

ICR TREATMENT STUDY ANALYSIS

Base Analysis and Data Review Comments

Treatment Study ID	1027
Study Protocol	GAC RSSCT treatment study
Plant ICR Number	709
PWS Name	City of Aurora
City, State, Zip	Aurora, IL 60505

These are general comments that do not need to be responded to directly.

Major comments:

None

General Comments:

1. The MRL for UV-254 is reported at 0.009 1/cm, but values as low as 0.001 1/cm are reported in the Data Collection Spreadsheets. The MRL for TOC is reported as 0.5 mg/L, but values as low as 0.25 are reported in Data Collection Spreadsheets. The MRL for TOX is reported as 25 ug/L, but values as low as 13 ug/L are reported in Data Collection Spreadsheets. It is acceptable to use these measured values below the MRL, but comments should be included that indicate these values are BMRL. Alternatively, the MRL could be revised if it was determined according to acceptable procedures.

Response: Values below the MRL in the Data Collection Spreadsheets are estimates. A comment indicating this has been added to the Data Collection Spreadsheets.

2. Due to limited source water seasonal variability (the source water was a mixture of groundwater and surface water), seasonal variability was evaluated during two sessions, March and September. A parallel evaluation of EBCTs of 5 and 7.5 minutes (in addition to 10 and 20) was performed during the March session. A parallel evaluation of influent pH values of 8.9 and 8.4 at 10-minute EBCT (in addition to 10- and 20-minute EBCTs at pH 9.4) was performed during the September session.
3. During the September session, a power outage caused a decrease in incubation temperature for a 12 hour period for 16 SDS samples (13 GAC effluent samples from the beginning of each of the three runs and three influent samples). A time-weighted average temperature of 11.7°C is reported (the target temperature was 20°C). Based on a comparison of the DBP

values from the three influent samples with the DBP data from the influent samples incubated at the target temperature of 20°C, it was estimated that the chlorine demand was 3.4% lower, SDS-THM4 formation was 14% lower, SDS-HAA6 formation was 6.5% lower, and SDS-TOX formation was 2.5% lower in the samples incubated at the lower temperature. Additional information can be found in Section 7.2 of the Summary Report.

4. During the 20-minute EBCT run of the September session, SDS-chlorine demand increased at the beginning of the run, but started to decrease near the end of the run. Section 8 of the Summary Report hypothesizes that this may be due to biological removal of inorganic chlorine demand (i.e., ammonia). Figure 21 in the summary report summarizes the results of inorganic chlorine demand testing conducted during this run – these results demonstrate a decrease in inorganic demand over time. This trend was not observed for the 10-minute EBCT runs or during the March sessions.
5. In Table 50 of the Summary Report, please verify the RPD data for SDS-MCAA, SDS-MBAA, and SDS-TBAA – all percentiles are zero, which is unlikely. Also, please explain why the count is 30 for some parameters. Only 24 duplicate analyses are reported in the Data Collection Spreadsheets.

Response: Due to a systematic error, QA/QC data reported in Table 50 of the Treatment Study Summary Report were incorrect. The values have been corrected, and the updated version of Table 50 has been added to the hard copy and to the electronic version (PDF) of the report.

Outlier Data:

No outlier data removed.

Cell: A1

Comment: 1027_SAS.xls 2/3/00 13:13

All curve fits reviewed and approved. See below for log of refit datasets.

Cell: C11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (CoefA0) = 1 New value = 1.4117
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K11

Comment: 1027-05-01 - Run 1 (DCBAA) 2/3/00 12:15
Original value (t0) = 0 New value = 18.6982
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (CoefA0) = 0 New value = 1.1791
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K40

Comment: 1027-10-02 - Run 3 (TCAA) 2/3/00 12:31
Original value (t0) = 0 New value = 64.6759
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C43

Comment: 1027-10-02 - Run 3 (TOX) 2/3/00 12:55
Original value (CoefA0) = -12.1796 New value = -16.4959
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D43

Comment: 1027-10-02 - Run 3 (TOX) 2/3/00 12:55
Original value (CoefAf) = 56.093 New value = 99.7092
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E43

Comment: 1027-10-02 - Run 3 (TOX) 2/3/00 12:55
Original value (CoefB) = 3.8981 New value = 4.4105
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F43

Comment: 1027-10-02 - Run 3 (TOX) 2/3/00 12:56
Original value (CoefD) = 0.0599 New value = 0.055
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J43

Comment: 1027-10-02 - Run 3 (TOX) 2/3/00 12:56
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C62

Comment: 1027-10-03 - Run 5 (TCAA) 2/3/00 12:59
Original value (CoefA0) = 1 New value = -0.5353
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: D62

Comment: 1027-10-03 - Run 5 (TCAA) 2/3/00 12:59
Original value (CoefAf) = 0 New value = 3.6722
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: E62

Comment: 1027-10-03 - Run 5 (TCAA) 2/3/00 12:59
Original value (CoefB) = 0 New value = 25.0434
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: F62

Comment: 1027-10-03 - Run 5 (TCAA) 2/3/00 12:59
Original value (CoefD) = 0 New value = 0.0804
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: J62

Comment: 1027-10-03 - Run 5 (TCAA) 2/3/00 12:59
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: C84

Comment: 1027-10-04 - Run 7 (TCAA) 2/3/00 13:00
Original value (CoefA0) = 1 New value = -0.2953
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: D84

