

ICR TREATMENT STUDY ANALYSIS

Base Analysis and Data Review Comments

Treatment Study ID	1075
Study Protocol	GAC RSSCT treatment study
Plant ICR Number	492
PWS Name	Upper Mohawk Valley Regional Water Board
City, State, Zip	Utica, NY 13503

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

Major comments:

1. Quarter 1: For 20 minute EBCT run, breakthrough profile of SDS-DCAA (rapid breakthrough to almost 70 percent of influent concentration, then decrease over the remainder of the run) indicates possible presence of preformed DCAA in RSSCT influent water sample. The 10 minute EBCT run breakthrough curve for SDS-DCAA looks fairly normal, but separate influent containers were used for the two columns.
2. SDS incubation temperatures ranged from 21 to 22°C.

General Comments:

1. Measured dry bed density was reported as 0.50 g/cm³ for all quarters. Experimental results of dry bed density measurement were probably not reported.
2. Quarters 3 and 4: Large decrease in GAC influent concentrations across all parameters over the course of the 6-week runs.
3. Report indicates that a 5-µm in-line filter was used during RSSCT testing (page 7), while Problems Encountered section indicates the use of 1, 5, and 10 µm pore size filters (page 21). The *Data Collection Spreadsheets* indicate that a 1 µm pore size filter was used during all quarters. The report also indicates that during sampling from the treatment plant, the water was cartridge filtered through a 1.0 µm pore size filter.
4. Appendix Tables A.1 - A.4: These tables contain RSSCT design parameters. First two lines indicate values for "Diameter (large column)" and "Diameter (small column)". Note that the values given refer to particle diameter, not column diameter.

5. Tables 2 and 8 in report: bromide units should read "mg/L" instead of "µg/L".

Outlier Data:

Eleven outliers removed.

1st quarter 20-minute HAA results changed to NCF.

4th quarter 10- and 20-minute MCAA results changed to NCF.

Cell: A1

Comment: 1075-SAS.xls 2/13/00 11:41

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

Cell: C8

Comment: 1075-10-01 - Run 1 (DBAA) 2/13/00 10:12
Original value (CoefA0) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: D8

Comment: 1075-10-01 - Run 1 (DBAA) 2/13/00 10:12
Original value (CoefAf) = 0 New value = 1.46
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: E8

Comment: 1075-10-01 - Run 1 (DBAA) 2/13/00 10:12
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: F8

Comment: 1075-10-01 - Run 1 (DBAA) 2/13/00 10:12
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: J8

Comment: 1075-10-01 - Run 1 (DBAA) 2/13/00 10:12
Original value (S) = 0 New value = -0.0236
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: C15

Comment: 1075-10-01 - Run 1 (MBAA) 2/13/00 10:09
Original value (CoefA0) = 0 New value = -0.1969
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: D15

Comment: 1075-10-01 - Run 1 (MBAA) 2/13/00 10:09
Original value (CoefAf) = 0 New value = 19.689
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: E15

Comment: 1075-10-01 - Run 1 (MBAA) 2/13/00 10:09
Original value (CoefB) = 0 New value = 568.9589
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: F15

Comment: 1075-10-01 - Run 1 (MBAA) 2/13/00 10:09
Original value (CoefD) = 0 New value = 0.0282
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: J15

Comment: 1075-10-01 - Run 1 (MBAA) 2/13/00 10:09
Original value (S) = 0 New value = -0.0193
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: C18

Comment: 1075-10-01 - Run 1 (TCAA) 2/13/00 10:11
Original value (CoefA0) = 0 New value = -0.2906
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: D18

Comment: 1075-10-01 - Run 1 (TCAA) 2/13/00 10:11
Original value (CoefAf) = 0 New value = 5.3559
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: E18

Comment: 1075-10-01 - Run 1 (TCAA) 2/13/00 10:11
Original value (CoefB) = 0 New value = 38.0659
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: F18

Comment: 1075-10-01 - Run 1 (TCAA) 2/13/00 10:11
Original value (CoefD) = 0 New value = 0.0176
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: J18

Comment: 1075-10-01 - Run 1 (TCAA) 2/13/00 10:11
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: C23

Comment: 1075-10-01 - Run 1 (UV254) 2/13/00 10:11
Original value (CoefA0) = -0.007 New value = 0.0031
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D23

Comment: 1075-10-01 - Run 1 (UV254) 2/13/00 10:11
Original value (CoefAf) = 0.0149 New value = 0.0123
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E23

Comment: 1075-10-01 - Run 1 (UV254) 2/13/00 10:11
Original value (CoefB) = 0.213 New value = 20.0001
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F23

Comment: 1075-10-01 - Run 1 (UV254) 2/13/00 10:11
Original value (CoefD) = 0 New value = 0.009
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J23

Comment: 1075-10-01 - Run 1 (UV254) 2/13/00 10:11
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C37

Comment: 1075-10-02 - Run 3 (MBAA) 2/13/00 10:14
Original value (CoefA0) = 0 New value = -0.1519
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: D37

Comment: 1075-10-02 - Run 3 (MBAA) 2/13/00 10:14
Original value (CoefAf) = 0 New value = 12.9102
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: E37

Comment: 1075-10-02 - Run 3 (MBAA) 2/13/00 10:14
Original value (CoefB) = 0 New value = 834.5042
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: F37

Comment: 1075-10-02 - Run 3 (MBAA) 2/13/00 10:14
Original value (CoefD) = 0 New value = 0.0259
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: J37

Comment: 1075-10-02 - Run 3 (MBAA) 2/13/00 10:14
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL. Logistic function (type 1) applied.

Cell: C38

Comment: 1075-10-02 - Run 3 (MCAA) 2/13/00 10:15
Original value (CoefA0) = 0 New value = -0.5573
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: D38

Comment: 1075-10-02 - Run 3 (MCAA) 2/13/00 10:15
Original value (CoefAf) = 0 New value = 114.7965
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: E38

Comment: 1075-10-02 - Run 3 (MCAA) 2/13/00 10:15
Original value (CoefB) = 0 New value = 9558.9759
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: F38

Comment: 1075-10-02 - Run 3 (MCAA) 2/13/00 10:15
Original value (CoefD) = 0 New value = 0.0419
Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: J38

Comment: 1075-10-02 - Run 3 (MCAA) 2/13/00 10:15

Original value (S) = 0 New value = -0.1088

Fewer than 6 points above MRL. Data was fit to peak curve by iterative curve fit procedure.

