ADEQ
ARKANSAS
Department of Environmental Quality

September 19, 2018

Delmar R. Reppond, General Manager
El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

RE: El Dorado Chemical Company Inspections (Union Co)
AFIN: 70-00040 **NPDES Permit No.: AR0000752**
ARR001595

Dear Mr. Reppond:

On August 8, 2018, I performed a Compliance Evaluation Inspection and Industrial Stormwater Inspection of the above-referenced facility in accordance with the provisions of the Federal Clean Water Act, the Arkansas Water and Air Pollution Control Act, and the regulations promulgated thereunder. Copies of the inspection reports are enclosed for your records.

Please refer to the "Summary of Findings" section of each the attached inspection reports and provide a written response for each violation that was noted. This response should be mailed to the attention of the Office of Water Quality Inspection Branch at the address at the bottom of this letter or e-mailed to Water-Inspection-Report@adeq.state.ar.us. This response should contain documentation describing the course of action taken to correct each item noted. This corrective action should be completed as soon as possible, and the written response with all necessary documentation (i.e., photos) is due by **October 3, 2018**.

If I can be of any assistance, please contact me at youngm@adeq.state.ar.us or (501) 837-2073.

Sincerely,

Michael Young
District 8 Field Inspector
Office of Water Quality

ADEQ
ARKANSAS
Department of Environmental Quality

WATER DIVISION INSPECTION REPORT

AFIN: **70-00040** | PERMIT #: **AR0000752** | DATE: **8/8/2018**

COUNTY: **70 Union** | PDS #: **104537** | MEDIA: **WN**

GPS LAT: **33.264991** LONG: **-92.664671** LOCATION: **Entrance**

FACILITY INFORMATION

NAME:
El Dorado Chemical Company
LOCATION:
4500 North West Avenue
CITY:
El Dorado, AR 71730

RESPONSIBLE OFFICIAL

NAME: / TITLE
Delmar R. Reppond / General Manager
COMPANY:
El Dorado Chemical Company
MAILING ADDRESS:
4500 North West Avenue
CITY, STATE, ZIP:
El Dorado AR 71730
PHONE & EXT: / FAX:
870-863-1400 /
EMAIL:
dreppond@edc-ark.com
CONTACTED DURING INSPECTION: **Yes**

INSPECTION INFORMATION

FACILITY TYPE: **2 - Industrial**
INSPECTOR ID#: **101531 S - State**
FACILITY EVALUATION RATING: **2 - Marginal**
INSPECTION TYPE: **Compliance Evaluation**
DATE(S): **8/8/2018**
ENTRY TIME: **09:30**
EXIT TIME: **14:21**
PERMIT EFFECTIVE DATE: **10/1/2017**
PERMIT EXPIRATION DATE: **9/30/2022**
FAYETTEVILLE SHALE RELATED: **N**
FAYETTEVILLE SHALE VIOLATIONS: **N**

INSPECTION PARTICIPANTS

NAME/TITLE/PHONE/FAX/EMAIL/ETC.:
David Sartain/Environmental Coordinator/dsartain@edc-ark.com
Wes Morgan/Environmental Technician
Robin Goldsby/ADEQ D8 Water Inspector

AREA EVALUATIONS

(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Applicable/Evaluated)

S	PERMIT	**M**	FLOW MEASUREMENT	**S**	STORMWATER
S	RECORDS/REPORTS	**S**	LABORATORY	**S**	FACILITY SITE REVIEW
S	OPERATION & MAINTENANCE	**S**	EFFLUENT/RECEIVING WATER	**S**	SELF-MONITORING PROGRAM
M	SAMPLING	**S**	SLUDGE HANDLING/DISPOSAL	**N**	PRETREATMENT
****	OTHER:				

SUMMARY OF FINDINGS

1.) This facility is performing monthly <u>acute</u> Whole Effluent Toxicity (WET) testing at Outfalls 006 and 007. This is a violation of Part IA. The current permit requires <u>chronic</u> WET testing at a frequency of once every two months.

2.) This facility is not performing the Outfall 104ST sum total for Total Recoverable Lead following the six-month interim limits at Outfalls 006 and 007. This is a violation of permit condition Part IA.

3.) This facility is monitoring downstream flow for Outfalls 006 and 007 with a flow monitoring device that has not been maintained properly (see Photos 24-25). Additionally, calibration records were not available during the inspection. This is a violation of permit condition Part II. (15.).

4.) The location of the downstream flow device is not representative of discharges from Outfalls 006 and 007 (see Figure 2). This is a violation of permit condition Part III. (C.) (2).

5.) During the inspection, it was unknown whether the device chosen to monitor flow downstream of Outfalls 006 and 007 was installed, calibrated, and maintained to ensure accuracy with a deviation of less than ±10%. This is a violation of permit condition Part III. (C.) (3.).

GENERAL COMMENTS

On August 8, 2018, I performed an inspection at El Dorado Chemical Company (EDCC) with the above participants. EDCC is a fertilizer manufacturer with six (6) permitted outfalls. Outfall 001 and Outfall 010 are the outfalls for the treated process wastewater. The treatment process for these outfalls is pH adjustment (see Photos 12-13), aerated lagoon (see Photos 14-15), and then it is pumped (see Photo 16) to Lake Kildeer, which is a ~50-acre facultative lagoon with water recirculation (see Photos 17-18). Outfall 001 (see Photos 22-23) only discharges to UT of Flat Creek in emergency conditions when the level of the main treatment lagoon, Lake Kildeer, exceeds the freeboard. Outfall 010 is routed to the Ouachita Joint Pipeline (OJP; permit AR0050296) and is discharged to the Ouachita River after flow measurement (see Photo 19 and 21) and continuous pH monitoring (see Photo 20). Outfall 002 is an emergency discharge location from Lake Lee when the freeboard of Lake Lee is exceeded. Outfall 003 discharges continuously and primarily consists of sanitary wastewater from bathroom facilities and showers. The treatment for Outfall 003 is a bar screen (see Photo 6), followed by Imhoff tanks (see Photo 7), sand filter beds (see Photos 8-9), and the treated wastewater is discharged to UT of Flat Creek (see Photo 10). Outfalls 006 and 007 discharge contaminated stormwater from the west-side of EDCC (see Photos 1-5). There is no treatment for these outfalls. Exceedances of Total Lead and Total Zinc have been numerous at these outfalls. Additionally, Whole Effluent Toxicity (WET) testing has had numerous failures. The facility has added additional conditions in the current permit to take into effect the upstream dilution for the receiving stream for Outfalls 006 and 007. Requirements for 104ST (sum total of Outfalls 006 and 007) were initiated for WET testing in October 2017 when the permit was deemed effective. Per Footnote 4 of 104ST, the requirements for Lead and Zinc In-stream Waste Concentrations (IWC) were effective within six-months of the effective date of the permit (May 2018). The facility has a monitoring requirement for downstream flow for Outfalls 006 and 007. Downstream flow is subtracted from the total flow of Outfalls 006 and 007 to calculate upstream flow. Upstream flow values are used to obtain the critical dilution series for Outfalls 006 and 007 WET testing and 104ST Lead and Zinc IWC.

Records Review:

During the inspection, I requested records for several months of monitoring at Outfalls 003, 006, 007, and 010. The records were complete and are maintained electronically. During the record review, I identified that the facility has not been completing WET testing as required by the current permit Part IA for Outfalls 006 and 007. The facility is required to complete chronic WET testing once every two months. Currently, the facility is completing acute WET testing once every month. Additionally, the facility did not start submitting 104ST IWC for Lead and Zinc following the six month interim period after the effective date of the permit. Also, during the inspection, records and information related to the downstream flow monitoring equipment were not available as the flow device is being maintained and operated by a third-party contractor.

Facility Inspection:

During the inspection, I observed each outfall and the treatment processes for the wastewater. All treatment devices were in operation at the time of inspection. Outfall 003 had excessive algae growth at the discharge location, but the formation of slime banks was not evident (see Photo 11). The downstream flow monitoring location chosen is not representative of the flow from Outfalls 006 and 007 (see Figure 2). The location incorporates drainage that is not directly from Outfalls 006 and 007. The justification for downstream flow monitoring is that the location that directly reflects the commingled discharges of Outfalls 006 and 007 without the influence of additional discharges. Additionally, the device installed is a sonde mounted on a pole (see Photos 24-25). During the inspection, the pole was leaning at an angle and is installed in a ditch that has the probability of having flow not being evenly distributed across the channel. During the inspection, I was unable to verify that this channel had been cross-sectioned to obtain the proper flow measurements with a deviation of ±10%.

INSPECTOR'S SIGNATURE: **Michael Young**	DATE: **9/6/2018**
SUPERVISOR'S SIGNATURE: **Kerri McCabe**	DATE: **9/18/2018**

ARKANSAS DEPARTMENT OF ENVIRONMENTAL QUALITY
5301 NORTHSHORE DRIVE / NORTH LITTLE ROCK / ARKANSAS 72118-5317 / TELEPHONE 501-682-0744 / FAX 501-682-0880
www.adeq.state.ar.us

SECTION A: PERMIT VERIFICATION	
PERMIT SATISFACTORILY ADDRESSES OBSERVATIONS	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. CORRECT NAME AND MAILING ADDRESS OF PERMITTEE:	☑Y ☐N ☐NA ☐NE
2. NOTIFICATION GIVEN TO EPA/STATE OF NEW DIFFERENT OR INCREASED DISCHARGES:	☐Y ☐N ☑NA ☐NE
3. NUMBER AND LOCATION OF DISCHARGE POINTS AS DESCRIBED IN PERMIT:	☑Y ☐N ☐NA ☐NE
4. ALL DISCHARGES ARE PERMITTED:	☑Y ☐N ☐NA ☐NE

SECTION B: RECORDKEEPING AND REPORTING EVALUATION	
RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. ANALYTICAL RESULTS CONSISTENT WITH DATA REPORTED ON DMRS:	☑Y ☐N ☐NA ☐NE
2. SAMPLING AND ANALYSES DATA ADEQUATE AND INCLUDE:	☑S ☐M ☐U ☐NA ☐NE
a. DATES AND TIME(S) OF SAMPLING:	☑Y ☐N ☐NA ☐NE
b. EXACT LOCATION(S) OF SAMPLING:	☑Y ☐N ☐NA ☐NE
c. NAME OF INDIVIDUAL PERFORMING SAMPLING:	☑Y ☐N ☐NA ☐NE
d. ANALYTICAL METHODS AND TECHNIQUES:	☑Y ☐N ☐NA ☐NE
e. RESULTS OF CALIBRATIONS:	☑Y ☐N ☐NA ☐NE
f. RESULTS OF ANALYSES:	☑Y ☐N ☐NA ☐NE
g. DATES AND TIMES OF ANALYSES:	☑Y ☐N ☐NA ☐NE
h. NAME OF PERSON(S) PERFORMING ANALYSES:	☑Y ☐N ☐NA ☐NE
3. LABORATORY EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS ADEQUATE:	☑S ☐M ☐U ☐NA ☐NE
4. PLANT RECORDS INCLUDE SCHEDULES, DATES OF EQUIPMENT MAINTENANCE AND REPAIR:	☑S ☐M ☐U ☐NA ☐NE
5. EFFLUENT LOADINGS CALCULATED USING DAILY EFFLUENT FLOW AND DAILY ANALYTICAL DATA:	☑Y ☐N ☐NA ☐NE

SECTION C: OPERATIONS AND MAINTENANCE	
TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED	☑S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. TREATMENT UNITS PROPERLY OPERATED:	☑S ☐M ☐U ☐NA ☐NE
2. TREATMENT UNITS PROPERLY MAINTAINED:	☑S ☐M ☐U ☐NA ☐NE
3. STANDBY POWER OR OTHER EQUIVALENT PROVIDED:	☑S ☐M ☐U ☐NA ☐NE
4. ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE:	☑S ☐M ☐U ☐NA ☐NE
5. ALL NEEDED TREATMENT UNITS IN SERVICE:	☑S ☐M ☐U ☐NA ☐NE
6. ADEQUATE NUMBER OF QUALIFIED OPERATORS PROVIDED:	☑S ☐M ☐U ☐NA ☐NE
7. SPARE PARTS AND SUPPLIES INVENTORY MAINTAINED:	☑S ☐M ☐U ☐NA ☐NE
8. OPERATION AND MAINTENANCE MANUAL AVAILABLE:	☑Y ☐N ☐NA ☐NE
9. STANDARD OPERATING PROCEDURES AND SCHEDULES ESTABLISHED:	☑Y ☐N ☐NA ☐NE
10. PROCEDURES FOR EMERGENCY TREATMENT CONTROL ESTABLISHED:	☑Y ☐N ☐NA ☐NE
11. HAVE BYPASSES/OVERFLOWS OCCURRED AT THE PLANT OR IN THE COLLECTION SYSTEM IN THE LAST YEAR:	☐Y ☑N ☐NA ☐NE
12. IF SO, HAS THE REGULATORY AGENCY BEEN NOTIFIED:	☐Y ☐N ☑NA ☐NE
13. HAS CORRECTIVE ACTION BEEN TAKEN TO PREVENT ADDITIONAL BYPASSES/OVERFLOWS:	☐Y ☐N ☑NA ☐NE
14. HAVE ANY HYDRAULIC OVERLOADS OCCURRED AT THE TREATMENT PLANT:	☐Y ☑N ☐NA ☐NE
15. IF SO, DID PERMIT VIOLATIONS OCCUR AS A RESULT:	☐Y ☐N ☑NA ☐NE

SECTION D: SAMPLING	
PERMITTEE SAMPLING MEETS PERMIT REQUIREMENTS	☐S ☑M ☐U ☐NA ☐NE
DETAILS:	
1. SAMPLES TAKEN AT SITE(S) SPECIFIED IN PERMIT:	☑Y ☐N ☐NA ☐NE
2. LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES:	☑Y ☐N ☐NA ☐NE
3. FLOW PROPORTIONED SAMPLES OBTAINED WHEN REQUIRED BY PERMIT:	☑Y ☐N ☐NA ☐NE
4. SAMPLING AND ANALYSES COMPLETED ON PARAMETERS SPECIFIED IN PERMIT:	☑Y ☐N ☐NA ☐NE
5. SAMPLING AND ANALYSES PERFORMED AT FREQUENCY SPECIFIED IN PERMIT: **WET testing for Outfalls 006 and 007.**	☐Y ☑N ☐NA ☐NE
6. SAMPLE COLLECTION PROCEDURES ADEQUATE:	☑Y ☐N ☐NA ☐NE
a. SAMPLES REFRIGERATED DURING COMPOSITING:	☑Y ☐N ☐NA ☐NE
b. PROPER PRESERVATION TECHNIQUES USED:	☑Y ☐N ☐NA ☐NE
c. CONTAINERS AND SAMPLE HOLDING TIMES CONFORM TO 40 CFR 136:	☑Y ☐N ☐NA ☐NE
7. IF MONITORING IS PERFORMED MORE OFTEN THAN REQUIRED ARE RESULTS REPORTED ON THE DMR:	☐Y ☐N ☑NA ☐NE
SECTION E: FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS: **Outfall 003**	
1. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
2. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
3. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED:	☐Y ☐N ☑NA ☐NE
4. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
5. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
6. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
7. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
8. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
9. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION E: FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS: **Outfall 006 - Totalizer maintained, but facility takes instantaneous measurements.**	
10. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
11. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
12. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED: **Totalizer not used for compliance**	☐Y ☐N ☑NA ☐NE
13. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
14. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
15. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
16. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
17. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
18. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION E: FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS: **Outfall 007 – Totalizer maintained, but facility takes instantaneous measurements.**	
19. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Parshall flume**	☑Y ☐N ☐NA ☐NE
20. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
21. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED: **Totalizer not used for compliance**	☐Y ☐N ☑NA ☐NE
22. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☑NA ☐NE
23. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☑NA ☐NE
24. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☑NA ☐NE
25. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☑Y ☐N ☐NA ☐NE
26. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
27. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE

SECTION E: FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☑S ☐M ☐U ☐NA ☐NE
DETAILS: **Outfall 010**	
28. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **Closed pipe**	☑Y ☐N ☐NA ☐NE
29. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
30. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED: **Magflow device**	☑Y ☐N ☐NA ☐NE
31. CALIBRATION FREQUENCY ADEQUATE:	☑Y ☐N ☐NA ☐NE
32. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☑Y ☐N ☐NA ☐NE
33. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☑Y ☐N ☐NA ☐NE
34. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☐Y ☐N ☐NA ☑NE
35. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☑Y ☐N ☐NA ☐NE
36. HEAD MEASURED AT PROPER LOCATION:	☑Y ☐N ☐NA ☐NE
SECTION E: FLOW MEASUREMENT	
PERMITTEE FLOW MEASUREMENT MEETS PERMIT REQUIREMENTS	☐S ☐M ☑U ☐NA ☐NE
DETAILS: **Downstream flow for Outfalls 006 and 007; contracted to GBMc Associates.**	
37. PRIMARY FLOW MEASUREMENT DEVICE PROPERLY INSTALLED AND MAINTAINED:__ TYPE OF DEVICE: **No primary device**	☐Y ☑N ☐NA ☐NE
38. FLOW MEASURED AT EACH OUTFALL AS REQUIRED:	☑Y ☐N ☐NA ☐NE
39. SECONDARY INSTRUMENTS (TOTALIZERS, RECORDERS, ETC.) PROPERLY OPERATED AND MAINTAINED: **Unknown sonde**	☐Y ☑N ☐NA ☐NE
40. CALIBRATION FREQUENCY ADEQUATE:	☐Y ☐N ☐NA ☑NE
41. RECORDS MAINTAINED OF CALIBRATION PROCEDURES:	☐Y ☐N ☐NA ☑NE
42. CALIBRATION CHECKS DONE TO ASSURE CONTINUED COMPLIANCE:	☐Y ☐N ☐NA ☑NE
43. FLOW ENTERING DEVICE WELL DISTRIBUTED ACROSS THE CHANNEL AND FREE OF TURBULENCE:	☐Y ☑N ☐NA ☐NE
44. FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGE OF FLOW RATES:	☐Y ☐N ☐NA ☑NE
45. HEAD MEASURED AT PROPER LOCATION:	☐Y ☐N ☐NA ☑NE
SECTION F: LABORATORY	
PERMITTEE LABORATORY PROCEDURES MEET PERMIT REQUIREMENTS	☐S ☐M ☐U ☐NA ☐NE
DETAILS:	
1. EPA APPROVED ANALYTICAL PROCEDURES USED (40 CFR 136.3 FOR LIQUIDS, 503.8(B) FOR SLUDGES) :	☑Y ☐N ☐NA ☐NE
2. IF ALTERNATIVE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED:	☑Y ☐N ☐NA ☐NE
3. SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT:	☑Y ☐N ☐NA ☐NE
4. QUALITY CONTROL PROCEDURES ADEQUATE:	☑Y ☐N ☐NA ☐NE
5. DUPLICATE SAMPLES ARE ANALYZED ≥10% OF THE TIME:	☑Y ☐N ☐NA ☐NE
6. SPIKED SAMPLES ARE ANALYZED ≥10% OF THE TIME:	☑Y ☐N ☐NA ☐NE
7. COMMERCIAL LABORATORY USED:	☑Y ☐N ☐NA ☐NE
a. LAB NAME: **American Interplex**	
b. LAB ADDRESS: **Little Rock, AR**	
c. PARAMETERS PERFORMED: **All**	
8. BIOMONITORING PROCEDURES ADEQUATE: **Facility is doing monthly acute instead of once/two months chronic.**	☐Y ☑N ☐NA ☐NE
a. PROPER ORGANISMS USED:	☑Y ☐N ☐NA ☐NE
b. PROPER DILUTION SERIES FOLLOWED:	☑Y ☐N ☐NA ☐NE
c. PROPER TEST METHODS AND DURATION:	☑Y ☐N ☐NA ☐NE
d. RETESTS AND/OR TRE PERFORMED AS REQUIRED:	☑Y ☐N ☐NA ☐NE