Comment: 1027-10-04 - Run 7 (TCAA) 2/3/00 13:00
Original value (CoefAf) = 0 New value = 2.5651
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: E84

Comment: 1027-10-04 - Run 7 (TCAA) 2/3/00 13:00
Original value (CoefB) = 0 New value = 52.6384
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: F84

Comment: 1027-10-04 - Run 7 (TCAA) 2/3/00 13:00
Original value (CoefD) = 0 New value = 0.0901
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: J84

Comment: 1027-10-04 - Run 7 (TCAA) 2/3/00 13:00
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: C99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30
Original value (CoefA0) = 1 New value = 1.381
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30

Original value (CoefB) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30

Original value (CoefD) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30

Original value (S) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K99

Comment: 1027-075-01 - Run 2 (DCBAA) 2/3/00 12:30

Original value (t0) = 0 New value = 31.2733

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (CoefA0) = 0 New value = 1.1536

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (CoefAf) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (CoefB) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (CoefD) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (S) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K106

Comment: 1027-075-01 - Run 2 (TCAA) 2/3/00 12:30

Original value (t0) = 0 New value = 39.1876

Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C121

Comment: 1027-20-02 - Run 4 (DCBAA) 2/3/00 12:57

Original value (CoefA0) = 1 New value = -0.2206

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: D121

Comment: 1027-20-02 - Run 4 (DCBAA) 2/3/00 12:57

Original value (CoefAf) = 0 New value = 3.486

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: E121

Comment: 1027-20-02 - Run 4 (DCBAA) 2/3/00 12:57

Original value (CoefB) = 0 New value = 21.0487

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: F121

Comment: 1027-20-02 - Run 4 (DCBAA) 2/3/00 12:57

Original value (CoefD) = 0 New value = 0.0166

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: J121

Comment: 1027-20-02 - Run 4 (DCBAA) 2/3/00 12:57

Original value (S) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: C172

Comment: 1027-20-04 - Run 8 (TCAA) 2/3/00 13:03

Original value (CoefA0) = 1 New value = -0.3912

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: D172

Comment: 1027-20-04 - Run 8 (TCAA) 2/3/00 13:03

Original value (CoefAf) = 0 New value = 2.8602

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: E172

Comment: 1027-20-04 - Run 8 (TCAA) 2/3/00 13:03

Original value (CoefB) = 0 New value = 37.2841

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: F172

Comment: 1027-20-04 - Run 8 (TCAA) 2/3/00 13:03

Original value (CoefD) = 0 New value = 0.1023

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: J172

Comment: 1027-20-04 - Run 8 (TCAA) 2/3/00 13:03

Original value (S) = 0 New value = 0

Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

ICR Information

ID / ICR#: IL0894070 / 709
 ICR Contact: Arnold Eggleston, Superintendent of Water
 Phone No.: (630) 844-3632
 Period: 4/9/98 - 4/22/98 (13 B-S days)

Design Information

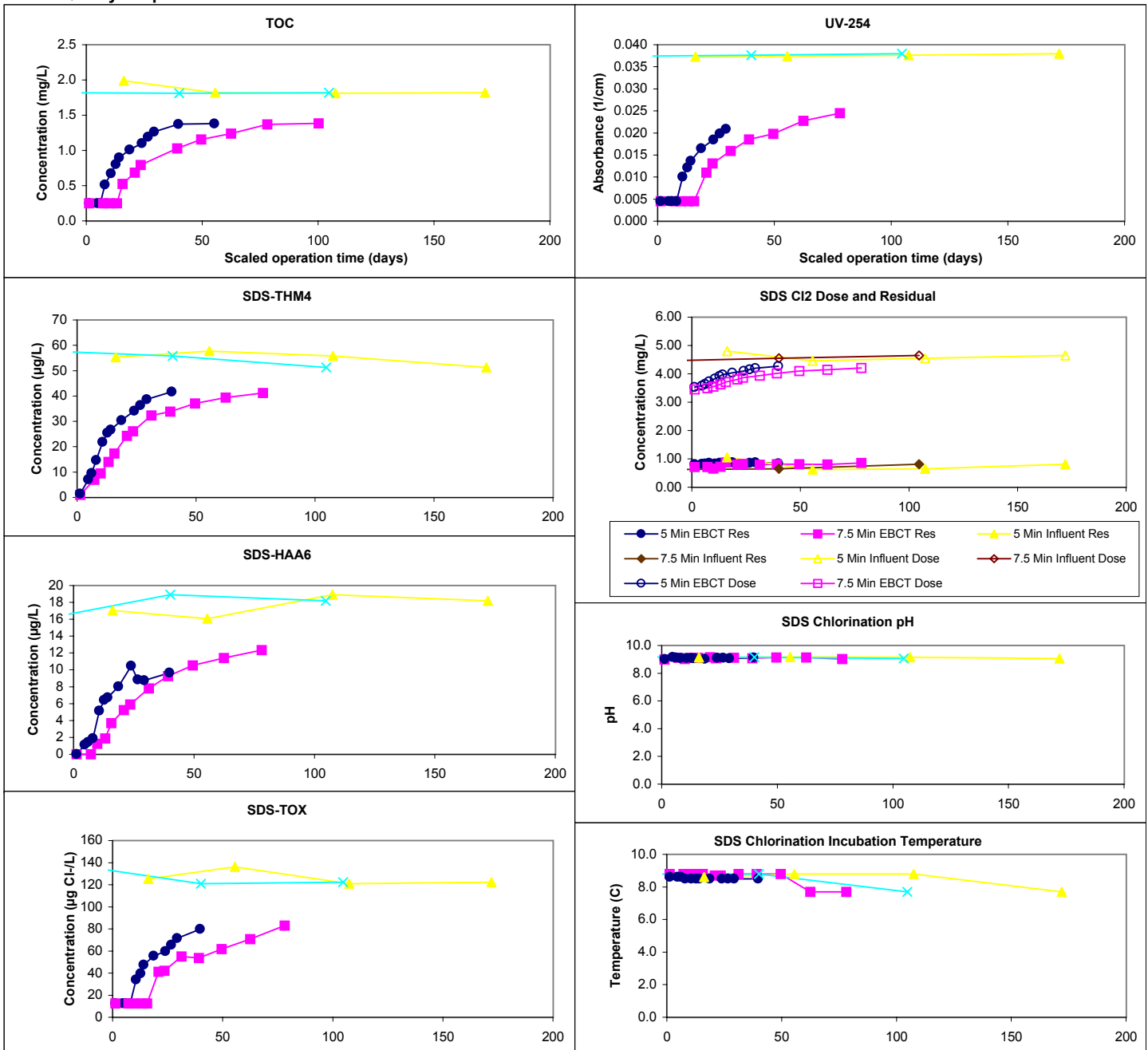
Design TOC: 2.7 mg/L
 Pipe Diameter: 11.0 mm
 Min Reynolds#: 0.40
 Full-Scale Temp: 11.0 C

