

Storm Water Flow Study Report

Prepared for:

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1.0 Introduction

The following sections provide a description of the methodology used to characterize and document the storm water runoff generated by the drainage basin for the unnamed tributaries to Flat Creek upstream of El Dorado Chemical Company (EDCC) and the results of the characterization. A vicinity map outlining the upstream drainage basins and showing the location of the National Pollutant Discharge Elimination System (NPDES) permitted outfalls on the EDCC property is included as Figure 1.

The July 15, 2004 Storm Water Flow Study Plan (the Plan) identified the characterization objectives and tasks to complete the study. This characterization report deviates from the Plan, due to the permanent abandonment of EDCC Outfalls 004 and 005 which discharged to the south unnamed tributary. Because there will be no future discharges from these two locations, the data collected for the south tributary and associated outfalls was not analyzed and the findings presented in this report are only for the north unnamed tributary and Outfalls 006 and 007.

Water level and flow data were collected during storm events to develop a rating curve to represent the north tributary background stream flow. Recorded water levels used in this study are included as Appendix A.

2.0 Project Organization

GBM^c & Associates, Bryant, Arkansas (GBM^c) provided the functional team that conducted the fieldwork and data analysis for the north tributary drainage basin characterization and the EDCC outfalls.

The study was performed over approximately a fifteen-month period, beginning March 2, 2005 and concluding June 17, 2006. Storm water discharges and instream flow measurements were collected during this timeframe to perform the analyses outlined in the Storm Water Flow Study Plan submitted to the ADEQ July 15, 2004.

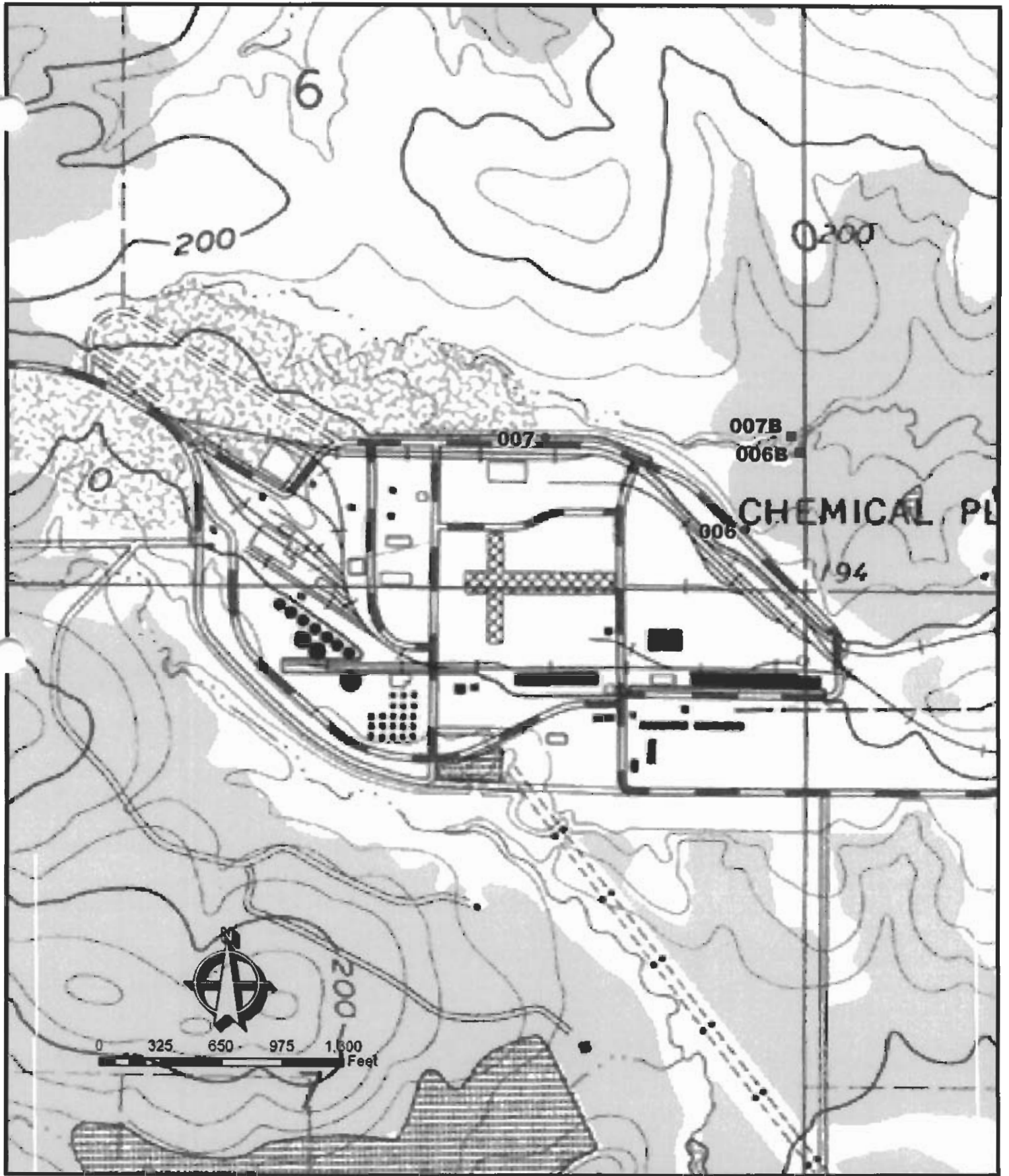


Figure 1. Map showing gauging stations.

3.0 Stream Level Monitoring

Two gauging stations were established in the north tributary on EDCC property (Figure 1) at a point where the flow in the tributary splits into two channels. One gauge was installed on each channel, tributary 006B and tributary 007B. Each gauging station was equipped with a Global Water WL-15 water level logger which was configured to record stream level at five-minute intervals. The loggers were installed at each of the gauging stations on March 2, 2005 and were removed from the EDCC facility June 17, 2006. Site visits were performed approximately every four to six weeks throughout the course of the study to retrieve the stored data from the loggers, perform necessary maintenance, minimize potential data loss due to equipment malfunction, and to ensure the loggers were operating properly. During a scheduled site visit, it was determined that the Global Water WL-15 logger installed at the background flow site designated as 006B had malfunctioned. The WL-15 logger was replaced with a HOBO[®] U20 level logger on February 24, 2006. The two gauging stations for the north tributary (006B and 007B) were located west of two separate road culverts which create a split stream channel but later combine a few yards downstream to convey all of the north tributary and storm water flows off of the EDCC site. Both loggers were installed in protective conduits placed on the bottom center of the main stem of the drainage channel. Precipitation data was provided by a rain gauge installed and maintained at EDCC. The rainfall data is included as Appendix B.

Instream flow measurements were manually collected at each gauging station by a field crew over a range of flow conditions (12 measurement events) to develop a relationship between stream level and rate of flow. Instream velocity was measured using a Marsh-M[°]Birney model 201 water current meter following protocols outlined in the GBM^c & Associates Quality Assurance Plan (GBM^c QAP, 2001). Flow calculations were performed using the velocity-area method. The cross-sectional area multiplied by the velocity yields the instantaneous volumetric flow for the stream. The field data from the flow measurements and calculations are included as Appendix C. The instantaneous flow rate was used in conjunction with the level recorded by the loggers at the time of the flow measurement to develop a relationship between water level and flow rate. Table 1 shows the date, instantaneous flow rate, and water level for each flow measurement collected at the north tributary gauges.

Table 1. North Tributary Flow Measurement Summary.

| 006B | | | | 007B | | | |
|-----------|----------|------------|-------------------|-----------|----------|------------|-------------------|
| Date | Time | Flow (CFS) | Logger depth (ft) | Date | Time | Flow (CFS) | Logger depth (ft) |
| 3/2/2005 | 3:40 PM | 0.67 | 0.78 | 3/2/2005 | 4:00 PM | 0.02 | 0.86 |
| 3/29/2005 | 1:00 PM | 0.93 | 0.86 | 3/29/2005 | 1:15 PM | 0.05 | 0.86 |
| 1/23/2006 | 5:35 PM | 0.35 | 0.73 | 1/23/2006 | 5:45 PM | 0.4 | 1.3 |
| 2/24/2006 | 1:05 PM | 0.11 | 0.62 | 2/24/2006 | 12:55 PM | 0 | 0.66 |
| 3/20/2006 | 12:26 PM | 4.4 | 1.465 | 3/20/2006 | 12:15 PM | 10.32 | 2 |
| 4/25/2006 | 1:20 PM | 0.88 | 0.97 | 4/25/2006 | 1:25 PM | 0 | 0.69 |
| 4/29/2006 | 10:40 AM | 1.72 | 1.162 | 4/29/2006 | 10:50 AM | 0 | 0.83 |
| 4/29/2006 | 12:20 PM | 2.69 | 1.326 | 4/29/2006 | 12:30 PM | 0 | 0.85 |
| 5/4/2006 | 6:10 PM | 3.59 | 1.359 | 5/4/2006 | 6:25 PM | 0 | 1.3 |
| 5/4/2006 | 7:40 PM | 2.74 | 1.32 | 5/4/2006 | 7:50 PM | 4.21 | 1.7 |
| 6/17/2006 | 5:50 PM | 1.395 | 1.151 | 6/17/2006 | 6:00 PM | 0 | 0.82 |
| 6/17/2006 | 6:50 PM | 0.63 | 1.006 | 6/17/2006 | 6:55 PM | 0 | 0.72 |

To convert the water level measurements collected from the level loggers into a flow estimate, a rating curve was developed for each branch of north tributary based on the data in Table 1. The level versus flow data was plotted to determine the best fit curve through the data for each stream using various regression techniques. Charts showing the data and the best fit curves are included as Appendix D. It was determined that a trinomial function ($y=a_3x^3+a_2x^2+a_1x+a_0$) yielded the best representation of the data set for the 006B tributary. The equation used to calculate flow rate for the 006B tributary:

$$y = 11.286x^3 - 28.13x^2 + 25.05x - 7.2465$$

where: y = flow rate, CFS

x = water level, ft.

To represent the level to flow relationship for the 007B tributary, several regression (curve fitting) methods were assessed. A power function was found to provide the best curve fit. Therefore, the equation used to calculate flow in the 007B tributary is:

$$y = 0.0856x^{6.9528}$$

where y = flow rate, CFS

x = water level, ft.

4.0 Outfall 006/007 Monitoring

Storm water Outfalls 006 and 007 at EDCC are equipped with prefabricated flumes for measurement of instantaneous flow rate. A 3 ft "H" flume is installed at Outfall 006, and a 4 ft "HL" flume is installed at Outfall 007. One water level recording gauge was installed on each flume. Each gauging station was equipped with a Global Water WL-15 water level logger which was configured to record water level at five-minute intervals. The loggers were installed at each of the gauging stations on March 2, 2005 and were removed from the EDCC facility June 17, 2006. Site visits were performed approximately every four to six weeks throughout the course of the study to retrieve the stored data from the loggers, perform necessary maintenance, minimize potential data loss due to equipment malfunction, and to ensure the loggers were operating properly.

Water level data recorded by the instruments was used to determine instantaneous flow rate using the flow vs. depth relationships developed by the U. S. Department of Agriculture as published in their Handbook No. 224. Flume flow tables are provided in Appendix E.

5.0 Findings

5.1 Background Flow vs. Outfall Flow

Flow rates were measured and logged at storm water outfalls 006 and 007 at the EDCC facility throughout the study. The storm outfalls are situated in the headwaters of the north tributary; as discussed in the Plan (Section 4.0 addendum, 9/17/04), the background flow would be determined by simultaneously measuring total discharge of the north tributary and subtracting measured discharges from the facility. The purpose of the study was to establish the percentage volumetric contribution of plant storm water discharges to the total watershed discharge exiting EDCC property. Therefore, storm water discharge flow was totalized on an event basis and compared to the total background storm event flow in the tributary, as estimated from the rating curves, to determine a total storm event flow ratio for each event where a discharge occurred and reached the gauging stations at the property boundary.

A total of seventy-one storm discharge events were measured during the study. Flow ratios were calculated by dividing the receiving stream flow (background flow) by the discharge

flow for storm water outfalls 006 and 007. A summary of the data used in the development of the flow ratios is provided in Appendix F. Table 2 summarizes the flow rate ratios calculated from the data. Ratios are calculated and presented seasonally (summer period and seasonal period). The summer period is depicted July through October and the seasonal period as November through June.

Several statistics were calculated from the flow ratios for each season and scenario. These statistics included the mean, the median, the 25th percentile and confidence intervals about the mean at the 80%, 90% and 95% level. The 25th percentile value is the point at which 75 percent of the data set is greater than it. That is, 75% of the ratios in the data set are greater than the 25th percentile value for a given season and scenario. The median is equivalent to the 50th percentile value, such that half the data is greater than it and half the data is less than it. A confidence interval provides a statistical probability that a new set of data (ratios in this case) will result in a mean value in the range of the interval. The lower confidence interval for each probability basis is presented in Table 2 as it is the low side of the statistical range of predicted means and thus the more conservative value. Table 2 does not provide an exhaustive list of potential statistics that could be developed for regulatory use. However, the table does provide those that would be most commonly used for permitting purposes.

Table 2. Storm event flow rate ratio summary, background flow: storm effluent discharge.

| Statistic | 006 Seasonal | 007 Seasonal | 006 Summer ¹ | 007 Summer ¹ |
|--------------|--------------|--------------|-------------------------|-------------------------|
| Lower 95% CI | 53.6 | 15.0 | 0.00 | 0.00 |
| Lower 90% CI | 61.0 | 17.4 | 0.14 | 0.00 |
| Lower 80% CI | 69.5 | 20.1 | 0.53 | 0.00 |
| Mean | 98.7 | 29.4 | 1.7 | 3.5 |
| Median | 20.1 | 8.0 | 0.58 | 0.40 |
| 25%tile | 9.2 | 4.0 | 0.42 | 0.31 |

¹ Zeros (0.00) appear on all statistical results less than 0.01.