SECTION G: EFFLUENT/RECEIVING WATERS OBSERVATIONS

BASED ON VISUAL OBSERVATIONS ONLY — ☑S ☐M ☐U ☐NA ☐NE

DETAILS:

OUTFALL #:	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	FLOATING SOLIDS	COLOR	OTHER
001							No Discharge
002							No Discharge
003	No	No	No	No	No	Colorless	
006							No Discharge
007							No Discharge
010	No	No	No	No	No	Colorless	

SECTION H: SLUDGE DISPOSAL

SLUDGE DISPOSAL MEETS PERMIT REQUIREMENTS — ☑S ☐M ☐U ☐NA ☐NE

DETAILS: **Sludge removed from Lake Lee in 2006.**

1. SLUDGE MANAGEMENT ADEQUATE TO MAINTAIN EFFLUENT QUALITY: ☑S ☐M ☐U ☐NA ☐NE
2. SLUDGE RECORDS MAINTAINED AS REQUIRED BY 40 CFR 503: ☑S ☐M ☐U ☐NA ☐NE
3. FOR LAND APPLIED SLUDGE, TYPE OF LAND APPLIED TO: (E.G., FOREST, AGRICULTURAL, PUBLIC CONTACT SITE):

SECTION I: SAMPLING INSPECTION PROCEDURES

SAMPLE RESULTS WITHIN PERMIT REQUIREMENTS — ☐S ☐M ☐U ☑NA ☐NE

DETAILS:

1. SAMPLES OBTAINED THIS INSPECTION: ☐Y ☐N ☑NA ☐NE
2. TYPE OF SAMPLE: ☐GRAB:__ ☐COMPOSITE:__ METHOD:__ FREQUENCY:
3. SAMPLES PRESERVED: ☐Y ☐N ☑NA ☐NE
4. FLOW PROPORTIONED SAMPLES OBTAINED: ☐Y ☐N ☑NA ☐NE
5. SAMPLE OBTAINED FROM FACILITY'S SAMPLING DEVICE: ☐Y ☐N ☑NA ☐NE
6. SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE: ☐Y ☐N ☑NA ☐NE
7. SAMPLE SPLIT WITH PERMITTEE: ☐Y ☐N ☑NA ☐NE
8. CHAIN-OF-CUSTODY PROCEDURES EMPLOYED: ☐Y ☐N ☑NA ☐NE
9. SAMPLES COLLECTED IN ACCORDANCE WITH PERMIT: ☐Y ☐N ☑NA ☐NE

SECTION J: STORM WATER POLLUTION PREVENTION PLAN

STORM WATER MANAGEMENT MEETS PERMIT REQUIREMENTS — ☐S ☐M ☐U ☑NA ☐NE

DETAILS: **Inspected under IGP ARR001595 (see separate report).**

1. SWPPP UPDATED AS NEEDED:__ DATE OF LAST UPDATE: ☐Y ☐N ☑NA ☐NE
2. SITE MAP INCLUDING ALL DISCHARGES AND SURFACE WATERS: ☐Y ☐N ☑NA ☐NE
3. POLLUTION PREVENTION TEAM IDENTIFIED: ☐Y ☐N ☑NA ☐NE
4. POLLUTION PREVENTION TEAM PROPERLY TRAINED: ☐Y ☐N ☑NA ☐NE
5. LIST OF POTENTIAL POLLUTANT SOURCES: ☐Y ☐N ☑NA ☐NE
6. LIST OF POTENTIAL SOURCES AND PAST SPILLS AND LEAKS: ☐Y ☐N ☑NA ☐NE
7. ALL NON-STORM WATER DISCHARGES ARE AUTHORIZED: ☐Y ☐N ☑NA ☐NE
8. LIST OF STRUCTURAL BMPS: ☐Y ☐N ☑NA ☐NE
9. LIST OF NON-STRUCTURAL BMPS: ☐Y ☐N ☑NA ☐NE
10. BMPS PROPERLY OPERATED AND MAINTAINED: ☐Y ☐N ☑NA ☐NE
11. INSPECTIONS CONDUCTED AS REQUIRED: ☐Y ☐N ☑NA ☐NE

DMR Calculation Check

Reporting Period:	**From**	**2018** (Year)	**06** (Month)	**01** (Day)	**To**	**2018** (Year)	**06** (Month)	**30** (Day)

Parameter Checked: **TSS - Outfall 010**

	Loading Mass Mo. Avg. - lbs/day	**Concentration Monthly Mo. Avg. - mg/l**	**Concentration Monthly 7-day Avg. - mg/l**
Reported Value:	**280.32**	**N/A**	**N/A**
Calculated Value:	**280.32**	**N/A**	**N/A**
Permit Value:	**500.4**	**N/A**	**N/A**

If calculated value does not equal reported value, explain:

Equal

DMR Calculation Check

Reporting Period:	**From**	**2018**	**06**	**01**	**To**	**2018**	**06**	**30**
		Year	**Month**	**Day**		**Year**	**Month**	**Day**

Parameter Checked: **TDS – Outfall 007**

	Loading Mass Mo. Avg. - lbs/day	**Concentration Monthly Mo. Avg. - mg/l**	**Concentration Monthly 7-day Avg. - mg/l**
Reported Value:	**1244**	**830**	**830**
Calculated Value:	**1244**	**830**	**830**
Permit Value:	**Report**	**Report**	**Report**

If calculated value does not equal reported value, explain:

Equal

This facility has interim Total Dissolved Solid (TDS) reporting requirements. In October 2020, the facility will have concentration limits of 138 mg/L Monthly Average and 207 mg/L Daily Max. The reported results will exceed the permit requirements following the interim limits.

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:05**
Witness:	**Robin Goldsby**			Photo #:	**1**
Description:	**Outfall 006 structure.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:05**
Witness:	**Robin Goldsby**			Photo #:	**2**
Description:	**Facility utilizes a totalizer at Outfall 006. Submits instantaneous flow from staff gage.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:06**
Witness:	**Robin Goldsby**			Photo #:	**3**
Description:	**Flow monitoring gage for Outfall 006.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:09**
Witness:	**Robin Goldsby**			Photo #:	**4**
Description:	**Outfall 007 structure.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:10**
Witness:	**Robin Goldsby**			Photo #:	**5**
Description:	**Flow monitoring gage for Outfall 007.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:13**
Witness:	**Robin Goldsby**			Photo #:	**6**
Description:	**Influent for Outfall 003.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:11**
Witness:	**Robin Goldsby**			Photo #:	**7**
Description:	**Imhoff tanks for Outfall 003 have no sludge evident.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:12**
Witness:	**Robin Goldsby**			Photo #:	**8**
Description:	**Sand filter bed for Outfall 003.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:12**
Witness:	**Robin Goldsby**			Photo #:	**9**
Description:	**Sand filter bed for Outfall 003.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:06**
Witness:	**Robin Goldsby**			Photo #:	**10**
Description:	**Outfall 003 discharge was colorless at time of inspection.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**13:09**
Witness:	**Robin Goldsby**			Photo #:	**11**
Description:	**Outfall 003 discharge. Note excessive algae.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**11:51**
Witness:	**Robin Goldsby**			Photo #:	**12**
Description:	**Location of pH neutralization.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**11:52**
Witness:	**Robin Goldsby**			Photo #:	**13**
Description:	**Caustic tank for pH neutralization.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**11:55**
Witness:	**Robin Goldsby**			Photo #:	**14**
Description:	**Aeration of Lake Lee.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**11:57**
Witness:	**Robin Goldsby**			Photo #:	**15**
Description:	**Aerators in Lake Lee. Note not all aerators functioning at time of inspection.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**11:56**
Witness:	**Robin Goldsby**			Photo #:	**16**
Description:	**Pump for effluent from Lake Lee to Lake Kildeer.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:19**
Witness:	**Robin Goldsby**			Photo #:	**17**
Description:	**Pumps and recirculation for Outfall 010.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:19**
Witness:	**Robin Goldsby**			Photo #:	**18**
Description:	**Clarity of Lake Kildeer.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:21**
Witness:	**Robin Goldsby**			Photo #:	**19**
Description:	**Magflow device for Outfall 010.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:21**
Witness:	**Robin Goldsby**			Photo #:	**20**
Description:	**Continuous pH monitoring device for Outfall 010.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:26**
Witness:	**Robin Goldsby**			Photo #:	**21**
Description:	**Flow monitoring equipment for Outfall 010.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:27**
Witness:	**Robin Goldsby**			Photo #:	**22**
Description:	**Outfall 001.**				

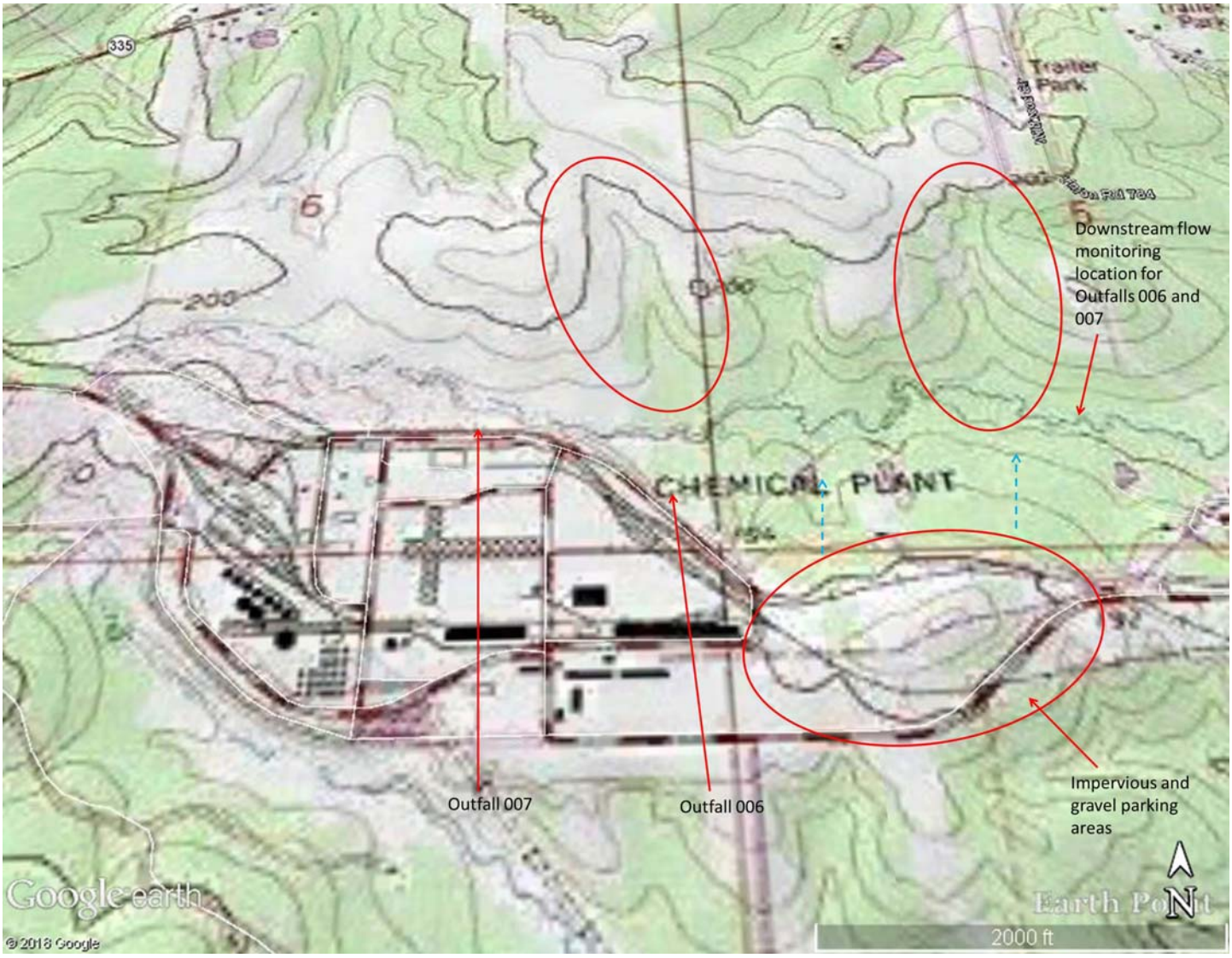
Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:28**
Witness:	**Robin Goldsby**			Photo #:	**23**
Description:	**Flow monitoring location for Outfall 001.**				

Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:51**
Witness:	**Robin Goldsby**			Photo #:	**24**
Description:	**Downstream flow monitoring location for Outfalls 006 and 007.**				

Water Division Photographic Evidence Sheet					
Location:	**El Dorado Chemical Company**				
Photographer:	**Michael Young**	Date:	**08/08/2018**	Time:	**12:52**
Witness:	**Robin Goldsby**			Photo #:	**25**
Description:	**Location for downstream monitoring of Outfalls 006 and 007. Note pole is leaning.**				

Figure 1. Overview of El Dorado Chemical Company with location of treatment lakes and outfalls identified.

Figure 2. Topographic view of EDCC. Identified are Outfalls 006 and 007, the downstream flow monitoring, and areas of drainage to the downstream monitoring location that are not associated with Outfalls 006 and 007 (circled in red).



4500 NORTH WEST AVE. • P. O. BOX 231 • EL DORADO, AR 71731 • (501) 863-1400

EL DORADO
CHEMICAL COMPANY

October 3, 2018

Mr. Michael Young
Arkansas Department of Environmental Quality
Office of Water Quality - Inspection Branch
3400 W. Hillsboro
El Dorado, Arkansas 71730

RE: El Dorado Chemical Company
AFIN: 70-00040 - NPDES Permit No. AR0000752
Response to Compliance Evaluation Inspection

Dear Mr. Young,

Please accept this letter in response to an Arkansas Department of Environmental Quality (ADEQ) letter/report dated September 19, 2018, regarding the ADEQ's August 8, 2018 environmental compliance inspection completed at El Dorado Chemical Company (EDCC). Included below are the report's findings followed by our responses.

1. ***"This facility is preforming monthly acute Whole Effluent Toxicity (WET) testing at Outfalls 006 and 007. This is a violation of Part 1A. The current permit requires chronic WET testing at a frequency of once every two months."***

Response:

Interim and Final Chronic Whole Effluent Toxicity (WET) testing requirements for Outfalls 006, 007, and 104ST were stayed as part of the permit appeal filed on September 27, 2017 for the above-referenced permit. Pursuant to APC&EC Regulation 8.612(E), a facility holding an existing permit must comply with the conditions of the existing permit which correspond to the conditions being stayed.

The previous permit (effective July 1, 2002) required monthly Acute Biomonitoring at Outfalls 006 and 007. ADEQ and ECCC entered into a Permit Appeal Resolution (PAR) for Docket No. 17-001-P, LIS 18-060, on July 6, 2018.

PAR Order and Agreement; Item 2(a)(i) under "Interim WET Testing Requirements" states that for discharges at Outfall 006 and 007 that occur for less than four (4) days, EDCC shall conduct WET testing in accordance with the acute WET testing protocols in EDCC's previous Permit. Item 2(a)(ii) further states that for discharges at Outfall 006 and 007 that occur for more than (4) days, EDCC shall conduct WET testing in accordance with the chronic WET testing protocols in the appealed Permit.

Since the PAR execution date (July 6, 2018), EDCC has not had a discharge through Outfalls 006 and 007 that has lasted for more than 4 days and has maintained previous permit monthly acute WET testing protocols, as required. Daily flow records for Outfalls 006 and 007 for the months of July - September are provided in Attachment 1.

2. ***"The facility is not performing the Outfall 104ST sum total for Total Recoverable Lead following the six-month interim limits at Outfall 006 and 007. This is a violation of permit condition Part IA."***

Response:

Permit limits and any associated conditions for Total Recoverable Lead IWC and Total Recoverable Zinc IWC at Outfall 104ST were stayed as part of the permit appeal filed on September 27, 2017 for the above-referenced permit. Pursuant to APC&EC Regulation 8.612(E), a facility holding an existing permit must comply with the conditions of the existing permit which correspond to the conditions being stayed.

ADEQ and ECCC entered into a Permit Appeal Resolution (PAR) for Docket No. 17-001-P, LIS 18- 060, on July 6, 2018. In accordance with the PAR, final effluent limitations for metals will not be determined until a revised ELCC Tributary Report is completed and submitted to ADEQ. PAR Order and Agreement Item 5 requires this report to be submitted to ADEQ no later than March 31, 2019. A revised ELCC Tributary Report has not been completed nor submitted to ADEQ as of this date.

Additionally, Permit Appeal Resolution (PAR) for Docket No. 17-001-P, LIS 18-060, on July 6, 2018, Order and Agreement 3 states that ADEQ and EDCC agree that a modified Permit with Final Effluent Limitations for Minerals and Ammonia and Final Effluent Limitations for Metals and WET Testing Requirements should not be issued pursuant to this PAR before EDCC has been given time to submit the Updated Background Flow Report and seek EPA's approval of the Revised ELCC Tributary Report.

3. ***"The facility is monitoring downstream flow for Outfall 006 and 007 with a flow monitoring device that has not been maintained properly (see Photos 24-25). Additionally, calibration records were not available during the inspection. This is a violation of permit conditional Part II. (15.)."***

Response:

The in-stream flow monitoring device shown in Photos 24-25 and as indicated in Figures 1 and2 of the inspection report is not the device nor the location used to satisfy the in-stream monitoring requirements for Outfalls 006 and 007. During the initial setup phase, the entire drainage tributary between Outfalls 006 and 007 and EDCC's property line was investigated for potential in-stream monitoring location sites. Monitoring equipment was initially installed at multiple locations to aid in the identification of a suitable site with regards to stream channel geometry and dynamics (lag time, infiltration, time of travel, etc.) of the drainage system. The site evaluated and detailed in the inspection report was the downstream most location used during the identification of the suitable site and was not the location chosen as EDCC's in-stream monitoring site.

