139-0
1030	THM-ICR	Dibromochloromethane	3.3	µg/L	EPA 551.1	1	1.0	5/25/98	6/3/98	6/4/98	0-139-0
1031	UV-ICR	UV	0.045	1/cm	SM 5910 B	1	0.009	5/23/98		5/23/98	8-0-190
1032	UV-ICR	UV (Dupl)	0.045	1/cm	SM 5910 B	1	0.009	5/23/98		5/23/98	8-0-190
			0.045	**1/cm**	**0.0 % RPD**						

Sample ID: 106.INF.B-5 **S&H ID:** 9805-462 **Date Sampled:** 5/23/98 12:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1033	Cl2Dose	Chlorine Dose	4.70	mg/L as Cl2	SM 4500-Cl B	1	n/a	5/23/98		5/24/98	n/a
1034	Cl2Res	Chlorine Residual	1.41	mg/L as Cl2	SM 4500-Cl F	1	0.10	5/23/98		5/25/98	n/a
1035	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1036	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1037	HAA-ICR	Bromochloroacetic acid	4.2	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1038	HAA-ICR	Bromodichloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1039	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/23/98	6/4/98	6/5/98	0-140-0
1040	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1041	HAA-ICR	Dichloroacetic acid	35.2	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1042	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1043	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	5/23/98	6/4/98	6/5/98	0-140-0
1044	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	5/23/98	6/4/98	6/5/98	0-140-0
1045	HAA-ICR	Trichloroacetic acid	34.0	µg/L	EPA 552.2	1	1.0	5/23/98	6/4/98	6/5/98	0-140-0
1046	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	5/23/98		5/25/98	n/a
1047	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	5/23/98		5/24/98	n/a
1048	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	5/23/98		5/23/98	n/a
1049	TEMP	Cl2 Temperature	19.4	ºC	SM 2550 B	1	n/a	5/23/98		5/25/98	n/a
1050	TEMP	Temperature	19.0	ºC	SM 2550 B	1	n/a	5/23/98		5/23/98	n/a
1051	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	5/23/98		5/25/98	n/a
1052	TOC-ICR	TOC	3.09	mg/L	SM 5310 C	1	0.50	5/23/98		5/23/98	7-0-279
1053	TOC-ICR	TOC (Dupl)	3.15	mg/L	SM 5310 C	1	0.50	5/23/98		5/23/98	7-0-279
			3.12	**mg/L**	**1.9 % RPD**						
1054	TOX-ICR	TOX	411	µg Cl-/L	SM 5320 B	1	25	5/23/98		6/3/98	12-0-145
1055	TOX-ICR	TOX (Dupl)	418	µg Cl-/L	SM 5320 B	1	25	5/23/98		6/3/98	12-0-145
			415	**µg Cl-/L**	**1.7 % RPD**						
1056	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.8	%	EPA 551.1	1	1.0	5/23/98	6/3/98	6/4/98	0-139-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

1057	THM-ICR	Bromodichloromethane	18.3	µg/L	EPA 551.1	1	1.0	5/23/98	6/3/98	6/4/98	0-139-0
1058	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	5/23/98	6/3/98	6/4/98	0-139-0
1059	THM-ICR	Chloroform	94.8	µg/L	EPA 551.1	10	1.0	5/23/98	6/3/98	6/5/98	0-139-0
1060	THM-ICR	Dibromochloromethane	2.0	µg/L	EPA 551.1	1	1.0	5/23/98	6/3/98	6/4/98	0-139-0
1061	TURB	Turbidity	0.20	ntu	SM 2130 B	1	0.05	5/23/98		5/23/98	9-0-11
1062	UV-ICR	UV	0.071	1/cm	SM 5910 B	1	0.009	5/23/98		5/23/98	8-0-190
1063	UV-ICR	UV (Dupl)	0.071	1/cm	SM 5910 B	1	0.009	5/23/98		5/23/98	8-0-190
			0.071	**1/cm**	**0.0 % RPD**						

Sample ID: 106.20.Eff-41 **S&H ID:** 9805-466 **Date Sampled:** 5/24/98 8:23:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1064	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	5/24/98		5/24/98	n/a
1065	TEMP	Temperature	20.7	ºC	SM 2550 B	1	n/a	5/24/98		5/24/98	n/a
1066	TOC-ICR	TOC	2.40	mg/L	SM 5310 C	1	0.50	5/24/98		5/24/98	7-0-280
1067	TOC-ICR	TOC (Dupl)	2.36	mg/L	SM 5310 C	1	0.50	5/24/98		5/24/98	7-0-280
			2.38	**mg/L**	**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.
6 Knollcrest Drive
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Phone: (513) 679-2200
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Quality Control Report

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 106
Study Title: ICR RSSCT #2

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

QC Batch ID: 1-0-20

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	99	mg/L	99%		05/05/98	9805-93	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		05/05/98	9805-93	5		
		100	**98**	**mg/L**	**98%**	**1.0 %**					
Method Blank	Method Blank		ND*	mg/L			05/05/98	9805-95	5		
Standard	Standard	100	100	mg/L	100%		05/05/98	9805-96	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		05/05/98	9805-96	5		
		100	**100**	**mg/L**	**100%**	**1.0 %**					
Matrix Spike	Matrix Spike	100	98	mg/L	98%		05/09/98	9805-147	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		05/09/98	9805-147	5		
		100	**98**	**mg/L**	**98%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			05/09/98	9805-152	5		
Standard	Standard	100	99	mg/L	99%		05/09/98	9805-153	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		05/09/98	9805-153	5		
		100	**100**	**mg/L**	**100%**	**1.0 %**					

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

QC Batch ID: 1-0-21

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	103	mg/L	103%		05/15/98	9805-276	5		
Matrix Spike (Dupl)	Matrix Spike	100	98	mg/L	98%		05/15/98	9805-276	5		
		100	**100**	**mg/L**	**100%**	**5.0 %**					
Method Blank	Method Blank		ND*	mg/L			05/15/98	9805-302	5		
Standard	Standard	100	99	mg/L	99%		05/15/98	9805-303	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		05/15/98	9805-303	5		
		100	**100**	**mg/L**	**100%**	**2.0 %**					
Matrix Spike	Matrix Spike	100	104	mg/L	104%		05/18/98	9805-367	5		
Matrix Spike (Dupl)	Matrix Spike	100	104	mg/L	104%		05/18/98	9805-367	5		
		100	**104**	**mg/L**	**104%**	**1.0 %**					
Method Blank	Method Blank		ND*	mg/L			05/18/98	9805-379	5		
Standard	Standard	100	100	mg/L	100%		05/18/98	9805-380	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		05/18/98	9805-380	5		
		100	**100**	**mg/L**	**100%**	**0.0 %**					

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

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

QC Batch ID: 7-0-255

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.73	mg/L	93%		9805-68	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.75	mg/L	94%		9805-68	0.5		
		4.00	**3.74**	**mg/L**	**94%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9805-69	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-69	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9804-474	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.77	mg/L	94%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9804-475	0.5	90-110%	
		4.00	**3.85**	**mg/L**	**96%**	**4.4 %**			90-110%	10%
Standard	Standard	10.00	10.12	mg/L	101%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.20	mg/L	102%		9804-511	0.5	90-110%	
		10.00	**10.16**	**mg/L**	**102%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-261

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%		9805-159	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9805-159	0.5		
		4.00	**3.98**	**mg/L**	**100%**	**1.8 %**				
Method Blank	Method Blank		ND*	mg/L			9805-150	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-150	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9804-474	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9804-475	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	10.00	mg/L	100%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.09	mg/L	101%		9804-511	0.5	90-110%	
		10.00	**10.05**	**mg/L**	**101%**	**0.9 %**			90-110%	10%

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

QC Batch ID: 7-0-262

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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Matrix Spike	Matrix Spike	4.00	3.99	mg/L	100%		9805-163	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.93	mg/L	98%		9805-163	0.5		
		4.00	**3.96**	**mg/L**	**99%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9805-162	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-162	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.93	mg/L	98%		9804-475	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-263

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.99	mg/L	100%		9805-184	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.02	mg/L	100%		9805-184	0.5		
		4.00	**4.00**	**mg/L**	**100%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9805-173	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-173	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.49	mg/L	98%		9804-474	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9804-474	0.5	50-150%	
		0.50	**0.49**	**mg/L**	**98%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9804-475	0.5	90-110%	
		4.00	**3.96**	**mg/L**	**99%**	**1.0 %**			90-110%	10%
Standard	Standard	10.00	9.90	mg/L	99%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.22	mg/L	102%		9804-511	0.5	90-110%	
		10.00	**10.06**	**mg/L**	**101%**	**3.2 %**			90-110%	10%

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

QC Batch ID: 7-0-264

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.92	mg/L	98%		9805-207	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9805-207	0.5		
		4.00	**3.94**	**mg/L**	**98%**	**0.8 %**				
Method Blank	Method Blank		ND*	mg/L			9805-195	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-195	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.48	mg/L	96%		9804-474	0.5	50-150%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9804-474	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%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9804-475	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	9.97	mg/L	100%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.09	mg/L	101%		9804-511	0.5	90-110%	
		10.00	**10.03**	**mg/L**	**100%**	**1.2 %**			90-110%	10%

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

QC Batch ID: 7-0-265

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%		9805-231	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.05	mg/L	101%		9805-231	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9805-250	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-250	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9804-474	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.08	mg/L	102%		9804-475	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.09	mg/L	102%		9804-475	0.5	90-110%	
		4.00	**4.09**	**mg/L**	**102%**	**0.2 %**			90-110%	10%

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

QC Batch ID: 7-0-266

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.89	mg/L	97%		9805-279	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.89	mg/L	97%		9805-279	0.5		
		4.00	**3.89**	**mg/L**	**97%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9805-296	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-296	0.5		
Standard	Standard	0.50	0.57	mg/L	114%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.57	mg/L	114%		9805-257	0.5	50-150%	
		0.50	**0.57**	**mg/L**	**114%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9805-201	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9805-201	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	10.02	mg/L	100%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.12	mg/L	101%		9804-511	0.5	90-110%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

		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: 7-0-267

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.00	mg/L	100%		9805-327	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.04	mg/L	101%		9805-327	0.5		
		4.00	**4.02**	**mg/L**	**100%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9805-331	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-331	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.49	mg/L	98%		9805-257	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**6.0 %**			50-150%	20%
Standard	Standard	4.00	4.02	mg/L	100%		9805-201	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.06	mg/L	101%		9805-201	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**1.0 %**			90-110%	10%
Standard	Standard	10.00	10.75	mg/L	108%		9804-511	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.92	mg/L	109%		9804-511	0.5	90-110%	
		10.00	**10.83**	**mg/L**	**108%**	**1.6 %**			90-110%	10%

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

QC Batch ID: 7-0-269

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.87	mg/L	97%		9805-349	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.82	mg/L	95%		9805-349	0.5		
		4.00	**3.84**	**mg/L**	**96%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9805-411	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-411	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	0.54	mg/L	108%		9805-257	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%		9805-201	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9805-201	0.5	90-110%	
		4.00	**4.05**	**mg/L**	**101%**	**0.2 %**			90-110%	10%

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

QC Batch ID: 7-0-275

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.66	mg/L	92%		9805-427	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Matrix Spike (Dupl)	Matrix Spike	4.00	3.74	mg/L	94%		9805-427	0.5		
		4.00	**3.70**	**mg/L**	**93%**	**2.4 %**				
Method Blank	Method Blank		ND*	mg/L			9805-435	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-435	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9805-257	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.90	mg/L	97%		9805-201	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9805-201	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**2.3 %**			90-110%	10%

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

QC Batch ID: 7-0-279

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.76	mg/L	94%		9805-456	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.85	mg/L	96%		9805-456	0.5		
		4.00	**3.80**	**mg/L**	**95%**	**2.1 %**				
Method Blank	Method Blank		ND*	mg/L			9805-448	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-448	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	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.86	mg/L	96%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9805-447	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**3.3 %**			90-110%	10%

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

QC Batch ID: 7-0-280

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.87	mg/L	97%		9805-466	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.92	mg/L	98%		9805-466	0.5		
		4.00	**3.90**	**mg/L**	**97%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9805-464	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9805-464	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9805-257	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9805-257	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**9.3 %**			50-150%	20%
Standard	Standard	4.00	4.05	mg/L	101%		9805-447	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.07	mg/L	102%		9805-447	0.5	90-110%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

		4.00	**4.06**	**mg/L**	**101%**	**0.5 %**			90-110%	10%

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

QC Batch ID: 8-0-180

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9805-151	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-151	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-151	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-151	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9804-476	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-476	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**14.3 %**			75-125%	20%
Standard	Standard	0.088	0.087	1/cm	99%		9804-477	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9804-477	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-181

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9805-174	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-174	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-174	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-174	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9804-476	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-476	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**14.3 %**			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9804-477	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9804-477	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: 8-0-182

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9805-221	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-221	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-221	0.009		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-221	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9804-476	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9804-476	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.087	1/cm	99%		9804-477	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9804-477	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-183

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Method Blank	Method Blank		ND*	1/cm			9805-256	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-256	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-256	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-256	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9805-259	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: 8-0-184

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Method Blank	Method Blank		ND*	1/cm			9805-301	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-301	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-301	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-301	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9805-258	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**12.5 %**			75-125%	20%
Standard	Standard	0.088	0.086	1/cm	98%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.086	1/cm	98%		9805-259	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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

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

QC Batch ID: 8-0-185

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9805-344	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-344	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-344	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-344	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9805-258	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%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9805-259	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: 8-0-186

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9805-388	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-388	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-388	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-388	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.087	1/cm	99%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.087	1/cm	99%		9805-259	0.009	85-115%	
		0.088	**0.087**	**1/cm**	**99%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-187

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9805-412	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-412	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-412	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-412	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9805-258	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%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9805-259	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: 8-0-188

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9805-436	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-436	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-436	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-436	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9805-259	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: 8-0-190

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9805-463	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-463	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9805-463	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9805-463	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9805-258	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9805-258	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%		9805-259	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9805-259	0.009	85-115%	
		0.088	**0.085**	**1/cm**	**97%**	**1.2 %**			85-115%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

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

QC Batch ID: 9-0-10

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%		04/27/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		04/29/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		05/04/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		05/06/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		05/08/98	9902-79	0.05		
Standard	Standard	4.51	4.56	ntu	101%		05/11/98	9902-79	0.05		
Standard	Standard	4.51	4.54	ntu	101%		05/15/98	9902-79	0.05		

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

QC Batch ID: 12-0-137

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard - TCP Aqueous	Standard	25	20	µg Cl-/L	80%		9805-425	25	75-125%	
Standard - TCP Aqueous	Standard	200	202	µg Cl-/L	101%		9805-424	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9805-426	25		

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

QC Batch ID: 12-0-138

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	205	µg Cl-/L	102%		9805-169	25		
Matrix Spike (Dupl)	Matrix Spike	200	201	µg Cl-/L	100%		9805-169	25		
		200	**203**	**µg Cl-/L**	**101%**	**1.5 %**				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9805-444	25	75-125%	
Standard - TCP Aqueous	Standard	200	200	µg Cl-/L	100%		9805-443	25	85-115%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

System Blank	Blank	ND*	µg Cl-/L		9805-445	25

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

QC Batch ID: 12-0-139

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Standard - TCP Aqueous	Standard	25	21	µg Cl-/L	84%		9805-459	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9805-458	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9805-460	25		

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

QC Batch ID: 12-0-140

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	200	184	µg Cl-/L	92%		9805-271	25		
Matrix Spike (Dupl)	Matrix Spike	200	188	µg Cl-/L	94%		9805-271	25		
		200	**186**	**µg Cl-/L**	**93%**	**2.2 %**				
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9805-474	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9805-473	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9805-475	25		

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

QC Batch ID: 12-0-141

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%		9805-481	25	75-125%	
Standard - TCP Aqueous	Standard	200	184	µg Cl-/L	92%		9805-480	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9805-482	25		

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

QC Batch ID: 12-0-143

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	200	198	µg Cl-/L	99%		9805-333	25		
Matrix Spike (Dupl)	Matrix Spike	200	204	µg Cl-/L	102%		9805-333	25		
		200	**201**	**µg Cl-/L**	**100%**	**3.5 %**				
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9805-497	25	75-125%	
Standard - TCP Aqueous	Standard	200	209	µg Cl-/L	104%		9805-496	25	85-115%	
Standard - TCP Aqueous	Standard	500	506	µg Cl-/L	101%		9805-499	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9805-498	25		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

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

QC Batch ID: 12-0-144

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	198	µg Cl-/L	99%		9805-391	25		
Matrix Spike (Dupl)	Matrix Spike	200	197	µg Cl-/L	98%		9805-391	25		
		200	**198**	**µg Cl-/L**	**99%**	**1.0 %**				
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9806-3	25	75-125%	
Standard - TCP Aqueous	Standard	200	197	µg Cl-/L	98%		9806-2	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-4	25		

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

QC Batch ID: 12-0-145

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%		9806-108	25	75-125%	
Standard - TCP Aqueous	Standard	200	203	µg Cl-/L	101%		9806-107	25	85-115%	
Standard - TCP Aqueous	Standard	500	460	µg Cl-/L	92%		9806-110	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9806-109	25		

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

QC Batch ID: 0-128-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	2.8	2.8	µg/L		0.0%	9805-106	1		
Bromodichloromethane	Matrix Spike	40.0	44.2	µg/L	111%		9805-139	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9805-297	1		
Bromodichloromethane	Secondary Source Std	20.0	21.2	µg/L	106%		9805-298	1	70-130%	
Bromodichloromethane	Standard	20.0	20.5	µg/L	102%		9805-299	1	80-120%	
Bromodichloromethane	Standard	20.0	22.2	µg/L	111%		9805-299	1	80-120%	
Bromodichloromethane	Standard	20.0	22.6	µg/L	113%		9805-299	1	80-120%	
Bromodichloromethane	Standard	40.0	40.7	µg/L	102%		9805-300	1	80-120%	
Bromodichloromethane	Standard	40.0	42.8	µg/L	107%		9805-300	1	80-120%	
Bromoform	Duplicate	ND	ND	µg/L		NA	9805-106	1		
Bromoform	Matrix Spike	40.0	40.2	µg/L	101%		9805-139	1		
Bromoform	Method Blank		ND*	µg/L			9805-297	1		
Bromoform	Secondary Source Std	20.0	20.0	µg/L	100%		9805-298	1	70-130%	
Bromoform	Standard	20.0	21.0	µg/L	105%		9805-299	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Bromoform	Standard	20.0	20.2	µg/L	101%		9805-299	1	80-120%
Bromoform	Standard	20.0	23.1	µg/L	116%		9805-299	1	80-120%
Bromoform	Standard	40.0	40.9	µg/L	102%		9805-300	1	80-120%
Bromoform	Standard	40.0	44.7	µg/L	112%		9805-300	1	80-120%
Chloroform	Duplicate	2.9	3.0	µg/L		3.4%	9805-106	1	
Chloroform	Matrix Spike	40.0	44.9	µg/L	112%		9805-139	1	
Chloroform	Method Blank		ND*	µg/L			9805-297	1	
Chloroform	Secondary Source Std	20.0	21.5	µg/L	108%		9805-298	1	70-130%
Chloroform	Standard	20.0	20.2	µg/L	101%		9805-299	1	80-120%
Chloroform	Standard	20.0	22.4	µg/L	112%		9805-299	1	80-120%
Chloroform	Standard	20.0	21.6	µg/L	108%		9805-299	1	80-120%
Chloroform	Standard	40.0	40.3	µg/L	101%		9805-300	1	80-120%
Chloroform	Standard	40.0	43.8	µg/L	110%		9805-300	1	80-120%
Dibromochloromethane	Duplicate	1.6	1.6	µg/L		0.0%	9805-106	1	
Dibromochloromethane	Matrix Spike	40.0	46.8	µg/L	117%		9805-139	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9805-297	1	
Dibromochloromethane	Secondary Source Std	20.0	20.1	µg/L	101%		9805-298	1	70-130%
Dibromochloromethane	Standard	20.0	21.1	µg/L	106%		9805-299	1	80-120%
Dibromochloromethane	Standard	20.0	22.6	µg/L	113%		9805-299	1	80-120%
Dibromochloromethane	Standard	20.0	23.3	µg/L	117%		9805-299	1	80-120%
Dibromochloromethane	Standard	40.0	41.2	µg/L	103%		9805-300	1	80-120%
Dibromochloromethane	Standard	40.0	43.3	µg/L	108%		9805-300	1	80-120%

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

QC Batch ID: 0-130-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	14.8	14.2	µg/L		4.1%	9805-214	1		
Bromodichloromethane	Matrix Spike	40.0	41.6	µg/L	104%		9805-261	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9805-437	1		
Bromodichloromethane	Secondary Source Std	20.0	21.0	µg/L	105%		9805-438	1	70-130%	
Bromodichloromethane	Standard	20.0	18.1	µg/L	91%		9805-439	1	80-120%	
Bromodichloromethane	Standard	20.0	19.4	µg/L	97%		9805-439	1	80-120%	
Bromodichloromethane	Standard	20.0	18.8	µg/L	94%		9805-439	1	80-120%	
Bromodichloromethane	Standard	40.0	41.4	µg/L	103%		9805-440	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Bromodichloromethane	Standard	40.0	41.1	µg/L	103%		9805-440	1	80-120%
Bromoform	Duplicate	ND	ND	µg/L		NA	9805-214	1	
Bromoform	Matrix Spike	40.0	43.2	µg/L	108%		9805-261	1	
Bromoform	Method Blank		ND*	µg/L			9805-437	1	
Bromoform	Secondary Source Std	20.0	20.4	µg/L	102%		9805-438	1	70-130%
Bromoform	Standard	20.0	17.6	µg/L	88%		9805-439	1	80-120%
Bromoform	Standard	20.0	20.2	µg/L	101%		9805-439	1	80-120%
Bromoform	Standard	20.0	19.3	µg/L	97%		9805-439	1	80-120%
Bromoform	Standard	40.0	39.8	µg/L	99%		9805-440	1	80-120%
Bromoform	Standard	40.0	43.0	µg/L	108%		9805-440	1	80-120%
Chloroform	Duplicate	42.1	40.0	µg/L		5.1%	9805-214	1	
Chloroform	Matrix Spike	40.0	42.4	µg/L	106%		9805-261	1	
Chloroform	Method Blank		ND*	µg/L			9805-437	1	
Chloroform	Secondary Source Std	20.0	20.9	µg/L	104%		9805-438	1	70-130%
Chloroform	Standard	20.0	18.1	µg/L	91%		9805-439	1	80-120%
Chloroform	Standard	20.0	19.5	µg/L	97%		9805-439	1	80-120%
Chloroform	Standard	20.0	19.4	µg/L	97%		9805-439	1	80-120%
Chloroform	Standard	40.0	41.5	µg/L	104%		9805-440	1	80-120%
Chloroform	Standard	40.0	42.3	µg/L	106%		9805-440	1	80-120%
Dibromochloromethane	Duplicate	3.8	3.6	µg/L		5.4%	9805-214	1	
Dibromochloromethane	Matrix Spike	40.0	42.4	µg/L	106%		9805-261	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9805-437	1	
Dibromochloromethane	Secondary Source Std	20.0	20.9	µg/L	104%		9805-438	1	70-130%
Dibromochloromethane	Standard	20.0	18.9	µg/L	94%		9805-439	1	80-120%
Dibromochloromethane	Standard	20.0	20.0	µg/L	100%		9805-439	1	80-120%
Dibromochloromethane	Standard	20.0	19.0	µg/L	95%		9805-439	1	80-120%
Dibromochloromethane	Standard	40.0	41.7	µg/L	104%		9805-440	1	80-120%
Dibromochloromethane	Standard	40.0	40.5	µg/L	101%		9805-440	1	80-120%

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

QC Batch ID: 0-136-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	3.2	3.0	µg/L		6.5%	9805-309	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Bromodichloromethane	Matrix Spike	40.0	39.1 µg/L	98%		9805-353	1	
Bromodichloromethane	Method Blank		ND* µg/L			9805-491	1	
Bromodichloromethane	Secondary Source Std	20.0	21.7 µg/L	109%		9805-492	1	70-130%
Bromodichloromethane	Standard	20.0	20.2 µg/L	101%		9805-493	1	80-120%
Bromodichloromethane	Standard	20.0	19.5 µg/L	97%		9805-493	1	80-120%
Bromodichloromethane	Standard	40.0	42.2 µg/L	106%		9805-494	1	80-120%
Bromoform	Duplicate	18.5	16.9 µg/L		9.0%	9805-309	1	
Bromoform	Matrix Spike	40.0	36.5 µg/L	91%		9805-353	1	
Bromoform	Method Blank		ND* µg/L			9805-491	1	
Bromoform	Secondary Source Std	20.0	20.6 µg/L	103%		9805-492	1	70-130%
Bromoform	Standard	20.0	19.8 µg/L	99%		9805-493	1	80-120%
Bromoform	Standard	20.0	18.1 µg/L	91%		9805-493	1	80-120%
Bromoform	Standard	40.0	38.2 µg/L	96%		9805-494	1	80-120%
Chloroform	Duplicate	ND	ND µg/L		NA	9805-309	1	
Chloroform	Matrix Spike	40.0	42.8 µg/L	107%		9805-353	1	
Chloroform	Method Blank		ND* µg/L			9805-491	1	
Chloroform	Secondary Source Std	20.0	21.6 µg/L	108%		9805-492	1	70-130%
Chloroform	Standard	20.0	19.6 µg/L	98%		9805-493	1	80-120%
Chloroform	Standard	20.0	19.0 µg/L	95%		9805-493	1	80-120%
Chloroform	Standard	40.0	42.9 µg/L	107%		9805-494	1	80-120%
Dibromochloromethane	Duplicate	13.4	12.4 µg/L		7.8%	9805-309	1	
Dibromochloromethane	Matrix Spike	40.0	39.2 µg/L	98%		9805-353	1	
Dibromochloromethane	Method Blank		ND* µg/L			9805-491	1	
Dibromochloromethane	Secondary Source Std	20.0	21.0 µg/L	105%		9805-492	1	70-130%
Dibromochloromethane	Standard	20.0	20.4 µg/L	102%		9805-493	1	80-120%
Dibromochloromethane	Standard	20.0	19.8 µg/L	99%		9805-493	1	80-120%
Dibromochloromethane	Standard	40.0	42.7 µg/L	107%		9805-494	1	80-120%

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

QC Batch ID: 0-139-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	5.9	6.2	µg/L		5.0%	9805-417	1		
Bromodichloromethane	Matrix Spike	40.0	43.2	µg/L	108%		9805-454	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Bromodichloromethane	Method Blank		ND* µg/L			9806-102	1	
Bromodichloromethane	Secondary Source Std	50.0	48.3 µg/L	97%		9806-103	1	70-130%
Bromodichloromethane	Standard	20.0	20.6 µg/L	103%		9806-104	1	80-120%
Bromodichloromethane	Standard	20.0	20.0 µg/L	100%		9806-104	1	80-120%
Bromodichloromethane	Standard	40.0	40.7 µg/L	102%		9806-105	1	80-120%
Bromodichloromethane	Standard	40.0	40.4 µg/L	101%		9806-105	1	80-120%
Bromoform	Duplicate	ND	ND µg/L		NA	9805-417	1	
Bromoform	Matrix Spike	40.0	39.4 µg/L	98%		9805-454	1	
Bromoform	Method Blank		ND* µg/L			9806-102	1	
Bromoform	Secondary Source Std	50.0	48.2 µg/L	96%		9806-103	1	70-130%
Bromoform	Standard	20.0	20.7 µg/L	103%		9806-104	1	80-120%
Bromoform	Standard	20.0	20.6 µg/L	103%		9806-104	1	80-120%
Bromoform	Standard	40.0	40.6 µg/L	102%		9806-105	1	80-120%
Bromoform	Standard	40.0	42.6 µg/L	106%		9806-105	1	80-120%
Chloroform	Duplicate	10.8	11.2 µg/L		3.6%	9805-417	1	
Chloroform	Matrix Spike	40.0	43.3 µg/L	108%		9805-454	1	
Chloroform	Method Blank		ND* µg/L			9806-102	1	
Chloroform	Secondary Source Std	50.0	51.3 µg/L	103%		9806-103	1	70-130%
Chloroform	Standard	20.0	20.1 µg/L	101%		9806-104	1	80-120%
Chloroform	Standard	20.0	19.3 µg/L	97%		9806-104	1	80-120%
Chloroform	Standard	40.0	40.2 µg/L	101%		9806-105	1	80-120%
Chloroform	Standard	40.0	39.9 µg/L	100%		9806-105	1	80-120%
Dibromochloromethane	Duplicate	1.9	1.9 µg/L		0.0%	9805-417	1	
Dibromochloromethane	Matrix Spike	40.0	35.7 µg/L	89%		9805-454	1	
Dibromochloromethane	Method Blank		ND* µg/L			9806-102	1	
Dibromochloromethane	Secondary Source Std	50.0	47.2 µg/L	94%		9806-103	1	70-130%
Dibromochloromethane	Standard	20.0	20.6 µg/L	103%		9806-104	1	80-120%
Dibromochloromethane	Standard	20.0	19.9 µg/L	99%		9806-104	1	80-120%
Dibromochloromethane	Standard	40.0	41.0 µg/L	102%		9806-105	1	80-120%
Dibromochloromethane	Standard	40.0	40.8 µg/L	102%		9806-105	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-129-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	1.3	1.2	µg/L		8.0%	9805-118	1		
Bromochloroacetic acid	Matrix Spike	40.0	40.9	µg/L	102%		9805-158	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9805-413	1		
Bromochloroacetic acid	Secondary Source Std	20.0	18.7	µg/L	93%		9805-414	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.3	µg/L	97%		9805-415	1	80-120%	
Bromochloroacetic acid	Standard	20.0	19.3	µg/L	97%		9805-415	1	80-120%	
Bromochloroacetic acid	Standard	40.0	38.3	µg/L	96%		9805-416	1	80-120%	
Bromodichloroacetic acid	Duplicate	1.0	1.0	µg/L		0.0%	9805-118	1		
Bromodichloroacetic acid	Matrix Spike	40.0	35.6	µg/L	89%		9805-158	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9805-413	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9805-414	1		
Bromodichloroacetic acid	Standard	20.0	18.1	µg/L	91%		9805-415	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	19.0	µg/L	95%		9805-415	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	38.5	µg/L	96%		9805-416	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9805-118	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	35.2	µg/L	88%		9805-158	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9805-413	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9805-414	2		
Chlorodibromoacetic acid	Standard	20.0	18.0	µg/L	90%		9805-415	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	19.9	µg/L	99%		9805-415	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	38.3	µg/L	96%		9805-416	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9805-118	1		
Dibromoacetic acid	Matrix Spike	40.0	38.3	µg/L	96%		9805-158	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9805-413	1		
Dibromoacetic acid	Secondary Source Std	20.0	18.3	µg/L	92%		9805-414	1	70-130%	
Dibromoacetic acid	Standard	20.0	19.0	µg/L	95%		9805-415	1	80-120%	
Dibromoacetic acid	Standard	20.0	18.9	µg/L	94%		9805-415	1	80-120%	
Dibromoacetic acid	Standard	40.0	37.7	µg/L	94%		9805-416	1	80-120%	
Dichloroacetic acid	Duplicate	1.9	1.8	µg/L		5.4%	9805-118	1		
Dichloroacetic acid	Matrix Spike	40.0	41.3	µg/L	103%		9805-158	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Dichloroacetic acid	Method Blank		ND* µg/L			9805-413	1	
Dichloroacetic acid	Secondary Source Std	20.0	20.0 µg/L	100%		9805-414	1	70-130%
Dichloroacetic acid	Standard	20.0	19.4 µg/L	97%		9805-415	1	80-120%
Dichloroacetic acid	Standard	20.0	19.5 µg/L	97%		9805-415	1	80-120%
Dichloroacetic acid	Standard	40.0	37.2 µg/L	93%		9805-416	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9805-118	1	
Monobromoacetic acid	Matrix Spike	40.0	39.4 µg/L	98%		9805-158	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9805-413	1	
Monobromoacetic acid	Secondary Source Std	20.0	19.2 µg/L	96%		9805-414	1	70-130%
Monobromoacetic acid	Standard	20.0	18.5 µg/L	93%		9805-415	1	80-120%
Monobromoacetic acid	Standard	20.0	18.7 µg/L	93%		9805-415	1	80-120%
Monobromoacetic acid	Standard	40.0	37.1 µg/L	93%		9805-416	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9805-118	2	
Monochloroacetic acid	Matrix Spike	40.0	40.2 µg/L	101%		9805-158	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9805-413	2	
Monochloroacetic acid	Secondary Source Std	20.0	18.1 µg/L	91%		9805-414	2	70-130%
Monochloroacetic acid	Standard	20.0	19.2 µg/L	96%		9805-415	2	80-120%
Monochloroacetic acid	Standard	20.0	19.4 µg/L	97%		9805-415	2	80-120%
Monochloroacetic acid	Standard	40.0	38.8 µg/L	97%		9805-416	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9805-118	4	
Tribromoacetic acid	Matrix Spike	40.0	35.1 µg/L	88%		9805-158	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9805-413	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9805-414	4	
Tribromoacetic acid	Standard	20.0	18.5 µg/L	93%		9805-415	4	80-120%
Tribromoacetic acid	Standard	20.0	20.3 µg/L	102%		9805-415	4	80-120%
Tribromoacetic acid	Standard	40.0	37.9 µg/L	95%		9805-416	4	80-120%
Trichloroacetic acid	Duplicate	1.2	1.2 µg/L		0.0%	9805-118	1	
Trichloroacetic acid	Matrix Spike	40.0	36.0 µg/L	90%		9805-158	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9805-413	1	
Trichloroacetic acid	Secondary Source Std	20.0	18.0 µg/L	90%		9805-414	1	70-130%
Trichloroacetic acid	Standard	20.0	19.2 µg/L	96%		9805-415	1	80-120%
Trichloroacetic acid	Standard	20.0	19.0 µg/L	95%		9805-415	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Trichloroacetic acid	Standard	40.0	38.0	µg/L	95%		9805-416	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-134-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	4.9	4.5	µg/L		8.5%	9805-278	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.5	µg/L	99%		9805-176	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9805-483	1		
Bromochloroacetic acid	Secondary Source Std	20.0	21.2	µg/L	106%		9805-484	1	70-130%	
Bromochloroacetic acid	Standard	20.0	21.6	µg/L	108%		9805-485	1	80-120%	
Bromochloroacetic acid	Standard	20.0	21.7	µg/L	109%		9805-485	1	80-120%	
Bromochloroacetic acid	Standard	40.0	37.8	µg/L	94%		9805-486	1	80-120%	
Bromodichloroacetic acid	Duplicate	6.0	5.2	µg/L		14.3%	9805-278	1		
Bromodichloroacetic acid	Matrix Spike	40.0	39.1	µg/L	98%		9805-176	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9805-483	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9805-484	1		
Bromodichloroacetic acid	Standard	20.0	22.8	µg/L	114%		9805-485	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	23.0	µg/L	115%		9805-485	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	38.3	µg/L	96%		9805-486	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9805-278	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	40.5	µg/L	101%		9805-176	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9805-483	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9805-484	2		
Chlorodibromoacetic acid	Standard	20.0	23.0	µg/L	115%		9805-485	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	23.2	µg/L	116%		9805-485	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	39.5	µg/L	99%		9805-486	2	80-120%	
Dibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9805-278	1		
Dibromoacetic acid	Matrix Spike	40.0	39.8	µg/L	99%		9805-176	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9805-483	1		
Dibromoacetic acid	Secondary Source Std	20.0	22.8	µg/L	114%		9805-484	1	70-130%	
Dibromoacetic acid	Standard	20.0	22.3	µg/L	112%		9805-485	1	80-120%	
Dibromoacetic acid	Standard	20.0	22.4	µg/L	112%		9805-485	1	80-120%	
Dibromoacetic acid	Standard	40.0	37.9	µg/L	95%		9805-486	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Dichloroacetic acid	Duplicate	22.7	21.2 µg/L		6.8%	9805-278	1
Dichloroacetic acid	Matrix Spike	40.0	41.6 µg/L	104%		9805-176	1
Dichloroacetic acid	Method Blank		ND* µg/L			9805-483	1
Dichloroacetic acid	Secondary Source Std	20.0	22.3 µg/L	112%		9805-484	1 70-130%
Dichloroacetic acid	Standard	20.0	21.2 µg/L	106%		9805-485	1 80-120%
Dichloroacetic acid	Standard	20.0	22.8 µg/L	114%		9805-485	1 80-120%
Dichloroacetic acid	Standard	40.0	40.4 µg/L	101%		9805-486	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9805-278	1
Monobromoacetic acid	Matrix Spike	40.0	37.9 µg/L	95%		9805-176	1
Monobromoacetic acid	Method Blank		ND* µg/L			9805-483	1
Monobromoacetic acid	Secondary Source Std	20.0	21.6 µg/L	108%		9805-484	1 70-130%
Monobromoacetic acid	Standard	20.0	19.4 µg/L	97%		9805-485	1 80-120%
Monobromoacetic acid	Standard	20.0	19.9 µg/L	99%		9805-485	1 80-120%
Monobromoacetic acid	Standard	40.0	39.5 µg/L	99%		9805-486	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9805-278	2
Monochloroacetic acid	Matrix Spike	40.0	34.3 µg/L	86%		9805-176	2
Monochloroacetic acid	Method Blank		ND* µg/L			9805-483	2
Monochloroacetic acid	Secondary Source Std	20.0	20.0 µg/L	100%		9805-484	2 70-130%
Monochloroacetic acid	Standard	20.0	19.0 µg/L	95%		9805-485	2 80-120%
Monochloroacetic acid	Standard	20.0	20.6 µg/L	103%		9805-485	2 80-120%
Monochloroacetic acid	Standard	40.0	38.0 µg/L	95%		9805-486	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9805-278	4
Tribromoacetic acid	Matrix Spike	40.0	40.5 µg/L	101%		9805-176	4
Tribromoacetic acid	Method Blank		ND* µg/L			9805-483	4
Tribromoacetic acid	Secondary Source Std		ND µg/L			9805-484	4
Tribromoacetic acid	Standard	20.0	21.6 µg/L	108%		9805-485	4 80-120%
Tribromoacetic acid	Standard	20.0	22.1 µg/L	111%		9805-485	4 80-120%
Tribromoacetic acid	Standard	40.0	38.3 µg/L	96%		9805-486	4 80-120%
Trichloroacetic acid	Duplicate	29.0	27.3 µg/L		6.0%	9805-278	1
Trichloroacetic acid	Matrix Spike	40.0	36.9 µg/L	92%		9805-176	1
Trichloroacetic acid	Method Blank		ND* µg/L			9805-483	1
Trichloroacetic acid	Secondary Source Std	20.0	22.7 µg/L	114%		9805-484	1 70-130%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Trichloroacetic acid	Standard	20.0	20.4	µg/L	102%		9805-485	1	80-120%
Trichloroacetic acid	Standard	20.0	20.5	µg/L	102%		9805-485	1	80-120%
Trichloroacetic acid	Standard	40.0	38.4	µg/L	96%		9805-486	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-138-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	6.0	6.9	µg/L		14.0%	9805-317	1		
Bromochloroacetic acid	Matrix Spike	40.0	35.7	µg/L	89%		9805-349	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9806-93	1		
Bromochloroacetic acid	Secondary Source Std	20.0	18.4	µg/L	92%		9806-94	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.9	µg/L	99%		9806-95	1	80-120%	
Bromochloroacetic acid	Standard	20.0	18.2	µg/L	91%		9806-95	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.7	µg/L	99%		9806-96	1	80-120%	
Bromodichloroacetic acid	Duplicate	2.8	4.1	µg/L		37.7%	9805-317	1		
Bromodichloroacetic acid	Matrix Spike	40.0	33.4	µg/L	83%		9805-349	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9806-93	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9806-94	1		
Bromodichloroacetic acid	Standard	20.0	23.6	µg/L	118%		9806-95	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	23.0	µg/L	115%		9806-95	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	36.8	µg/L	92%		9806-96	1	80-120%	
Chlorodibromoacetic acid	Duplicate	5.0	7.5	µg/L		40.0%	9805-317	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	35.4	µg/L	89%		9805-349	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9806-93	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9806-94	2		
Chlorodibromoacetic acid	Standard	20.0	22.9	µg/L	115%		9806-95	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	21.5	µg/L	108%		9806-95	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	38.5	µg/L	96%		9806-96	2	80-120%	
Dibromoacetic acid	Duplicate	10.0	12.4	µg/L		21.4%	9805-317	1		
Dibromoacetic acid	Matrix Spike	40.0	34.7	µg/L	87%		9805-349	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9806-93	1		
Dibromoacetic acid	Secondary Source Std	20.0	18.6	µg/L	93%		9806-94	1	70-130%	
Dibromoacetic acid	Standard	20.0	21.1	µg/L	106%		9806-95	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