Cell: C40

Comment: 1075-10-02 - Run 3 (TCAA) 2/13/00 10:16

Original value (CoefA0) = 7.8349 New value = 0.5007

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D40

Comment: 1075-10-02 - Run 3 (TCAA) 2/13/00 10:16

Original value (CoefAf) = 8.3467 New value = 21.6512

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E40

Comment: 1075-10-02 - Run 3 (TCAA) 2/13/00 10:16

Original value (CoefB) = 1.6605 New value = 56.0361

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F40

Comment: 1075-10-02 - Run 3 (TCAA) 2/13/00 10:16

Original value (CoefD) = 0.0081 New value = 0.0262

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J40

Comment: 1075-10-02 - Run 3 (TCAA) 2/13/00 10:16

Original value (S) = 0 New value = 0

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C47

Comment: 1075-10-03 - Run 5 (BDCM) 2/13/00 11:03

Original value (CoefA0) = 0 New value = 0

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: D47

Comment: 1075-10-03 - Run 5 (BDCM) 2/13/00 11:03

Original value (CoefAf) = 0 New value = 1.21

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: E47

Comment: 1075-10-03 - Run 5 (BDCM) 2/13/00 11:03

Original value (CoefB) = 0 New value = 0

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: F47

Comment: 1075-10-03 - Run 5 (BDCM) 2/13/00 11:03

Original value (CoefD) = 0 New value = 0

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: J47

Comment: 1075-10-03 - Run 5 (BDCM) 2/13/00 11:03

Original value (S) = 0 New value = -0.0411

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: C56

Comment: 1075-10-03 - Run 5 (HAA5) 2/13/00 10:56

Original value (CoefA0) = -4.2753 New value = 2.1719

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

Cell: D56

Comment: 1075-10-03 - Run 5 (HAA5) 2/13/00 10:56

Original value (CoefAf) = 31.86 New value = 11.7857

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

Cell: E56

Comment: 1075-10-03 - Run 5 (HAA5) 2/13/00 10:56

Original value (CoefB) = 3.8412 New value = 2182.0639

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

Cell: F56

Comment: 1075-10-03 - Run 5 (HAA5) 2/13/00 10:56

Original value (CoefD) = 0.0114 New value = 0.0826

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

Cell: J56

Comment: 1075-10-03 - Run 5 (HAA5) 2/13/00 10:56

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: C57

Comment: 1075-10-03 - Run 5 (HAA6) 2/13/00 11:02

Original value (CoefA0) = -2.1834 New value = 2.0753

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

Cell: D57

Comment: 1075-10-03 - Run 5 (HAA6) 2/13/00 11:02

Original value (CoefAf) = 31.86 New value = 12.0612

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

Cell: E57

Comment: 1075-10-03 - Run 5 (HAA6) 2/13/00 11:02

Original value (CoefB) = 6.6713 New value = 1610.0061

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

Cell: F57

Comment: 1075-10-03 - Run 5 (HAA6) 2/13/00 11:02

Original value (CoefD) = 0.0144 New value = 0.0793

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

Cell: J57

Comment: 1075-10-03 - Run 5 (HAA6) 2/13/00 11:02

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: C58

Comment: 1075-10-03 - Run 5 (HAA9) 2/13/00 11:00
Original value (CoefA0) = -2.1834 New value = 2.0753
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: D58

Comment: 1075-10-03 - Run 5 (HAA9) 2/13/00 11:00
Original value (CoefAf) = 31.86 New value = 12.0612
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: E58

Comment: 1075-10-03 - Run 5 (HAA9) 2/13/00 11:00
Original value (CoefB) = 6.6713 New value = 1610.0061
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: F58

Comment: 1075-10-03 - Run 5 (HAA9) 2/13/00 11:00
Original value (CoefD) = 0.0144 New value = 0.0793
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: J58

Comment: 1075-10-03 - Run 5 (HAA9) 2/13/00 11:00
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: C59

Comment: 1075-10-03 - Run 5 (MBAA) 2/13/00 10:53
Original value (CoefA0) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: D59

Comment: 1075-10-03 - Run 5 (MBAA) 2/13/00 10:53
Original value (CoefAf) = 0 New value = 1.32
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: E59

Comment: 1075-10-03 - Run 5 (MBAA) 2/13/00 10:53
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: F59

Comment: 1075-10-03 - Run 5 (MBAA) 2/13/00 10:53
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: J59

Comment: 1075-10-03 - Run 5 (MBAA) 2/13/00 10:53
Original value (S) = 0 New value = -0.0256
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: C65

Comment: 1075-10-03 - Run 5 (TOX) 2/13/00 11:05
Original value (CoefA0) = 5.0151 New value = 21.3718
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: D65

Comment: 1075-10-03 - Run 5 (TOX) 2/13/00 11:05
Original value (CoefAf) = 87.6258 New value = 38.1615
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: E65

Comment: 1075-10-03 - Run 5 (TOX) 2/13/00 11:05
Original value (CoefB) = 26.9292 New value = 9700.7398
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: F65

Comment: 1075-10-03 - Run 5 (TOX) 2/13/00 11:05
Original value (CoefD) = 0.038 New value = 0.0915
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: J65

Comment: 1075-10-03 - Run 5 (TOX) 2/13/00 11:05
Original value (S) = -0.0119 New value = 0
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: C73

Comment: 1075-10-04 - Run 7 (Cl2-D) 2/13/00 11:18
Original value (CoefA0) = -0.0784 New value = -0.1613
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: D73

Comment: 1075-10-04 - Run 7 (Cl2-D) 2/13/00 11:18
Original value (CoefAf) = 1.23 New value = 1.9984
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: E73

Comment: 1075-10-04 - Run 7 (Cl2-D) 2/13/00 11:18
Original value (CoefB) = 51.1619 New value = 20.4129
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: F73

Comment: 1075-10-04 - Run 7 (Cl2-D) 2/13/00 11:18
Original value (CoefD) = 0.018 New value = 0.0111
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: J73

Comment: 1075-10-04 - Run 7 (Cl2-D) 2/13/00 11:18
Original value (S) = 0 New value = -0.0005
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: C84

Comment: 1075-10-04 - Run 7 (TCAA) 2/13/00 11:19

Original value (CoefA0) = 3.06 New value = 2.9861
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: D84

Comment: 1075-10-04 - Run 7 (TCAA) 2/13/00 11:19
Original value (CoefAf) = 9.18 New value = 6.683
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: E84

Comment: 1075-10-04 - Run 7 (TCAA) 2/13/00 11:19
Original value (CoefB) = 26.8942 New value = 23.2732
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: F84

Comment: 1075-10-04 - Run 7 (TCAA) 2/13/00 11:19
Original value (CoefD) = 0.018 New value = 0.0255
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: J84

Comment: 1075-10-04 - Run 7 (TCAA) 2/13/00 11:19
Original value (S) = 0 New value = -0.0199
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: C88

Comment: 1075-10-04 - Run 7 (TSUVA) 2/13/00 11:13
Original value (CoefA0) = 0 New value = -0.072
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D88

Comment: 1075-10-04 - Run 7 (TSUVA) 2/13/00 11:13
Original value (CoefAf) = 1.7172 New value = 1.4674
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E88

Comment: 1075-10-04 - Run 7 (TSUVA) 2/13/00 11:13
Original value (CoefB) = 50 New value = 19.9993
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F88

Comment: 1075-10-04 - Run 7 (TSUVA) 2/13/00 11:13
Original value (CoefD) = 0.05 New value = 0.1042
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J88

Comment: 1075-10-04 - Run 7 (TSUVA) 2/13/00 11:13
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C89

Comment: 1075-10-04 - Run 7 (UV254) 2/13/00 11:17
Original value (CoefA0) = -0.0115 New value = 0.0009

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D89

Comment: 1075-10-04 - Run 7 (UV254) 2/13/00 11:17

Original value (CoefAf) = 0.0345 New value = 0.0354

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E89

Comment: 1075-10-04 - Run 7 (UV254) 2/13/00 11:17

Original value (CoefB) = 0.6235 New value = 20.0002

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F89

Comment: 1075-10-04 - Run 7 (UV254) 2/13/00 11:17

Original value (CoefD) = 0 New value = 0.0083

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J89

Comment: 1075-10-04 - Run 7 (UV254) 2/13/00 11:17

Original value (S) = 0 New value = 0

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (CoefA0) = 0 New value = 1.215

Fewer than 6 points above MRL. Step function applied.

Cell: D113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (CoefAf) = 0 New value = 0

Fewer than 6 points above MRL. Step function applied.

Cell: E113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (CoefB) = 0 New value = 0

Fewer than 6 points above MRL. Step function applied.

Cell: F113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (CoefD) = 0 New value = 0

Fewer than 6 points above MRL. Step function applied.

Cell: J113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (S) = 0 New value = 0

Fewer than 6 points above MRL. Step function applied.

Cell: K113

Comment: 1075-20-02 - Run 4 (BDCM) 2/12/00 19:47

Original value (t0) = 0 New value = 182.9301

Fewer than 6 points above MRL. Step function applied.