The area maps provided in Attachment 2 shows the current location of the monitoring device that is utilized for EDCC's downstream flow monitoring in accordance with Part 1A of the permit. Additionally, photos of the monitoring device and location are provided in Attachment 3.

The device utilized for the instream monitoring is a Hoboware U20-L water level logger that was installed in the unnamed discharge tributary below EDCC's Outfalls 006 and 007 to record stream stage data. The logger is factory calibrated and guaranteed by Hoboware to an accuracy of 0.1%. Additional calibration of the pressure sensor is not needed or possible. Maintenance and data retrieval are completed by GBMc & Associates (GBMc) on a weekly basis. Maintenance includes cleaning sediment from the level logger and PVC housing. Each week water level data is retrieved, and a physical water level is measured (if not dry) to serve as a reference point to the level logger data. This physical water level measurement is applied to the level logger data on a monthly basis during the assimilation of data. The reference point is used to calibrate water levels for an entire series of measurements. The measurement is also used for QA/QC purposes as it can be compared to the stream stage recorded on the level logger. Weekly data and notes are recorded in a spreadsheet format.

Following the United States Geological Survey (USGS) guidance, stage data is converted to flow using a stream stage vs stream flow rating curve. The rating curve (Figure 1.0) was developed using data collected from June 2017 to March 2018 and provided a R^2 value of 0.9981 indicating an excellent relationship between stream stage and stream flow. Additionally, this data was submitted to ADEQ on August 3, 2018, as of the *Updated Background Flow Report* required with the aforementioned PAR. Monthly, associated information and stream flow are provided to EDCC to be utilized for the previous month's discharge monitoring report.

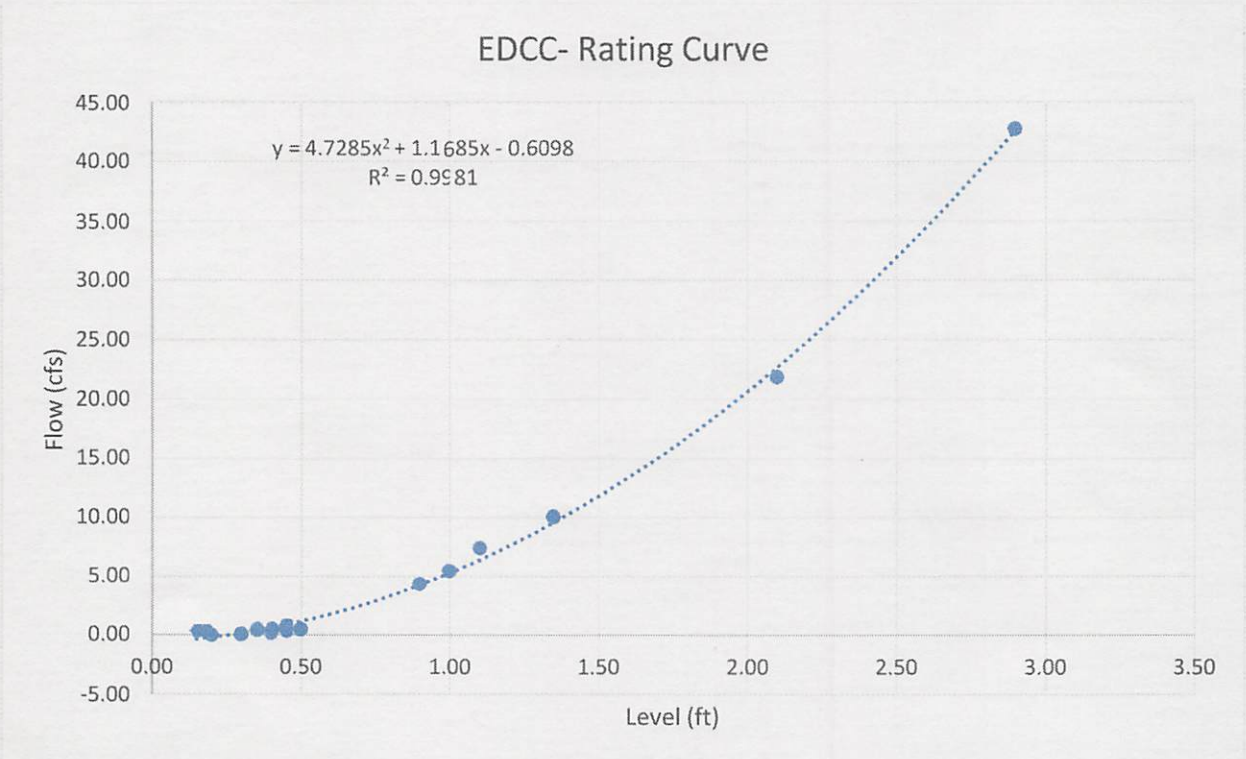


Figure 1.0. EDCC Downstream Monitoring Location Rating Curve.

To avoid future confusion, all unused or extra flow gauging equipment will be removed.

4. ***"The location of the downstream flow device is not representative of discharges from Outfalls 006 and 007 (see Figure 2). This is a violation of permit condition Part III. (C.) (2)."***

Response:

The in-stream flow monitoring device shown in Photos 24-25 and as indicated in Figures 1 and 2 of the inspection report is not the device used to satisfy the in-stream monitoring requirements for Outfalls 006 and 007. As indicated above, during the initial setup phase, multiple locations were evaluated for the in-stream monitoring location. Monitoring equipment was installed (and is still in-place) at this location, however, this site was not chosen and is no longer being used.

The area maps provided in Attachment 2 shows the current location of the downstream monitoring device. This location is representative of discharges from Outfalls 006 and 007, as well as the upstream watershed flow that is required to be calculated (Upstream Flow = Downstream Flow – Outfall 006 Flow - Outfall 007 Flow) and reported as part of Condition 13 of Part II and detailed in Section 13.A.1.ii (Fact Sheet) of EDCC's current permit.

Also see Response No. 3 above.

5. ***"During the inspection, it was unknown whether the device chosen to monitor the flow downstream of Outfall 006 and 007 was installed, calibrated, and maintained to ensure accuracy with a deviation of less than ±10%. This is a violation of permit condition Part III. (C.) (3.)."***

Response:

See Response No. 3 above.

Thank you for the opportunity to respond to this inspection report. If you have any questions or need additional information, please don't hesitate to contact David Sartain at DSartain@edc-ark.com or (870) 863-1397, or Kyle Hathcote at khathcote@gbmcassoc.com or (501) 847-7077.

Respectfully Submitted,
El Dorado Chemical Corporation

Delmar R Reppond

Delmar R. Reppond
General Manager

Attachments

Attachment 1

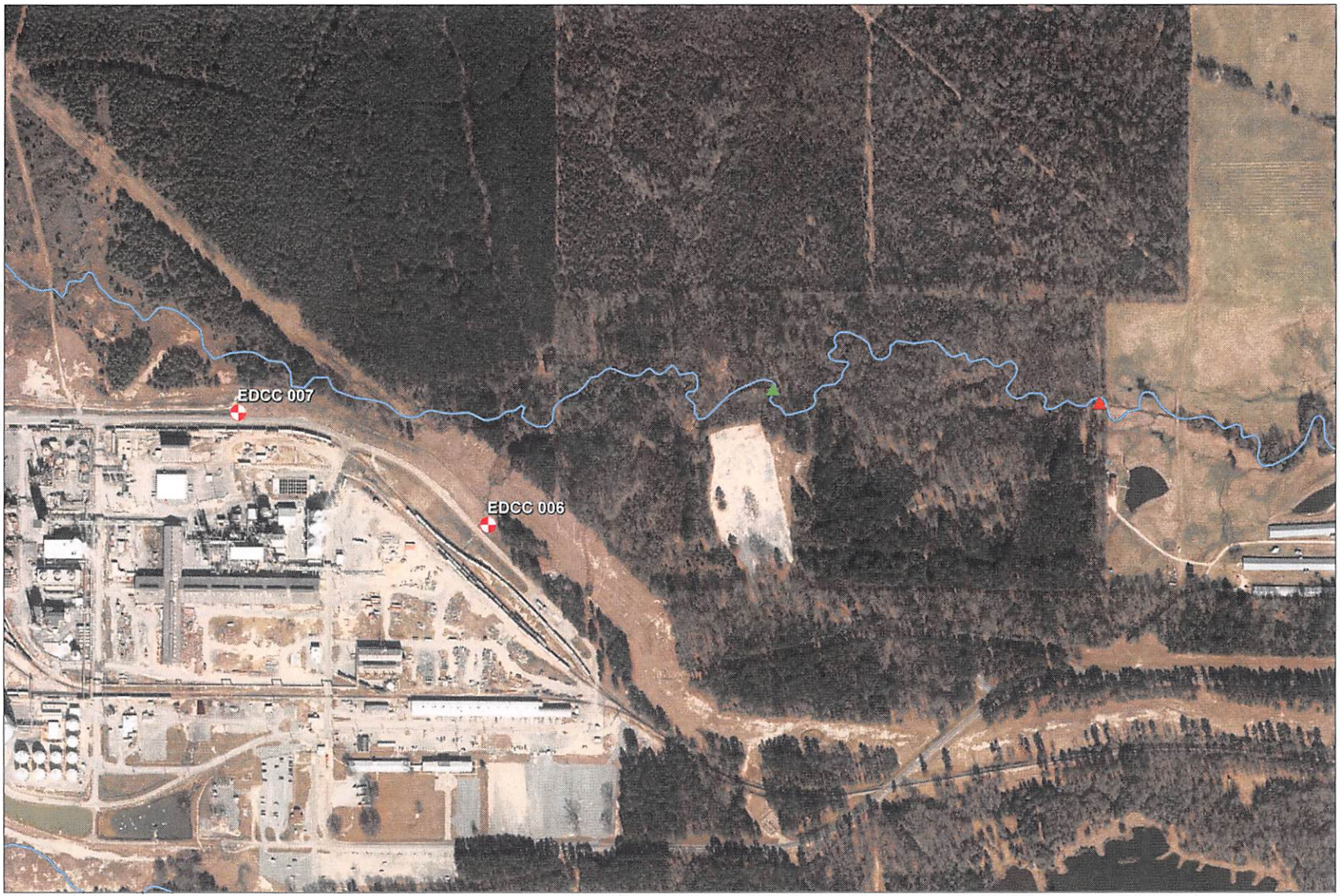
Outfalls 006 and 007
Daily Flow Records
July 2018-September 2018

Total Daily Flow: July 2018		
Date	Outfall 006	Outfall 007
	MGD	MGD
1-Jul-18		
2-Jul-18		
3-Jul-18		
4-Jul-18		
5-Jul-18		
6-Jul-18	2.0360	0.3652
7-Jul-18		
8-Jul-18		
9-Jul-18		
10-Jul-18		
11-Jul-18		
12-Jul-18		
13-Jul-18		
14-Jul-18		
15-Jul-18		
16-Jul-18		
17-Jul-18		
18-Jul-18		
19-Jul-18		
20-Jul-18		
21-Jul-18		
22-Jul-18		
23-Jul-18		
24-Jul-18		
25-Jul-18		
26-Jul-18		
27-Jul-18		
28-Jul-18	11.7000	4.3690
29-Jul-18		
30-Jul-18	0.1512	0.0575
31-Jul-18		

Total Daily Flow: August 2018		
Date	Outfall 006	Outfall 007
	MGD	MGD
1-Aug-18		
2-Aug-18		
3-Aug-18		
4-Aug-18		
5-Aug-18		
6-Aug-18		
7-Aug-18		
8-Aug-18		
9-Aug-18		
10-Aug-18		
11-Aug-18		
12-Aug-18		
13-Aug-18		
14-Aug-18		
15-Aug-18		
16-Aug-18		
17-Aug-18	3.4450	0.3652
18-Aug-18		
19-Aug-18		
20-Aug-18	0.2598	0.1797
21-Aug-18		
22-Aug-18		
23-Aug-18		
24-Aug-18		
25-Aug-18		
26-Aug-18		
27-Aug-18		
28-Aug-18		
29-Aug-18		
30-Aug-18		
31-Aug-18		

Total Daily Flow: September 2018		
Date	Outfall 006	Outfall 007
	MGD	MGD
1-Sep-18		
2-Sep-18		
3-Sep-18	3.4450	0.6075
4-Sep-18		
5-Sep-18		
6-Sep-18		
7-Sep-18	0.7885	0.2618
8-Sep-18	0.1086	0.1099
9-Sep-18		
10-Sep-18		
11-Sep-18		
12-Sep-18		
13-Sep-18		
14-Sep-18		
15-Sep-18		
16-Sep-18		
17-Sep-18		
18-Sep-18		
19-Sep-18		
20-Sep-18		
21-Sep-18		
22-Sep-18	0.7885	0.6075
23-Sep-18		
24-Sep-18		
25-Sep-18		
26-Sep-18		
27-Sep-18		
28-Sep-18		
29-Sep-18		
30-Sep-18		

Attachment 2
Outfalls 006 and 007
Instream Monitoring Device
Location



N
W E
S

500
FEET

- Outfalls
- EDCC Outfalls 006 and 007 - Downstream Monitoring Location
- ADEQ Inspection Report Location
- Streams

NO	DATE	REVISION	BY	CK	APPR

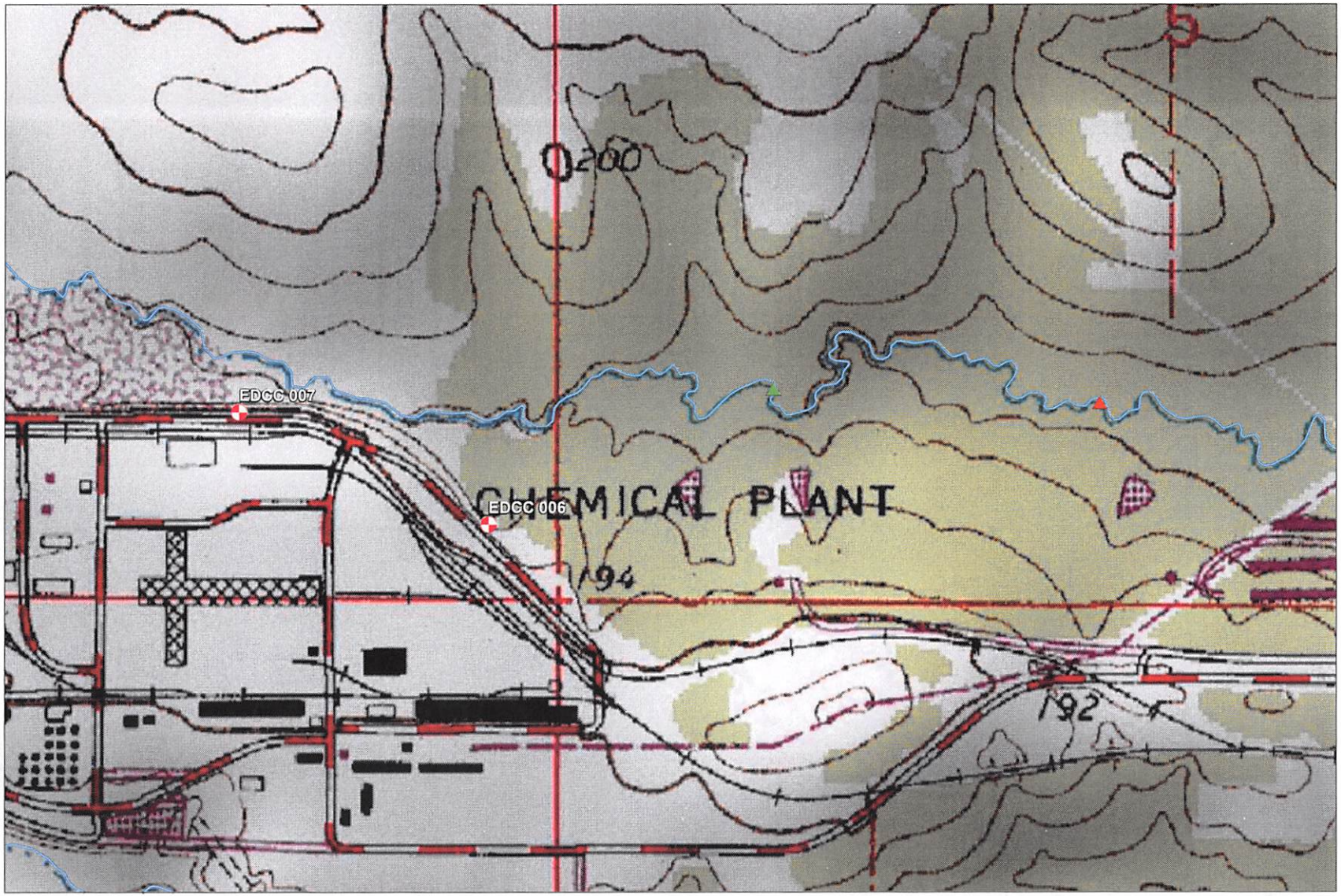
DESIGNED BY SKH
CHECKED BY SKH
APPR. BY SKH
DRAWN BY ALB

GBM^c
Strategic Environmental Services
218 Brown Lane
Bryant, Arkansas 72022

SHEET TITLE
DOWNSTREAM MONITORING LOCATION
AERIAL MAP

JOB NAME
EL DORADO CHEMICAL COMPANY
UNION COUNTY, ARKANSAS

PROJECT NO. 2042-99-010
DATE 09/28/2018
SCALE SHOWN
REV. NO
DWG NO. S1



N
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500
FEET

- Outfalls
- EDCC Outfalls 006 and 007 - Downstream Monitoring Location
- ADEQ Inspection Report Location
- Streams

NO	DATE	REVISION	BY	CK	APPR

DESIGNED BY SKH
CHECKED BY SKH
APPR. BY SKH
DRAWN BY ALB

GBM^c
Strength Environmental Services
210 Brown Lane
Bryant, Arkansas 72022

SHEET TITLE
DOWNSTREAM MONITORING LOCATION TOPOGRAPHIC MAP

JOB NAME
EL DORADO CHEMICAL COMPANY
UNION COUNTY, ARKANSAS

PROJECT NO. 2042-99-010
DATE 09/28/2018
SCALE SHOWN
REV. NO
DWG NO. S2

Attachment 3

Outfalls 006 and 007
Instream Level Logger
Photographs

Photos #1 and #2: Level Logger at time of installation - March 07, 2018

Photo #3 and #4: Back-up Level Logger and Staff Gauge at time of installation - May 02, 2018

From: Young, Michael
To: McConnell, Melissa
Subject: FW: Response to Compliance Evaluation
Date: Tuesday, October 30, 2018 11:14:08 AM
Attachments: Flow Chart for Instantaneous - Final.pdf
Rating Curve Flows & Bottom Profiles - Final.pdf
Rating Curve and Data - Final.pdf

Melissa,

Would you please attach this to WID 24737?