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Dibromoacetic acid	Standard	20.0	22.3 µg/L	112%		9806-95	1 80-120%
Dibromoacetic acid	Standard	40.0	38.7 µg/L	97%		9806-96	1 80-120%
Dichloroacetic acid	Duplicate	3.1	3.6 µg/L		14.9%	9805-317	1
Dichloroacetic acid	Matrix Spike	40.0	39.2 µg/L	98%		9805-349	1
Dichloroacetic acid	Method Blank		ND* µg/L			9806-93	1
Dichloroacetic acid	Secondary Source Std	20.0	19.0 µg/L	95%		9806-94	1 70-130%
Dichloroacetic acid	Standard	20.0	20.9 µg/L	104%		9806-95	1 80-120%
Dichloroacetic acid	Standard	20.0	20.3 µg/L	102%		9806-95	1 80-120%
Dichloroacetic acid	Standard	40.0	42.2 µg/L	106%		9806-96	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9805-317	1
Monobromoacetic acid	Matrix Spike	40.0	43.6 µg/L	109%		9805-349	1
Monobromoacetic acid	Method Blank		ND* µg/L			9806-93	1
Monobromoacetic acid	Secondary Source Std	20.0	19.0 µg/L	95%		9806-94	1 70-130%
Monobromoacetic acid	Standard	20.0	20.5 µg/L	102%		9806-95	1 80-120%
Monobromoacetic acid	Standard	20.0	18.9 µg/L	94%		9806-95	1 80-120%
Monobromoacetic acid	Standard	40.0	42.0 µg/L	105%		9806-96	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9805-317	2
Monochloroacetic acid	Matrix Spike	40.0	44.8 µg/L	112%		9805-349	2
Monochloroacetic acid	Method Blank		ND* µg/L			9806-93	2
Monochloroacetic acid	Secondary Source Std	20.0	18.1 µg/L	91%		9806-94	2 70-130%
Monochloroacetic acid	Standard	20.0	19.4 µg/L	97%		9806-95	2 80-120%
Monochloroacetic acid	Standard	20.0	18.8 µg/L	94%		9806-95	2 80-120%
Monochloroacetic acid	Standard	40.0	41.1 µg/L	103%		9806-96	2 80-120%
Tribromoacetic acid	Duplicate	3.9	6.0 µg/L		42.4%	9805-317	4
Tribromoacetic acid	Matrix Spike	40.0	36.7 µg/L	92%		9805-349	4
Tribromoacetic acid	Method Blank		ND* µg/L			9806-93	4
Tribromoacetic acid	Secondary Source Std		ND µg/L			9806-94	4
Tribromoacetic acid	Standard	20.0	22.1 µg/L	111%		9806-95	4 80-120%
Tribromoacetic acid	Standard	20.0	22.3 µg/L	112%		9806-95	4 80-120%
Tribromoacetic acid	Standard	40.0	37.7 µg/L	94%		9806-96	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9805-317	1
Trichloroacetic acid	Matrix Spike	40.0	28.9 µg/L	72%		9805-349	1
Trichloroacetic acid	Method Blank		ND* µg/L			9806-93	1

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Trichloroacetic acid	Secondary Source Std	20.0	17.7 µg/L	89%		9806-94	1	70-130%
Trichloroacetic acid	Standard	20.0	23.1 µg/L	116%		9806-95	1	80-120%
Trichloroacetic acid	Standard	20.0	23.5 µg/L	118%		9806-95	1	80-120%
Trichloroacetic acid	Standard	40.0	36.7 µg/L	92%		9806-96	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-140-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	8.3	8.1	µg/L		2.4%	9805-402	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.6	µg/L	99%		9805-455	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9806-180	1		
Bromochloroacetic acid	Standard	20.0	18.3	µg/L	92%		9806-182	1	80-120%	
Bromochloroacetic acid	Standard	40.0	36.0	µg/L	90%		9806-183	1	80-120%	
Bromochloroacetic acid	Standard	40.0	36.6	µg/L	92%		9806-183	1	80-120%	
Bromodichloroacetic acid	Duplicate	6.2	6.1	µg/L		1.6%	9805-402	1		
Bromodichloroacetic acid	Matrix Spike	40.0	38.8	µg/L	97%		9805-455	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9806-180	1		
Bromodichloroacetic acid	Standard	20.0	20.0	µg/L	100%		9806-182	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	37.2	µg/L	93%		9806-183	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	38.2	µg/L	96%		9806-183	1	80-120%	
Chlorodibromoacetic acid	Duplicate	8.3	9.0	µg/L		8.1%	9805-402	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	39.2	µg/L	98%		9805-455	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9806-180	2		
Chlorodibromoacetic acid	Standard	20.0	20.3	µg/L	102%		9806-182	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	37.7	µg/L	94%		9806-183	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	39.0	µg/L	97%		9806-183	2	80-120%	
Dibromoacetic acid	Duplicate	12.3	12.1	µg/L		1.6%	9805-402	1		
Dibromoacetic acid	Matrix Spike	40.0	39.3	µg/L	98%		9805-455	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9806-180	1		
Dibromoacetic acid	Standard	20.0	17.7	µg/L	89%		9806-182	1	80-120%	
Dibromoacetic acid	Standard	40.0	34.6	µg/L	86%		9806-183	1	80-120%	
Dibromoacetic acid	Standard	40.0	35.4	µg/L	89%		9806-183	1	80-120%	
Dichloroacetic acid	Duplicate	4.0	4.1	µg/L		2.5%	9805-402	1		
Dichloroacetic acid	Matrix Spike	40.0	40.0	µg/L	100%		9805-455	1		
Dichloroacetic acid	Method Blank		ND*	µg/L			9806-180	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

Dichloroacetic acid	Standard	20.0	20.4 µg/L	102%		9806-182	1	80-120%
Dichloroacetic acid	Standard	40.0	38.5 µg/L	96%		9806-183	1	80-120%
Dichloroacetic acid	Standard	40.0	39.5 µg/L	99%		9806-183	1	80-120%
Monobromoacetic acid	Duplicate	1.1	1.2 µg/L		8.7%	9805-402	1	
Monobromoacetic acid	Matrix Spike	40.0	39.8 µg/L	99%		9805-455	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9806-180	1	
Monobromoacetic acid	Standard	20.0	19.9 µg/L	99%		9806-182	1	80-120%
Monobromoacetic acid	Standard	40.0	38.0 µg/L	95%		9806-183	1	80-120%
Monobromoacetic acid	Standard	40.0	38.8 µg/L	97%		9806-183	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9805-402	2	
Monochloroacetic acid	Matrix Spike	40.0	40.5 µg/L	101%		9805-455	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9806-180	2	
Monochloroacetic acid	Standard	20.0	21.1 µg/L	106%		9806-182	2	80-120%
Monochloroacetic acid	Standard	40.0	43.4 µg/L	109%		9806-183	2	80-120%
Monochloroacetic acid	Standard	40.0	38.0 µg/L	95%		9806-183	2	80-120%
Tribromoacetic acid	Duplicate	4.4	4.8 µg/L		8.7%	9805-402	4	
Tribromoacetic acid	Matrix Spike	40.0	42.4 µg/L	106%		9805-455	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9806-180	4	
Tribromoacetic acid	Standard	20.0	20.0 µg/L	100%		9806-182	4	80-120%
Tribromoacetic acid	Standard	40.0	38.3 µg/L	96%		9806-183	4	80-120%
Tribromoacetic acid	Standard	40.0	40.5 µg/L	101%		9806-183	4	80-120%
Trichloroacetic acid	Duplicate	1.4	1.5 µg/L		6.9%	9805-402	1	
Trichloroacetic acid	Matrix Spike	40.0	36.9 µg/L	92%		9805-455	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9806-180	1	
Trichloroacetic acid	Standard	20.0	18.1 µg/L	91%		9806-182	1	80-120%
Trichloroacetic acid	Standard	40.0	33.3 µg/L	83%		9806-183	1	80-120%
Trichloroacetic acid	Standard	40.0	33.8 µg/L	84%		9806-183	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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Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 106
Study Title: ICR RSSCT #2

QC Batch ID: 78032 **Report #:** 43296, 43324

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.07	107.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.96	96.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	0.97	97.0%		(80 - 120)

QC Batch ID: 78267 **Report #:** 43014, 43296

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	0.099	99.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.095	95.0%		(80 - 120)
MSD	Bromide	0.1	0.094	94.0%		(80 - 120)

QC Batch ID: 78329 **Report #:** 43296, 43324

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	50	100.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	50.9	102.0%		(90 - 110)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	52.3	105.0%		(80 - 120)

QC Batch ID: 78330 **Report #:** 43296, 43324

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	20.2	101.0%		(85 - 115)

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

QC Results from Montgomery Watson Laboratories

Ms. Julia Bellamy
Charleston CPW

Study#: 106
Study Title: ICR RSSCT #2

MBLK	Magnesium, Total, ICAP	ND	ND		
MS	Magnesium, Total, ICAP	20	20.6	103.0%	(70 - 130)

QC Batch ID: 78351 **Report #:** 43296
43324

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Bromide	0.02	0.021	105.0%		(50 - 150)
LCS2	Bromide	0.1	0.1	100.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.103	103.0%		(80 - 120)
MSD	Bromide	0.1	0.104	104.0%		(80 - 120)

End of MW QC report

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

Summers & Hooper, Inc.
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Cincinnati, OH 45237
Phone: (513) 679-2200
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Comments

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 106
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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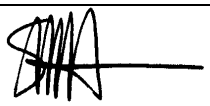
Laboratory Report

Client:

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Phone: 803-863-4002 Fax: 803-863-4015

Study Title: ICR RSSCT #3
Study #: 127

Reviewed By: 
Stuart M. Hooper
Date Reviewed: 6/15/99

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

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

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-1 **S&H ID:** 9807-473 **Date Sampled:** 7/27/98 9:51:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	7/31/98		7/31/98	n/a
2	Cl2Res	Chlorine Residual	1.45	mg/L as Cl2	SM 4500-Cl F	1	0.10	7/31/98		8/1/98	n/a
3	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
4	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
5	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
6	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
7	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
8	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
9	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
10	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
11	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
12	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/1/98	8/6/98	8/7/98	0-191-0
13	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
14	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		8/1/98	n/a
15	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
16	pH	pH	7.5	Unit	SM 4500-H+ B	1	n/a	7/27/98		7/27/98	n/a
17	TEMP	Cl2 Temperature	28.8	ºC	SM 2550 B	1	n/a	7/31/98		8/1/98	n/a
18	TEMP	Temperature	22.9	ºC	SM 2550 B	1	n/a	7/27/98		7/27/98	n/a
19	TIME	Cl2 Incubation Time	27.6	hrs	n/a	1	n/a	7/31/98		8/1/98	n/a
20	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
21	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
			ND	**mg/L**							
22	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/5/98	12-0-183
23	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/5/98	12-0-183
			ND	**µg Cl-/L**							
24	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
25	THM-ICR	Bromodichloromethane	1.6	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
26	THM-ICR	Bromoform	1.7	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
27	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
28	THM-ICR	Dibromochloromethane	2.5	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
29	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/27/98		7/28/98	8-0-241

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

30	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/27/98		7/28/98	8-0-241
			ND	**1/cm**							

Sample ID: 127.10.Eff-5 **S&H ID:** 9807-477 **Date Sampled:** 7/29/98 7:36:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
31	Cl2Dose	Chlorine Dose	2.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	7/31/98		7/31/98	n/a
32	Cl2Res	Chlorine Residual	1.19	mg/L as Cl2	SM 4500-Cl F	1	0.10	7/31/98		8/1/98	n/a
33	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
34	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
35	HAA-ICR	Bromochloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
36	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
37	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
38	HAA-ICR	Dibromoacetic acid	1.5	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
39	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
40	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
41	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
42	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/1/98	8/6/98	8/7/98	0-191-0
43	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
44	pH	Cl2 pH - Final	8.6	Unit	SM 4500-H+ B	1	n/a	7/31/98		8/1/98	n/a
45	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
46	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	7/29/98		7/29/98	n/a
47	TEMP	Cl2 Temperature	28.8	ºC	SM 2550 B	1	n/a	7/31/98		8/1/98	n/a
48	TEMP	Temperature	23.2	ºC	SM 2550 B	1	n/a	7/29/98		7/29/98	n/a
49	TIME	Cl2 Incubation Time	27.3	hrs	n/a	1	n/a	7/31/98		8/1/98	n/a
50	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/29/98		7/30/98	7-0-353
51	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/29/98		7/30/98	7-0-353
			ND	**mg/L**							
52	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/5/98	12-0-183
53	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/5/98	12-0-183
			ND	**µg Cl-/L**							
54	THM-ICR	1,2,3-Trichloropropane (Surrogate)	89.6	%	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
55	THM-ICR	Bromodichloromethane	2.5	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
56	THM-ICR	Bromoform	4.9	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
57	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
58	THM-ICR	Dibromochloromethane	5.3	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
59	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/29/98		7/30/98	8-0-243
60	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/29/98		7/30/98	8-0-243
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-7 **S&H ID:** 9807-479 **Date Sampled:** 7/30/98 6:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
61	Cl2Dose	Chlorine Dose	2.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
62	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
63	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
64	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
65	HAA-ICR	Bromochloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
66	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
67	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
68	HAA-ICR	Dibromoacetic acid	2.2	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
69	HAA-ICR	Dichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
70	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
71	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
72	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
73	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
74	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
75	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
76	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	7/30/98		7/30/98	n/a
77	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
78	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	7/30/98		7/30/98	n/a
79	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
80	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/30/98		7/31/98	7-0-354
81	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/30/98		7/31/98	7-0-354
			ND	**mg/L**							
82	TOX-ICR	TOX	31	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
83	TOX-ICR	TOX (Dupl)	28	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			30	**µg Cl-/L**	**10.0 % RPD**						
84	THM-ICR	1,2,3-Trichloropropane (Surrogate)	84.4	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
85	THM-ICR	Bromodichloromethane	4.6	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
86	THM-ICR	Bromoform	5.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
87	THM-ICR	Chloroform	1.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
88	THM-ICR	Dibromochloromethane	8.3	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
89	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/30/98		7/31/98	8-0-244
90	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/30/98		7/31/98	8-0-244
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-9 **S&H ID:** 9807-481 **Date Sampled:** 7/31/98 9:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
91	Cl2Dose	Chlorine Dose	2.91	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
92	Cl2Res	Chlorine Residual	1.74	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
93	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
94	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
95	HAA-ICR	Bromochloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
96	HAA-ICR	Bromodichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
97	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
98	HAA-ICR	Dibromoacetic acid	3.6	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
99	HAA-ICR	Dichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
100	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
101	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
102	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
103	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
104	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
105	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
106	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
107	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
108	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	7/31/98		7/31/98	n/a
109	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
110	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/31/98		7/31/98	7-0-354
111	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/31/98		7/31/98	7-0-354
			ND	**mg/L**							
112	TOX-ICR	TOX	43	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
113	TOX-ICR	TOX (Dupl)	42	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			43	**µg Cl-/L**	**2.3 % RPD**						
114	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
115	THM-ICR	Bromodichloromethane	8.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
116	THM-ICR	Bromoform	6.6	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
117	THM-ICR	Chloroform	2.8	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
118	THM-ICR	Dibromochloromethane	13.1	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
119	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/31/98		7/31/98	8-0-244
120	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/31/98		7/31/98	8-0-244
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-10 **S&H ID:** 9807-482 **Date Sampled:** 7/31/98 4:47:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
121	Cl2Dose	Chlorine Dose	3.38	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
122	Cl2Res	Chlorine Residual	2.01	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
123	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
124	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
125	HAA-ICR	Bromochloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
126	HAA-ICR	Bromodichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
127	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
128	HAA-ICR	Dibromoacetic acid	4.7	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
129	HAA-ICR	Dichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
130	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
131	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
132	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
133	HAA-ICR	Trichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
134	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
135	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
136	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
137	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
138	TEMP	Temperature	22.4	ºC	SM 2550 B	1	n/a	7/31/98		7/31/98	n/a
139	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
140	TOC-ICR	TOC	0.71	mg/L	SM 5310 C	1	0.50	7/31/98		8/1/98	7-0-355
141	TOC-ICR	TOC (Dupl)	0.74	mg/L	SM 5310 C	1	0.50	7/31/98		8/1/98	7-0-355
			0.72	**mg/L**	**4.2 % RPD**						
142	TOX-ICR	TOX	65	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
143	TOX-ICR	TOX (Dupl)	65	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			65	**µg Cl-/L**	**0.0 % RPD**						
144	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
145	THM-ICR	Bromodichloromethane	14.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
146	THM-ICR	Bromoform	8.1	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
147	THM-ICR	Chloroform	5.9	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
148	THM-ICR	Dibromochloromethane	20.9	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/7/98	0-192-0
149	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	7/31/98		8/1/98	8-0-245
150	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	7/31/98		8/1/98	8-0-245
			0.010	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-11 **S&H ID:** 9807-483 **Date Sampled:** 8/1/98 12:07:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
151	Cl2Dose	Chlorine Dose	3.54	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
152	Cl2Res	Chlorine Residual	2.08	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
153	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
154	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
155	HAA-ICR	Bromochloroacetic acid	4.5	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
156	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
157	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
158	HAA-ICR	Dibromoacetic acid	5.1	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
159	HAA-ICR	Dichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
160	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
161	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
162	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
163	HAA-ICR	Trichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
164	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
165	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
166	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/1/98		8/1/98	n/a
167	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
168	TEMP	Temperature	22.7	ºC	SM 2550 B	1	n/a	8/1/98		8/1/98	n/a
169	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
170	TOC-ICR	TOC	0.82	mg/L	SM 5310 C	1	0.50	8/1/98		8/1/98	7-0-355
171	TOC-ICR	TOC (Dupl)	0.81	mg/L	SM 5310 C	1	0.50	8/1/98		8/1/98	7-0-355
			0.81	**mg/L**	**1.2 % RPD**						
172	TOX-ICR	TOX	75	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
173	TOX-ICR	TOX (Dupl)	75	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			75	**µg Cl-/L**	**0.0 % RPD**						
174	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
175	THM-ICR	Bromodichloromethane	16.9	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
176	THM-ICR	Bromoform	7.8	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
177	THM-ICR	Chloroform	8.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
178	THM-ICR	Dibromochloromethane	21.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
179	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	8/1/98		8/1/98	8-0-245
180	UV-ICR	UV (Dupl)	0.011	1/cm	SM 5910 B	1	0.009	8/1/98		8/1/98	8-0-245
			0.011	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-13 **S&H ID:** 9807-485 **Date Sampled:** 8/1/98 2:56:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
181	Cl2Dose	Chlorine Dose	3.67	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
182	Cl2Res	Chlorine Residual	2.11	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
183	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	107.6	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
184	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
185	HAA-ICR	Bromochloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
186	HAA-ICR	Bromodichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
187	HAA-ICR	Chlorodibromoacetic acid	2.6	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
188	HAA-ICR	Dibromoacetic acid	5.4	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
189	HAA-ICR	Dichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
190	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
191	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
192	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
193	HAA-ICR	Trichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
194	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
195	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
196	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/1/98		8/1/98	n/a
197	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
198	TEMP	Temperature	23.1	ºC	SM 2550 B	1	n/a	8/1/98		8/1/98	n/a
199	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
200	TOC-ICR	TOC	0.86	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
201	TOC-ICR	TOC (Dupl)	0.89	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
			0.88	**mg/L**	**3.4 % RPD**						
202	TOX-ICR	TOX	80	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
203	TOX-ICR	TOX (Dupl)	84	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
			82	**µg Cl-/L**	**4.9 % RPD**						
204	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
205	THM-ICR	Bromodichloromethane	18.8	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
206	THM-ICR	Bromoform	7.4	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
207	THM-ICR	Chloroform	10.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
208	THM-ICR	Dibromochloromethane	23.2	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
209	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
210	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
			0.013	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-14 **S&H ID:** 9807-486 **Date Sampled:** 8/1/98 10:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
211	Cl2Dose	Chlorine Dose	3.84	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
212	Cl2Res	Chlorine Residual	2.17	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
213	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	118.4	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
214	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
215	HAA-ICR	Bromochloroacetic acid	6.4	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
216	HAA-ICR	Bromodichloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
217	HAA-ICR	Chlorodibromoacetic acid	4.2	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
218	HAA-ICR	Dibromoacetic acid	6.5	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
219	HAA-ICR	Dichloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
220	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
221	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
222	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
223	HAA-ICR	Trichloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
224	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
225	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
226	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/1/98		8/1/98	n/a
227	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
228	TEMP	Temperature	22.9	ºC	SM 2550 B	1	n/a	8/1/98		8/1/98	n/a
229	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
230	TOC-ICR	TOC	0.98	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
231	TOC-ICR	TOC (Dupl)	0.96	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
			0.97	**mg/L**	**2.1 % RPD**						
232	TOX-ICR	TOX	100	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
233	TOX-ICR	TOX (Dupl)	99	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
			100	**µg Cl-/L**	**1.0 % RPD**						
234	THM-ICR	1,2,3-Trichloropropane (Surrogate)	89.6	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
235	THM-ICR	Bromodichloromethane	21.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
236	THM-ICR	Bromoform	6.9	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
237	THM-ICR	Chloroform	12.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
238	THM-ICR	Dibromochloromethane	24.4	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
239	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
240	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
			0.014	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-16 **S&H ID:** 9807-488 **Date Sampled:** 8/2/98 1:09:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
241	Cl2Dose	Chlorine Dose	4.11	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
242	Cl2Res	Chlorine Residual	2.29	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
243	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
244	HAA-ICR	2-Bromopropionic acid (Surrogate)	102.4	%	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
245	HAA-ICR	Bromochloroacetic acid	6.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
246	HAA-ICR	Bromodichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
247	HAA-ICR	Chlorodibromoacetic acid	2.6	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
248	HAA-ICR	Dibromoacetic acid	5.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
249	HAA-ICR	Dichloroacetic acid	6.2	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
250	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
251	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/6/98	8/7/98	0-191-0
252	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/6/98	8/7/98	0-191-0
253	HAA-ICR	Trichloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	8/5/98	8/6/98	8/7/98	0-191-0
254	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
255	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
256	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	8/2/98		8/2/98	n/a
257	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
258	TEMP	Temperature	23.2	ºC	SM 2550 B	1	n/a	8/2/98		8/2/98	n/a
259	TIME	Cl2 Incubation Time	28.4	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
260	TOC-ICR	TOC	1.10	mg/L	SM 5310 C	1	0.50	8/2/98		8/3/98	7-0-357
261	TOC-ICR	TOC (Dupl)	1.11	mg/L	SM 5310 C	1	0.50	8/2/98		8/3/98	7-0-357
			1.11	**mg/L**	**0.9 % RPD**						
262	TOX-ICR	TOX	118	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
263	TOX-ICR	TOX (Dupl)	119	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
			119	**µg Cl-/L**	**0.8 % RPD**						
264	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.8	%	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
265	THM-ICR	Bromodichloromethane	24.6	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
266	THM-ICR	Bromoform	6.4	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
267	THM-ICR	Chloroform	16.6	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
268	THM-ICR	Dibromochloromethane	25.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/7/98	8/8/98	0-192-0
269	UV-ICR	UV	0.017	1/cm	SM 5910 B	1	0.009	8/2/98		8/3/98	8-0-248
270	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	8/2/98		8/3/98	8-0-248
			0.017	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-18 **S&H ID:** 9807-490 **Date Sampled:** 8/3/98 3:57:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
271	Cl2Dose	Chlorine Dose	4.34	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
272	Cl2Res	Chlorine Residual	2.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
273	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
274	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
275	HAA-ICR	Bromochloroacetic acid	6.7	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
276	HAA-ICR	Bromodichloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
277	HAA-ICR	Chlorodibromoacetic acid	2.7	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
278	HAA-ICR	Dibromoacetic acid	4.7	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
279	HAA-ICR	Dichloroacetic acid	7.8	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
280	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
281	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
282	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/13/98	8/13/98	0-194-0
283	HAA-ICR	Trichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
284	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
285	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
286	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/3/98		8/3/98	n/a
287	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
288	TEMP	Temperature	22.8	ºC	SM 2550 B	1	n/a	8/3/98		8/3/98	n/a
289	TIME	Cl2 Incubation Time	28.4	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
290	TOC-ICR	TOC	1.23	mg/L	SM 5310 C	1	0.50	8/3/98		8/3/98	7-0-357
291	TOC-ICR	TOC (Dupl)	1.23	mg/L	SM 5310 C	1	0.50	8/3/98		8/3/98	7-0-357
			1.23	**mg/L**	**0.0 % RPD**						
292	TOX-ICR	TOX	138	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
293	TOX-ICR	TOX (Dupl)	136	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			137	**µg Cl-/L**	**1.5 % RPD**						
294	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8	%	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
295	THM-ICR	Bromodichloromethane	26.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
296	THM-ICR	Bromoform	5.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
297	THM-ICR	Chloroform	21.1	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
298	THM-ICR	Dibromochloromethane	24.7	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
299	UV-ICR	UV	0.019	1/cm	SM 5910 B	1	0.009	8/3/98		8/3/98	8-0-248
300	UV-ICR	UV (Dupl)	0.019	1/cm	SM 5910 B	1	0.009	8/3/98		8/3/98	8-0-248
			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.

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-21 **S&H ID:** 9807-493 **Date Sampled:** 8/4/98 2:18:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
301	Cl2Dose	Chlorine Dose	3.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
302	Cl2Res	Chlorine Residual	1.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
303	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
304	HAA-ICR	2-Bromopropionic acid (Surrogate)	86.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
305	HAA-ICR	Bromochloroacetic acid	6.5	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
306	HAA-ICR	Bromodichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
307	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
308	HAA-ICR	Dibromoacetic acid	5.7	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
309	HAA-ICR	Dichloroacetic acid	7.1	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
310	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
311	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
312	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
313	HAA-ICR	Trichloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
314	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
315	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
316	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
317	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
318	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	8/4/98		8/4/98	n/a
319	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
320	TOC-ICR	TOC	1.33	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
321	TOC-ICR	TOC (Dupl)	1.33	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
			1.33	**mg/L**	**0.0 % RPD**						
322	TOX-ICR	TOX	141	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
323	TOX-ICR	TOX (Dupl)	140	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
			141	**µg Cl-/L**	**0.7 % RPD**						
324	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
325	THM-ICR	Bromodichloromethane	30.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
326	THM-ICR	Bromoform	6.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
327	THM-ICR	Chloroform	23.5	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
328	THM-ICR	Dibromochloromethane	28.5	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
329	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249
330	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249
			0.021	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-25 **S&H ID:** 9807-497 **Date Sampled:** 8/6/98 2:12:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
331	Cl2Dose	Chlorine Dose	3.83	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
332	Cl2Res	Chlorine Residual	1.77	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
333	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
334	HAA-ICR	2-Bromopropionic acid (Surrogate)	84.8	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
335	HAA-ICR	Bromochloroacetic acid	7.9	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
336	HAA-ICR	Bromodichloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
337	HAA-ICR	Chlorodibromoacetic acid	2.9	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
338	HAA-ICR	Dibromoacetic acid	5.4	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
339	HAA-ICR	Dichloroacetic acid	9.5	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
340	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
341	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
342	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
343	HAA-ICR	Trichloroacetic acid	5.7	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
344	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
345	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
346	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/6/98		8/6/98	n/a
347	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
348	TEMP	Temperature	22.8	ºC	SM 2550 B	1	n/a	8/6/98		8/6/98	n/a
349	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
350	TOC-ICR	TOC	1.53	mg/L	SM 5310 C	1	0.50	8/6/98		8/6/98	7-0-361
351	TOC-ICR	TOC (Dupl)	1.55	mg/L	SM 5310 C	1	0.50	8/6/98		8/6/98	7-0-361
			1.54	**mg/L**	**1.3 % RPD**						
352	TOX-ICR	TOX	169	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
353	TOX-ICR	TOX (Dupl)	165	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			167	**µg Cl-/L**	**2.4 % RPD**						
354	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.2	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
355	THM-ICR	Bromodichloromethane	32.8	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
356	THM-ICR	Bromoform	5.0	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
357	THM-ICR	Chloroform	31.6	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
358	THM-ICR	Dibromochloromethane	26.7	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
359	UV-ICR	UV	0.025	1/cm	SM 5910 B	1	0.009	8/6/98		8/7/98	8-0-259
360	UV-ICR	UV (Dupl)	0.025	1/cm	SM 5910 B	1	0.009	8/6/98		8/7/98	8-0-259
			0.025	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.10.Eff-26 **S&H ID:** 9807-498 **Date Sampled:** 8/7/98 7:53:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
361	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
362	TEMP	Temperature	23.5	ºC	SM 2550 B	1	n/a	8/7/98		8/7/98	n/a
363	TOC-ICR	TOC	1.56	mg/L	SM 5310 C	1	0.50	8/7/98		8/8/98	7-0-365
364	TOC-ICR	TOC (Dupl)	1.58	mg/L	SM 5310 C	1	0.50	8/7/98		8/8/98	7-0-365
			1.57	**mg/L**	**1.3 % RPD**						
365	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	8/7/98		8/8/98	8-0-253
366	UV-ICR	UV (Dupl)	0.027	1/cm	SM 5910 B	1	0.009	8/7/98		8/8/98	8-0-253
			0.027	**1/cm**	**0.0 % RPD**						

Sample ID: 127.10.Eff-7d **S&H ID:** 9807-504 **Date Sampled:** 7/30/98 6:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
367	Cl2Dose	Chlorine Dose	2.58	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
368	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
369	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
370	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
371	HAA-ICR	Bromochloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
372	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
373	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
374	HAA-ICR	Dibromoacetic acid	2.0	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
375	HAA-ICR	Dichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
376	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
377	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
378	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/13/98	8/13/98	0-194-0
379	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
380	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
381	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
382	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	7/30/98		7/30/98	n/a
383	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
384	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	7/30/98		7/30/98	n/a
385	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
386	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/30/98		7/31/98	7-0-354
387	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/30/98		7/31/98	7-0-354
			ND	**mg/L**							
388	TOX-ICR	TOX	25	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
389	TOX-ICR	TOX (Dupl)	25	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/7/98	12-0-185
			25	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

390	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
391	THM-ICR	Bromodichloromethane	4.4	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
392	THM-ICR	Bromoform	5.4	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
393	THM-ICR	Chloroform	1.6	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
394	THM-ICR	Dibromochloromethane	8.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
395	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/30/98		7/31/98	8-0-244
396	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/30/98		7/31/98	8-0-244
			ND	**1/cm**							

Sample ID: 127.10.Eff-14d **S&H ID:** 9807-506 **Date Sampled:** 8/1/98 10:18:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
397	Cl2Dose	Chlorine Dose	3.84	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/4/98		8/4/98	n/a
398	Cl2Res	Chlorine Residual	2.15	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/4/98		8/5/98	n/a
399	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
400	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
401	HAA-ICR	Bromochloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
402	HAA-ICR	Bromodichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
403	HAA-ICR	Chlorodibromoacetic acid	2.3	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
404	HAA-ICR	Dibromoacetic acid	4.4	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
405	HAA-ICR	Dichloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
406	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
407	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/5/98	8/13/98	8/13/98	0-194-0
408	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/5/98	8/13/98	8/13/98	0-194-0
409	HAA-ICR	Trichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	8/5/98	8/13/98	8/13/98	0-194-0
410	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/5/98	n/a
411	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
412	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/1/98		8/1/98	n/a
413	TEMP	Cl2 Temperature	28.1	ºC	SM 2550 B	1	n/a	8/4/98		8/5/98	n/a
414	TEMP	Temperature	22.9	ºC	SM 2550 B	1	n/a	8/1/98		8/1/98	n/a
415	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/4/98		8/5/98	n/a
416	TOC-ICR	TOC	0.97	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
417	TOC-ICR	TOC (Dupl)	0.97	mg/L	SM 5310 C	1	0.50	8/1/98		8/2/98	7-0-356
			0.97	**mg/L**	**0.0 % RPD**						
418	TOX-ICR	TOX	100	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
419	TOX-ICR	TOX (Dupl)	102	µg Cl-/L	SM 5320 B	1	25	8/5/98		8/6/98	12-0-184
			101	**µg Cl-/L**	**2.0 % RPD**						
420	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

421	THM-ICR	Bromodichloromethane	21.0	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
422	THM-ICR	Bromoform	6.9	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
423	THM-ICR	Chloroform	12.5	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
424	THM-ICR	Dibromochloromethane	23.3	µg/L	EPA 551.1	1	1.0	8/5/98	8/11/98	8/11/98	0-193-0
425	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
426	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	8/1/98		8/3/98	8-0-247
			0.014	**1/cm**	**0.0 % RPD**						

Sample ID: 127.10.Eff-21d **S&H ID:** 9807-510 **Date Sampled:** 8/4/98 2:18:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
427	Cl2Dose	Chlorine Dose	3.60	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
428	Cl2Res	Chlorine Residual	1.72	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
429	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	103.6	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
430	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
431	HAA-ICR	Bromochloroacetic acid	6.8	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
432	HAA-ICR	Bromodichloroacetic acid	4.1	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
433	HAA-ICR	Chlorodibromoacetic acid	2.7	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
434	HAA-ICR	Dibromoacetic acid	4.5	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
435	HAA-ICR	Dichloroacetic acid	7.0	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
436	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
437	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
438	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
439	HAA-ICR	Trichloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
440	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
441	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
442	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
443	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
444	TEMP	Temperature	22.6	ºC	SM 2550 B	1	n/a	8/4/98		8/4/98	n/a
445	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
446	TOC-ICR	TOC	1.33	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
447	TOC-ICR	TOC (Dupl)	1.35	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
			1.34	**mg/L**	**1.5 % RPD**						
448	TOX-ICR	TOX	136	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
449	TOX-ICR	TOX (Dupl)	142	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
			139	**µg Cl-/L**	**4.3 % RPD**						
450	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
451	THM-ICR	Bromodichloromethane	29.7	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
452	THM-ICR	Bromoform	6.1	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

453	THM-ICR	Chloroform	23.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
454	THM-ICR	Dibromochloromethane	27.7	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
455	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249
456	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249
			0.021	**1/cm**	**0.0 % RPD**						

Sample ID: 127.20.Eff-1 **S&H ID:** 9807-513 **Date Sampled:** 7/27/98 10:28:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
457	Cl2Dose	Chlorine Dose	2.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	7/31/98		7/31/98	n/a
458	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	7/31/98		8/1/98	n/a
459	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	95.6	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
460	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
461	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
462	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
463	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
464	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
465	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
466	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
467	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
468	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/1/98	8/6/98	8/7/98	0-191-0
469	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
470	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		8/1/98	n/a
471	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
472	pH	pH	8.0	Unit	SM 4500-H+ B	1	n/a	7/27/98		7/27/98	n/a
473	TEMP	Cl2 Temperature	28.8	ºC	SM 2550 B	1	n/a	7/31/98		8/1/98	n/a
474	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	7/27/98		7/27/98	n/a
475	TIME	Cl2 Incubation Time	27.6	hrs	n/a	1	n/a	7/31/98		8/1/98	n/a
476	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
477	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
			ND	**mg/L**							
478	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/6/98	12-0-184
479	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/6/98	12-0-184
			ND	**µg Cl-/L**							
480	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
481	THM-ICR	Bromodichloromethane	1.3	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
482	THM-ICR	Bromoform	1.3	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
483	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
484	THM-ICR	Dibromochloromethane	1.8	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

485	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	7/27/98	7/28/98	8-0-241
486	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	7/27/98	7/28/98	8-0-241
			ND	**1/cm**						

Sample ID: 127.20.Eff-15 **S&H ID:** 9807-527 **Date Sampled:** 8/4/98 8:06:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
487	Cl2Dose	Chlorine Dose	2.33	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
488	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
489	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
490	HAA-ICR	2-Bromopropionic acid (Surrogate)	88.8	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
491	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
492	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
493	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
494	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
495	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
496	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
497	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
498	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
499	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
500	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
501	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
502	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	8/4/98		8/4/98	n/a
503	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
504	TEMP	Temperature	22.0	ºC	SM 2550 B	1	n/a	8/4/98		8/4/98	n/a
505	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
506	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
507	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/4/98		8/4/98	7-0-359
			ND	**mg/L**							
508	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
509	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			ND	**µg Cl-/L**							
510	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
511	THM-ICR	Bromodichloromethane	1.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
512	THM-ICR	Bromoform	3.2	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
513	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
514	THM-ICR	Dibromochloromethane	3.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
515	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249
516	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/4/98		8/4/98	8-0-249