5.2 Acute/Chronic Aquatic Toxicity

The current NPDES storm water discharge limits for Outfalls 006 and 007 at EDCC include numeric values for cadmium, lead, and zinc that are based on the presumption that 7Q10 for the receiving stream (north tributary of Flat Creek) is zero; that is, the stream is comprised of 100% storm effluent from EDCC. However, site-specific data has shown that using the lower 95% confidence interval (53.6:1 Outfall 006, 15:1 Outfall 007) during the seasonal (November – June) period, the tributary contains only 8.53% storm effluent associated with industrial activity at EDCC. Cadmium, lead and zinc analytical data collected for the

NPDES Permit application was used in a reasonable potential screen to determine the minimum background to source flow ratio required to prevent instream acute and chronic aquatic toxicity in the north tributary to Flat Creek. The screen results are shown in Table 3.

Table 3. Acute/Chronic Aquatic Toxicity Screen Results, EDCC Outfalls 006/007.

| Background to Source ratio (B:S) | | | |
|---|----------------|-------------|-------------|
| Outfall (95% CI) | Cadmium | Lead | Zinc |
| 006 (53.6) | 7.13 | 201.77 | 215.2 |
| 007 (15.0) | 0.26 | 13.03 | 9.92 |

5.3 Total Dissolved Solids

The current NPDES Permit includes effluent limits for Total Dissolved Solids (TDS) for Outfalls 006 and 007 based on limited instantaneous flow data for the storm water outfalls available at the time the application was prepared. As a result of this study, seasonal period storm water effluent flows as a ratio of background flow were determined and may be used instead of the assumed 4 CFS background flow used in the water quality standard implementation process in the following formula:

$$C_e Q_e + C_b Q_b \leq C_{wqs} (Q_e + Q_b)$$

where: C_e = effluent concentration, mg/l

Q_e = effluent flow, CFS

C_b = background concentration, 67 mg/l

Q_b = background flow, CFS

C_{wqs} = Water Quality Standard concentration, 123 mg/l.

Substituting the seasonal period 95% CI background to source flow ratio for Outfalls 006 and 007 results in the appropriate TDS limit derivations shown in Table 4.

Table 4. TDS Limit Derivation, EDCC Outfalls 006/007.

| Outfall (95% CI) | Seasonal TDS Monthly Ave Limit (mg/l) |
|-------------------------|--|
| 006 (53.6) | 3124.6 |
| 007 (15.0) | 963.0 |

6.0 Recommendations

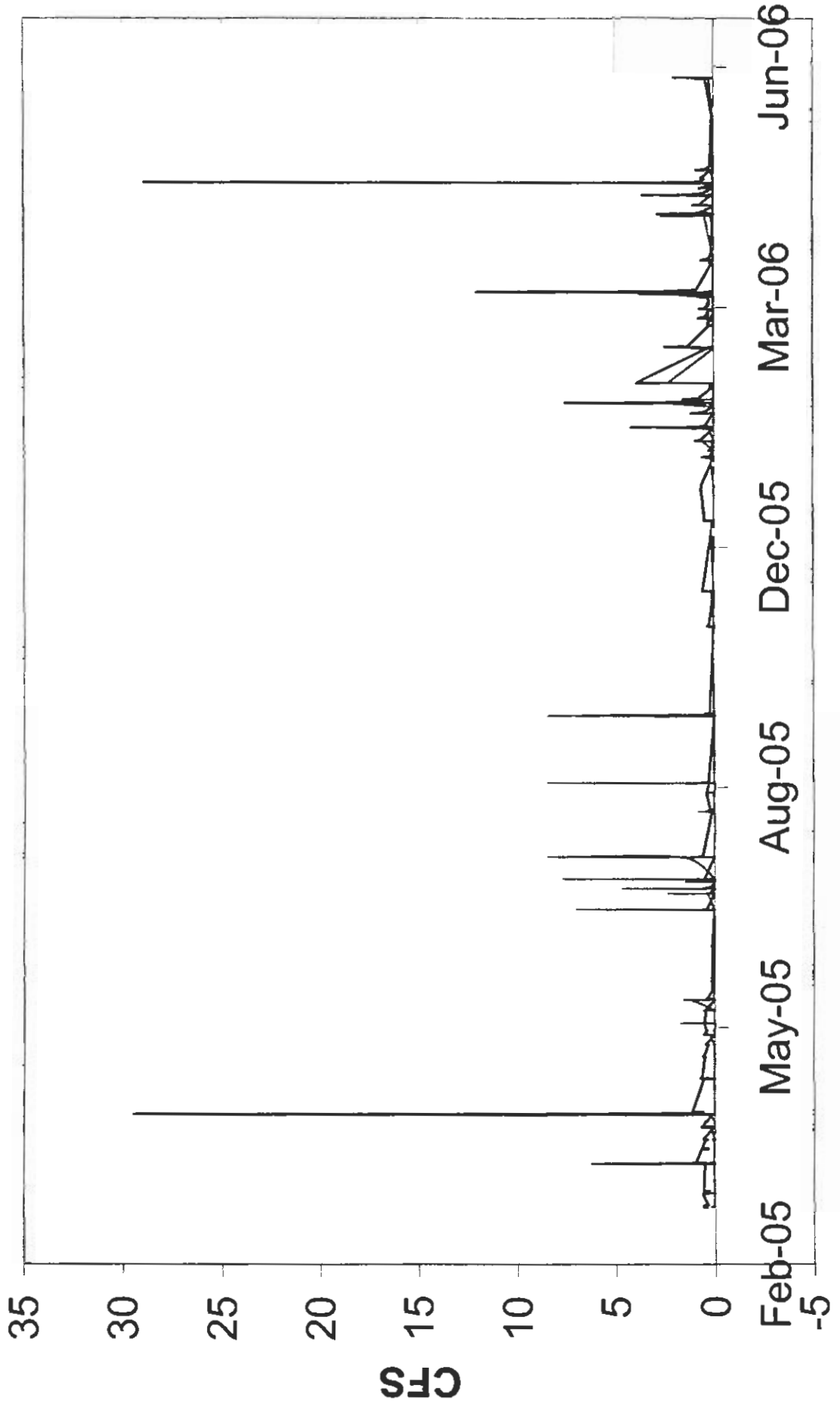
The EDCC Storm Water Flow Study has successfully demonstrated that background flow occurs in the north tributary to Flat Creek during storm water discharge events seasonally, and that statistically conservative analysis of the ratio of background to source flows indicates that the current NPDES Permit limits for certain parameters are not appropriate during the November through June period. Thus, our recommendations are:

1. *Eliminate all effluent limits for cadmium at Outfall 006 using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
2. *Revise the monthly average/daily maximum effluent limits for lead at Outfall 006 to 139.1/279.0 ug/l using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
3. *Revise the monthly average/daily maximum effluent limits for zinc at Outfall 006 to 2,198.1/4,409.9 ug/l using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
4. *Revise the monthly average/daily maximum effluent limits for TDS at Outfall 006 to 3,124/4,686 mg/l using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
5. *Eliminate all effluent limits for cadmium, lead and zinc at Outfall 007 using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
6. *Revise the monthly average/daily maximum effluent limits for TDS at Outfall 007 to 963/1,444 mg/l using the 95% CI ratio of background-to-source for the period November through June. Current limits to remain for July – October.*
7. *Revise the critical dilution and dilution series for Acute Biomonitoring at Outfall 006 using the 95% CI ratio of background-to-source for the period November through June. Current dilutions to remain for July – October.*
8. *Revise the critical dilution and dilution series for Acute Biomonitoring at Outfall 006 using the 95% CI ratio of background-to-source for the period November through June. Current dilutions to remain for July – October.*

Appendix A

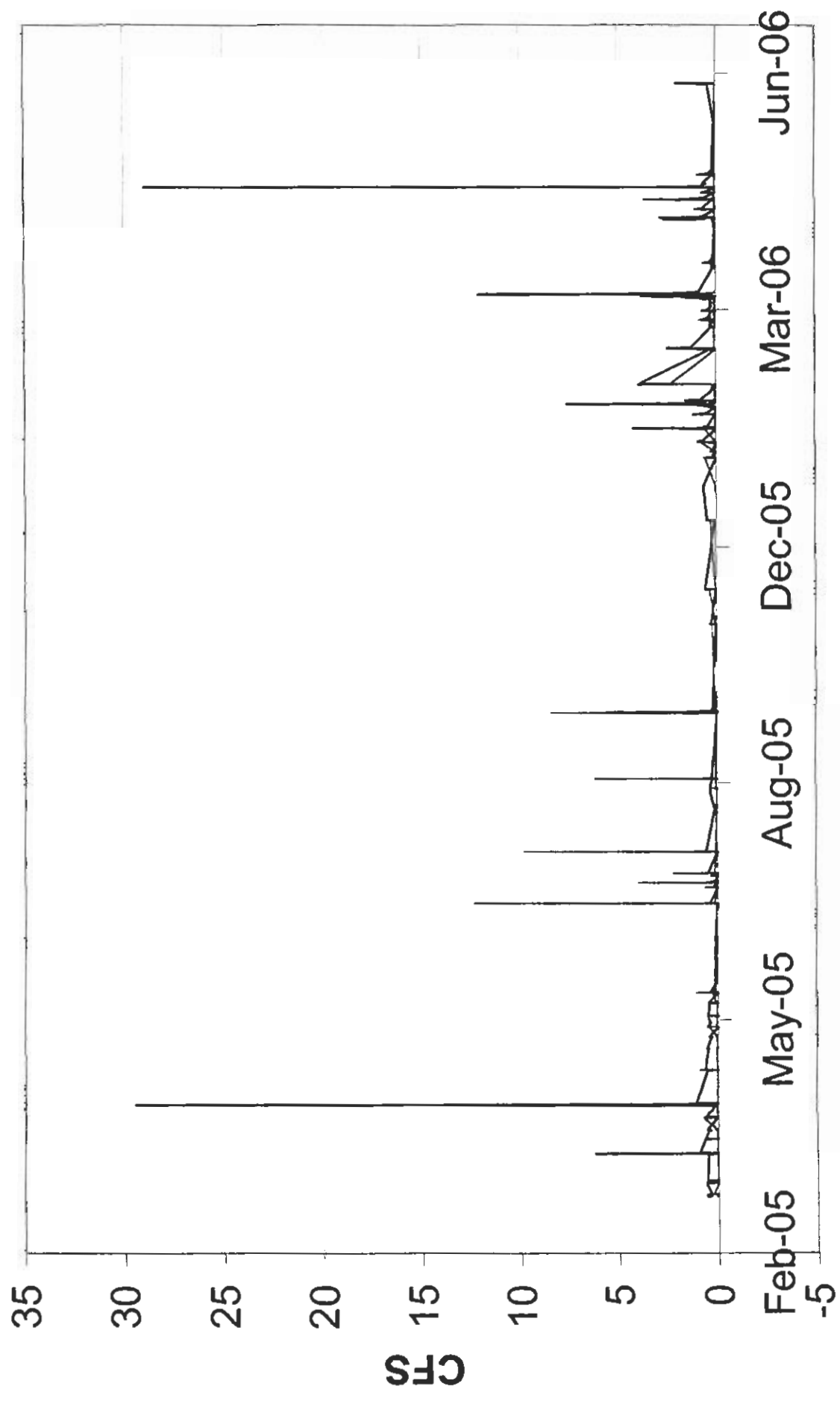
Recorded Water Levels and Flow Data

EDCC-INSTANTANEOUS FLOW



— BACKGROUND — OUTFALL 006

EDCC-INSTANTANEOUS FLOW



— BACKGROUND — OUTFALL 007

Appendix B
Rainfall Data

ECCC Rainfall Data

| 2005 | Rainfall Inches |
|--------|-----------------|
| Date | |
| 1-Jan | |
| 2-Jan | |
| 3-Jan | 0.2 |
| 4-Jan | 0 |
| 5-Jan | 0 |
| 6-Jan | 0.33 |
| 7-Jan | 1 |
| 8-Jan | |
| 9-Jan | |
| 10-Jan | 0.5 |
| 11-Jan | 0 |
| 12-Jan | 0 |
| 13-Jan | 1.05 |
| 14-Jan | 0 |
| 15-Jan | |
| 16-Jan | |
| 17-Jan | 0 |
| 18-Jan | 0 |
| 19-Jan | 0 |
| 20-Jan | 0 |
| 21-Jan | 0 |
| 22-Jan | |
| 23-Jan | |
| 24-Jan | 0 |
| 25-Jan | 0 |
| 26-Jan | 0 |
| 27-Jan | 0 |
| 28-Jan | 0.23 |
| 29-Jan | |
| 30-Jan | |
| 31-Jan | 1.18 |
| 1-Feb | 0.07 |
| 2-Feb | 0.53 |
| 3-Feb | 0 |
| 4-Feb | 0 |
| 5-Feb | |
| 6-Feb | |
| 7-Feb | 0.51 |
| 8-Feb | 0.3 |
| 9-Feb | 0 |
| 10-Feb | 0 |
| 11-Feb | 0 |
| 12-Feb | |
| 13-Feb | |
| 14-Feb | 0.03 |
| 15-Feb | 0 |
| 16-Feb | 0 |
| 17-Feb | 0 |
| 18-Feb | 0 |
| 19-Feb | |
| 20-Feb | |
| 21-Feb | 0.3 |
| 22-Feb | 0 |
| 23-Feb | 0 |
| 24-Feb | 0.58 |
| 25-Feb | 0.03 |
| 26-Feb | |
| 27-Feb | |
| 28-Feb | 0.07 |
| 1-Mar | 0 |
| 2-Mar | 0 |
| 3-Mar | 0.2 |
| 4-Mar | 0 |
| 5-Mar | |
| 6-Mar | |
| 7-Mar | 0 |
| 8-Mar | 0.13 |
| 9-Mar | 0.07 |
| 10-Mar | 0.1 |
| 11-Mar | 0 |
| 12-Mar | |
| 13-Mar | |
| 14-Mar | 0 |
| 15-Mar | 0 |
| 16-Mar | 0 |
| 17-Mar | 0 |
| 18-Mar | 0 |
| 19-Mar | |
| 20-Mar | |
| 21-Mar | 0.05 |
| 22-Mar | 0.72 |
| 23-Mar | 0 |
| 24-Mar | 0 |
| 25-Mar | |
| 26-Mar | |
| 27-Mar | |
| 28-Mar | 0.36 |
| 29-Mar | 0 |
| 30-Mar | 0 |
| 31-Mar | 0 |
| 1-Apr | 0.13 |
| 2-Apr | |
| 3-Apr | |
| 4-Apr | 0 |
| 5-Apr | 0 |
| 6-Apr | 0.36 |
| 7-Apr | 0.07 |