Thank you,

Michael Young
District 8 Inspector
El Dorado Field Office
ADEQ Office of Water Quality
Cell Phone: 501-837-2073
youngm@adeq.state.ar.us

From: David Sartain [mailto:DSartain@edc-ark.com]
Sent: Tuesday, October 16, 2018 4:06 PM
To: Young, Michael
Subject: RE: Response to Compliance Evaluation

Michael,

Please find attached the information that you requested. Please let me know if you need any additional information.

- Rating Curve and Data used to develop it
- Flow measurements and cross-section bottom profiles for every measurement used to develop the curve.
- Chart for the staff gage stage measurements. Developed from the rating curve.

From: Young, Michael <youngm@adeq.state.ar.us>
Sent: Wednesday, October 3, 2018 2:53 PM
To: David Sartain <DSartain@edc-ark.com>
Subject: RE: Response to Compliance Evaluation

David,

Can you (or GBMc) supply a cross-section of the location for downstream 006/007 flow monitoring?

Also, is the data used to construct the rating curve available? Is there a chart for the stage measurement from the staff gage that would give me an instantaneous MGD measurement?

I will most likely be passing this information to permits branch for any feedback they can provide.

Thank you,

Michael Young
District 8 Inspector
El Dorado Field Office
ADEQ Office of Water Quality
Cell Phone: 501-837-2073
youngm@adeq.state.ar.us

From: David Sartain [mailto:DSartain@edc-ark.com]
Sent: Wednesday, October 03, 2018 1:27 PM
To: Young, Michael
Cc: Delmar Reppond; John Carver
Subject: Response to Compliance Evaluation

Mr. Young,

Please see attached letter in response to your Compliance Evaluation Inspection Report. If you have any questions or need any additional information, please give me a call.

Thank You

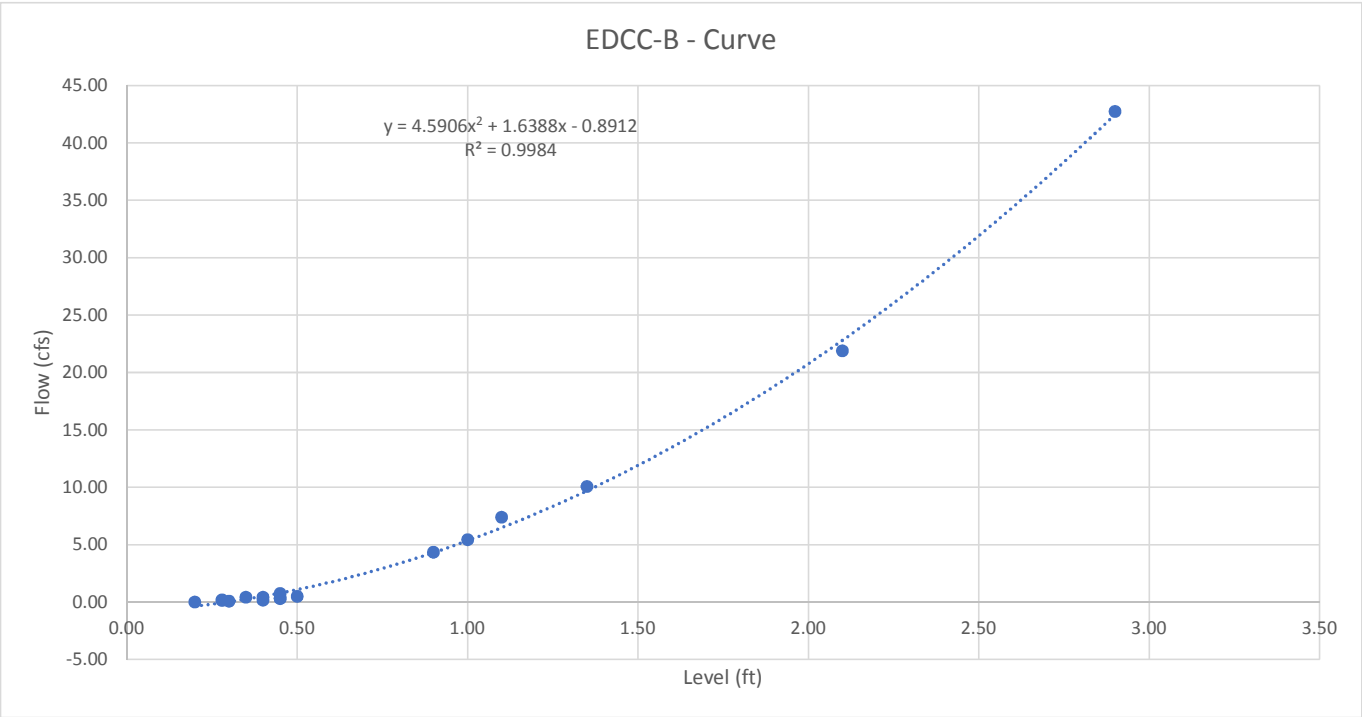
David Sartain
Environmental Coordinator / Lead
El Dorado Chemical Company
4500 North West Ave.
El Dorado, Arkansas 71730
Office: 870-863-1403
Cell: 870-312-1397

EDCC Stream Flow Chart

Gage (ft)	Flow (cfs)
0	0.00
0.1	0.00
0.2	0.00
0.3	0.01
0.4	0.50
0.5	1.08
0.6	1.74
0.7	2.51
0.8	3.36
0.9	4.30
1	5.34
1.1	6.47
1.2	7.69
1.3	9.00
1.4	10.40
1.5	11.90
1.6	13.48
1.7	15.16
1.8	16.93
1.9	18.79
2	20.75
2.1	22.79
2.2	24.93
2.3	27.16
2.4	29.48
2.5	31.90
2.6	34.40
2.7	37.00
2.8	39.69
2.9	42.47
3	45.34
3.1	48.30
3.2	51.36
3.3	54.51
3.4	57.75
3.5	61.08
3.6	64.50
3.7	68.02
3.8	71.62
3.9	75.32
4	79.11

EDCC Stream

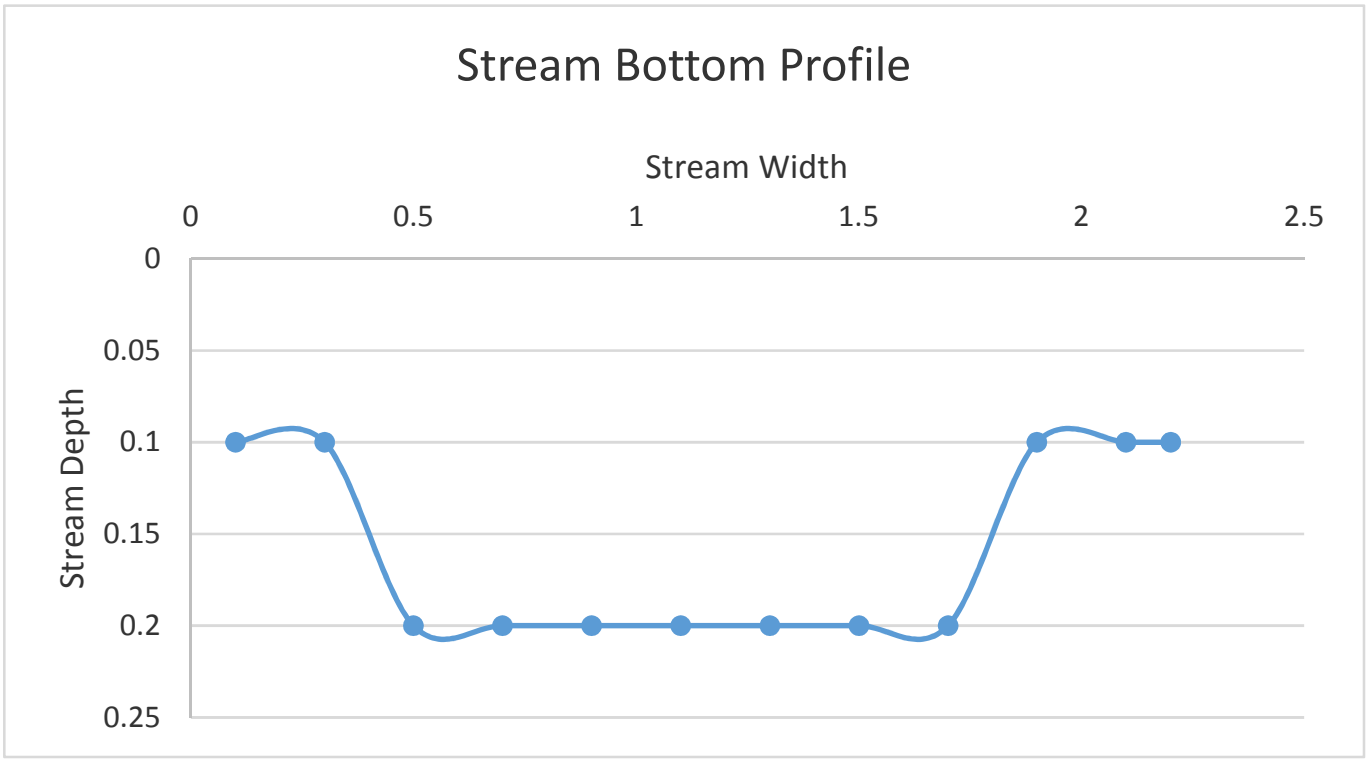
Date	Time	Depth (ft)	Flow (cfs)
6/28/2017	1533	0.20	0.00
8/30/2017	1335	0.30	0.08
1/23/2018	1230	0.50	0.50
1/24/2018	1350	0.40	0.17
2/7/2018	0900	1.35	10.06
2/7/2018	1045	1.10	7.40
2/7/2018	1215	1.00	5.44
2/7/2018	1400	0.90	4.34
02/12/18	1559	0.45	0.75
02/13/18	855	0.4	0.43
02/13/18	1630	0.35	0.42
02/20/18	1315	0.45	0.33
02/20/18	1525	0.45	0.30
02/21/18	915	2.1	21.89
02/21/18	1130	2.9	42.75
03/07/18	0930	0.28	0.15
03/07/18	1230	0.28	0.18


EDCC-B - Curve
y = 4.5906x² + 1.6388x - 0.8912
R² = 0.9984
Flow (cfs)
Level (ft)
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
-5.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50

Project	2042-99-010	date	8/30/2017
		time	1335

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	2.2	Area:	0.36	Velocity:	0.17
/Flow (cfs):	0.08	Method:	0.6	Max Vel:	0.41
Water Depth to Probe (ft)			0.3	Min Vel:	0

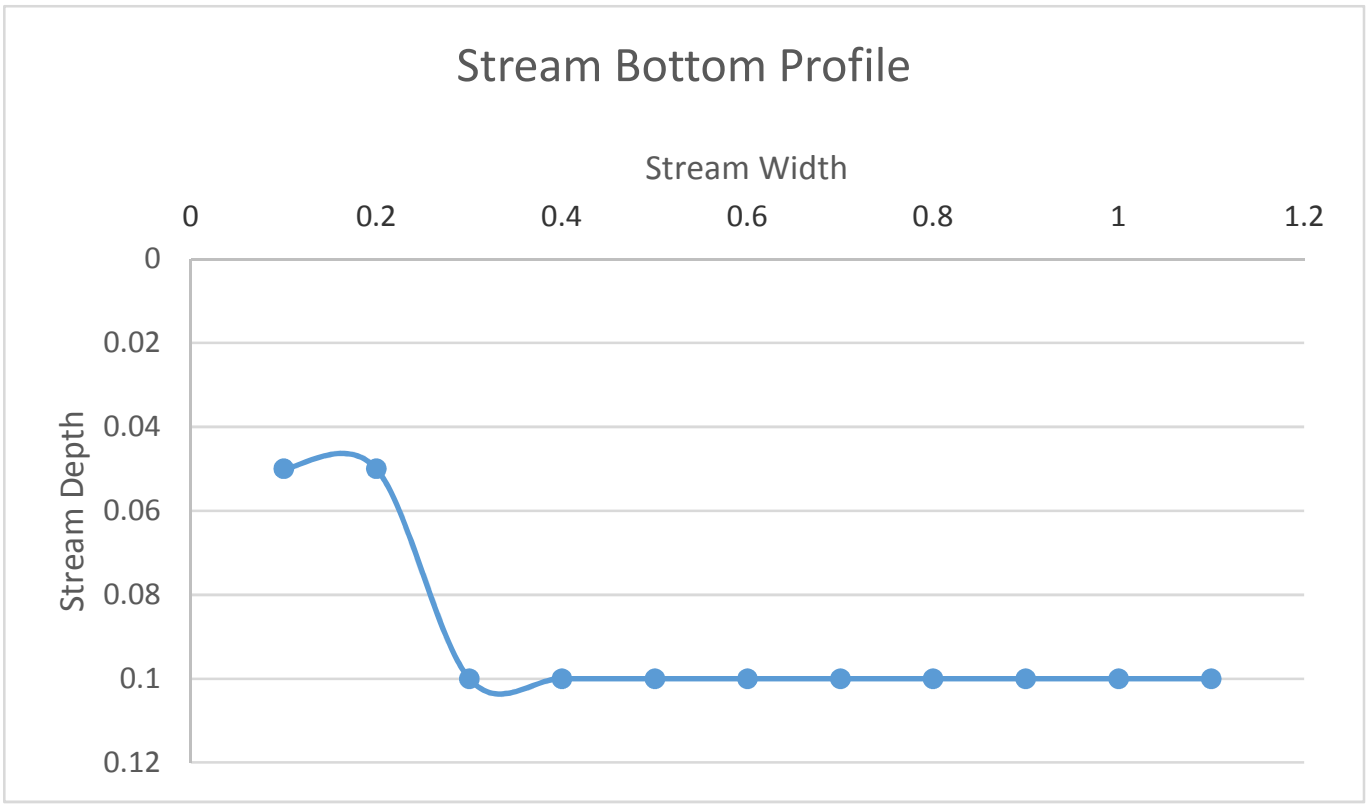
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.1	0.1	0.1	0	0.01	0
0.3	0.2	0.1	0	0.02	0
0.5	0.2	0.2	0.31	0.04	0.0124
0.7	0.2	0.2	0.39	0.04	0.0156
0.9	0.2	0.2	0.33	0.04	0.0132
1.1	0.2	0.2	0.25	0.04	0.01
1.3	0.2	0.2	0.41	0.04	0.0164
1.5	0.2	0.2	0.24	0.04	0.0096
1.7	0.2	0.2	0.16	0.04	0.0064
1.9	0.2	0.1	0	0.02	0
2.1	0.2	0.1	0	0.02	0
2.2	0.1	0.1	0	0.01	0
total	2.2	1.9	2.09	0.36	0.08
average	0.18	0.16	0.17	0.03	0.01


Stream Bottom Profile
Stream Width
0
0.5
1
1.5
2
2.5
Stream Depth
0
0.05
0.1
0.15
0.2
0.25

Project	2042-99-010	date	6/28/2017
		time	15:33

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS, ZDW				
Width (ft):	1.1	Area:	0.1	Velocity:	0.00
/Flow (cfs):	0.00	Method:	0.6	Max Vel:	0
Water Depth to Probe (ft)			0.2	Min Vel:	0

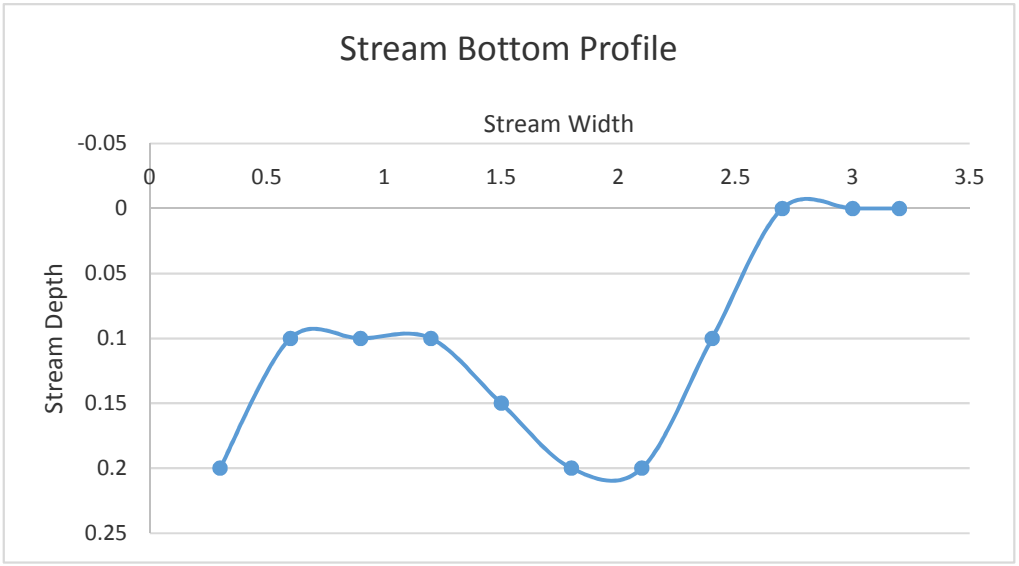
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.1	0.1	0.05	0	0.005	0
0.2	0.1	0.05	0	0.005	0
0.3	0.1	0.1	0	0.01	0
0.4	0.1	0.1	0	0.01	0
0.5	0.1	0.1	0	0.01	0
0.6	0.1	0.1	0	0.01	0
0.7	0.1	0.1	0	0.01	0
0.8	0.1	0.1	0	0.01	0
0.9	0.1	0.1	0	0.01	0
1	0.1	0.1	0	0.01	0
1.1	0.1	0.1	0	0.01	0
total	1.1	1	0	0.1	0.00
average	0.10	0.09	0.00	0.01	0.00


Stream Bottom Profile
Stream Width
0
0.2
0.4
0.6
0.8
1
1.2
Stream Depth
0
0.02
0.04
0.06
0.08
0.1
0.12

Project	2042-99-010	date	3/8/2018
		time	1230

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	3.2	Area:	0.345	Velocity:	0.34
/Flow (cfs):	0.18	Method:	0.6	Max Vel:	0.82
Water Depth to Probe (ft)			0.28	Min Vel:	0

