WASTE SOURCE AND WATER QUALITY STUDIES
MOBILE RIVER AND TRIBUTARIES
MOBILE, ALABAMA

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Environmental Protection Agency
Surveillance and Analysis Division
Athens, Georgia

APPENDIX D

EXCERPTS FROM ALABAMA WATER QUALITY CRITERIA

APPENDIX D

EXCERPTS FROM ALABAMA WATER QUALITY CRITERIA

Fish and Wildlife

Best Usage of Waters: Fishing, propagation of fish, aquatic life and wildlife and any other usage except for swimming and water-contact sports or as a source of water supply for drinking or food - processing purposes.

Conditions Related to Best Usage: The waters will be suitable for fish, aquatic life and wildlife propagation. The quality of salt and estuarine waters to which this classification is assigned will also be suitable for the propagation of shrimp and crabs.

Items	Specifications
1. Sewage, industrial wastes or other wastes	None which are not effectively treated in accordance with Section VI of these criteria.
2. pH	Sewage, industrial wastes or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH nor be less than 6.0 nor greater than 8.5. For salt waters and estuarine waters to which this classification is assigned, wastes as herein described shall not cause the pH to deviate more than one unit from the normal or natural pH nor be less than 6.5 nor greater than 8.5.
3. Temperature	The maximum temperature rise above natural temperatures before the addition of artificial heat shall not exceed 5°F in streams, lakes, and reservoirs nor shall the maximum water temperature exceed 90°F, except that in the Tennessee River Basin and portions of the Tallapoosa River Basin which have been designated by the Alabama Department of Conservation as supporting smallmouth bass, sauger, and walleye, the temperature shall not exceed 86°F. In lakes and reservoirs, there shall be no withdrawals from or discharge of heated waters to the hypolimnion unless it can be shown that such discharge

3. Temperature (continued)	will be beneficial to water quality. In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained. The discharge of any heated wastes into any coastal or estuarine waters shall not raise water temperatures more than 4°F above natural during the period October through May nor more than 1.5°F above natural for the months June through September. There shall be no thermal block to the migration of aquatic organisms. In the application of temperature criteria referred to above, temperature shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth, temperature criteria will be applied at mid-depth.
4. Dissolved Oxygen	For a diversified warm water biota, including game fish, daily dissolved oxygen concentrations shall not be less than 5 mg/l at all times, except under extreme conditions due to natural causes it may range between 5 mg/l and 4 mg/l, provided that the water quality is favorable in all other parameters. The normal seasonal and daily fluctuations shall be maintained above these levels. In no event shall the dissolved oxygen level be less than 4 mg/l due to discharges from existing impoundments. All new impoundments shall be designed so that the discharge will contain at least 5 mg/l dissolved oxygen where practicable and technologically possible. The Environmental Protection Agency in cooperation with the State of Alabama and parties responsible for impoundments, shall develop a program to improve the design of existing facilities. In coastal waters surface dissolved oxygen concentrations shall not be less than 5 mg/l except where natural phenomena cause the value to be depressed.

4. Dissolved Oxygen (continued)	In estuaries and tidal tributaries dissolved oxygen concentrations shall not be less than 5 mg/l except in dystrophic waters or where natural conditions cause the value to be depressed.
5. Toxic substances attributable to sewage, industrial wastes, or other wastes.	Only such amounts, whether alone or in combination with other substances as will not be injurious to fish and aquatic life including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; unreasonably affect the aesthetic value of waters for any use under this classification.
6. Taste, odor and color producing substances attributable to sewage, industrial waste, and other wastes	Only such amounts, whether alone or in combination with other substances as will not be injurious to fish and aquatic life including shrimp and crabs in estuarine and salt waters or adversely affect the propagation thereof; impair the palatability or marketability of fish and wildlife or shrimp and crabs in estuarine and salt waters; unreasonably affect the aesthetic value of waters for any use under this classification.
7. Bacteria	Bacteria of the fecal coliform group shall not exceed a geometric mean of 1,000/100 ml on a monthly average value; nor exceed a maximum of 2,000/100 ml in any sample. The geometric mean shall be calculated from no less than five samples collected at a given station over a 30-day period at intervals not less than 24 hours. The membrane filter counting procedure will be preferred, but the multiple tube technique (five-tube) is acceptable.
8. Radioactivity	The concentrations of radioactive materials present shall not exceed the radiation protection guides recommended by the Criteria and Standards Division, Office of Radiation Protection, EPA (formerly Federal Radiation Council).

9.	Turbidity	There shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Jackson units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of manmade or man induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

Agricultural and Industrial Water Supply

Best Usage of Waters: Agricultural irrigation, livestock watering, industrial cooling and process water supplies, fish survival and any other usage, except fishing, bathing recreational activities including water-contact sports or as source of water supply for drinking or food-processing purposes.