| 2005 | Rainfall Inches |
|--------|-----------------|
| 8-Apr | 0.1 |
| 9-Apr | |
| 10-Apr | |
| 11-Apr | 2 |
| 12-Apr | 2.07 |
| 13-Apr | 0 |
| 14-Apr | 0 |
| 15-Apr | 0 |
| 16-Apr | |
| 17-Apr | |
| 18-Apr | 0 |
| 19-Apr | 0 |
| 20-Apr | 0 |
| 21-Apr | 0 |
| 22-Apr | 0 |
| 23-Apr | |
| 24-Apr | |
| 25-Apr | 0 |
| 26-Apr | 0.54 |
| 27-Apr | 0 |
| 28-Apr | 0 |
| 29-Apr | 0 |
| 30-Apr | |
| 1-May | |
| 2-May | 0.07 |
| 3-May | 0 |
| 4-May | 0 |
| 5-May | 0 |
| 6-May | 0 |
| 7-May | |
| 8-May | |
| 9-May | 0.13 |
| 10-May | 0 |
| 11-May | 0 |
| 12-May | 0 |
| 13-May | 0 |
| 14-May | |
| 15-May | |
| 16-May | 0.3 |
| 17-May | 0 |
| 18-May | 0 |
| 19-May | 0 |
| 20-May | 0 |
| 21-May | |
| 22-May | |
| 23-May | 0 |
| 24-May | 0 |
| 25-May | 0.26 |
| 26-May | 0 |
| 27-May | 0 |
| 28-May | |
| 29-May | |
| 30-May | |
| 31-May | 0.58 |
| 1-Jun | 0 |
| 2-Jun | 0.03 |
| 3-Jun | 0 |
| 4-Jun | |
| 5-Jun | |
| 6-Jun | 0 |
| 7-Jun | 0 |
| 8-Jun | 0.1 |
| 9-Jun | 0 |
| 10-Jun | 0 |
| 11-Jun | |
| 12-Jun | |
| 13-Jun | 0 |
| 14-Jun | 0 |
| 15-Jun | 0 |
| 16-Jun | 0 |
| 17-Jun | 0 |
| 18-Jun | |
| 19-Jun | |
| 20-Jun | 0.28 |
| 21-Jun | 0 |
| 22-Jun | 0 |
| 23-Jun | 0 |
| 24-Jun | 0 |
| 25-Jun | |
| 26-Jun | |
| 27-Jun | 0 |
| 28-Jun | 0 |
| 29-Jun | 0 |
| 30-Jun | 0 |
| 1-Jul | 0 |
| 2-Jul | |
| 3-Jul | |
| 4-Jul | |
| 5-Jul | 0 |
| 6-Jul | 1.04 |
| 7-Jul | 0 |
| 8-Jul | 0 |
| 9-Jul | |
| 10-Jul | |
| 11-Jul | 0 |
| 12-Jul | 0 |
| 13-Jul | 0.23 |
| 14-Jul | |

| 2005 | Rainfall Inches |
|--------|-----------------|
| 15-Jul | 1.2 |
| 16-Jul | |
| 17-Jul | |
| 18-Jul | 0.15 |
| 19-Jul | 0.41 |
| 20-Jul | 0 |
| 21-Jul | 0 |
| 22-Jul | 0 |
| 23-Jul | |
| 24-Jul | |
| 25-Jul | 0 |
| 26-Jul | 0 |
| 27-Jul | 0 |
| 28-Jul | 1.12 |
| 29-Jul | 0 |
| 30-Jul | |
| 31-Jul | |
| 1-Aug | 0 |
| 2-Aug | 0 |
| 3-Aug | 0 |
| 4-Aug | 0 |
| 5-Aug | 0 |
| 6-Aug | |
| 7-Aug | |
| 8-Aug | 0 |
| 9-Aug | 0 |
| 10-Aug | 0 |
| 11-Aug | 0 |
| 12-Aug | 0 |
| 13-Aug | |
| 14-Aug | |
| 15-Aug | 0.13 |
| 16-Aug | 0.2 |
| 17-Aug | 0 |
| 18-Aug | 0 |
| 19-Aug | 0 |
| 20-Aug | |
| 21-Aug | |
| 22-Aug | 0.22 |
| 23-Aug | 0 |
| 24-Aug | 0.38 |
| 25-Aug | 0 |
| 26-Aug | 0 |
| 27-Aug | |
| 28-Aug | |
| 29-Aug | 1.04 |
| 30-Aug | 0 |
| 31-Aug | 0 |
| 1-Sep | 0 |
| 2-Sep | 0 |
| 3-Sep | |
| 4-Sep | |
| 5-Sep | |
| 6-Sep | 0 |
| 7-Sep | 0 |
| 8-Sep | 0 |
| 9-Sep | 0 |
| 10-Sep | |
| 11-Sep | |
| 12-Sep | 0 |
| 13-Sep | 0 |
| 14-Sep | 0 |
| 15-Sep | 0 |
| 16-Sep | 0.16 |
| 17-Sep | |
| 18-Sep | |
| 19-Sep | 0 |
| 20-Sep | 0 |
| 21-Sep | 0 |
| 22-Sep | 0 |
| 23-Sep | 0 |
| 24-Sep | |
| 25-Sep | |
| 26-Sep | 2 |
| 27-Sep | 0 |
| 28-Sep | 0 |
| 29-Sep | 0.03 |
| 30-Sep | 0 |
| 1-Oct | |
| 2-Oct | |
| 3-Oct | 0 |
| 4-Oct | 0 |
| 5-Oct | 0 |
| 6-Oct | 0 |
| 7-Oct | 0 |
| 8-Oct | |
| 9-Oct | |
| 10-Oct | |
| 11-Oct | 0 |
| 12-Oct | 0 |
| 13-Oct | 0 |
| 14-Oct | 0 |
| 15-Oct | |
| 16-Oct | |
| 17-Oct | 0 |
| 18-Oct | 0 |
| 19-Oct | 0 |
| 20-Oct | 0 |

EDCC Rainfall Data

| 2005 | Rainfall Inches |
|--------|--------------------|
| 21-Oct | 0 |
| 22-Oct | |
| 23-Oct | |
| 24-Oct | 0 |
| 25-Oct | 0 |
| 26-Oct | 0 |
| 27-Oct | 0 |
| 28-Oct | 0 |
| 29-Oct | |
| 30-Oct | |
| 31-Oct | 0 |
| 1-Nov | 0.66 |
| 2-Nov | 0 |
| 3-Nov | 0 |
| 4-Nov | 0 |
| 5-Nov | |
| 6-Nov | |
| 7-Nov | 0 |
| 8-Nov | 0 |
| 9-Nov | 0 |
| 10-Nov | 0 |
| 11-Nov | 0 |
| 12-Nov | |
| 13-Nov | |
| 14-Nov | 0.26 |
| 15-Nov | 0.13 |
| 16-Nov | 0.33 |
| 17-Nov | 0 |
| 18-Nov | 0 |
| 19-Nov | |
| 20-Nov | |
| 21-Nov | 0.07 |
| 22-Nov | 0 |
| 23-Nov | 0 |
| 24-Nov | |
| 25-Nov | |
| 26-Nov | |
| 27-Nov | |
| 28-Nov | 0.49 |
| 29-Nov | 0 |
| 30-Nov | 0 |
| 1-Dec | 0 |
| 2-Dec | 0 |
| 3-Dec | |
| 4-Dec | 0.5 |
| 5-Dec | 0 |
| 6-Dec | 0 |
| 7-Dec | 0 |
| 8-Dec | 1.25 |
| 9-Dec | 0 |
| 10-Dec | |
| 11-Dec | |
| 12-Dec | 0 |
| 13-Dec | 0 |
| 14-Dec | 0.02 |
| 15-Dec | 0.5 |
| 16-Dec | 0 |
| 17-Dec | |
| 18-Dec | |
| 19-Dec | 0 |
| 20-Dec | 0 |
| 21-Dec | 0 |
| 22-Dec | 0 |
| 23-Dec | |
| 24-Dec | |
| 25-Dec | |
| 26-Dec | |
| 27-Dec | 0 |
| 28-Dec | 0 |
| 29-Dec | 0 |
| 30-Dec | 0 |
| 31-Dec | |
| 2006 | |
| 1-Jan | |
| 2-Jan | |
| 3-Jan | 0 |
| 4-Jan | 0 |
| 5-Jan | 0 |
| 6-Jan | 0 |
| 7-Jan | |
| 8-Jan | |
| 9-Jan | 0 |
| 10-Jan | 0.6 |
| 11-Jan | 0.07 |
| 12-Jan | 0 |
| 13-Jan | 0.16 |
| 14-Jan | |
| 15-Jan | |
| 16-Jan | 0 |
| 17-Jan | 0.72 |
| 18-Jan | 0 |
| 19-Jan | 0 |
| 20-Jan | 0 |
| 21-Jan | |
| 22-Jan | |
| 23-Jan | 2 |
| 24-Jan | 0 |
| 25-Jan | 0 |

| 2006 | Rainfall Inches |
|--------|--------------------|
| 26-Jan | 0 |
| 27-Jan | 0 |
| 28-Jan | |
| 29-Jan | |
| 30-Jan | 0.35 |
| 31-Jan | 0 |
| 1-Feb | 0 |
| 2-Feb | 0.8 |
| 3-Feb | 0 |
| 4-Feb | |
| 5-Feb | |
| 6-Feb | 0.25 |
| 7-Feb | 0 |
| 8-Feb | 0 |
| 9-Feb | 0 |
| 10-Feb | 0 |
| 11-Feb | |
| 12-Feb | |
| 13-Feb | 1.1 |
| 14-Feb | 0 |
| 15-Feb | 0 |
| 16-Feb | 0.1 |
| 17-Feb | 0 |
| 18-Feb | |
| 19-Feb | |
| 20-Feb | 0 |
| 21-Feb | 0 |
| 22-Feb | 0.08 |
| 23-Feb | 0.07 |
| 24-Feb | 0 |
| 25-Feb | |
| 26-Feb | |
| 27-Feb | 1.25 |
| 28-Feb | 0 |
| 1-Mar | 0 |
| 2-Mar | 0 |
| 3-Mar | 0 |
| 4-Mar | |
| 5-Mar | |
| 6-Mar | 0.1 |
| 7-Mar | 0 |
| 8-Mar | 0 |
| 9-Mar | 0 |
| 10-Mar | 0.4 |
| 11-Mar | |
| 12-Mar | |
| 13-Mar | 0 |
| 14-Mar | 0.23 |
| 15-Mar | 0 |
| 16-Mar | 0 |
| 17-Mar | 0 |
| 18-Mar | |
| 19-Mar | |
| 20-Mar | 2 |
| 21-Mar | 0.37 |
| 22-Mar | 0 |
| 23-Mar | 0 |
| 24-Mar | 0 |
| 25-Mar | 0 |
| 26-Mar | |
| 27-Mar | 0 |
| 28-Mar | 0 |
| 29-Mar | 0 |
| 30-Mar | 0 |
| 31-Mar | 0 |
| 1-Apr | |
| 2-Apr | |
| 3-Apr | 0.3 |
| 4-Apr | 0 |
| 5-Apr | 0 |
| 6-Apr | 0 |
| 7-Apr | 0 |
| 8-Apr | |
| 9-Apr | |
| 10-Apr | 0 |
| 11-Apr | 0 |
| 12-Apr | 0 |
| 13-Apr | 0 |
| 14-Apr | 0 |
| 15-Apr | |
| 16-Apr | |
| 17-Apr | 0 |
| 18-Apr | 0 |
| 19-Apr | 0 |
| 20-Apr | 0 |
| 21-Apr | 0.8 |
| 22-Apr | |
| 23-Apr | |
| 24-Apr | 0.85 |
| 25-Apr | 0 |
| 26-Apr | 0.45 |
| 27-Apr | 0 |
| 28-Apr | 0 |
| 29-Apr | |
| 30-Apr | |
| 1-May | 1 |
| 2-May | 0 |
| 3-May | 0.3 |

| 2006 | Rainfall Inches |
|--------|--------------------|
| 4-May | 0 |
| 5-May | 1 |
| 6-May | |
| 7-May | |
| 8-May | 0.2 |
| 9-May | 0.1 |
| 10-May | 0.3 |
| 11-May | 0 |
| 12-May | 0 |
| 13-May | |
| 14-May | |
| 15-May | 0 |
| 16-May | 0 |
| 17-May | 0 |
| 18-May | 0 |
| 19-May | 0 |
| 20-May | |
| 21-May | |
| 22-May | 0 |
| 23-May | 0 |
| 24-May | 0 |
| 25-May | 0 |
| 26-May | 0 |
| 27-May | |
| 28-May | |
| 29-May | |
| 30-May | 0.1 |
| 31-May | 1.75 |
| 1-Jun | 0 |
| 2-Jun | 0 |
| 3-Jun | |
| 4-Jun | |
| 5-Jun | 0 |
| 6-Jun | 0 |
| 7-Jun | 1.1 |
| 8-Jun | 0 |
| 9-Jun | 0 |
| 10-Jun | |
| 11-Jun | |
| 12-Jun | 0 |
| 13-Jun | 0 |
| 14-Jun | 0 |
| 15-Jun | 0 |
| 16-Jun | 0 |
| 17-Jun | |