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

ND 1/cm

Sample ID: 127.20.Eff-18 **S&H ID:** 9807-530 **Date Sampled:** 8/5/98 9:07:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
517	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
518	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
519	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	108.4	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
520	HAA-ICR	2-Bromopropionic acid (Surrogate)	86.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
521	HAA-ICR	Bromochloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
522	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
523	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
524	HAA-ICR	Dibromoacetic acid	2.5	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
525	HAA-ICR	Dichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
526	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
527	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
528	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
529	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
530	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
531	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
532	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	8/5/98		8/5/98	n/a
533	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
534	TEMP	Temperature	23.0	ºC	SM 2550 B	1	n/a	8/5/98		8/5/98	n/a
535	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
536	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/5/98		8/6/98	7-0-361
537	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/5/98		8/6/98	7-0-361
			ND	**mg/L**							
538	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
539	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			ND	**µg Cl-/L**							
540	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
541	THM-ICR	Bromodichloromethane	4.2	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
542	THM-ICR	Bromoform	5.6	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
543	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
544	THM-ICR	Dibromochloromethane	8.0	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
545	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/5/98		8/6/98	8-0-251
546	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/5/98		8/6/98	8-0-251
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-20 **S&H ID:** 9807-532 **Date Sampled:** 8/6/98 7:25:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
547	Cl2Dose	Chlorine Dose	2.64	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
548	Cl2Res	Chlorine Residual	1.59	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
549	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
550	HAA-ICR	2-Bromopropionic acid (Surrogate)	91.2	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
551	HAA-ICR	Bromochloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
552	HAA-ICR	Bromodichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
553	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
554	HAA-ICR	Dibromoacetic acid	2.2	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
555	HAA-ICR	Dichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
556	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
557	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
558	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
559	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
560	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
561	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
562	pH	pH	7.3	Unit	SM 4500-H+ B	1	n/a	8/6/98		8/6/98	n/a
563	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
564	TEMP	Temperature	22.8	ºC	SM 2550 B	1	n/a	8/6/98		8/6/98	n/a
565	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
566	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/6/98		8/7/98	7-0-363
567	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/6/98		8/7/98	7-0-363
			ND	**mg/L**							
568	TOX-ICR	TOX	30	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
569	TOX-ICR	TOX (Dupl)	37	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/11/98	12-0-187
			34	**µg Cl-/L**	**20.6 % RPD**						
570	THM-ICR	1,2,3-Trichloropropane (Surrogate)	104.0	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
571	THM-ICR	Bromodichloromethane	7.2	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
572	THM-ICR	Bromoform	7.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
573	THM-ICR	Chloroform	2.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
574	THM-ICR	Dibromochloromethane	12.6	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
575	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/6/98		8/7/98	8-0-259
576	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/6/98		8/7/98	8-0-259
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-22 **S&H ID:** 9807-534 **Date Sampled:** 8/7/98 10:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
577	Cl2Dose	Chlorine Dose	2.76	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
578	Cl2Res	Chlorine Residual	1.70	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
579	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.8	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
580	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
581	HAA-ICR	Bromochloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
582	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
583	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
584	HAA-ICR	Dibromoacetic acid	3.1	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
585	HAA-ICR	Dichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
586	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
587	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
588	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
589	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
590	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
591	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
592	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
593	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
594	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	8/7/98		8/7/98	n/a
595	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
596	TOC-ICR	TOC	0.58	mg/L	SM 5310 C	1	0.50	8/7/98		8/7/98	7-0-363
597	TOC-ICR	TOC (Dupl)	0.60	mg/L	SM 5310 C	1	0.50	8/7/98		8/7/98	7-0-363
			0.59	**mg/L**	**3.4 % RPD**						
598	TOX-ICR	TOX	42	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
599	TOX-ICR	TOX (Dupl)	48	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			45	**µg Cl-/L**	**13.3 % RPD**						
600	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
601	THM-ICR	Bromodichloromethane	9.0	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
602	THM-ICR	Bromoform	7.6	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
603	THM-ICR	Chloroform	3.0	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
604	THM-ICR	Dibromochloromethane	14.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
605	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/7/98		8/7/98	8-0-259
606	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/7/98		8/7/98	8-0-259
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-24 **S&H ID:** 9807-536 **Date Sampled:** 8/8/98 9:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
607	Cl2Dose	Chlorine Dose	2.84	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/12/98		8/12/98	n/a
608	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/12/98		8/13/98	n/a
609	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	95.2	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
610	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
611	HAA-ICR	Bromochloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
612	HAA-ICR	Bromodichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
613	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
614	HAA-ICR	Dibromoacetic acid	4.1	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
615	HAA-ICR	Dichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
616	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
617	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
618	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/13/98	8/24/98	8/25/98	0-198-0
619	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
620	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/13/98	n/a
621	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/12/98	n/a
622	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	8/8/98		8/8/98	n/a
623	TEMP	Cl2 Temperature	30.1	ºC	SM 2550 B	1	n/a	8/12/98		8/13/98	n/a
624	TEMP	Temperature	22.2	ºC	SM 2550 B	1	n/a	8/8/98		8/8/98	n/a
625	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	8/12/98		8/13/98	n/a
626	TOC-ICR	TOC	0.71	mg/L	SM 5310 C	1	0.50	8/8/98		8/8/98	7-0-365
627	TOC-ICR	TOC (Dupl)	0.71	mg/L	SM 5310 C	1	0.50	8/8/98		8/8/98	7-0-365
			0.71	**mg/L**	**0.0 % RPD**						
628	TOX-ICR	TOX	61	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/20/98	12-0-194
629	TOX-ICR	TOX (Dupl)	62	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/20/98	12-0-194
			62	**µg Cl-/L**	**1.6 % RPD**						
630	THM-ICR	1,2,3-Trichloropropane (Surrogate)	89.2	%	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
631	THM-ICR	Bromodichloromethane	14.4	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
632	THM-ICR	Bromoform	10.4	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
633	THM-ICR	Chloroform	5.3	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
634	THM-ICR	Dibromochloromethane	21.3	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
635	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/8/98		8/8/98	8-0-253
636	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/8/98		8/8/98	8-0-253
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-25 **S&H ID:** 9807-537 **Date Sampled:** 8/8/98 11:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
637	Cl2Dose	Chlorine Dose	2.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/12/98		8/12/98	n/a
638	Cl2Res	Chlorine Residual	1.54	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/12/98		8/13/98	n/a
639	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
640	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
641	HAA-ICR	Bromochloroacetic acid	4.7	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
642	HAA-ICR	Bromodichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
643	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
644	HAA-ICR	Dibromoacetic acid	5.3	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
645	HAA-ICR	Dichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
646	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
647	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
648	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/13/98	8/24/98	8/25/98	0-198-0
649	HAA-ICR	Trichloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
650	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/13/98	n/a
651	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/12/98	n/a
652	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	8/8/98		8/8/98	n/a
653	TEMP	Cl2 Temperature	30.1	ºC	SM 2550 B	1	n/a	8/12/98		8/13/98	n/a
654	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	8/8/98		8/8/98	n/a
655	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/12/98		8/13/98	n/a
656	TOC-ICR	TOC	0.86	mg/L	SM 5310 C	1	0.50	8/8/98		8/9/98	7-0-367
657	TOC-ICR	TOC (Dupl)	0.85	mg/L	SM 5310 C	1	0.50	8/8/98		8/9/98	7-0-367
			0.85	**mg/L**	**1.2 % RPD**						
658	TOX-ICR	TOX	77	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/21/98	12-0-195
659	TOX-ICR	TOX (Dupl)	75	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/21/98	12-0-195
			76	**µg Cl-/L**	**2.6 % RPD**						
660	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.2	%	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
661	THM-ICR	Bromodichloromethane	18.8	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
662	THM-ICR	Bromoform	9.1	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
663	THM-ICR	Chloroform	8.6	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
664	THM-ICR	Dibromochloromethane	23.9	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
665	UV-ICR	UV	0.010	1/cm	SM 5910 B	1	0.009	8/8/98		8/9/98	8-0-255
666	UV-ICR	UV (Dupl)	0.010	1/cm	SM 5910 B	1	0.009	8/8/98		8/9/98	8-0-255
			0.010	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-28 **S&H ID:** 9807-540 **Date Sampled:** 8/10/98 1:52:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
667	Cl2Dose	Chlorine Dose	3.13	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/12/98		8/12/98	n/a
668	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/12/98		8/13/98	n/a
669	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	109.6	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
670	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
671	HAA-ICR	Bromochloroacetic acid	5.3	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
672	HAA-ICR	Bromodichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
673	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
674	HAA-ICR	Dibromoacetic acid	5.4	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
675	HAA-ICR	Dichloroacetic acid	4.2	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
676	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
677	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
678	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/13/98	8/24/98	8/25/98	0-198-0
679	HAA-ICR	Trichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
680	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/13/98	n/a
681	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/12/98	n/a
682	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/10/98		8/10/98	n/a
683	TEMP	Cl2 Temperature	30.1	ºC	SM 2550 B	1	n/a	8/12/98		8/13/98	n/a
684	TEMP	Temperature	22.7	ºC	SM 2550 B	1	n/a	8/10/98		8/10/98	n/a
685	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/12/98		8/13/98	n/a
686	TOC-ICR	TOC	1.01	mg/L	SM 5310 C	1	0.50	8/10/98		8/11/98	7-0-370
687	TOC-ICR	TOC (Dupl)	0.99	mg/L	SM 5310 C	1	0.50	8/10/98		8/11/98	7-0-370
			1.00	**mg/L**	**2.0 % RPD**						
688	TOX-ICR	TOX	100	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/20/98	12-0-194
689	TOX-ICR	TOX (Dupl)	101	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/20/98	12-0-194
			101	**µg Cl-/L**	**1.0 % RPD**						
690	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
691	THM-ICR	Bromodichloromethane	22.3	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
692	THM-ICR	Bromoform	8.3	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
693	THM-ICR	Chloroform	12.2	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
694	THM-ICR	Dibromochloromethane	25.3	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
695	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	8/10/98		8/11/98	8-0-262
696	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	8/10/98		8/11/98	8-0-262
			0.012	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-29 **S&H ID:** 9807-541 **Date Sampled:** 8/12/98 4:01:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
697	Cl2Dose	Chlorine Dose	3.22	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/14/98		8/14/98	n/a
698	Cl2Res	Chlorine Residual	1.64	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/14/98		8/15/98	n/a
699	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.0	%	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
700	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
701	HAA-ICR	Bromochloroacetic acid	5.6	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
702	HAA-ICR	Bromodichloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
703	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	8/15/98	8/26/98	8/26/98	0-208-0
704	HAA-ICR	Dibromoacetic acid	5.1	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
705	HAA-ICR	Dichloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
706	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
707	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/15/98	8/26/98	8/26/98	0-208-0
708	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/15/98	8/26/98	8/26/98	0-208-0
709	HAA-ICR	Trichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	8/15/98	8/26/98	8/26/98	0-208-0
710	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/14/98		8/15/98	n/a
711	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	8/14/98		8/14/98	n/a
712	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/12/98	n/a
713	TEMP	Cl2 Temperature	30.3	ºC	SM 2550 B	1	n/a	8/14/98		8/15/98	n/a
714	TEMP	Temperature	21.9	ºC	SM 2550 B	1	n/a	8/12/98		8/12/98	n/a
715	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	8/14/98		8/15/98	n/a
716	TOC-ICR	TOC	1.09	mg/L	SM 5310 C	1	0.50	8/12/98		8/13/98	7-0-372
717	TOC-ICR	TOC (Dupl)	1.11	mg/L	SM 5310 C	1	0.50	8/12/98		8/13/98	7-0-372
			1.10	**mg/L**	**1.8 % RPD**						
718	TOX-ICR	TOX	111	µg Cl-/L	SM 5320 B	1	25	8/15/98		8/21/98	12-0-195
719	TOX-ICR	TOX (Dupl)	109	µg Cl-/L	SM 5320 B	1	25	8/15/98		8/21/98	12-0-195
			110	**µg Cl-/L**	**1.8 % RPD**						
720	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	8/15/98	8/27/98	8/27/98	0-209-0
721	THM-ICR	Bromodichloromethane	26.3	µg/L	EPA 551.1	1	1.0	8/15/98	8/27/98	8/27/98	0-209-0
722	THM-ICR	Bromoform	7.9	µg/L	EPA 551.1	1	1.0	8/15/98	8/27/98	8/27/98	0-209-0
723	THM-ICR	Chloroform	16.3	µg/L	EPA 551.1	1	1.0	8/15/98	8/27/98	8/27/98	0-209-0
724	THM-ICR	Dibromochloromethane	28.1	µg/L	EPA 551.1	1	1.0	8/15/98	8/27/98	8/27/98	0-209-0
725	UV-ICR	UV	0.015	1/cm	SM 5910 B	1	0.009	8/12/98		8/12/98	8-0-263
726	UV-ICR	UV (Dupl)	0.015	1/cm	SM 5910 B	1	0.009	8/12/98		8/12/98	8-0-263
			0.015	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-18d **S&H ID:** 9807-545 **Date Sampled:** 8/5/98 9:07:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
727	Cl2Dose	Chlorine Dose	2.48	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
728	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
729	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
730	HAA-ICR	2-Bromopropionic acid (Surrogate)	88.0	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
731	HAA-ICR	Bromochloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
732	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
733	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
734	HAA-ICR	Dibromoacetic acid	2.0	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
735	HAA-ICR	Dichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
736	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
737	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
738	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
739	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
740	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
741	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
742	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/5/98		8/5/98	n/a
743	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
744	TEMP	Temperature	23.0	ºC	SM 2550 B	1	n/a	8/5/98		8/5/98	n/a
745	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
746	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	8/5/98		8/6/98	7-0-361
747	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	8/5/98		8/6/98	7-0-361
			ND	**mg/L**							
748	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
749	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			ND	**µg Cl-/L**							
750	THM-ICR	1,2,3-Trichloropropane (Surrogate)	105.6	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
751	THM-ICR	Bromodichloromethane	3.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
752	THM-ICR	Bromoform	5.7	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
753	THM-ICR	Chloroform	1.3	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
754	THM-ICR	Dibromochloromethane	7.9	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
755	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	8/5/98		8/6/98	8-0-251
756	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	8/5/98		8/6/98	8-0-251
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-25d **S&H ID:** 9807-547 **Date Sampled:** 8/8/98 11:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
757	Cl2Dose	Chlorine Dose	2.99	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/12/98		8/12/98	n/a
758	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/12/98		8/13/98	n/a
759	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.4	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
760	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
761	HAA-ICR	Bromochloroacetic acid	4.2	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
762	HAA-ICR	Bromodichloroacetic acid	1.6	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
763	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
764	HAA-ICR	Dibromoacetic acid	4.7	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
765	HAA-ICR	Dichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
766	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
767	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/13/98	8/24/98	8/25/98	0-198-0
768	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/13/98	8/24/98	8/25/98	0-198-0
769	HAA-ICR	Trichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	8/13/98	8/24/98	8/25/98	0-198-0
770	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/13/98	n/a
771	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/12/98		8/12/98	n/a
772	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/8/98		8/8/98	n/a
773	TEMP	Cl2 Temperature	30.1	ºC	SM 2550 B	1	n/a	8/12/98		8/13/98	n/a
774	TEMP	Temperature	23.8	ºC	SM 2550 B	1	n/a	8/8/98		8/8/98	n/a
775	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	8/12/98		8/13/98	n/a
776	TOC-ICR	TOC	0.87	mg/L	SM 5310 C	1	0.50	8/8/98		8/9/98	7-0-367
777	TOC-ICR	TOC (Dupl)	0.85	mg/L	SM 5310 C	1	0.50	8/8/98		8/9/98	7-0-367
			0.86	**mg/L**	**2.3 % RPD**						
778	TOX-ICR	TOX	75	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/21/98	12-0-195
779	TOX-ICR	TOX (Dupl)	76	µg Cl-/L	SM 5320 B	1	25	8/13/98		8/21/98	12-0-195
			76	**µg Cl-/L**	**1.3 % RPD**						
780	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.2	%	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
781	THM-ICR	Bromodichloromethane	18.1	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
782	THM-ICR	Bromoform	9.0	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
783	THM-ICR	Chloroform	8.1	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
784	THM-ICR	Dibromochloromethane	24.4	µg/L	EPA 551.1	1	1.0	8/13/98	8/20/98	8/21/98	0-197-0
785	UV-ICR	UV	0.009	1/cm	SM 5910 B	1	0.009	8/8/98		8/9/98	8-0-255
786	UV-ICR	UV (Dupl)	0.009	1/cm	SM 5910 B	1	0.009	8/8/98		8/9/98	8-0-255
			0.009	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.20.Eff-33d **S&H ID:** 9807-550 **Date Sampled:** 8/15/98 8:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
787	Cl2Dose	Chlorine Dose	3.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/19/98		8/19/98	n/a
788	Cl2Res	Chlorine Residual	1.69	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/19/98		8/20/98	n/a
789	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
790	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
791	HAA-ICR	Bromochloroacetic acid	6.3	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
792	HAA-ICR	Bromodichloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
793	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/27/98	0-208-0
794	HAA-ICR	Dibromoacetic acid	4.8	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
795	HAA-ICR	Dichloroacetic acid	6.5	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
796	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
797	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/27/98	0-208-0
798	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/20/98	8/26/98	8/27/98	0-208-0
799	HAA-ICR	Trichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
800	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/20/98	n/a
801	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/19/98	n/a
802	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/15/98		8/15/98	n/a
803	TEMP	Cl2 Temperature	30.2	ºC	SM 2550 B	1	n/a	8/19/98		8/20/98	n/a
804	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	8/15/98		8/15/98	n/a
805	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	8/19/98		8/20/98	n/a
806	TOC-ICR	TOC	1.39	mg/L	SM 5310 C	1	0.50	8/15/98		8/15/98	7-0-374
807	TOC-ICR	TOC (Dupl)	1.40	mg/L	SM 5310 C	1	0.50	8/15/98		8/15/98	7-0-374
			1.40	**mg/L**	**0.7 % RPD**						
808	TOX-ICR	TOX	137	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
809	TOX-ICR	TOX (Dupl)	147	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
			142	**µg Cl-/L**	**7.0 % RPD**						
810	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
811	THM-ICR	Bromodichloromethane	31.1	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
812	THM-ICR	Bromoform	6.0	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
813	THM-ICR	Chloroform	26.4	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
814	THM-ICR	Dibromochloromethane	28.3	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
815	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	8/15/98		8/15/98	8-0-266
816	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	8/15/98		8/15/98	8-0-266
			0.021	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Sample ID: 127.Inf.A-1 **S&H ID:** 9807-553 **Date Sampled:** 7/27/98 3:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
817	ALK	Alkalinity	8	mg/L	SM 2320 B	1	5	7/27/98		7/27/98	1-0-28
818	ALK	Alkalinity (Dupl)	8	mg/L	SM 2320 B	1	5	7/27/98		7/27/98	1-0-28
			8	**mg/L**	**0.0 % RPD**						
819	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	7/27/98		8/10/98	MW82272
820	BR	Bromide	0.095	mg/L	EPA 300.0 A	1	0.020	7/27/98		8/11/98	MW82317
821	CaHardM	Calcium Hardness	21	mg/L CaCO3	EPA 200.7	1	5	7/27/98		8/5/98	MW n/a
822	CaMW	Calcium, Total, ICAP	8	mg/L	EPA 200.7	1	1	7/27/98	8/5/98	8/5/98	MW81814
823	MgMW	Magnesium, Total, ICAP	2	mg/L	EPA 200.7	1	0	7/27/98	8/10/98	8/5/98	MW82109
824	TotHard	Total Hardness as CaCO3 by ICP	31	mg/L CaCO3	SM 2340B	1	7	7/27/98		8/5/98	MW n/a

Sample ID: 127.Inf.A-2 **S&H ID:** 9807-554 **Date Sampled:** 8/7/98 9:50:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
825	ALK	Alkalinity	6	mg/L	SM 2320 B	1	5	8/7/98		8/7/98	1-0-30
826	ALK	Alkalinity (Dupl)	6	mg/L	SM 2320 B	1	5	8/7/98		8/7/98	1-0-30
			6	**mg/L**	**0.0 % RPD**						
827	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	8/7/98		8/21/98	MW82778
828	BR	Bromide	0.096	mg/L	EPA 300.0 A	1	0.020	8/7/98		8/17/98	MW82568
829	CaHardM	Calcium Hardness	23	mg/L CaCO3	EPA 200.7	1	5	8/7/98		8/17/98	MW n/a
830	CaMW	Calcium, Total, ICAP	9	mg/L	EPA 200.7	1	1	8/7/98	8/17/98	8/17/98	MW82482
831	MgMW	Magnesium, Total, ICAP	2	mg/L	EPA 200.7	1	0	8/7/98	8/17/98	8/17/98	MW82490
832	TotHard	Total Hardness as CaCO3 by ICP	33	mg/L CaCO3	SM 2340B	1	7	8/7/98		8/17/98	MW n/a

Sample ID: 127.Inf.B-1 **S&H ID:** 9807-555 **Date Sampled:** 7/27/98 3:10:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
833	Cl2Dose	Chlorine Dose	4.80	mg/L as Cl2	SM 4500-Cl B	1	n/a	7/31/98		7/31/98	n/a
834	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	7/31/98		8/1/98	n/a
835	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
836	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.4	%	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
837	HAA-ICR	Bromochloroacetic acid	11.1	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
838	HAA-ICR	Bromodichloroacetic acid	7.4	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
839	HAA-ICR	Chlorodibromoacetic acid	2.6	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
840	HAA-ICR	Dibromoacetic acid	4.2	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
841	HAA-ICR	Dichloroacetic acid	22.6	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

842	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
843	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/1/98	8/6/98	8/7/98	0-191-0
844	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/1/98	8/6/98	8/7/98	0-191-0
845	HAA-ICR	Trichloroacetic acid	15.1	µg/L	EPA 552.2	1	1.0	8/1/98	8/6/98	8/7/98	0-191-0
846	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		8/1/98	n/a
847	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
848	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	7/27/98		7/27/98	n/a
849	TEMP	Cl2 Temperature	28.8	ºC	SM 2550 B	1	n/a	7/31/98		8/1/98	n/a
850	TEMP	Temperature	20.2	ºC	SM 2550 B	1	n/a	7/27/98		7/27/98	n/a
851	TIME	Cl2 Incubation Time	27.3	hrs	n/a	1	n/a	7/31/98		8/1/98	n/a
852	TOC-ICR	TOC	2.09	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
853	TOC-ICR	TOC (Dupl)	2.13	mg/L	SM 5310 C	1	0.50	7/27/98		7/28/98	7-0-351
			2.11	**mg/L**	**1.9 % RPD**						
854	TOX-ICR	TOX	298	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/6/98	12-0-184
855	TOX-ICR	TOX (Dupl)	299	µg Cl-/L	SM 5320 B	1	25	8/1/98		8/6/98	12-0-184
			299	**µg Cl-/L**	**0.3 % RPD**						
856	THM-ICR	1,2,3-Trichloropropane (Surrogate)	84.0	%	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
857	THM-ICR	Bromodichloromethane	39.8	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
858	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
859	THM-ICR	Chloroform	71.4	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
860	THM-ICR	Dibromochloromethane	21.4	µg/L	EPA 551.1	1	1.0	8/1/98	8/7/98	8/7/98	0-192-0
861	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	7/27/98		7/27/98	9-0-14
862	UV-ICR	UV	0.046	1/cm	SM 5910 B	1	0.009	7/27/98		7/27/98	8-0-240
863	UV-ICR	UV (Dupl)	0.046	1/cm	SM 5910 B	1	0.009	7/27/98		7/27/98	8-0-240
			0.046	**1/cm**	**0.0 % RPD**						

Sample ID: 127.Inf.B-2 **S&H ID:** 9807-556 **Date Sampled:** 7/31/98 8:30:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
864	pH	pH	6.1	Unit	SM 4500-H+ B	1	n/a	7/31/98		7/31/98	n/a
865	TEMP	Temperature	18.0	ºC	SM 2550 B	1	n/a	7/31/98		7/31/98	n/a
866	TOC-ICR	TOC	2.19	mg/L	SM 5310 C	1	0.50	7/31/98		7/31/98	7-0-354
867	TOC-ICR	TOC (Dupl)	2.23	mg/L	SM 5310 C	1	0.50	7/31/98		7/31/98	7-0-354
			2.21	**mg/L**	**1.8 % RPD**						

Sample ID: 127.Inf.B-3 **S&H ID:** 9807-557 **Date Sampled:** 8/5/98 11:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
868	pH	pH	6.2	Unit	SM 4500-H+ B	1	n/a	8/5/98		8/5/98	n/a
869	TEMP	Temperature	18.1	ºC	SM 2550 B	1	n/a	8/5/98		8/5/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

870	TOC-ICR	TOC	2.15	mg/L	SM 5310 C	1	0.50	8/5/98		8/5/98 7-0-360
871	TOC-ICR	TOC (Dupl)	2.17	mg/L	SM 5310 C	1	0.50	8/5/98		8/5/98 7-0-360
			2.16	**mg/L**	**0.9 % RPD**					

Sample ID: 127.Inf.B-4 **S&H ID:** 9807-558 **Date Sampled:** 8/7/98 9:45:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
872	Cl2Dose	Chlorine Dose	4.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/7/98		8/7/98	n/a
873	Cl2Res	Chlorine Residual	1.71	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/7/98		8/8/98	n/a
874	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.4	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
875	HAA-ICR	2-Bromopropionic acid (Surrogate)	92.4	%	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
876	HAA-ICR	Bromochloroacetic acid	8.7	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
877	HAA-ICR	Bromodichloroacetic acid	6.4	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
878	HAA-ICR	Chlorodibromoacetic acid	2.4	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
879	HAA-ICR	Dibromoacetic acid	3.9	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
880	HAA-ICR	Dichloroacetic acid	16.9	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
881	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
882	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/8/98	8/13/98	8/14/98	0-194-0
883	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/8/98	8/13/98	8/14/98	0-194-0
884	HAA-ICR	Trichloroacetic acid	11.2	µg/L	EPA 552.2	1	1.0	8/8/98	8/13/98	8/14/98	0-194-0
885	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/8/98	n/a
886	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
887	pH	pH	6.2	Unit	SM 4500-H+ B	1	n/a	8/7/98		8/7/98	n/a
888	TEMP	Cl2 Temperature	29.8	ºC	SM 2550 B	1	n/a	8/7/98		8/8/98	n/a
889	TEMP	Temperature	18.4	ºC	SM 2550 B	1	n/a	8/7/98		8/7/98	n/a
890	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	8/7/98		8/8/98	n/a
891	TOC-ICR	TOC	2.11	mg/L	SM 5310 C	1	0.50	8/7/98		8/7/98	7-0-363
892	TOC-ICR	TOC (Dupl)	2.11	mg/L	SM 5310 C	1	0.50	8/7/98		8/7/98	7-0-363
			2.11	**mg/L**	**0.0 % RPD**						
893	TOX-ICR	TOX	281	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
894	TOX-ICR	TOX (Dupl)	279	µg Cl-/L	SM 5320 B	1	25	8/8/98		8/12/98	12-0-188
			280	**µg Cl-/L**	**0.7 % RPD**						
895	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
896	THM-ICR	Bromodichloromethane	42.1	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
897	THM-ICR	Bromoform	2.2	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
898	THM-ICR	Chloroform	69.7	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
899	THM-ICR	Dibromochloromethane	23.4	µg/L	EPA 551.1	1	1.0	8/8/98	8/11/98	8/11/98	0-193-0
900	TURB	Turbidity	0.30	ntu	SM 2130 B	1	0.05	8/7/98		8/7/98	9-0-15
901	UV-ICR	UV	0.044	1/cm	SM 5910 B	1	0.009	8/7/98		8/7/98	8-0-260

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

902	UV-ICR	UV (Dupl)	0.044	1/cm	SM 5910 B	1	0.009	8/7/98		8/7/98	8-0-260
			0.044	**1/cm**	**0.0 % RPD**						

Sample ID: 127.Inf.B-5 **S&H ID:** 9807-559 **Date Sampled:** 8/9/98 12:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
903	pH	pH	6.3	Unit	SM 4500-H+ B	1	n/a	8/9/98		8/9/98	n/a
904	TEMP	Temperature	20.0	ºC	SM 2550 B	1	n/a	8/9/98		8/9/98	n/a
905	TOC-ICR	TOC	2.03	mg/L	SM 5310 C	1	0.50	8/9/98		8/9/98	7-0-367
906	TOC-ICR	TOC (Dupl)	2.03	mg/L	SM 5310 C	1	0.50	8/9/98		8/9/98	7-0-367
			2.03	**mg/L**	**0.0 % RPD**						

Sample ID: 127.Inf.B-6 **S&H ID:** 9807-560 **Date Sampled:** 8/17/98 4:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
907	Cl2Dose	Chlorine Dose	4.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/19/98		8/19/98	n/a
908	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/19/98		8/20/98	n/a
909	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.8	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
910	HAA-ICR	2-Bromopropionic acid (Surrogate)	92.8	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
911	HAA-ICR	Bromochloroacetic acid	9.0	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
912	HAA-ICR	Bromodichloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
913	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/27/98	0-208-0
914	HAA-ICR	Dibromoacetic acid	3.6	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
915	HAA-ICR	Dichloroacetic acid	17.4	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
916	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
917	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/27/98	0-208-0
918	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/20/98	8/26/98	8/27/98	0-208-0
919	HAA-ICR	Trichloroacetic acid	9.1	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/27/98	0-208-0
920	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/20/98	n/a
921	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/19/98	n/a
922	pH	pH	6.3	Unit	SM 4500-H+ B	1	n/a	8/17/98		8/17/98	n/a
923	TEMP	Cl2 Temperature	30.2	ºC	SM 2550 B	1	n/a	8/19/98		8/20/98	n/a
924	TEMP	Temperature	19.7	ºC	SM 2550 B	1	n/a	8/17/98		8/17/98	n/a
925	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	8/19/98		8/20/98	n/a
926	TOC-ICR	TOC	2.15	mg/L	SM 5310 C	1	0.50	8/17/98		8/19/98	7-0-378
927	TOC-ICR	TOC (Dupl)	2.19	mg/L	SM 5310 C	1	0.50	8/17/98		8/19/98	7-0-378
			2.17	**mg/L**	**1.8 % RPD**						
928	TOX-ICR	TOX	271	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
929	TOX-ICR	TOX (Dupl)	278	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
			275	**µg Cl-/L**	**2.5 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

930	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.2	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
931	THM-ICR	Bromodichloromethane	43.4	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
932	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
933	THM-ICR	Chloroform	78.5	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
934	THM-ICR	Dibromochloromethane	23.2	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
935	TURB	Turbidity	0.25	ntu	SM 2130 B	1	0.05	8/17/98		8/17/98	9-0-16
936	UV-ICR	UV	0.048	1/cm	SM 5910 B	1	0.009	8/17/98		8/18/98	8-0-268
937	UV-ICR	UV (Dupl)	0.048	1/cm	SM 5910 B	1	0.009	8/17/98		8/18/98	8-0-268
			0.048	**1/cm**	**0.0 % RPD**						

Sample ID: Instantaneous DBP's **S&H ID:** 9807-569 **Date Sampled:** 7/28/98 4:00:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
938	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
939	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
940	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
941	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
942	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	7/28/98	8/6/98	8/7/98	0-191-0
943	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
944	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
945	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
946	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	7/28/98	8/6/98	8/7/98	0-191-0
947	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	7/28/98	8/6/98	8/7/98	0-191-0
948	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	7/28/98	8/6/98	8/7/98	0-191-0
949	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	7/28/98	8/7/98	8/7/98	0-192-0
950	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	7/28/98	8/7/98	8/7/98	0-192-0
951	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	7/28/98	8/7/98	8/7/98	0-192-0
952	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	7/28/98	8/7/98	8/7/98	0-192-0
953	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	7/28/98	8/7/98	8/7/98	0-192-0

Sample ID: 127.20.Eff-33 **S&H ID:** 9808-249 **Date Sampled:** 8/15/98 8:14:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
954	Cl2Dose	Chlorine Dose	3.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/19/98		8/19/98	n/a
955	Cl2Res	Chlorine Residual	1.63	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/19/98		8/20/98	n/a
956	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	98.0	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
957	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

958	HAA-ICR	Bromochloroacetic acid	6.9	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
959	HAA-ICR	Bromodichloroacetic acid	3.2	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
960	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
961	HAA-ICR	Dibromoacetic acid	5.3	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
962	HAA-ICR	Dichloroacetic acid	7.2	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
963	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
964	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
965	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/20/98	8/26/98	8/26/98	0-208-0
966	HAA-ICR	Trichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
967	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/20/98	n/a
968	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/19/98	n/a
969	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	8/15/98		8/15/98	n/a
970	TEMP	Cl2 Temperature	30.2	ºC	SM 2550 B	1	n/a	8/19/98		8/20/98	n/a
971	TEMP	Temperature	22.0	ºC	SM 2550 B	1	n/a	8/15/98		8/15/98	n/a
972	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	8/19/98		8/20/98	n/a
973	TOC-ICR	TOC	1.38	mg/L	SM 5310 C	1	0.50	8/15/98		8/15/98	7-0-374
974	TOC-ICR	TOC (Dupl)	1.37	mg/L	SM 5310 C	1	0.50	8/15/98		8/15/98	7-0-374
			1.38	**mg/L**	**0.7 % RPD**						
975	TOX-ICR	TOX	138	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
976	TOX-ICR	TOX (Dupl)	139	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
			139	**µg Cl-/L**	**0.7 % RPD**						
977	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.6	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
978	THM-ICR	Bromodichloromethane	29.6	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
979	THM-ICR	Bromoform	5.9	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
980	THM-ICR	Chloroform	24.8	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
981	THM-ICR	Dibromochloromethane	27.3	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
982	UV-ICR	UV	0.021	1/cm	SM 5910 B	1	0.009	8/15/98		8/15/98	8-0-266
983	UV-ICR	UV (Dupl)	0.021	1/cm	SM 5910 B	1	0.009	8/15/98		8/15/98	8-0-266
			0.021	**1/cm**	**0.0 % RPD**						

Sample ID: 127.20.Eff-34 **S&H ID:** 9808-250 **Date Sampled:** 8/16/98 6:40:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
984	Cl2Dose	Chlorine Dose	3.71	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/19/98		8/19/98	n/a
985	Cl2Res	Chlorine Residual	1.69	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/19/98		8/20/98	n/a
986	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.8	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
987	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.4	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
988	HAA-ICR	Bromochloroacetic acid	8.0	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
989	HAA-ICR	Bromodichloroacetic acid	3.8	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

990	HAA-ICR	Chlorodibromoacetic acid	2.3	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
991	HAA-ICR	Dibromoacetic acid	5.8	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
992	HAA-ICR	Dichloroacetic acid	9.0	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
993	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
994	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
995	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/20/98	8/26/98	8/26/98	0-208-0
996	HAA-ICR	Trichloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
997	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/20/98	n/a
998	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/19/98	n/a
999	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	8/16/98		8/16/98	n/a
1000	TEMP	Cl2 Temperature	30.2	ºC	SM 2550 B	1	n/a	8/19/98		8/20/98	n/a
1001	TEMP	Temperature	22.1	ºC	SM 2550 B	1	n/a	8/16/98		8/16/98	n/a
1002	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	8/19/98		8/20/98	n/a
1003	TOC-ICR	TOC	1.59	mg/L	SM 5310 C	1	0.50	8/16/98		8/17/98	7-0-376
1004	TOC-ICR	TOC (Dupl)	1.62	mg/L	SM 5310 C	1	0.50	8/16/98		8/17/98	7-0-376
			1.61	**mg/L**	**1.9 % RPD**						
1005	TOX-ICR	TOX	179	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
1006	TOX-ICR	TOX (Dupl)	170	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/21/98	12-0-195
			175	**µg Cl-/L**	**5.1 % RPD**						
1007	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1008	THM-ICR	Bromodichloromethane	34.0	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1009	THM-ICR	Bromoform	5.4	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1010	THM-ICR	Chloroform	33.9	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1011	THM-ICR	Dibromochloromethane	28.2	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1012	UV-ICR	UV	0.027	1/cm	SM 5910 B	1	0.009	8/16/98		8/17/98	8-0-267
1013	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	8/16/98		8/17/98	8-0-267
			0.026	**1/cm**	**3.8 % RPD**						

Sample ID: 127.20.Eff-36 **S&H ID:** 9808-252 **Date Sampled:** 8/17/98 8:07:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1014	Cl2Dose	Chlorine Dose	3.72	mg/L as Cl2	SM 4500-Cl B	1	n/a	8/19/98		8/19/98	n/a
1015	Cl2Res	Chlorine Residual	1.63	mg/L as Cl2	SM 4500-Cl F	1	0.10	8/19/98		8/20/98	n/a
1016	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.8	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1017	HAA-ICR	2-Bromopropionic acid (Surrogate)	100.8	%	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1018	HAA-ICR	Bromochloroacetic acid	9.2	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1019	HAA-ICR	Bromodichloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1020	HAA-ICR	Chlorodibromoacetic acid	2.5	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
1021	HAA-ICR	Dibromoacetic acid	6.2	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

1022	HAA-ICR	Dichloroacetic acid	10.4	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1023	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1024	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	8/20/98	8/26/98	8/26/98	0-208-0
1025	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	8/20/98	8/26/98	8/26/98	0-208-0
1026	HAA-ICR	Trichloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	8/20/98	8/26/98	8/26/98	0-208-0
1027	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/20/98	n/a
1028	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	8/19/98		8/19/98	n/a
1029	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	8/17/98		8/17/98	n/a
1030	TEMP	Cl2 Temperature	30.2	ºC	SM 2550 B	1	n/a	8/19/98		8/20/98	n/a
1031	TEMP	Temperature	23.3	ºC	SM 2550 B	1	n/a	8/17/98		8/17/98	n/a
1032	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	8/19/98		8/20/98	n/a
1033	TOC-ICR	TOC	1.60	mg/L	SM 5310 C	1	0.50	8/17/98		8/19/98	7-0-378
1034	TOC-ICR	TOC (Dupl)	1.61	mg/L	SM 5310 C	1	0.50	8/17/98		8/19/98	7-0-378
			1.61	**mg/L**	**0.6 % RPD**						
1035	TOX-ICR	TOX	171	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/24/98	12-0-196
1036	TOX-ICR	TOX (Dupl)	170	µg Cl-/L	SM 5320 B	1	25	8/20/98		8/24/98	12-0-196
			171	**µg Cl-/L**	**0.6 % RPD**						
1037	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1038	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	96.8	%	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
			98.2	**%**	**2.9 % RPD**						
1039	THM-ICR	Bromodichloromethane	35.6	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1040	THM-ICR	Bromodichloromethane (Lab Dupl)	33.1	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
			34.4	**µg/L**	**7.3 % RPD**						
1041	THM-ICR	Bromoform	5.4	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1042	THM-ICR	Bromoform (Lab Dupl)	5.0	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
			5.2	**µg/L**	**7.7 % RPD**						
1043	THM-ICR	Chloroform	36.8	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1044	THM-ICR	Chloroform (Lab Dupl)	34.0	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
			35.4	**µg/L**	**7.9 % RPD**						
1045	THM-ICR	Dibromochloromethane	28.9	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
1046	THM-ICR	Dibromochloromethane (Lab Dupl)	26.9	µg/L	EPA 551.1	1	1.0	8/20/98	8/27/98	8/27/98	0-209-0
			27.9	**µg/L**	**7.2 % RPD**						
1047	UV-ICR	UV	0.026	1/cm	SM 5910 B	1	0.009	8/17/98		8/18/98	8-0-268
1048	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	8/17/98		8/18/98	8-0-268
			0.026	**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

