

ICR TREATMENT STUDY ANALYSIS

Base Analysis and Data Review Comments

Treatment Study ID	1046
Study Protocol	GAC RSSCT treatment study
Plant ICR Number	391
PWS Name	City of Shreveport
City, State, Zip	Shreveport, LA 71103

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

Major comments:

1. Ozone was a pretreatment to GAC in this study and there is a possibility that bromoform (and possibly other DBPs?) were formed in the influent; however, instantaneous DBPs were not measured in the influent.

General Comments:

2. Quarter 1: Effluent SDS-HAA6 and SDS-THM4 reached 100 percent breakthrough for the 10 minute EBCT contactor.
3. Quarter 2: Effluent SDS-THM4 reached 100 percent breakthrough for both 10 and 20 minute EBCT contactors.
4. In-line filtration using a 0.2 μm pore size filter was performed; the *Treatment Studies Manual* recommended the use of a 1.0 μm pore size filter.

Response: A 0.2- μm in-line filter was incorporated for all RSSCT studies to minimize headloss formation and to render sample collection reasonable. High and frequent headloss formation were experienced in a previous study, even though the carbon fines were minimized with the rinsing process. No head-loss problems were experienced following this change.

5. Measured dry bed density was reported as 0.50 g/cm^3 for all quarters. Experimental results of dry bed density measurement were probably not reported.

Response: The dry bed density was verified for other studies following the procedure described in the Guidance Manual. The density did not vary more than 0.025 g/cm^3 .

Outlier Data:

No outliers were removed.

Cell: A1

Comment: Inserted corrected curve fit parameters.

Fixed tmax's for S=0.

1046-SAS.xls 1/31/00 11:54

Curve fit review updated and approved. See below for log of refit datasets.

1046-SAS.xls 2/2/00 18:03

Curve fit review updated and approved. See below for log of refit datasets.

1046-SAS.xls 2/6/00 10:00

Curve fit review updated and approved. See below for log of refit datasets.

Cell: C14

Comment: 1046-10-01 - Run 1 (HAA9) 1/31/00 11:35

Original value (CoefA0) = 0.6941 New value = -1.7245

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: D14

Comment: 1046-10-01 - Run 1 (HAA9) 1/31/00 11:35

Original value (CoefAf) = 27.0531 New value = 26.9827

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: E14

Comment: 1046-10-01 - Run 1 (HAA9) 1/31/00 11:35

Original value (CoefB) = 12.5567 New value = 65.9789

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: F14

Comment: 1046-10-01 - Run 1 (HAA9) 1/31/00 11:35

Original value (CoefD) = 0.0835 New value = 0.193

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: J14

Comment: 1046-10-01 - Run 1 (HAA9) 1/31/00 11:35

Original value (S) = -0.0557 New value = 0

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: C18

Comment: 1046-10-01 - Run 1 (TCAA) 1/31/00 11:36

Original value (CoefA0) = -0.1172 New value = -0.2174

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: D18

Comment: 1046-10-01 - Run 1 (TCAA) 1/31/00 11:36

Original value (CoefAf) = 1.6976 New value = 1.4396

Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: E18

Comment: 1046-10-01 - Run 1 (TCAA) 1/31/00 11:38
Original value (CoefB) = 216572.560687579 New value = 98.0046
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: F18

Comment: 1046-10-01 - Run 1 (TCAA) 1/31/00 11:38
Original value (CoefD) = 0.4394 New value = 0.197
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: J18

Comment: 1046-10-01 - Run 1 (TCAA) 1/31/00 11:38
Original value (S) = -0.005 New value = 0
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: C36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (CoefA0) = 99999 New value = 21.38
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (CoefA0) = 21.38 New value = 26.725
Fewer than 6 points. Step function applied.

Cell: D36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (CoefAf) = 99999 New value = 0
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: E36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (CoefB) = 99999 New value = 0
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (CoefB) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: F36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (CoefD) = 99999 New value = 0
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (CoefD) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: J36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (S) = 0 New value = 0
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (S) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: K36

Comment: 1046-10-02 - Run 3 (HAA9) 1/31/00 10:41
Original value (t0) = 0 New value = 0
Fewer than 6 points. Step function applied.

1046-10-02 - Run 3 (HAA9) 1/31/00 10:43
Original value (t0) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: C39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (CoefA0) = 99999 New value = 0
Fewer than 6 points. Step function applied.

Cell: D39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (CoefAf) = 99999 New value = 0
Fewer than 6 points. Step function applied.

Cell: E39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (CoefB) = 99999 New value = 0
Fewer than 6 points. Step function applied.

Cell: F39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (CoefD) = 99999 New value = 0
Fewer than 6 points. Step function applied.

Cell: J39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (S) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: K39

Comment: 1046-10-02 - Run 3 (TBAA) 2/6/00 9:56
Original value (t0) = 0 New value = 0
Fewer than 6 points. Step function applied.

Cell: C40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22
Original value (CoefA0) = 0 New value = 1.45
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22

Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K40

Comment: 1046-10-02 - Run 3 (TCAA) 2/2/00 17:22
Original value (t0) = 0 New value = 51.3581
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (CoefA0) = 0 New value = 1.16
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K59

Comment: 1046-10-03 - Run 5 (MBAA) 2/2/00 17:27
Original value (t0) = 0 New value = 36.9934
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C84

Comment: 1046-10-04 - Run 7 (TCAA) 2/2/00 18:02
Original value (CoefA0) = 0 New value = -0.3399
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: D84

Comment: 1046-10-04 - Run 7 (TCAA) 2/2/00 18:02
Original value (CoefAf) = 0 New value = 5.783
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: E84

Comment: 1046-10-04 - Run 7 (TCAA) 2/2/00 18:02
Original value (CoefB) = 0 New value = 20.9233
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: F84

Comment: 1046-10-04 - Run 7 (TCAA) 2/2/00 18:02
Original value (CoefD) = 0 New value = 0.0309
Fewer than 6 points above MRL, average above 1/2 MRL. Logistic function (type 1) applied.