Appendix C

Flow Measurement Data Collected in the Field

El Dorado Chemical

date 3/2/2005

Start 1550

Stop 1600

| | | | |
|--------------------|------|----------------|---------------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: BJP / JJF | | | |
| Width (ft): | 3 | Area: 0.65 | Max Vel: 1.24 |
| Flow (cfs): | 0.67 | Velocity: 0.90 | Min Vel: 0 |
| | | | |

Level 0.78 logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.2 | 1.24 | 0.1 | 0.124 | 0.6 | 0.12 |
| 1 | 0.5 | 0.2 | 1.22 | 0.1 | 0.122 | 0.6 | 0.12 |
| 1.5 | 0.5 | 0.4 | 1.24 | 0.2 | 0.248 | 0.6 | 0.25 |
| 2 | 0.5 | 0.2 | 0.98 | 0.1 | 0.098 | 0.6 | 0.10 |
| 2.5 | 0.5 | 0.2 | 0.73 | 0.1 | 0.073 | 0.6 | 0.07 |
| 3 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | 0 | 0 | 0.6 | 0.00 |
| | | | | 0 | 0 | 0.6 | 0.00 |
| | | | | 0 | 0 | 0.6 | 0.00 |
| | | | | 0 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| total | 3 | 1.3 | 5.41 | 0.65 | | | 0.665 |
| average | 0.5 | 0.216667 | 0.901667 | 0.065 | | | 0.073889 |

El Dorado Chemical

date 3/29/2005

Start 1300

Stop 1315

| | | |
|--------------------|----------------|--------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: AAS / JJF | | |
| Width (ft): 3.5 | Area: 1.0395 | Max Vel: 1.7 |
| Flow (cfs): 0.93 | Velocity: 0.70 | Min Vel: 0 |
| | | |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.35 | 0.35 | 0.2 | 0.17 | 0.07 | 0.0119 | 0.6 | 0.01 |
| 0.7 | 0.35 | 0.3 | 1.2 | 0.105 | 0.126 | 0.6 | 0.13 |
| 1.05 | 0.35 | 0.32 | 1.3 | 0.112 | 0.1456 | 0.6 | 0.15 |
| 1.4 | 0.35 | 0.35 | 1.7 | 0.1225 | 0.20825 | 0.6 | 0.21 |
| 1.75 | 0.35 | 0.45 | 1.5 | 0.1575 | 0.23625 | 0.6 | 0.24 |
| 2.1 | 0.35 | 0.5 | 0.8 | 0.175 | 0.14 | 0.6 | 0.14 |
| 2.45 | 0.35 | 0.5 | 0.35 | 0.175 | 0.06125 | 0.6 | 0.06 |
| 2.8 | 0.35 | 0.25 | 0 | 0.0875 | 0 | 0.6 | 0.00 |
| 3.15 | 0.35 | 0.1 | 0 | 0.035 | 0 | 0.6 | 0.00 |
| 3.5 | 0.35 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| total | 3.15 | 2.97 | 7.02 | 1.0395 | | | 0.929 |
| average | 0.35 | 0.297 | 0.702 | 0.10395 | | | 0.10325 |

El Dorado Chemical

date

1/23/2006

Start

1735

Stop

1742

| | | |
|--------------------|----------------|---------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH / JJF | | |
| Width (ft): 4.5 | Area: 1.6 | Max Vel: 0.35 |
| Flow (cfs): 0.35 | Velocity: 0.16 | Min Vel: 0 |
| | | |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.2 | 0.05 | 0.1 | 0.005 | 0.6 | 0.01 |
| 1 | 0.5 | 0.3 | 0.3 | 0.15 | 0.045 | 0.6 | 0.05 |
| 1.5 | 0.5 | 0.5 | 0.33 | 0.25 | 0.0825 | 0.6 | 0.08 |
| 2 | 0.5 | 0.6 | 0.14 | 0.3 | 0.042 | 0.6 | 0.04 |
| 2.5 | 0.5 | 0.6 | 0.35 | 0.3 | 0.105 | 0.6 | 0.11 |
| 3 | 0.5 | 0.5 | 0.26 | 0.25 | 0.065 | 0.6 | 0.07 |
| 3.5 | 0.5 | 0.4 | 0.04 | 0.2 | 0.008 | 0.6 | 0.01 |
| 4 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 4.5 | 0.5 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| total | 4.5 | 3.2 | 1.47 | 1.6 | 0.353 | | 0.353 |
| average | 0.5 | 0.35556 | 0.163333 | 0.177778 | | | 0.039167 |

El Dorado Chemical

date

1/23/2006

Start

1745

Stop

1750

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH / JJF | | |
| Width (ft): 3 | Area: 0.6 | Max Vel: 0.95 |
| Flow (cfs): 0.40 | Velocity: 0.66 | Min Vel: 0.51 |
| | | |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0.63 | 0.05 | 0.0315 | 0.6 | 0.03 |
| 1 | 0.5 | 0.2 | 0.51 | 0.1 | 0.051 | 0.6 | 0.05 |
| 1.5 | 0.5 | 0.2 | 0.65 | 0.1 | 0.065 | 0.6 | 0.07 |
| 2 | 0.5 | 0.3 | 0.69 | 0.15 | 0.1035 | 0.6 | 0.10 |
| 2.5 | 0.5 | 0.2 | 0.95 | 0.1 | 0.095 | 0.6 | 0.10 |
| 3 | 0.5 | 0.2 | 0.55 | 0.1 | 0.055 | 0.6 | 0.06 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3 | 1.2 | 3.98 | 0.6 | | | 0.401 |
| average | 0.5 | 0.2 | 0.663333 | 0.1 | | | 0.066833 |

El Dorado Chemical

date 2/24/2006

Start 1305

Stop 1310

| | | | |
|--------------------|------|-------------|------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: SKH / JJF | | | |
| Width (ft): | 2.8 | Area: | 0.25 |
| Max Vel: | 0.15 | Flow (cfs): | 0.11 |
| Velocity: | 0.38 | Min Vel: | 0 |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0.7 | 0.05 | 0.035 | 0.6 | 0.04 |
| 1 | 0.5 | 0.1 | 0.15 | 0.05 | 0.0075 | 0.6 | 0.01 |
| 1.5 | 0.5 | 0.1 | 0.7 | 0.05 | 0.035 | 0.6 | 0.04 |
| 2 | 0.5 | 0.1 | 0.7 | 0.05 | 0.035 | 0.6 | 0.04 |
| 2.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 2.8 | 0.3 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 2.8 | 0.5 | 2.25 | 0.25 | | | 0.113 |
| average | 0.466667 | 0.083333 | 0.375 | 0.041667 | | | 0.01875 |

El Dorado Chemical

date 2/24/2006

Start 1255

Stop 1300

| | | | |
|--------------------|------|-------------|-------|
| Station: 007b EDCC | | | |
| Waterbody Trib | | | |
| Crew: SKH / JJF | | | |
| Width (ft): | 3.8 | Area: | 0.55 |
| Max Vel: | 0.1 | Flow (cfs): | -0.09 |
| Velocity: | 0.03 | Min Vel: | 0 |
| | | | |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 1 | 0.5 | 0.2 | 0.01 | 0.1 | 0.001 | 0.6 | 0.00 |
| 1.5 | 0.5 | 0.2 | 0.01 | 0.1 | 0.001 | 0.6 | 0.00 |
| 2 | 0.5 | 0.2 | 0.05 | 0.1 | 0.005 | 0.6 | 0.01 |
| 2.5 | 0.5 | 0.2 | 0.1 | 0.1 | 0.01 | 0.6 | 0.01 |
| 3 | 0.5 | 0.2 | 0.02 | 0.1 | 0.002 | 0.6 | 0.00 |
| 3.8 | 0.8 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3.8 | 1.1 | 0.19 | 0.55 | | | -0.094 |
| average | 0.542857 | 0.157143 | 0.027143 | 0.078571 | | | 0.002714 |

note: measured flow with 006b flow. Subtracted 006b(0.113) from 007b total cfs(0.019)

El Dorado Chemical

date

3/2/2005

Start

1600

Stop

1610

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: BJP / JJF | | |
| Width (ft): 2 | Area: 0.45 | Max Vel: 0.05 |
| Flow (cfs): 0.02 | Velocity: 0.03 | Min Vel: 0 |
| | | |

Level 0.86

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.2 | 0.02 | 0.1 | 0.002 | 0.6 | 0.00 |
| 1 | 0.5 | 0.4 | 0.05 | 0.2 | 0.01 | 0.6 | 0.01 |
| 1.5 | 0.5 | 0.2 | 0.05 | 0.1 | 0.005 | 0.6 | 0.01 |
| 2 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 2 | 0.9 | 0.12 | 0.45 | | | 0.017 |
| average | 0.5 | 0.225 | 0.03 | 0.1125 | | | 0.00425 |

El Dorado Chemical

date 3/20/2006

Start 1215

Stop 1220

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH / JJF | | |
| Width (ft): 9 | Area: 6.4 | Max Vel: 3.37 |
| Flow (cfs): 10.32 | Velocity: 2.07 | Min Vel: 0.25 |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|-----------------|---------------------------------|-----------------|-----------------|--------------|-------------------------|
| 1 | 1 | 0.2 | 0.59 | 0.2 | 0.118 | 0.6 | 0.12 |
| 2 | 1 | 0.4 | 2.19 | 0.4 | 0.876 | 0.6 | 0.88 |
| 3 | 1 | 0.6 | 2.75 | 0.6 | 1.65 | 0.6 | 1.65 |
| 4 | 1 | 0.9 | 3.37 | 0.9 | 3.033 | 0.6 | 3.03 |
| 5 | 1 | 0.9 | 3.29 | 0.9 | 2.961 | 0.6 | 2.96 |
| 6 | 1 | 1 | 2.7 | 1 | 2.7 | 0.6 | 2.70 |
| 7 | 1 | 1 | 2.55 | 1 | 2.55 | 0.6 | 2.55 |
| 8 | 1 | 0.7 | 0.94 | 0.7 | 0.658 | 0.6 | 0.66 |
| 9 | 1 | 0.7 | 0.25 | 0.7 | 0.175 | 0.6 | 0.18 |
| | | | | | | | |
| | | | | | | | |
| total | 9 | 6.4 | 18.63 | 6.4 | | | 10.323 |
| average | 1 | 0.711111 | 2.07 | 0.711111 | | | 1.635667 |

14.72

note: measured flow with 006b flow. Subtracted 006b(4.398) from 007b total cfs(14.721)

El Dorado Chemical

date

3/20/2006

Start

1226

Stop

1231

| | | |
|--------------------|----------------|---------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH / JJF | | |
| Width (ft): 5.3 | Area: 2.6 | Max Vel: 2.86 |
| Flow (cfs): 4.40 | Velocity: 1.18 | Min Vel: 0 |
| | | |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|-----------------|---------------------------------|-----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.2 | 0 | 0.1 | 0 | 0.6 | 0.00 |
| 1 | 0.5 | 0.3 | 0.33 | 0.15 | 0.0495 | 0.6 | 0.05 |
| 1.5 | 0.5 | 0.5 | 1.31 | 0.25 | 0.3275 | 0.6 | 0.33 |
| 2 | 0.5 | 0.7 | 2.08 | 0.35 | 0.728 | 0.6 | 0.73 |
| 2.5 | 0.5 | 0.8 | 2.86 | 0.4 | 1.144 | 0.6 | 1.14 |
| 3 | 0.5 | 0.7 | 2.16 | 0.35 | 0.756 | 0.6 | 0.76 |
| 3.5 | 0.5 | 0.7 | 1.73 | 0.35 | 0.6055 | 0.6 | 0.61 |
| 4 | 0.5 | 0.7 | 1.5 | 0.35 | 0.525 | 0.6 | 0.53 |
| 4.5 | 0.5 | 0.5 | 1.05 | 0.25 | 0.2625 | 0.6 | 0.26 |
| 5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 5.3 | 0.3 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| total | 4.5 | 5.2 | 13.02 | 2.6 | | | 4.398 |
| average | 0.5 | 0.472727 | 1.183636 | 0.236364 | | | 0.488667 |

El Dorado Chemical

date 4/25/2006

Start 1320

Stop 1330

| | | | |
|--------------------|------|-------------|------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: SKH / JJF | | | |
| Width (ft): | 3.7 | Area: | 0.85 |
| Max Vel: | 1.45 | Flow (cfs): | 0.88 |
| Velocity: | 1.00 | Min Vel: | 0.51 |

Level

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0 | 0 | 0.2 | 0.47 | 0 | 0 | 0.6 | 0.00 |
| 0.5 | 0.5 | 0.2 | 0.72 | 0.1 | 0.072 | 0.6 | 0.07 |
| 1 | 0.5 | 0.3 | 0.93 | 0.15 | 0.1395 | 0.6 | 0.14 |
| 1.5 | 0.5 | 0.3 | 1.21 | 0.15 | 0.1815 | 0.6 | 0.18 |
| 2 | 0.5 | 0.3 | 1.45 | 0.15 | 0.2175 | 0.6 | 0.22 |
| 2.5 | 0.5 | 0.2 | 1.05 | 0.1 | 0.105 | 0.6 | 0.11 |
| 3 | 0.5 | 0.2 | 1.15 | 0.1 | 0.115 | 0.6 | 0.12 |
| 3.5 | 0.5 | 0.2 | 0.51 | 0.1 | 0.051 | 0.6 | 0.05 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3.5 | 1.7 | 7.02 | 0.85 | | | 0.882 |
| average | 0.5 | 0.242857 | 1.002857 | 0.121429 | | | 0.125929 |

El Dorado Chemical

date 4/29/2006

Start 1220

Stop 1225

| | | | |
|--------------------|------|-------------|------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: BJP / JB | | | |
| Width (ft): | 4.5 | Area: | 1.75 |
| Max Vel: | 2.2 | Flow (cfs): | 2.69 |
| Velocity: | 1.31 | Min Vel: | 0 |
| | | | |