Full-Scale GAC Size: 8x30 Bituminous
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 13.16
 Meas Dry Bed Density: 0.46 g/cm3

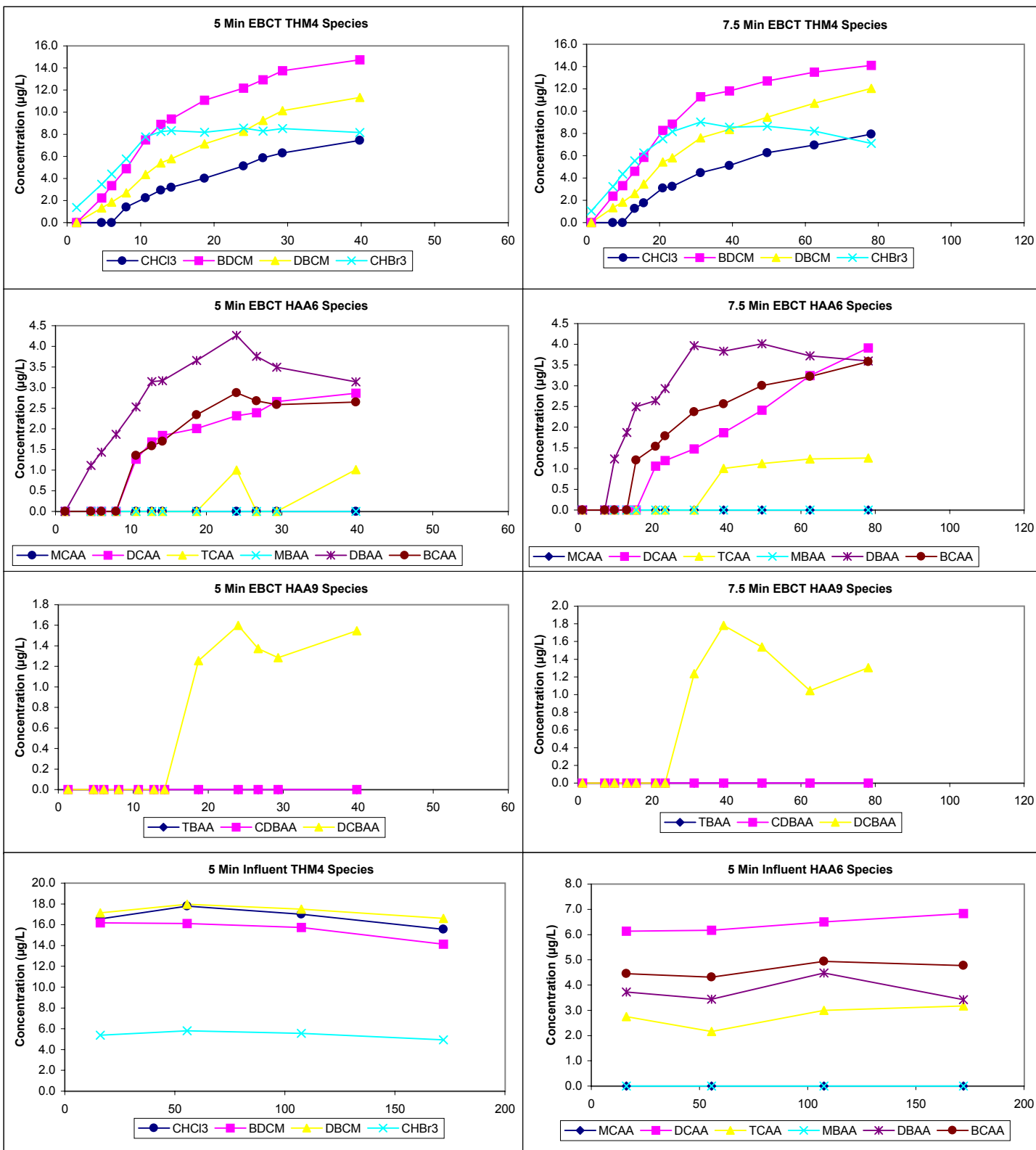
Water Quality Summary

Influent	5 Min Influent				7.5 Min Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max					
TOC	1.9	0.1	4	1.8 - 2.0	1.9	0.1	4	1.8 - 2.0					
pH	9.4	0.0	4	9.4 - 9.4	9.4	0.0	4	9.4 - 9.4	Temp	8.5	0.3	32	7.7 - 8.8
UV254	0.038	0.000	4	0.037 - 0.038	0.038	0.000	4	0.037 - 0.038	pH	9.1	0.0	32	9.0 - 9.2
SUVA	2.02	0.10	4	1.87 - 2.09	2.02	0.10	4	1.87 - 2.09	Time	24.1	0.3	32	23.6 - 24.5
Bromide	73	5	2	70 - 75	73	5	2	70 - 75	Comments:				
SDS-TOX	126	7	4	121 - 136	126	7	4	121 - 136					
SDS-THM4	55	3	4	51 - 58	55	3	4	51 - 58	<div>Chart Legend:</div> <div><div><div></div><div>5 Min EBCT</div></div><div><div></div><div>7.5 Min EBCT</div></div><div><div></div><div>5 Min Influent</div></div><div><div></div><div>7.5 Min Influent</div></div></div>				
SDS-HAA6	18	1	4	16 - 19	18	1	4	16 - 19					
Effluent	5 Min EBCT (4 B-S days)				7.5 Min EBCT (8 B-S days)								
Effluent pH	9.2	0.2	13	8.7 - 9.3	9.0	0.1	13	8.8 - 9.2					
Effluent Temp	21.7	1.0	13	20.0 - 23.1	22.2	0.8	13	20.7 - 23.0					

Water Quality Graphs



Water Quality Graphs (Continued)



Design Information

ID / ICR#: IL0894070 / 709	Design TOC: 2.7 mg/L	Full-Scale GAC Size: 8x30 Bituminous
ICR Contact: Arnold Eggleston, Superintendent of Water	Coil Diameter: 11.0 mm	Bench-Scale GAC Size: 100x200
Phone No.: (630) 844-3632	Min Reynolds#: 0.40	Scaling Factor: 13.16
Period: 3/31/98 - 4/18/98 (18 B-S days)	Full-Scale Temp: 11.0 C	Meas Dry Bed Density: 0.46 g/cm3

Cumulative SDS Conditions

Influent	Influent				Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max					
TOC	1.9	0.1	8	1.8 - 2.0						0.85	0.13	30	0.62 - 1.12
pH	9.4	0.0	8	9.4 - 9.5						8.6	0.2	30	7.7 - 8.8
UV254	0.038	0.001	6	0.037 - 0.039						9.1	0.1	30	9.0 - 9.2
SUVA	2.02	0.08	6	1.87 - 2.09						24.0	0.2	30	23.5 - 24.5
Bromide	72	8	2	68 - 76						Comments:			