Cell: J84

Comment: 1046-10-04 - Run 7 (TCAA) 2/2/00 18:02

Original value (S) = 0 New value = 0

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

Cell: C93

Comment: 1046-20-01 - Run 2 (CHBr3) 1/31/00 11:43

Original value (CoefA0) = 0.7841 New value = -0.0071

Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: D93

Comment: 1046-20-01 - Run 2 (CHBr3) 1/31/00 11:43

Original value (CoefAf) = 14.0798 New value = 16.532

Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: E93

Comment: 1046-20-01 - Run 2 (CHBr3) 1/31/00 11:43

Original value (CoefB) = 16331.0385 New value = 19.5984

Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: F93

Comment: 1046-20-01 - Run 2 (CHBr3) 1/31/00 11:43

Original value (CoefD) = 1.8131 New value = 0.1456

Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: J93

Comment: 1046-20-01 - Run 2 (CHBr3) 1/31/00 11:43

Original value (S) = -0.0466 New value = -0.064

Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: C98

Comment: 1046-20-01 - Run 2 (DCAA) 1/31/00 11:41

Original value (CoefA0) = -0.5139 New value = -0.5714

Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: D98

Comment: 1046-20-01 - Run 2 (DCAA) 1/31/00 11:41

Original value (CoefAf) = 7.35 New value = 4.377

Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: E98

Comment: 1046-20-01 - Run 2 (DCAA) 1/31/00 11:41

Original value (CoefB) = 57.212 New value = 29.7998

Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: F98

Comment: 1046-20-01 - Run 2 (DCAA) 1/31/00 11:41

Original value (CoefD) = 0.0263 New value = 0.0307

Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: J98

Comment: 1046-20-01 - Run 2 (DCAA) 1/31/00 11:41

Original value (S) = 0 New value = 0

Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: C103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20

Original value (CoefA0) = 0 New value = 1.14

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

Cell: D103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20

Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K103

Comment: 1046-20-01 - Run 2 (MBAA) 2/2/00 17:20
Original value (t0) = 0 New value = 161.1689
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C110

Comment: 1046-20-01 - Run 2 (TSUVA) 1/31/00 11:39
Original value (CoefA0) = -0.0526 New value = -0.1025
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: D110

Comment: 1046-20-01 - Run 2 (TSUVA) 1/31/00 11:39
Original value (CoefAf) = 1.5414 New value = 1.6557
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: E110

Comment: 1046-20-01 - Run 2 (TSUVA) 1/31/00 11:39
Original value (CoefB) = 8.2838 New value = 19.4617
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: F110

Comment: 1046-20-01 - Run 2 (TSUVA) 1/31/00 11:39
Original value (CoefD) = 0.0482 New value = 0.0746
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: J110

Comment: 1046-20-01 - Run 2 (TSUVA) 1/31/00 11:39
Original value (S) = 0 New value = -0.0032
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: C125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26
Original value (CoefA0) = 0 New value = 1
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26

Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K125

Comment: 1046-20-02- Run 4 (MBAA) 2/2/00 17:26
Original value (t0) = 0 New value = 118.5037
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (CoefA0) = 0 New value = 1.1333
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25
Original value (CoefA0) = 1.1333 New value = 1.1333
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25

Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K128

Comment: 1046-20-02- Run 4 (TCAA) 2/2/00 17:22
Original value (t0) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

0 - Run 4 (TCAA) 2/2/00 17:25
Original value (t0) = 0 New value = 99.013
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (CoefA0) = 0 New value = 1.2667
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: J150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: K150

Comment: 1046-20-03 - Run 6 (TCAA) 2/2/00 17:41
Original value (t0) = 0 New value = 131.517
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: C158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57
Original value (CoefA0) = 0 New value = 3.15
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: D158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: E158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL, average above 1/2 MRL. Step function applied.

Cell: F158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57
Original value (CoefD) = 0 New value = 0

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

Cell: J158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57

Original value (S) = 0 New value = 0

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

Cell: K158

Comment: 1046-20-04 - Run 8 (CDBAA) 2/2/00 17:57

Original value (t0) = 0 New value = 141.5677

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

Cell: C172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (CoefA0) = 0 New value = 1.475

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

Cell: D172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (CoefAf) = 0 New value = 0

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

Cell: E172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (CoefB) = 0 New value = 0

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

Cell: F172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (CoefD) = 0 New value = 0

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

Cell: J172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (S) = 0 New value = 0

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

Cell: K172

Comment: 1046-20-04 - Run 8 (TCAA) 2/2/00 17:42

Original value (t0) = 0 New value = 141.5677

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

SAS Curve Fit Review Document

Treatment Study ID 1046

Run 1 (Quarter 1, 10 min. EBCT)

12 TCAA Poor peak curve fit. Curve was refit successfully by iterative curve fit procedure to following parameters. Done.

Ao = -0.117	A = 1.7	B = 216572.6	D = 0.439	S = -0.005
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16 CDBAA Poor peak curve fit. Curve was refit successfully by iterative curve fit procedure to following parameters. Done.

Ao = -0.163	A = 4.08	B = 219805.3	D = 0.435	S = -0.027
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17 DCBAA Poor peak curve fit. Curve was refit successfully by iterative curve fit procedure to following parameters. Done.

Ao = -0.008	A = 3.23	B = 4107.4	D = 0.312	S = -0.02
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Run 2 (Quarter 1, 20 min. EBCT)

OK

Run 3 (Quarter 2, 10 min. EBCT)

21 HAA9 <6 pts > MRL, avg = 1.2. Set Ao = 21.4 (AVG). Set To = 30.2. Done.

8 CHBr3 Poor peak curve fit. Curve was refit successfully by iterative curve fit procedure to following parameters. Done.