Level 1.2 staff

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.4 | 1 | 0.2 | 0.2 | 0.6 | 0.20 |
| 1 | 0.5 | 0.5 | 1.73 | 0.25 | 0.4325 | 0.6 | 0.43 |
| 1.5 | 0.5 | 0.5 | 2.2 | 0.25 | 0.55 | 0.6 | 0.55 |
| 2 | 0.5 | 0.5 | 2.1 | 0.25 | 0.525 | 0.6 | 0.53 |
| 2.5 | 0.5 | 0.5 | 1.6 | 0.25 | 0.4 | 0.6 | 0.40 |
| 3 | 0.5 | 0.5 | 1.46 | 0.25 | 0.365 | 0.6 | 0.37 |
| 3.5 | 0.5 | 0.3 | 1.05 | 0.15 | 0.1575 | 0.6 | 0.16 |
| 4 | 0.5 | 0.2 | 0.61 | 0.1 | 0.061 | 0.6 | 0.06 |
| 4.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| total | 4.5 | 3.5 | 11.75 | 1.75 | | | 2.691 |
| average | 0.5 | 0.388889 | 1.305556 | 0.194444 | | | 0.299 |

El Dorado Chemical

date

4/29/2006

Start

1040

Stop

1045

| | | |
|--------------------|----------------|---------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: BJP / JB | | |
| Width (ft): 4 | Area: 1.3 | Max Vel: 1.87 |
| Flow (cfs): 1.72 | Velocity: 1.17 | Min Vel: 0.4 |
| | | |

Level

1.05 staff gage

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.3 | 0.4 | 0.15 | 0.06 | 0.6 | 0.06 |
| 1 | 0.5 | 0.4 | 1.55 | 0.2 | 0.31 | 0.6 | 0.31 |
| 1.5 | 0.5 | 0.4 | 1.87 | 0.2 | 0.374 | 0.6 | 0.37 |
| 2 | 0.5 | 0.5 | 1.77 | 0.25 | 0.4425 | 0.6 | 0.44 |
| 2.5 | 0.5 | 0.4 | 1.32 | 0.2 | 0.264 | 0.6 | 0.26 |
| 3 | 0.5 | 0.3 | 1.05 | 0.15 | 0.1575 | 0.6 | 0.16 |
| 3.5 | 0.5 | 0.2 | 0.73 | 0.1 | 0.073 | 0.6 | 0.07 |
| 4 | 0.5 | 0.1 | 0.7 | 0.05 | 0.035 | 0.6 | 0.04 |
| | | | | | | | |
| | | | | | | | |
| total | 4 | 2.6 | 9.39 | 1.3 | | | 1.716 |
| average | 0.5 | 0.325 | 1.17375 | 0.1625 | | | 0.2145 |

El Dorado Chemical

date 4/29/2006

Start 1050
Stop 1055

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: BJP / JB | | |
| Width (ft): 4.5 | Area: 1.3 | Max Vel: 1.47 |
| Flow (cfs): 1.70 | Velocity: 1.16 | Min Vel: 0 |
| | | |

Level 0.65

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.3 | 1.23 | 0.15 | 0.1845 | 0.6 | 0.18 |
| 1 | 0.5 | 0.3 | 1.39 | 0.15 | 0.2085 | 0.6 | 0.21 |
| 1.5 | 0.5 | 0.4 | 1.46 | 0.2 | 0.292 | 0.6 | 0.29 |
| 2 | 0.5 | 0.4 | 1.35 | 0.2 | 0.27 | 0.6 | 0.27 |
| 2.5 | 0.5 | 0.4 | 1.47 | 0.2 | 0.294 | 0.6 | 0.29 |
| 3 | 0.5 | 0.3 | 1.35 | 0.15 | 0.2025 | 0.6 | 0.20 |
| 3.5 | 0.5 | 0.3 | 1.34 | 0.15 | 0.201 | 0.6 | 0.20 |
| 4 | 0.5 | 0.1 | 0.86 | 0.05 | 0.043 | 0.6 | 0.04 |
| 4.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| total | 4.5 | 2.6 | 10.45 | 1.3 | | | 1.696 |
| average | 0.5 | 0.288889 | 1.161111 | 0.144444 | | | 0.188389 |

flow is a combination of 006b and 007b

007b = (007b+006b)-006b
 007b = -0.020
 007b = 0

El Dorado Chemical

date 4/29/2006

Start 1230

Stop 1235

| | | | |
|--------------------|------|-------------|------|
| Station: 007b EDCC | | | |
| Waterbody Trib | | | |
| Crew: BJP / JB | | | |
| Width (ft): | 5 | Area: | 1.85 |
| Max Vel: | 1.74 | Flow (cfs): | 2.52 |
| Velocity: | 1.13 | Min Vel: | 0 |

Level 0.65

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|-------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 1 | 0.5 | 0.3 | 1.05 | 0.15 | 0.1575 | 0.6 | 0.16 |
| 1.5 | 0.5 | 0.4 | 1.51 | 0.2 | 0.302 | 0.6 | 0.30 |
| 2 | 0.5 | 0.5 | 1.74 | 0.25 | 0.435 | 0.6 | 0.44 |
| 2.5 | 0.5 | 0.5 | 1.6 | 0.25 | 0.4 | 0.6 | 0.40 |
| 3 | 0.5 | 0.5 | 1.58 | 0.25 | 0.395 | 0.6 | 0.40 |
| 3.5 | 0.5 | 0.5 | 1.44 | 0.25 | 0.36 | 0.6 | 0.36 |
| 4 | 0.5 | 0.4 | 1.35 | 0.2 | 0.27 | 0.6 | 0.27 |
| 4.5 | 0.5 | 0.4 | 1.01 | 0.2 | 0.202 | 0.6 | 0.20 |
| 5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| total | 4.5 | 3.7 | 11.28 | 1.85 | | | 2.522 |
| average | 0.5 | 0.37 | 1.128 | 0.185 | | | 0.280167 |

flow is a combination of 006b and 007b

$$007b = (007b + 006b) - 006b$$

$$007b = -0.170$$

$$007b = 0$$

El Dorado Chemical

date

5/4/2006

Start

1950

Stop

2000

| | | | |
|--------------------|------|-------------|------|
| Station: 007b EDCC | | | |
| Waterbody Trib | | | |
| Crew: JBB/JJF | | | |
| Width (ft): | 6 | Area: | 3.55 |
| Max Vel: | 2.4 | Flow (cfs): | 4.21 |
| Velocity: | 1.66 | Min Vel: | 0 |
| | | | |

Level 1.7 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|-----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.6 | 0.95 | 0.3 | 0.285 | 0.6 | 0.29 |
| 1 | 0.5 | 0.5 | 1.85 | 0.25 | 0.4625 | 0.6 | 0.46 |
| 1.5 | 0.5 | 0.8 | 2.24 | 0.4 | 0.896 | 0.6 | 0.90 |
| 2 | 0.5 | 0.9 | 2.4 | 0.45 | 1.08 | 0.6 | 1.08 |
| 2.5 | 0.5 | 1 | 2.31 | 0.5 | 1.155 | 0.6 | 1.16 |
| 3 | 0.5 | 1 | 2.09 | 0.5 | 1.045 | 0.6 | 1.05 |
| 3.5 | 0.5 | 0.9 | 2.13 | 0.45 | 0.9585 | 0.6 | 0.96 |
| 4 | 0.5 | 0.6 | 1.65 | 0.3 | 0.495 | 0.6 | 0.50 |
| 4.5 | 0.5 | 0.4 | 1.48 | 0.2 | 0.296 | 0.6 | 0.30 |
| 5 | 0.5 | 0.2 | 1.58 | 0.1 | 0.158 | 0.6 | 0.16 |
| 5.5 | 0.5 | 0.2 | 1.19 | 0.1 | 0.119 | 0.6 | 0.12 |
| 6 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| total | 4.5 | 7.2 | 19.87 | 3.55 | | | 4.213 |
| average | 0.5 | 0.6 | 1.655833 | 0.322727 | | | 0.741444 |

6.95

note: measured flow with 006b flow. Subtracted 006b(2.737) from 007b total cfs(6.95)

El Dorado Chemical

date

5/4/2006

Start

1940

Stop

1950

| | | |
|--------------------|------|----------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: JBB/JJF | | |
| Width (ft): | 4.5 | Area: 1.8 |
| Flow (cfs): | 2.74 | Max Vel: 2.43 |
| | | Velocity: 1.22 |
| | | Min Vel: 0 |

Level

1.3 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.4 | 1.18 | 0.2 | 0.236 | 0.6 | 0.24 |
| 1 | 0.5 | 0.6 | 1.73 | 0.3 | 0.519 | 0.6 | 0.52 |
| 1.5 | 0.5 | 0.6 | 2.43 | 0.3 | 0.729 | 0.6 | 0.73 |
| 2 | 0.5 | 0.5 | 1.82 | 0.25 | 0.455 | 0.6 | 0.46 |
| 2.5 | 0.5 | 0.5 | 1.34 | 0.25 | 0.335 | 0.6 | 0.34 |
| 3 | 0.5 | 0.5 | 1.23 | 0.25 | 0.3075 | 0.6 | 0.31 |
| 3.5 | 0.5 | 0.3 | 0.68 | 0.15 | 0.102 | 0.6 | 0.10 |
| 4 | 0.5 | 0.2 | 0.53 | 0.1 | 0.053 | 0.6 | 0.05 |
| 4.5 | 0.5 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| total | 4.5 | 3.6 | 10.94 | 1.8 | | | 2.737 |
| average | 0.5 | 0.4 | 1.215556 | 0.2 | | | 0.304056 |

El Dorado Chemical

date 5/4/2006

Start 1825
Stop 1830

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: JBB/JJF | | |
| Width (ft): 5.5 | Area: 1.95 | Max Vel: 2.14 |
| Flow (cfs): -0.09 | Velocity: 1.49 | Min Vel: 1.03 |

Level 1.3 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|-----------------|---------------------------------|-----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.4 | 1.08 | 0.2 | 0.216 | 0.6 | 0.22 |
| 1 | 0.5 | 0.4 | 1.69 | 0.2 | 0.338 | 0.6 | 0.34 |
| 1.5 | 0.5 | 0.4 | 2.02 | 0.2 | 0.404 | 0.6 | 0.40 |
| 2 | 0.5 | 0.5 | 2.14 | 0.25 | 0.535 | 0.6 | 0.54 |
| 2.5 | 0.5 | 0.6 | 2.08 | 0.3 | 0.624 | 0.6 | 0.62 |
| 3 | 0.5 | 0.5 | 2.11 | 0.25 | 0.5275 | 0.6 | 0.53 |
| 3.5 | 0.5 | 0.5 | 1.89 | 0.25 | 0.4725 | 0.6 | 0.47 |
| 4 | 0.5 | 0.3 | 1.66 | 0.15 | 0.249 | 0.6 | 0.25 |
| 4.5 | 0.5 | 0.2 | 1.03 | 0.1 | 0.103 | 0.6 | 0.10 |
| 5 | 0.5 | 0.1 | 0.67 | 0.05 | 0.0335 | 0.6 | 0.03 |
| 5.5 | 0.5 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| total | 4.5 | 3.9 | 16.37 | 1.95 | | | -0.094 |
| average | 0.5 | 0.354545 | 1.488182 | 0.177273 | | | 0.385444 |

3.50

note: measured flow with 006b flow. Subtracted 006b(3.597) from 007b total cfs(3.5)

El Dorado Chemical

date

5/4/2006

Start

1810

Stop

1820

| | | | |
|--------------------|------|-------------|------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: JBB/JJF | | | |
| Width (ft): | 5 | Area: | 2.15 |
| Max Vel: | 2.4 | Flow (cfs): | 3.60 |
| Velocity: | 1.26 | Min Vel: | 0 |
| | | | |

Level

1.4 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.5 | 0.92 | 0.25 | 0.23 | 0.6 | 0.23 |
| 1 | 0.5 | 0.5 | 1.48 | 0.25 | 0.37 | 0.6 | 0.37 |
| 1.5 | 0.5 | 0.6 | 2.12 | 0.3 | 0.636 | 0.6 | 0.64 |
| 2 | 0.5 | 0.7 | 2.4 | 0.35 | 0.84 | 0.6 | 0.84 |
| 2.5 | 0.5 | 0.7 | 1.8 | 0.35 | 0.63 | 0.6 | 0.63 |
| 3 | 0.5 | 0.6 | 1.87 | 0.3 | 0.561 | 0.6 | 0.56 |
| 3.5 | 0.5 | 0.4 | 1.35 | 0.2 | 0.27 | 0.6 | 0.27 |
| 4 | 0.5 | 0.2 | 0.49 | 0.1 | 0.049 | 0.6 | 0.05 |
| 4.5 | 0.5 | 0.1 | 0.21 | 0.05 | 0.0105 | 0.6 | 0.01 |
| 5 | 0.5 | 0 | 0 | 0 | 0 | 0.6 | 0.00 |
| total | 4.5 | 4.3 | 12.64 | 2.15 | | | 3.597 |
| average | 0.5 | 0.43 | 1.264 | 0.215 | | | 0.399611 |

El Dorado Chemical

date 6/17/2006

Start 1800

Stop 1805

| | | |
|--------------------|----------------|---------------|
| Station: 007b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH/BJP | | |
| Width (ft): 3.5 | Area: 2 | Max Vel: 0.65 |
| Flow (cfs): -0.25 | Velocity: 0.49 | Min Vel: 0 |
| | | |

Level 0.82 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.7 | 0.61 | 0.35 | 0.2135 | 0.6 | 0.21 |
| 1 | 0.5 | 0.8 | 0.58 | 0.4 | 0.232 | 0.6 | 0.23 |
| 1.5 | 0.5 | 0.8 | 0.63 | 0.4 | 0.252 | 0.6 | 0.25 |
| 2 | 0.5 | 0.6 | 0.6 | 0.3 | 0.18 | 0.6 | 0.18 |
| 2.5 | 0.5 | 0.6 | 0.65 | 0.3 | 0.195 | 0.6 | 0.20 |
| 3 | 0.5 | 0.4 | 0.36 | 0.2 | 0.072 | 0.6 | 0.07 |
| 3.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3.5 | 4 | 3.43 | 2 | | | -0.251 |
| average | 0.5 | 0.571429 | 0.49 | 0.285714 | | | 0.1635 |