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 1-0-28

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	95	mg/L	95%		07/16/98	9807-367	5		
Matrix Spike (Dupl)	Matrix Spike	100	94	mg/L	94%		07/16/98	9807-367	5		
		100	**95**	**mg/L**	**95%**	**1.1 %**					
Method Blank	Method Blank		ND*	mg/L			07/16/98	9807-391	5		
Standard	Standard	100	100	mg/L	100%		07/16/98	9807-392	5		
Standard (Dupl)	Standard	100	99	mg/L	99%		07/16/98	9807-392	5		
		100	**99**	**mg/L**	**99%**	**1.0 %**					
Matrix Spike	Matrix Spike	100	96	mg/L	96%		07/27/98	9807-553	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		07/27/98	9807-553	5		
		100	**96**	**mg/L**	**96%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			07/27/98	9807-471	5		
Standard	Standard	100	98	mg/L	98%		07/27/98	9807-472	5		
Standard (Dupl)	Standard	100	96	mg/L	96%		07/27/98	9807-472	5		
		100	**97**	**mg/L**	**97%**	**2.1 %**					

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

QC Batch ID: 1-0-30

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	95	mg/L	95%		08/05/98	9808-141	5		
Matrix Spike (Dupl)	Matrix Spike	100	99	mg/L	99%		08/05/98	9808-141	5		
		100	**97**	**mg/L**	**97%**	**4.1 %**					
Method Blank	Method Blank		ND*	mg/L			08/05/98	9808-154	5		
Standard	Standard	100	97	mg/L	97%		08/05/98	9808-155	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		08/05/98	9808-155	5		
		100	**99**	**mg/L**	**99%**	**3.0 %**					
Matrix Spike	Matrix Spike	100	95	mg/L	95%		08/07/98	9807-554	5		
Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		08/07/98	9807-554	5		
		100	**96**	**mg/L**	**96%**	**3.1 %**					
Method Blank	Method Blank		ND*	mg/L			08/07/98	9808-198	5		
Standard	Standard	100	95	mg/L	95%		08/07/98	9808-199	5		
Standard (Dupl)	Standard	100	102	mg/L	102%		08/07/98	9808-199	5		
		100	**99**	**mg/L**	**99%**	**7.1 %**					
Matrix Spike	Matrix Spike	100	97	mg/L	97%		08/10/98	9808-142	5		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Matrix Spike (Dupl)	Matrix Spike	100	97	mg/L	97%		08/10/98	9808-142	5
		100	**97**	**mg/L**	**97%**	**1.0 %**			
Method Blank	Method Blank		ND*	mg/L			08/10/98	9808-220	5
Standard	Standard	100	99	mg/L	99%		08/10/98	9808-221	5
Standard (Dupl)	Standard	100	98	mg/L	98%		08/10/98	9808-221	5
		100	**99**	**mg/L**	**99%**	**1.0 %**			

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

QC Batch ID: 7-0-351

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.86	mg/L	96%		9807-513	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.85	mg/L	96%		9807-513	0.5		
		4.00	**3.85**	**mg/L**	**96%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9807-561	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9807-561	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9807-92	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9807-92	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.94	mg/L	98%		9807-434	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**0.0 %**			90-110%	10%

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

QC Batch ID: 7-0-353

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.16	mg/L	104%		9807-515	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.11	mg/L	103%		9807-515	0.5		
		4.00	**4.14**	**mg/L**	**103%**	**1.2 %**				
Method Blank	Method Blank		ND*	mg/L			9807-588	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9807-588	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	3.93	mg/L	98%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.06	mg/L	101%		9807-434	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**3.2 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 7-0-354

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.88	mg/L	97%		9807-480	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.88	mg/L	97%		9807-480	0.5		
		4.00	**3.88**	**mg/L**	**97%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9807-601	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9807-601	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9807-101	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.95	mg/L	99%		9807-101	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**0.0 %**			90-110%	10%

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

QC Batch ID: 7-0-355

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.88	mg/L	97%		9807-482	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.98	mg/L	100%		9807-482	0.5		
		4.00	**3.93**	**mg/L**	**98%**	**2.3 %**				
Method Blank	Method Blank		ND*	mg/L			9808-1	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-1	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**3.7 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9807-434	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-356

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.92	mg/L	98%		9807-521	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9807-521	0.5		
		4.00	**3.93**	**mg/L**	**98%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9808-3	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-3	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.56	mg/L	112%		9807-587	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**5.6 %**			50-150%	20%
Standard	Standard	4.00	3.91	mg/L	98%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.92	mg/L	98%		9807-434	0.5	90-110%	
		4.00	**3.91**	**mg/L**	**98%**	**0.3 %**			90-110%	10%

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

QC Batch ID: 7-0-357

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.03	mg/L	101%		9807-489	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.11	mg/L	103%		9807-489	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**2.0 %**				
Method Blank	Method Blank		ND*	mg/L			9808-10	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-10	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.02	mg/L	100%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9807-434	0.5	90-110%	
		4.00	**4.02**	**mg/L**	**100%**	**0.0 %**			90-110%	10%

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

QC Batch ID: 7-0-359

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.13	mg/L	103%		9807-525	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9807-525	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**2.9 %**				
Method Blank	Method Blank		ND*	mg/L			9808-19	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-19	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9807-434	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**0.5 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 7-0-360

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.08	mg/L	102%		9807-528	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.08	mg/L	102%		9807-528	0.5		
		4.00	**4.08**	**mg/L**	**102%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9808-153	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-153	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9807-434	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

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

QC Batch ID: 7-0-361

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.11	mg/L	103%		9807-545	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.10	mg/L	102%		9807-545	0.5		
		4.00	**4.11**	**mg/L**	**103%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9808-164	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-164	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	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%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9807-434	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.5 %**			90-110%	10%

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

QC Batch ID: 7-0-363

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.48	mg/L	112%		9807-532	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.55	mg/L	114%		9807-532	0.5		
		4.00	**4.52**	**mg/L**	**113%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9808-192	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-192	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.50	0.54	mg/L	108%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9807-587	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9807-434	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9807-434	0.5	90-110%	
		4.00	**4.01**	**mg/L**	**100%**	**0.2 %**			90-110%	10%

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

QC Batch ID: 7-0-365

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	4.08	mg/L	102%		9807-498	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.06	mg/L	101%		9807-498	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9808-200	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-200	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9807-587	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%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9808-191	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**1.0 %**			90-110%	10%

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

QC Batch ID: 7-0-367

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	4.00	3.88	mg/L	97%		9807-537	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.91	mg/L	98%		9807-537	0.5		
		4.00	**3.89**	**mg/L**	**97%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9808-204	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-204	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	4.00	mg/L	100%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9808-191	0.5	90-110%	
		4.00	**4.00**	**mg/L**	**100%**	**0.2 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 7-0-370

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.03	mg/L	101%		9807-540	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.97	mg/L	99%		9807-540	0.5		
		4.00	**4.00**	**mg/L**	**100%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9808-227	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-227	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9807-587	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%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9808-191	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: 7-0-372

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%		9807-541	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.02	mg/L	100%		9807-541	0.5		
		4.00	**4.02**	**mg/L**	**100%**	**0.2 %**				
Method Blank	Method Blank		ND*	mg/L			9808-266	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-266	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9807-587	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.09	mg/L	102%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9808-191	0.5	90-110%	
		4.00	**4.05**	**mg/L**	**101%**	**2.2 %**			90-110%	10%

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

QC Batch ID: 7-0-374

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.98	mg/L	100%		9808-248	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.00	mg/L	100%		9808-248	0.5		
		4.00	**3.99**	**mg/L**	**100%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9808-286	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-286	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9807-587	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.98	mg/L	100%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9808-191	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: 7-0-376

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%		9808-251	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9808-251	0.5		
		4.00	**4.01**	**mg/L**	**100%**	**2.7 %**				
Method Blank	Method Blank		ND*	mg/L			9808-290	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-290	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9807-587	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.08	mg/L	102%		9808-191	0.5	90-110%	
		4.00	**4.04**	**mg/L**	**101%**	**1.7 %**			90-110%	10%

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

QC Batch ID: 7-0-378

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%		9808-252	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.99	mg/L	100%		9808-252	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**2.0 %**				
Method Blank	Method Blank		ND*	mg/L			9808-403	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9808-403	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9807-587	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9808-191	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9808-191	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**1.8 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 8-0-240

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9807-470	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-470	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9807-470	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-470	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.095	1/cm	108%		9807-417	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.095	1/cm	108%		9807-417	0.009	85-115%	
		0.088	**0.095**	**1/cm**	**108%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-241

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9807-566	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-566	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9807-566	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-566	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.096	1/cm	109%		9807-417	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.096	1/cm	109%		9807-417	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: 8-0-243

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9807-597	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-597	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9807-597	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-597	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9807-416	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%		9807-417	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9807-417	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: 8-0-244

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9807-606	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-606	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9807-606	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9807-606	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9807-416	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.010	1/cm	111%		9807-416	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**11.1 %**			75-125%	20%
Standard	Standard	0.088	0.097	1/cm	110%		9807-598	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.097	1/cm	110%		9807-598	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: 8-0-245

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9808-2	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-2	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-2	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-2	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9807-416	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9807-416	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%		9807-598	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.098	1/cm	111%		9807-598	0.009	85-115%	
		0.088	**0.098**	**1/cm**	**111%**	**1.0 %**			85-115%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 8-0-247

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-5	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-5	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-5	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-5	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.100	1/cm	114%		9808-13	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.100	1/cm	114%		9808-13	0.009	85-115%	
		0.088	**0.100**	**1/cm**	**114%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-248

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-5	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-5	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-5	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-5	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.099	1/cm	113%		9808-13	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.099	1/cm	113%		9808-13	0.009	85-115%	
		0.088	**0.099**	**1/cm**	**113%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-249

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-14	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-14	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-14	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-14	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.009	1/cm	100%		9808-12	0.009	75-125%	
		0.009	**0.009**	**1/cm**	**100%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.100	1/cm	114%		9808-13	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.100	1/cm	114%		9808-13	0.009	85-115%	
		0.088	**0.100**	**1/cm**	**114%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-251

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9808-171	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-171	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-171	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-171	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9808-174	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: 8-0-253

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9808-202	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-202	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-202	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-202	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	0.009	85-115%	
		0.088	**0.088**	**1/cm**	**100%**	**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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 8-0-255

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-205	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-205	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-205	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-205	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	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: 8-0-259

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-178	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-178	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-178	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-178	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%		9808-174	0.009	85-115%	
		0.088	**0.089**	**1/cm**	**101%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-260

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-178	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-178	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-178	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-178	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.089	1/cm	101%		9808-174	0.009	85-115%	
		0.088	**0.089**	**1/cm**	**101%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-262

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9808-228	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-228	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-228	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-228	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	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: 8-0-263

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9808-244	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-244	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-244	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-244	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	0.009	85-115%	
		0.088	**0.088**	**1/cm**	**100%**	**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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 8-0-266

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-287	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-287	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-287	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-287	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	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: 8-0-267

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-289	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-289	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-289	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-289	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	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: 8-0-268

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9808-392	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-392	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9808-392	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9808-392	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	0.009	0.008	1/cm	89%		9808-173	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9808-173	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%		9808-174	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.088	1/cm	100%		9808-174	0.009	85-115%	
		0.088	**0.088**	**1/cm**	**100%**	**1.1 %**			85-115%	10%

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

QC Batch ID: 9-0-14

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.49	ntu	101%		07/08/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		07/10/98	9807-108	0.05		
Standard	Standard	5.41	5.47	ntu	101%		07/13/98	9807-108	0.05		
Standard	Standard	5.41	5.46	ntu	101%		07/16/98	9807-108	0.05		
Standard	Standard	5.41	5.46	ntu	101%		07/20/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		07/24/98	9807-108	0.05		
Standard	Standard	5.41	5.45	ntu	101%		07/27/98	9807-108	0.05		
Standard	Standard	5.41	5.47	ntu	101%		07/27/98	9807-108	0.05		

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

QC Batch ID: 9-0-15

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.46	ntu	101%		08/05/98	9807-108	0.05		
Standard	Standard	5.41	5.53	ntu	102%		08/07/98	9807-108	0.05		
Standard	Standard	5.41	5.47	ntu	101%		08/07/98	9807-108	0.05		
Standard	Standard	5.41	5.49	ntu	101%		08/08/98	9807-108	0.05		
Standard	Standard	5.41	5.53	ntu	102%		08/08/98	9807-108	0.05		
Standard	Standard	5.41	5.47	ntu	101%		08/12/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		08/13/98	9807-108	0.05		

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

QC Batch ID: 9-0-16

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.49	ntu	101%		08/14/98	9807-108	0.05		
Standard	Standard	5.41	5.52	ntu	102%		08/14/98	9807-108	0.05		
Standard	Standard	5.41	5.50	ntu	102%		08/14/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		08/14/98	9807-108	0.05		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Standard	Standard	5.41	5.47	ntu	101%	08/16/98	9807-108	0.05
Standard	Standard	5.41	5.47	ntu	101%	08/16/98	9807-108	0.05
Standard	Standard	5.41	5.58	ntu	103%	08/16/98	9807-108	0.05
Standard	Standard	5.41	5.48	ntu	101%	08/16/98	9807-108	0.05
Standard	Standard	5.41	5.47	ntu	101%	08/17/98	9807-108	0.05
Standard	Standard	5.41	5.49	ntu	101%	08/17/98	9807-108	0.05

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

QC Batch ID: 12-0-183

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9808-151	25	75-125%	
Standard - TCP Aqueous	Standard	200	196	µg Cl-/L	98%		9808-150	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-152	25		

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

QC Batch ID: 12-0-184

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	200	200	µg Cl-/L	100%		9807-506	25		
Matrix Spike (Dupl)	Matrix Spike	200	199	µg Cl-/L	100%		9807-506	25		
		200	**200**	**µg Cl-/L**	**100%**	**0.5 %**				
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9808-159	25	75-125%	
Standard - TCP Aqueous	Standard	200	191	µg Cl-/L	95%		9808-158	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-160	25		

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

QC Batch ID: 12-0-185

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9808-189	25	75-125%	
Standard - TCP Aqueous	Standard	200	201	µg Cl-/L	100%		9808-188	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-190	25		

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

QC Batch ID: 12-0-187

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	200	196	µg Cl-/L	98%		9808-27	25		
Matrix Spike (Dupl)	Matrix Spike	200	197	µg Cl-/L	98%		9808-27	25		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

		200	**197**	**µg Cl-/L**	**98%**	**0.5 %**				
Standard - TCP Aqueous	Standard	25	22	µg Cl-/L	88%		9808-235	25	75-125%	
Standard - TCP Aqueous	Standard	200	195	µg Cl-/L	97%		9808-234	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-236	25		

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

QC Batch ID: 12-0-188

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9808-260	25	75-125%	
Standard - TCP Aqueous	Standard	200	201	µg Cl-/L	100%		9808-259	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-261	25		

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

QC Batch ID: 12-0-194

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9808-413	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9808-412	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-414	25		

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

QC Batch ID: 12-0-195

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9808-428	25	75-125%	
Standard - TCP Aqueous	Standard	200	189	µg Cl-/L	94%		9808-427	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-429	25		

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

QC Batch ID: 12-0-196

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	200	185	µg Cl-/L	93%		9808-252	25		
Matrix Spike (Dupl)	Matrix Spike	200	185	µg Cl-/L	93%		9808-252	25		
		200	**185**	**µg Cl-/L**	**93%**	**0.5 %**				
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9808-445	25	75-125%	
Standard - TCP Aqueous	Standard	200	193	µg Cl-/L	96%		9808-444	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9808-446	25		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 0-192-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	1.6	1.6	µg/L		0.0%	9807-307	1		
Bromodichloromethane	Matrix Spike	40.0	40.6	µg/L	102%		9807-477	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9808-193	1		
Bromodichloromethane	Secondary Source Std	20.0	23.2	µg/L	116%		9808-194	1	70-130%	
Bromodichloromethane	Standard	20.0	20.1	µg/L	101%		9808-195	1	80-120%	
Bromodichloromethane	Standard	20.0	19.9	µg/L	99%		9808-195	1	80-120%	
Bromodichloromethane	Standard	40.0	41.1	µg/L	103%		9808-196	1	80-120%	
Bromoform	Duplicate	33.7	33.2	µg/L		1.5%	9807-307	1		
Bromoform	Matrix Spike	40.0	39.8	µg/L	99%		9807-477	1		
Bromoform	Method Blank		ND*	µg/L			9808-193	1		
Bromoform	Secondary Source Std	20.0	20.7	µg/L	103%		9808-194	1	70-130%	
Bromoform	Standard	20.0	19.2	µg/L	96%		9808-195	1	80-120%	
Bromoform	Standard	20.0	18.1	µg/L	91%		9808-195	1	80-120%	
Bromoform	Standard	40.0	37.7	µg/L	94%		9808-196	1	80-120%	
Chloroform	Duplicate	ND	ND	µg/L		NA	9807-307	1		
Chloroform	Matrix Spike	40.0	41.7	µg/L	104%		9807-477	1		
Chloroform	Method Blank		ND*	µg/L			9808-193	1		
Chloroform	Secondary Source Std	20.0	23.3	µg/L	117%		9808-194	1	70-130%	
Chloroform	Standard	20.0	18.8	µg/L	94%		9808-195	1	80-120%	
Chloroform	Standard	20.0	18.6	µg/L	93%		9808-195	1	80-120%	
Chloroform	Standard	40.0	41.6	µg/L	104%		9808-196	1	80-120%	
Dibromochloromethane	Duplicate	9.7	9.2	µg/L		5.3%	9807-307	1		
Dibromochloromethane	Matrix Spike	40.0	41.8	µg/L	104%		9807-477	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9808-193	1		
Dibromochloromethane	Secondary Source Std	20.0	22.1	µg/L	111%		9808-194	1	70-130%	
Dibromochloromethane	Standard	20.0	20.8	µg/L	104%		9808-195	1	80-120%	
Dibromochloromethane	Standard	20.0	20.7	µg/L	103%		9808-195	1	80-120%	
Dibromochloromethane	Standard	40.0	41.7	µg/L	104%		9808-196	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 0-193-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	2.9	3.0	µg/L		3.4%	9808-24	1		
Bromodichloromethane	Matrix Spike	40.0	38.2	µg/L	96%		9807-497	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9808-229	1		
Bromodichloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9808-230	1	70-130%	
Bromodichloromethane	Standard	20.0	20.1	µg/L	101%		9808-231	1	80-120%	
Bromodichloromethane	Standard	20.0	22.4	µg/L	112%		9808-231	1	80-120%	
Bromodichloromethane	Standard	40.0	41.7	µg/L	104%		9808-232	1	80-120%	
Bromoform	Duplicate	9.6	10.0	µg/L		4.1%	9808-24	1		
Bromoform	Matrix Spike	40.0	47.6	µg/L	119%		9807-497	1		
Bromoform	Method Blank		ND*	µg/L			9808-229	1		
Bromoform	Secondary Source Std	20.0	19.4	µg/L	97%		9808-230	1	70-130%	
Bromoform	Standard	20.0	20.0	µg/L	100%		9808-231	1	80-120%	
Bromoform	Standard	20.0	22.8	µg/L	114%		9808-231	1	80-120%	
Bromoform	Standard	40.0	42.9	µg/L	107%		9808-232	1	80-120%	
Chloroform	Duplicate	1.1	1.1	µg/L		0.0%	9808-24	1		
Chloroform	Matrix Spike	40.0	38.6	µg/L	97%		9807-497	1		
Chloroform	Method Blank		ND*	µg/L			9808-229	1		
Chloroform	Secondary Source Std	20.0	22.2	µg/L	111%		9808-230	1	70-130%	
Chloroform	Standard	20.0	19.7	µg/L	98%		9808-231	1	80-120%	
Chloroform	Standard	20.0	21.9	µg/L	110%		9808-231	1	80-120%	
Chloroform	Standard	40.0	42.0	µg/L	105%		9808-232	1	80-120%	
Dibromochloromethane	Duplicate	7.3	7.4	µg/L		1.4%	9808-24	1		
Dibromochloromethane	Matrix Spike	40.0	39.4	µg/L	98%		9807-497	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9808-229	1		
Dibromochloromethane	Secondary Source Std	20.0	20.6	µg/L	103%		9808-230	1	70-130%	
Dibromochloromethane	Standard	20.0	20.2	µg/L	101%		9808-231	1	80-120%	
Dibromochloromethane	Standard	20.0	22.9	µg/L	115%		9808-231	1	80-120%	
Dibromochloromethane	Standard	40.0	41.8	µg/L	104%		9808-232	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 0-197-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromodichloromethane	Duplicate	24.4	22.7	µg/L		7.2%	9808-38	1		
Bromodichloromethane	Matrix Spike	40.0	37.7	µg/L	94%		9807-537	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9808-416	1		
Bromodichloromethane	Secondary Source Std	20.0	24.4	µg/L	122%		9808-417	1	70-130%	
Bromodichloromethane	Standard	20.0	20.6	µg/L	103%		9808-418	1	80-120%	
Bromodichloromethane	Standard	20.0	22.4	µg/L	112%		9808-418	1	80-120%	
Bromodichloromethane	Standard	40.0	42.0	µg/L	105%		9808-419	1	80-120%	
Bromoform	Duplicate	5.3	4.8	µg/L		9.9%	9808-38	1		
Bromoform	Matrix Spike	40.0	39.1	µg/L	98%		9807-537	1		
Bromoform	Method Blank		ND*	µg/L			9808-416	1		
Bromoform	Secondary Source Std	20.0	21.8	µg/L	109%		9808-417	1	70-130%	
Bromoform	Standard	20.0	18.6	µg/L	93%		9808-418	1	80-120%	
Bromoform	Standard	20.0	23.9	µg/L	119%		9808-418	1	80-120%	
Bromoform	Standard	40.0	43.0	µg/L	108%		9808-419	1	80-120%	
Chloroform	Duplicate	21.6	20.2	µg/L		6.7%	9808-38	1		
Chloroform	Matrix Spike	40.0	40.5	µg/L	101%		9807-537	1		
Chloroform	Method Blank		ND*	µg/L			9808-416	1		
Chloroform	Secondary Source Std	20.0	24.9	µg/L	124%		9808-417	1	70-130%	
Chloroform	Standard	20.0	20.2	µg/L	101%		9808-418	1	80-120%	
Chloroform	Standard	20.0	21.7	µg/L	109%		9808-418	1	80-120%	
Chloroform	Standard	40.0	42.6	µg/L	106%		9808-419	1	80-120%	
Dibromochloromethane	Duplicate	20.7	19.4	µg/L		6.5%	9808-38	1		
Dibromochloromethane	Matrix Spike	40.0	37.3	µg/L	93%		9807-537	1		
Dibromochloromethane	Method Blank		ND*	µg/L			9808-416	1		
Dibromochloromethane	Secondary Source Std	20.0	23.4	µg/L	117%		9808-417	1	70-130%	
Dibromochloromethane	Standard	20.0	20.7	µg/L	103%		9808-418	1	80-120%	
Dibromochloromethane	Standard	20.0	22.3	µg/L	112%		9808-418	1	80-120%	
Dibromochloromethane	Standard	40.0	42.4	µg/L	106%		9808-419	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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

QC Batch ID: 0-209-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria 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		
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%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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: 0-191-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9807-303	1		
Bromochloroacetic acid	Matrix Spike	40.0	43.5	µg/L	109%		9807-513	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9808-165	1		
Bromochloroacetic acid	Secondary Source Std	20.0	19.1	µg/L	96%		9808-166	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.7	µg/L	98%		9808-167	1	80-120%	
Bromochloroacetic acid	Standard	20.0	20.0	µg/L	100%		9808-167	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.7	µg/L	99%		9808-168	1	80-120%	
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9807-303	1		
Bromodichloroacetic acid	Matrix Spike	40.0	44.5	µg/L	111%		9807-513	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9808-165	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9808-166	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	19.3	µg/L	97%		9808-167	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	21.5	µg/L	108%		9808-167	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	40.8	µg/L	102%		9808-168	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9807-303	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	43.3	µg/L	108%		9807-513	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9808-165	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9808-166	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	18.8	µg/L	94%		9808-167	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	22.1	µg/L	111%		9808-167	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	40.1	µg/L	100%		9808-168	2	80-120%	
Dibromoacetic acid	Duplicate	4.0	3.7	µg/L		7.8%	9807-303	1		
Dibromoacetic acid	Matrix Spike	40.0	42.5	µg/L	106%		9807-513	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9808-165	1		
Dibromoacetic acid	Secondary Source Std	20.0	19.7	µg/L	98%		9808-166	1	70-130%	
Dibromoacetic acid	Standard	20.0	20.2	µg/L	101%		9808-167	1	80-120%	
Dibromoacetic acid	Standard	20.0	20.5	µg/L	102%		9808-167	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Dibromoacetic acid	Standard	40.0	40.5 µg/L	101%		9808-168	1 80-120%
Dichloroacetic acid	Duplicate	ND	ND µg/L		NA	9807-303	1
Dichloroacetic acid	Matrix Spike	40.0	42.8 µg/L	107%		9807-513	1
Dichloroacetic acid	Method Blank		ND* µg/L			9808-165	1
Dichloroacetic acid	Secondary Source Std	20.0	19.8 µg/L	99%		9808-166	1 70-130%
Dichloroacetic acid	Standard	20.0	19.8 µg/L	99%		9808-167	1 80-120%
Dichloroacetic acid	Standard	20.0	20.3 µg/L	102%		9808-167	1 80-120%
Dichloroacetic acid	Standard	40.0	39.3 µg/L	98%		9808-168	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9807-303	1
Monobromoacetic acid	Matrix Spike	40.0	40.4 µg/L	101%		9807-513	1
Monobromoacetic acid	Method Blank		ND* µg/L			9808-165	1
Monobromoacetic acid	Secondary Source Std	20.0	20.7 µg/L	103%		9808-166	1 70-130%
Monobromoacetic acid	Standard	20.0	20.5 µg/L	102%		9808-167	1 80-120%
Monobromoacetic acid	Standard	20.0	20.6 µg/L	103%		9808-167	1 80-120%
Monobromoacetic acid	Standard	40.0	39.5 µg/L	99%		9808-168	1 80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9807-303	2
Monochloroacetic acid	Matrix Spike	40.0	43.1 µg/L	108%		9807-513	2
Monochloroacetic acid	Method Blank		ND* µg/L			9808-165	2
Monochloroacetic acid	Secondary Source Std	20.0	20.1 µg/L	101%		9808-166	2 70-130%
Monochloroacetic acid	Standard	20.0	20.0 µg/L	100%		9808-167	2 80-120%
Monochloroacetic acid	Standard	20.0	20.3 µg/L	102%		9808-167	2 80-120%
Monochloroacetic acid	Standard	40.0	41.3 µg/L	103%		9808-168	2 80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9807-303	4
Tribromoacetic acid	Matrix Spike	40.0	38.8 µg/L	97%		9807-513	4
Tribromoacetic acid	Method Blank		ND* µg/L			9808-165	4
Tribromoacetic acid	Secondary Source Std		ND µg/L			9808-166	4 70-130%
Tribromoacetic acid	Standard	20.0	18.5 µg/L	93%		9808-167	4 80-120%
Tribromoacetic acid	Standard	20.0	21.3 µg/L	106%		9808-167	4 80-120%
Tribromoacetic acid	Standard	40.0	38.3 µg/L	96%		9808-168	4 80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9807-303	1
Trichloroacetic acid	Matrix Spike	40.0	44.8 µg/L	112%		9807-513	1
Trichloroacetic acid	Method Blank		ND* µg/L			9808-165	1

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Trichloroacetic acid	Secondary Source Std	20.0	18.8	µg/L	94%		9808-166	1	70-130%
Trichloroacetic acid	Standard	20.0	19.8	µg/L	99%		9808-167	1	80-120%
Trichloroacetic acid	Standard	20.0	20.3	µg/L	102%		9808-167	1	80-120%
Trichloroacetic acid	Standard	40.0	39.2	µg/L	98%		9808-168	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-194-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9808-23	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.8	µg/L	99%		9807-493	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9808-267	1		
Bromochloroacetic acid	Secondary Source Std	20.0	18.0	µg/L	90%		9808-268	1	70-130%	
Bromochloroacetic acid	Standard	20.0	18.3	µg/L	92%		9808-269	1	80-120%	
Bromochloroacetic acid	Standard	20.0	18.5	µg/L	93%		9808-269	1	80-120%	
Bromochloroacetic acid	Standard	40.0	40.7	µg/L	102%		9808-270	1	80-120%	
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9808-23	1		
Bromodichloroacetic acid	Matrix Spike	40.0	42.2	µg/L	106%		9807-493	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9808-267	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9808-268	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	18.4	µg/L	92%		9808-269	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	17.8	µg/L	89%		9808-269	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	41.6	µg/L	104%		9808-270	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9808-23	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	39.6	µg/L	99%		9807-493	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9808-267	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9808-268	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	18.6	µg/L	93%		9808-269	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	17.8	µg/L	89%		9808-269	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	41.4	µg/L	103%		9808-270	2	80-120%	
Dibromoacetic acid	Duplicate	1.1	1.0	µg/L		9.5%	9808-23	1		
Dibromoacetic acid	Matrix Spike	40.0	39.2	µg/L	98%		9807-493	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9808-267	1		
Dibromoacetic acid	Secondary Source Std	20.0	18.5	µg/L	93%		9808-268	1	70-130%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Dibromoacetic acid	Standard	20.0	18.3 µg/L	92%		9808-269	1	80-120%
Dibromoacetic acid	Standard	20.0	18.5 µg/L	93%		9808-269	1	80-120%
Dibromoacetic acid	Standard	40.0	41.5 µg/L	104%		9808-270	1	80-120%
Dichloroacetic acid	Duplicate	ND	ND µg/L		NA	9808-23	1	
Dichloroacetic acid	Matrix Spike	40.0	38.0 µg/L	95%		9807-493	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9808-267	1	
Dichloroacetic acid	Secondary Source Std	20.0	19.0 µg/L	95%		9808-268	1	70-130%
Dichloroacetic acid	Standard	20.0	18.4 µg/L	92%		9808-269	1	80-120%
Dichloroacetic acid	Standard	20.0	18.8 µg/L	94%		9808-269	1	80-120%
Dichloroacetic acid	Standard	40.0	38.9 µg/L	97%		9808-270	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9808-23	1	
Monobromoacetic acid	Matrix Spike	40.0	40.4 µg/L	101%		9807-493	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9808-267	1	
Monobromoacetic acid	Secondary Source Std	20.0	19.1 µg/L	96%		9808-268	1	70-130%
Monobromoacetic acid	Standard	20.0	18.6 µg/L	93%		9808-269	1	80-120%
Monobromoacetic acid	Standard	20.0	18.7 µg/L	93%		9808-269	1	80-120%
Monobromoacetic acid	Standard	40.0	40.0 µg/L	100%		9808-270	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9808-23	2	
Monochloroacetic acid	Matrix Spike	40.0	41.6 µg/L	104%		9807-493	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9808-267	2	
Monochloroacetic acid	Secondary Source Std	20.0	20.3 µg/L	102%		9808-268	2	70-130%
Monochloroacetic acid	Standard	20.0	19.8 µg/L	99%		9808-269	2	80-120%
Monochloroacetic acid	Standard	20.0	18.5 µg/L	93%		9808-269	2	80-120%
Monochloroacetic acid	Standard	40.0	40.1 µg/L	100%		9808-270	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9808-23	4	
Tribromoacetic acid	Matrix Spike	40.0	39.4 µg/L	98%		9807-493	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9808-267	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9808-268	4	70-130%
Tribromoacetic acid	Standard	20.0	18.9 µg/L	94%		9808-269	4	80-120%
Tribromoacetic acid	Standard	20.0	17.0 µg/L	85%		9808-269	4	80-120%
Tribromoacetic acid	Standard	40.0	40.3 µg/L	101%		9808-270	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9808-23	1	
Trichloroacetic acid	Matrix Spike	40.0	39.2 µg/L	98%		9807-493	1	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Trichloroacetic acid	Method Blank		ND*	µg/L			9808-267	1	
Trichloroacetic acid	Secondary Source Std	20.0	18.0	µg/L	90%		9808-268	1	70-130%
Trichloroacetic acid	Standard	20.0	18.0	µg/L	90%		9808-269	1	80-120%
Trichloroacetic acid	Standard	20.0	17.7	µg/L	89%		9808-269	1	80-120%
Trichloroacetic acid	Standard	40.0	39.9	µg/L	100%		9808-270	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-198-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	3.8	3.9	µg/L		2.6%	9808-97	1		
Bromochloroacetic acid	Matrix Spike	40.0	37.3	µg/L	93%		9808-211	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9808-436	1		
Bromochloroacetic acid	Secondary Source Std	20.0	17.4	µg/L	87%		9808-437	1	70-130%	
Bromochloroacetic acid	Standard	20.0	20.2	µg/L	101%		9808-438	1	80-120%	
Bromochloroacetic acid	Standard	20.0	19.4	µg/L	97%		9808-438	1	80-120%	
Bromochloroacetic acid	Standard	40.0	39.2	µg/L	98%		9808-439	1	80-120%	
Bromodichloroacetic acid	Duplicate	1.0	1.1	µg/L		9.5%	9808-97	1		
Bromodichloroacetic acid	Matrix Spike	40.0	37.6	µg/L	94%		9808-211	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9808-436	1		
Bromodichloroacetic acid	Secondary Source Std		ND	µg/L			9808-437	1	70-130%	
Bromodichloroacetic acid	Standard	20.0	20.5	µg/L	102%		9808-438	1	80-120%	
Bromodichloroacetic acid	Standard	20.0	20.6	µg/L	103%		9808-438	1	80-120%	
Bromodichloroacetic acid	Standard	40.0	42.1	µg/L	105%		9808-439	1	80-120%	
Chlorodibromoacetic acid	Duplicate	ND	ND	µg/L		NA	9808-97	2		
Chlorodibromoacetic acid	Matrix Spike	40.0	34.3	µg/L	86%		9808-211	2		
Chlorodibromoacetic acid	Method Blank		ND*	µg/L			9808-436	2		
Chlorodibromoacetic acid	Secondary Source Std		ND	µg/L			9808-437	2	70-130%	
Chlorodibromoacetic acid	Standard	20.0	20.8	µg/L	104%		9808-438	2	80-120%	
Chlorodibromoacetic acid	Standard	20.0	21.9	µg/L	110%		9808-438	2	80-120%	
Chlorodibromoacetic acid	Standard	40.0	43.7	µg/L	109%		9808-439	2	80-120%	
Dibromoacetic acid	Duplicate	4.5	4.7	µg/L		4.3%	9808-97	1		
Dibromoacetic acid	Matrix Spike	40.0	35.8	µg/L	89%		9808-211	1		
Dibromoacetic acid	Method Blank		ND*	µg/L			9808-436	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Dibromoacetic acid	Secondary Source Std	20.0	17.6 µg/L	88%		9808-437	1	70-130%
Dibromoacetic acid	Standard	20.0	20.3 µg/L	102%		9808-438	1	80-120%
Dibromoacetic acid	Standard	20.0	20.0 µg/L	100%		9808-438	1	80-120%
Dibromoacetic acid	Standard	40.0	40.1 µg/L	100%		9808-439	1	80-120%
Dichloroacetic acid	Duplicate	6.0	6.4 µg/L		6.5%	9808-97	1	
Dichloroacetic acid	Matrix Spike	40.0	37.5 µg/L	94%		9808-211	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9808-436	1	
Dichloroacetic acid	Secondary Source Std	20.0	18.5 µg/L	93%		9808-437	1	70-130%
Dichloroacetic acid	Standard	20.0	19.7 µg/L	98%		9808-438	1	80-120%
Dichloroacetic acid	Standard	20.0	17.5 µg/L	88%		9808-438	1	80-120%
Dichloroacetic acid	Standard	40.0	36.6 µg/L	92%		9808-439	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9808-97	1	
Monobromoacetic acid	Matrix Spike	40.0	39.7 µg/L	99%		9808-211	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9808-436	1	
Monobromoacetic acid	Secondary Source Std	20.0	19.7 µg/L	98%		9808-437	1	70-130%
Monobromoacetic acid	Standard	20.0	21.5 µg/L	108%		9808-438	1	80-120%
Monobromoacetic acid	Standard	20.0	20.8 µg/L	104%		9808-438	1	80-120%
Monobromoacetic acid	Standard	40.0	38.0 µg/L	95%		9808-439	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9808-97	2	
Monochloroacetic acid	Matrix Spike	40.0	41.7 µg/L	104%		9808-211	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9808-436	2	
Monochloroacetic acid	Secondary Source Std	20.0	19.4 µg/L	97%		9808-437	2	70-130%
Monochloroacetic acid	Standard	20.0	19.6 µg/L	98%		9808-438	2	80-120%
Monochloroacetic acid	Standard	20.0	20.5 µg/L	102%		9808-438	2	80-120%
Monochloroacetic acid	Standard	40.0	38.6 µg/L	97%		9808-439	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9808-97	4	
Tribromoacetic acid	Matrix Spike	40.0	32.7 µg/L	82%		9808-211	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9808-436	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9808-437	4	70-130%
Tribromoacetic acid	Standard	20.0	20.5 µg/L	102%		9808-438	4	80-120%
Tribromoacetic acid	Standard	20.0	21.6 µg/L	108%		9808-438	4	80-120%
Tribromoacetic acid	Standard	40.0	42.3 µg/L	106%		9808-439	4	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

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

Trichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9808-97	1	
Trichloroacetic acid	Matrix Spike	40.0	35.3	µg/L	88%		9808-211	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9808-436	1	
Trichloroacetic acid	Secondary Source Std	20.0	16.8	µg/L	84%		9808-437	1	70-130%
Trichloroacetic acid	Standard	20.0	19.9	µg/L	99%		9808-438	1	80-120%
Trichloroacetic acid	Standard	20.0	17.9	µg/L	89%		9808-438	1	80-120%
Trichloroacetic acid	Standard	40.0	38.6	µg/L	97%		9808-439	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-208-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**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%	
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		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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	
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%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

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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Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 127
Study Title: ICR RSSCT #3

QC Batch ID: 81814 **Report #:** 45546, 45548

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	50.4	101.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	50	100.0%		(90 - 110)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	47	94.0%		(80 - 120)