Ao = 1.499	A = 34.96	B = 997.8	D = 0.501	S = -0.469
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Run 4 (Quarter 2, 20 min. EBCT)

11 DCAA <6 pts > MRL, avg = 1.2. Forced a curve fit (5 points > MRL) using iterative curve fit procedure to following parameters. Done.

Ao = -0.457	A = 5.89	B = 21.7	D = 0.034
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18 TBAA Only 1 point available for curve fit. Set all curve fit parameters to '99999'. Done.

21 HAA9 Only 1 point available for curve fit (due to NRs reported for all but one TBAA data point). Set all curve fit parameters to '99999'. Done.

Run 5 (Quarter 3, 10 min. EBCT)

OK

Run 6 (Quarter 3, 20 min. EBCT)

OK

Run 7 (Quarter 4, 10 min. EBCT)

OK

Run 8 (Quarter 4, 20 min. EBCT)

OK

ICR Information

ID / ICR#: LA 1017031 / 391
 ICR Contact: Nettie Brown
 Phone No.: (318) 673-7654
 Period: 5/4/98 - 5/30/98 (26 B-S days)

Design Information

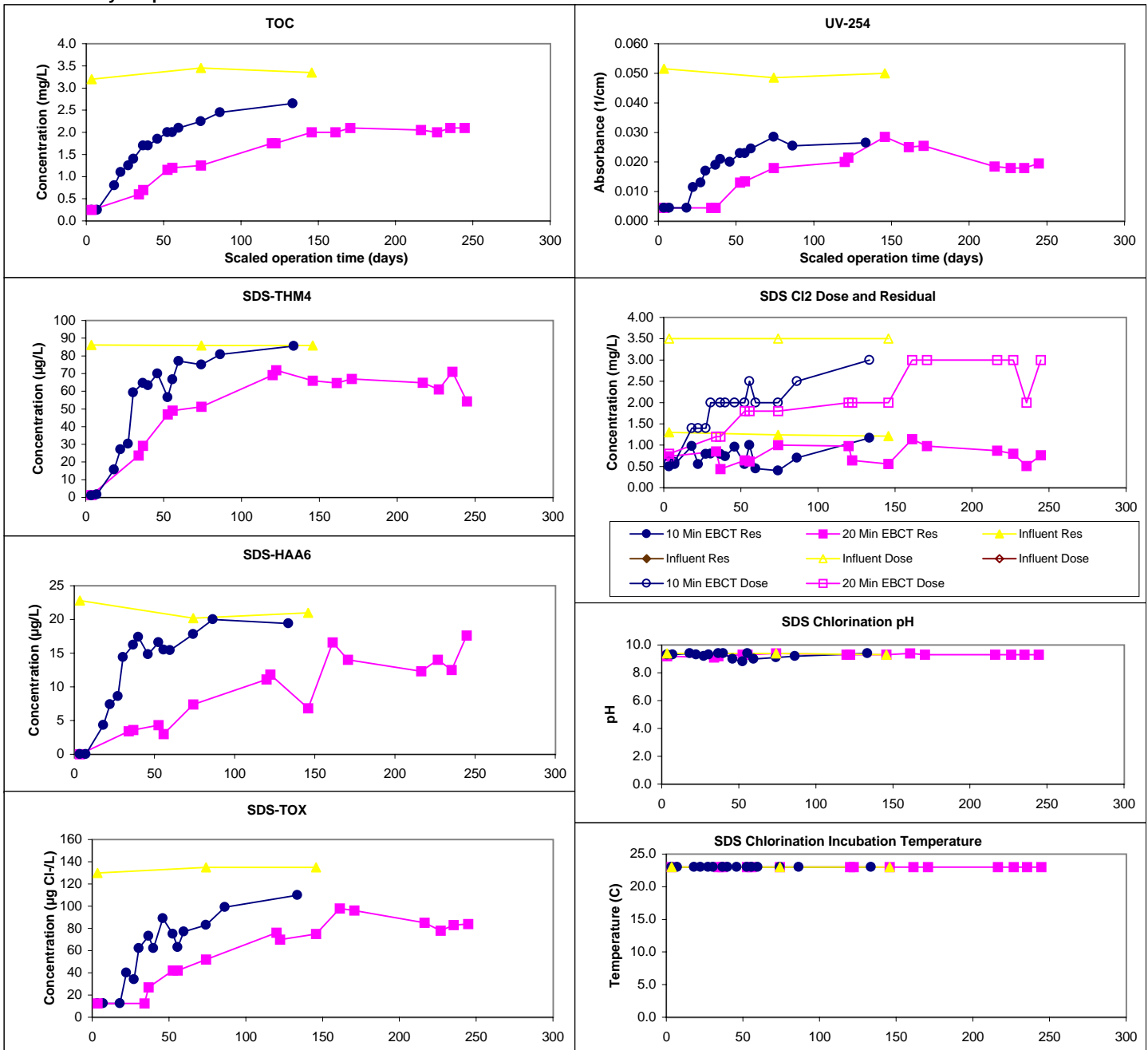
Design TOC: 3.7 mg/L
 Col Diameter: 8.0 mm
 Min Reynolds#: 0.57
 Full-Scale Temp: 25.3 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 9.36
 Meas Dry Bed Density: 0.50 g/cm3