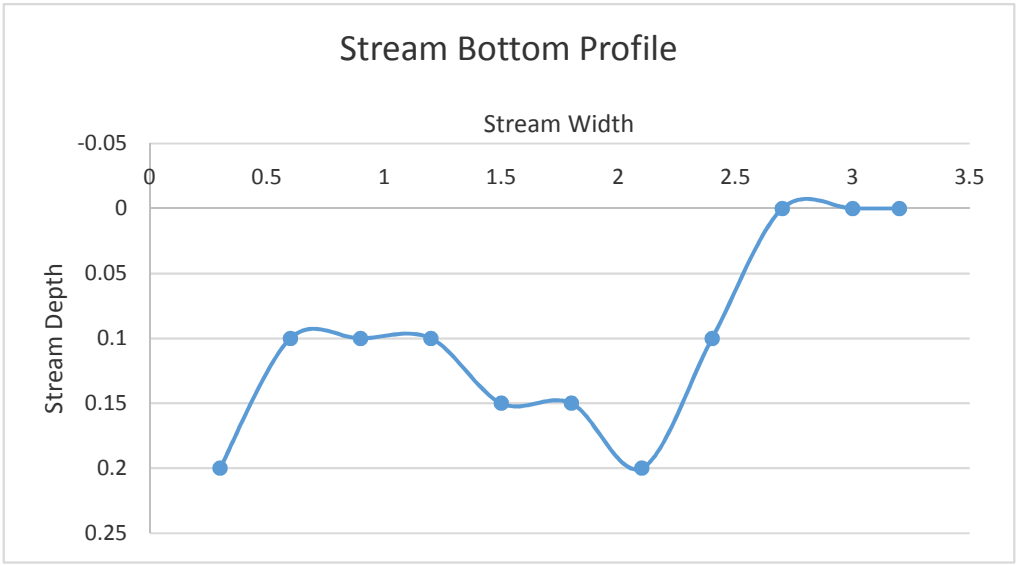
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.3	0.3	0.2	0.61	0.06	0.0366
0.6	0.3	0.1	0.17	0.03	0.0051
0.9	0.3	0.1	0.11	0.03	0.0033
1.2	0.3	0.1	0.25	0.03	0.0075
1.5	0.3	0.15	0.58	0.045	0.0261
1.8	0.3	0.2	0.82	0.06	0.0492
2.1	0.3	0.2	0.71	0.06	0.0426
2.4	0.3	0.1	0.16	0.03	0.0048
2.7	0.3	0	0	0	0
3	0.3	0	0	0	0
3.2	0.2	0			
total	3.2	1.15	3.41	0.345	0.18
average	0.29	0.10	0.34	0.03	0.02


Stream Bottom Profile
Stream Width
-0.05
0
0.5
1
1.5
2
2.5
3
3.5
0
0.05
0.1
0.15
0.2
0.25
Stream Depth

Project 2042-99-010 date 3/7/2018
time 930

Station: EDCC Stream					
Waterbody					
Crew: RJS					
Width (ft):	3.2	Area:	0.33	Velocity:	0.37
/Flow (cfs):	0.15	Method:	0.6	Max Vel:	0.92
Water Depth to Probe (ft)			0.28	Min Vel:	0

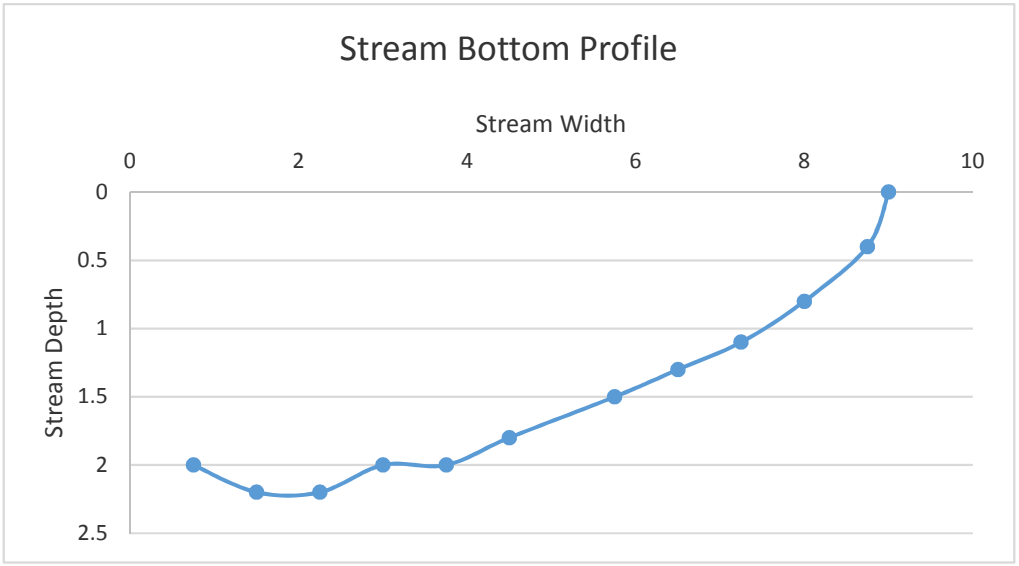
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.3	0.3	0.2	0.12	0.06	0.0072
0.6	0.3	0.1	0.46	0.03	0.0138
0.9	0.3	0.1	0.39	0.03	0.0117
1.2	0.3	0.1	0.3	0.03	0.009
1.5	0.3	0.15	0.81	0.045	0.03645
1.8	0.3	0.15	0.92	0.045	0.0414
2.1	0.3	0.2	0.32	0.06	0.0192
2.4	0.3	0.1	0.38	0.03	0.0114
2.7	0.3	0	0	0	0
3	0.3	0	0	0	0
3.2	0.2	0			
total	3.2	1.1	3.7	0.33	0.15
average	0.29	0.10	0.37	0.03	0.02

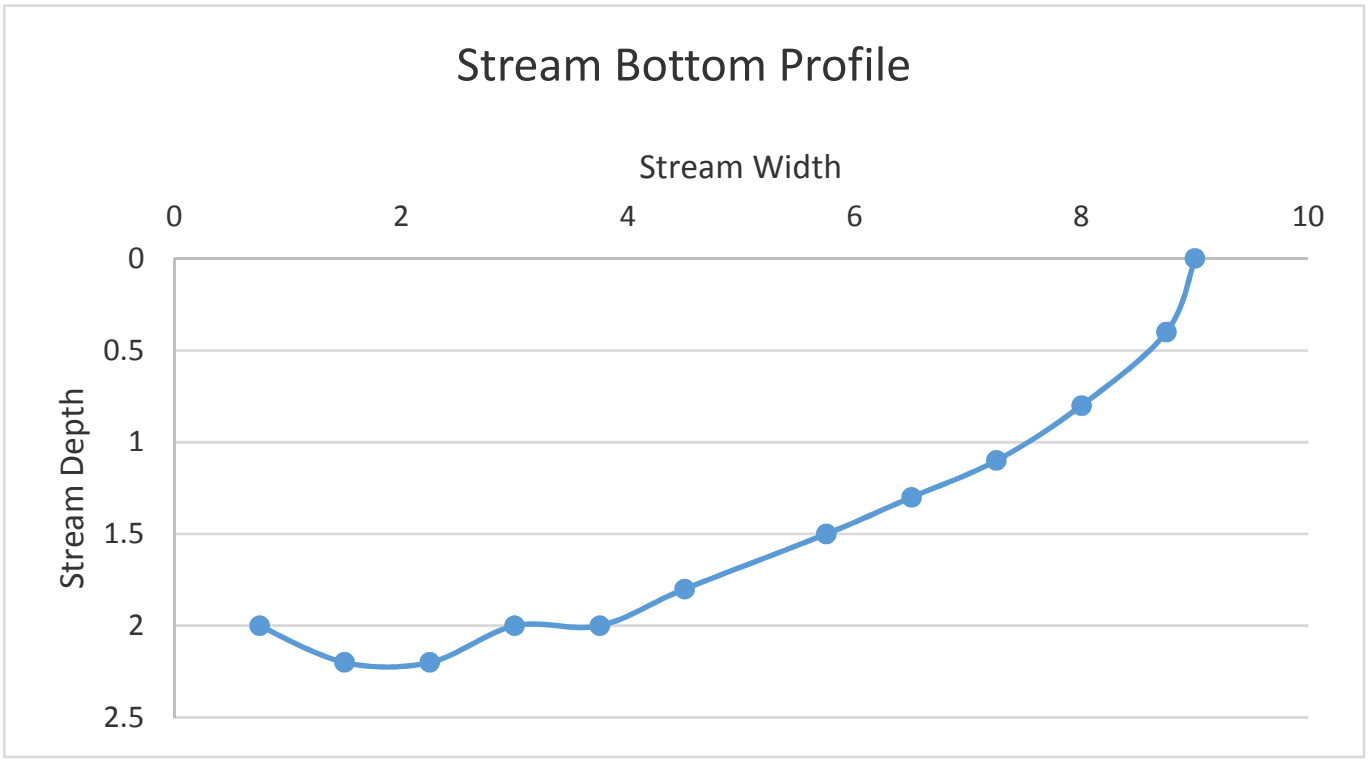

Stream Bottom Profile
Stream Width
-0.05
0
0.5
1
1.5
2
2.5
3
3.5
0
0.05
0.1
0.15
0.2
0.25
Stream Depth

Project	2042-99-010	date	2/21/2018
		time	0915

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	9	Area:	13.725	Velocity:	1.42
/Flow (cfs):	21.89	Method:	0.6	Max Vel:	2.5
Water Depth to Probe (ft)			2.1	Min Vel:	0.06

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.75	0.75	2	1.01	1.5	1.515
1.5	0.75	2.2	1.16	1.65	1.914
2.25	0.75	2.2	2.45	1.65	4.0425
3	0.75	2	2.5	1.5	3.75
3.75	0.75	2	1.68	1.5	2.52
4.5	0.75	1.8	1.74	1.35	2.349
5.75	1.25	1.5	1.41	1.875	2.64375
6.5	0.75	1.3	1.82	0.975	1.7745
7.25	0.75	1.1	1.32	0.825	1.089
8	0.75	0.8	0.45	0.6	0.27
8.75	0.75	0.4	0.06	0.3	0.018
9	0.25	0		0	0
total	9	17.3	15.6	13.725	21.89
average	0.75	1.44	1.42	1.14	1.82

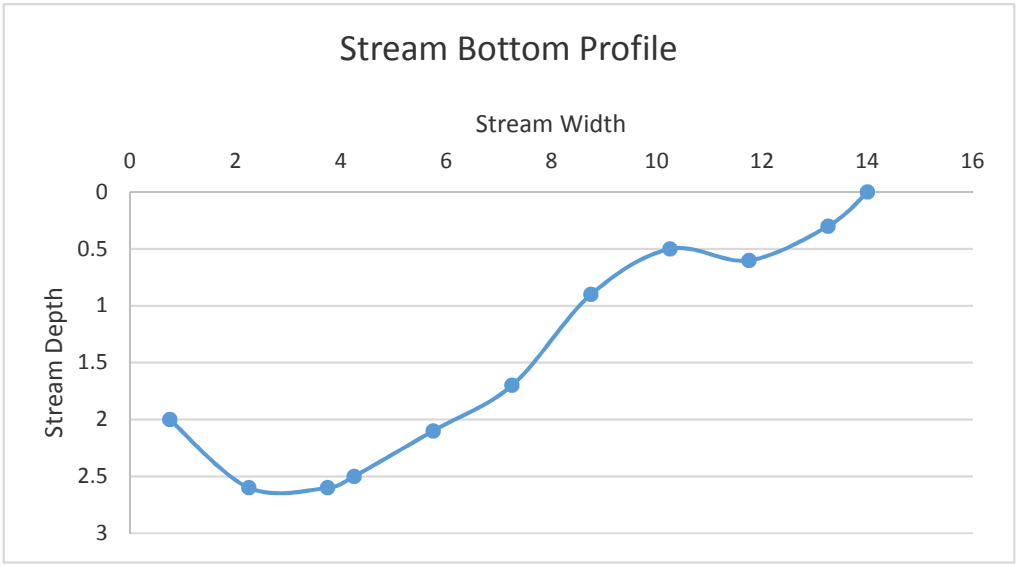

Stream Bottom Profile
Stream Width
0
2
4
6
8
10
Stream Depth
0
0.5
1
1.5
2
2.5

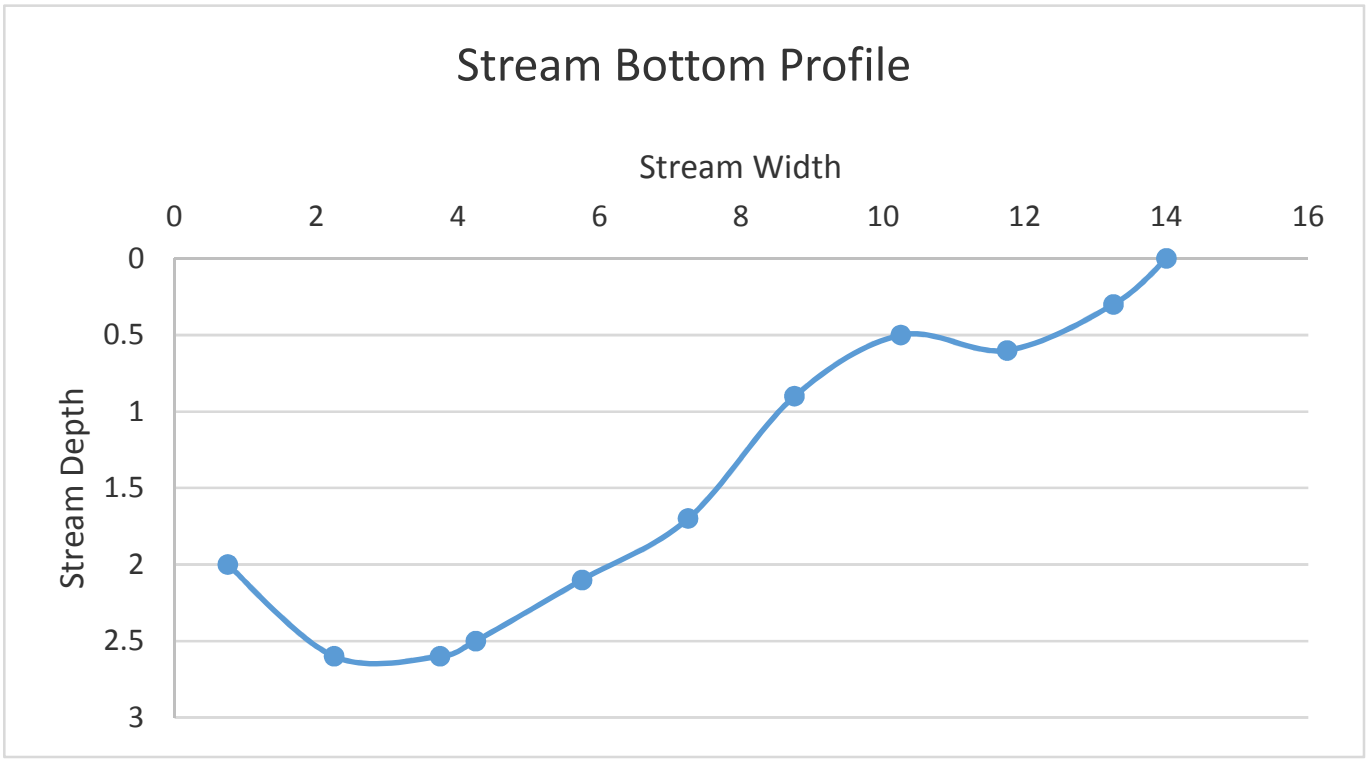

Stream Bottom Profile
Stream Width
0
2
4
6
8
10
Stream Depth
0
0.5
1
1.5
2
2.5

Project	2042-99-010	date	2/21/2018
		time	1130

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	15	Area:	22.2	Velocity:	1.54
/Flow (cfs):	42.75	Method:	0.6	Max Vel:	2.48
Water Depth to Probe (ft)			2.9	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.75	0.75	2	2.24	1.5	3.36
2.25	1.5	2.6	2.38	3.9	9.282
3.75	1.5	2.6	2.18	3.9	8.502
4.25	1.5	2.5	2.48	3.75	9.3
5.75	1.5	2.1	1.53	3.15	4.8195
7.25	1.5	1.7	2.22	2.55	5.661
8.75	1.5	0.9	0.29	1.35	0.3915
10.25	1.5	0.5	0	0.75	0
11.75	1.5	0.6	1.15	0.9	1.035
13.25	1.5	0.3	0.89	0.45	0.4005
14	0.75	0			
total	15	15.8	15.36	22.2	42.75
average	1.36	1.44	1.54	2.22	4.28

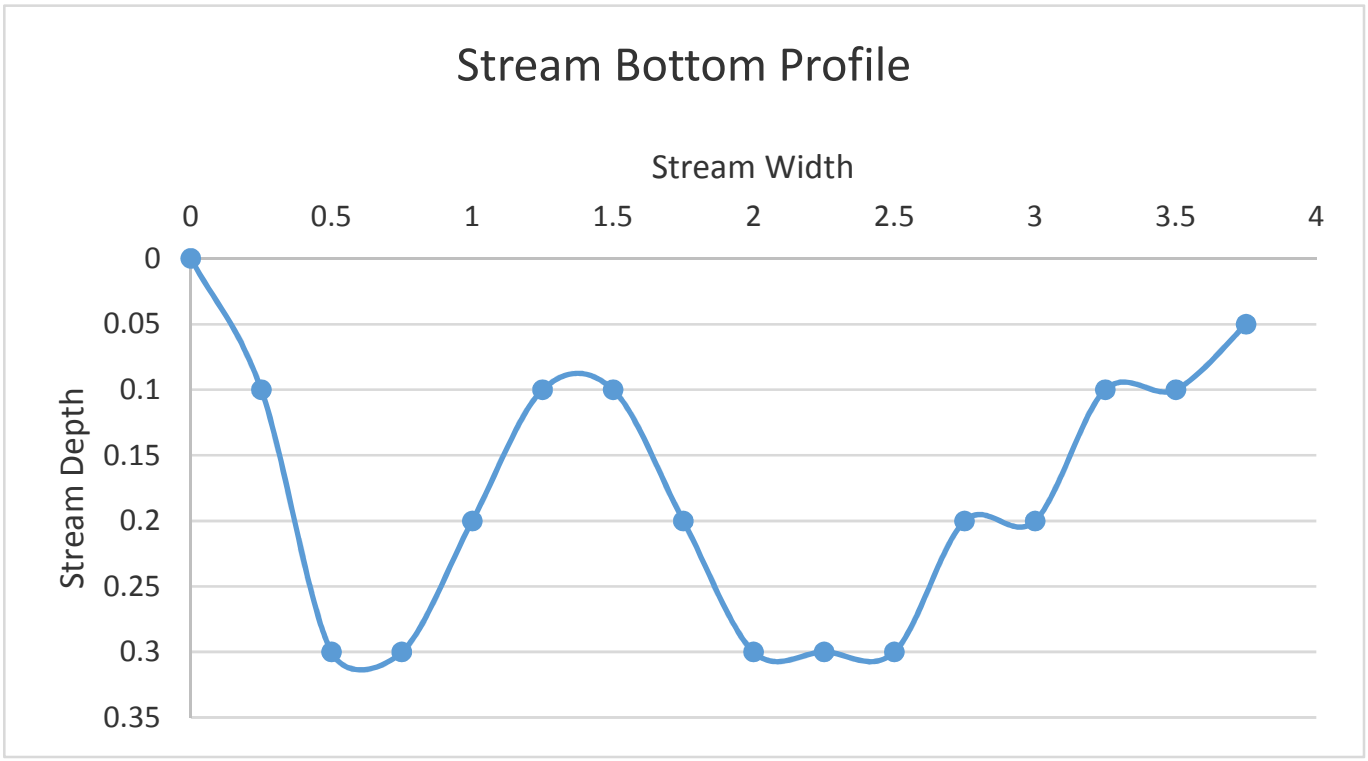

Stream Bottom Profile
Stream Width
0
2
4
6
8
10
12
14
16
Stream Depth
0
0.5
1
1.5
2
2.5
3