SDS-TOX	127	7	5	121 - 136									
SDS-THM4	55	2	6	51 - 58									
SDS-HAA6	17	2	6	14 - 19									
Effluent	10 Min EBCT (9 B-S days)				20 Min EBCT (18 B-S days)				Chart Legend:	<div><div><div></div><div>10 Min EBCT</div></div><div><div></div><div>20 Min EBCT</div></div><div><div></div><div>Influent</div></div><div><div></div><div>Influent</div></div></div>			
Effluent pH	8.8	0.5	13	8.1 - 9.6	9.1	0.3	13	8.4 - 9.4					
Effluent Temp	22.1	0.8	13	20.8 - 22.9	21.9	0.8	13	20.8 - 23.3					

Figure 1 displays the effect of scaled operation time (days) on various parameters, comparing 10 Min EBCT and 20 Min EBCT systems. The parameters measured are TOC, UV-254, SDS-TM4, SDS-HAA6, SDS-TOX, and SDS Chlorination pH. The graphs show Concentration (mg/L or µg/L) or Absorbance (1/cm) versus Scaled operation time (days).

TOC: Concentration (mg/L) vs. Scaled operation time (days). The 10 Min EBCT system (blue circles) shows a rapid increase in TOC concentration, reaching approximately 1.4 mg/L by day 100. The 20 Min EBCT system (pink squares) shows a slower increase, reaching approximately 1.2 mg/L by day 250. The Influent Res (yellow triangles) remains relatively constant around 1.8 mg/L.

UV-254: Absorbance (1/cm) vs. Scaled operation time (days). The 10 Min EBCT system (blue circles) shows a rapid increase in UV-254 absorbance, reaching approximately 0.024 1/cm by day 100. The 20 Min EBCT system (pink squares) shows a slower increase, reaching approximately 0.022 1/cm by day 250. The Influent Res (yellow triangles) remains relatively constant around 0.038 1/cm.

SDS-TM4: Concentration (µg/L) vs. Scaled operation time (days). The 10 Min EBCT system (blue circles) shows a rapid increase in SDS-TM4 concentration, reaching approximately 45 µg/L by day 100. The 20 Min EBCT system (pink squares) shows a slower increase, reaching approximately 40 µg/L by day 250. The Influent Res (yellow triangles) remains relatively constant around 55 µg/L.