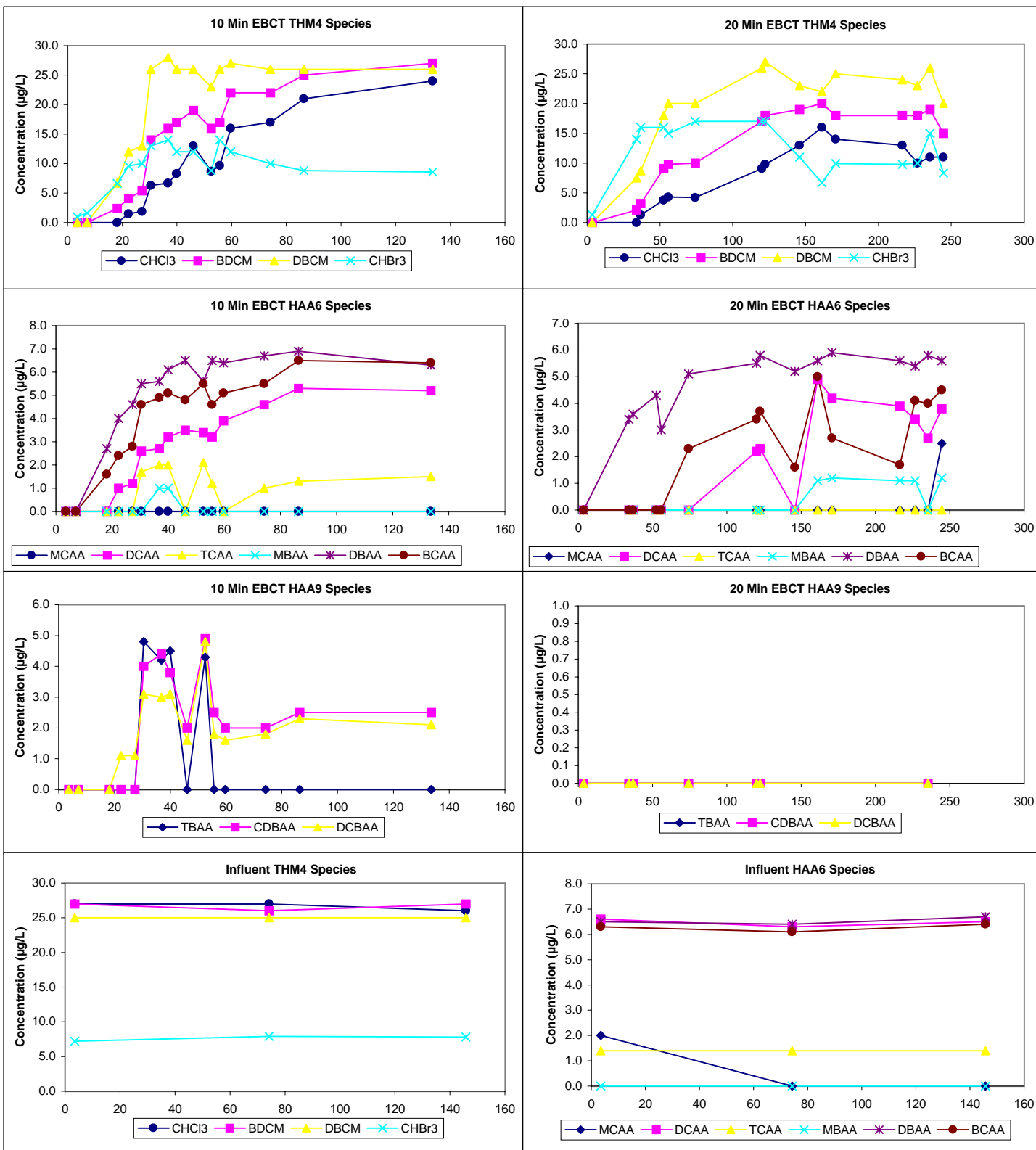
Water Quality Summary

Influent	Influent				Influent	Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max		Mean	SD/RD	Count	Min/Max					
TOC	3.3	0.1	3	3.2 - 3.5										
pH	7.9	0.1	3	7.9 - 8.0										
UV254	0.050	0.001	3	0.049 - 0.052										
SUVA	1.50	0.10	3	1.41 - 1.61										
Bromide	99	2	2	98 - 100										
SDS-TOX	133	3	3	130 - 135										
SDS-THM4	86	0	3	86 - 86										
SDS-HAA6	21	1	3	20 - 23										
Effluent	10 Min EBCT (14 B-S days)				20 Min EBCT (26 B-S days)				Chart Legend:					
Effluent pH	8.4	0.2	15	8.0 - 8.7	8.0	0.4	15	7.5 - 8.8						
Effluent Temp	23.0	0.0	15	23.0 - 23.0	23.0	0.0	15	23.0 - 23.0						

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information





ID / ICR#: LA 1017031 / 391
 ICR Contact: Nettie Brown
 Phone No.: (318) 673-7654
 Period: 8/17/98 - 8/31/98 (14 B-S days)