1.14

note: measured flow with 006b flow. Subtracted 006b(1.395) from 007b total cfs(1.14)

El Dorado Chemical

date 6/17/2006

Start 1855

Stop 1900

| | | | |
|--------------------|-------|-----------|------|
| Station: 007b EDCC | | | |
| Waterbody Trib | | | |
| Crew: SKH/BJP | | | |
| Width (ft): | 3.5 | Area: | 1.54 |
| Max Vel: | 0.36 | Min Vel: | 0 |
| Flow (cfs): | -0.16 | Velocity: | 0.25 |

Level 0.72 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|-----------------|-----------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.6 | 0.28 | 0.3 | 0.084 | 0.6 | 0.08 |
| 1 | 0.5 | 0.7 | 0.34 | 0.35 | 0.119 | 0.6 | 0.12 |
| 1.5 | 0.5 | 0.7 | 0.35 | 0.35 | 0.1225 | 0.6 | 0.12 |
| 2 | 0.5 | 0.4 | 0.36 | 0.2 | 0.072 | 0.6 | 0.07 |
| 2.5 | 0.5 | 0.4 | 0.32 | 0.2 | 0.064 | 0.6 | 0.06 |
| 3 | 0.5 | 0.2 | 0.13 | 0.1 | 0.013 | 0.6 | 0.01 |
| 3.4 | 0.4 | 0.1 | 0 | 0.04 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3.4 | 3.1 | 1.78 | 1.54 | | | 0.156 |
| average | 0.485714 | 0.442857 | 0.254286 | 0.22 | | | 0.067786 |

0.47

note: measured flow with 006b flow. Subtracted 006b(0.63) from 007b total cfs(0.47)

El Dorado Chemical

date

6/17/2006

Start

1750

Stop

1755

| | | | |
|--------------------|------|-------------|------|
| Station: 006b EDCC | | | |
| Waterbody Trib | | | |
| Crew: SKH/BJP | | | |
| Width (ft): | 4 | Area: | 1.25 |
| Max Vel: | 1.77 | Flow (cfs): | 1.40 |
| Velocity: | 0.92 | Min Vel: | 0 |
| | | | |

Level

1.1 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| 1 | 0.5 | 0.3 | 0.63 | 0.15 | 0.0945 | 0.6 | 0.09 |
| 1.5 | 0.5 | 0.4 | 1.27 | 0.2 | 0.254 | 0.6 | 0.25 |
| 2 | 0.5 | 0.4 | 1.14 | 0.2 | 0.228 | 0.6 | 0.23 |
| 2.5 | 0.5 | 0.5 | 1.08 | 0.25 | 0.27 | 0.6 | 0.27 |
| 3 | 0.5 | 0.4 | 1.77 | 0.2 | 0.354 | 0.6 | 0.35 |
| 3.5 | 0.5 | 0.3 | 1.2 | 0.15 | 0.18 | 0.6 | 0.18 |
| 4 | 0.5 | 0.1 | 0.29 | 0.05 | 0.0145 | 0.6 | 0.01 |
| | | | | | | | |
| | | | | | | | |
| total | 4 | 2.5 | 7.38 | 1.25 | | | 1.395 |
| average | 0.5 | 0.3125 | 0.9225 | 0.15625 | | | 0.174375 |

El Dorado Chemical

date 6/17/2006

Start 1850

Stop 1855

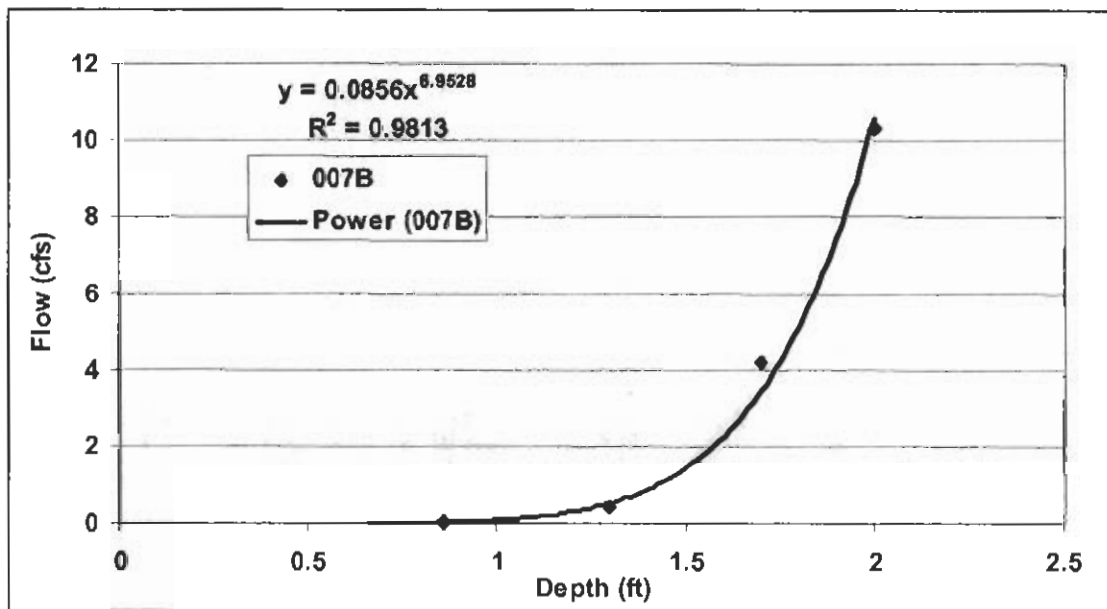
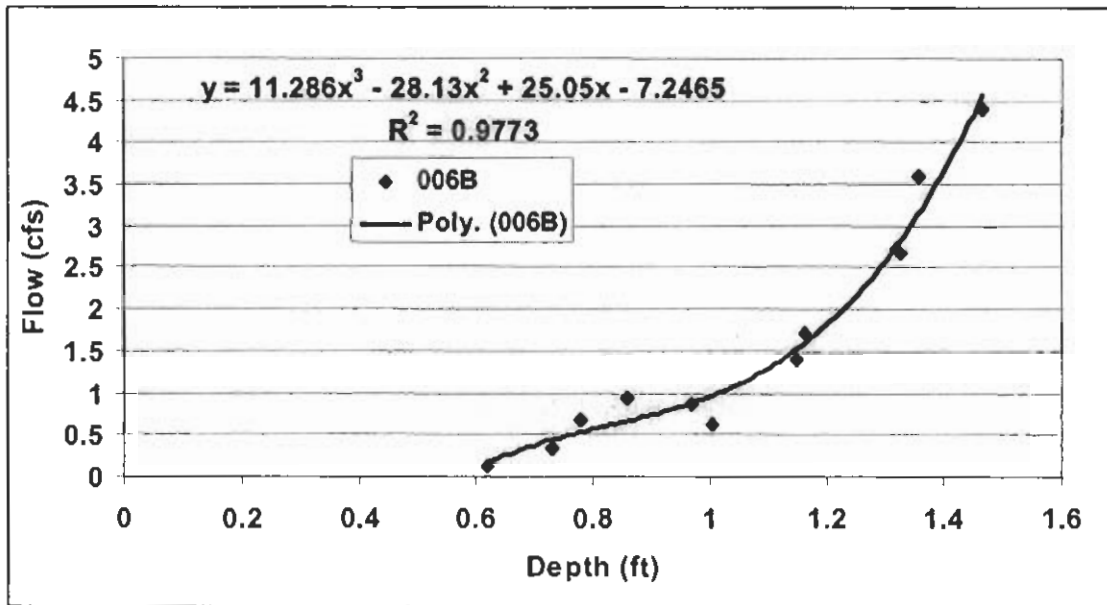
| | | |
|--------------------|----------------|---------------|
| Station: 006b EDCC | | |
| Waterbody Trib | | |
| Crew: SKH/BJP | | |
| Width (ft): 3.5 | Area: 0.8 | Max Vel: 1.54 |
| Flow (cfs): 0.63 | Velocity: 0.70 | Min Vel: 0 |

Level 1.00 at logger

| Distance from initial point (ft) | Width (ft) | Depth (ft) | Avg. velocity at point (ft/sec) | Area (sq. ft.) | Discharge (cfs) | Method Depth | Average Discharge (cfs) |
|----------------------------------|------------|------------|---------------------------------|----------------|-----------------|--------------|-------------------------|
| 0.5 | 0.5 | 0.1 | 0.6 | 0.05 | 0.03 | 0.6 | 0.03 |
| 1 | 0.5 | 0.3 | 1.11 | 0.15 | 0.1665 | 0.6 | 0.17 |
| 1.5 | 0.5 | 0.3 | 0.71 | 0.15 | 0.1065 | 0.6 | 0.11 |
| 2 | 0.5 | 0.3 | 0 | 0.15 | 0 | 0.6 | 0.00 |
| 2.5 | 0.5 | 0.3 | 1.54 | 0.15 | 0.231 | 0.6 | 0.23 |
| 3 | 0.5 | 0.2 | 0.96 | 0.1 | 0.096 | 0.6 | 0.10 |
| 3.5 | 0.5 | 0.1 | 0 | 0.05 | 0 | 0.6 | 0.00 |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| total | 3.5 | 1.6 | 4.92 | 0.8 | | | 0.630 |
| average | 0.5 | 0.228571 | 0.702857 | 0.114286 | | | 0.09 |

Appendix D
Rating Curves

Rating curves developed from field data.



Appendix E

USDA Flume Tables

| H, ft | 006 3ft H flume | |
|-------|--------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.01 | 0.0006 | 0.0009 |
| 0.02 | 0.0014 | 0.0022 |
| 0.03 | 0.0029 | 0.0045 |
| 0.04 | 0.0047 | 0.0073 |
| 0.05 | 0.0068 | 0.0105 |
| 0.06 | 0.0092 | 0.0142 |
| 0.07 | 0.012 | 0.0186 |
| 0.08 | 0.0151 | 0.0234 |
| 0.09 | 0.0186 | 0.0288 |
| 0.1 | 0.0224 | 0.0347 |
| 0.11 | 0.0263 | 0.0407 |
| 0.12 | 0.0304 | 0.0470 |
| 0.13 | 0.0348 | 0.0538 |
| 0.14 | 0.0394 | 0.0610 |
| 0.15 | 0.0443 | 0.0685 |
| 0.16 | 0.0495 | 0.0766 |
| 0.17 | 0.055 | 0.0851 |
| 0.18 | 0.0607 | 0.0939 |
| 0.19 | 0.0667 | 0.1032 |
| 0.2 | 0.073 | 0.1129 |
| 0.21 | 0.0795 | 0.1230 |
| 0.22 | 0.0866 | 0.1340 |
| 0.23 | 0.0937 | 0.1450 |
| 0.24 | 0.1008 | 0.1559 |
| 0.25 | 0.1086 | 0.1680 |
| 0.26 | 0.1163 | 0.1799 |
| 0.27 | 0.1247 | 0.1929 |
| 0.28 | 0.1338 | 0.2070 |
| 0.29 | 0.1442 | 0.2231 |
| 0.3 | 0.1512 | 0.2339 |
| 0.31 | 0.1609 | 0.2489 |
| 0.32 | 0.1706 | 0.2639 |
| 0.33 | 0.181 | 0.2800 |
| 0.34 | 0.1913 | 0.2960 |
| 0.35 | 0.2016 | 0.3119 |
| 0.36 | 0.2126 | 0.3289 |
| 0.37 | 0.2243 | 0.3470 |
| 0.38 | 0.2359 | 0.3650 |
| 0.39 | 0.2475 | 0.3829 |
| 0.4 | 0.2598 | 0.4019 |
| 0.41 | 0.2721 | 0.4210 |
| 0.42 | 0.285 | 0.4409 |
| 0.43 | 0.2986 | 0.4620 |
| 0.44 | 0.3122 | 0.4830 |

| H, ft | 007 4ft HL flume | |
|-------|---------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.01 | 0.001 | 0.0015 |
| 0.02 | 0.003 | 0.0046 |
| 0.03 | 0.0078 | 0.0121 |
| 0.04 | 0.0129 | 0.0200 |
| 0.05 | 0.0187 | 0.0289 |
| 0.06 | 0.0252 | 0.0390 |
| 0.07 | 0.0323 | 0.0500 |
| 0.08 | 0.0401 | 0.0620 |
| 0.09 | 0.0485 | 0.0750 |
| 0.1 | 0.0575 | 0.0890 |
| 0.11 | 0.0666 | 0.1030 |
| 0.12 | 0.0769 | 0.1190 |
| 0.13 | 0.0873 | 0.1351 |
| 0.14 | 0.0982 | 0.1519 |
| 0.15 | 0.1099 | 0.1700 |
| 0.16 | 0.1228 | 0.1900 |
| 0.17 | 0.1364 | 0.2110 |
| 0.18 | 0.1499 | 0.2319 |
| 0.19 | 0.1648 | 0.2550 |
| 0.2 | 0.1797 | 0.2780 |
| 0.21 | 0.1952 | 0.3020 |
| 0.22 | 0.2113 | 0.3269 |
| 0.23 | 0.2275 | 0.3520 |
| 0.24 | 0.2443 | 0.3780 |
| 0.25 | 0.2618 | 0.4050 |
| 0.26 | 0.2805 | 0.4340 |
| 0.27 | 0.3005 | 0.4649 |
| 0.28 | 0.3212 | 0.4969 |
| 0.29 | 0.3425 | 0.5299 |
| 0.3 | 0.3652 | 0.5650 |
| 0.31 | 0.3878 | 0.6000 |
| 0.32 | 0.4104 | 0.6349 |
| 0.33 | 0.433 | 0.6699 |
| 0.34 | 0.4556 | 0.7049 |
| 0.35 | 0.4783 | 0.7400 |
| 0.36 | 0.5041 | 0.7799 |
| 0.37 | 0.53 | 0.8200 |
| 0.38 | 0.5558 | 0.8599 |
| 0.39 | 0.5817 | 0.8999 |
| 0.4 | 0.6075 | 0.9399 |
| 0.41 | 0.6347 | 0.9819 |
| 0.42 | 0.6657 | 1.0299 |
| 0.43 | 0.698 | 1.0799 |
| 0.44 | 0.7239 | 1.1199 |