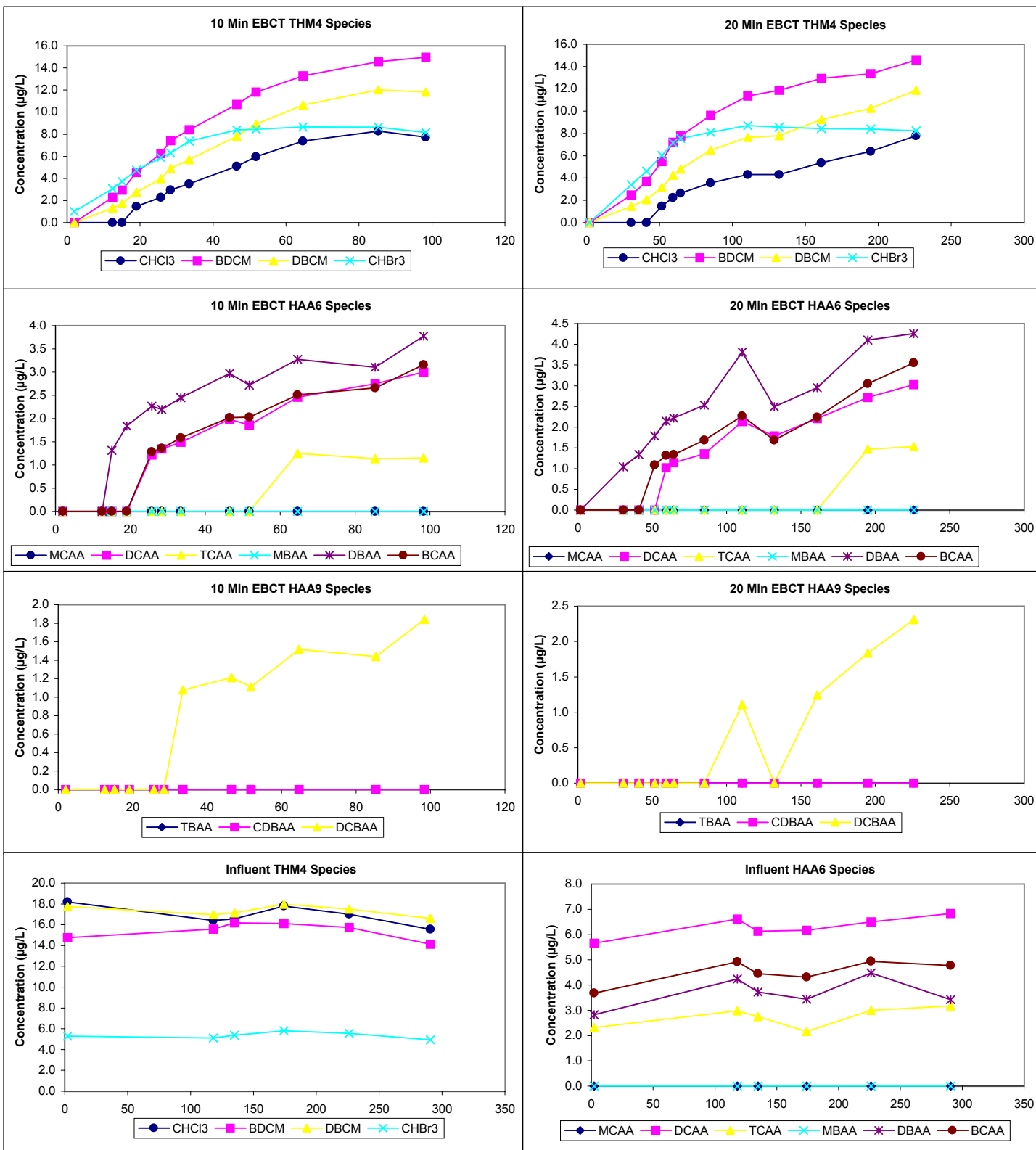
SDS-HAA6: Concentration (µg/L) vs. Scaled operation time (days). The 10 Min EBCT system (blue circles) shows a rapid increase in SDS-HAA6 concentration, reaching approximately 11 µg/L by day 100. The 20 Min EBCT system (pink squares) shows a slower increase, reaching approximately 12 µg/L by day 250. The Influent Res (yellow triangles) remains relatively constant around 14 µg/L.

SDS-TOX: Concentration (µg Cl₂/L) vs. Scaled operation time (days). The 10 Min EBCT system (blue circles) shows a rapid increase in SDS-TOX concentration, reaching approximately 80 µg Cl₂/L by day 100. The 20 Min EBCT system (pink squares) shows a slower increase, reaching approximately 65 µg Cl₂/L by day 250. The Influent Res (yellow triangles) remains relatively constant around 130 µg Cl₂/L.

SDS Chlorination pH: pH vs. Scaled operation time (days). The pH remains relatively constant around 9.0 for both systems. The Influent Res (yellow triangles) remains relatively constant around 9.0.

SDS Chlorination Incubation Temperature: Temperature (°C) vs. Scaled operation time (days). The temperature remains relatively constant around 8.5°C for both systems. The Influent Res (yellow triangles) remains relatively constant around 8.5°C.