Design Information

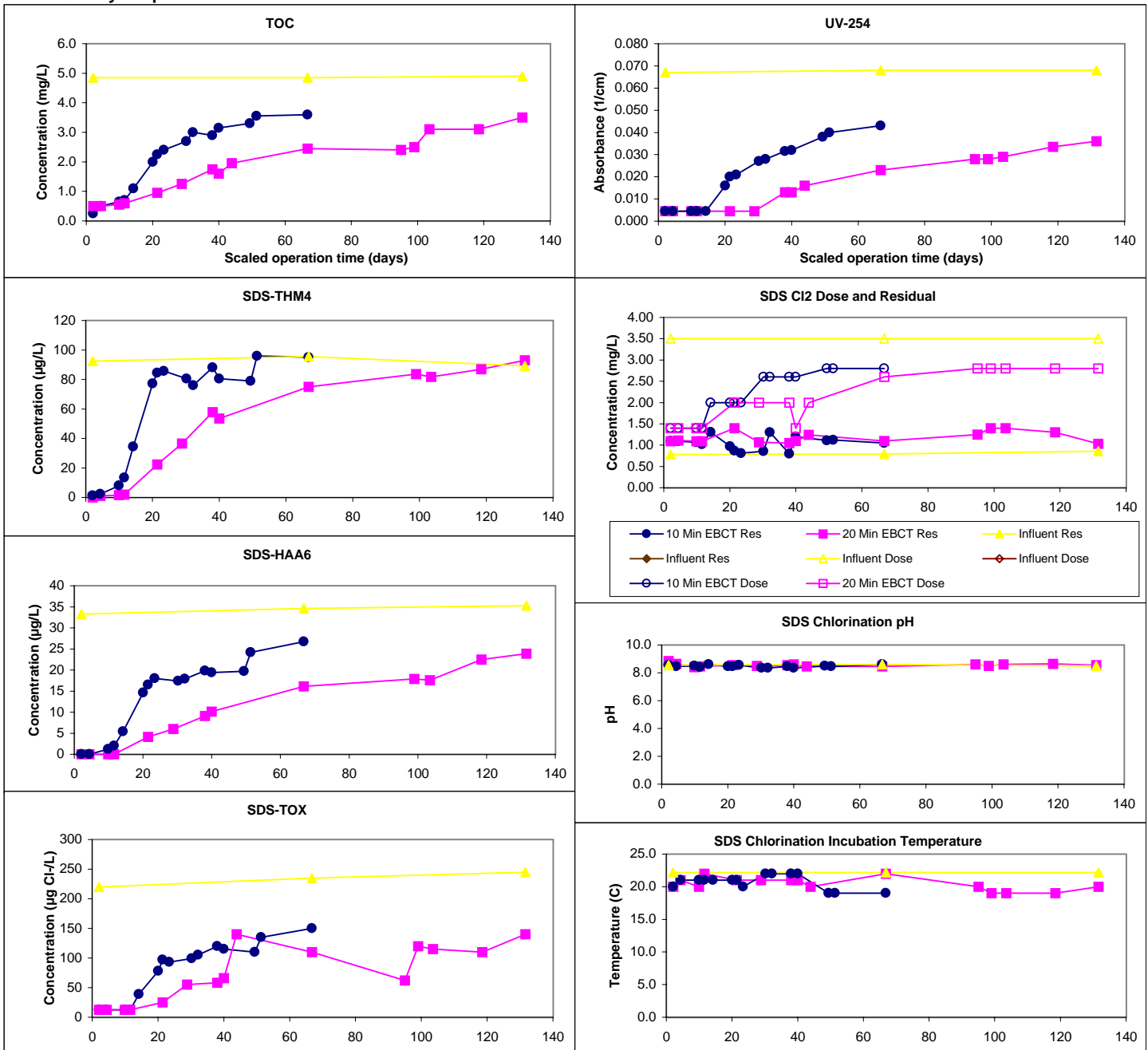
Design TOC: 5.0 mg/L
 Col Diameter: 11.0 mm
 Min Reynolds#: 0.61
 Full-Scale Temp: 28.0 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 9.36
 Meas Dry Bed Density: 0.50 g/cm3