| H, ft | 006 3ft H flume | |
|-------|--------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.45 | 0.3257 | 0.5039 |
| 0.46 | 0.34 | 0.5260 |
| 0.47 | 0.3548 | 0.5489 |
| 0.48 | 0.3697 | 0.5720 |
| 0.49 | 0.3852 | 0.5959 |
| 0.5 | 0.4007 | 0.6199 |
| 0.51 | 0.4162 | 0.6439 |
| 0.52 | 0.4324 | 0.6690 |
| 0.53 | 0.4492 | 0.6950 |
| 0.54 | 0.466 | 0.7209 |
| 0.55 | 0.4834 | 0.7479 |
| 0.56 | 0.5009 | 0.7749 |
| 0.57 | 0.519 | 0.8029 |
| 0.58 | 0.5377 | 0.8319 |
| 0.59 | 0.5565 | 0.8610 |
| 0.6 | 0.5752 | 0.8899 |
| 0.61 | 0.5946 | 0.9199 |
| 0.62 | 0.6146 | 0.9508 |
| 0.63 | 0.6347 | 0.9819 |
| 0.64 | 0.6553 | 1.0138 |
| 0.65 | 0.6767 | 1.0469 |
| 0.66 | 0.698 | 1.0799 |
| 0.67 | 0.7193 | 1.1128 |
| 0.68 | 0.7413 | 1.1469 |
| 0.69 | 0.7639 | 1.1818 |
| 0.7 | 0.7885 | 1.2199 |
| 0.71 | 0.8079 | 1.2499 |
| 0.72 | 0.8337 | 1.2898 |
| 0.73 | 0.8596 | 1.3299 |
| 0.74 | 0.879 | 1.3599 |
| 0.75 | 0.9048 | 1.3998 |
| 0.76 | 0.9307 | 1.4399 |
| 0.77 | 0.9565 | 1.4798 |
| 0.78 | 0.9824 | 1.5199 |
| 0.79 | 1.008 | 1.5595 |
| 0.8 | 1.034 | 1.5997 |
| 0.81 | 1.066 | 1.6492 |
| 0.82 | 1.092 | 1.6894 |
| 0.83 | 1.118 | 1.7297 |
| 0.84 | 1.15 | 1.7792 |
| 0.85 | 1.176 | 1.8194 |
| 0.86 | 1.202 | 1.8596 |
| 0.87 | 1.234 | 1.9091 |
| 0.88 | 1.267 | 1.9602 |

| H, ft | 007 4ft HL flume | |
|-------|---------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.45 | 0.7562 | 1.1699 |
| 0.46 | 0.7885 | 1.2199 |
| 0.47 | 0.8208 | 1.2699 |
| 0.48 | 0.8531 | 1.3198 |
| 0.49 | 0.8854 | 1.3698 |
| 0.5 | 0.9177 | 1.4198 |
| 0.51 | 0.9565 | 1.4798 |
| 0.52 | 0.9888 | 1.5298 |
| 0.53 | 1.028 | 1.5904 |
| 0.54 | 1.06 | 1.6399 |
| 0.55 | 1.099 | 1.7003 |
| 0.56 | 1.137 | 1.7591 |
| 0.57 | 1.176 | 1.8194 |
| 0.58 | 1.215 | 1.8797 |
| 0.59 | 1.254 | 1.9401 |
| 0.6 | 1.299 | 2.0097 |
| 0.61 | 1.338 | 2.0700 |
| 0.62 | 1.383 | 2.1396 |
| 0.63 | 1.428 | 2.2093 |
| 0.64 | 1.474 | 2.2804 |
| 0.65 | 1.519 | 2.3500 |
| 0.66 | 1.564 | 2.4197 |
| 0.67 | 1.609 | 2.4893 |
| 0.68 | 1.655 | 2.5605 |
| 0.69 | 1.706 | 2.6394 |
| 0.7 | 1.751 | 2.7090 |
| 0.71 | 1.803 | 2.7894 |
| 0.72 | 1.855 | 2.8699 |
| 0.73 | 1.907 | 2.9503 |
| 0.74 | 1.958 | 3.0292 |
| 0.75 | 2.01 | 3.1097 |
| 0.76 | 2.062 | 3.1901 |
| 0.77 | 2.12 | 3.2799 |
| 0.78 | 2.172 | 3.3603 |
| 0.79 | 2.223 | 3.4392 |
| 0.8 | 2.281 | 3.5289 |
| 0.81 | 2.333 | 3.6094 |
| 0.82 | 2.391 | 3.6991 |
| 0.83 | 2.449 | 3.7888 |
| 0.84 | 2.508 | 3.8801 |
| 0.85 | 2.572 | 3.9791 |
| 0.86 | 2.637 | 4.0797 |
| 0.87 | 2.702 | 4.1803 |
| 0.88 | 2.766 | 4.2793 |

| H, ft | 006 3ft H flume | |
|-------|--------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.89 | 1.293 | 2.0004 |
| 0.9 | 1.325 | 2.0499 |
| 0.91 | 1.357 | 2.0994 |
| 0.92 | 1.39 | 2.1505 |
| 0.93 | 1.422 | 2.2000 |
| 0.94 | 1.454 | 2.2495 |
| 0.95 | 1.486 | 2.2990 |
| 0.96 | 1.519 | 2.3500 |
| 0.97 | 1.558 | 2.4104 |
| 0.98 | 1.59 | 2.4599 |
| 0.99 | 1.622 | 2.5094 |
| 1 | 1.661 | 2.5697 |
| 1.01 | 1.693 | 2.6192 |
| 1.02 | 1.732 | 2.6796 |
| 1.03 | 1.764 | 2.7291 |
| 1.04 | 1.803 | 2.7894 |
| 1.05 | 1.842 | 2.8498 |
| 1.06 | 1.881 | 2.9101 |
| 1.07 | 1.92 | 2.9704 |
| 1.08 | 1.958 | 3.0292 |
| 1.09 | 1.997 | 3.0896 |
| 1.1 | 2.036 | 3.1499 |
| 1.11 | 2.075 | 3.2102 |
| 1.12 | 2.113 | 3.2690 |
| 1.13 | 2.159 | 3.3402 |
| 1.14 | 2.197 | 3.3990 |
| 1.15 | 2.236 | 3.4593 |
| 1.16 | 2.281 | 3.5289 |
| 1.17 | 2.327 | 3.6001 |
| 1.18 | 2.365 | 3.6589 |
| 1.19 | 2.411 | 3.7301 |
| 1.2 | 2.456 | 3.7997 |
| 1.21 | 2.501 | 3.8693 |
| 1.22 | 2.546 | 3.9389 |
| 1.23 | 2.592 | 4.0101 |
| 1.24 | 2.637 | 4.0797 |
| 1.25 | 2.682 | 4.1493 |
| 1.26 | 2.734 | 4.2298 |
| 1.27 | 2.779 | 4.2994 |
| 1.28 | 2.824 | 4.3690 |
| 1.29 | 2.876 | 4.4495 |
| 1.3 | 2.928 | 4.5299 |
| 1.31 | 2.973 | 4.5995 |
| 1.32 | 3.025 | 4.6800 |

| H, ft | 007 4ft HL flume | |
|-------|---------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 0.89 | 2.831 | 4.3798 |
| 0.9 | 2.895 | 4.4789 |
| 0.91 | 2.96 | 4.5794 |
| 0.92 | 3.025 | 4.6800 |
| 0.93 | 3.096 | 4.7898 |
| 0.94 | 3.167 | 4.8997 |
| 0.95 | 3.238 | 5.0095 |
| 0.96 | 3.309 | 5.1194 |
| 0.97 | 3.38 | 5.2292 |
| 0.98 | 3.451 | 5.3390 |
| 0.99 | 3.522 | 5.4489 |
| 1 | 3.593 | 5.5587 |
| 1.01 | 3.671 | 5.6794 |
| 1.02 | 3.749 | 5.8001 |
| 1.03 | 3.826 | 5.9192 |
| 1.04 | 3.904 | 6.0399 |
| 1.05 | 3.981 | 6.1590 |
| 1.06 | 4.059 | 6.2797 |
| 1.07 | 4.136 | 6.3988 |
| 1.08 | 4.214 | 6.5195 |
| 1.09 | 4.291 | 6.6386 |
| 1.1 | 4.369 | 6.7593 |
| 1.11 | 4.453 | 6.8892 |
| 1.12 | 4.537 | 7.0192 |
| 1.13 | 4.621 | 7.1491 |
| 1.14 | 4.705 | 7.2791 |
| 1.15 | 4.789 | 7.4091 |
| 1.16 | 4.873 | 7.5390 |
| 1.17 | 4.957 | 7.6690 |
| 1.18 | 5.041 | 7.7989 |
| 1.19 | 5.125 | 7.9289 |
| 1.2 | 5.209 | 8.0588 |
| 1.21 | 5.3 | 8.1996 |
| 1.22 | 5.397 | 8.3497 |
| 1.23 | 5.494 | 8.4998 |
| 1.24 | 5.59 | 8.6483 |
| 1.25 | 5.687 | 8.7984 |
| 1.26 | 5.748 | 8.8927 |
| 1.27 | 5.881 | 9.0985 |
| 1.28 | 5.987 | 9.2625 |
| 1.29 | 6.075 | 9.3986 |
| 1.3 | 6.172 | 9.5487 |
| 1.31 | 6.269 | 9.6988 |
| 1.32 | 6.398 | 9.8983 |

| H, ft | 006 3ft H flume | |
|-------|--------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 1.33 | 3.076 | 4.7589 |
| 1.34 | 3.128 | 4.8393 |
| 1.35 | 3.18 | 4.9198 |
| 1.36 | 3.232 | 5.0002 |
| 1.37 | 3.283 | 5.0791 |
| 1.38 | 3.335 | 5.1596 |
| 1.39 | 3.387 | 5.2400 |
| 1.4 | 3.445 | 5.3298 |
| 1.41 | 3.496 | 5.4087 |
| 1.42 | 3.555 | 5.4999 |
| 1.43 | 3.606 | 5.5788 |
| 1.44 | 3.665 | 5.6701 |
| 1.45 | 3.723 | 5.7599 |
| 1.46 | 3.774 | 5.8388 |
| 1.47 | 3.833 | 5.9300 |
| 1.48 | 3.891 | 6.0198 |
| 1.49 | 3.949 | 6.1095 |
| 1.5 | 4.007 | 6.1992 |
| 1.51 | 4.072 | 6.2998 |
| 1.52 | 4.13 | 6.3895 |
| 1.53 | 4.188 | 6.4793 |
| 1.54 | 4.253 | 6.5798 |
| 1.55 | 4.311 | 6.6695 |
| 1.56 | 4.375 | 6.7686 |
| 1.57 | 4.44 | 6.8691 |
| 1.58 | 4.498 | 6.9589 |
| 1.59 | 4.563 | 7.0594 |
| 1.6 | 4.628 | 7.1600 |
| 1.61 | 4.692 | 7.2590 |
| 1.62 | 4.757 | 7.3596 |
| 1.63 | 4.828 | 7.4694 |
| 1.64 | 4.892 | 7.5684 |
| 1.65 | 4.957 | 7.6690 |
| 1.66 | 5.028 | 7.7788 |
| 1.67 | 5.093 | 7.8794 |
| 1.68 | 5.164 | 7.9892 |
| 1.69 | 5.235 | 8.0991 |
| 1.7 | 5.3 | 8.1996 |
| 1.71 | 5.371 | 8.3095 |
| 1.72 | 5.442 | 8.4193 |

| H, ft | 007 4ft HL flume | |
|-------|---------------------|-------------|
| | FLOW MGD | FLOW CFS |
| 1.33 | 6.528 | 10.0995 |
| 1.34 | 6.592 | 10.1985 |
| 1.35 | 6.722 | 10.3996 |
| 1.36 | 6.786 | 10.4986 |
| 1.37 | 6.915 | 10.6982 |
| 1.38 | 6.98 | 10.7988 |
| 1.39 | 7.109 | 10.9983 |
| 1.4 | 7.239 | 11.1995 |
| 1.41 | 7.368 | 11.3990 |
| 1.42 | 7.497 | 11.5986 |
| 1.43 | 7.562 | 11.6992 |
| 1.44 | 7.691 | 11.8987 |
| 1.45 | 7.82 | 12.0983 |
| 1.46 | 7.949 | 12.2979 |
| 1.47 | 8.014 | 12.3985 |
| 1.48 | 8.143 | 12.5980 |
| 1.49 | 8.273 | 12.7992 |
| 1.5 | 8.402 | 12.9987 |
| 1.51 | 8.531 | 13.1983 |
| 1.52 | 8.596 | 13.2989 |
| 1.53 | 8.725 | 13.4984 |
| 1.54 | 8.854 | 13.6980 |
| 1.55 | 8.984 | 13.8991 |
| 1.56 | 9.113 | 14.0987 |
| 1.57 | 9.242 | 14.2983 |
| 1.58 | 9.371 | 14.4979 |
| 1.59 | 9.501 | 14.6990 |
| 1.6 | 9.63 | 14.8986 |
| 1.61 | 9.759 | 15.0981 |
| 1.62 | 9.888 | 15.2977 |
| 1.63 | 10.02 | 15.5019 |
| 1.64 | 10.15 | 15.7031 |
| 1.65 | 10.28 | 15.9042 |
| 1.66 | 10.47 | 16.1981 |
| 1.67 | 10.6 | 16.3993 |
| 1.68 | 10.73 | 16.6004 |
| 1.69 | 10.86 | 16.8015 |
| 1.7 | 10.99 | 17.0026 |
| 1.71 | 11.12 | 17.2038 |
| 1.72 | 11.25 | 17.4049 |