Water Quality Graphs (Continued)



ICR Information

ID / ICR#: IL0894070 / 709
 ICR Contact: Arnold Eggleston, Superintendent of Water
 Phone No.: (630) 844-3632
 Period: 9/25/98 - 10/12/98 (16 B-S days)

Design Information

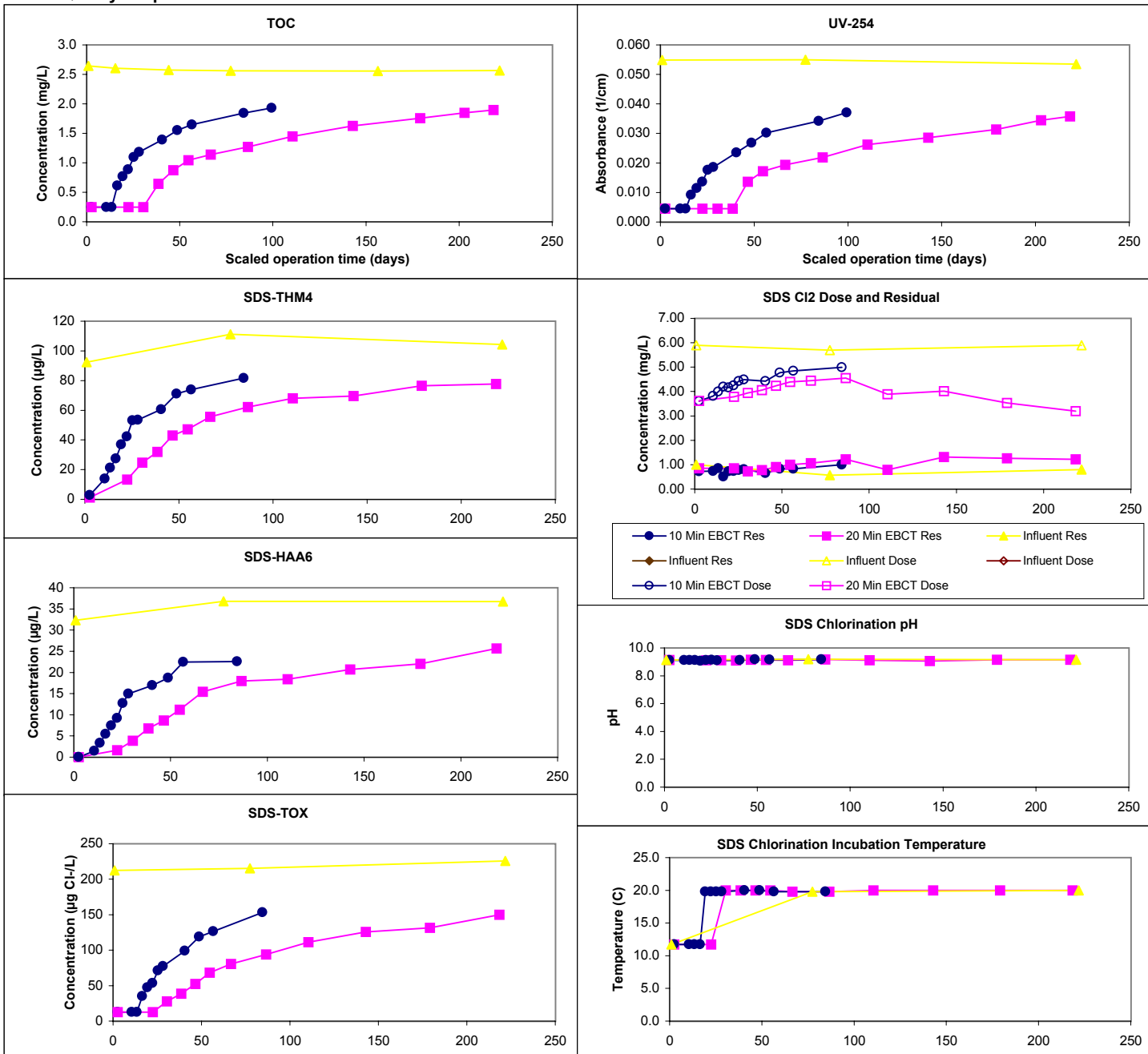
Design TOC: 2.5 mg/L
 COP Diameter: 9.0 mm
 Min Reynolds#: 0.50
 Full-Scale Temp: 20.0 C

Full-Scale GAC Size: 8x30 Bituminous
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 13.16
 Meas Dry Bed Density: 0.47 g/cm3