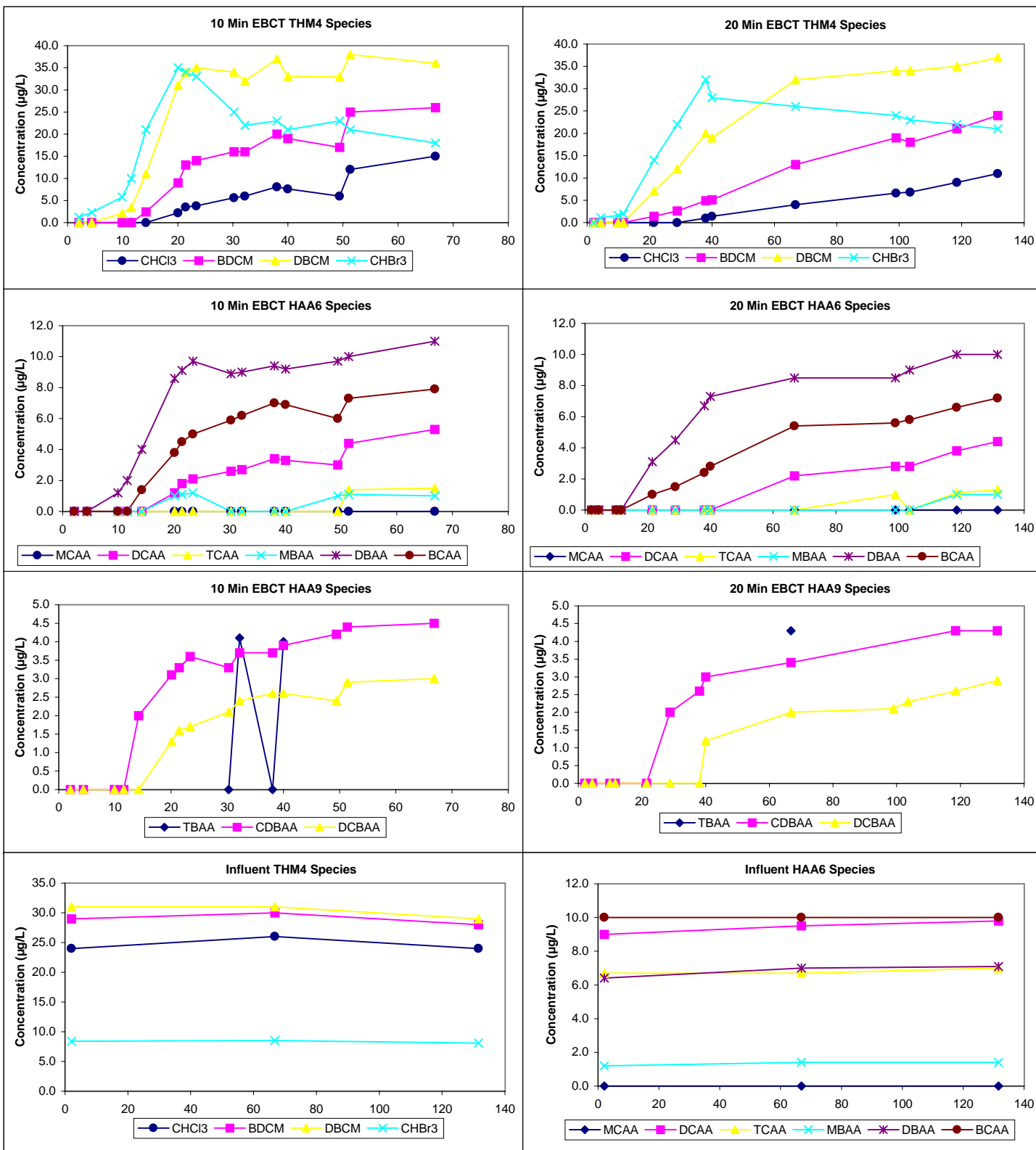
Water Quality Summary

Influent	Influent				Influent								
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max		Mean	SD	Count	Min/Max
TOC	4.9	0.0	3	4.9 - 4.9					Res (0)	1.09	0.18	33	0.78 - 1.40
pH	8.3	0.1	3	8.2 - 8.3					Temp	20.7	1.1	33	19.0 - 22.2
UV254	0.068	0.001	3	0.067 - 0.068					pH	8.5	0.1	33	8.4 - 8.9
SUVA	1.39	0.01	3	1.38 - 1.40					Time	23.8	0.4	33	23.0 - 24.3
Bromide	180	0	2	180 - 180					Comments:				
SDS-TOX	233	13	3	220 - 245									
SDS-THM4	92	3	3	89 - 96									
SDS-HAA6	34	1	3	33 - 35									
Effluent	10 Min EBCT (7 B-S days)				20 Min EBCT (14 B-S days)				Chart Legend:				
Effluent pH	8.2	0.1	15	8.1 - 8.4	8.3	0.2	15	8.0 - 8.8		 10 Min EBCT			
Effluent Temp	22.8	0.9	15	22.0 - 24.0	22.3	0.6	15	22.0 - 24.0		 20 Min EBCT			
										 Influent			
										 Influent			

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information

ID / ICR#: LA 1017031 / 391
 ICR Contact: Nettie Brown
 Phone No.: (318) 673-7654
 Period: 10/19/98 - 11/5/98 (16 B-S days)

Design Information

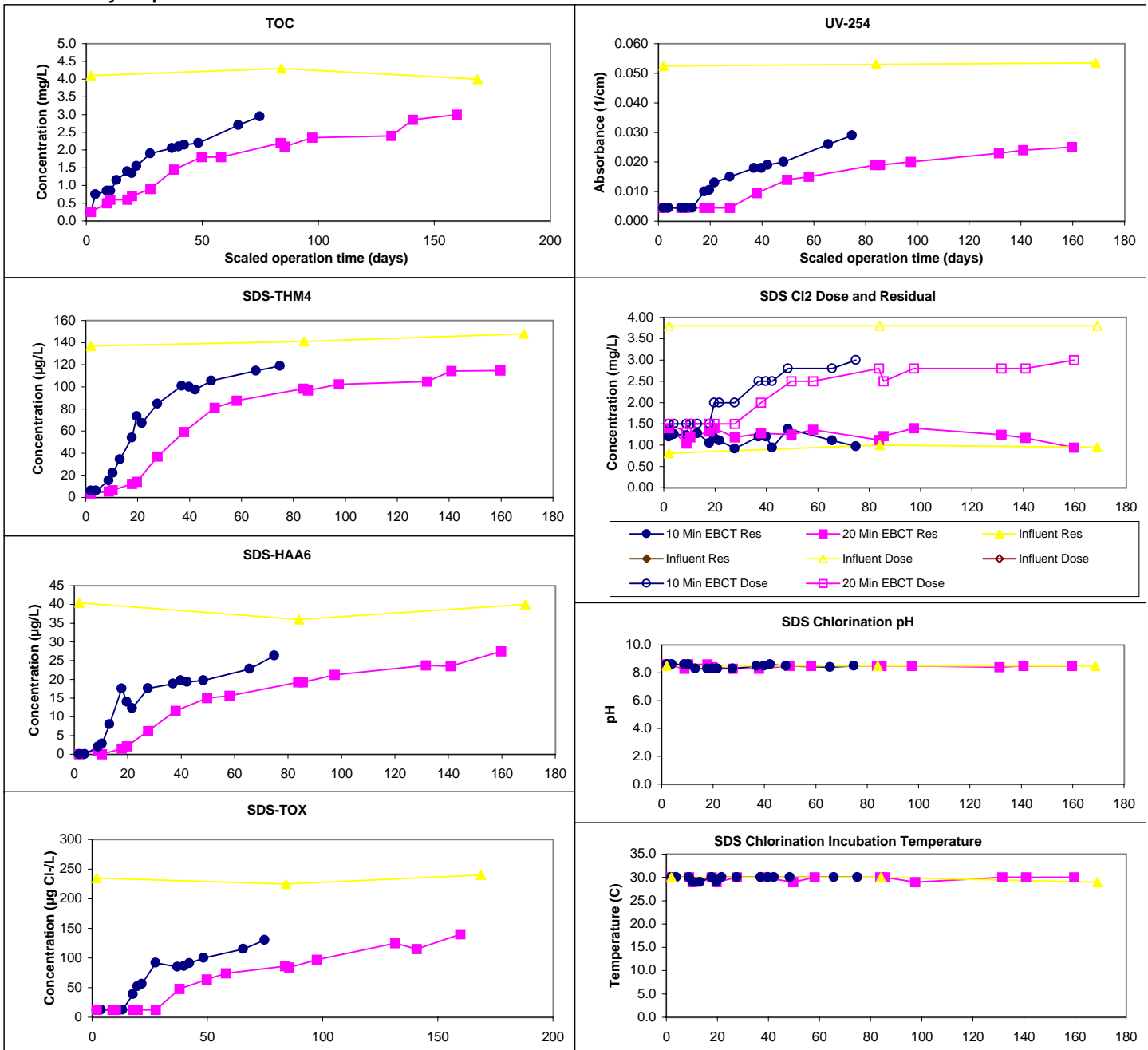
Design TOC: 4.4 mg/L
 Col Diameter: 11.0 mm
 Min Reynolds#: 0.46
 Full-Scale Temp: 16.6 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 9.36
 Meas Dry Bed Density: 0.50 g/cm3