QC Batch ID: 82109 **Report #:** 45546, 45548

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	20	100.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	19.8	99.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	19.1	96.0%		(70 - 130)

QC Batch ID: 82272 **Report #:** 45546, 45548

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.07	107.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.88	88.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	0.91	91.0%		(80 - 120)

QC Batch ID: 82317 **Report #:** 45546, 45548

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)

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

QC Results from Montgomery Watson Laboratories

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

MS	Bromide	0.1	0.101	101.0%		(80 - 120)
MSD	Bromide	0.1	0.102	102.0%		(80 - 120)

QC Batch ID: 82482 **Report #:** 45986, 45987

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	49.5	99.0%		(90 - 110)
LCS2	Calcium, Total, ICAP	50	51.5	103.0%		(90 - 110)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	49.4	99.0%		(80 - 120)

QC Batch ID: 82490 **Report #:** 45986, 45987

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	19.7	98.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	20.4	102.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	19.8	99.0%		(70 - 130)

QC Batch ID: 82568 **Report #:** 45986, 45987, 45993

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	0.098	98.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.106	106.0%		(80 - 120)
MSD	Bromide	0.1	0.105	105.0%		(80 - 120)

QC Batch ID: 82778 **Report #:** 45986, 45987, 45993

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.09	109.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	1.08	108.0%		(80 - 120)

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

QC Results from Montgomery Watson Laboratories

Ms. Julia Bellamy
Charleston CPW

Study#: 127
Study Title: ICR RSSCT #3

MBLK	Ammonia Nitrogen	ND	ND		
MS	Ammonia Nitrogen	1	0.81	81.0%	(80 - 120)
MSD	Ammonia Nitrogen	1	0.8	80.0%	(80 - 120)

End of MW QC report

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

Summers & Hooper, Inc.
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Comments

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 127
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

End of comments

Summers & Hooper, Inc.
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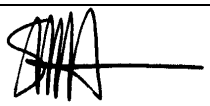
Laboratory Report

Client:

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Phone: 803-863-4002 Fax: 803-863-4015

Study Title: ICR RSSCT #4
Study #: 172

Reviewed By: 
Stuart M. Hooper
Date Reviewed: 6/15/99

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

Summers & Hooper, Inc.
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Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: Filtered.CCPW **S&H ID:** 9810-262 **Date Sampled:** 10/12/98 9:30:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1	TOC-ICR TOC	2.58	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
2	TOC-ICR TOC (Dupl)	2.55	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
		2.56	**mg/L**	**1.2 % RPD**						

Sample ID: Raw.CCPW **S&H ID:** 9810-263 **Date Sampled:** 10/12/98 9:30:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
3	TOC-ICR TOC	6.32	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
4	TOC-ICR TOC (Dupl)	6.50	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
		6.41	**mg/L**	**2.8 % RPD**						

Sample ID: Settled Drum.CCPW **S&H ID:** 9810-264 **Date Sampled:** 10/12/98 9:30:00 AM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
5	TOC-ICR TOC	2.82	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
6	TOC-ICR TOC (Dupl)	2.93	mg/L	SM 5310 C	1	0.50	10/12/98		10/16/98	7-0-433
		2.88	**mg/L**	**3.8 % RPD**						

Sample ID: CCPW.Settled on Arrival **S&H ID:** 9810-309 **Date Sampled:** 10/16/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
7	TOC-ICR TOC	2.73	mg/L	SM 5310 C	1	0.50	10/16/98		10/16/98	7-0-433
8	TOC-ICR TOC (Dupl)	2.76	mg/L	SM 5310 C	1	0.50	10/16/98		10/16/98	7-0-433
		2.75	**mg/L**	**1.1 % RPD**						

Sample ID: ccpw.filtered s&h **S&H ID:** 9810-310 **Date Sampled:** 10/16/98

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
9	TOC-ICR TOC	2.57	mg/L	SM 5310 C	1	0.50	10/16/98		10/16/98	7-0-433
10	TOC-ICR TOC (Dupl)	2.66	mg/L	SM 5310 C	1	0.50	10/16/98		10/16/98	7-0-433
		2.62	**mg/L**	**3.4 % RPD**						

Sample ID: 172.10.Eff-1 **S&H ID:** 9810-312 **Date Sampled:** 10/16/98 10:21:00 PM

#	Analysis Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
11	Cl2Dose Chlorine Dose	2.03	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/20/98		10/20/98	n/a
12	Cl2Res Chlorine Residual	1.68	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/20/98		10/21/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

13	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
14	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
15	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
16	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
17	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
18	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
19	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
20	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
21	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
22	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/21/98	10/23/98	10/24/98	0-248-0
23	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
24	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/21/98	n/a
25	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
26	pH	pH	7.4	Unit	SM 4500-H+ B	1	n/a	10/16/98		10/16/98	n/a
27	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/20/98		10/21/98	n/a
28	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	10/16/98		10/16/98	n/a
29	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	10/20/98		10/21/98	n/a
30	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
31	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
			ND	**mg/L**							
32	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
33	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
			ND	**µg Cl-/L**							
34	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
35	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
36	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
37	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
38	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
39	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
40	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
			ND	**1/cm**							

Sample ID: 172.10.Eff-4 **S&H ID:** 9810-315 **Date Sampled:** 10/18/98 11:17:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
41	Cl2Dose	Chlorine Dose	1.88	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
42	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
43	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	82.8	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

44	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
45	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
46	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
47	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
48	HAA-ICR	Dibromoacetic acid	1.5	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
49	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
50	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
51	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
52	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
53	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
54	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
55	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
56	pH	pH	7.2	Unit	SM 4500-H+ B	1	n/a	10/18/98		10/18/98	n/a
57	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
58	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	10/18/98		10/18/98	n/a
59	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
60	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/18/98		10/19/98	7-0-436
61	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/18/98		10/19/98	7-0-436
			ND	**mg/L**							
62	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
63	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
			ND	**µg Cl-/L**							
64	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	10/23/98	10/26/98	10/26/98	0-249-0
65	THM-ICR	Bromodichloromethane	1.4	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/26/98	0-249-0
66	THM-ICR	Bromoform	6.1	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/26/98	0-249-0
67	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/26/98	0-249-0
68	THM-ICR	Dibromochloromethane	4.6	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/26/98	0-249-0
69	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/18/98		10/19/98	8-0-332
70	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/18/98		10/19/98	8-0-332
			ND	**1/cm**							

Sample ID: 172.10.Eff-6 **S&H ID:** 9810-317 **Date Sampled:** 10/19/98 11:35:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
71	Cl2Dose	Chlorine Dose	2.05	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
72	Cl2Res	Chlorine Residual	1.36	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
73	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	85.2	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
74	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

75	HAA-ICR	Bromochloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
76	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
77	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
78	HAA-ICR	Dibromoacetic acid	3.0	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
79	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
80	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
81	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
82	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
83	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
84	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
85	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
86	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	10/19/98		10/19/98	n/a
87	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
88	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	10/19/98		10/19/98	n/a
89	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
90	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/19/98		10/19/98	7-0-436
91	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/19/98		10/19/98	7-0-436
			ND	**mg/L**							
92	TOX-ICR	TOX	32	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
93	TOX-ICR	TOX (Dupl)	30	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
			31	**µg Cl-/L**	**6.5 % RPD**						
94	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.8	%	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
95	THM-ICR	Bromodichloromethane	3.5	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
96	THM-ICR	Bromoform	9.7	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
97	THM-ICR	Chloroform	1.0	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
98	THM-ICR	Dibromochloromethane	9.7	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
99	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/19/98	8-0-332
100	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/19/98	8-0-332
			ND	**1/cm**							

Sample ID: 172.10.Eff-7 **S&H ID:** 9810-318 **Date Sampled:** 10/19/98 5:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
101	Cl2Dose	Chlorine Dose	2.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
102	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
103	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	85.2	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
104	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
105	HAA-ICR	Bromochloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
106	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

107	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
108	HAA-ICR	Dibromoacetic acid	4.0	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
109	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
110	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
111	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
112	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
113	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
114	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
115	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
116	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	10/19/98		10/19/98	n/a
117	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
118	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	10/19/98		10/19/98	n/a
119	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
120	TOC-ICR	TOC	0.60	mg/L	SM 5310 C	1	0.50	10/19/98		10/20/98	7-0-437
121	TOC-ICR	TOC (Dupl)	0.62	mg/L	SM 5310 C	1	0.50	10/19/98		10/20/98	7-0-437
			0.61	**mg/L**	**3.3 % RPD**						
122	TOX-ICR	TOX	45	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
123	TOX-ICR	TOX (Dupl)	44	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
			45	**µg Cl-/L**	**2.2 % RPD**						
124	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.2	%	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
125	THM-ICR	Bromodichloromethane	5.1	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
126	THM-ICR	Bromoform	12.1	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
127	THM-ICR	Chloroform	1.4	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
128	THM-ICR	Dibromochloromethane	13.3	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
129	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/20/98	8-0-333
130	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/20/98	8-0-333
			ND	**1/cm**							

Sample ID: 172.10.Eff-9 **S&H ID:** 9810-320 **Date Sampled:** 10/20/98 2:28:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
131	Cl2Dose	Chlorine Dose	2.29	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
132	Cl2Res	Chlorine Residual	1.41	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
133	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	86.8	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
134	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	86.4	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			86.6	**%**	**0.5 % RPD**						
135	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

136	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	93.2	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			95.6	**%**	**5.0 % RPD**						
137	HAA-ICR	Bromochloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
138	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	2.4	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			2.6	**µg/L**	**15.4 % RPD**						
139	HAA-ICR	Bromodichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
140	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	1.1	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			1.1	**µg/L**	**9.1 % RPD**						
141	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
142	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
			ND	**µg/L**							
143	HAA-ICR	Dibromoacetic acid	4.4	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
144	HAA-ICR	Dibromoacetic acid (Lab Dupl)	3.8	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			4.1	**µg/L**	**14.6 % RPD**						
145	HAA-ICR	Dichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
146	HAA-ICR	Dichloroacetic acid (Lab Dupl)	1.3	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			1.3	**µg/L**	**7.7 % RPD**						
147	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
148	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			ND	**µg/L**							
149	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
150	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
			ND	**µg/L**							
151	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
152	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
			ND	**µg/L**							
153	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
154	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
			ND	**µg/L**							
155	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
156	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
157	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
158	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
159	TEMP	Temperature	20.6	ºC	SM 2550 B	1	n/a	10/20/98		10/20/98	n/a
160	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
161	TOC-ICR	TOC	0.76	mg/L	SM 5310 C	1	0.50	10/20/98		10/20/98	7-0-437
162	TOC-ICR	TOC (Dupl)	0.78	mg/L	SM 5310 C	1	0.50	10/20/98		10/20/98	7-0-437
			0.77	**mg/L**	**2.6 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

163	TOX-ICR	TOX	58	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/28/98	12-0-235
164	TOX-ICR	TOX (Dupl)	58	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/28/98	12-0-235
			58	**µg Cl-/L**	**0.0 % RPD**						
165	THM-ICR	1,2,3-Trichloropropane (Surrogate)	91.6	%	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
166	THM-ICR	Bromodichloromethane	7.9	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
167	THM-ICR	Bromoform	14.7	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
168	THM-ICR	Chloroform	2.4	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
169	THM-ICR	Dibromochloromethane	18.5	µg/L	EPA 551.1	1	1.0	10/23/98	10/26/98	10/27/98	0-249-0
170	UV-ICR	UV	0.011	1/cm	SM 5910 B	1	0.009	10/20/98		10/20/98	8-0-333
171	UV-ICR	UV (Dupl)	0.011	1/cm	SM 5910 B	1	0.009	10/20/98		10/20/98	8-0-333
			0.011	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-11 **S&H ID:** 9810-322 **Date Sampled:** 10/20/98 11:24:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
172	Cl2Dose	Chlorine Dose	2.43	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
173	Cl2Res	Chlorine Residual	1.35	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
174	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.6	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
175	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.2	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
176	HAA-ICR	Bromochloroacetic acid	3.3	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
177	HAA-ICR	Bromodichloroacetic acid	1.5	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
178	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
179	HAA-ICR	Dibromoacetic acid	5.0	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
180	HAA-ICR	Dichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
181	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
182	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/28/98	0-255-0
183	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/28/98	0-255-0
184	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/28/98	0-255-0
185	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
186	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
187	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
188	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
189	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	10/20/98		10/20/98	n/a
190	TIME	Cl2 Incubation Time	28.4	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
191	TOC-ICR	TOC	0.93	mg/L	SM 5310 C	1	0.50	10/20/98		10/20/98	7-0-437
192	TOC-ICR	TOC (Dupl)	0.94	mg/L	SM 5310 C	1	0.50	10/20/98		10/20/98	7-0-437
			0.94	**mg/L**	**1.1 % RPD**						
193	TOX-ICR	TOX	78	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
194	TOX-ICR	TOX (Dupl)	78	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

			78	**µg Cl-/L**	**0.0 % RPD**						
195	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
196	THM-ICR	Bromodichloromethane	11.8	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
197	THM-ICR	Bromoform	15.2	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
198	THM-ICR	Chloroform	3.7	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
199	THM-ICR	Dibromochloromethane	23.3	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
200	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	10/20/98		10/21/98	8-0-334
201	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	10/20/98		10/21/98	8-0-334
			0.014	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-12 **S&H ID:** 9810-323 **Date Sampled:** 10/20/98 5:32:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
202	Cl2Dose	Chlorine Dose	2.54	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/23/98		10/23/98	n/a
203	Cl2Res	Chlorine Residual	1.37	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/23/98		10/24/98	n/a
204	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.6	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
205	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
206	HAA-ICR	Bromochloroacetic acid	4.0	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
207	HAA-ICR	Bromodichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
208	HAA-ICR	Chlorodibromoacetic acid	2.0	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
209	HAA-ICR	Dibromoacetic acid	5.6	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
210	HAA-ICR	Dichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
211	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
212	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
213	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/24/98	10/28/98	10/29/98	0-255-0
214	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
215	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/24/98	n/a
216	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
217	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
218	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/23/98		10/24/98	n/a
219	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	10/20/98		10/20/98	n/a
220	TIME	Cl2 Incubation Time	25.0	hrs	n/a	1	n/a	10/23/98		10/24/98	n/a
221	TOC-ICR	TOC	1.07	mg/L	SM 5310 C	1	0.50	10/20/98		10/21/98	7-0-438
222	TOC-ICR	TOC (Dupl)	1.08	mg/L	SM 5310 C	1	0.50	10/20/98		10/21/98	7-0-438
			1.08	**mg/L**	**0.9 % RPD**						
223	TOX-ICR	TOX	84	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
224	TOX-ICR	TOX (Dupl)	85	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
			85	**µg Cl-/L**	**1.2 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

225	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.4	%	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
226	THM-ICR	Bromodichloromethane	14.7	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
227	THM-ICR	Bromoform	15.8	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
228	THM-ICR	Chloroform	5.0	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
229	THM-ICR	Dibromochloromethane	26.8	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
230	UV-ICR	UV	0.016	1/cm	SM 5910 B	1	0.009	10/20/98		10/21/98	8-0-334
231	UV-ICR	UV (Dupl)	0.016	1/cm	SM 5910 B	1	0.009	10/20/98		10/21/98	8-0-334
			0.016	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-15 **S&H ID:** 9810-326 **Date Sampled:** 10/21/98 12:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
232	Cl2Dose	Chlorine Dose	2.69	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/23/98		10/23/98	n/a
233	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/23/98		10/24/98	n/a
234	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	91.6	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
235	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.6	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
236	HAA-ICR	Bromochloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
237	HAA-ICR	Bromodichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
238	HAA-ICR	Chlorodibromoacetic acid	2.4	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
239	HAA-ICR	Dibromoacetic acid	6.3	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
240	HAA-ICR	Dichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
241	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
242	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
243	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/24/98	10/28/98	10/29/98	0-255-0
244	HAA-ICR	Trichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
245	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/24/98	n/a
246	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
247	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	10/21/98		10/21/98	n/a
248	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/23/98		10/24/98	n/a
249	TEMP	Temperature	20.9	ºC	SM 2550 B	1	n/a	10/21/98		10/21/98	n/a
250	TIME	Cl2 Incubation Time	25.0	hrs	n/a	1	n/a	10/23/98		10/24/98	n/a
251	TOC-ICR	TOC	1.25	mg/L	SM 5310 C	1	0.50	10/21/98		10/22/98	7-0-439
252	TOC-ICR	TOC	1.27	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
253	TOC-ICR	TOC (Dupl)	1.29	mg/L	SM 5310 C	1	0.50	10/21/98		10/22/98	7-0-439
254	TOC-ICR	TOC (Dupl)	1.56	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
			1.34	**mg/L**	**10.9 % RPD**						
255	TOX-ICR	TOX	104	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
256	TOX-ICR	TOX (Dupl)	106	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
			105	**µg Cl-/L**	**1.9 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

257	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
258	THM-ICR	Bromodichloromethane	19.5	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
259	THM-ICR	Bromoform	14.2	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
260	THM-ICR	Chloroform	7.8	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
261	THM-ICR	Dibromochloromethane	30.3	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
262	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	10/21/98		10/22/98	8-0-335
263	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	10/21/98		10/22/98	8-0-335
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-17 **S&H ID:** 9810-328 **Date Sampled:** 10/22/98 1:27:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
264	Cl2Dose	Chlorine Dose	2.95	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
265	Cl2Res	Chlorine Residual	1.53	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
266	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	84.4	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
267	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
268	HAA-ICR	Bromochloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
269	HAA-ICR	Bromodichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
270	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
271	HAA-ICR	Dibromoacetic acid	4.9	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
272	HAA-ICR	Dichloroacetic acid	3.5	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
273	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
274	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
275	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
276	HAA-ICR	Trichloroacetic acid	1.4	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
277	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
278	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
279	pH	pH	6.6	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
280	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
281	TEMP	Temperature	19.3	ºC	SM 2550 B	1	n/a	10/22/98		10/22/98	n/a
282	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
283	TOC-ICR	TOC	1.44	mg/L	SM 5310 C	1	0.50	10/22/98		10/23/98	7-0-440
284	TOC-ICR	TOC (Dupl)	1.46	mg/L	SM 5310 C	1	0.50	10/22/98		10/23/98	7-0-440
			1.45	**mg/L**	**1.4 % RPD**						
285	TOX-ICR	TOX	144	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
286	TOX-ICR	TOX (Dupl)	130	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			137	**µg Cl-/L**	**10.2 % RPD**						
287	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.8	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

288	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	100.4	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
			101.6	**%**	**2.4 % RPD**						
289	THM-ICR	Bromodichloromethane	23.9	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
290	THM-ICR	Bromodichloromethane (Lab Dupl)	24.2	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
			24.0	**µg/L**	**1.3 % RPD**						
291	THM-ICR	Bromoform	11.8	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
292	THM-ICR	Bromoform (Lab Dupl)	11.8	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
			11.8	**µg/L**	**0.0 % RPD**						
293	THM-ICR	Chloroform	11.6	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
294	THM-ICR	Chloroform (Lab Dupl)	11.7	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
			11.6	**µg/L**	**0.9 % RPD**						
295	THM-ICR	Dibromochloromethane	32.1	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
296	THM-ICR	Dibromochloromethane (Lab Dupl)	33.5	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
			32.8	**µg/L**	**4.3 % RPD**						
297	UV-ICR	UV	0.024	1/cm	SM 5910 B	1	0.009	10/22/98		10/23/98	8-0-336
298	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	10/22/98		10/23/98	8-0-336
			0.024	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-18 **S&H ID:** 9810-329 **Date Sampled:** 10/23/98 1:31:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
299	Cl2Dose	Chlorine Dose	3.07	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
300	Cl2Res	Chlorine Residual	1.52	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
301	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.2	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
302	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
303	HAA-ICR	Bromochloroacetic acid	6.1	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
304	HAA-ICR	Bromodichloroacetic acid	2.5	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
305	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
306	HAA-ICR	Dibromoacetic acid	5.8	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
307	HAA-ICR	Dichloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
308	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
309	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
310	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
311	HAA-ICR	Trichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
312	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
313	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
314	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
315	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
316	TEMP	Temperature	19.8	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

317	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
318	TOC-ICR	TOC	1.59	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
319	TOC-ICR	TOC (Dupl)	1.60	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
			1.60	**mg/L**	**0.6 % RPD**						
320	TOX-ICR	TOX	142	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
321	TOX-ICR	TOX (Dupl)	140	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			141	**µg Cl-/L**	**1.4 % RPD**						
322	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.0	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
323	THM-ICR	Bromodichloromethane	26.8	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
324	THM-ICR	Bromoform	11.7	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
325	THM-ICR	Chloroform	14.9	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
326	THM-ICR	Dibromochloromethane	33.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
327	UV-ICR	UV	0.026	1/cm	SM 5910 B	1	0.009	10/23/98		10/23/98	8-0-336
328	UV-ICR	UV (Dupl)	0.026	1/cm	SM 5910 B	1	0.009	10/23/98		10/23/98	8-0-336
			0.026	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-19 **S&H ID:** 9810-330 **Date Sampled:** 10/23/98 1:57:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
329	Cl2Dose	Chlorine Dose	3.19	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
330	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
331	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	87.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
332	HAA-ICR	2-Bromopropionic acid (Surrogate)	93.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
333	HAA-ICR	Bromochloroacetic acid	6.6	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
334	HAA-ICR	Bromodichloroacetic acid	2.8	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
335	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
336	HAA-ICR	Dibromoacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
337	HAA-ICR	Dichloroacetic acid	5.3	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
338	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
339	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
340	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
341	HAA-ICR	Trichloroacetic acid	2.4	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
342	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
343	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
344	pH	pH	6.6	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
345	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
346	TEMP	Temperature	19.5	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a
347	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
348	TOC-ICR	TOC	1.70	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

349	TOC-ICR	TOC (Dupl)	1.75	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
			1.73	**mg/L**	**2.9 % RPD**						
350	TOX-ICR	TOX	158	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
351	TOX-ICR	TOX (Dupl)	160	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			159	**µg Cl-/L**	**1.3 % RPD**						
352	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
353	THM-ICR	Bromodichloromethane	29.2	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
354	THM-ICR	Bromoform	10.2	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
355	THM-ICR	Chloroform	18.7	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
356	THM-ICR	Dibromochloromethane	33.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
357	UV-ICR	UV	0.029	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
358	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
			0.029	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-24 **S&H ID:** 9810-335 **Date Sampled:** 10/26/98 3:26:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
359	Cl2Dose	Chlorine Dose	3.39	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/28/98		10/28/98	n/a
360	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/28/98		10/29/98	n/a
361	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
362	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
363	HAA-ICR	Bromochloroacetic acid	9.4	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
364	HAA-ICR	Bromodichloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
365	HAA-ICR	Chlorodibromoacetic acid	2.9	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
366	HAA-ICR	Dibromoacetic acid	7.0	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
367	HAA-ICR	Dichloroacetic acid	8.6	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
368	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
369	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
370	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/3/98	0-260-0
371	HAA-ICR	Trichloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
372	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/29/98	n/a
373	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
374	pH	pH	6.6	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
375	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/28/98		10/29/98	n/a
376	TEMP	Temperature	20.0	ºC	SM 2550 B	1	n/a	10/26/98		10/26/98	n/a
377	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/28/98		10/29/98	n/a
378	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
379	TOC-ICR	TOC (Dupl)	1.99	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
			1.98	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

380	TOX-ICR	TOX	182	µg Cl-/L	SM 5320 B	1	25	10/29/98		10/30/98	12-0-237
381	TOX-ICR	TOX (Dupl)	190	µg Cl-/L	SM 5320 B	1	25	10/29/98		10/30/98	12-0-237
			186	**µg Cl-/L**	**4.3 % RPD**						
382	THM-ICR	1,2,3-Trichloropropane (Surrogate)	98.4	%	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
383	THM-ICR	Bromodichloromethane	32.7	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
384	THM-ICR	Bromoform	7.5	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
385	THM-ICR	Chloroform	25.8	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
386	THM-ICR	Dibromochloromethane	32.2	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
387	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	10/26/98		10/26/98	8-0-339
388	UV-ICR	UV (Dupl)	0.037	1/cm	SM 5910 B	1	0.009	10/26/98		10/26/98	8-0-339
			0.036	**1/cm**	**2.8 % RPD**						

Sample ID: 172.10.Eff-25 **S&H ID:** 9810-336 **Date Sampled:** 10/27/98 9:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
389	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	10/27/98		10/27/98	n/a
390	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	10/27/98		10/27/98	n/a
391	TOC-ICR	TOC	2.04	mg/L	SM 5310 C	1	0.50	10/27/98		10/27/98	7-0-444
392	TOC-ICR	TOC (Dupl)	2.07	mg/L	SM 5310 C	1	0.50	10/27/98		10/27/98	7-0-444
			2.05	**mg/L**	**1.5 % RPD**						
393	UV-ICR	UV	0.038	1/cm	SM 5910 B	1	0.009	10/27/98		10/27/98	8-0-340
394	UV-ICR	UV (Dupl)	0.038	1/cm	SM 5910 B	1	0.009	10/27/98		10/27/98	8-0-340
			0.038	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-7d **S&H ID:** 9810-342 **Date Sampled:** 10/19/98 5:41:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
395	Cl2Dose	Chlorine Dose	2.16	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/22/98		10/22/98	n/a
396	Cl2Res	Chlorine Residual	1.41	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/22/98		10/23/98	n/a
397	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	90.0	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
398	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
399	HAA-ICR	Bromochloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
400	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
401	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/29/98	0-255-0
402	HAA-ICR	Dibromoacetic acid	3.6	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
403	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
404	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0
405	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/23/98	10/28/98	10/29/98	0-255-0
406	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/23/98	10/28/98	10/29/98	0-255-0
407	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/23/98	10/28/98	10/29/98	0-255-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

408	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/23/98	n/a
409	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
410	pH	pH	7.1	Unit	SM 4500-H+ B	1	n/a	10/19/98		10/19/98	n/a
411	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	10/22/98		10/23/98	n/a
412	TEMP	Temperature	21.2	ºC	SM 2550 B	1	n/a	10/19/98		10/19/98	n/a
413	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/22/98		10/23/98	n/a
414	TOC-ICR	TOC	0.59	mg/L	SM 5310 C	1	0.50	10/19/98		10/20/98	7-0-437
415	TOC-ICR	TOC (Dupl)	0.62	mg/L	SM 5310 C	1	0.50	10/19/98		10/20/98	7-0-437
			0.60	**mg/L**	**5.0 % RPD**						
416	TOX-ICR	TOX	44	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
417	TOX-ICR	TOX (Dupl)	44	µg Cl-/L	SM 5320 B	1	25	10/23/98		10/27/98	12-0-234
			44	**µg Cl-/L**	**0.0 % RPD**						
418	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
419	THM-ICR	Bromodichloromethane	5.8	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
420	THM-ICR	Bromoform	13.0	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
421	THM-ICR	Chloroform	1.6	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
422	THM-ICR	Dibromochloromethane	14.8	µg/L	EPA 551.1	1	1.0	10/23/98	11/2/98	11/2/98	0-257-0
423	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/20/98	8-0-333
424	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/19/98		10/20/98	8-0-333
			ND	**1/cm**							

Sample ID: 172.10.Eff-15d **S&H ID:** 9810-344 **Date Sampled:** 10/21/98 12:35:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
425	Cl2Dose	Chlorine Dose	2.69	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/23/98		10/23/98	n/a
426	Cl2Res	Chlorine Residual	1.40	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/23/98		10/24/98	n/a
427	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	91.2	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
428	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
429	HAA-ICR	Bromochloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
430	HAA-ICR	Bromodichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
431	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
432	HAA-ICR	Dibromoacetic acid	6.4	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
433	HAA-ICR	Dichloroacetic acid	2.9	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
434	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
435	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/24/98	10/28/98	10/29/98	0-255-0
436	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/24/98	10/28/98	10/29/98	0-255-0
437	HAA-ICR	Trichloroacetic acid	1.2	µg/L	EPA 552.2	1	1.0	10/24/98	10/28/98	10/29/98	0-255-0
438	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/24/98	n/a
439	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

440	pH	pH	7.0	Unit	SM 4500-H+ B	1	n/a	10/21/98		10/21/98	n/a
441	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/23/98		10/24/98	n/a
442	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	10/21/98		10/21/98	n/a
443	TIME	Cl2 Incubation Time	25.1	hrs	n/a	1	n/a	10/23/98		10/24/98	n/a
444	TOC-ICR	TOC	1.23	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
445	TOC-ICR	TOC (Dupl)	1.22	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
			1.23	**mg/L**	**0.8 % RPD**						
446	TOX-ICR	TOX	102	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
447	TOX-ICR	TOX (Dupl)	104	µg Cl-/L	SM 5320 B	1	25	10/24/98		10/28/98	12-0-235
			103	**µg Cl-/L**	**1.9 % RPD**						
448	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2	%	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
449	THM-ICR	Bromodichloromethane	18.1	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
450	THM-ICR	Bromoform	13.6	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
451	THM-ICR	Chloroform	7.3	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
452	THM-ICR	Dibromochloromethane	28.6	µg/L	EPA 551.1	1	1.0	10/24/98	11/2/98	11/2/98	0-257-0
453	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	10/21/98		10/22/98	8-0-335
454	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	10/21/98		10/22/98	8-0-335
			0.020	**1/cm**	**0.0 % RPD**						

Sample ID: 172.10.Eff-19d **S&H ID:** 9810-345 **Date Sampled:** 10/23/98 1:57:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
455	Cl2Dose	Chlorine Dose	3.19	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
456	Cl2Res	Chlorine Residual	1.45	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
457	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	84.4	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
458	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
459	HAA-ICR	Bromochloroacetic acid	6.2	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
460	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
461	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
462	HAA-ICR	Dibromoacetic acid	5.3	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
463	HAA-ICR	Dichloroacetic acid	4.9	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
464	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
465	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
466	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
467	HAA-ICR	Trichloroacetic acid	2.2	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
468	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
469	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
470	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
471	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

472	TEMP	Temperature	19.6	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a
473	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
474	TOC-ICR	TOC	1.75	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
475	TOC-ICR	TOC (Dupl)	1.76	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
			1.75	**mg/L**	**0.6 % RPD**						
476	TOX-ICR	TOX	169	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
477	TOX-ICR	TOX (Dupl)	160	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			165	**µg Cl-/L**	**5.5 % RPD**						
478	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
479	THM-ICR	Bromodichloromethane	27.6	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
480	THM-ICR	Bromoform	10.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
481	THM-ICR	Chloroform	17.4	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
482	THM-ICR	Dibromochloromethane	32.4	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
483	UV-ICR	UV	0.030	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
484	UV-ICR	UV (Dupl)	0.030	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
			0.030	**1/cm**	**0.0 % RPD**						

Sample ID: 172.20.Eff-1 **S&H ID:** 9810-352 **Date Sampled:** 10/16/98 10:15:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
485	Cl2Dose	Chlorine Dose	1.75	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/20/98		10/20/98	n/a
486	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/20/98		10/21/98	n/a
487	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	101.2	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
488	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
489	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
490	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
491	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
492	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
493	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
494	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
495	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
496	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/21/98	10/23/98	10/24/98	0-248-0
497	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
498	pH	Cl2 pH - Final	8.6	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/21/98	n/a
499	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
500	pH	pH	8.3	Unit	SM 4500-H+ B	1	n/a	10/16/98		10/16/98	n/a
501	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/20/98		10/21/98	n/a
502	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	10/16/98		10/16/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

503	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	10/20/98		10/21/98	n/a
504	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
505	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
			ND	**mg/L**							
506	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
507	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
			ND	**µg Cl-/L**							
508	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.0	%	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
509	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
510	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
511	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
512	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
513	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
514	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
			ND	**1/cm**							

Sample ID: 172.20.Eff-5 **S&H ID:** 9810-356 **Date Sampled:** 10/22/98 11:28:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
515	Cl2Dose	Chlorine Dose	1.93	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
516	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
517	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	86.4	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
518	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
519	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
520	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
521	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
522	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
523	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
524	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
525	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
526	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
527	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
528	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
529	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
530	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/22/98		10/22/98	n/a
531	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
532	TEMP	Temperature	18.7	ºC	SM 2550 B	1	n/a	10/22/98		10/22/98	n/a
533	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
534	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/22/98		10/23/98	7-0-440

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

535	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/22/98		10/23/98	7-0-440
			ND	**mg/L**							
536	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
537	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			ND	**µg Cl-/L**							
538	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
539	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
540	THM-ICR	Bromoform	2.4	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
541	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
542	THM-ICR	Dibromochloromethane	2.2	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
543	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/27/98		10/22/98	8-0-335
544	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/27/98		10/22/98	8-0-335
			ND	**1/cm**							

Sample ID: 172.20.Eff-7 **S&H ID:** 9810-358 **Date Sampled:** 10/23/98 4:48:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
545	Cl2Dose	Chlorine Dose	2.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
546	Cl2Res	Chlorine Residual	1.47	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
547	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	82.8	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
548	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.4	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
549	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
550	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
551	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
552	HAA-ICR	Dibromoacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
553	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
554	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
555	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
556	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
557	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
558	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
559	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
560	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
561	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
562	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a
563	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
564	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/23/98		10/24/98	7-0-441
565	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/23/98		10/24/98	7-0-441
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

566	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
567	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
			ND	**µg Cl-/L**							
568	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.4	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
569	THM-ICR	Bromodichloromethane	2.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
570	THM-ICR	Bromoform	7.5	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
571	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
572	THM-ICR	Dibromochloromethane	6.6	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
573	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
574	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
			ND	**1/cm**							

Sample ID: 172.20.Eff-10 **S&H ID:** 9810-361 **Date Sampled:** 10/24/98 10:53:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
575	Cl2Dose	Chlorine Dose	2.20	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
576	Cl2Res	Chlorine Residual	1.48	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
577	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	83.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
578	HAA-ICR	2-Bromopropionic acid (Surrogate)	95.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
579	HAA-ICR	Bromochloroacetic acid	1.3	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
580	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
581	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
582	HAA-ICR	Dibromoacetic acid	2.3	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
583	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
584	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
585	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
586	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
587	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
588	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
589	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
590	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	10/24/98		10/24/98	n/a
591	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
592	TEMP	Temperature	18.8	ºC	SM 2550 B	1	n/a	10/24/98		10/24/98	n/a
593	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
594	TOC-ICR	TOC	0.53	mg/L	SM 5310 C	1	0.50	10/24/98		10/24/98	7-0-441
595	TOC-ICR	TOC (Dupl)	0.53	mg/L	SM 5310 C	1	0.50	10/24/98		10/24/98	7-0-441
			0.53	**mg/L**	**0.0 % RPD**						
596	TOX-ICR	TOX	32	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236
597	TOX-ICR	TOX (Dupl)	29	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/29/98	12-0-236

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

			31	**µg Cl-/L**	**9.7 % RPD**						
598	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
599	THM-ICR	Bromodichloromethane	3.8	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
600	THM-ICR	Bromoform	10.5	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
601	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
602	THM-ICR	Dibromochloromethane	11.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
603	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/24/98		10/25/98	8-0-338
604	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/24/98		10/25/98	8-0-338
			ND	**1/cm**							

Sample ID: 172.20.Eff-12 **S&H ID:** 9810-363 **Date Sampled:** 10/25/98 4:43:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
605	Cl2Dose	Chlorine Dose	2.35	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
606	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
607	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	83.6	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
608	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.0	%	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
609	HAA-ICR	Bromochloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
610	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
611	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
612	HAA-ICR	Dibromoacetic acid	3.1	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
613	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
614	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
615	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	10/28/98	10/29/98	0-255-0
616	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	10/28/98	10/29/98	0-255-0
617	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	10/28/98	10/29/98	0-255-0
618	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
619	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
620	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/25/98		10/25/98	n/a
621	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
622	TEMP	Temperature	19.4	ºC	SM 2550 B	1	n/a	10/25/98		10/25/98	n/a
623	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
624	TOC-ICR	TOC	0.72	mg/L	SM 5310 C	1	0.50	10/25/98		10/25/98	7-0-442
625	TOC-ICR	TOC (Dupl)	0.71	mg/L	SM 5310 C	1	0.50	10/25/98		10/25/98	7-0-442
			0.71	**mg/L**	**1.4 % RPD**						
626	TOX-ICR	TOX	42	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/30/98	12-0-237
627	TOX-ICR	TOX (Dupl)	50	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/30/98	12-0-237
			46	**µg Cl-/L**	**17.4 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

628	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
629	THM-ICR	Bromodichloromethane	6.4	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
630	THM-ICR	Bromoform	13.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
631	THM-ICR	Chloroform	1.8	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
632	THM-ICR	Dibromochloromethane	16.4	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
633	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/25/98		10/25/98	8-0-338
634	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/25/98		10/25/98	8-0-338
			ND	**1/cm**							

Sample ID: 172.20.Eff-14 **S&H ID:** 9810-365 **Date Sampled:** 10/25/98 10:11:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
635	Cl2Dose	Chlorine Dose	2.53	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/28/98		10/28/98	n/a
636	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/28/98		10/29/98	n/a
637	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
638	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
639	HAA-ICR	Bromochloroacetic acid	4.6	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
640	HAA-ICR	Bromodichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
641	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
642	HAA-ICR	Dibromoacetic acid	7.1	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
643	HAA-ICR	Dichloroacetic acid	2.1	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
644	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
645	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
646	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/3/98	0-260-0
647	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
648	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/29/98	n/a
649	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
650	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/25/98		10/25/98	n/a
651	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/28/98		10/29/98	n/a
652	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	10/25/98		10/25/98	n/a
653	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/28/98		10/29/98	n/a
654	TOC-ICR	TOC	0.93	mg/L	SM 5310 C	1	0.50	10/25/98		10/26/98	7-0-443
655	TOC-ICR	TOC (Dupl)	0.93	mg/L	SM 5310 C	1	0.50	10/25/98		10/26/98	7-0-443
			0.93	**mg/L**	**0.0 % RPD**						
656	TOX-ICR	TOX	68	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
657	TOX-ICR	TOX (Dupl)	64	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
			66	**µg Cl-/L**	**6.1 % RPD**						
658	THM-ICR	1,2,3-Trichloropropane (Surrogate)	95.6	%	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

659	THM-ICR	Bromodichloromethane	9.7	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
660	THM-ICR	Bromoform	15.2	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
661	THM-ICR	Chloroform	2.8	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
662	THM-ICR	Dibromochloromethane	21.4	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
663	UV-ICR	UV	0.012	1/cm	SM 5910 B	1	0.009	10/25/98		10/26/98	8-0-339
664	UV-ICR	UV (Dupl)	0.012	1/cm	SM 5910 B	1	0.009	10/25/98		10/26/98	8-0-339
			0.012	**1/cm**	**0.0 % RPD**						