Conditions Related to Best Usage: The waters, except for natural impurities which may be present therein, will be suitable for agricultural irrigation, and livestock watering, industrial cooling waters and fish survival. The waters will be usable after special treatment, as may be needed under each particular circumstance, for industrial process water supplies. The waters will also be suitable for other uses for which waters of lower quality will be satisfactory.

	Items	Specifications
1.	Sewage, industrial wastes or other wastes..	None which are not effectively treated or controlled in accordance with Section VI of these criteria.
2.	pH	Sewage, industrial waste or other wastes shall not cause the pH to deviate more than one unit from the normal or natural pH nor be less than 6.0 nor greater than 8.5.
3.	Temperature	The maximum temperature rise above natural temperatures before the addition of artificial heat shall not exceed $5^{o}F$ in streams, lakes, and reservoirs nor shall the maximum water temperature exceed $90^{o}F$, except that in the Tennessee River Basin and portions of

3. Temperature (continued)	the Tallapoosa River Basin which have been designated by the Alabama Department of Conservation as supporting smallmouth bass, sauger, and walleye, the temperature shall not exceed 86°F. In lakes and reservoirs, there shall be no withdrawals from or discharge of heated waters to the hypolimnion unless it can be shown that such discharge will be beneficial to water quality. In all waters the normal daily and seasonal temperature variations that were present before the addition of artificial heat shall be maintained. The discharge of any heated wastes into any coastal or estuarine waters shall not raise water temperatures more than 4°F above natural during the period October through May nor more than 1.5°F above natural for the months June through September. There shall be no thermal block to the migration of aquatic organisms. In the application of temperature criteria referred to above, temperature shall be measured at a depth of 5 feet in waters 10 feet or greater in depth; and for those waters less than 10 feet in depth temperature criteria will be applied at mid-depth.
4. Dissolved Oxygen	Sewage, industrial waste or other wastes shall not cause the dissolved oxygen to be less than 2.0 parts per million as measured at a depth of five feet in waters ten feet or greater in depth and at mid-depth in waters less than ten feet in depth.
5. Color, odor and taste producing substances, toxic substances, and other deleterious substances, including chemical compounds, attributable to sewage, industrial wastes and other wastes.	Only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes and fish survival.

6.	Radioactivity	The concentrations of radioactive materials present shall not exceed the radiation protection guides recommended by the Criteria and Standards Division, Office of Radiation Protection, EPA (formerly Federal Radiation Council).
7.	Turbidity	There shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters or interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Jackson units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of manmade or man induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

Navigation

Best Usage of Waters: Navigation

Conditions Related to Best Usage: Waters will be of a quality suitable for navigation and any other uses except agricultural irrigation, livestock watering, industrial cooling, industrial process, water supply, fish and wildlife propagation, recreational activities including swimming and skiing, or source of water supply for drinking or food-processing purposes.

Items	Specifications
1. Sewage, industrial wastes or other wastes.	None which are not effectively treated or controlled to the best practicable degree.
2. pH	Sewage, industrial wastes or other wastes shall not cause the normal or natural pH to be lower than 5.0 nor greater than 9.5.
3. Dissolved oxygen	Sufficient to prevent the development of an offensive condition.
4. Odor producing substances	Only in such amounts as will not create an offensive condition.
5. Radioactivity	The concentrations of radioactive materials present shall not exceed the radiation protection guides recommended by the Criteria and Standards Division, Office of Radiation Protection, EPA (formerly Federal Radiation Council).
6. Turbidity	There shall be no turbidity of other than natural origin that will cause substantial visible contrast with the natural appearance of waters of interfere with any beneficial uses which they serve. Furthermore, in no case shall turbidity exceed 50 Jackson units above background. Background will be interpreted as the natural condition of the receiving waters without the influence of manmade or man induced causes. Turbidity levels caused by natural runoff will be included in establishing background levels.