Cell: C120

Comment: 1075-20-02 - Run 4 (DCAA) 2/13/00 10:20
Original value (CoefA0) = 0 New value = 1.5033
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: D120

Comment: 1075-20-02 - Run 4 (DCAA) 2/13/00 10:20
Original value (CoefAf) = 9.92 New value = 4.7667
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: E120

Comment: 1075-20-02 - Run 4 (DCAA) 2/13/00 10:20
Original value (CoefB) = 20 New value = 19.5966
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: F120

Comment: 1075-20-02 - Run 4 (DCAA) 2/13/00 10:20
Original value (CoefD) = 0.05 New value = 0.1182
Peak curve fit with S = 0. Refit to type 1 curve fit by iterative curve fit procedure.

Cell: J120

Comment: 1075-20-02 - Run 4 (DCAA) 2/13/00 10:20
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: C128

Comment: 1075-20-02 - Run 4 (TCAA) 2/13/00 10:51
Original value (CoefA0) = -4.105 New value = 2.1605
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: D128

Comment: 1075-20-02 - Run 4 (TCAA) 2/13/00 10:51
Original value (CoefAf) = 12.315 New value = 4.8012
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: E128

Comment: 1075-20-02 - Run 4 (TCAA) 2/13/00 10:51
Original value (CoefB) = 1.3174 New value = 1517.5106
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: F128

Comment: 1075-20-02 - Run 4 (TCAA) 2/13/00 10:51
Original value (CoefD) = 0.0066 New value = 0.0385
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: J128

Comment: 1075-20-02 - Run 4 (TCAA) 2/13/00 10:51
Original value (S) = -0.0202 New value = 0
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: C129

Comment: 1075-20-02 - Run 4 (THM4) 2/13/00 10:19
Original value (CoefA0) = 7.9728 New value = 3.1147
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D129

Comment: 1075-20-02 - Run 4 (THM4) 2/13/00 10:19
Original value (CoefAf) = 8.0915 New value = 16.9446
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E129

Comment: 1075-20-02 - Run 4 (THM4) 2/13/00 10:19
Original value (CoefB) = 65.8993 New value = 1670.3078
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F129

Comment: 1075-20-02 - Run 4 (THM4) 2/13/00 10:19
Original value (CoefD) = 0.0173 New value = 0.0382
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J129

Comment: 1075-20-02 - Run 4 (THM4) 2/13/00 10:19
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C132

Comment: 1075-20-02 - Run 4 (TSUVA) 2/13/00 10:17
Original value (CoefA0) = 99999 New value = -0.0614
Fewer than 6 points. Logistic function (type 1) applied.

Cell: D132

Comment: 1075-20-02 - Run 4 (TSUVA) 2/13/00 10:17
Original value (CoefAf) = 99999 New value = 1.2492
Fewer than 6 points. Logistic function (type 1) applied.

Cell: E132

Comment: 1075-20-02 - Run 4 (TSUVA) 2/13/00 10:17
Original value (CoefB) = 99999 New value = 19.9986
Fewer than 6 points. Logistic function (type 1) applied.

Cell: F132

Comment: 1075-20-02 - Run 4 (TSUVA) 2/13/00 10:17
Original value (CoefD) = 99999 New value = 0.1089
Fewer than 6 points. Logistic function (type 1) applied.

Cell: J132

Comment: 1075-20-02 - Run 4 (TSUVA) 2/13/00 10:17
Original value (S) = 0 New value = 0
Fewer than 6 points. Logistic function (type 1) applied.

Cell: C134

Comment: 1075-20-03 - Run 6 (BCAA) 2/13/00 11:12

Original value (CoefA0) = -0.0038 New value = -0.0304
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: D134

Comment: 1075-20-03 - Run 6 (BCAA) 2/13/00 11:12
Original value (CoefAf) = 0.7178 New value = 0.6076
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: E134

Comment: 1075-20-03 - Run 6 (BCAA) 2/13/00 11:12
Original value (CoefB) = 50 New value = 19.999
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: F134

Comment: 1075-20-03 - Run 6 (BCAA) 2/13/00 11:12
Original value (CoefD) = 0.1615 New value = 0.1652
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: J134

Comment: 1075-20-03 - Run 6 (BCAA) 2/13/00 11:12
Original value (S) = -0.0039 New value = 0
Poor peak curve fit. Data was refit to type 1 curve fit by iterative curve fit procedure.

Cell: C152

Comment: 1075-20-03 - Run 6 (TOC) 2/13/00 11:06
Original value (CoefA0) = 0 New value = 0.0576
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D152

Comment: 1075-20-03 - Run 6 (TOC) 2/13/00 11:06
Original value (CoefAf) = 1.455 New value = 0.9552
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E152

Comment: 1075-20-03 - Run 6 (TOC) 2/13/00 11:06
Original value (CoefB) = 1.9335 New value = 20.1517
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F152

Comment: 1075-20-03 - Run 6 (TOC) 2/13/00 11:06
Original value (CoefD) = 0 New value = 0.0129
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J152

Comment: 1075-20-03 - Run 6 (TOC) 2/13/00 11:06
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C154

Comment: 1075-20-03 - Run 6 (TSUVA) 2/13/00 11:09
Original value (CoefA0) = 0 New value = -2

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D154

Comment: 1075-20-03 - Run 6 (TSUVA) 2/13/00 11:09

Original value (CoefAf) = 6.3158 New value = 10

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E154

Comment: 1075-20-03 - Run 6 (TSUVA) 2/13/00 11:09

Original value (CoefB) = 50 New value = 500

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F154

Comment: 1075-20-03 - Run 6 (TSUVA) 2/13/00 11:09

Original value (CoefD) = 0.05 New value = 0.0239

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J154

Comment: 1075-20-03 - Run 6 (TSUVA) 2/13/00 11:09

Original value (S) = 0 New value = 0

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C155

Comment: 1075-20-03 - Run 6 (UV254) 2/13/00 11:38

Original value (CoefA0) = -0.018 New value = -0.005

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D155

Comment: 1075-20-03 - Run 6 (UV254) 2/13/00 11:38

Original value (CoefAf) = 0.054 New value = 0.05

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E155

Comment: 1075-20-03 - Run 6 (UV254) 2/13/00 11:38

Original value (CoefB) = 0.5728 New value = 177

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F155

Comment: 1075-20-03 - Run 6 (UV254) 2/13/00 11:38

Original value (CoefD) = 0 New value = 0.02

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J155

Comment: 1075-20-03 - Run 6 (UV254) 2/13/00 11:38

Original value (S) = 0 New value = 0

Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C160

Comment: 1075-20-04 - Run 8 (CHCl3) 2/13/00 11:23

Original value (CoefA0) = 0 New value = 0

Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: D160

Comment: 1075-20-04 - Run 8 (CHCl3) 2/13/00 11:23
Original value (CoefAf) = 0 New value = 2.09
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: E160

Comment: 1075-20-04 - Run 8 (CHCl3) 2/13/00 11:23
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: F160

Comment: 1075-20-04 - Run 8 (CHCl3) 2/13/00 11:23
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: J160

Comment: 1075-20-04 - Run 8 (CHCl3) 2/13/00 11:23
Original value (S) = 0 New value = -0.0111
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: C164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (CoefA0) = 0 New value = 1.766
Fewer than 6 points above MRL. Step function applied.

Cell: D164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (CoefAf) = 0 New value = 0
Fewer than 6 points above MRL. Step function applied.

Cell: E164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL. Step function applied.

Cell: F164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL. Step function applied.

Cell: J164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (S) = 0 New value = 0
Fewer than 6 points above MRL. Step function applied.