Sample ID: 172.20.Eff-17 **S&H ID:** 9810-368 **Date Sampled:** 10/26/98 4:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
665	Cl2Dose	Chlorine Dose	2.66	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/28/98		10/28/98	n/a
666	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/28/98		10/29/98	n/a
667	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.4	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
668	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard) (Lab Dupl)	101.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			101.8	**%**	**1.2 % RPD**						
669	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
670	HAA-ICR	2-Bromopropionic acid (Surrogate) (Lab Dupl)	100.0	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			98.6	**%**	**2.8 % RPD**						
671	HAA-ICR	Bromochloroacetic acid	5.4	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
672	HAA-ICR	Bromochloroacetic acid (Lab Dupl)	4.1	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			4.8	**µg/L**	**27.1 % RPD**						
673	HAA-ICR	Bromodichloroacetic acid	1.8	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
674	HAA-ICR	Bromodichloroacetic acid (Lab Dupl)	1.6	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			1.7	**µg/L**	**11.8 % RPD**						
675	HAA-ICR	Chlorodibromoacetic acid	2.2	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
676	HAA-ICR	Chlorodibromoacetic acid (Lab Dupl)	2.1	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
			2.2	**µg/L**	**4.5 % RPD**						
677	HAA-ICR	Dibromoacetic acid	7.2	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
678	HAA-ICR	Dibromoacetic acid (Lab Dupl)	6.2	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			6.7	**µg/L**	**14.9 % RPD**						
679	HAA-ICR	Dichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
680	HAA-ICR	Dichloroacetic acid (Lab Dupl)	1.9	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			2.3	**µg/L**	**34.8 % RPD**						
681	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
682	HAA-ICR	Monobromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			ND	**µg/L**							

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

683	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
684	HAA-ICR	Monochloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/3/98	0-260-0
			ND	**µg/L**							
685	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/3/98	0-260-0
686	HAA-ICR	Tribromoacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/3/98	0-260-0
			ND	**µg/L**							
687	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
688	HAA-ICR	Trichloroacetic acid (Lab Dupl)	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/3/98	0-260-0
			ND	**µg/L**							
689	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/29/98	n/a
690	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
691	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
692	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/28/98		10/29/98	n/a
693	TEMP	Temperature	20.3	ºC	SM 2550 B	1	n/a	10/26/98		10/26/98	n/a
694	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/28/98		10/29/98	n/a
695	TOC-ICR	TOC	1.08	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
696	TOC-ICR	TOC (Dupl)	1.08	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
			1.08	**mg/L**	**0.0 % RPD**						
697	TOX-ICR	TOX	73	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
698	TOX-ICR	TOX (Dupl)	78	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
			76	**µg Cl-/L**	**6.6 % RPD**						
699	THM-ICR	1,2,3-Trichloropropane (Surrogate)	93.6	%	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
700	THM-ICR	Bromodichloromethane	12.9	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
701	THM-ICR	Bromoform	15.1	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
702	THM-ICR	Chloroform	4.1	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
703	THM-ICR	Dibromochloromethane	24.9	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
704	UV-ICR	UV	0.014	1/cm	SM 5910 B	1	0.009	10/26/98		10/27/98	8-0-340
705	UV-ICR	UV (Dupl)	0.013	1/cm	SM 5910 B	1	0.009	10/26/98		10/27/98	8-0-340
			0.014	**1/cm**	**7.1 % RPD**						

Sample ID: 172.20.Eff-19 **S&H ID:** 9810-370 **Date Sampled:** 10/27/98 9:54:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
706	Cl2Dose	Chlorine Dose	2.81	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/29/98		10/29/98	n/a
707	Cl2Res	Chlorine Residual	1.55	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/29/98		10/30/98	n/a
708	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.0	%	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
709	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.2	%	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
710	HAA-ICR	Bromochloroacetic acid	5.1	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

711	HAA-ICR	Bromodichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
712	HAA-ICR	Chlorodibromoacetic acid	2.4	µg/L	EPA 552.2	1	2.0	10/30/98	11/3/98	11/4/98	0-260-0
713	HAA-ICR	Dibromoacetic acid	7.0	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
714	HAA-ICR	Dichloroacetic acid	2.6	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
715	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
716	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/30/98	11/3/98	11/4/98	0-260-0
717	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/30/98	11/3/98	11/4/98	0-260-0
718	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/30/98	11/3/98	11/4/98	0-260-0
719	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/29/98		10/30/98	n/a
720	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	10/29/98		10/29/98	n/a
721	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/27/98		10/27/98	n/a
722	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/29/98		10/30/98	n/a
723	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	10/27/98		10/27/98	n/a
724	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/29/98		10/30/98	n/a
725	TOC-ICR	TOC	1.27	mg/L	SM 5310 C	1	0.50	10/27/98		10/28/98	7-0-445
726	TOC-ICR	TOC (Dupl)	1.27	mg/L	SM 5310 C	1	0.50	10/27/98		10/28/98	7-0-445
			1.27	**mg/L**	**0.0 % RPD**						
727	TOX-ICR	TOX	92	µg Cl-/L	SM 5320 B	1	25	10/30/98		11/2/98	12-0-238
728	TOX-ICR	TOX (Dupl)	94	µg Cl-/L	SM 5320 B	1	25	10/30/98		11/2/98	12-0-238
			93	**µg Cl-/L**	**2.2 % RPD**						
729	THM-ICR	1,2,3-Trichloropropane (Surrogate)	97.6	%	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
730	THM-ICR	1,2,3-Trichloropropane (Surrogate) (Lab Dupl)	103.2	%	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
			100.4	**%**	**5.6 % RPD**						
731	THM-ICR	Bromodichloromethane	15.3	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
732	THM-ICR	Bromodichloromethane (Lab Dupl)	16.6	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
			16.0	**µg/L**	**8.1 % RPD**						
733	THM-ICR	Bromoform	12.9	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
734	THM-ICR	Bromoform (Lab Dupl)	13.7	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
			13.3	**µg/L**	**6.0 % RPD**						
735	THM-ICR	Chloroform	6.0	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
736	THM-ICR	Chloroform (Lab Dupl)	6.8	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
			6.4	**µg/L**	**12.5 % RPD**						
737	THM-ICR	Dibromochloromethane	24.7	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
738	THM-ICR	Dibromochloromethane (Lab Dupl)	25.7	µg/L	EPA 551.1	1	1.0	10/30/98	11/4/98	11/4/98	0-261-0
			25.2	**µg/L**	**4.0 % RPD**						
739	UV-ICR	UV	0.017	1/cm	SM 5910 B	1	0.009	10/27/98		10/28/98	8-0-341
740	UV-ICR	UV (Dupl)	0.017	1/cm	SM 5910 B	1	0.009	10/27/98		10/28/98	8-0-341
			0.017	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-21 **S&H ID:** 9810-372 **Date Sampled:** 10/28/98 10:04:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
741	Cl2Dose	Chlorine Dose	2.91	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/1/98		11/1/98	n/a
742	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/1/98		11/2/98	n/a
743	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	100.4	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
744	HAA-ICR	2-Bromopropionic acid (Surrogate)	96.8	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
745	HAA-ICR	Bromochloroacetic acid	5.5	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
746	HAA-ICR	Bromodichloroacetic acid	2.7	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
747	HAA-ICR	Chlorodibromoacetic acid	2.4	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
748	HAA-ICR	Dibromoacetic acid	6.9	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
749	HAA-ICR	Dichloroacetic acid	3.0	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
750	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
751	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
752	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/2/98	11/3/98	11/4/98	0-260-0
753	HAA-ICR	Trichloroacetic acid	1.1	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
754	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/2/98	n/a
755	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/1/98	n/a
756	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
757	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	11/1/98		11/2/98	n/a
758	TEMP	Temperature	21.8	ºC	SM 2550 B	1	n/a	10/28/98		10/28/98	n/a
759	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	11/1/98		11/2/98	n/a
760	TOC-ICR	TOC	1.40	mg/L	SM 5310 C	1	0.50	10/28/98		10/29/98	7-0-446
761	TOC-ICR	TOC (Dupl)	1.43	mg/L	SM 5310 C	1	0.50	10/28/98		10/29/98	7-0-446
			1.42	**mg/L**	**2.1 % RPD**						
762	TOX-ICR	TOX	114	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
763	TOX-ICR	TOX (Dupl)	111	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
			113	**µg Cl-/L**	**2.7 % RPD**						
764	THM-ICR	1,2,3-Trichloropropane (Surrogate)	102.0	%	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
765	THM-ICR	Bromodichloromethane	16.9	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
766	THM-ICR	Bromoform	12.1	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
767	THM-ICR	Chloroform	6.9	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
768	THM-ICR	Dibromochloromethane	25.1	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
769	UV-ICR	UV	0.020	1/cm	SM 5910 B	1	0.009	10/28/98		10/30/98	8-0-342
770	UV-ICR	UV (Dupl)	0.020	1/cm	SM 5910 B	1	0.009	10/28/98		10/30/98	8-0-342
			0.020	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-26 **S&H ID:** 9810-377 **Date Sampled:** 10/30/98 4:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
771	Cl2Dose	Chlorine Dose	3.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/1/98		11/1/98	n/a
772	Cl2Res	Chlorine Residual	1.62	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/1/98		11/2/98	n/a
773	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	99.2	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
774	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.0	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
775	HAA-ICR	Bromochloroacetic acid	6.7	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
776	HAA-ICR	Bromodichloroacetic acid	3.4	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
777	HAA-ICR	Chlorodibromoacetic acid	2.7	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
778	HAA-ICR	Dibromoacetic acid	7.1	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
779	HAA-ICR	Dichloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
780	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
781	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
782	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/2/98	11/3/98	11/4/98	0-260-0
783	HAA-ICR	Trichloroacetic acid	1.9	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
784	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/2/98	n/a
785	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/1/98	n/a
786	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	10/30/98		10/30/98	n/a
787	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	11/1/98		11/2/98	n/a
788	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	10/30/98		10/30/98	n/a
789	TIME	Cl2 Incubation Time	27.8	hrs	n/a	1	n/a	11/1/98		11/2/98	n/a
790	TOC-ICR	TOC	1.60	mg/L	SM 5310 C	1	0.50	10/30/98		10/31/98	7-0-448
791	TOC-ICR	TOC (Dupl)	1.62	mg/L	SM 5310 C	1	0.50	10/30/98		10/31/98	7-0-448
			1.61	**mg/L**	**1.2 % RPD**						
792	TOX-ICR	TOX	135	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
793	TOX-ICR	TOX (Dupl)	137	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
			136	**µg Cl-/L**	**1.5 % RPD**						
794	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.6	%	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
795	THM-ICR	Bromodichloromethane	22.3	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
796	THM-ICR	Bromoform	11.3	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
797	THM-ICR	Chloroform	11.0	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
798	THM-ICR	Dibromochloromethane	29.0	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
799	UV-ICR	UV	0.025	1/cm	SM 5910 B	1	0.009	10/30/98		10/31/98	8-0-343
800	UV-ICR	UV (Dupl)	0.025	1/cm	SM 5910 B	1	0.009	10/30/98		10/31/98	8-0-343
			0.025	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-30 **S&H ID:** 9810-381 **Date Sampled:** 11/1/98 4:14:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
801	Cl2Dose	Chlorine Dose	3.18	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/5/98		11/5/98	n/a
802	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/5/98		11/6/98	n/a
803	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	109.2	%	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
804	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
805	HAA-ICR	Bromochloroacetic acid	8.5	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
806	HAA-ICR	Bromodichloroacetic acid	4.4	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
807	HAA-ICR	Chlorodibromoacetic acid	3.0	µg/L	EPA 552.2	1	2.0	11/6/98	11/11/98	11/11/98	0-262-0
808	HAA-ICR	Dibromoacetic acid	8.4	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
809	HAA-ICR	Dichloroacetic acid	6.0	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
810	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
811	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/6/98	11/11/98	11/11/98	0-262-0
812	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/6/98	11/11/98	11/11/98	0-262-0
813	HAA-ICR	Trichloroacetic acid	3.1	µg/L	EPA 552.2	1	1.0	11/6/98	11/11/98	11/11/98	0-262-0
814	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	11/5/98		11/6/98	n/a
815	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	11/5/98		11/5/98	n/a
816	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/1/98	n/a
817	TEMP	Cl2 Temperature	20.0	ºC	SM 2550 B	1	n/a	11/5/98		11/6/98	n/a
818	TEMP	Temperature	21.6	ºC	SM 2550 B	1	n/a	11/1/98		11/1/98	n/a
819	TIME	Cl2 Incubation Time	28.2	hrs	n/a	1	n/a	11/5/98		11/6/98	n/a
820	TOC-ICR	TOC	1.76	mg/L	SM 5310 C	1	0.50	11/1/98		11/2/98	7-0-450
821	TOC-ICR	TOC (Dupl)	1.79	mg/L	SM 5310 C	1	0.50	11/1/98		11/2/98	7-0-450
			1.77	**mg/L**	**1.7 % RPD**						
822	TOX-ICR	TOX	153	µg Cl-/L	SM 5320 B	1	25	11/6/98		11/10/98	12-0-240
823	TOX-ICR	TOX (Dupl)	152	µg Cl-/L	SM 5320 B	1	25	11/6/98		11/10/98	12-0-240
			153	**µg Cl-/L**	**0.7 % RPD**						
824	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	11/6/98	11/12/98	11/12/98	0-263-0
825	THM-ICR	Bromodichloromethane	27.2	µg/L	EPA 551.1	1	1.0	11/6/98	11/12/98	11/12/98	0-263-0
826	THM-ICR	Bromoform	9.8	µg/L	EPA 551.1	1	1.0	11/6/98	11/12/98	11/12/98	0-263-0
827	THM-ICR	Chloroform	15.5	µg/L	EPA 551.1	1	1.0	11/6/98	11/12/98	11/12/98	0-263-0
828	THM-ICR	Dibromochloromethane	31.8	µg/L	EPA 551.1	1	1.0	11/6/98	11/12/98	11/12/98	0-263-0
829	UV-ICR	UV	0.028	1/cm	SM 5910 B	1	0.009	11/1/98		11/3/98	8-0-345
830	UV-ICR	UV (Dupl)	0.029	1/cm	SM 5910 B	1	0.009	11/1/98		11/3/98	8-0-345
			0.029	**1/cm**	**3.4 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-7d **S&H ID:** 9810-382 **Date Sampled:** 10/23/98 4:48:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
831	Cl2Dose	Chlorine Dose	2.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/26/98		10/26/98	n/a
832	Cl2Res	Chlorine Residual	1.49	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/26/98		10/27/98	n/a
833	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	95.6	%	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
834	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
835	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
836	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
837	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	11/3/98	11/3/98	0-260-0
838	HAA-ICR	Dibromoacetic acid	2.3	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
839	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
840	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
841	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/27/98	11/3/98	11/3/98	0-260-0
842	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/27/98	11/3/98	11/3/98	0-260-0
843	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/27/98	11/3/98	11/3/98	0-260-0
844	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/27/98	n/a
845	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
846	pH	pH	6.9	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
847	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/26/98		10/27/98	n/a
848	TEMP	Temperature	21.0	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a
849	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	10/26/98		10/27/98	n/a
850	TOC-ICR	TOC	ND	mg/L	SM 5310 C	1	0.50	10/23/98		10/24/98	7-0-441
851	TOC-ICR	TOC (Dupl)	ND	mg/L	SM 5310 C	1	0.50	10/23/98		10/24/98	7-0-441
			ND	**mg/L**							
852	TOX-ICR	TOX	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/30/98	12-0-237
853	TOX-ICR	TOX (Dupl)	ND	µg Cl-/L	SM 5320 B	1	25	10/27/98		10/30/98	12-0-237
			ND	**µg Cl-/L**							
854	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.8	%	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
855	THM-ICR	Bromodichloromethane	2.2	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
856	THM-ICR	Bromoform	8.0	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
857	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
858	THM-ICR	Dibromochloromethane	7.3	µg/L	EPA 551.1	1	1.0	10/27/98	11/2/98	11/2/98	0-257-0
859	UV-ICR	UV	ND	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
860	UV-ICR	UV (Dupl)	ND	1/cm	SM 5910 B	1	0.009	10/23/98		10/24/98	8-0-337
			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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-17d **S&H ID:** 9810-384 **Date Sampled:** 10/26/98 4:05:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
861	Cl2Dose	Chlorine Dose	2.66	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/28/98		10/28/98	n/a
862	Cl2Res	Chlorine Residual	1.54	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/28/98		10/29/98	n/a
863	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
864	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.2	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
865	HAA-ICR	Bromochloroacetic acid	4.3	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
866	HAA-ICR	Bromodichloroacetic acid	1.7	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
867	HAA-ICR	Chlorodibromoacetic acid	2.1	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/4/98	0-260-0
868	HAA-ICR	Dibromoacetic acid	6.5	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
869	HAA-ICR	Dichloroacetic acid	2.0	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
870	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
871	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/4/98	0-260-0
872	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/4/98	0-260-0
873	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
874	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/29/98	n/a
875	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
876	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	10/26/98		10/26/98	n/a
877	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/28/98		10/29/98	n/a
878	TEMP	Temperature	20.4	ºC	SM 2550 B	1	n/a	10/26/98		10/26/98	n/a
879	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/28/98		10/29/98	n/a
880	TOC-ICR	TOC	1.10	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
881	TOC-ICR	TOC (Dupl)	1.07	mg/L	SM 5310 C	1	0.50	10/26/98		10/26/98	7-0-443
			1.09	**mg/L**	**2.8 % RPD**						
882	TOX-ICR	TOX	78	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
883	TOX-ICR	TOX (Dupl)	76	µg Cl-/L	SM 5320 B	1	25	10/29/98		11/2/98	12-0-238
			77	**µg Cl-/L**	**2.6 % RPD**						
884	THM-ICR	1,2,3-Trichloropropane (Surrogate)	94.4	%	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
885	THM-ICR	Bromodichloromethane	13.2	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
886	THM-ICR	Bromoform	16.8	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
887	THM-ICR	Chloroform	4.4	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
888	THM-ICR	Dibromochloromethane	26.6	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
889	UV-ICR	UV	0.013	1/cm	SM 5910 B	1	0.009	10/26/98		10/27/98	8-0-340
890	UV-ICR	UV (Dupl)	0.014	1/cm	SM 5910 B	1	0.009	10/26/98		10/27/98	8-0-340
			0.014	**1/cm**	**7.1 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.20.Eff-26d **S&H ID:** 9810-386 **Date Sampled:** 10/30/98 4:22:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
891	Cl2Dose	Chlorine Dose	3.08	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/1/98		11/1/98	n/a
892	Cl2Res	Chlorine Residual	1.58	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/1/98		11/2/98	n/a
893	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.0	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
894	HAA-ICR	2-Bromopropionic acid (Surrogate)	98.8	%	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
895	HAA-ICR	Bromochloroacetic acid	7.6	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
896	HAA-ICR	Bromodichloroacetic acid	3.6	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
897	HAA-ICR	Chlorodibromoacetic acid	3.0	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
898	HAA-ICR	Dibromoacetic acid	8.4	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
899	HAA-ICR	Dichloroacetic acid	4.8	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
900	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
901	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/2/98	11/3/98	11/4/98	0-260-0
902	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/2/98	11/3/98	11/4/98	0-260-0
903	HAA-ICR	Trichloroacetic acid	2.3	µg/L	EPA 552.2	1	1.0	11/2/98	11/3/98	11/4/98	0-260-0
904	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/2/98	n/a
905	pH	Cl2 pH - Initial	8.6	Unit	SM 4500-H+ B	1	n/a	11/1/98		11/1/98	n/a
906	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	10/30/98		10/30/98	n/a
907	TEMP	Cl2 Temperature	19.9	ºC	SM 2550 B	1	n/a	11/1/98		11/2/98	n/a
908	TEMP	Temperature	22.3	ºC	SM 2550 B	1	n/a	10/30/98		10/30/98	n/a
909	TIME	Cl2 Incubation Time	27.9	hrs	n/a	1	n/a	11/1/98		11/2/98	n/a
910	TOC-ICR	TOC	1.63	mg/L	SM 5310 C	1	0.50	10/30/98		10/31/98	7-0-448
911	TOC-ICR	TOC (Dupl)	1.65	mg/L	SM 5310 C	1	0.50	10/30/98		10/31/98	7-0-448
			1.64	**mg/L**	**1.2 % RPD**						
912	TOX-ICR	TOX	137	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
913	TOX-ICR	TOX (Dupl)	133	µg Cl-/L	SM 5320 B	1	25	11/2/98		11/3/98	12-0-239
			135	**µg Cl-/L**	**3.0 % RPD**						
914	THM-ICR	1,2,3-Trichloropropane (Surrogate)	99.6	%	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
915	THM-ICR	Bromodichloromethane	21.2	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
916	THM-ICR	Bromoform	10.5	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
917	THM-ICR	Chloroform	10.7	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
918	THM-ICR	Dibromochloromethane	26.9	µg/L	EPA 551.1	1	1.0	11/2/98	11/4/98	11/4/98	0-261-0
919	UV-ICR	UV	0.025	1/cm	SM 5910 B	1	0.009	10/30/98		10/31/98	8-0-343
920	UV-ICR	UV (Dupl)	0.024	1/cm	SM 5910 B	1	0.009	10/30/98		10/31/98	8-0-343
			0.025	**1/cm**	**4.0 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Sample ID: 172.Inf.A-1 **S&H ID:** 9810-392 **Date Sampled:** 10/16/98 4:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
921	ALK	Alkalinity	12	mg/L	SM 2320 B	1	5	10/16/98		10/17/98	1-0-35
922	ALK	Alkalinity (Dupl)	13	mg/L	SM 2320 B	1	5	10/16/98		10/17/98	1-0-35
			13	**mg/L**	**7.7 % RPD**						
923	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	10/16/98		10/28/98	MW86614
924	BR	Bromide	0.140	mg/L	EPA 300.0 A	1	0.020	10/16/98		10/30/98	MW86682
925	CaHardM	Calcium Hardness	20	mg/L CaCO3	EPA 200.7	1	5	10/16/98		10/22/98	MW n/a
926	CaMW	Calcium, Total, ICAP	8	mg/L	EPA 200.7	1	1	10/16/98	10/23/98	10/22/98	MW86297
927	MgMW	Magnesium, Total, ICAP	2	mg/L	EPA 200.7	1	0	10/16/98	10/23/98	10/22/98	MW86300
928	TotHard	Total Hardness as CaCO3 by ICP	29	mg/L CaCO3	SM 2340B	1	7	10/16/98		10/22/98	MW n/a

Sample ID: 172.Inf.A-2 **S&H ID:** 9810-393 **Date Sampled:** 10/27/98 8:15:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
929	ALK	Alkalinity	5	mg/L	SM 2320 B	1	5	10/27/98		10/27/98	1-0-36
930	ALK	Alkalinity (Dupl)	ND	mg/L	SM 2320 B	1	5	10/27/98		10/27/98	1-0-36
			ND	**mg/L**							
931	NH3	Ammonia Nitrogen	ND	mg/L	EPA 350.1	1	0.05	10/27/98		11/7/98	MW86973
932	BR	Bromide	0.140	mg/L	EPA 300.0 A	1	0.020	10/27/98		11/4/98	MW86903
933	CaHardM	Calcium Hardness	20	mg/L CaCO3	EPA 200.7	1	5	10/27/98		10/30/98	MW n/a
934	CaMW	Calcium, Total, ICAP	8	mg/L	EPA 200.7	1	1	10/27/98	10/30/98	10/30/98	MW86597
935	MgMW	Magnesium, Total, ICAP	2	mg/L	EPA 200.7	1	0	10/27/98	10/30/98	10/30/98	MW86601
936	TotHard	Total Hardness as CaCO3 by ICP	29	mg/L CaCO3	SM 2340B	1	7	10/27/98		10/30/98	MW n/a

Sample ID: 172.Inf.B-1 **S&H ID:** 9810-394 **Date Sampled:** 10/16/98 4:45:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
937	Cl2Dose	Chlorine Dose	4.50	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/20/98		10/20/98	n/a
938	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/20/98		10/21/98	n/a
939	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	104.8	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
940	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.4	%	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
941	HAA-ICR	Bromochloroacetic acid	9.7	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
942	HAA-ICR	Bromodichloroacetic acid	6.3	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
943	HAA-ICR	Chlorodibromoacetic acid	2.3	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
944	HAA-ICR	Dibromoacetic acid	4.1	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
945	HAA-ICR	Dichloroacetic acid	15.2	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

946	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
947	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/21/98	10/23/98	10/24/98	0-248-0
948	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/21/98	10/23/98	10/24/98	0-248-0
949	HAA-ICR	Trichloroacetic acid	9.4	µg/L	EPA 552.2	1	1.0	10/21/98	10/23/98	10/24/98	0-248-0
950	pH	Cl2 pH - Final	8.4	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/21/98	n/a
951	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/20/98		10/20/98	n/a
952	pH	pH	6.6	Unit	SM 4500-H+ B	1	n/a	10/16/98		10/16/98	n/a
953	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/20/98		10/21/98	n/a
954	TEMP	Temperature	18.1	ºC	SM 2550 B	1	n/a	10/16/98		10/16/98	n/a
955	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	10/20/98		10/21/98	n/a
956	TOC-ICR	TOC	2.72	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
957	TOC-ICR	TOC (Dupl)	2.73	mg/L	SM 5310 C	1	0.50	10/16/98		10/17/98	7-0-434
			2.73	**mg/L**	**0.4 % RPD**						
958	TOX-ICR	TOX	310	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
959	TOX-ICR	TOX (Dupl)	298	µg Cl-/L	SM 5320 B	1	25	10/21/98		10/26/98	12-0-233
			304	**µg Cl-/L**	**3.9 % RPD**						
960	THM-ICR	1,2,3-Trichloropropane (Surrogate)	96.0	%	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
961	THM-ICR	Bromodichloromethane	40.3	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
962	THM-ICR	Bromoform	2.7	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
963	THM-ICR	Chloroform	53.5	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
964	THM-ICR	Dibromochloromethane	25.8	µg/L	EPA 551.1	1	1.0	10/21/98	10/26/98	10/26/98	0-249-0
965	TURB	Turbidity	0.15	ntu	SM 2130 B	1	0.05	10/16/98		10/16/98	9-0-18
966	UV-ICR	UV	0.060	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
967	UV-ICR	UV (Dupl)	0.060	1/cm	SM 5910 B	1	0.009	10/16/98		10/17/98	8-0-329
			0.060	**1/cm**	**0.0 % RPD**						

Sample ID: 172.Inf.B-2 **S&H ID:** 9810-395 **Date Sampled:** 10/21/98 9:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
968	pH	pH	6.6	Unit	SM 4500-H+ B	1	n/a	10/21/98		10/21/98	n/a
969	TEMP	Temperature	17.1	ºC	SM 2550 B	1	n/a	10/21/98		10/21/98	n/a
970	TOC-ICR	TOC	2.66	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
971	TOC-ICR	TOC (Dupl)	2.70	mg/L	SM 5310 C	1	0.50	10/21/98		10/21/98	7-0-438
			2.68	**mg/L**	**1.5 % RPD**						

Sample ID: 172.Inf.B-3 **S&H ID:** 9810-396 **Date Sampled:** 10/23/98 9:45:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
972	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	10/23/98		10/23/98	n/a
973	TEMP	Temperature	15.1	ºC	SM 2550 B	1	n/a	10/23/98		10/23/98	n/a

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

974	TOC-ICR	TOC	2.73	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
975	TOC-ICR	TOC (Dupl)	2.79	mg/L	SM 5310 C	1	0.50	10/23/98		10/23/98	7-0-440
			2.76	**mg/L**	**2.2 % RPD**						

Sample ID: 172.Inf.B-4 **S&H ID:** 9810-397 **Date Sampled:** 10/27/98 8:20:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
976	Cl2Dose	Chlorine Dose	4.40	mg/L as Cl2	SM 4500-Cl B	1	n/a	10/28/98		10/28/98	n/a
977	Cl2Res	Chlorine Residual	1.57	mg/L as Cl2	SM 4500-Cl F	1	0.10	10/28/98		10/29/98	n/a
978	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	102.0	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
979	HAA-ICR	2-Bromopropionic acid (Surrogate)	94.8	%	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
980	HAA-ICR	Bromochloroacetic acid	13.5	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
981	HAA-ICR	Bromodichloroacetic acid	10.8	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
982	HAA-ICR	Chlorodibromoacetic acid	3.1	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/4/98	0-260-0
983	HAA-ICR	Dibromoacetic acid	6.4	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
984	HAA-ICR	Dichloroacetic acid	19.0	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
985	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
986	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/29/98	11/3/98	11/4/98	0-260-0
987	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/29/98	11/3/98	11/4/98	0-260-0
988	HAA-ICR	Trichloroacetic acid	16.6	µg/L	EPA 552.2	1	1.0	10/29/98	11/3/98	11/4/98	0-260-0
989	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/29/98	n/a
990	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	10/28/98		10/28/98	n/a
991	pH	pH	6.4	Unit	SM 4500-H+ B	1	n/a	10/27/98		10/27/98	n/a
992	TEMP	Cl2 Temperature	19.8	ºC	SM 2550 B	1	n/a	10/28/98		10/29/98	n/a
993	TEMP	Temperature	15.8	ºC	SM 2550 B	1	n/a	10/27/98		10/27/98	n/a
994	TIME	Cl2 Incubation Time	28.1	hrs	n/a	1	n/a	10/28/98		10/29/98	n/a
995	TOC-ICR	TOC	2.64	mg/L	SM 5310 C	1	0.50	10/27/98		10/27/98	7-0-444
996	TOC-ICR	TOC (Dupl)	2.74	mg/L	SM 5310 C	1	0.50	10/27/98		10/27/98	7-0-444
			2.69	**mg/L**	**3.7 % RPD**						
997	TOX-ICR	TOX	319	µg Cl-/L	SM 5320 B	1	25	10/29/98		10/30/98	12-0-237
998	TOX-ICR	TOX (Dupl)	302	µg Cl-/L	SM 5320 B	1	25	10/29/98		10/30/98	12-0-237
			311	**µg Cl-/L**	**5.5 % RPD**						
999	THM-ICR	1,2,3-Trichloropropane (Surrogate)	90.8	%	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
1000	THM-ICR	Bromodichloromethane	44.3	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
1001	THM-ICR	Bromoform	3.8	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
1002	THM-ICR	Chloroform	60.9	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
1003	THM-ICR	Dibromochloromethane	30.2	µg/L	EPA 551.1	1	1.0	10/29/98	11/2/98	11/2/98	0-257-0
1004	TURB	Turbidity	0.25	ntu	SM 2130 B	1	0.05	10/27/98		10/27/98	9-0-19
1005	UV-ICR	UV	0.060	1/cm	SM 5910 B	1	0.009	10/27/98		10/27/98	8-0-340

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

1006	UV-ICR	UV (Dupl)	0.060	1/cm	SM 5910 B	1	0.009	10/27/98		10/27/98	8-0-340
			0.060	**1/cm**	**0.0 % RPD**						

Sample ID: 172.Inf.B-5 **S&H ID:** 9810-398 **Date Sampled:** 10/30/98 9:55:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1007	pH	pH	6.2	Unit	SM 4500-H+ B	1	n/a	10/30/98		10/30/98	n/a
1008	TEMP	Temperature	18.8	ºC	SM 2550 B	1	n/a	10/30/98		10/30/98	n/a
1009	TOC-ICR	TOC	2.71	mg/L	SM 5310 C	1	0.50	10/30/98		10/30/98	7-0-447
1010	TOC-ICR	TOC (Dupl)	2.71	mg/L	SM 5310 C	1	0.50	10/30/98		10/30/98	7-0-447
			2.71	**mg/L**	**0.0 % RPD**						

Sample ID: 172.Inf.B-6 **S&H ID:** 9810-399 **Date Sampled:** 11/6/98 9:35:00 AM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1011	Cl2Dose	Chlorine Dose	4.00	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/9/98		11/9/98	n/a
1012	Cl2Res	Chlorine Residual	1.24	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/9/98		11/10/98	n/a
1013	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	106.0	%	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1014	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1015	HAA-ICR	Bromochloroacetic acid	13.3	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1016	HAA-ICR	Bromodichloroacetic acid	10.5	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1017	HAA-ICR	Chlorodibromoacetic acid	3.5	µg/L	EPA 552.2	1	2.0	11/10/98	11/11/98	11/11/98	0-262-0
1018	HAA-ICR	Dibromoacetic acid	6.5	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1019	HAA-ICR	Dichloroacetic acid	18.2	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1020	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1021	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/10/98	11/11/98	11/11/98	0-262-0
1022	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/10/98	11/11/98	11/11/98	0-262-0
1023	HAA-ICR	Trichloroacetic acid	14.1	µg/L	EPA 552.2	1	1.0	11/10/98	11/11/98	11/11/98	0-262-0
1024	pH	Cl2 pH - Final	8.3	Unit	SM 4500-H+ B	1	n/a	11/9/98		11/10/98	n/a
1025	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	11/9/98		11/9/98	n/a
1026	pH	pH	6.2	Unit	SM 4500-H+ B	1	n/a	11/6/98		11/6/98	n/a
1027	TEMP	Cl2 Temperature	20.0	ºC	SM 2550 B	1	n/a	11/9/98		11/10/98	n/a
1028	TEMP	Temperature	18.8	ºC	SM 2550 B	1	n/a	11/6/98		11/6/98	n/a
1029	TIME	Cl2 Incubation Time	28.3	hrs	n/a	1	n/a	11/9/98		11/10/98	n/a
1030	TOC-ICR	TOC	2.26	mg/L	SM 5310 C	1	0.50	11/6/98		11/6/98	7-0-454
1031	TOC-ICR	TOC (Dupl)	2.24	mg/L	SM 5310 C	1	0.50	11/6/98		11/6/98	7-0-454
			2.25	**mg/L**	**0.9 % RPD**						
1032	TOX-ICR	TOX	303	µg Cl-/L	SM 5320 B	1	25	11/10/98		11/11/98	12-0-241
1033	TOX-ICR	TOX (Dupl)	299	µg Cl-/L	SM 5320 B	1	25	11/10/98		11/11/98	12-0-241
			301	**µg Cl-/L**	**1.3 % RPD**						

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

1034	THM-ICR	1,2,3-Trichloropropane (Surrogate)	100.8	%	EPA 551.1	1	1.0	11/10/98	11/12/98	11/12/98	0-263-0
1035	THM-ICR	Bromodichloromethane	40.1	µg/L	EPA 551.1	1	1.0	11/10/98	11/12/98	11/12/98	0-263-0
1036	THM-ICR	Bromoform	3.4	µg/L	EPA 551.1	1	1.0	11/10/98	11/12/98	11/12/98	0-263-0
1037	THM-ICR	Chloroform	51.5	µg/L	EPA 551.1	1	1.0	11/10/98	11/12/98	11/12/98	0-263-0
1038	THM-ICR	Dibromochloromethane	26.2	µg/L	EPA 551.1	1	1.0	11/10/98	11/12/98	11/12/98	0-263-0
1039	TURB	Turbidity	0.20	ntu	SM 2130 B	1	0.05	11/6/98		11/6/98	9-0-21
1040	UV-ICR	UV	0.060	1/cm	SM 5910 B	1	0.009	11/6/98		11/6/98	8-0-349
1041	UV-ICR	UV (Dupl)	0.060	1/cm	SM 5910 B	1	0.009	11/6/98		11/6/98	8-0-349
			0.060	**1/cm**	**0.0 % RPD**						

Sample ID: CCPW Instant DBPs **S&H ID:** 9810-400 **Date Sampled:** 10/16/98 2:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1042	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	96.8	%	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1043	HAA-ICR	2-Bromopropionic acid (Surrogate)	99.6	%	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1044	HAA-ICR	Bromochloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1045	HAA-ICR	Bromodichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1046	HAA-ICR	Chlorodibromoacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/16/98	10/20/98	10/21/98	0-247-0
1047	HAA-ICR	Dibromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1048	HAA-ICR	Dichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1049	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1050	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	10/16/98	10/20/98	10/21/98	0-247-0
1051	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	10/16/98	10/20/98	10/21/98	0-247-0
1052	HAA-ICR	Trichloroacetic acid	ND	µg/L	EPA 552.2	1	1.0	10/16/98	10/20/98	10/21/98	0-247-0
1053	THM-ICR	1,2,3-Trichloropropane (Surrogate)	101.2	%	EPA 551.1	1	1.0	10/16/98	10/19/98	10/20/98	0-243-0
1054	THM-ICR	Bromodichloromethane	ND	µg/L	EPA 551.1	1	1.0	10/16/98	10/19/98	10/20/98	0-243-0
1055	THM-ICR	Bromoform	ND	µg/L	EPA 551.1	1	1.0	10/16/98	10/19/98	10/20/98	0-243-0
1056	THM-ICR	Chloroform	ND	µg/L	EPA 551.1	1	1.0	10/16/98	10/19/98	10/20/98	0-243-0
1057	THM-ICR	Dibromochloromethane	ND	µg/L	EPA 551.1	1	1.0	10/16/98	10/19/98	10/20/98	0-243-0

Sample ID: 172.20.Eff-33 **S&H ID:** 9811-14 **Date Sampled:** 11/5/98 4:30:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1058	pH	pH	6.7	Unit	SM 4500-H+ B	1	n/a	11/5/98		11/5/98	n/a
1059	TEMP	Temperature	21.3	ºC	SM 2550 B	1	n/a	11/5/98		11/5/98	n/a
1060	TOC-ICR	TOC	1.96	mg/L	SM 5310 C	1	0.50	11/5/98		11/5/98	7-0-453
1061	TOC-ICR	TOC (Dupl)	1.97	mg/L	SM 5310 C	1	0.50	11/5/98		11/5/98	7-0-453
			1.96	**mg/L**	**0.5 % RPD**						
1062	UV-ICR	UV	0.035	1/cm	SM 5910 B	1	0.009	11/5/98		11/6/98	8-0-348

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

Laboratory Test Results

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

1063	UV-ICR	UV (Dupl)	0.035	1/cm	SM 5910 B	1	0.009	11/5/98		11/6/98	8-0-348
			0.035	**1/cm**	**0.0 % RPD**						

Sample ID: 172.20.Eff-34 **S&H ID:** 9811-15 **Date Sampled:** 11/6/98 5:32:00 PM