Appendix F

Flow Event Summary Data

| EDCC | CALC | TOT | 006 | 006 | 007 | 007 | EVENT | EVENT | EVENT | EVENT |
|------------------|------|---------|--------|--------|--------|--------|--------|--------|--------|-------|
| Date / Time | BG | EVENT | FLOW | EVENT | FLOW | EVENT | RATIO | RATIO | RATIO | RATIO |
| | CFS | CF | CFS | CF | CFS | CF | BG/006 | BG/007 | | |
| 3/3/05 14:49 | 0.57 | 26.82 | 0.0105 | 3.62 | 0.0015 | 1.62 | 1.00 | 7.42 | 16.51 | |
| 3/4/05 7:59 | 0.34 | 5.42 | 0.0073 | 0.08 | 0.2110 | 0.62 | 2.00 | 67.76 | 8.76 | |
| 3/8/05 14:49 | 0.58 | 59.73 | 0.0045 | 0.66 | 0.0000 | 0.37 | 3.00 | 91.00 | 162.48 | |
| 3/9/05 17:14 | 0.54 | 77.08 | 0.0073 | 7.06 | 0.0046 | 6.24 | 4.00 | 10.92 | 12.35 | |
| 3/10/05 9:39 | 0.55 | 26.39 | 0.0073 | 0.24 | 0.0015 | 4.60 | 5.00 | 111.39 | 5.73 | |
| 3/22/05 10:56 | 0.92 | 311.90 | 0.0347 | 22.93 | 0.0046 | 34.84 | 6.00 | 13.60 | 8.95 | |
| 3/28/05 10:31 | 0.63 | 32.21 | 0.0105 | 0.58 | 0.0015 | 5.05 | 7.00 | 55.91 | 6.38 | |
| 4/1/05 5:55 | 0.57 | 31.94 | 0.0009 | 1.36 | 0.0200 | 3.48 | 8.00 | 23.42 | 9.18 | |
| 4/6/05 14:55 | 0.56 | 80.49 | 0.0009 | 2.43 | 0.0015 | 26.74 | 9.00 | 33.06 | 3.01 | |
| 4/8/05 16:50 | 0.37 | 21.20 | 0.0009 | 0.13 | 0.0200 | 1.13 | 10.00 | 160.86 | 18.72 | |
| 4/12/05 12:45 | 1.11 | 2501.81 | 0.0022 | 323.35 | 0.0289 | 563.91 | 11.00 | 7.74 | 4.44 | |
| 4/26/05 18:40 | 0.63 | 58.49 | 0.0045 | 9.49 | 0.0121 | 21.90 | 12.00 | 6.16 | 2.67 | |
| 5/5/05 17:20 | 0.54 | 30.95 | 0.0009 | 0.96 | 0.0121 | 1.09 | 13.00 | 32.36 | 28.38 | |
| 5/10/05 17:30 | 0.43 | 26.65 | 0.0009 | 0.97 | 0.0200 | 1.92 | 14.00 | 27.49 | 13.87 | |
| 5/14/05 20:21 | 0.53 | 20.09 | 0.0009 | 2.57 | 0.0620 | 8.12 | 15.00 | 7.82 | 2.47 | |
| 5/16/05 17:31 | 0.40 | 40.56 | 0.0022 | 1.15 | 0.0289 | 3.23 | 16.00 | 35.40 | 12.54 | |
| 5/19/05 17:51 | 0.49 | 25.59 | 0.0009 | 6.86 | 0.0200 | 3.17 | 17.00 | 3.73 | 8.07 | |
| 5/25/05 4:16 | 0.46 | 21.97 | 0.0009 | 12.44 | 0.0500 | 6.01 | 18.00 | 1.77 | 3.66 | |
| 5/29/05 20:31 | 0.37 | 57.54 | 0.0288 | 14.23 | 0.1190 | 31.10 | 19.00 | 4.04 | 1.85 | |
| 6/20/05 19:06 | 0.12 | 12.28 | 0.0009 | 1.53 | 0.0200 | 5.60 | 21.00 | 8.04 | 2.19 | |
| 7/6/05 6:51 | 0.37 | 34.18 | 0.0022 | 51.37 | 0.1030 | 130.25 | 22.00 | 0.67 | 0.26 | |
| 7/12/05 20:12 | 0.24 | 4.73 | 0.0009 | 11.18 | 0.0750 | 18.41 | 23.00 | 0.42 | 0.26 | |
| 7/14/05 23:50 | 0.45 | 28.13 | 0.0022 | 56.01 | 0.1351 | 88.94 | 24.00 | 0.50 | 0.32 | |
| 7/15/05 14:55 | 0.12 | 2.79 | 0.0105 | 1.22 | 0.0750 | 2.23 | 25.00 | 2.29 | 1.25 | |
| 7/17/05 18:25 | 0.17 | 3.06 | 0.0022 | 9.69 | 0.0890 | 9.92 | 26.00 | 0.32 | 0.31 | |
| 7/18/05 23:25 | 0.48 | 38.12 | 0.0022 | 51.97 | 0.1030 | 63.27 | 27.00 | 0.73 | 0.60 | |
| 7/28/05 2:00 | 0.57 | 42.61 | 0.0022 | 95.42 | 0.0620 | 132.28 | 28.00 | 0.45 | 0.32 | |
| 8/15/05 17:30 | 0.22 | 2.27 | 0.0009 | 5.90 | 0.0390 | 2.57 | 29.00 | 0.38 | 0.88 | |
| 8/16/05 17:15 | 0.19 | 8.64 | 0.0022 | 0.77 | 0.0046 | 0.24 | 30.00 | 11.18 | 36.08 | |
| 8/23/05 17:39 | 0.38 | 6.99 | 0.0009 | 2.47 | 0.0500 | 4.86 | 32.00 | 2.83 | 1.44 | |
| 8/27/05 23:09 | 0.28 | 50.37 | 0.0009 | 125.88 | 0.0620 | 142.76 | 33.00 | 0.40 | 0.35 | |
| 9/25/05 17:39 | 0.22 | 233.60 | 0.0009 | 331.07 | 0.0620 | 525.05 | 34.00 | 0.71 | 0.44 | |
| 11/1/2005 8:03 | 0.26 | 29.79 | 0.0009 | 6.20 | 0.0200 | 11.48 | 35.00 | 4.81 | 2.60 | |
| 11/15/2005 20:08 | 0.57 | 17.84 | 0.0105 | 1.85 | 0.0121 | 4.30 | 36.00 | 9.65 | 4.15 | |
| 12/15/2005 5:36 | 0.46 | 35.67 | 0.0009 | 2.40 | | 4.85 | 37.00 | 14.88 | 7.36 | |
| 12/27/2005 16:31 | 0.64 | 38.70 | 0.0009 | 0.06 | 0.0046 | 0.68 | 38.00 | 616.08 | 57.26 | |
| 12/29/2005 14:16 | 0.63 | 14.43 | 0.0009 | 0.02 | 0.0015 | 0.06 | 39.00 | 863.70 | 229.75 | |
| 1/10/2006 18:10 | 0.19 | 38.91 | 0.0009 | 4.38 | 0.0015 | 7.02 | 40.00 | 8.89 | 5.54 | |
| 1/13/2006 9:49 | 0.15 | 12.60 | 0.0009 | 0.65 | 0.0121 | 2.11 | 41.00 | 19.36 | 5.98 | |
| 1/17/2006 14:39 | 0.68 | 130.68 | 0.0009 | 20.33 | 0.0046 | 48.00 | 42.00 | 6.43 | 2.72 | |
| 1/23/2006 18:37 | 0.42 | 243.76 | 0.0009 | 73.91 | 0.0000 | 135.35 | 43.00 | 3.30 | 1.80 | |
| 1/29/2006 15:43 | 0.41 | 146.43 | 0.0009 | 18.81 | 0.0121 | 38.70 | 44.00 | 7.78 | 3.78 | |
| 1/31/2006 15:48 | 0.14 | 1.29 | 0.0009 | 0.06 | 0.0015 | 0.05 | 45.00 | 22.72 | 27.00 | |
| 2/25/2006 20:12 | 1.28 | 280.33 | 0.0098 | 37.66 | 0.0500 | 137.85 | 50.00 | 7.44 | 2.03 | |
| 3/6/2006 16:32 | 0.25 | 16.44 | 0.0004 | 1.55 | 0.0200 | 2.42 | 51.00 | 10.63 | 6.78 | |
| 3/7/2006 17:17 | 0.25 | 10.67 | 0.0004 | 0.04 | 0.0046 | 0.63 | 52.00 | 304.66 | 17.05 | |
| 3/8/2006 16:32 | 0.25 | 10.34 | 0.0004 | 1.03 | 0.0200 | 1.65 | 53.00 | 10.03 | 6.27 | |
| 3/9/2006 16:47 | 0.66 | 47.10 | 0.0004 | 3.98 | 0.0500 | 19.65 | 54.00 | 11.83 | 2.40 | |
| 3/10/2006 15:37 | 0.37 | 9.32 | 0.0004 | 0.59 | 0.0121 | 0.45 | 55.00 | 15.93 | 20.62 | |
| 3/11/2006 16:27 | 0.28 | 8.98 | 0.0004 | 0.03 | 0.0289 | 1.10 | 56.00 | 328.61 | 8.18 | |
| 3/12/2006 15:07 | 0.29 | 3.03 | 0.0004 | 0.01 | 0.0289 | 0.40 | 57.00 | 571.75 | 7.60 | |
| 3/13/2006 13:47 | 0.52 | 36.61 | 0.0004 | 1.92 | 0.0500 | 11.13 | 58.00 | 19.05 | 3.29 | |
| 3/14/2006 16:22 | 0.24 | 6.81 | 0.0004 | 0.02 | 0.0046 | 0.17 | 59.00 | 393.32 | 39.46 | |
| 3/15/2006 15:32 | 0.29 | 4.87 | 0.0004 | 0.02 | 0.0121 | 0.19 | 60.00 | 284.54 | 25.36 | |
| 3/16/2006 16:37 | 0.21 | 1.47 | 0.0004 | 0.00 | 0.0289 | 0.25 | 61.00 | 453.52 | 5.80 | |
| 3/21/2006 10:38 | 0.84 | 2093.97 | 0.0004 | 154.14 | 0.0390 | 590.53 | 62.00 | 13.58 | 3.55 | |
| 3/31/2006 15:03 | 0.14 | 2.42 | 0.0009 | 0.01 | 0.0019 | 0.01 | 63.00 | 165.34 | 196.67 | |
| 4/2/2006 17:47 | 0.54 | 17.20 | 0.0004 | 1.30 | 0.0209 | 0.68 | 64.00 | 13.27 | 25.46 | |
| 4/3/2006 16:32 | 0.19 | 7.87 | 0.0004 | 0.03 | 0.0083 | 0.44 | 65.00 | 240.67 | 17.87 | |
| 4/4/2006 14:12 | 0.12 | 1.46 | 0.0004 | 0.01 | 0.0050 | 0.06 | 66.00 | 155.93 | 24.87 | |
| 4/22/2006 5:32 | 0.74 | 307.81 | 0.0004 | 21.81 | 0.0121 | 1.35 | 67.00 | 14.11 | 228.11 | |
| 4/24/2006 16:52 | 0.07 | 3.92 | 0.0009 | 0.07 | 0.0083 | 0.50 | 68.00 | 56.04 | 7.82 | |
| 4/25/2006 16:48 | 0.69 | 54.60 | 0.0004 | 2.72 | 0.0006 | 0.41 | 69.00 | 20.05 | 134.44 | |
| 4/30/2006 15:23 | 0.51 | 341.85 | 0.0022 | 71.56 | 0.0390 | 118.76 | 70.00 | 4.78 | 2.88 | |
| 5/1/2006 16:43 | 0.24 | 17.05 | 0.0004 | 0.10 | 0.0500 | 4.11 | 71.00 | 169.39 | 4.15 | |
| 5/2/2006 16:08 | 0.59 | 17.44 | 0.0004 | 0.76 | 0.0050 | 0.96 | 72.00 | 22.86 | 18.23 | |
| 5/7/2006 1:29 | 0.58 | 504.11 | 0.0004 | 5.38 | 0.0083 | 3.18 | 73.00 | 93.70 | 158.28 | |
| 5/10/2006 16:13 | 0.40 | 92.05 | 0.0004 | 2.37 | 0.0313 | 11.57 | 74.00 | 38.86 | 7.96 | |
| 5/11/2006 16:33 | 0.16 | 2.63 | 0.0004 | 0.06 | 0.0209 | 0.35 | 75.00 | 43.89 | 7.52 | |
| 5/31/2006 3:08 | 0.02 | 1.22 | 0.0004 | 0.02 | 0.0019 | 0.10 | 76.00 | 62.63 | 12.87 | |
| 6/17/2006 19:19 | 0.94 | 82.85 | 0.0170 | 6.62 | 0.0050 | 1.39 | 77.00 | 9.40 | 59.52 | |

Summer/Fall

Table with columns: EDCC Date / Tim CFS, CALC BG, TOT EVENT CF, 006 FLOW CFS, 006 EVENT CF, 007 FLOW CFS, 007 EVENT CF, EVENT RATIO, EVENT RATIO, EVENT RATIO, EVENT RATIO. Rows include dates from Jun-06 to Sep-06.

average 1.74 3.64
Median 0.58 0.40
Min 0.32 0.26
Max 11.18 38.08
Stdev 3.08 10.25
25%tile 0.42 0.31
count 12 12

Winter/Spring

Table with columns: EDCC Date / Tim CFS, CALC BG, TOT EVENT CF, 006 FLOW CFS, 006 EVENT CF, 007 FLOW CFS, 007 EVENT CF, EVENT RATIO, EVENT RATIO, EVENT RATIO, EVENT RATIO. Rows include dates from Mar-05 to Jun-06.

average 1.74 3.64
Median 0.58 0.40
Min 0.32 0.26
Max 11.18 38.08
Stdev 3.08 10.25
25%tile 0.42 0.31
count 12 12