Stream Bottom Profile
Stream Width
0
2
4
6
8
10
12
14
16
Stream Depth
0
0.5
1
1.5
2
2.5
3

Project	2042-99-010	date	2/20/2018
		time	1315

Station:	**EDCC Stream**				
Waterbody					
Crew:	ZDW				
Width (ft):	4	Area:	0.8125	Velocity:	0.31
/Flow (cfs):	0.33	Method:	0.6	Max Vel:	0.77
Water Depth to Probe (ft)			0.45	Min Vel:	0

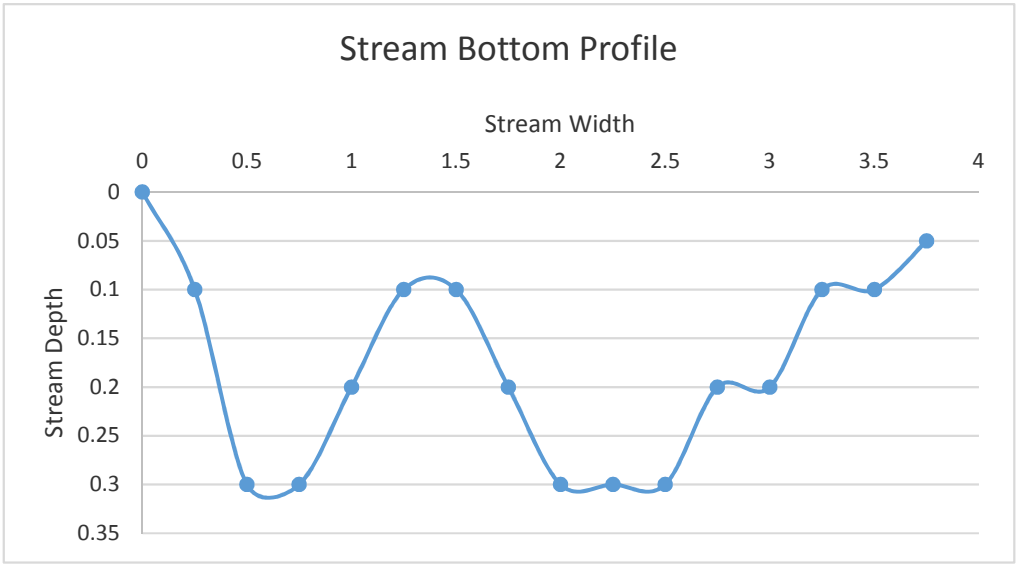
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.25	0.25	0.1	0.11	0.025	0.00275
0.5	0.25	0.3	0.69	0.075	0.05175
0.75	0.25	0.3	0.56	0.075	0.042
1	0.25	0.3	0.41	0.075	0.03075
1.25	0.25	0.2	0.32	0.05	0.016
1.5	0.25	0.2	0.47	0.05	0.0235
1.75	0.25	0.2	0.68	0.05	0.034
2	0.25	0.3	0.77	0.075	0.05775
2.25	0.25	0.3	0.64	0.075	0.048
2.5	0.25	0.3	0.28	0.075	0.021
2.75	0.25	0.2	0	0.05	0
3	0.25	0.2	0	0.05	0
3.25	0.25	0.1	0	0.025	0
3.5	0.25	0.1	0	0.025	0
3.75	0.25	0.1	0	0.025	0
4	0.25	0.05	0	0.0125	0
total	4	3.25	4.93	0.8125	0.33
average	0.25	0.20	0.31	0.05	0.02

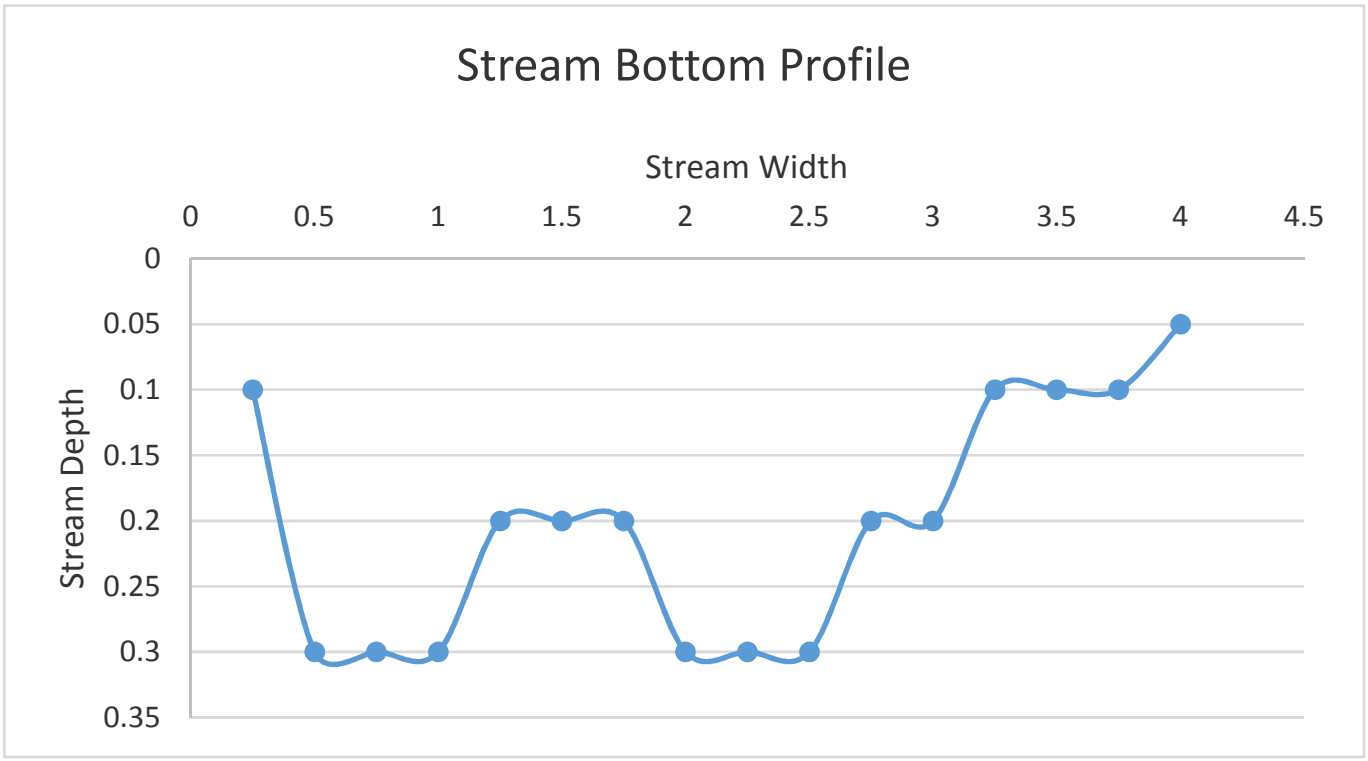

Stream Bottom Profile
Stream Width
0
0.5
1
1.5
2
2.5
3
3.5
4
Stream Depth
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35

Project	2042-99-010	date	2/20/2018
		time	1525

Station:	**EDCC Stream**				
Waterbody					
Crew:	ZDW				
Width (ft):	3.75	Area:	0.7125	Velocity:	0.35
/Flow (cfs):	0.30	Method:	0.6	Max Vel:	0.72
Water Depth to Probe (ft)			0.45	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0	0	0			
0.25	0.25	0.1	0.08	0.025	0.002
0.5	0.25	0.3	0.33	0.075	0.02475
0.75	0.25	0.3	0.72	0.075	0.054
1	0.25	0.2	0.47	0.05	0.0235
1.25	0.25	0.1	0.56	0.025	0.014
1.5	0.25	0.1	0.54	0.025	0.0135
1.75	0.25	0.2	0.66	0.05	0.033
2	0.25	0.3	0.71	0.075	0.05325
2.25	0.25	0.3	0.71	0.075	0.05325
2.5	0.25	0.3	0.4	0.075	0.03
2.75	0.25	0.2	0.04	0.05	0.002
3	0.25	0.2	0	0.05	0
3.25	0.25	0.1	0	0.025	0
3.5	0.25	0.1	0	0.025	0
3.75	0.25	0.05	0	0.0125	0
total	3.75	2.85	5.22	0.7125	0.30
average	0.23	0.18	0.35	0.05	0.02

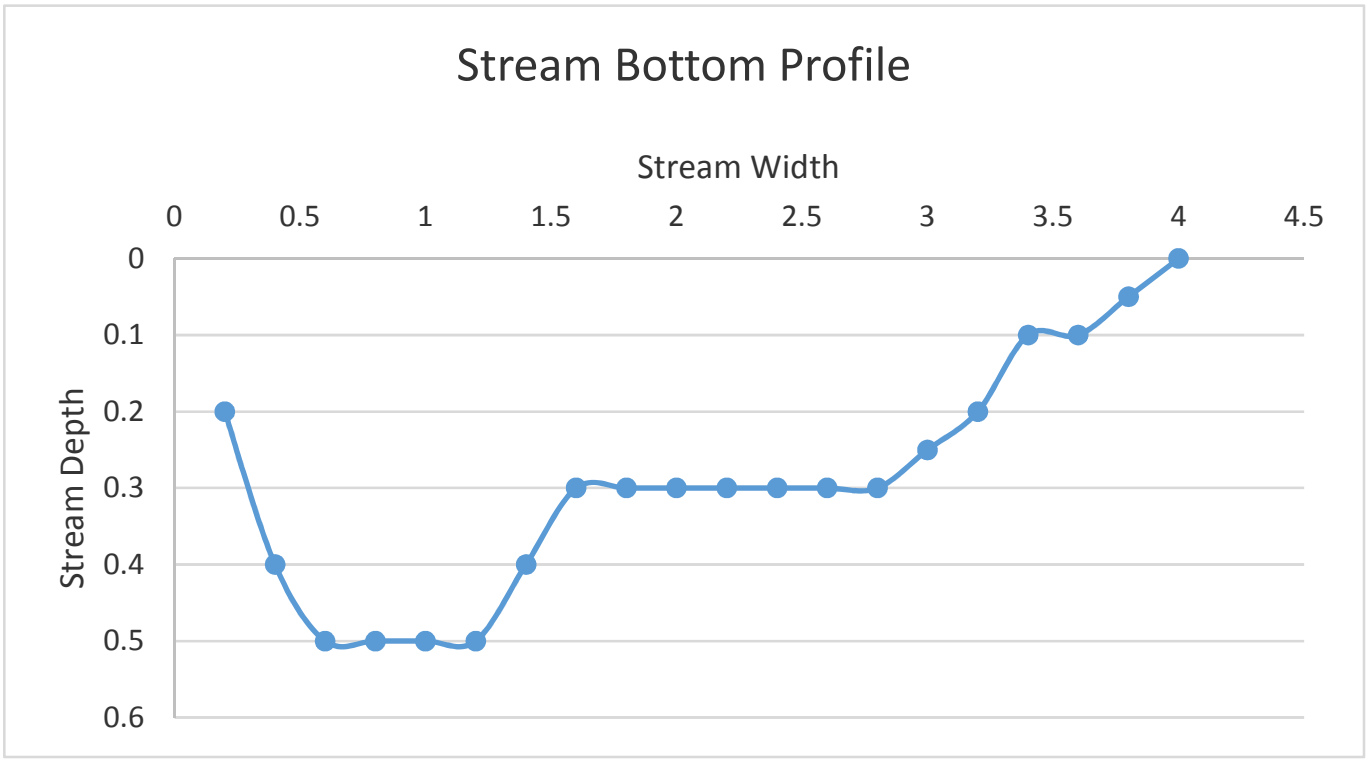

Stream Bottom Profile
Stream Width
0
0.5
1
1.5
2
2.5
3
3.5
4
Stream Depth
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35


Stream Bottom Profile
Stream Width
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
Stream Depth
0
0.05
0.1
0.15
0.2
0.25
0.3
0.35

Project	2042-99-010	date	2/13/2018
		time	0855

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS/ZDW				
Width (ft):	4	Area:	1.16	Velocity:	0.36
/Flow (cfs):	0.43330	Method:	0.6	Max Vel:	0.67
Water Depth to Probe (ft)			0.4	Min Vel:	0

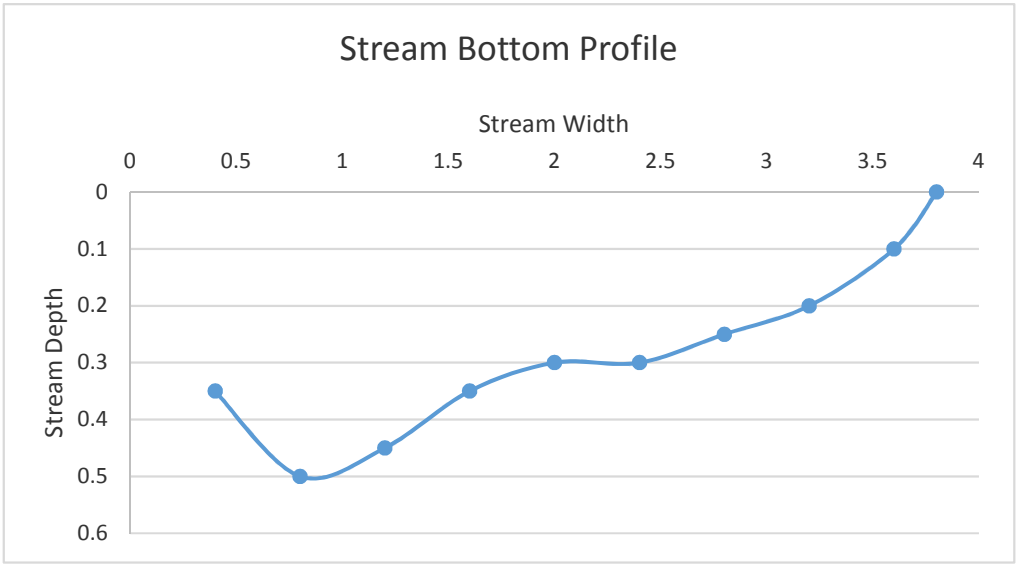
Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.2	0.2	0.2	0	0.04	0
0.4	0.2	0.4	0	0.08	0
0.6	0.2	0.5	0.09	0.1	0.009
0.8	0.2	0.5	0.23	0.1	0.023
1	0.2	0.5	0.09	0.1	0.009
1.2	0.2	0.5	0.59	0.1	0.059
1.4	0.2	0.4	0.51	0.08	0.0408
1.6	0.2	0.3	0.53	0.06	0.0318
1.8	0.2	0.3	0.43	0.06	0.0258
2	0.2	0.3	0.56	0.06	0.0336
2.2	0.2	0.3	0.58	0.06	0.0348
2.4	0.2	0.3	0.66	0.06	0.0396
2.6	0.2	0.3	0.67	0.06	0.0402
2.8	0.2	0.3	0.58	0.06	0.0348
3	0.2	0.25	0.55	0.05	0.0275
3.2	0.2	0.2	0.39	0.04	0.0156
3.4	0.2	0.1	0.23	0.02	0.0046
3.6	0.2	0.1	0.21	0.02	0.0042
3.8	0.2	0.05	0	0.01	0
4	0.2	0		0	
total	4	5.8	6.9	1.16	0.43
average	0.20	0.29	0.36	0.06	0.02


Stream Bottom Profile
Stream Width
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
Stream Depth
0
0.1
0.2
0.3
0.4
0.5
0.6

Project	2042-99-010	date	2/13/2018
		time	1630

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS/ZDW				
Width (ft):	3.8	Area:	1.12	Velocity:	0.35
/Flow (cfs):	0.419	Method:	0.6	Max Vel:	0.62
Water Depth to Probe (ft)			0.35	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.4	0.4	0.35	0.05	0.14	0.007
0.8	0.4	0.5	0.14	0.2	0.028
1.2	0.4	0.45	0.53	0.18	0.0954
1.6	0.4	0.35	0.6	0.14	0.084
2	0.4	0.3	0.62	0.12	0.0744
2.4	0.4	0.3	0.61	0.12	0.0732
2.8	0.4	0.25	0.51	0.1	0.051
3.2	0.4	0.2	0.08	0.08	0.0064
3.6	0.4	0.1	0	0.04	0
3.8	0.2	0		0	0
total	3.8	2.8	3.14	1.12	0.42
average	0.38	0.28	0.35	0.11	0.04