Cell: K164

Comment: 1075-20-04 - Run 8 (DCAA) 2/12/00 19:56
Original value (t0) = 0 New value = 0
Fewer than 6 points above MRL. Step function applied.

Cell: C172

Comment: 1075-20-04 - Run 8 (TCAA) 2/13/00 11:26
Original value (CoefA0) = 1.625 New value = 3.076
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: D172

Comment: 1075-20-04 - Run 8 (TCAA) 2/13/00 11:26
Original value (CoefAf) = 4.875 New value = 3.4008
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: E172

Comment: 1075-20-04 - Run 8 (TCAA) 2/13/00 11:26
Original value (CoefB) = 10 New value = 19.9767
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: F172

Comment: 1075-20-04 - Run 8 (TCAA) 2/13/00 11:26
Original value (CoefD) = 0.15 New value = 0.2429
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: J172

Comment: 1075-20-04 - Run 8 (TCAA) 2/13/00 11:26
Original value (S) = -0.0025 New value = -0.0042
Poor peak curve fit. Data was refit by iterative curve fit procedure.

Cell: C173

Comment: 1075-20-04 - Run 8 (THM4) 2/13/00 11:24
Original value (CoefA0) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: D173

Comment: 1075-20-04 - Run 8 (THM4) 2/13/00 11:24
Original value (CoefAf) = 0 New value = 2.09
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: E173

Comment: 1075-20-04 - Run 8 (THM4) 2/13/00 11:24
Original value (CoefB) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: F173

Comment: 1075-20-04 - Run 8 (THM4) 2/13/00 11:24
Original value (CoefD) = 0 New value = 0
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: J173

Comment: 1075-20-04 - Run 8 (THM4) 2/13/00 11:24
Original value (S) = 0 New value = -0.0111
Fewer than 6 points above MRL. Peak curve/step function combination applied.

Cell: C174

Comment: 1075-20-04 - Run 8 (TOC) 2/13/00 11:22

Original value (CoefA0) = 0.1105 New value = 0.2137
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D174

Comment: 1075-20-04 - Run 8 (TOC) 2/13/00 11:22
Original value (CoefAf) = 0.5452 New value = 0.3188
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E174

Comment: 1075-20-04 - Run 8 (TOC) 2/13/00 11:22
Original value (CoefB) = 1.4364 New value = 20.0009
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F174

Comment: 1075-20-04 - Run 8 (TOC) 2/13/00 11:22
Original value (CoefD) = 0.0022 New value = 0.0133
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J174

Comment: 1075-20-04 - Run 8 (TOC) 2/13/00 11:22
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: C177

Comment: 1075-20-04 - Run 8 (UV254) 2/13/00 11:25
Original value (CoefA0) = -0.008 New value = 0.0036
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: D177

Comment: 1075-20-04 - Run 8 (UV254) 2/13/00 11:25
Original value (CoefAf) = 0.024 New value = 0.0064
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: E177

Comment: 1075-20-04 - Run 8 (UV254) 2/13/00 11:25
Original value (CoefB) = 0.4805 New value = 20.0001
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: F177

Comment: 1075-20-04 - Run 8 (UV254) 2/13/00 11:25
Original value (CoefD) = 0 New value = 0.0236
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

Cell: J177

Comment: 1075-20-04 - Run 8 (UV254) 2/13/00 11:25
Original value (S) = 0 New value = 0
Poor type -1 or 1 curve fit. Data was refit by iterative curve fit procedure.

ICR Information

ID / ICR#: NY0002411 / 492
 ICR Contact: Connie Schreppel
 Phone No.: (315) 792 - 0301
 Period: 5/22/98 - 7/2/98 (40 B-S days)

Design Information

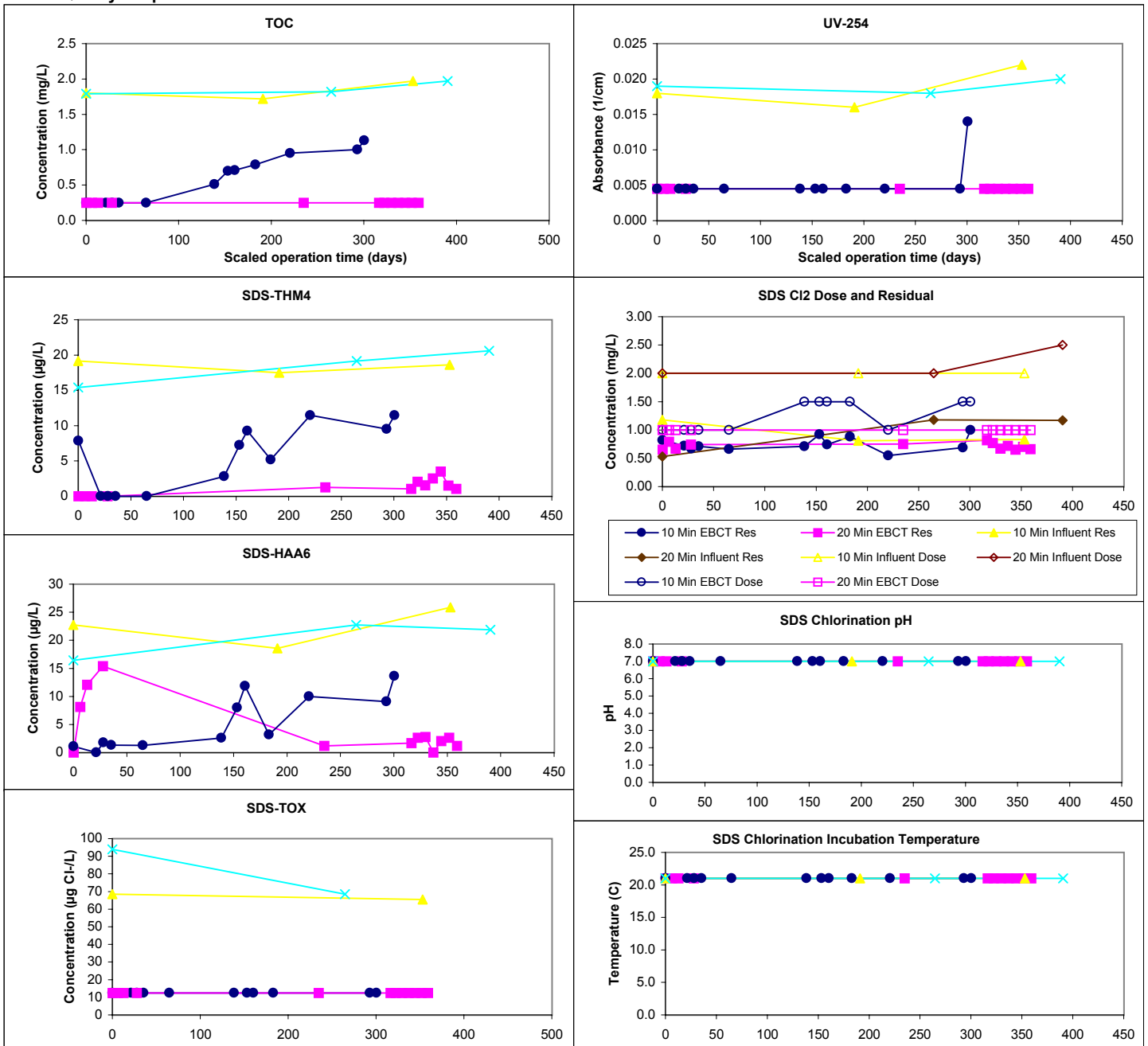
Design TOC: 1.8 mg/L
 Col Diameter: 8.0 mm
 Min Reynolds#: 0.43
 Full-Scale Temp: 15.0 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 80x140
 Scaling Factor: 7.36
 Meas Dry Bed Density: 0.50 g/cm3