#	Analysis	Type	Result	Units	Method	Dilution	MRL	Samp.	Prep.	Anal.	QC Batch
1064	Cl2Dose	Chlorine Dose	3.39	mg/L as Cl2	SM 4500-Cl B	1	n/a	11/11/98		11/11/98	n/a
1065	Cl2Res	Chlorine Residual	1.51	mg/L as Cl2	SM 4500-Cl F	1	0.10	11/11/98		11/12/98	n/a
1066	HAA-ICR	1,2,3-Trichloropropane (IS) (Internal Standard)	97.6	%	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1067	HAA-ICR	2-Bromopropionic acid (Surrogate)	97.6	%	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1068	HAA-ICR	Bromochloroacetic acid	9.2	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1069	HAA-ICR	Bromodichloroacetic acid	5.7	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1070	HAA-ICR	Chlorodibromoacetic acid	3.1	µg/L	EPA 552.2	1	2.0	11/12/98	11/16/98	11/17/98	0-265-0
1071	HAA-ICR	Dibromoacetic acid	7.2	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1072	HAA-ICR	Dichloroacetic acid	8.4	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1073	HAA-ICR	Monobromoacetic acid	ND	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1074	HAA-ICR	Monochloroacetic acid	ND	µg/L	EPA 552.2	1	2.0	11/12/98	11/16/98	11/17/98	0-265-0
1075	HAA-ICR	Tribromoacetic acid	ND	µg/L	EPA 552.2	1	4.0	11/12/98	11/16/98	11/17/98	0-265-0
1076	HAA-ICR	Trichloroacetic acid	5.0	µg/L	EPA 552.2	1	1.0	11/12/98	11/16/98	11/17/98	0-265-0
1077	pH	Cl2 pH - Final	8.5	Unit	SM 4500-H+ B	1	n/a	11/11/98		11/12/98	n/a
1078	pH	Cl2 pH - Initial	8.5	Unit	SM 4500-H+ B	1	n/a	11/11/98		11/11/98	n/a
1079	pH	pH	6.8	Unit	SM 4500-H+ B	1	n/a	11/6/98		11/6/98	n/a
1080	TEMP	Cl2 Temperature	19.7	ºC	SM 2550 B	1	n/a	11/11/98		11/12/98	n/a
1081	TEMP	Temperature	21.7	ºC	SM 2550 B	1	n/a	11/6/98		11/6/98	n/a
1082	TIME	Cl2 Incubation Time	28.0	hrs	n/a	1	n/a	11/11/98		11/12/98	n/a
1083	TOC-ICR	TOC	2.04	mg/L	SM 5310 C	1	0.50	11/6/98		11/6/98	7-0-454
1084	TOC-ICR	TOC (Dupl)	2.06	mg/L	SM 5310 C	1	0.50	11/6/98		11/6/98	7-0-454
			2.05	**mg/L**	**1.0 % RPD**						
1085	TOX-ICR	TOX	194	µg Cl-/L	SM 5320 B	1	25	11/12/98		11/18/98	12-0-246
1086	TOX-ICR	TOX (Dupl)	189	µg Cl-/L	SM 5320 B	1	25	11/12/98		11/18/98	12-0-246
			192	**µg Cl-/L**	**2.6 % RPD**						
1087	THM-ICR	1,2,3-Trichloropropane (Surrogate)	92.8	%	EPA 551.1	1	1.0	11/12/98	11/17/98	11/17/98	0-266-0
1088	THM-ICR	Bromodichloromethane	29.4	µg/L	EPA 551.1	1	1.0	11/12/98	11/17/98	11/17/98	0-266-0
1089	THM-ICR	Bromoform	7.0	µg/L	EPA 551.1	1	1.0	11/12/98	11/17/98	11/17/98	0-266-0
1090	THM-ICR	Chloroform	22.9	µg/L	EPA 551.1	1	1.0	11/12/98	11/17/98	11/17/98	0-266-0
1091	THM-ICR	Dibromochloromethane	29.1	µg/L	EPA 551.1	1	1.0	11/12/98	11/17/98	11/17/98	0-266-0
1092	UV-ICR	UV	0.036	1/cm	SM 5910 B	1	0.009	11/6/98		11/7/98	8-0-350
1093	UV-ICR	UV (Dupl)	0.036	1/cm	SM 5910 B	1	0.009	11/6/98		11/7/98	8-0-350
			0.036	**1/cm**	**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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

End of laboratory test results

Summers & Hooper, Inc.
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Quality Control Report

Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 1-0-35

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	100	99	mg/L	99%		10/09/98	9810-214	5		
Matrix Spike (Dupl)	Matrix Spike	100	99	mg/L	99%		10/09/98	9810-214	5		
		100	**99**	**mg/L**	**99%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			10/09/98	9810-227	5		
Standard	Standard	100	100	mg/L	100%		10/09/98	9810-228	5		
Standard (Dupl)	Standard	100	100	mg/L	100%		10/09/98	9810-228	5		
		100	**100**	**mg/L**	**100%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	94	mg/L	94%		10/17/98	9810-392	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		10/17/98	9810-392	5		
		100	**95**	**mg/L**	**95%**	**2.1 %**					
Method Blank	Method Blank		ND*	mg/L			10/17/98	9810-402	5		
Standard	Standard	100	101	mg/L	101%		10/17/98	9810-403	5		
Standard (Dupl)	Standard	100	101	mg/L	101%		10/17/98	9810-403	5		
		100	**101**	**mg/L**	**101%**	**0.0 %**					
Matrix Spike	Matrix Spike	100	96	mg/L	96%		10/20/98	9810-215	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		10/20/98	9810-215	5		
		100	**96**	**mg/L**	**96%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			10/20/98	9810-428	5		
Standard	Standard	100	97	mg/L	97%		10/20/98	9810-429	5		
Standard (Dupl)	Standard	100	97	mg/L	97%		10/20/98	9810-429	5		
		100	**97**	**mg/L**	**97%**	**0.0 %**					

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

QC Batch ID: 1-0-36

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%		10/27/98	9810-393	5		
Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		10/27/98	9810-393	5		
		100	**96**	**mg/L**	**96%**	**0.0 %**					
Method Blank	Method Blank		ND*	mg/L			10/27/98	9810-490	5		
Standard	Standard	100	97	mg/L	97%		10/27/98	9810-491	5		
Standard (Dupl)	Standard	100	96	mg/L	96%		10/27/98	9810-491	5		
		100	**97**	**mg/L**	**97%**	**1.0 %**					
Matrix Spike	Matrix Spike	100	96	mg/L	96%		11/04/98	9811-120	5		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Matrix Spike (Dupl)	Matrix Spike	100	96	mg/L	96%		11/04/98	9811-120	5	
		100	**96**	**mg/L**	**96%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			11/04/98	9811-133	5	
Standard	Standard	100	94	mg/L	94%		11/04/98	9811-134	5	
Standard (Dupl)	Standard	100	95	mg/L	95%		11/04/98	9811-134	5	
		100	**95**	**mg/L**	**95%**	**1.1 %**				

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

QC Batch ID: 7-0-433

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.10	mg/L	102%		9810-184	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.22	mg/L	105%		9810-184	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**2.9 %**				
Method Blank	Method Blank		ND*	mg/L			9810-300	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-300	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9809-682	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%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.92	mg/L	98%		9810-67	0.5	90-110%	
		4.00	**3.93**	**mg/L**	**98%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	9.49	mg/L	95%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.29	mg/L	93%		9810-133	0.5	90-110%	
		10.00	**9.39**	**mg/L**	**94%**	**2.1 %**			90-110%	10%

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

QC Batch ID: 7-0-434

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.02	mg/L	100%		9810-312	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.05	mg/L	101%		9810-312	0.5		
		4.00	**4.04**	**mg/L**	**101%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9810-401	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-401	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.04	mg/L	101%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.07	mg/L	102%		9810-67	0.5	90-110%	
		4.00	**4.06**	**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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 7-0-436

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.96	mg/L	99%		9810-314	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.01	mg/L	100%		9810-314	0.5		
		4.00	**3.98**	**mg/L**	**100%**	**1.3 %**				
Method Blank	Method Blank		ND*	mg/L			9810-408	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-408	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9809-682	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%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9810-67	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.5 %**			90-110%	10%
Standard	Standard	10.00	10.02	mg/L	100%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.20	mg/L	102%		9810-133	0.5	90-110%	
		10.00	**10.11**	**mg/L**	**101%**	**1.8 %**			90-110%	10%

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

QC Batch ID: 7-0-437

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.93	mg/L	98%		9810-320	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9810-320	0.5		
		4.00	**3.94**	**mg/L**	**98%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9810-419	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-419	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.99	mg/L	100%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.99	mg/L	100%		9810-67	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**0.0 %**			90-110%	10%
Standard	Standard	10.00	9.89	mg/L	99%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.95	mg/L	99%		9810-133	0.5	90-110%	
		10.00	**9.92**	**mg/L**	**99%**	**0.6 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 7-0-438

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%		9810-323	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.92	mg/L	98%		9810-323	0.5		
		4.00	**3.91**	**mg/L**	**98%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9810-431	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-431	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9809-682	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%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.90	mg/L	97%		9810-67	0.5	90-110%	
		4.00	**3.91**	**mg/L**	**98%**	**0.5 %**			90-110%	10%

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

QC Batch ID: 7-0-439

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	3.83	mg/L	96%		9810-327	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.85	mg/L	96%		9810-327	0.5		
		4.00	**3.84**	**mg/L**	**96%**	**0.3 %**				
Method Blank	Method Blank		ND*	mg/L			9810-441	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-441	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.50	mg/L	100%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9809-682	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**5.9 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.00	mg/L	100%		9810-67	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-440

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Matrix Spike	Matrix Spike	4.00	4.19	mg/L	105%		9810-329	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.23	mg/L	106%		9810-329	0.5		
		4.00	**4.21**	**mg/L**	**105%**	**0.7 %**				
Method Blank	Method Blank		ND*	mg/L			9810-453	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-453	0.5		
			ND*	**mg/L**						

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Standard	Standard	0.50	0.50	mg/L	100%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.50	mg/L	100%		9809-682	0.5	50-150%	
		0.50	**0.50**	**mg/L**	**100%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	4.07	mg/L	102%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.12	mg/L	103%		9810-67	0.5	90-110%	
		4.00	**4.10**	**mg/L**	**102%**	**1.2 %**			90-110%	10%
Standard	Standard	10.00	10.32	mg/L	103%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.37	mg/L	104%		9810-133	0.5	90-110%	
		10.00	**10.34**	**mg/L**	**103%**	**0.5 %**			90-110%	10%

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

QC Batch ID: 7-0-441

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.03	mg/L	101%		9810-360	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.02	mg/L	100%		9810-360	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9810-460	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-460	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9809-682	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9809-682	0.5	50-150%	
		0.50	**0.52**	**mg/L**	**104%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9810-67	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: 7-0-442

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.03	mg/L	101%		9810-333	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.03	mg/L	101%		9810-333	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**0.0 %**				
Method Blank	Method Blank		ND*	mg/L			9810-464	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-464	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9810-462	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9810-462	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.94	mg/L	98%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.96	mg/L	99%		9810-67	0.5	90-110%	
		4.00	**3.95**	**mg/L**	**99%**	**0.5 %**			90-110%	10%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 7-0-443

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%		9810-335	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.06	mg/L	101%		9810-335	0.5		
		4.00	**4.03**	**mg/L**	**101%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9810-465	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-465	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	4.02	mg/L	100%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9810-67	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: 7-0-444

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%		9810-397	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.93	mg/L	98%		9810-397	0.5		
		4.00	**3.95**	**mg/L**	**99%**	**1.0 %**				
Method Blank	Method Blank		ND*	mg/L			9810-492	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-492	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9810-241	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%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.01	mg/L	100%		9810-67	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	9.81	mg/L	98%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.99	mg/L	100%		9810-133	0.5	90-110%	
		10.00	**9.90**	**mg/L**	**99%**	**1.8 %**			90-110%	10%

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

QC Batch ID: 7-0-445

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%		9810-500	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.12	mg/L	103%		9810-500	0.5		
		4.00	**4.06**	**mg/L**	**101%**	**3.4 %**				

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Method Blank	Method Blank		ND*	mg/L			9810-503	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-503	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.56	mg/L	112%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.55	mg/L	110%		9810-241	0.5	50-150%	
		0.50	**0.55**	**mg/L**	**110%**	**1.8 %**			50-150%	20%
Standard	Standard	4.00	3.97	mg/L	99%		9810-67	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.98	mg/L	100%		9810-67	0.5	90-110%	
		4.00	**3.98**	**mg/L**	**100%**	**0.3 %**			90-110%	10%

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

QC Batch ID: 7-0-446

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.05	mg/L	101%		9810-372	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.10	mg/L	102%		9810-372	0.5		
		4.00	**4.07**	**mg/L**	**102%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9810-513	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-513	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.55	mg/L	110%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	4.01	mg/L	100%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.04	mg/L	101%		9810-493	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**0.7 %**			90-110%	10%
Standard	Standard	10.00	10.13	mg/L	101%		9810-133	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.12	mg/L	101%		9810-133	0.5	90-110%	
		10.00	**10.13**	**mg/L**	**101%**	**0.1 %**			90-110%	10%

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

QC Batch ID: 7-0-447

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.13	mg/L	103%		9810-374	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.18	mg/L	104%		9810-374	0.5		
		4.00	**4.16**	**mg/L**	**104%**	**1.4 %**				
Method Blank	Method Blank		ND*	mg/L			9810-518	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-518	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9810-241	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**0.0 %**			50-150%	20%
Standard	Standard	4.00	3.96	mg/L	99%		9810-493	0.5	90-110%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Standard (Dupl)	Standard	4.00	4.02	mg/L	100%		9810-493	0.5	90-110%	
		4.00	**3.99**	**mg/L**	**100%**	**1.5 %**			90-110%	10%

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

QC Batch ID: 7-0-448

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.07	mg/L	102%		9810-387	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.09	mg/L	102%		9810-387	0.5		
		4.00	**4.08**	**mg/L**	**102%**	**0.5 %**				
Method Blank	Method Blank		ND*	mg/L			9810-525	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9810-525	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.53	mg/L	106%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
		0.50	**0.54**	**mg/L**	**108%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.97	mg/L	99%		9810-493	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: 7-0-450

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	4.04	mg/L	101%		9810-381	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.12	mg/L	103%		9810-381	0.5		
		4.00	**4.08**	**mg/L**	**102%**	**2.0 %**				
Method Blank	Method Blank		ND*	mg/L			9811-3	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9811-3	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.52	mg/L	104%		9810-241	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**3.8 %**			50-150%	20%
Standard	Standard	4.00	4.02	mg/L	100%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.03	mg/L	101%		9810-493	0.5	90-110%	
		4.00	**4.03**	**mg/L**	**101%**	**0.2 %**			90-110%	10%

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

QC Batch ID: 7-0-453

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	4.00	3.96	mg/L	99%		9811-44	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.04	mg/L	101%		9811-44	0.5		
		4.00	**4.00**	**mg/L**	**100%**	**2.0 %**				

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Method Blank	Method Blank		ND*	mg/L			9811-150	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9811-150	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.54	mg/L	108%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.53	mg/L	106%		9810-241	0.5	50-150%	
		0.50	**0.53**	**mg/L**	**106%**	**1.9 %**			50-150%	20%
Standard	Standard	4.00	3.95	mg/L	99%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.92	mg/L	98%		9810-493	0.5	90-110%	
		4.00	**3.94**	**mg/L**	**98%**	**0.8 %**			90-110%	10%
Standard	Standard	10.00	9.79	mg/L	98%		9811-152	0.5	90-110%	
Standard (Dupl)	Standard	10.00	9.87	mg/L	99%		9811-152	0.5	90-110%	
		10.00	**9.83**	**mg/L**	**98%**	**0.8 %**			90-110%	10%

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

QC Batch ID: 7-0-454

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%		9811-52	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	4.39	mg/L	110%		9811-52	0.5		
		4.00	**4.33**	**mg/L**	**108%**	**2.5 %**				
Matrix Spike	Matrix Spike	4.00	3.88	mg/L	97%		9811-75	0.5		
Matrix Spike (Dupl)	Matrix Spike	4.00	3.95	mg/L	99%		9811-75	0.5		
		4.00	**3.92**	**mg/L**	**98%**	**1.5 %**				
Method Blank	Method Blank		ND*	mg/L			9811-154	0.5		
Method Blank (Dupl)	Method Blank		ND*	mg/L			9811-154	0.5		
			ND*	**mg/L**						
Standard	Standard	0.50	0.52	mg/L	104%		9810-241	0.5	50-150%	
Standard (Dupl)	Standard	0.50	0.51	mg/L	102%		9810-241	0.5	50-150%	
		0.50	**0.51**	**mg/L**	**102%**	**2.0 %**			50-150%	20%
Standard	Standard	4.00	4.04	mg/L	101%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	4.05	mg/L	101%		9810-493	0.5	90-110%	
		4.00	**4.05**	**mg/L**	**101%**	**0.2 %**			90-110%	10%
Standard	Standard	4.00	3.80	mg/L	95%		9810-493	0.5	90-110%	
Standard (Dupl)	Standard	4.00	3.80	mg/L	95%		9810-493	0.5	90-110%	
		4.00	**3.80**	**mg/L**	**95%**	**0.0 %**			90-110%	10%
Standard	Standard	10.00	9.94	mg/L	99%		9811-152	0.5	90-110%	
Standard (Dupl)	Standard	10.00	10.28	mg/L	103%		9811-152	0.5	90-110%	
		10.00	**10.11**	**mg/L**	**101%**	**3.4 %**			90-110%	10%

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

QC Batch ID: 8-0-329

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-404	0.009		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-404	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-404	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-404	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-76	0.009	85-115%	
		0.088	**0.084**	**1/cm**	**95%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-332

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-417	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-417	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-417	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-417	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.085	1/cm	97%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9810-407	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: 8-0-333

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-418	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-418	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-418	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-418	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9810-407	0.009	85-115%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

		0.088	**0.083**	**1/cm**	**94%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 8-0-334

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-430	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-430	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-430	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-430	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-239	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
		0.088	**0.084**	**1/cm**	**95%**	**1.2 %**			85-115%	10%

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

QC Batch ID: 8-0-335

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-440	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-440	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-440	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-440	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.083	1/cm	94%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
		0.088	**0.084**	**1/cm**	**95%**	**1.2 %**			85-115%	10%

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

QC Batch ID: 8-0-336

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-458	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-458	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-458	0.009		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-458	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-239	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	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: 8-0-337

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-459	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-459	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-459	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-459	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-461	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%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	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: 8-0-338

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-463	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-463	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-463	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-463	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
		0.088	**0.084**	**1/cm**	**95%**	**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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 8-0-339

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9810-474	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-474	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-474	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-474	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.085	1/cm	97%		9810-407	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: 8-0-340

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9810-498	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-498	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-498	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-498	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-461	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%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	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: 8-0-341

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9810-508	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-508	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-508	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-508	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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Standard	Standard	0.009	0.007	1/cm	78%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
		0.009	**0.007**	**1/cm**	**78%**	**14.3 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	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: 8-0-342

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-519	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-519	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-519	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-519	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.084	1/cm	95%		9810-407	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.084	1/cm	95%		9810-407	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: 8-0-343

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Method Blank	Method Blank		ND*	1/cm			9810-526	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-526	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9810-526	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9810-526	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**0.0 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9810-524	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9810-524	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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 8-0-345

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9811-21	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-21	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9811-21	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-21	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.008	1/cm	89%		9810-461	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9810-461	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%		9810-524	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9810-524	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: 8-0-348

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9811-153	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-153	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9811-153	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-153	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9811-147	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9811-147	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%		9810-524	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9810-524	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: 8-0-349

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	Acceptance Criteria RPD
Method Blank	Method Blank		ND*	1/cm			9811-155	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-155	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9811-155	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-155	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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Standard	Standard	0.009	0.007	1/cm	78%		9811-147	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.008	1/cm	89%		9811-147	0.009	75-125%	
		0.009	**0.008**	**1/cm**	**89%**	**12.5 %**			75-125%	20%
Standard	Standard	0.088	0.082	1/cm	93%		9810-524	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.083	1/cm	94%		9810-524	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: 8-0-350

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Method Blank	Method Blank		ND*	1/cm			9811-249	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-249	0.009		
			ND*	**1/cm**						
Method Blank	Method Blank		ND*	1/cm			9811-249	0.009		
Method Blank (Dupl)	Method Blank		ND*	1/cm			9811-249	0.009		
			ND*	**1/cm**						
Standard	Standard	0.009	0.007	1/cm	78%		9811-147	0.009	75-125%	
Standard (Dupl)	Standard	0.009	0.007	1/cm	78%		9811-147	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%		9810-524	0.009	85-115%	
Standard (Dupl)	Standard	0.088	0.082	1/cm	93%		9810-524	0.009	85-115%	
		0.088	**0.082**	**1/cm**	**93%**	**0.0 %**			85-115%	10%

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

QC Batch ID: 9-0-18

										Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**Date Run**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard	Standard	5.41	5.48	ntu	101%		09/28/98	9807-108	0.05		
Standard	Standard	5.41	5.59	ntu	103%		09/28/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		09/30/98	9807-108	0.05		
Standard	Standard	5.41	5.50	ntu	102%		10/01/98	9807-108	0.05		
Standard	Standard	5.41	5.52	ntu	102%		10/04/98	9807-108	0.05		
Standard	Standard	5.41	5.53	ntu	102%		10/06/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		10/08/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		10/14/98	9807-108	0.05		
Standard	Standard	5.41	5.51	ntu	102%		10/16/98	9807-108	0.05		
Standard	Standard	5.41	5.54	ntu	102%		10/16/98	9807-108	0.05		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 9-0-19

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.54	ntu	102%		10/20/98	9807-108	0.05		
Standard	Standard	5.41	5.56	ntu	103%		10/26/98	9807-108	0.05		
Standard	Standard	5.41	5.49	ntu	101%		10/27/98	9807-108	0.05		
Standard	Standard	5.41	5.48	ntu	101%		10/27/98	9807-108	0.05		
Standard	Standard	5.41	5.49	ntu	101%		10/29/98	9807-108	0.05		

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

QC Batch ID: 9-0-21

QC Type		Spike	Recovery	Unit	Yield	RPD	Date Run	S&H ID	MRL	Acceptance Criteria Range	RPD
Standard	Standard	5.41	5.55	ntu	103%		11/06/98	9807-108	0.05		
Standard	Standard	5.41	5.55	ntu	103%		11/06/98	9807-108	0.05		
Standard	Standard	5.41	5.58	ntu	103%		11/10/98	9807-108	0.05		
Standard	Standard	5.41	5.51	ntu	102%		11/16/98	9807-108	0.05		
Standard	Standard	5.41	5.55	ntu	103%		11/17/98	9807-108	0.05		
Standard	Standard	5.41	5.60	ntu	104%		11/19/98	9807-108	0.05		
Standard	Standard	5.41	5.57	ntu	103%		11/20/98	9807-108	0.05		
Standard	Standard	5.41	5.59	ntu	103%		11/23/98	9807-108	0.05		
Standard	Standard	5.41	5.58	ntu	103%		11/28/98	9807-108	0.05		
Standard	Standard	5.41	5.56	ntu	103%		11/30/98	9807-108	0.05		

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

QC Batch ID: 12-0-233

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%		9810-472	25	75-125%	
Standard - TCP Aqueous	Standard	200	195	µg Cl-/L	97%		9810-471	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-473	25		

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

QC Batch ID: 12-0-234

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	198	µg Cl-/L	99%		9810-317	25		
Matrix Spike (Dupl)	Matrix Spike	200	195	µg Cl-/L	97%		9810-317	25		
		200	**196**	**µg Cl-/L**	**98%**	**1.5 %**				

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-496	25	75-125%	
Standard - TCP Aqueous	Standard	200	195	µg Cl-/L	97%		9810-495	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-497	25		

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

QC Batch ID: 12-0-235

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-511	25	75-125%	
Standard - TCP Aqueous	Standard	200	200	µg Cl-/L	100%		9810-510	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-512	25		

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

QC Batch ID: 12-0-236

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	26	µg Cl-/L	104%		9810-516	25	75-125%	
Standard - TCP Aqueous	Standard	200	203	µg Cl-/L	101%		9810-515	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-517	25		

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

QC Batch ID: 12-0-237

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Matrix Spike	Matrix Spike	200	200	µg Cl-/L	100%		9810-203	25		
Matrix Spike (Dupl)	Matrix Spike	200	193	µg Cl-/L	96%		9810-203	25		
		200	**196**	**µg Cl-/L**	**98%**	**3.6 %**				
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9810-522	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9810-521	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9810-523	25		

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

QC Batch ID: 12-0-238

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Standard - TCP Aqueous	Standard	25	24	µg Cl-/L	96%		9811-10	25	75-125%	
Standard - TCP Aqueous	Standard	200	194	µg Cl-/L	97%		9811-9	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9811-11	25		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

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

QC Batch ID: 12-0-239

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	194	µg Cl-/L	97%		9810-372	25		
Matrix Spike (Dupl)	Matrix Spike	200	194	µg Cl-/L	97%		9810-372	25		
		200	**194**	**µg Cl-/L**	**97%**	**0.0 %**				
Standard - TCP Aqueous	Standard	25	25	µg Cl-/L	100%		9811-31	25	75-125%	
Standard - TCP Aqueous	Standard	200	190	µg Cl-/L	95%		9811-30	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9811-32	25		

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

QC Batch ID: 12-0-240

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%		9811-260	25	75-125%	
Standard - TCP Aqueous	Standard	200	202	µg Cl-/L	101%		9811-259	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9811-261	25		

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

QC Batch ID: 12-0-241

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%		9811-267	25	75-125%	
Standard - TCP Aqueous	Standard	200	196	µg Cl-/L	98%		9811-266	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9811-268	25		

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

QC Batch ID: 12-0-246

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Matrix Spike	Matrix Spike	200	182	µg Cl-/L	91%		9811-98	25		
Matrix Spike (Dupl)	Matrix Spike	200	192	µg Cl-/L	96%		9811-98	25		
		200	**187**	**µg Cl-/L**	**94%**	**5.3 %**				
Standard - TCP Aqueous	Standard	25	23	µg Cl-/L	92%		9811-335	25	75-125%	
Standard - TCP Aqueous	Standard	200	198	µg Cl-/L	99%		9811-334	25	85-115%	
System Blank	Blank		ND*	µg Cl-/L			9811-336	25		

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

QC Batch ID: 0-243-0

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.

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloromethane	Duplicate	15.4	14.6	µg/L		5.3%	9809-769	1	
Bromodichloromethane	Matrix Spike	40.0	41.4	µg/L	103%		9810-99	1	
Bromodichloromethane	Method Blank		ND*	µg/L			9810-409	1	
Bromodichloromethane	Secondary Source Std	20.0	22.2	µg/L	111%		9810-410	1	70-130%
Bromodichloromethane	Standard	20.0	19.2	µg/L	96%		9810-411	1	80-120%
Bromodichloromethane	Standard	20.0	19.9	µg/L	99%		9810-411	1	80-120%
Bromodichloromethane	Standard	40.0	40.2	µg/L	101%		9810-412	1	80-120%
Bromoform	Duplicate	ND	ND	µg/L		NA	9809-769	1	
Bromoform	Matrix Spike	40.0	43.4	µg/L	109%		9810-99	1	
Bromoform	Method Blank		ND*	µg/L			9810-409	1	
Bromoform	Secondary Source Std	20.0	20.2	µg/L	101%		9810-410	1	70-130%
Bromoform	Standard	20.0	19.6	µg/L	98%		9810-411	1	80-120%
Bromoform	Standard	20.0	19.7	µg/L	98%		9810-411	1	80-120%
Bromoform	Standard	40.0	42.4	µg/L	106%		9810-412	1	80-120%
Chloroform	Duplicate	50.5	47.5	µg/L		6.1%	9809-769	1	
Chloroform	Matrix Spike	40.0	42.5	µg/L	106%		9810-99	1	
Chloroform	Method Blank		ND*	µg/L			9810-409	1	
Chloroform	Secondary Source Std	20.0	22.4	µg/L	112%		9810-410	1	70-130%
Chloroform	Standard	20.0	18.6	µg/L	93%		9810-411	1	80-120%
Chloroform	Standard	20.0	19.8	µg/L	99%		9810-411	1	80-120%
Chloroform	Standard	40.0	40.5	µg/L	101%		9810-412	1	80-120%
Dibromochloromethane	Duplicate	2.1	2.1	µg/L		0.0%	9809-769	1	
Dibromochloromethane	Matrix Spike	40.0	42.6	µg/L	106%		9810-99	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9810-409	1	
Dibromochloromethane	Secondary Source Std	20.0	21.2	µg/L	106%		9810-410	1	70-130%
Dibromochloromethane	Standard	20.0	19.8	µg/L	99%		9810-411	1	80-120%
Dibromochloromethane	Standard	20.0	20.1	µg/L	101%		9810-411	1	80-120%
Dibromochloromethane	Standard	40.0	41.4	µg/L	103%		9810-412	1	80-120%

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

QC Batch ID: 0-249-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	5.4	5.3	µg/L		1.9%	9810-194	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloromethane	Matrix Spike	40.0	41.5 µg/L	104%		9810-352	1	
Bromodichloromethane	Method Blank		ND* µg/L			9810-466	1	
Bromodichloromethane	Secondary Source Std	20.0	22.5 µg/L	113%		9810-467	1	70-130%
Bromodichloromethane	Standard	20.0	19.8 µg/L	99%		9810-468	1	80-120%
Bromodichloromethane	Standard	20.0	19.6 µg/L	98%		9810-468	1	80-120%
Bromodichloromethane	Standard	40.0	40.7 µg/L	102%		9810-469	1	80-120%
Bromoform	Duplicate	ND	ND µg/L		NA	9810-194	1	
Bromoform	Matrix Spike	40.0	42.3 µg/L	106%		9810-352	1	
Bromoform	Method Blank		ND* µg/L			9810-466	1	
Bromoform	Secondary Source Std	20.0	20.9 µg/L	104%		9810-467	1	70-130%
Bromoform	Standard	20.0	19.5 µg/L	97%		9810-468	1	80-120%
Bromoform	Standard	20.0	20.1 µg/L	101%		9810-468	1	80-120%
Bromoform	Standard	40.0	41.4 µg/L	103%		9810-469	1	80-120%
Chloroform	Duplicate	5.5	5.4 µg/L		1.8%	9810-194	1	
Chloroform	Matrix Spike	40.0	42.5 µg/L	106%		9810-352	1	
Chloroform	Method Blank		ND* µg/L			9810-466	1	
Chloroform	Secondary Source Std	20.0	22.5 µg/L	113%		9810-467	1	70-130%
Chloroform	Standard	20.0	19.2 µg/L	96%		9810-468	1	80-120%
Chloroform	Standard	20.0	18.9 µg/L	94%		9810-468	1	80-120%
Chloroform	Standard	40.0	41.3 µg/L	103%		9810-469	1	80-120%
Dibromochloromethane	Duplicate	3.0	3.1 µg/L		3.3%	9810-194	1	
Dibromochloromethane	Matrix Spike	40.0	42.3 µg/L	106%		9810-352	1	
Dibromochloromethane	Method Blank		ND* µg/L			9810-466	1	
Dibromochloromethane	Secondary Source Std	20.0	21.1 µg/L	106%		9810-467	1	70-130%
Dibromochloromethane	Standard	20.0	20.2 µg/L	101%		9810-468	1	80-120%
Dibromochloromethane	Standard	20.0	19.9 µg/L	99%		9810-468	1	80-120%
Dibromochloromethane	Standard	40.0	41.3 µg/L	103%		9810-469	1	80-120%

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

QC Batch ID: 0-257-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	23.9	24.2	µg/L		1.2%	9810-328	1		
Bromodichloromethane	Matrix Spike	40.0	42.1	µg/L	105%		9810-203	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloromethane	Method Blank		ND*	µg/L			9811-4	1	
Bromodichloromethane	Secondary Source Std	20.0	23.9	µg/L	119%		9811-5	1	70-130%
Bromodichloromethane	Standard	20.0	20.9	µg/L	104%		9811-6	1	80-120%
Bromodichloromethane	Standard	20.0	20.6	µg/L	103%		9811-6	1	80-120%
Bromodichloromethane	Standard	40.0	38.8	µg/L	97%		9811-7	1	80-120%
Bromoform	Duplicate	11.8	11.8	µg/L		0.0%	9810-328	1	
Bromoform	Matrix Spike	40.0	44.3	µg/L	111%		9810-203	1	
Bromoform	Method Blank		ND*	µg/L			9811-4	1	
Bromoform	Secondary Source Std	20.0	21.1	µg/L	106%		9811-5	1	70-130%
Bromoform	Standard	20.0	21.2	µg/L	106%		9811-6	1	80-120%
Bromoform	Standard	20.0	20.4	µg/L	102%		9811-6	1	80-120%
Bromoform	Standard	40.0	39.2	µg/L	98%		9811-7	1	80-120%
Chloroform	Duplicate	11.6	11.7	µg/L		0.9%	9810-328	1	
Chloroform	Matrix Spike	40.0	44.1	µg/L	110%		9810-203	1	
Chloroform	Method Blank		ND*	µg/L			9811-4	1	
Chloroform	Secondary Source Std	20.0	23.9	µg/L	119%		9811-5	1	70-130%
Chloroform	Standard	20.0	20.5	µg/L	102%		9811-6	1	80-120%
Chloroform	Standard	20.0	20.6	µg/L	103%		9811-6	1	80-120%
Chloroform	Standard	40.0	39.9	µg/L	100%		9811-7	1	80-120%
Dibromochloromethane	Duplicate	32.1	33.5	µg/L		4.3%	9810-328	1	
Dibromochloromethane	Matrix Spike	40.0	43.4	µg/L	109%		9810-203	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9811-4	1	
Dibromochloromethane	Secondary Source Std	20.0	22.5	µg/L	113%		9811-5	1	70-130%
Dibromochloromethane	Standard	20.0	21.5	µg/L	108%		9811-6	1	80-120%
Dibromochloromethane	Standard	20.0	21.4	µg/L	107%		9811-6	1	80-120%
Dibromochloromethane	Standard	40.0	40.0	µg/L	100%		9811-7	1	80-120%

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

QC Batch ID: 0-261-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	15.3	16.6	µg/L		8.2%	9810-370	1		
Bromodichloromethane	Matrix Spike	40.0	37.5	µg/L	94%		9810-477	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9811-129	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloromethane	Secondary Source Std	20.0	24.5	µg/L	123%		9811-130	1	70-130%
Bromodichloromethane	Standard	20.0	21.9	µg/L	110%		9811-131	1	80-120%
Bromodichloromethane	Standard	40.0	39.1	µg/L	98%		9811-132	1	80-120%
Bromoform	Duplicate	12.9	13.7	µg/L		6.0%	9810-370	1	
Bromoform	Matrix Spike	40.0	42.5	µg/L	106%		9810-477	1	
Bromoform	Method Blank		ND*	µg/L			9811-129	1	
Bromoform	Secondary Source Std	20.0	19.4	µg/L	97%		9811-130	1	70-130%
Bromoform	Standard	20.0	20.9	µg/L	104%		9811-131	1	80-120%
Bromoform	Standard	40.0	37.6	µg/L	94%		9811-132	1	80-120%
Chloroform	Duplicate	6.0	6.8	µg/L		12.5%	9810-370	1	
Chloroform	Matrix Spike	40.0	38.9	µg/L	97%		9810-477	1	
Chloroform	Method Blank		ND*	µg/L			9811-129	1	
Chloroform	Secondary Source Std	20.0	23.3	µg/L	117%		9811-130	1	70-130%
Chloroform	Standard	20.0	23.5	µg/L	118%		9811-131	1	80-120%
Chloroform	Standard	40.0	39.0	µg/L	97%		9811-132	1	80-120%
Dibromochloromethane	Duplicate	24.7	25.7	µg/L		4.0%	9810-370	1	
Dibromochloromethane	Matrix Spike	40.0	37.7	µg/L	94%		9810-477	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9811-129	1	
Dibromochloromethane	Secondary Source Std	20.0	22.3	µg/L	112%		9811-130	1	70-130%
Dibromochloromethane	Standard	20.0	23.0	µg/L	115%		9811-131	1	80-120%
Dibromochloromethane	Standard	40.0	44.4	µg/L	111%		9811-132	1	80-120%

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

QC Batch ID: 0-263-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	2.1	2.2	µg/L		4.7%	9811-48	1		
Bromodichloromethane	Matrix Spike	40.0	40.9	µg/L	102%		9811-83	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9811-289	1		
Bromodichloromethane	Secondary Source Std	20.0	22.1	µg/L	111%		9811-290	1	70-130%	
Bromodichloromethane	Standard	20.0	21.9	µg/L	110%		9811-291	1	80-120%	
Bromodichloromethane	Standard	20.0	21.6	µg/L	108%		9811-291	1	80-120%	
Bromodichloromethane	Standard	40.0	39.1	µg/L	98%		9811-292	1	80-120%	
Bromoform	Duplicate	18.9	20.2	µg/L		6.6%	9811-48	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromoform	Matrix Spike	40.0	37.7	µg/L	94%		9811-83	1	
Bromoform	Method Blank		ND*	µg/L			9811-289	1	
Bromoform	Secondary Source Std	20.0	19.8	µg/L	99%		9811-290	1	70-130%
Bromoform	Standard	20.0	21.8	µg/L	109%		9811-291	1	80-120%
Bromoform	Standard	20.0	18.8	µg/L	94%		9811-291	1	80-120%
Bromoform	Standard	40.0	38.4	µg/L	96%		9811-292	1	80-120%
Chloroform	Duplicate	ND	ND	µg/L		NA	9811-48	1	
Chloroform	Matrix Spike	40.0	42.6	µg/L	106%		9811-83	1	
Chloroform	Method Blank		ND*	µg/L			9811-289	1	
Chloroform	Secondary Source Std	20.0	22.2	µg/L	111%		9811-290	1	70-130%
Chloroform	Standard	20.0	21.1	µg/L	106%		9811-291	1	80-120%
Chloroform	Standard	20.0	21.6	µg/L	108%		9811-291	1	80-120%
Chloroform	Standard	40.0	39.8	µg/L	99%		9811-292	1	80-120%
Dibromochloromethane	Duplicate	10.5	11.0	µg/L		4.7%	9811-48	1	
Dibromochloromethane	Matrix Spike	40.0	39.2	µg/L	98%		9811-83	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9811-289	1	
Dibromochloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9811-290	1	70-130%
Dibromochloromethane	Standard	20.0	22.3	µg/L	112%		9811-291	1	80-120%
Dibromochloromethane	Standard	20.0	21.4	µg/L	107%		9811-291	1	80-120%
Dibromochloromethane	Standard	40.0	39.9	µg/L	100%		9811-292	1	80-120%