APPENDIX E

WASTE SOURCE DATA

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

APPENDIX E-1

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

AGENCY	PRIMARY STATION	SECONDARY	STATION LOCATION	STATE	MINOR BASIN
1113S000	015540	C-EFF	CHICKASAW CR-CHICK. LAGOON EFF	ALABAMA	MOBILE RIVER BASIN
	015530	C-INF	CHICKASAW CR-CHICK. LAGOON INF	ALABAMA	MOBILE RIVER BASIN
	015560	EM-EFF	EIGHTMILE CR STP EFF-PRITCHARD	ALABAMA	MOBILE RIVER BASIN
	015550	EM-INF	EIGHTMILE CR STP INF-PRITCHARD	ALABAMA	MOBILE RIVER BASIN
	015500	GS-EFF	THREEMILE CR-GROVER ST. STP EFF	ALABAMA	MOBILE RIVER BASIN
	015490	GS-INF	THREEMILE CR-GROVER ST. STP INF	ALABAMA	MOBILE RIVER BASIN
	015480	MI-EFF	MOBILE BAY-MCDUFFIE IS. STP EFF	ALABAMA	MOBILE RIVER BASIN
	015470	MI-INF	MOBILE BAY-MCDUFFIE IS. STP INF	ALABAMA	MOBILE RIVER BASIN
	015520	TM-EFF	SPRING BR-THREEMILE CK STP EFF	ALABAMA	MOBILE RIVER BASIN
	015510	TM-INF	SPRING BR-THREEMILE CK STP INF	ALABAMA	MOBILE RIVER BASIN

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

PARAMETER	DESCRIPTION
00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)
00310	BIOCHEMICAL OXYGEN DEMAND (MG/L, 5 DAY - 20DEG C)
00340	CHEMICAL OXYGEN DEMAND, .25N K2CR2O7 (MG/L)
00400	PH (STANDARD UNITS)
00403	PH (STANDARD UNITS) LAB
00410	ALKALINITY, TOTAL (MG/L AS CACO3)
00435	ACIDITY, TOTAL (MG/L AS CACO3)
00500	RESIDUE, TOTAL (MG/L)
00505	RESIDUE, TOTAL VOLATILE (MG/L)
00515	RESIDUE, TOTAL FILTRABLE (DRIED AT 105C),MG/L
00520	RESIDUE, VOLATILE FILTRABLE (MG/L)
00530	RESIDUE, TOTAL NONFILTRABLE (MG/L)
00535	RESIDUE, VOLATILE NONFILTRABLE (MG/L)
00545	RESIDUE, SETTLEABLE (ML/L)
00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)
00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)
00625	NITROGEN, AMMONIA&ORG., TOTAL 1 DET (MG/L AS N)
00665	PHOSPHORUS, TOTAL (MG/L AS P)
00680	CARBON, TOTAL ORGANIC (MG/L AS C)
00940	CHLORIDE (MG/L AS CL)
31505	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)
31615	FECAL COLIFORM,MPN,EC MED,44.5C (TUBE 31614)
50050	FLOW IN CONDUIT OR THRU A TREATMENT PLANT (MGD)
50051	FLOW RATE INSTANTANEOUS (MGD)
50060	CHLORINE, TOTAL RESIDUAL (MG/L)
00550	OIL & GREASE (SOXHLET EXTRACTION) TOTAL,REC.,MG/L
00720	CYANIDE, TOTAL (MG/L AS CN)
01027	CADMIUM, TOTAL (UG/L AS CD)
01034	CHROMIUM, TOTAL (UG/L AS CR)
01042	COPPER, TOTAL (UG/L AS CU)
01051	LEAD, TOTAL (UG/L AS PB)
01067	NICKEL, TOTAL (UG/L AS NI)
01092	ZINC, TOTAL (UG/L AS ZN)
32730	PHENOLICS, TOTAL, RECOVERABLE (UG/L)
71900	MERCURY, TOTAL (UG/L AS HG)

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - C-INF CHICKASAW CR-CHICK. LAGOON INF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACIDITY CACO3 MG/L
			730618	1140	25.0			6.7			
			730618	1440	24.5			6.2			
			730618	1810	24.5			6.5			
			730619	0810	24.0			7.4			
730618	1000	(C)	730619	1000		140.0	721		6.3	86	300
			730619	1100	25.5			7.5			
			730619	1410	25.5			6.7			
			730620	1045	24.5			6.0			
730619	1100	(C)	730620	1100		137.0	743		6.5	85	30
730618											
NUMBER					7	2	2	7	2	2	2
MAXIMUM					25.5	140.0	743	7.5	6.5	86	300
MINIMUM					24.0	137.0	721	6.0	6.3	85	30
LOG MEAN					24.8	138.5	732	6.7	6.4	85	95
730620											

DATE	TIME		DATE	TIME	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L
730618	1000	(C)	730619	1000	878	647	404	233	474	414	7.0
730619	1100	(C)	730620	1100	319	142	158	0	161	142	5.0
730618											
NUMBER					2	2	2	2	2	2	2
MAXIMUM					878	647	404	233	474	414	7.0
MINIMUM					319	142	158	0	161	142	5.0
LOG MEAN					529	303	253	0	276	242	5.9
730620											