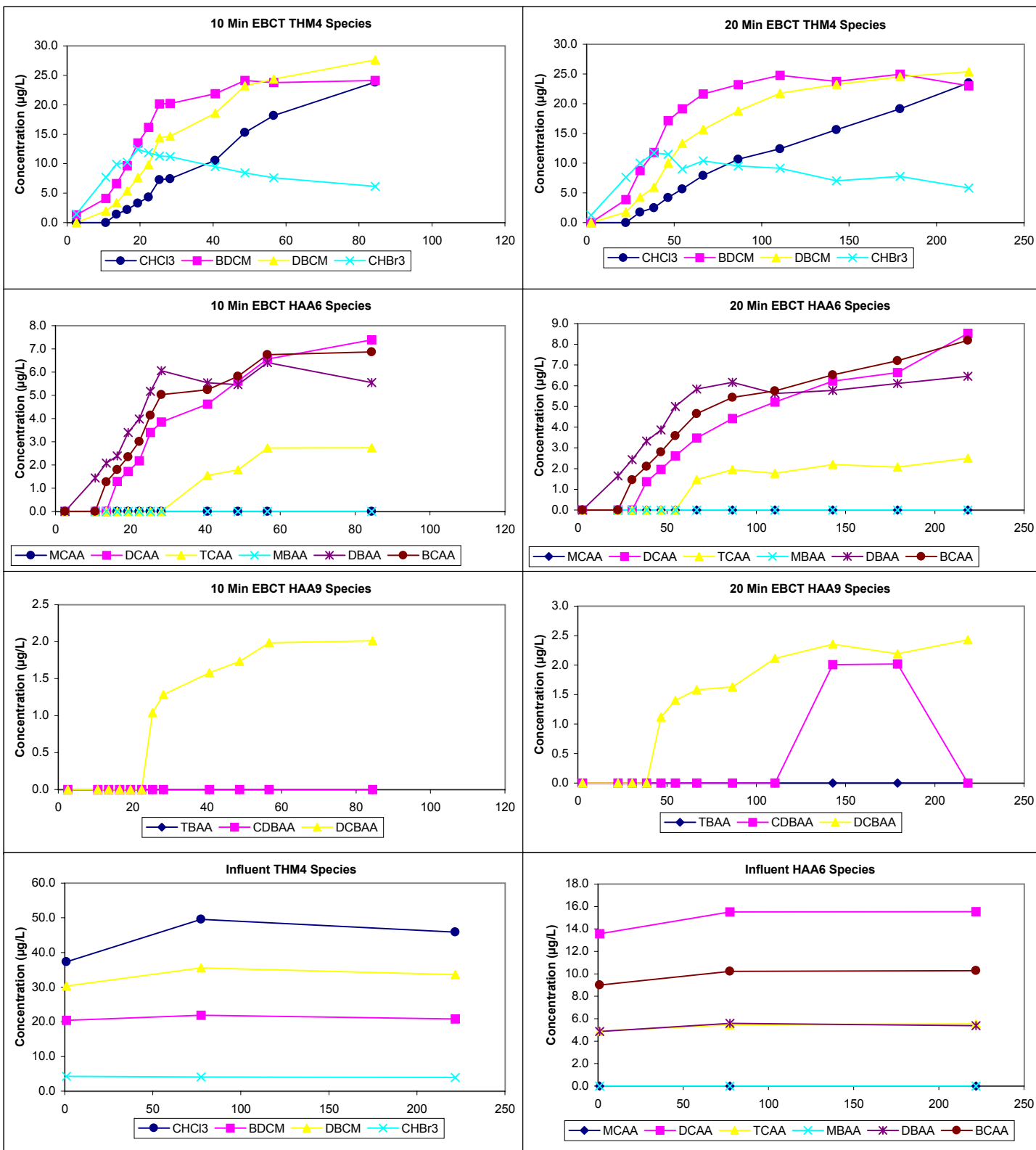
Water Quality Summary

Influent	Influent					Influent								
	Mean	SD/RD	Count	Min/Max		Mean	SD/RD	Count	Min/Max			Mean	SD	Count
TOC	2.6	0.0	6	2.6 - 2.6						Res (0)	0.87	0.20	27	0.50 - 1.31
pH	9.4	0.1	6	9.3 - 9.5						Temp	17.8	3.7	27	11.7 - 20.0
UV254	0.054	0.001	3	0.054 - 0.055						pH	9.1	0.0	27	9.1 - 9.2
SUVA	2.10	0.04	3	2.08 - 2.15						Time	23.9	0.2	27	23.6 - 24.2
Bromide	105	10	2	100 - 110		Comments:								
SDS-TOX	218	7	3	212 - 226										
SDS-THM4	103	10	3	92 - 111										
SDS-HAA6	35	3	3	32 - 37										
Effluent	10 Min EBCT (8 B-S days)				20 Min EBCT (17 B-S days)				Chart Legend:					
Effluent pH	9.1	0.1	13	9.0 - 9.3	9.1	0.1	13	8.8 - 9.4						
Effluent Temp	21.8	0.4	13	20.9 - 22.7	21.7	0.5	13	20.8 - 22.6						

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information

ID / ICR#: IL0894070 / 709
 ICR Contact: Arnold Eggleston, Superintendent of Water
 Phone No.: (630) 844-3632
 Period: 9/25/98 - 10/4/98 (8 B-S days)

Design Information

Design TOC: 2.5 mg/L
 Pipe Diameter: 9.0 mm
 Min Reynolds#: 0.50
 Full-Scale Temp: 20.0 C

Full-Scale GAC Size: 8x30 Bituminous
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 13.16
 Meas Dry Bed Density: 0.47 g/cm3