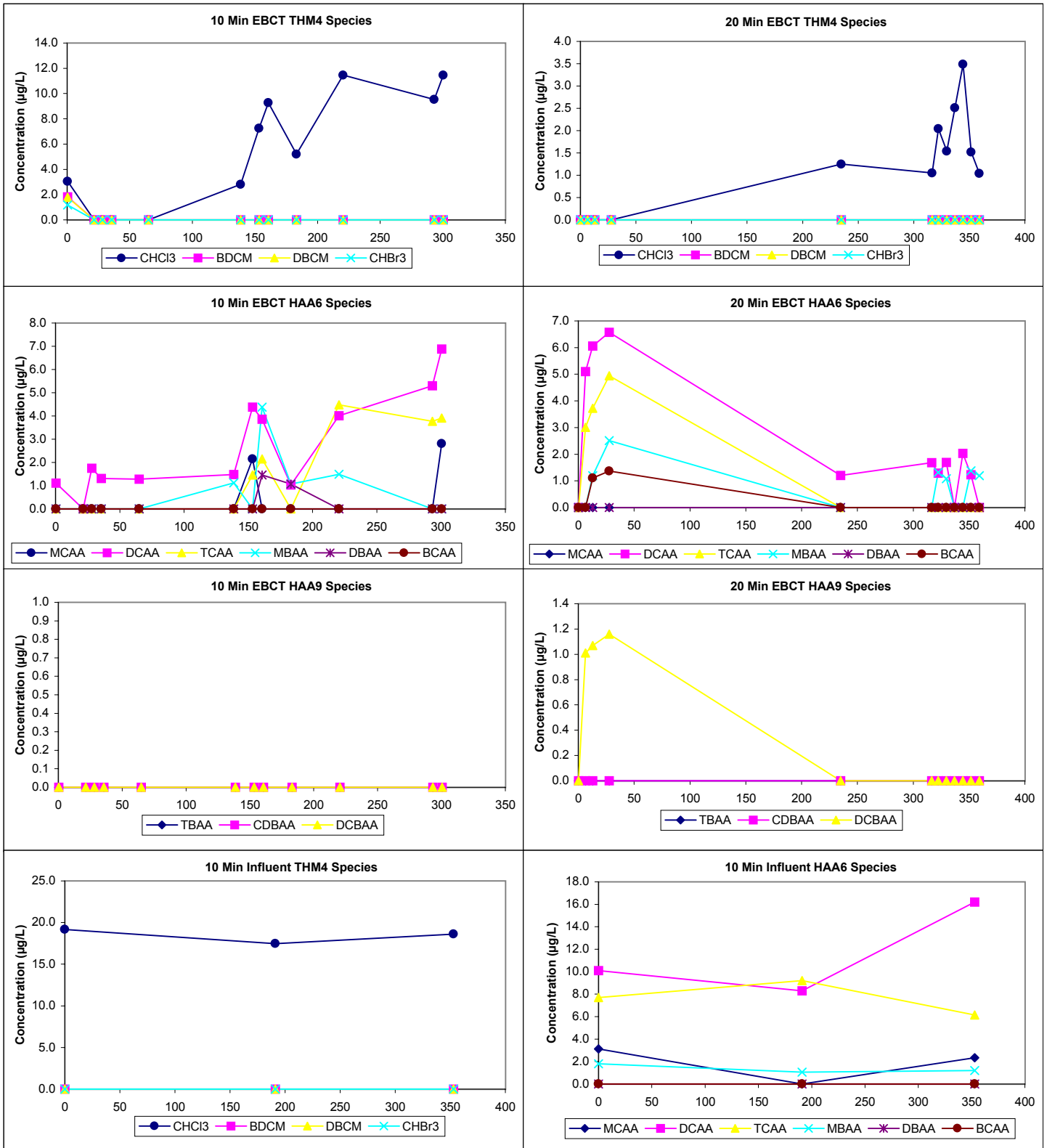
Water Quality Summary

	10 Min Influent				20 Min Influent								
Influent	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max		Mean	SD	Count	Min/Max
TOC	1.8	0.1	3	1.7 - 2.0	1.9	0.1	3	1.8 - 2.0	Res (0)	0.78	0.17	30	0.53 - 1.18
pH	6.7	0.6	3	6.1 - 7.1	7.1	0.1	3	7.0 - 7.1	Temp	21.0	0.0	30	21.0 - 21.0
UV254	0.019	0.003	3	0.016 - 0.022	0.019	0.001	3	0.018 - 0.020	pH	7.0	0.0	30	7.0 - 7.0
SUVA	1.02	0.09	3	0.93 - 1.12	1.02	0.04	3	0.99 - 1.06	Time	7.0	0.0	30	7.0 - 7.0
Bromide	10	0	2	10 - 10	10	0	2	10 - 10	Comments:				
SDS-TOX	67	3	2	66 - 69	81	26	2	69 - 94					
SDS-THM4	18	1	3	17 - 19	18	3	3	15 - 21					
SDS-HAA6	22	4	3	19 - 26	20	3	3	16 - 23					
Effluent	10 Min EBCT (41 B-S days)				20 Min EBCT (49 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>10 Min Influent</div></div><div><div></div><div>20 Min Influent</div></div></div>			
Effluent pH	6.7	0.4	12	6.3 - 7.5	6.3	0.3	12	5.9 - 6.8					
Effluent Temp	24.9	1.3	12	22.9 - 27.0	23.6	1.3	12	21.2 - 25.5					

Water Quality Graphs



Water Quality Graphs (Continued)



Design Information

ID / ICR#: NY0002411 / 492	Design TOC: 2.2 mg/L	Full-Scale GAC Size: 12x40 Bituminous coal
ICR Contact: Connie Schreppel	Col Diameter: 8.0 mm	Bench-Scale GAC Size: 80x140
Phone No.: (315) 792 - 0301	Min Reynolds#: 0.50	Scaling Factor: 7.36
Period: 8/11/98 - 9/28/98 (47 B-S days)	Full-Scale Temp: 21.0 C	Meas Dry Bed Density: 0.50 g/cm3

Cumulative SDS Conditions

10 Min Influent					20 Min Influent				Cumulative SDS Concentrations				
Influent	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max		Mean	SD	Count	Min/Max
TOC	2.7	0.3	3	2.4 - 3.0	2.6	0.4	3	2.4 - 3.0	Res (0)	0.81	0.25	30	0.41 - 1.31
pH	6.3	1.0	3	5.6 - 7.4	6.2	0.9	3	5.6 - 7.2	Temp	22.0	0.0	30	22.0 - 22.0
UV254	0.047	0.006	3	0.040 - 0.050	0.047	0.006	3	0.040 - 0.050	pH	7.0	0.0	30	7.0 - 7.0
SUVA	1.73	0.12	3	1.66 - 1.87	1.81	0.26	3	1.66 - 2.11	Time	7.0	0.0	30	7.0 - 7.0
Bromide	10	0	2	10 - 10	10	0	2	10 - 10	Comments:				
SDS-TOX	184	3	3	182 - 188	185	2	3	183 - 188					
SDS-THM4	40	8	3	34 - 49	43	14	3	34 - 59					
SDS-HAA6	72	21	3	51 - 93	81	26	3	51 - 99					
Effluent	10 Min EBCT (28 B-S days)				20 Min EBCT (48 B-S days)				Chart Legend:				
Effluent pH	6.7	0.4	11	5.6 - 7.2	7.0	0.3	11	6.5 - 7.5					
Effluent Temp	24.4	1.0	11	22.9 - 26.1	24.1	0.9	11	23.0 - 25.4					