Stream Bottom Profile
Stream Width
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Stream Depth
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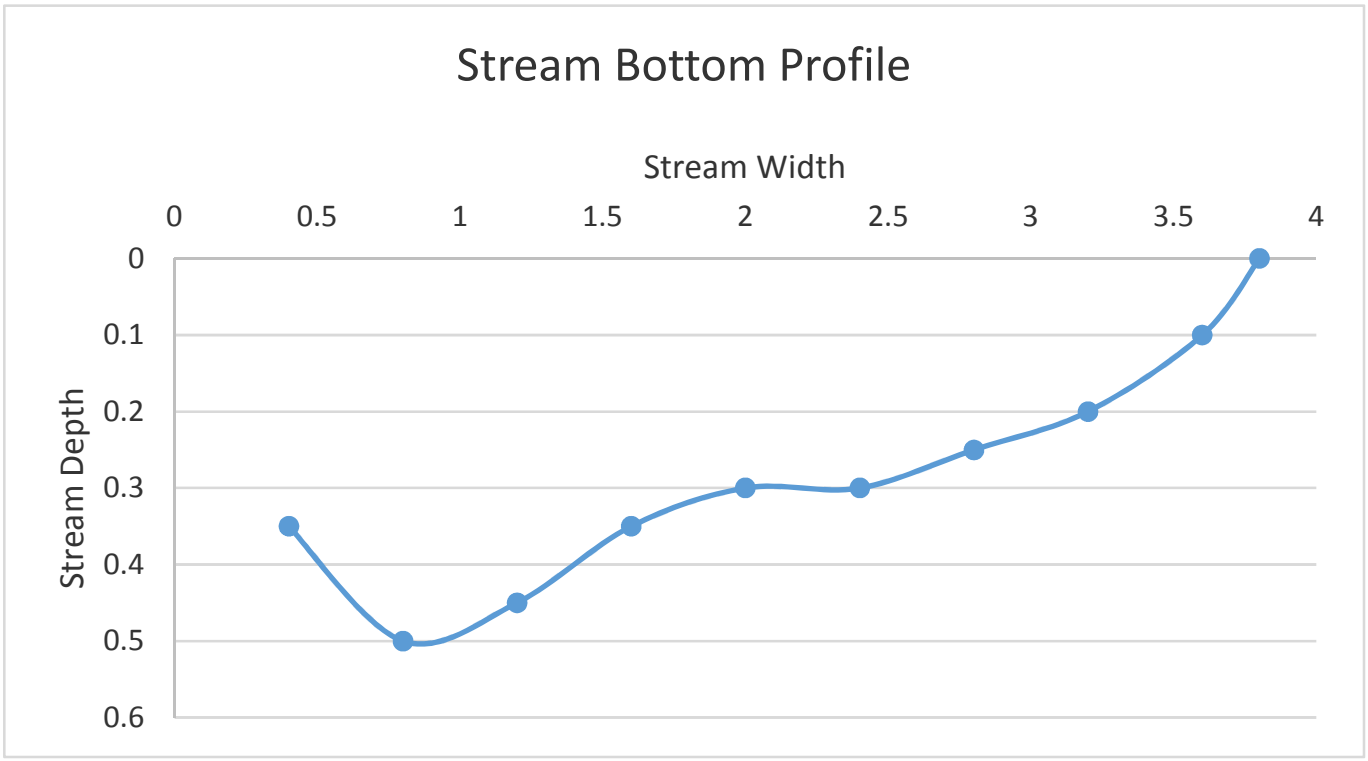
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Stream Depth
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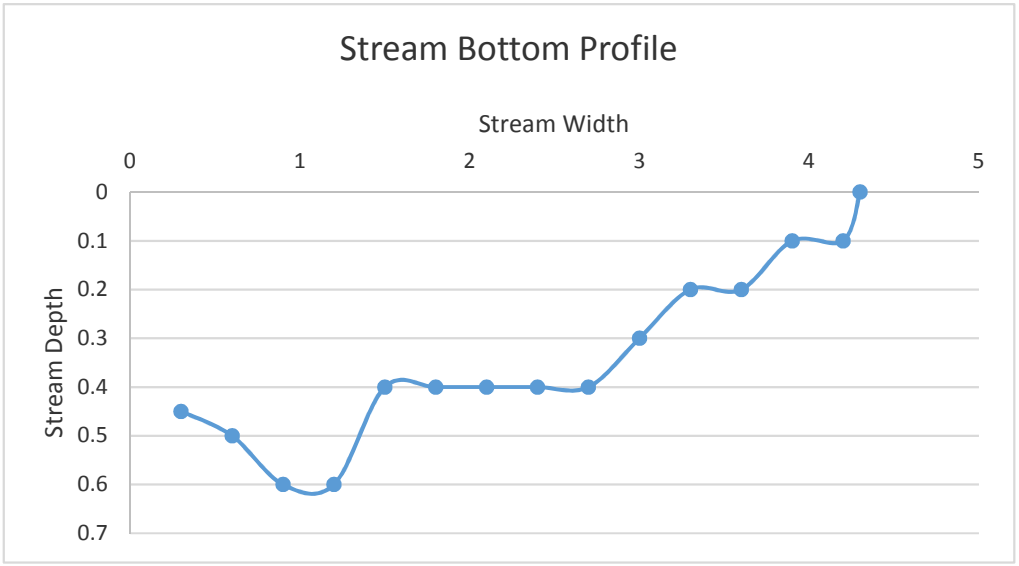
Project	2042-99-010		date	2/12/2018	
			time	1559	

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS/ZDW				
Width (ft):	4.3	Area:	1.515	Velocity:	0.49
/Flow (cfs):	0.75	Method:	0.6	Max Vel:	0.9
Water Depth to Probe (ft)			0.45	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.3	0.3	0.45	0.03	0.135	0.00405
0.6	0.3	0.5	0.35	0.15	0.0525
0.9	0.3	0.6	0.37	0.18	0.0666
1.2	0.3	0.6	0.06	0.18	0.0108
1.5	0.3	0.4	0.74	0.12	0.0888
1.8	0.3	0.4	0.79	0.12	0.0948
2.1	0.3	0.4	0.9	0.12	0.108
2.4	0.3	0.4	0.84	0.12	0.1008
2.7	0.3	0.4	0.77	0.12	0.0924
3	0.3	0.3	0.77	0.09	0.0693
3.3	0.3	0.2	0.52	0.06	0.0312
3.6	0.3	0.2	0.47	0.06	0.0282
3.9	0.3	0.1	0.22	0.03	0.0066
4.2	0.3	0.1	0	0.03	0
4.3	0.1	0		0	
total	4.3	5.05	6.83	1.515	0.75
average	0.29	0.34	0.49	0.10	0.05


Stream Bottom Profile
Stream Width
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Stream Depth
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0.1
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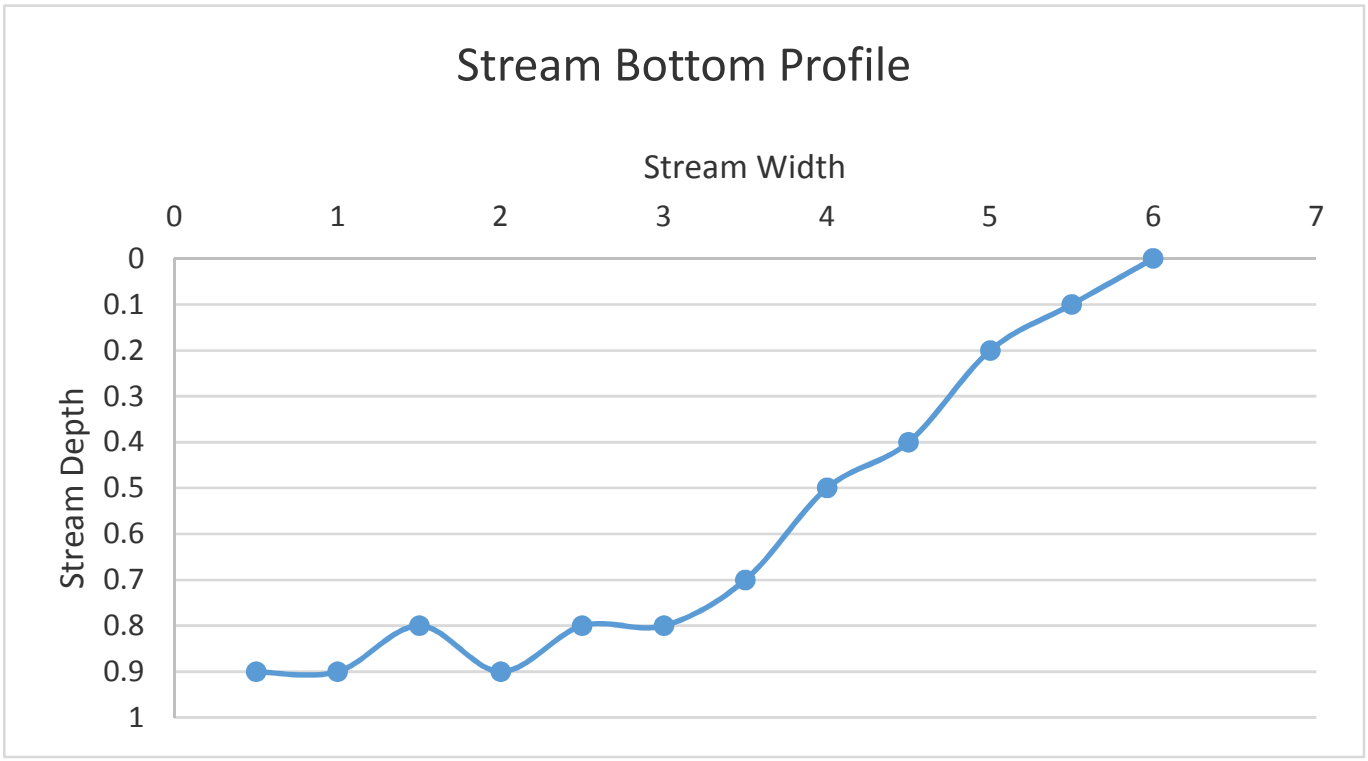
0.3
0.4
0.5
0.6
0.7

Project	2042-99-010	date	2/7/2018
		time	1400

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	6	Area:	3.5	Velocity:	1.03
/Flow (cfs):	4.34	Method:	0.6	Max Vel:	2.02
Water Depth to Probe (ft)			0.9	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.9	0.37	0.45	0.1665
1	0.5	0.9	1.21	0.45	0.5445
1.5	0.5	0.8	1.53	0.4	0.612
2	0.5	0.9	2.02	0.45	0.909
2.5	0.5	0.8	1.64	0.4	0.656
3	0.5	0.8	1.21	0.4	0.484
3.5	0.5	0.7	1.17	0.35	0.4095
4	0.5	0.5	1.06	0.25	0.265
4.5	0.5	0.4	1	0.2	0.2
5	0.5	0.2	0.78	0.1	0.078
5.5	0.5	0.1	0.33	0.05	0.0165
6	0.5	0	0	0	0
total	6	7	12.32	3.5	4.34
average	0.50	0.58	1.03	0.29	0.36


Stream Bottom Profile
Stream Width
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Stream Depth
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0.2
0.3
0.4
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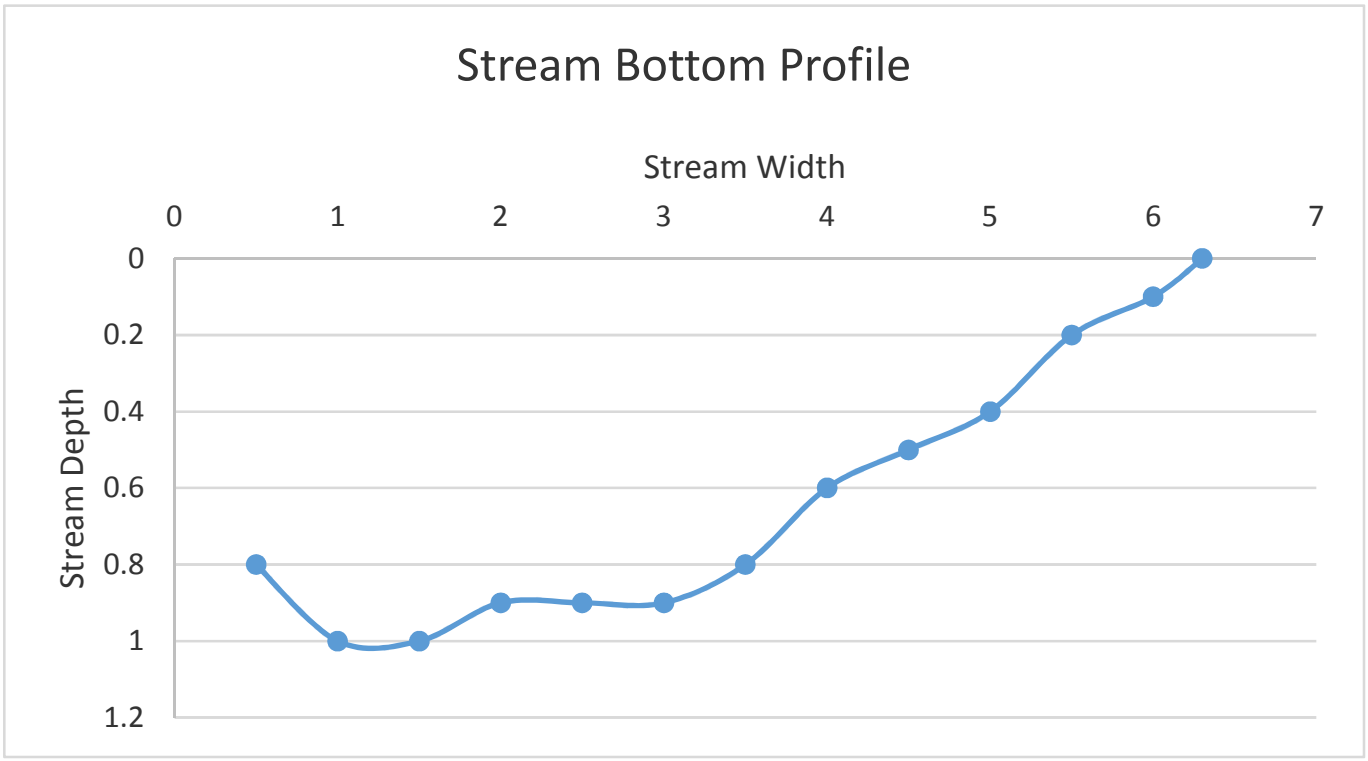
0.6
0.7
0.8
0.9
1

Project	2042-99-010	date	2/7/2018
		time	1215

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	6.3	Area:	4.05	Velocity:	1.12
/Flow (cfs):	5.44	Method:	0.6	Max Vel:	1.87
Water Depth to Probe (ft)			1	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.8	0.65	0.4	0.26
1	0.5	1	1.49	0.5	0.745
1.5	0.5	1	1.87	0.5	0.935
2	0.5	0.9	1.71	0.45	0.7695
2.5	0.5	0.9	1.55	0.45	0.6975
3	0.5	0.9	1.24	0.45	0.558
3.5	0.5	0.8	1.08	0.4	0.432
4	0.5	0.6	1.28	0.3	0.384
4.5	0.5	0.5	1.33	0.25	0.3325
5	0.5	0.4	1.08	0.2	0.216
5.5	0.5	0.2	0.91	0.1	0.091
6	0.5	0.1	0.32	0.05	0.016
6.3	0.3	0	0	0	0
total	6.3	8.1	14.51	4.05	5.44
average	0.48	0.62	1.12	0.31	0.42


Stream Bottom Profile
Stream Width
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Stream Depth
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0.4
0.6
0.8
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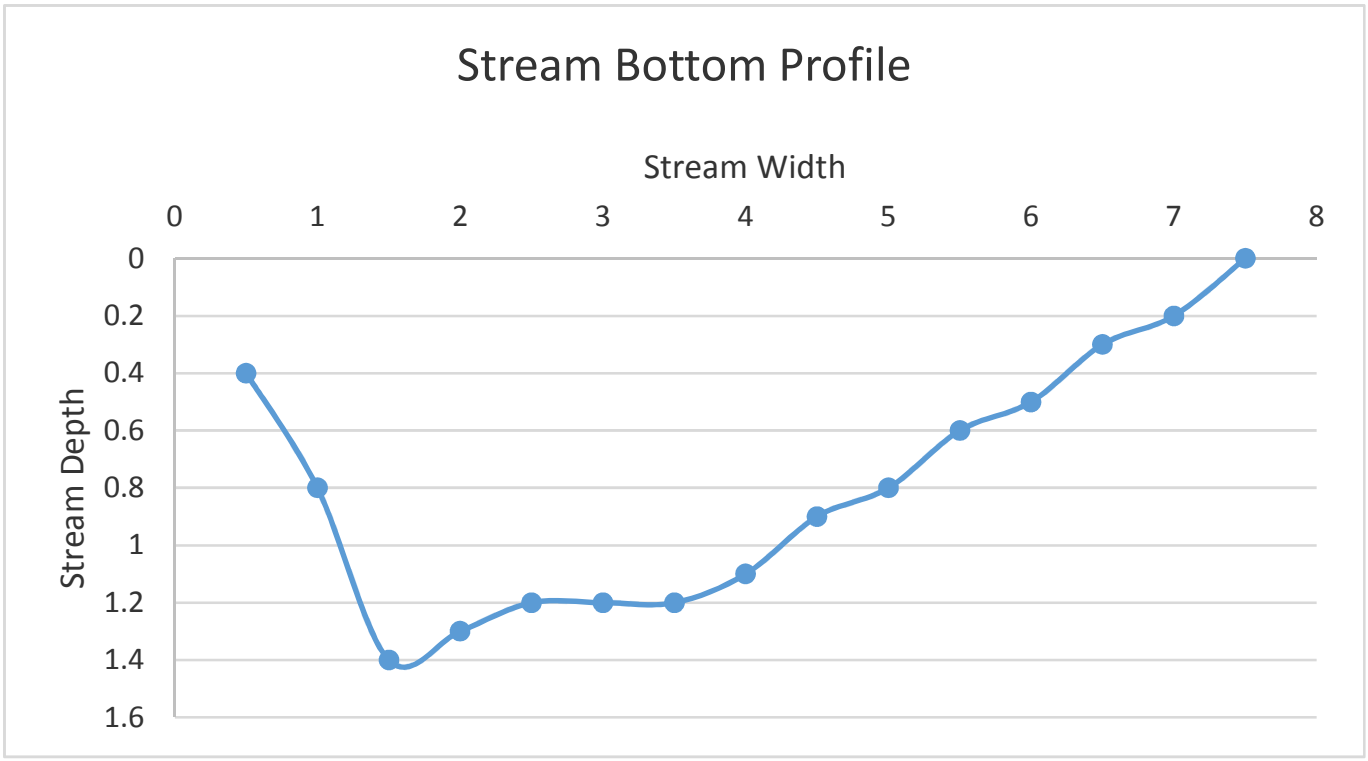
1.2

Project	2042-99-010	date	2/7/2018
		time	0900

Station:	**EDCC Stream**				
Waterbody					
Crew:	RJS				
Width (ft):	7.5	Area:	5.95	Velocity:	1.37
/Flow (cfs):	10.06	Method:	0.6	Max Vel:	2.48
Water Depth to Probe (ft)			1.35	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.4	0.15	0.2	0.03
1	0.5	0.8	0.98	0.4	0.392
1.5	0.5	1.4	1.21	0.7	0.847
2	0.5	1.3	2.18	0.65	1.417
2.5	0.5	1.2	2.48	0.6	1.488
3	0.5	1.2	2.08	0.6	1.248
3.5	0.5	1.2	1.92	0.6	1.152
4	0.5	1.1	1.78	0.55	0.979
4.5	0.5	0.9	1.76	0.45	0.792
5	0.5	0.8	1.73	0.4	0.692
5.5	0.5	0.6	1.67	0.3	0.501
6	0.5	0.5	1.29	0.25	0.3225
6.5	0.5	0.3	1.24	0.15	0.186
7	0.5	0.2	0.14	0.1	0.014
7.5	0.5	0	0	0	0
total	7.5	11.9	20.61	5.95	10.06
average	0.50	0.79	1.37	0.40	0.67