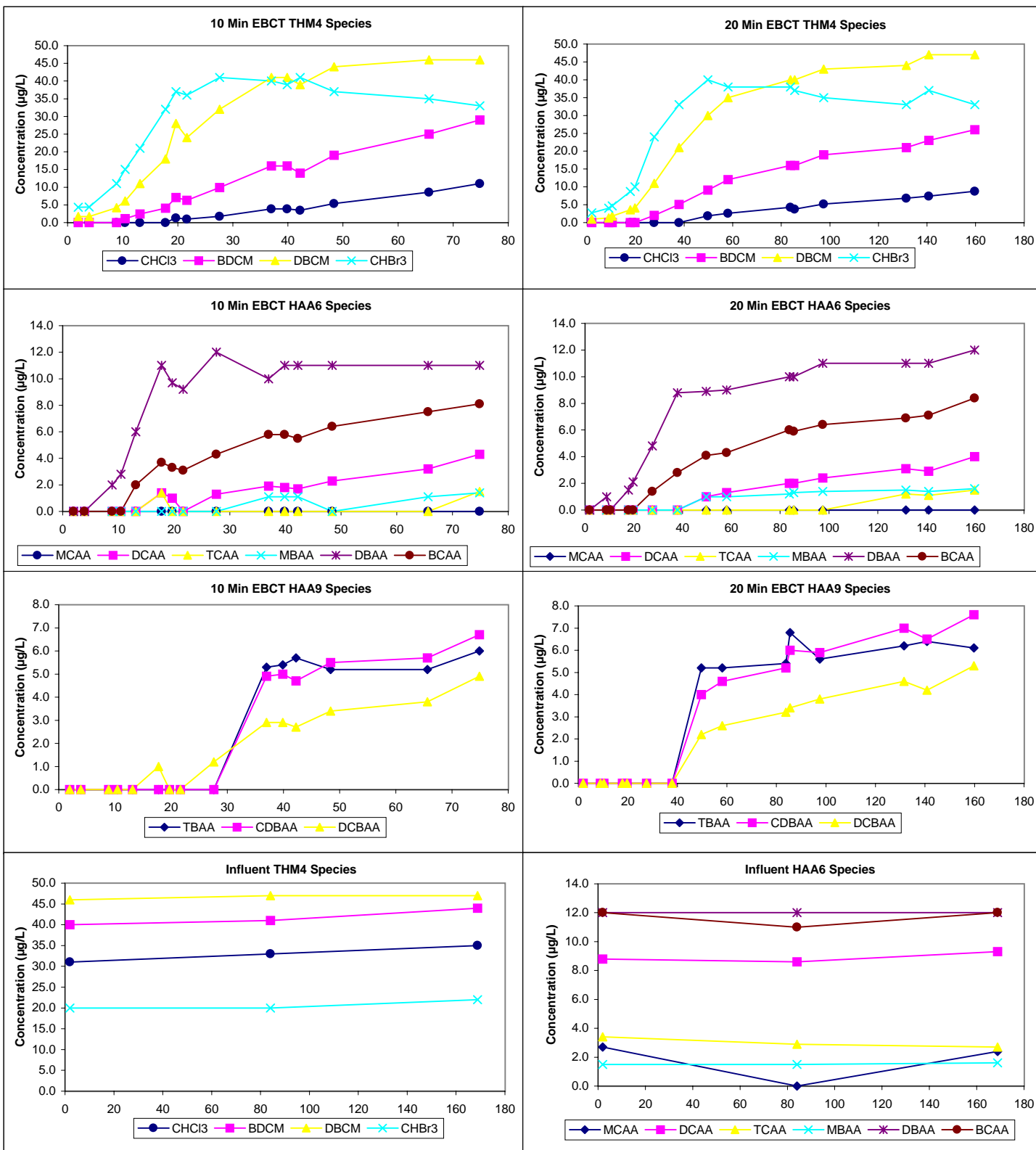
Water Quality Summary

Influent	Influent				Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max					
TOC	4.1	0.2	3	4.0 - 4.3									
pH	8.4	0.2	3	8.2 - 8.5					Temp	29.8	0.4	33	29.0 - 30.0
UV254	0.053	0.000	3	0.053 - 0.054					pH	8.5	0.1	33	8.3 - 8.6
SUVA	1.28	0.05	3	1.23 - 1.34					Time	24.0	0.1	33	23.9 - 24.1
Bromide	210	0	2	210 - 210					Comments:				
SDS-TOX	233	8	3	225 - 240									
SDS-THM4	142	6	3	137 - 148									
SDS-HAA6	39	2	3	36 - 40									
Effluent	10 Min EBCT (8 B-S days)				20 Min EBCT (17 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	8.5	0.2	15	8.1 - 8.7	8.5	0.3	15	8.0 - 8.9					
Effluent Temp	23.2	0.4	15	23.0 - 24.0	23.3	0.5	15	23.0 - 24.0					