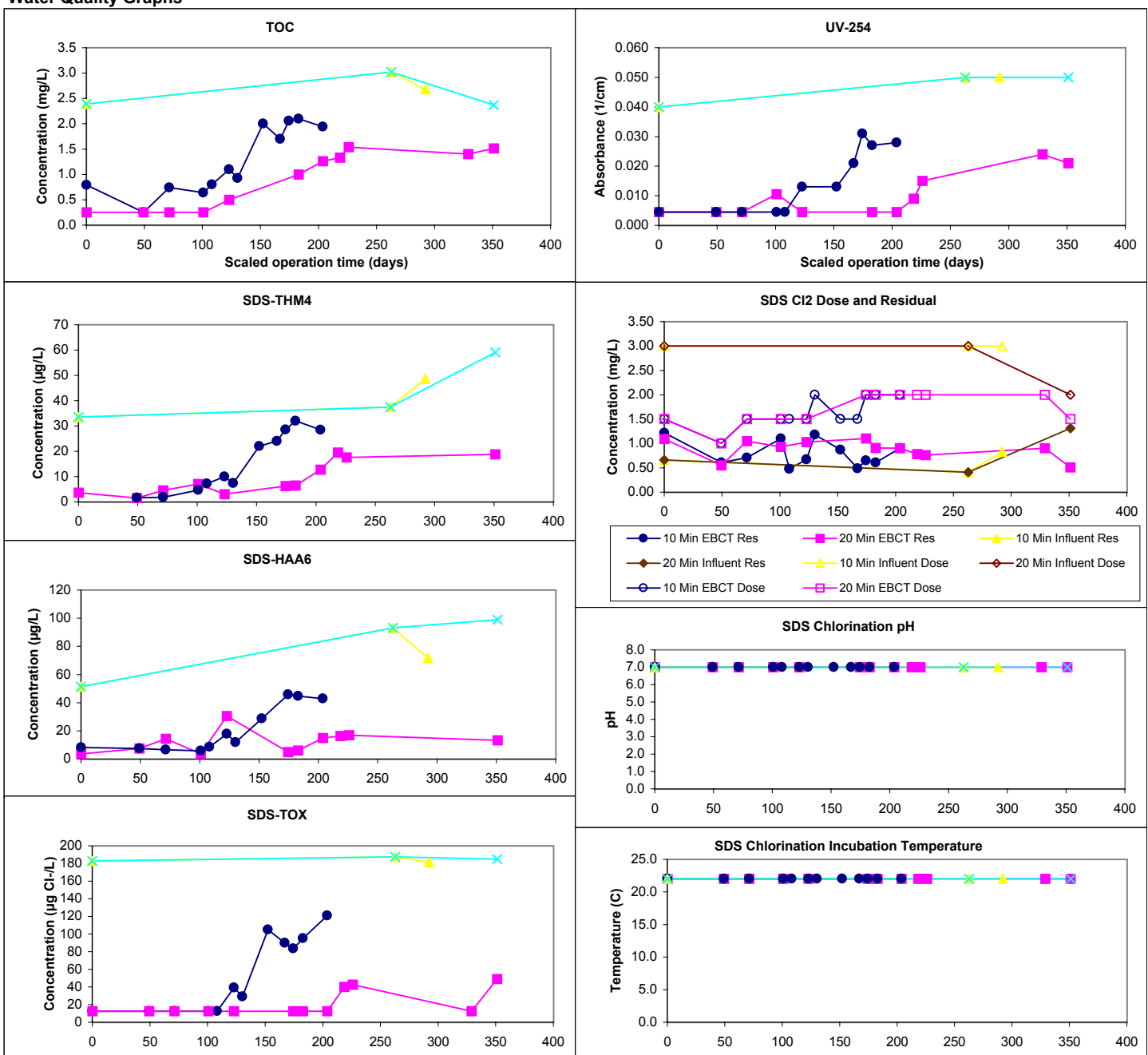
10 Min EBCT

20 Min EBCT

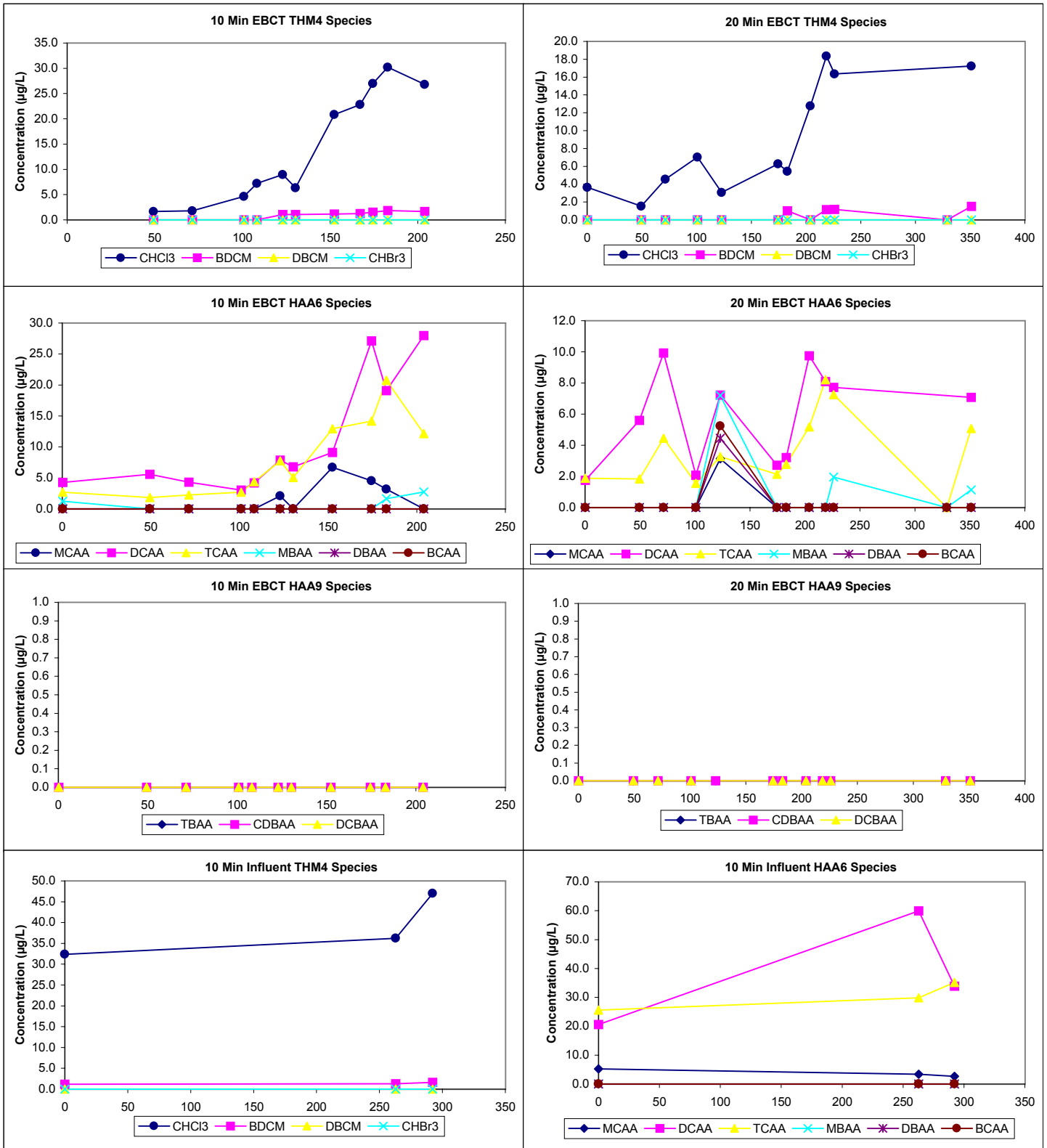
10 Min Influent

20 Min Influent

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information





ID / ICR#: NY0002411 / 492
 ICR Contact: Connie Schreppel
 Phone No.: (315) 792 - 0301
 Period: 11/4/98 - 12/17/98 (43 B-S days)