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

QC Batch ID: 0-266-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromodichloromethane	Duplicate	13.7	13.7	µg/L		0.0%	9811-111	1		
Bromodichloromethane	Matrix Spike	40.0	38.4	µg/L	96%		9810-480	1		
Bromodichloromethane	Method Blank		ND*	µg/L			9811-323	1		
Bromodichloromethane	Secondary Source Std	20.0	22.2	µg/L	111%		9811-324	1	70-130%	
Bromodichloromethane	Standard	20.0	22.1	µg/L	111%		9811-325	1	80-120%	
Bromodichloromethane	Standard	20.0	22.0	µg/L	110%		9811-325	1	80-120%	
Bromodichloromethane	Standard	40.0	39.3	µg/L	98%		9811-326	1	80-120%	
Bromoform	Duplicate	38.8	40.8	µg/L		5.0%	9811-111	1		
Bromoform	Matrix Spike	40.0	42.5	µg/L	106%		9810-480	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromoform	Method Blank		ND*	µg/L			9811-323	1	
Bromoform	Secondary Source Std	20.0	20.2	µg/L	101%		9811-324	1	70-130%
Bromoform	Standard	20.0	21.9	µg/L	110%		9811-325	1	80-120%
Bromoform	Standard	20.0	20.9	µg/L	104%		9811-325	1	80-120%
Bromoform	Standard	40.0	38.3	µg/L	96%		9811-326	1	80-120%
Chloroform	Duplicate	2.3	2.3	µg/L		0.0%	9811-111	1	
Chloroform	Matrix Spike	40.0	39.8	µg/L	99%		9810-480	1	
Chloroform	Method Blank		ND*	µg/L			9811-323	1	
Chloroform	Secondary Source Std	20.0	22.6	µg/L	113%		9811-324	1	70-130%
Chloroform	Standard	20.0	21.5	µg/L	108%		9811-325	1	80-120%
Chloroform	Standard	20.0	21.8	µg/L	109%		9811-325	1	80-120%
Chloroform	Standard	40.0	40.1	µg/L	100%		9811-326	1	80-120%
Dibromochloromethane	Duplicate	40.7	40.6	µg/L		0.2%	9811-111	1	
Dibromochloromethane	Matrix Spike	40.0	37.5	µg/L	94%		9810-480	1	
Dibromochloromethane	Method Blank		ND*	µg/L			9811-323	1	
Dibromochloromethane	Secondary Source Std	20.0	21.4	µg/L	107%		9811-324	1	70-130%
Dibromochloromethane	Standard	20.0	22.3	µg/L	112%		9811-325	1	80-120%
Dibromochloromethane	Standard	20.0	22.2	µg/L	111%		9811-325	1	80-120%
Dibromochloromethane	Standard	40.0	39.7	µg/L	99%		9811-326	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-247-0

QC Type		Spike	Recovery	Unit	Yield	RPD	S&H ID	MRL	Acceptance Criteria Range	RPD
Bromochloroacetic acid	Duplicate	3.1	3.0	µg/L		3.3%	9810-216	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.9	µg/L	100%		9810-17	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-420	1		
Bromochloroacetic acid	Secondary Source Std	20.0	21.4	µg/L	107%		9810-421	1	70-130%	
Bromochloroacetic acid	Standard	20.0	19.6	µg/L	98%		9810-422	1	80-120%	
Bromochloroacetic acid	Standard	20.0	19.6	µg/L	98%		9810-422	1	80-120%	
Bromochloroacetic acid	Standard	40.0	40.4	µg/L	101%		9810-423	1	80-120%	
Bromodichloroacetic acid	Duplicate	3.3	2.9	µg/L		12.9%	9810-216	1		
Bromodichloroacetic acid	Matrix Spike	40.0	45.7	µg/L	114%		9810-17	1		
Bromodichloroacetic acid	Method Blank		ND*	µg/L			9810-420	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloroacetic acid	Secondary Source Std		ND µg/L			9810-421	1	70-130%
Bromodichloroacetic acid	Standard	20.0	18.1 µg/L	91%		9810-422	1	80-120%
Bromodichloroacetic acid	Standard	20.0	17.2 µg/L	86%		9810-422	1	80-120%
Bromodichloroacetic acid	Standard	40.0	41.1 µg/L	103%		9810-423	1	80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-216	2	
Chlorodibromoacetic acid	Matrix Spike	40.0	43.7 µg/L	109%		9810-17	2	
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9810-420	2	
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L			9810-421	2	70-130%
Chlorodibromoacetic acid	Standard	20.0	17.2 µg/L	86%		9810-422	2	80-120%
Chlorodibromoacetic acid	Standard	20.0	16.0 µg/L	80%		9810-422	2	80-120%
Chlorodibromoacetic acid	Standard	40.0	41.1 µg/L	103%		9810-423	2	80-120%
Dibromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-216	1	
Dibromoacetic acid	Matrix Spike	40.0	40.3 µg/L	101%		9810-17	1	
Dibromoacetic acid	Method Blank		ND* µg/L			9810-420	1	
Dibromoacetic acid	Secondary Source Std	20.0	22.2 µg/L	111%		9810-421	1	70-130%
Dibromoacetic acid	Standard	20.0	19.4 µg/L	97%		9810-422	1	80-120%
Dibromoacetic acid	Standard	20.0	19.2 µg/L	96%		9810-422	1	80-120%
Dibromoacetic acid	Standard	40.0	40.4 µg/L	101%		9810-423	1	80-120%
Dichloroacetic acid	Duplicate	11.5	11.3 µg/L		1.8%	9810-216	1	
Dichloroacetic acid	Matrix Spike	40.0	39.0 µg/L	97%		9810-17	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9810-420	1	
Dichloroacetic acid	Secondary Source Std	20.0	22.2 µg/L	111%		9810-421	1	70-130%
Dichloroacetic acid	Standard	20.0	19.4 µg/L	97%		9810-422	1	80-120%
Dichloroacetic acid	Standard	20.0	19.8 µg/L	99%		9810-422	1	80-120%
Dichloroacetic acid	Standard	40.0	38.9 µg/L	97%		9810-423	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-216	1	
Monobromoacetic acid	Matrix Spike	40.0	39.8 µg/L	99%		9810-17	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9810-420	1	
Monobromoacetic acid	Secondary Source Std	20.0	22.8 µg/L	114%		9810-421	1	70-130%
Monobromoacetic acid	Standard	20.0	20.4 µg/L	102%		9810-422	1	80-120%
Monobromoacetic acid	Standard	20.0	20.5 µg/L	102%		9810-422	1	80-120%
Monobromoacetic acid	Standard	40.0	39.5 µg/L	99%		9810-423	1	80-120%

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-216	2	
Monochloroacetic acid	Matrix Spike	40.0	38.5	µg/L	96%		9810-17	2	
Monochloroacetic acid	Method Blank		ND*	µg/L			9810-420	2	
Monochloroacetic acid	Secondary Source Std	20.0	22.9	µg/L	115%		9810-421	2	70-130%
Monochloroacetic acid	Standard	20.0	21.6	µg/L	108%		9810-422	2	80-120%
Monochloroacetic acid	Standard	20.0	19.9	µg/L	99%		9810-422	2	80-120%
Monochloroacetic acid	Standard	40.0	39.5	µg/L	99%		9810-423	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L		NA	9810-216	4	
Tribromoacetic acid	Matrix Spike	40.0	44.0	µg/L	110%		9810-17	4	
Tribromoacetic acid	Method Blank		ND*	µg/L			9810-420	4	
Tribromoacetic acid	Secondary Source Std		ND	µg/L			9810-421	4	70-130%
Tribromoacetic acid	Standard	20.0	17.7	µg/L	89%		9810-422	4	80-120%
Tribromoacetic acid	Standard	20.0	16.0	µg/L	80%		9810-422	4	80-120%
Tribromoacetic acid	Standard	40.0	40.5	µg/L	101%		9810-423	4	80-120%
Trichloroacetic acid	Duplicate	12.8	11.5	µg/L		10.7%	9810-216	1	
Trichloroacetic acid	Matrix Spike	40.0	44.0	µg/L	110%		9810-17	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9810-420	1	
Trichloroacetic acid	Secondary Source Std	20.0	22.8	µg/L	114%		9810-421	1	70-130%
Trichloroacetic acid	Standard	20.0	19.1	µg/L	96%		9810-422	1	80-120%
Trichloroacetic acid	Standard	20.0	19.0	µg/L	95%		9810-422	1	80-120%
Trichloroacetic acid	Standard	40.0	40.6	µg/L	102%		9810-423	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-248-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-182	1		
Bromochloroacetic acid	Matrix Spike	40.0	37.8	µg/L	94%		9810-294	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-454	1		
Bromochloroacetic acid	Secondary Source Std	20.0	19.1	µg/L	96%		9810-455	1	70-130%	
Bromochloroacetic acid	Standard	20.0	20.3	µg/L	102%		9810-456	1	80-120%	
Bromochloroacetic acid	Standard	20.0	20.3	µg/L	102%		9810-456	1	80-120%	
Bromochloroacetic acid	Standard	40.0	40.0	µg/L	100%		9810-457	1	80-120%	
Bromodichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-182	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromodichloroacetic acid	Matrix Spike	40.0	36.9 µg/L	92%		9810-294	1
Bromodichloroacetic acid	Method Blank		ND* µg/L			9810-454	1
Bromodichloroacetic acid	Secondary Source Std		ND µg/L			9810-455	1 70-130%
Bromodichloroacetic acid	Standard	20.0	23.7 µg/L	119%		9810-456	1 80-120%
Bromodichloroacetic acid	Standard	20.0	23.3 µg/L	117%		9810-456	1 80-120%
Bromodichloroacetic acid	Standard	40.0	39.9 µg/L	100%		9810-457	1 80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	2
Chlorodibromoacetic acid	Matrix Spike	40.0	36.6 µg/L	92%		9810-294	2
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9810-454	2
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L			9810-455	2 70-130%
Chlorodibromoacetic acid	Standard	20.0	23.7 µg/L	119%		9810-456	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	23.5 µg/L	118%		9810-456	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	40.9 µg/L	102%		9810-457	2 80-120%
Dibromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	1
Dibromoacetic acid	Matrix Spike	40.0	37.3 µg/L	93%		9810-294	1
Dibromoacetic acid	Method Blank		ND* µg/L			9810-454	1
Dibromoacetic acid	Secondary Source Std	20.0	19.4 µg/L	97%		9810-455	1 70-130%
Dibromoacetic acid	Standard	20.0	21.2 µg/L	106%		9810-456	1 80-120%
Dibromoacetic acid	Standard	20.0	21.0 µg/L	105%		9810-456	1 80-120%
Dibromoacetic acid	Standard	40.0	39.5 µg/L	99%		9810-457	1 80-120%
Dichloroacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	1
Dichloroacetic acid	Matrix Spike	40.0	38.4 µg/L	96%		9810-294	1
Dichloroacetic acid	Method Blank		ND* µg/L			9810-454	1
Dichloroacetic acid	Secondary Source Std	20.0	20.2 µg/L	101%		9810-455	1 70-130%
Dichloroacetic acid	Standard	20.0	19.6 µg/L	98%		9810-456	1 80-120%
Dichloroacetic acid	Standard	20.0	19.9 µg/L	99%		9810-456	1 80-120%
Dichloroacetic acid	Standard	40.0	39.7 µg/L	99%		9810-457	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	1
Monobromoacetic acid	Matrix Spike	40.0	39.5 µg/L	99%		9810-294	1
Monobromoacetic acid	Method Blank		ND* µg/L			9810-454	1
Monobromoacetic acid	Secondary Source Std	20.0	19.2 µg/L	96%		9810-455	1 70-130%
Monobromoacetic acid	Standard	20.0	18.4 µg/L	92%		9810-456	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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monobromoacetic acid	Standard	20.0	18.3 µg/L	92%		9810-456	1	80-120%
Monobromoacetic acid	Standard	40.0	40.7 µg/L	102%		9810-457	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	2	
Monochloroacetic acid	Matrix Spike	40.0	37.4 µg/L	93%		9810-294	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9810-454	2	
Monochloroacetic acid	Secondary Source Std	20.0	17.7 µg/L	89%		9810-455	2	70-130%
Monochloroacetic acid	Standard	20.0	18.5 µg/L	93%		9810-456	2	80-120%
Monochloroacetic acid	Standard	20.0	17.7 µg/L	89%		9810-456	2	80-120%
Monochloroacetic acid	Standard	40.0	37.1 µg/L	93%		9810-457	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	4	
Tribromoacetic acid	Matrix Spike	40.0	37.5 µg/L	94%		9810-294	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9810-454	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9810-455	4	70-130%
Tribromoacetic acid	Standard	20.0	23.6 µg/L	118%		9810-456	4	80-120%
Tribromoacetic acid	Standard	20.0	23.1 µg/L	116%		9810-456	4	80-120%
Tribromoacetic acid	Standard	40.0	41.3 µg/L	103%		9810-457	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9810-182	1	
Trichloroacetic acid	Matrix Spike	40.0	35.9 µg/L	90%		9810-294	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9810-454	1	
Trichloroacetic acid	Secondary Source Std	20.0	19.2 µg/L	96%		9810-455	1	70-130%
Trichloroacetic acid	Standard	20.0	22.9 µg/L	115%		9810-456	1	80-120%
Trichloroacetic acid	Standard	20.0	22.8 µg/L	114%		9810-456	1	80-120%
Trichloroacetic acid	Standard	40.0	38.2 µg/L	96%		9810-457	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-255-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	2.8	2.4	µg/L		15.4%	9810-320	1		
Bromochloroacetic acid	Matrix Spike	40.0	35.9	µg/L	90%		9810-328	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9810-504	1		
Bromochloroacetic acid	Secondary Source Std	20.0	19.7	µg/L	98%		9810-505	1	70-130%	
Bromochloroacetic acid	Standard	20.0	21.7	µg/L	109%		9810-506	1	80-120%	
Bromochloroacetic acid	Standard	20.0	21.2	µg/L	106%		9810-506	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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromochloroacetic acid	Standard	40.0	39.4 µg/L	98%		9810-507	1	80-120%
Bromodichloroacetic acid	Duplicate	1.2	1.1 µg/L		8.7%	9810-320	1	
Bromodichloroacetic acid	Matrix Spike	40.0	32.5 µg/L	81%		9810-328	1	
Bromodichloroacetic acid	Method Blank		ND* µg/L			9810-504	1	
Bromodichloroacetic acid	Secondary Source Std		ND µg/L			9810-505	1	70-130%
Bromodichloroacetic acid	Standard	20.0	20.6 µg/L	103%		9810-506	1	80-120%
Bromodichloroacetic acid	Standard	20.0	21.9 µg/L	110%		9810-506	1	80-120%
Bromodichloroacetic acid	Standard	40.0	38.7 µg/L	97%		9810-507	1	80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-320	2	
Chlorodibromoacetic acid	Matrix Spike	40.0	32.1 µg/L	80%		9810-328	2	
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9810-504	2	
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L			9810-505	2	70-130%
Chlorodibromoacetic acid	Standard	20.0	19.9 µg/L	99%		9810-506	2	80-120%
Chlorodibromoacetic acid	Standard	20.0	22.1 µg/L	111%		9810-506	2	80-120%
Chlorodibromoacetic acid	Standard	40.0	37.7 µg/L	94%		9810-507	2	80-120%
Dibromoacetic acid	Duplicate	4.4	3.8 µg/L		14.6%	9810-320	1	
Dibromoacetic acid	Matrix Spike	40.0	33.4 µg/L	83%		9810-328	1	
Dibromoacetic acid	Method Blank		ND* µg/L			9810-504	1	
Dibromoacetic acid	Secondary Source Std	20.0	20.1 µg/L	101%		9810-505	1	70-130%
Dibromoacetic acid	Standard	20.0	22.4 µg/L	112%		9810-506	1	80-120%
Dibromoacetic acid	Standard	20.0	21.3 µg/L	106%		9810-506	1	80-120%
Dibromoacetic acid	Standard	40.0	39.5 µg/L	99%		9810-507	1	80-120%
Dichloroacetic acid	Duplicate	1.2	1.3 µg/L		8.0%	9810-320	1	
Dichloroacetic acid	Matrix Spike	40.0	36.3 µg/L	91%		9810-328	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9810-504	1	
Dichloroacetic acid	Secondary Source Std	20.0	21.0 µg/L	105%		9810-505	1	70-130%
Dichloroacetic acid	Standard	20.0	22.7 µg/L	114%		9810-506	1	80-120%
Dichloroacetic acid	Standard	20.0	20.7 µg/L	103%		9810-506	1	80-120%
Dichloroacetic acid	Standard	40.0	39.3 µg/L	98%		9810-507	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-320	1	
Monobromoacetic acid	Matrix Spike	40.0	41.6 µg/L	104%		9810-328	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9810-504	1	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monobromoacetic acid	Secondary Source Std	20.0	20.1 µg/L	101%		9810-505	1	70-130%
Monobromoacetic acid	Standard	20.0	20.6 µg/L	103%		9810-506	1	80-120%
Monobromoacetic acid	Standard	20.0	20.3 µg/L	102%		9810-506	1	80-120%
Monobromoacetic acid	Standard	40.0	39.3 µg/L	98%		9810-507	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9810-320	2	
Monochloroacetic acid	Matrix Spike	40.0	42.4 µg/L	106%		9810-328	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9810-504	2	
Monochloroacetic acid	Secondary Source Std	20.0	22.3 µg/L	112%		9810-505	2	70-130%
Monochloroacetic acid	Standard	20.0	21.9 µg/L	110%		9810-506	2	80-120%
Monochloroacetic acid	Standard	20.0	21.0 µg/L	105%		9810-506	2	80-120%
Monochloroacetic acid	Standard	40.0	39.4 µg/L	98%		9810-507	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-320	4	
Tribromoacetic acid	Matrix Spike	40.0	30.3 µg/L	76%		9810-328	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9810-504	4	
Tribromoacetic acid	Secondary Source Std		ND µg/L			9810-505	4	70-130%
Tribromoacetic acid	Standard	20.0	19.3 µg/L	97%		9810-506	4	80-120%
Tribromoacetic acid	Standard	20.0	21.0 µg/L	105%		9810-506	4	80-120%
Tribromoacetic acid	Standard	40.0	36.9 µg/L	92%		9810-507	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9810-320	1	
Trichloroacetic acid	Matrix Spike	40.0	31.9 µg/L	80%		9810-328	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9810-504	1	
Trichloroacetic acid	Secondary Source Std	20.0	20.9 µg/L	104%		9810-505	1	70-130%
Trichloroacetic acid	Standard	20.0	21.6 µg/L	108%		9810-506	1	80-120%
Trichloroacetic acid	Standard	20.0	21.7 µg/L	109%		9810-506	1	80-120%
Trichloroacetic acid	Standard	40.0	39.0 µg/L	97%		9810-507	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-260-0

								Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	5.4	4.1	µg/L		27.4%	9810-368	1		
Bromochloroacetic acid	Matrix Spike	40.0	46.2	µg/L	116%		9810-386	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9811-23	1		
Bromochloroacetic acid	Secondary Source Std	20.0	21.3	µg/L	106%		9811-24	1	70-130%	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromochloroacetic acid	Standard	20.0	20.9 µg/L	104%		9811-25	1	80-120%
Bromochloroacetic acid	Standard	20.0	20.8 µg/L	104%		9811-25	1	80-120%
Bromochloroacetic acid	Standard	40.0	39.5 µg/L	99%		9811-26	1	80-120%
Bromodichloroacetic acid	Duplicate	1.8	1.6 µg/L		11.8%	9810-368	1	
Bromodichloroacetic acid	Matrix Spike	40.0	45.3 µg/L	113%		9810-386	1	
Bromodichloroacetic acid	Method Blank		ND* µg/L			9811-23	1	
Bromodichloroacetic acid	Secondary Source Std		ND µg/L			9811-24	1	70-130%
Bromodichloroacetic acid	Standard	20.0	21.2 µg/L	106%		9811-25	1	80-120%
Bromodichloroacetic acid	Standard	20.0	22.2 µg/L	111%		9811-25	1	80-120%
Bromodichloroacetic acid	Standard	40.0	40.7 µg/L	102%		9811-26	1	80-120%
Chlorodibromoacetic acid	Duplicate	2.2	2.1 µg/L		4.7%	9810-368	2	
Chlorodibromoacetic acid	Matrix Spike	40.0	47.2 µg/L	118%		9810-386	2	
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9811-23	2	
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L			9811-24	2	70-130%
Chlorodibromoacetic acid	Standard	20.0	21.1 µg/L	106%		9811-25	2	80-120%
Chlorodibromoacetic acid	Standard	20.0	22.0 µg/L	110%		9811-25	2	80-120%
Chlorodibromoacetic acid	Standard	40.0	41.8 µg/L	104%		9811-26	2	80-120%
Dibromoacetic acid	Duplicate	7.2	6.2 µg/L		14.9%	9810-368	1	
Dibromoacetic acid	Matrix Spike	40.0	42.9 µg/L	107%		9810-386	1	
Dibromoacetic acid	Method Blank		ND* µg/L			9811-23	1	
Dibromoacetic acid	Secondary Source Std	20.0	22.7 µg/L	114%		9811-24	1	70-130%
Dibromoacetic acid	Standard	20.0	21.4 µg/L	107%		9811-25	1	80-120%
Dibromoacetic acid	Standard	20.0	21.4 µg/L	107%		9811-25	1	80-120%
Dibromoacetic acid	Standard	40.0	39.5 µg/L	99%		9811-26	1	80-120%
Dichloroacetic acid	Duplicate	2.7	1.9 µg/L		34.8%	9810-368	1	
Dichloroacetic acid	Matrix Spike	40.0	42.5 µg/L	106%		9810-386	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9811-23	1	
Dichloroacetic acid	Secondary Source Std	20.0	20.4 µg/L	102%		9811-24	1	70-130%
Dichloroacetic acid	Standard	20.0	21.1 µg/L	106%		9811-25	1	80-120%
Dichloroacetic acid	Standard	20.0	20.7 µg/L	103%		9811-25	1	80-120%
Dichloroacetic acid	Standard	40.0	39.5 µg/L	99%		9811-26	1	80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9810-368	1	
Monobromoacetic acid	Matrix Spike	40.0	40.3 µg/L	101%		9810-386	1	

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monobromoacetic acid	Method Blank		ND*	µg/L			9811-23	1	
Monobromoacetic acid	Secondary Source Std	20.0	21.2	µg/L	106%		9811-24	1	70-130%
Monobromoacetic acid	Standard	20.0	20.8	µg/L	104%		9811-25	1	80-120%
Monobromoacetic acid	Standard	20.0	20.6	µg/L	103%		9811-25	1	80-120%
Monobromoacetic acid	Standard	40.0	39.0	µg/L	97%		9811-26	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-368	2	
Monochloroacetic acid	Matrix Spike	40.0	38.2	µg/L	96%		9810-386	2	
Monochloroacetic acid	Method Blank		ND*	µg/L			9811-23	2	
Monochloroacetic acid	Secondary Source Std	20.0	21.4	µg/L	107%		9811-24	2	70-130%
Monochloroacetic acid	Standard	20.0	19.1	µg/L	96%		9811-25	2	80-120%
Monochloroacetic acid	Standard	20.0	21.4	µg/L	107%		9811-25	2	80-120%
Monochloroacetic acid	Standard	40.0	40.4	µg/L	101%		9811-26	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND	µg/L		NA	9810-368	4	
Tribromoacetic acid	Matrix Spike	40.0	48.4	µg/L	121%		9810-386	4	
Tribromoacetic acid	Method Blank		ND*	µg/L			9811-23	4	
Tribromoacetic acid	Secondary Source Std		ND	µg/L			9811-24	4	70-130%
Tribromoacetic acid	Standard	20.0	21.0	µg/L	105%		9811-25	4	80-120%
Tribromoacetic acid	Standard	20.0	23.9	µg/L	119%		9811-25	4	80-120%
Tribromoacetic acid	Standard	40.0	42.6	µg/L	106%		9811-26	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9810-368	1	
Trichloroacetic acid	Matrix Spike	40.0	47.2	µg/L	118%		9810-386	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9811-23	1	
Trichloroacetic acid	Secondary Source Std	20.0	23.2	µg/L	116%		9811-24	1	70-130%
Trichloroacetic acid	Standard	20.0	21.1	µg/L	106%		9811-25	1	80-120%
Trichloroacetic acid	Standard	20.0	21.5	µg/L	108%		9811-25	1	80-120%
Trichloroacetic acid	Standard	40.0	39.1	µg/L	98%		9811-26	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-262-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	3.9	3.4	µg/L		13.7%	9811-50	1		
Bromochloroacetic acid	Matrix Spike	40.0	39.9	µg/L	100%		9811-85	1		
Bromochloroacetic acid	Method Blank		ND*	µg/L			9811-270	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromochloroacetic acid	Secondary Source Std	20.0	22.2 µg/L	111%		9811-271	1	70-130%
Bromochloroacetic acid	Standard	20.0	19.8 µg/L	99%		9811-272	1	80-120%
Bromochloroacetic acid	Standard	20.0	20.1 µg/L	101%		9811-272	1	80-120%
Bromochloroacetic acid	Standard	40.0	39.5 µg/L	99%		9811-273	1	80-120%
Bromodichloroacetic acid	Duplicate	1.6	1.5 µg/L		6.5%	9811-50	1	
Bromodichloroacetic acid	Matrix Spike	40.0	44.5 µg/L	111%		9811-85	1	
Bromodichloroacetic acid	Method Blank		ND* µg/L			9811-270	1	
Bromodichloroacetic acid	Secondary Source Std		ND µg/L			9811-271	1	70-130%
Bromodichloroacetic acid	Standard	20.0	21.7 µg/L	109%		9811-272	1	80-120%
Bromodichloroacetic acid	Standard	20.0	22.0 µg/L	110%		9811-272	1	80-120%
Bromodichloroacetic acid	Standard	40.0	42.4 µg/L	106%		9811-273	1	80-120%
Chlorodibromoacetic acid	Duplicate	2.6	2.1 µg/L		21.3%	9811-50	2	
Chlorodibromoacetic acid	Matrix Spike	40.0	45.1 µg/L	113%		9811-85	2	
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9811-270	2	
Chlorodibromoacetic acid	Secondary Source Std		ND µg/L			9811-271	2	70-130%
Chlorodibromoacetic acid	Standard	20.0	22.9 µg/L	115%		9811-272	2	80-120%
Chlorodibromoacetic acid	Standard	20.0	22.8 µg/L	114%		9811-272	2	80-120%
Chlorodibromoacetic acid	Standard	40.0	44.3 µg/L	111%		9811-273	2	80-120%
Dibromoacetic acid	Duplicate	9.2	7.6 µg/L		19.0%	9811-50	1	
Dibromoacetic acid	Matrix Spike	40.0	40.3 µg/L	101%		9811-85	1	
Dibromoacetic acid	Method Blank		ND* µg/L			9811-270	1	
Dibromoacetic acid	Secondary Source Std	20.0	22.8 µg/L	114%		9811-271	1	70-130%
Dibromoacetic acid	Standard	20.0	20.0 µg/L	100%		9811-272	1	80-120%
Dibromoacetic acid	Standard	20.0	20.5 µg/L	102%		9811-272	1	80-120%
Dibromoacetic acid	Standard	40.0	40.8 µg/L	102%		9811-273	1	80-120%
Dichloroacetic acid	Duplicate	2.4	2.3 µg/L		4.3%	9811-50	1	
Dichloroacetic acid	Matrix Spike	40.0	40.0 µg/L	100%		9811-85	1	
Dichloroacetic acid	Method Blank		ND* µg/L			9811-270	1	
Dichloroacetic acid	Secondary Source Std	20.0	23.0 µg/L	115%		9811-271	1	70-130%
Dichloroacetic acid	Standard	20.0	19.6 µg/L	98%		9811-272	1	80-120%
Dichloroacetic acid	Standard	20.0	20.2 µg/L	101%		9811-272	1	80-120%
Dichloroacetic acid	Standard	40.0	38.4 µg/L	96%		9811-273	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

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monobromoacetic acid	Duplicate	ND	ND	µg/L		NA	9811-50	1	
Monobromoacetic acid	Matrix Spike	40.0	38.2	µg/L	96%		9811-85	1	
Monobromoacetic acid	Method Blank		ND*	µg/L			9811-270	1	
Monobromoacetic acid	Secondary Source Std	20.0	23.1	µg/L	116%		9811-271	1	70-130%
Monobromoacetic acid	Standard	20.0	21.2	µg/L	106%		9811-272	1	80-120%
Monobromoacetic acid	Standard	20.0	21.7	µg/L	109%		9811-272	1	80-120%
Monobromoacetic acid	Standard	40.0	37.6	µg/L	94%		9811-273	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9811-50	2	
Monochloroacetic acid	Matrix Spike	40.0	40.7	µg/L	102%		9811-85	2	
Monochloroacetic acid	Method Blank		ND*	µg/L			9811-270	2	
Monochloroacetic acid	Secondary Source Std	20.0	22.8	µg/L	114%		9811-271	2	70-130%
Monochloroacetic acid	Standard	20.0	22.0	µg/L	110%		9811-272	2	80-120%
Monochloroacetic acid	Standard	20.0	21.7	µg/L	109%		9811-272	2	80-120%
Monochloroacetic acid	Standard	40.0	39.2	µg/L	98%		9811-273	2	80-120%
Tribromoacetic acid	Duplicate	4.8	4.6	µg/L		4.3%	9811-50	4	
Tribromoacetic acid	Matrix Spike	40.0	45.2	µg/L	113%		9811-85	4	
Tribromoacetic acid	Method Blank		ND*	µg/L			9811-270	4	
Tribromoacetic acid	Secondary Source Std		ND	µg/L			9811-271	4	70-130%
Tribromoacetic acid	Standard	20.0	22.6	µg/L	113%		9811-272	4	80-120%
Tribromoacetic acid	Standard	20.0	23.2	µg/L	116%		9811-272	4	80-120%
Tribromoacetic acid	Standard	40.0	43.9	µg/L	110%		9811-273	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND	µg/L		NA	9811-50	1	
Trichloroacetic acid	Matrix Spike	40.0	39.7	µg/L	99%		9811-85	1	
Trichloroacetic acid	Method Blank		ND*	µg/L			9811-270	1	
Trichloroacetic acid	Secondary Source Std	20.0	21.3	µg/L	106%		9811-271	1	70-130%
Trichloroacetic acid	Standard	20.0	20.0	µg/L	100%		9811-272	1	80-120%
Trichloroacetic acid	Standard	20.0	20.0	µg/L	100%		9811-272	1	80-120%
Trichloroacetic acid	Standard	40.0	39.9	µg/L	100%		9811-273	1	80-120%

Analysis: HAA-ICR (Haloacetic Acids) **Method:** EPA 552.2

QC Batch ID: 0-265-0

									Acceptance Criteria	
QC Type		**Spike**	**Recovery**	**Unit**	**Yield**	**RPD**	**S&H ID**	**MRL**	**Range**	**RPD**
Bromochloroacetic acid	Duplicate	ND	ND	µg/L		NA	9811-161	1		

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Bromochloroacetic acid	Matrix Spike	40.0	46.9 µg/L	117%		9810-481	1
Bromochloroacetic acid	Method Blank		ND* µg/L			9811-313	1
Bromochloroacetic acid	Standard	20.0	20.0 µg/L	100%		9811-315	1 80-120%
Bromochloroacetic acid	Standard	20.0	20.2 µg/L	101%		9811-315	1 80-120%
Bromochloroacetic acid	Standard	40.0	41.3 µg/L	103%		9811-316	1 80-120%
Bromochloroacetic acid	Standard	40.0	45.6 µg/L	114%		9811-316	1 80-120%
Bromodichloroacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	1
Bromodichloroacetic acid	Matrix Spike	40.0	43.1 µg/L	108%		9810-481	1
Bromodichloroacetic acid	Method Blank		ND* µg/L			9811-313	1
Bromodichloroacetic acid	Standard	20.0	21.6 µg/L	108%		9811-315	1 80-120%
Bromodichloroacetic acid	Standard	20.0	21.3 µg/L	106%		9811-315	1 80-120%
Bromodichloroacetic acid	Standard	40.0	43.1 µg/L	108%		9811-316	1 80-120%
Bromodichloroacetic acid	Standard	40.0	42.9 µg/L	107%		9811-316	1 80-120%
Chlorodibromoacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	2
Chlorodibromoacetic acid	Matrix Spike	40.0	43.7 µg/L	109%		9810-481	2
Chlorodibromoacetic acid	Method Blank		ND* µg/L			9811-313	2
Chlorodibromoacetic acid	Standard	20.0	22.9 µg/L	115%		9811-315	2 80-120%
Chlorodibromoacetic acid	Standard	20.0	22.5 µg/L	113%		9811-315	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	44.3 µg/L	111%		9811-316	2 80-120%
Chlorodibromoacetic acid	Standard	40.0	45.1 µg/L	113%		9811-316	2 80-120%
Dibromoacetic acid	Duplicate	2.5	2.8 µg/L		11.3%	9811-161	1
Dibromoacetic acid	Matrix Spike	40.0	47.4 µg/L	119%		9810-481	1
Dibromoacetic acid	Method Blank		ND* µg/L			9811-313	1
Dibromoacetic acid	Standard	20.0	20.2 µg/L	101%		9811-315	1 80-120%
Dibromoacetic acid	Standard	20.0	20.6 µg/L	103%		9811-315	1 80-120%
Dibromoacetic acid	Standard	40.0	43.0 µg/L	108%		9811-316	1 80-120%
Dibromoacetic acid	Standard	40.0	46.3 µg/L	116%		9811-316	1 80-120%
Dichloroacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	1
Dichloroacetic acid	Matrix Spike	40.0	45.7 µg/L	114%		9810-481	1
Dichloroacetic acid	Method Blank		ND* µg/L			9811-313	1
Dichloroacetic acid	Standard	20.0	20.2 µg/L	101%		9811-315	1 80-120%
Dichloroacetic acid	Standard	20.0	20.3 µg/L	102%		9811-315	1 80-120%
Dichloroacetic acid	Standard	40.0	43.0 µg/L	108%		9811-316	1 80-120%
Dichloroacetic acid	Standard	40.0	42.1 µg/L	105%		9811-316	1 80-120%
Monobromoacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	1

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

Quality Control Report

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

Monobromoacetic acid	Matrix Spike	40.0	45.8 µg/L	115%		9810-481	1	
Monobromoacetic acid	Method Blank		ND* µg/L			9811-313	1	
Monobromoacetic acid	Standard	20.0	19.9 µg/L	99%		9811-315	1	80-120%
Monobromoacetic acid	Standard	20.0	19.7 µg/L	98%		9811-315	1	80-120%
Monobromoacetic acid	Standard	40.0	40.5 µg/L	101%		9811-316	1	80-120%
Monobromoacetic acid	Standard	40.0	40.0 µg/L	100%		9811-316	1	80-120%
Monochloroacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	2	
Monochloroacetic acid	Matrix Spike	40.0	45.6 µg/L	114%		9810-481	2	
Monochloroacetic acid	Method Blank		ND* µg/L			9811-313	2	
Monochloroacetic acid	Standard	20.0	20.0 µg/L	100%		9811-315	2	80-120%
Monochloroacetic acid	Standard	20.0	19.5 µg/L	97%		9811-315	2	80-120%
Monochloroacetic acid	Standard	40.0	38.6 µg/L	97%		9811-316	2	80-120%
Monochloroacetic acid	Standard	40.0	37.8 µg/L	94%		9811-316	2	80-120%
Tribromoacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	4	
Tribromoacetic acid	Matrix Spike	40.0	42.4 µg/L	106%		9810-481	4	
Tribromoacetic acid	Method Blank		ND* µg/L			9811-313	4	
Tribromoacetic acid	Standard	20.0	22.6 µg/L	113%		9811-315	4	80-120%
Tribromoacetic acid	Standard	20.0	22.0 µg/L	110%		9811-315	4	80-120%
Tribromoacetic acid	Standard	40.0	43.7 µg/L	109%		9811-316	4	80-120%
Tribromoacetic acid	Standard	40.0	44.9 µg/L	112%		9811-316	4	80-120%
Trichloroacetic acid	Duplicate	ND	ND µg/L		NA	9811-161	1	
Trichloroacetic acid	Matrix Spike	40.0	47.1 µg/L	118%		9810-481	1	
Trichloroacetic acid	Method Blank		ND* µg/L			9811-313	1	
Trichloroacetic acid	Standard	20.0	20.6 µg/L	103%		9811-315	1	80-120%
Trichloroacetic acid	Standard	20.0	20.4 µg/L	102%		9811-315	1	80-120%
Trichloroacetic acid	Standard	40.0	42.3 µg/L	106%		9811-316	1	80-120%
Trichloroacetic acid	Standard	40.0	44.4 µg/L	111%		9811-316	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
Phone: (513) 679-2200
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QC Results from Montgomery Watson Laboratories

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Ms. Julia Bellamy
Charleston CPW
Hanahan Water Treatment Plant
1104 Hanahan Road
Hanahan, SC 29406

Study#: 172
Study Title: ICR RSSCT #4

QC Batch ID: 86297 **Report #:** 48455, 48456

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	47.8	96.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	48.8	98.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	52.2	104.0%		(70 - 130)

QC Batch ID: 86300 **Report #:** 48455, 48456

Analysis: MG **Method:** ML/EPA 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Magnesium, Total, ICAP	20	19	95.0%		(85 - 115)
LCS2	Magnesium, Total, ICAP	20	19.3	96.0%		(85 - 115)
MBLK	Magnesium, Total, ICAP	ND	ND			
MS	Magnesium, Total, ICAP	20	20.4	102.0%		(70 - 130)

QC Batch ID: 86597 **Report #:** 48756

Analysis: CA **Method:** EPA/ML 200.7

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Calcium, Total, ICAP	50	49.1	98.0%		(85 - 115)
LCS2	Calcium, Total, ICAP	50	49.6	99.0%		(85 - 115)
MBLK	Calcium, Total, ICAP	ND	ND			
MS	Calcium, Total, ICAP	50	46.8	94.0%		(70 - 130)

QC Batch ID: 86601 **Report #:** 48756

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	19.2	96.0%		(70 - 130)

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

QC Results from Montgomery Watson Laboratories

Ms. Julia Bellamy
Charleston CPW

Study#: 172
Study Title: ICR RSSCT #4

QC Batch ID: 86614 **Report #:** 48455, 48456

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	1.02	102.0%		(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)

QC Batch ID: 86682 **Report #:** 48455

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	0.099	99.0%		(90 - 110)
MBLK	Bromide	ND	ND			(70 - 130)
MS	Bromide	0.1	0.109	109.0%		(80 - 120)
MSD	Bromide	0.1	0.11	110.0%		(80 - 120)

QC Batch ID: 86903 **Report #:** 48756

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	0.101	101.0%		(80 - 120)
MSD	Bromide	0.1	0.101	101.0%		(80 - 120)

QC Batch ID: 86973 **Report #:** 48756

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

QC	Analyte	Spike	Recovery	Yield	RPD	Acceptance Criteria Range
LCS1	Ammonia Nitrogen	1	1.04	104.0%		(80 - 120)
LCS2	Ammonia Nitrogen	1	0.98	98.0%		(80 - 120)
MBLK	Ammonia Nitrogen	ND	ND			
MS	Ammonia Nitrogen	1	0.92	92.0%		(80 - 120)
MSD	Ammonia Nitrogen	1	0.94	94.0%		(80 - 120)

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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Hanahan Water Treatment Plant
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Study#: 172
Study Title: ICR RSSCT #4

Study comments

Residuals for 3 samples, 9810-323, -326, and -344, were inadvertantly taken at 25 hours instead of at the SDS residence time of 28 hours.

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