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information





ID / ICR#: LA 1017031 / 391
 ICR Contact: Nettie Brown
 Phone No.: (318) 673-7654
 Period: 1/19/99 - 2/10/99 (22 B-S days)

Design Information

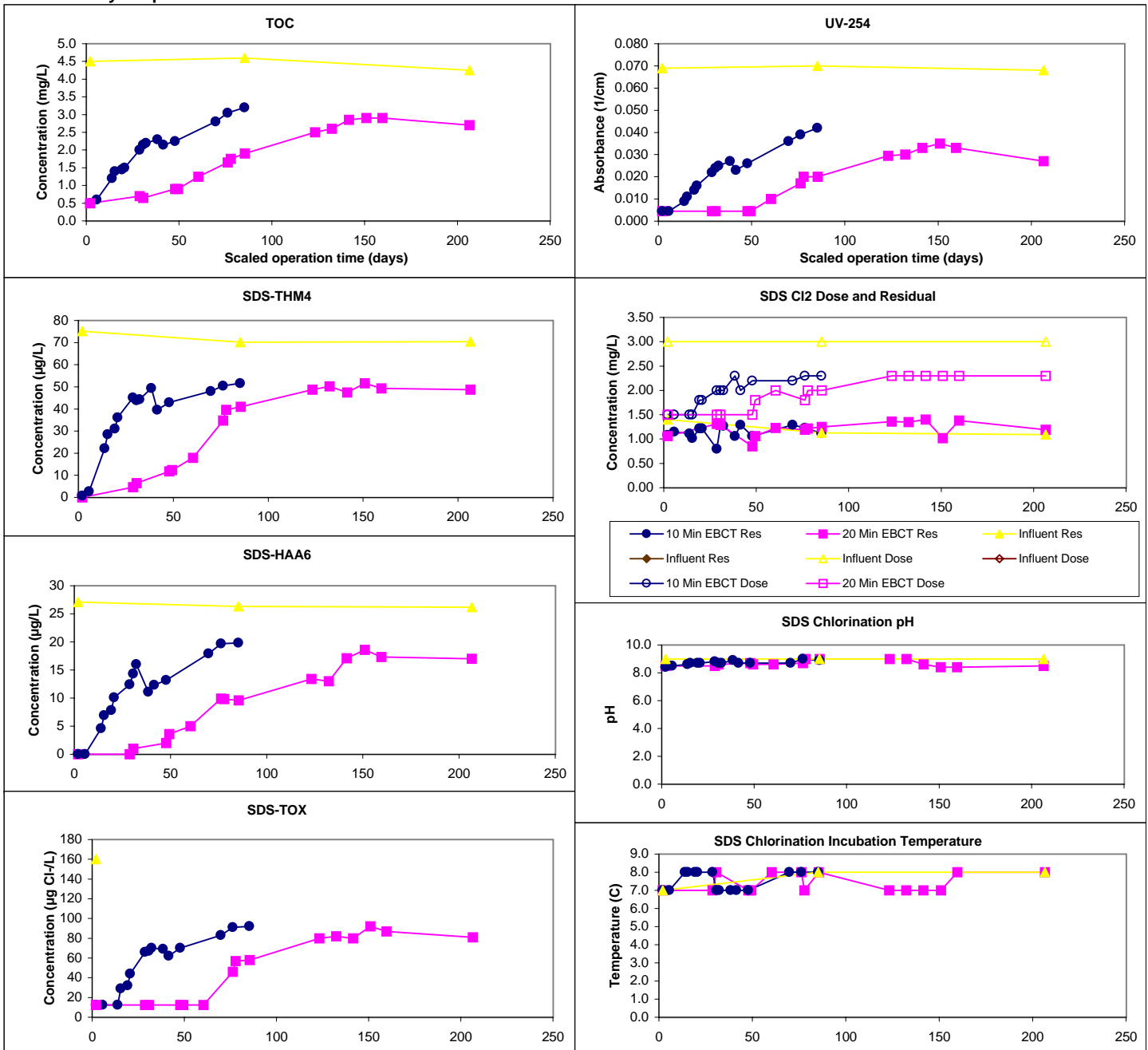
Design TOC: 4.6 mg/L
 Col Diameter: 11.0 mm
 Min Reynolds#: 0.41
 Full-Scale Temp: 12.0 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 100x200
 Scaling Factor: 9.36
 Meas Dry Bed Density: 0.50 g/cm3

Water Quality Summary

Influent	Influent				Influent	Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max		Mean	SD/RD	Count	Min/Max					
TOC	4.5	0.2	3	4.3 - 4.6										
pH	8.1	0.2	3	8.0 - 8.3										
UV254	0.069	0.001	3	0.068 - 0.070										
SUVA	1.55	0.04	3	1.52 - 1.60										
Bromide	115	10	2	110 - 120										
SDS-TOX	160	0	1	160 - 160										
SDS-THM4	72	3	3	70 - 75										
SDS-HAA6	27	0	3	26 - 27										
Effluent	10 Min EBCT (9 B-S days)				20 Min EBCT (22 B-S days)				Chart Legend:					
Effluent pH	8.3	0.4	15	7.7 - 9.0	8.1	0.4	15	7.9 - 9.4		 10 Min EBCT				
Effluent Temp	22.3	0.5	15	22.0 - 23.0	22.4	0.5	15	22.0 - 23.0		 20 Min EBCT				
										 Influent				
										 Influent				

Water Quality Graphs



Water Quality Graphs (Continued)