Design Information

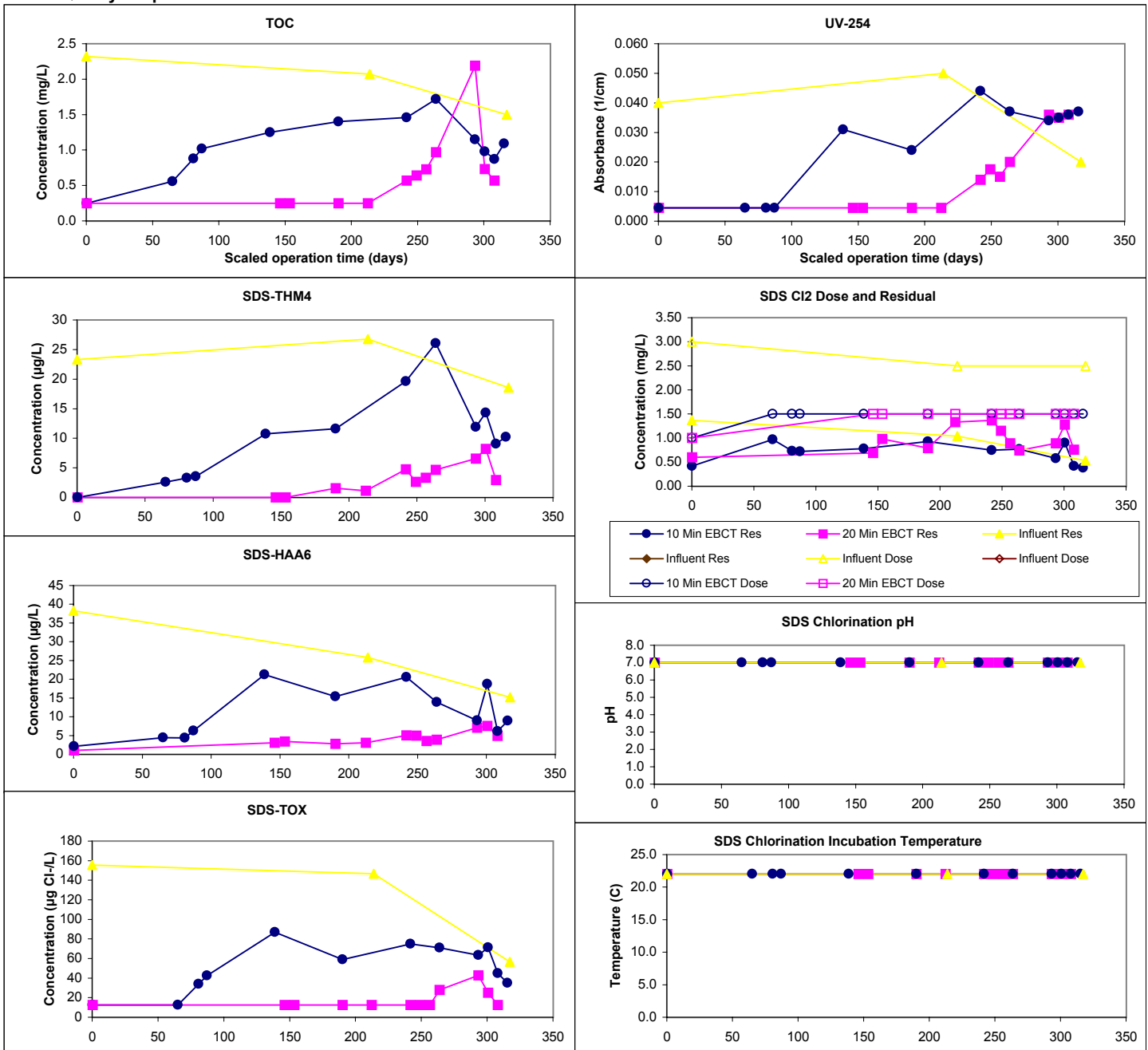
Design TOC: 2.3 mg/L
 Col Diameter: 8.0 mm
 Min Reynolds#: 0.36
 Full-Scale Temp: 8.0 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 80x140
 Scaling Factor: 7.36
 Meas Dry Bed Density: 0.50 g/cm3