Water Quality Summary

Influent	10 Min Influent				Effluent	10 Min EBCT (9 B-S days)			
	Mean	SD/RD	Count	Min/Max		Mean	SD/RD	Count	Min/Max
TOC	2.6	0.1	4	2.5 - 2.7	TOC	2.6	0.0	4	2.5 - 2.6
pH	8.5	0.1	3	8.4 - 8.6	pH	8.9	0.0	4	8.8 - 8.9
UV254	0.055	0.001	2	0.054 - 0.055	UV254	0.055	0.000	2	0.055 - 0.055
SUVA	2.10	0.07	2	2.07 - 2.14	SUVA	2.14	0.05	2	2.11 - 2.17
Bromide	100	0	1	100 - 100	Bromide	110	0	1	110 - 110
SDS-TOX	220	17	2	211 - 229	SDS-TOX	224	8	2	220 - 228
SDS-THM4	97	12	2	91 - 103	SDS-THM4	103	16	2	94 - 111
SDS-HAA6	33	3	2	32 - 35	SDS-HAA6	34	3	2	32 - 35
Effluent	10 Min EBCT (8 B-S days)				Effluent	10 Min EBCT (8 B-S days)			
	Mean	SD/RD	Count	Min/Max		Mean	SD/RD	Count	Min/Max
Effluent pH	8.1	0.1	12	8.0 - 8.3	Effluent pH	8.6	0.1	13	8.3 - 8.7
Effluent Temp	22.0	0.7	12	20.9 - 23.4	Effluent Temp	22.4	0.6	13	21.1 - 23.5

Cumulative SDS Conditions

	Mean	SD	Count	Min/Max
Res (0)	0.99	0.21	28	0.61 - 1.38
Temp	17.5	3.8	28	11.7 - 20.0
pH	9.1	0.0	28	9.0 - 9.1
Time	23.9	0.1	28	23.7 - 24.2

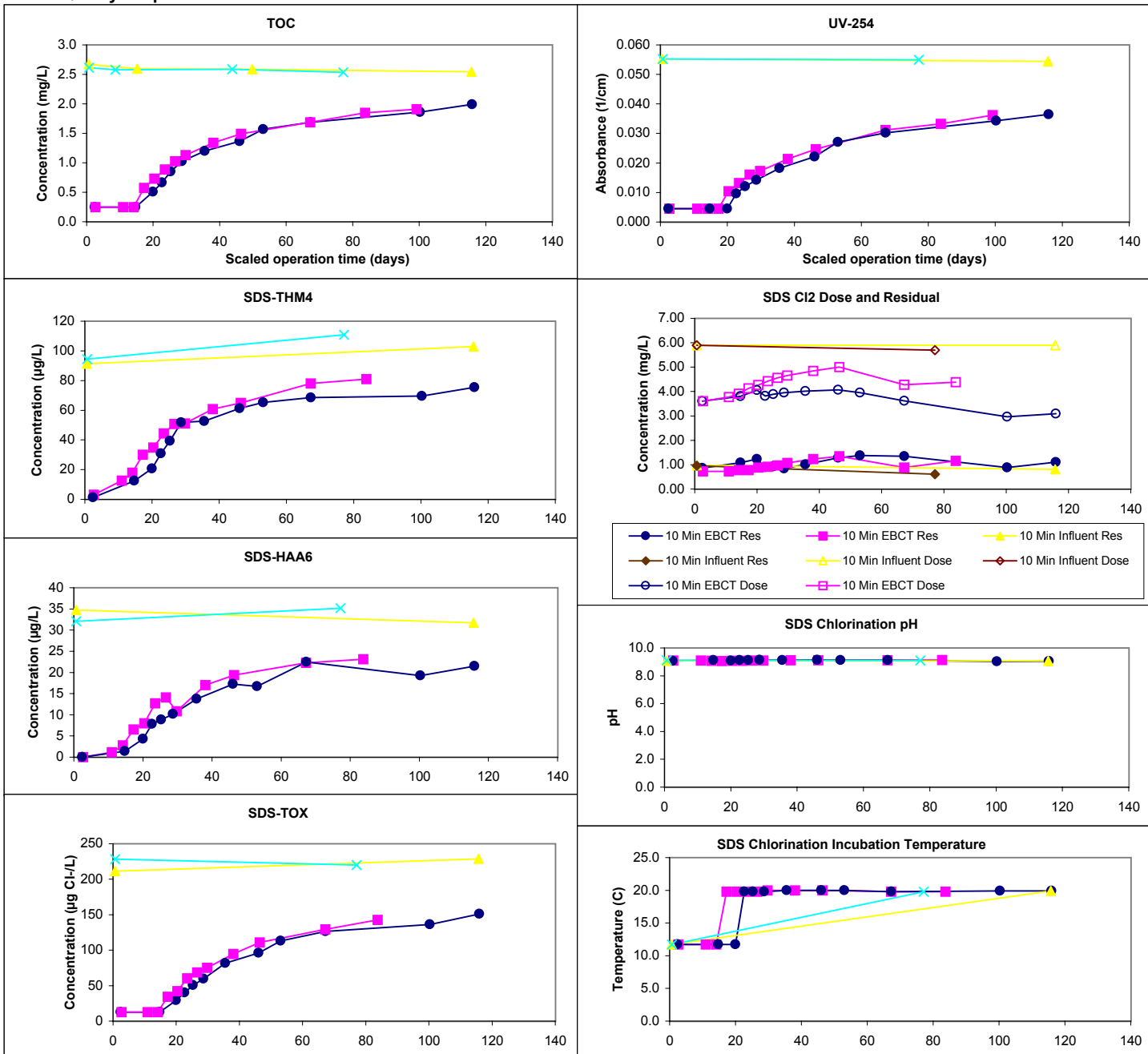
Comments:

Chart

Legend:



Water Quality Graphs



Water Quality Graphs (Continued)