Stream Bottom Profile
Stream Width
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Stream Depth
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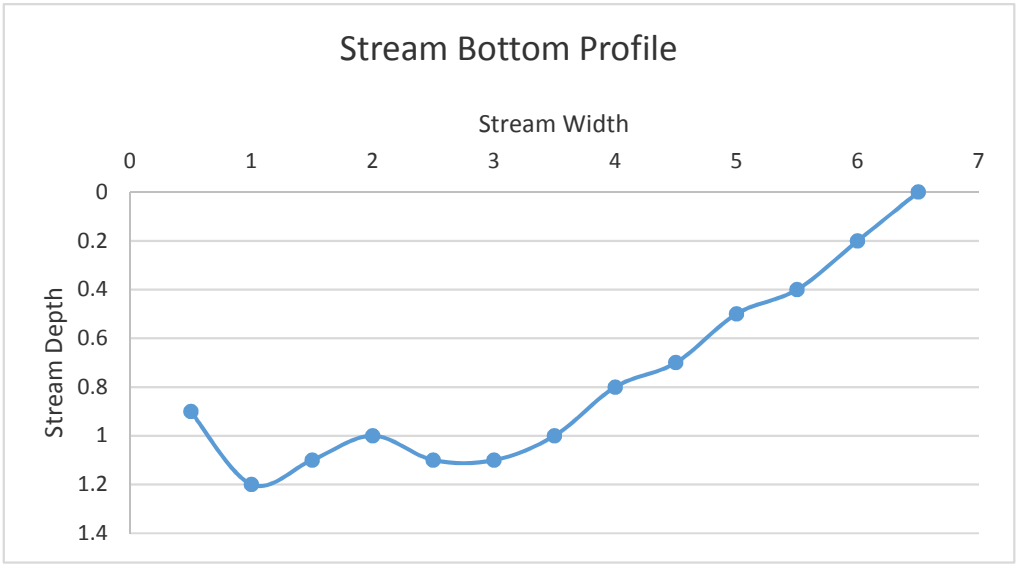
1.2
1.4
1.6

Project 2042-99-010 date 2/7/2018
time 1045

Station: EDCC Stream					
Waterbody					
Crew: RJS					
Width (ft):	6.5	Area:	5	Velocity:	1.32
/Flow (cfs):	7.40	Method:	0.6	Max Vel:	2.1
Water Depth to Probe (ft)			1.1	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.9	0.25	0.45	0.1125
1	0.5	1.2	0.97	0.6	0.582
1.5	0.5	1.1	1.65	0.55	0.9075
2	0.5	1	2.1	0.5	1.05
2.5	0.5	1.1	1.99	0.55	1.0945
3	0.5	1.1	1.75	0.55	0.9625
3.5	0.5	1	1.45	0.5	0.725
4	0.5	0.8	1.62	0.4	0.648
4.5	0.5	0.7	1.73	0.35	0.6055
5	0.5	0.5	1.44	0.25	0.36
5.5	0.5	0.4	1.32	0.2	0.264
6	0.5	0.2	0.87	0.1	0.087
6.5	0.5	0	0	0	0
total	6.5	10	17.14	5	7.40
average	0.50	0.77	1.32	0.38	0.57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Stream Depth
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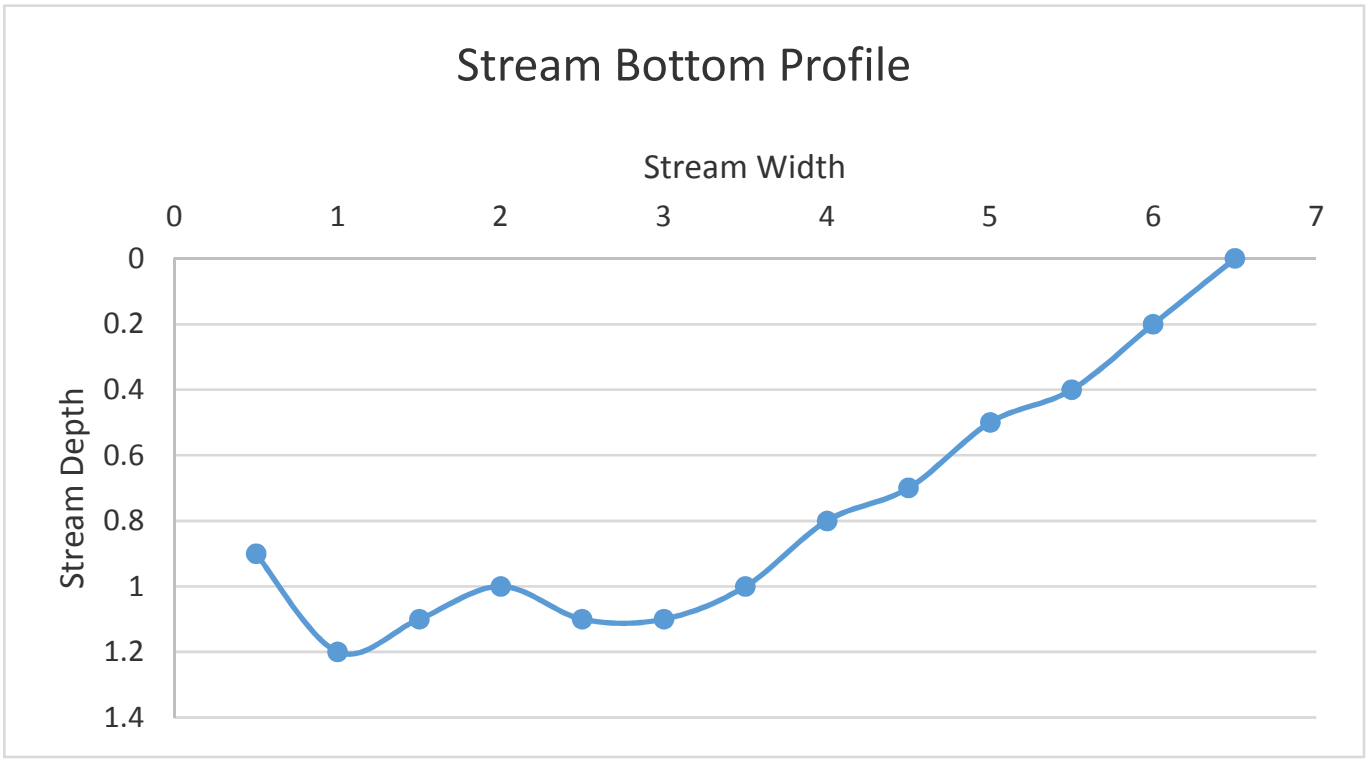
Stream Bottom Profile
Stream Width
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Stream Depth
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0.2
0.4
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0.8
1
1.2
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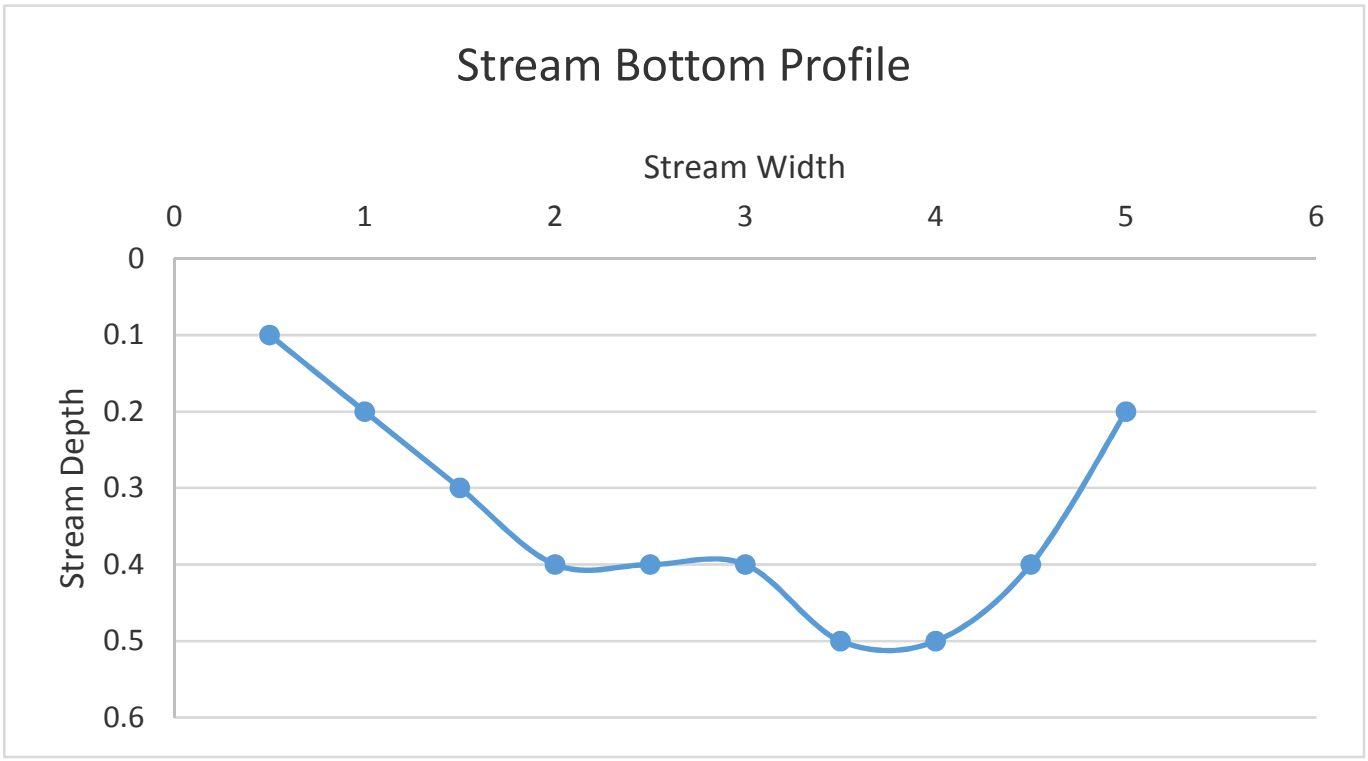
Project	2042-99-010	date	1/24/2018
		time	1350

Station:	**EDCC Stream**				
Waterbody					
Crew:	JCM/SJH				
Width (ft):	5	Area:	1.7	Velocity:	0.08
/Flow (cfs):	0.17	Method:	0.6	Max Vel:	0.24
Water Depth to Probe (ft)			0.4	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.1	0	0.05	0
1	0.5	0.2	0	0.1	0
1.5	0.5	0.3	0	0.15	0
2	0.5	0.4	0.07	0.2	0.014
2.5	0.5	0.4	0.18	0.2	0.036
3	0.5	0.4	0.24	0.2	0.048
3.5	0.5	0.5	0.2	0.25	0.05
4	0.5	0.5	0.09	0.25	0.0225
4.5	0.5	0.4	0	0.2	0
5	0.5	0.2	0	0.1	0
total	5	3.4	0.78	1.7	0.17
average	0.50	0.34	0.08	0.17	0.02


Stream Bottom Profile
Stream Width
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Stream Depth
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0.2
0.3
0.4
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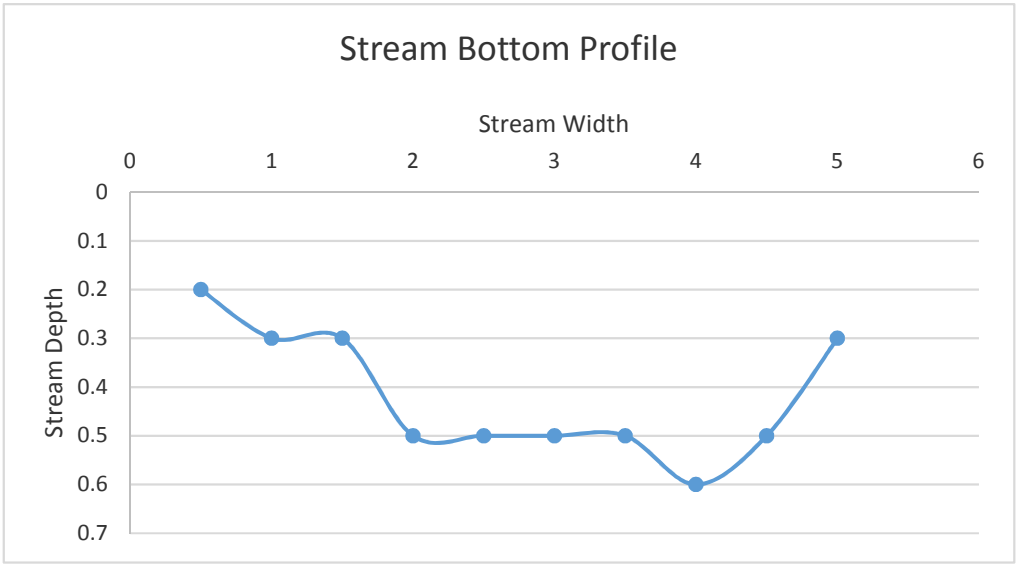
Project	2042-99-010	date	1/23/2018
		time	1230

Station:	**EDCC Stream**				
Waterbody					
Crew:	CLB/SJH				
Width (ft):	5	Area:	2.1	Velocity:	0.21
/Flow (cfs):	0.50	Method:	0.6	Max Vel:	0.52
Water Depth to Probe (ft)			0.5	Min Vel:	0

Distance from initial point (ft)	Width (ft)	Depth (ft)	Avg. velocity at point (ft/sec)	Area (sq. ft.)	Discharge (cfs)
0.5	0.5	0.2	0.12	0.1	0.012
1	0.5	0.3	0.1	0.15	0.015
1.5	0.5	0.3	0.15	0.15	0.0225
2	0.5	0.5	0.26	0.25	0.065
2.5	0.5	0.5	0.32	0.25	0.08
3	0.5	0.5	0.52	0.25	0.13
3.5	0.5	0.5	0.37	0.25	0.0925
4	0.5	0.6	0.23	0.3	0.069
4.5	0.5	0.5	0.04	0.25	0.01
5	0.5	0.3	0	0.15	0
total	5	4.2	2.11	2.1	0.50
average	0.50	0.42	0.21	0.21	0.05


Stream Bottom Profile
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Stream Depth
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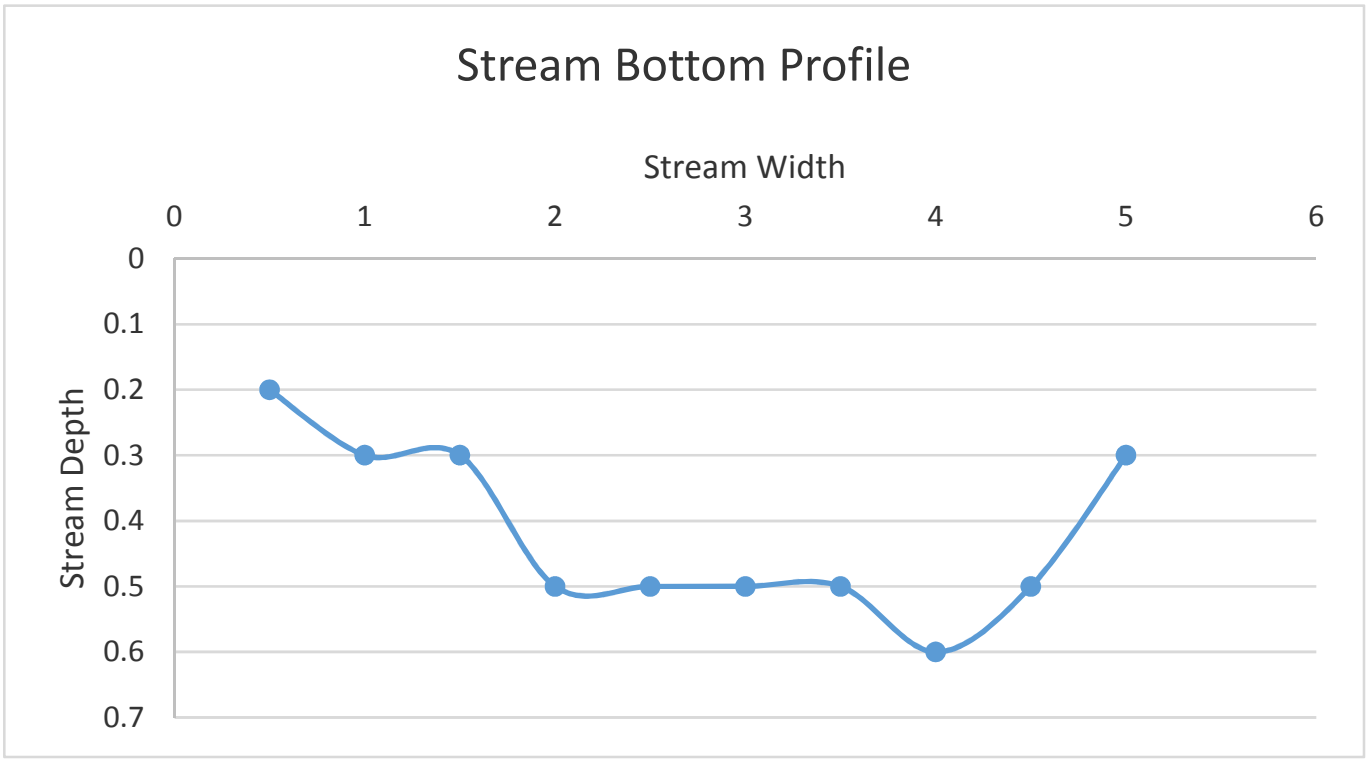
Stream Bottom Profile
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ADEQ
ARKANSAS
Department of Environmental Quality

December 6, 2018

Delmar R. Reppond, General Manager
El Dorado Chemical Company
4500 North West Avenue
El Dorado, AR 71730

RE: El Dorado Chemical Co - Response to Inspection (Union Co)
AFIN: 70-00040 NPDES Permit No.: AR0000752

Dear Mr. Reppond:

I have reviewed the response pertaining to my August 8, 2018 inspection of El Dorado Chemical Company (EDCC). The information provided sufficiently addresses the violations referenced in my inspection report. At this time, the Department has no further comment concerning this particular inspection. Acceptance of this response by the Department does not preclude any future enforcement action deemed necessary at this site or any other site.

If we need further information concerning this matter, we will contact you. Thank you for your attention to this matter. Should you have any questions, feel free to contact me at (501) 837-2073 or you may e-mail me at youngm@adeq.state.ar.us.

Sincerely,

Michael Young
District 8 Field Inspector
Office of Water Quality