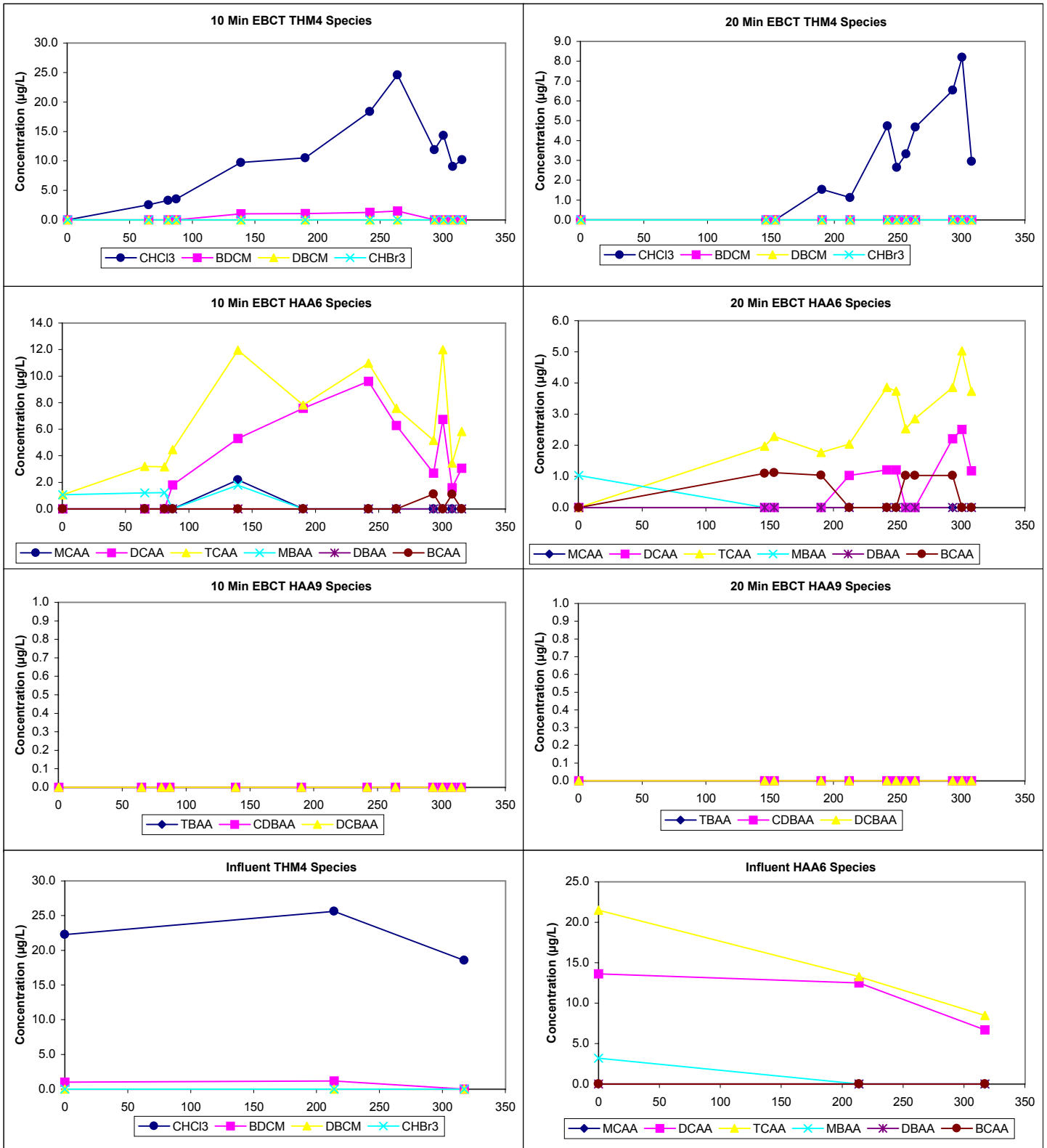
Water Quality Summary

Influent	Influent				Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max					
TOC	2.0	0.4	3	1.5 - 2.3									
pH	7.3	0.4	3	6.8 - 7.5									
UV254	0.037	0.015	3	0.020 - 0.050									
SUVA	1.82	0.55	3	1.33 - 2.42									
Bromide	10	0	2	10 - 10									
SDS-TOX	120	55	3	57 - 156									
SDS-THM4	23	4	3	19 - 27									
SDS-HAA6	26	12	3	15 - 38									
Effluent	10 Min EBCT (43 B-S days)				20 Min EBCT (42 B-S days)				Chart Legend:				
Effluent pH	7.2	0.5	12	6.7 - 8.2	6.9	0.6	12	6.4 - 8.5		 10 Min EBCT			
Effluent Temp	19.9	1.9	12	16.2 - 22.5	20.6	1.5	12	18.2 - 22.6		 20 Min EBCT			
									 Influent				
									 Influent				

Water Quality Graphs



Water Quality Graphs (Continued)



ICR Information

ID / ICR#: NY0002411 / 492
 ICR Contact: Connie Schreppel
 Phone No.: (315) 792 - 0301
 Period: 3/23/99 - 5/7/99 (45 B-S days)

Design Information

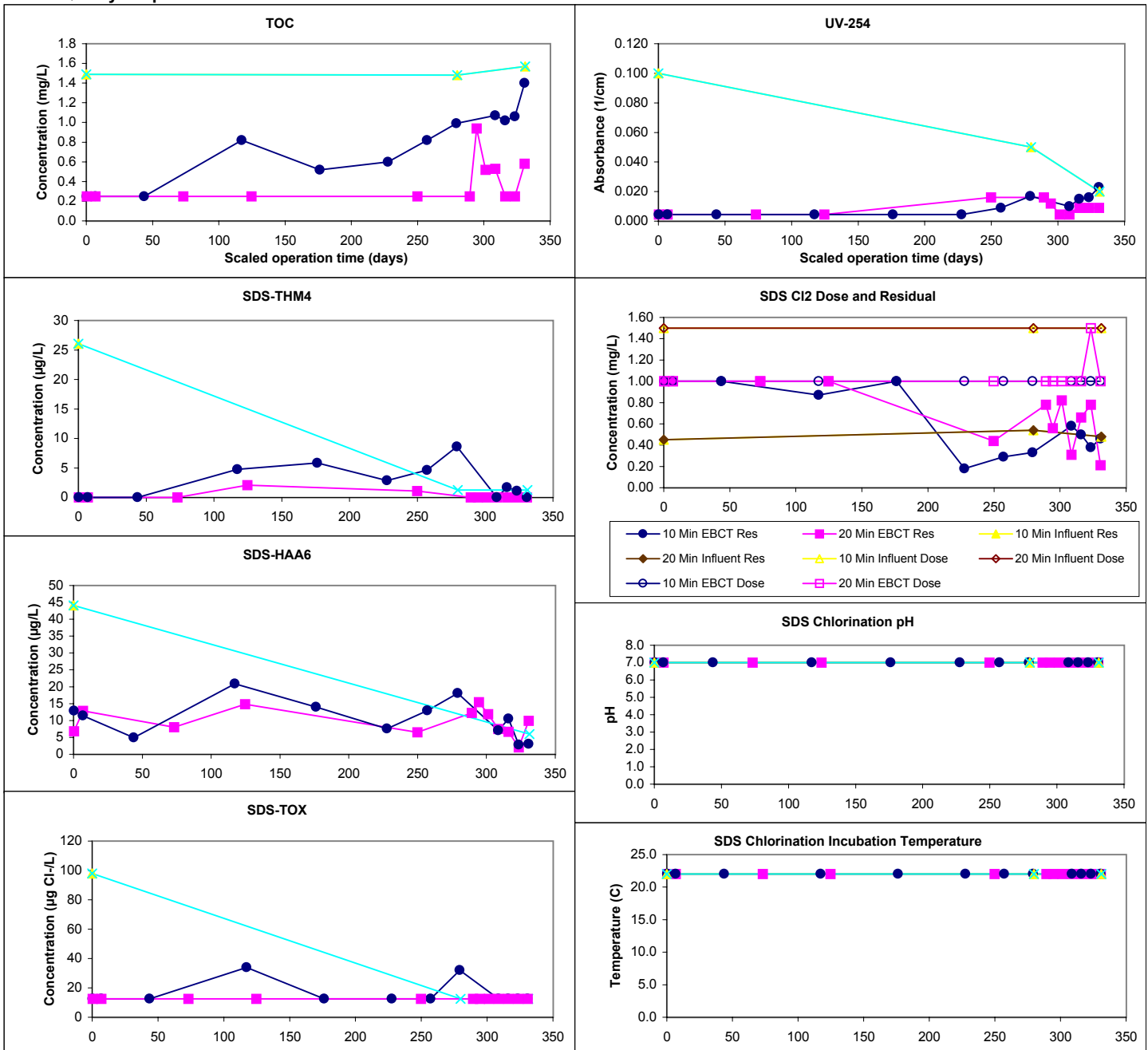
Design TOC: 2.8 mg/L
 Col Diameter: 8.0 mm
 Min Reynolds#: 0.40
 Full-Scale Temp: 12.0 C

Full-Scale GAC Size: 12x40 Bituminous coal
 Bench-Scale GAC Size: 80x140
 Scaling Factor: 7.36
 Meas Dry Bed Density: 0.50 g/cm3

Water Quality Summary

Influent	10 Min Influent				20 Min Influent				Res (0)	Mean	SD	Count	Min/Max
	Mean	SD/RD	Count	Min/Max	Mean	SD/RD	Count	Min/Max					
TOC	1.5	0.0	3	1.5 - 1.6	1.5	0.0	3	1.5 - 1.6		0.64	0.28	30	0.18 - 1.00
pH	6.8	0.1	3	6.7 - 6.9	6.8	0.1	3	6.7 - 6.9	Temp	22.0	0.0	30	22.0 - 22.0
UV254	0.057	0.040	3	0.020 - 0.100	0.057	0.040	3	0.020 - 0.100	pH	7.0	0.0	30	7.0 - 7.0
SUVA	3.79	2.74	3	1.27 - 6.71	3.79	2.74	3	1.27 - 6.71	Time	7.0	0.0	30	7.0 - 7.0
Bromide	10	0	1	10 - 10	10	0	1	10 - 10	Comments:				
SDS-TOX	98	0	1	98 - 98	41	49	3	13 - 98					
SDS-THM4	26	0	1	26 - 26	10	14	3	1 - 26	<div>Chart Legend:</div> <div><div><div></div>10 Min EBCT</div><div><div></div>20 Min EBCT</div><div><div></div>10 Min Influent</div><div><div></div>20 Min Influent</div></div>				
SDS-HAA6	44	0	1	44 - 44	25	38	2	6 - 44					
Effluent	10 Min EBCT (45 B-S days)				20 Min EBCT (45 B-S days)								
Effluent pH	7.6	0.4	12	6.5 - 8.1	7.7	0.3	12	7.4 - 8.1					
Effluent Temp	20.0	2.1	12	17.1 - 23.2	20.6	1.3	12	17.0 - 22.2					

Water Quality Graphs



Water Quality Graphs (Continued)