DATE	TIME		DATE	TIME	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	50050 CONDUIT FLOW MGD
730618	1000	(C)	730619	1000	4.90	0.02	9.60	9.00	81.0	39.0	0.860
730619	1100	(C)	730620	1100	11.00	0.01K	11.80	8.00	38.0	34.0	0.860
730618											
NUMBER					2	2	2	2	2	2	2
MAXIMUM					11.00	0.02	11.80	9.00	81.0	39.0	0.860
MINIMUM					4.90	0.01K	9.60	8.00	38.0	34.0	0.860
LOG MEAN					7.34	0.01	10.64	8.49	55.5	36.4	0.860
730620											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - C-EFF CHICKASAW CR-CHICK. LAGOON EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L
			730618	1030	30.0			8.7				
			730618	1430	33.5			9.9				
			730618	1800	33.0			10.3				
			730619	0800	29.0			9.9				
730618	1030	(C)	730619	1030		12.0	163		9.5	45	0	238
			730619	1100	29.5			8.6				
			730619	1400	31.0			9.1				
			730620	1030	28.0			7.1				
730619	1100	(C)	730620	1100		16.0	79		9.8	51	0	222
730618												
NUMBER					7	2	2	7	2	2	2	2
MAXIMUM					33.5	16.0	163	10.3	9.8	51	0	238
MINIMUM					28.0	12.0	79	7.1	9.5	45	0	222
LOG MEAN					30.5	13.9	113	9.0	9.6	48	0	230
730620												

DATE	TIME		DATE	TIME	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L
730618	1030	(C)	730619	1030	86	123	86	15	1K	0.5K	4.60	0.01
730619	1100	(C)	730620	1100	59	189	35	33	24	0.5K	4.05	0.01K
730618												
NUMBER					2	2	2	2	2	2	2	2
MAXIMUM					86	189	86	33	24	0.5K	4.60	0.01
MINIMUM					59	123	35	15	1K	0.5K	4.05	0.01K
LOG MEAN					71	152	55	22	5	0.5	4.32	0.01
730620												

DATE	TIME		DATE	TIME	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD
			730618	1030					490000	330000	
			730618	1430					13000	3300	
			730618	1800					11000	900	
			730619	0800					110000	7400	
730618	1030	(C)	730619	1030	6.05	4.60	31.0	34.0			0.860
			730619	1100					540000	79000	
			730619	1400					140000	20000	
			730620	1030					170000	79000	
730619	1100	(C)	730620	1100	5.05	1.40	26.0	50.0			0.860
730618											
NUMBER					2	2	2	2	7	7	2
MAXIMUM					6.05	4.60	31.0	50.0	540000	330000	0.860
MINIMUM					5.05	1.40	26.0	34.0	11000	900	0.860
LOG MEAN					5.53	2.54	28.4	41.2	99865	19034	0.860
730620											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - EM-INF EIGHTMILE CR STP INF-PRITCHARD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L
			730618	1300	26.0			7.3				
			730618	1640	26.5			7.0				
			730619	0740	25.0			7.1				
730618	1300	(C)	730619	1300		135.0	710		7.0	134	32	488
			730619	1500	26.0			6.7				
730619	1500	(C)	730620	1500		138.0	347		6.9	107	28	442
			730620	1600	26.0			6.0				
730618												
NUMBER					5	2	2	5	2	2	2	2
MAXIMUM					26.5	138.0	710	7.3	7.0	134	32	488
MINIMUM					25.0	135.0	347	6.0	6.9	107	28	442
LOG MEAN					25.9	136.5	496	6.8	6.9	120	30	464
730620												

DATE	TIME		DATE	TIME	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L
730618	1300	(C)	730619	1300	225	318	92	170	133	5.0	21.70
730619	1500	(C)	730620	1500	116	350	61	92	55	4.0	16.80
730618											
NUMBER					2	2	2	2	2	2	2
MAXIMUM					225	350	92	170	133	5.0	21.70
MINIMUM					116	318	61	92	55	4.0	16.80
LOG MEAN					162	334	75	125	86	4.5	19.09
730620											

DATE	TIME		DATE	TIME	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	50050 CONDUIT FLOW RATE MGD	50051 FLOW RATE INST MGD
			730618	1300							1.470
			730618	1640							2.030
			730619	0740							1.330
730618	1300	(C)	730619	1300	0.16	21.30	16.70	94.0	42.0	1.340	
			730619	1500							2.030
730619	1500	(C)	730620	1500	0.01	16.60	10.70	84.0	100.0K	1.920	
730618											
NUMBER					2	2	2	2	2	2	4
MAXIMUM					0.16	21.30	16.70	94.0	42.0	1.920	2.030
MINIMUM					0.01	16.60	10.70	84.0	42.0K	1.340	1.330
LOG MEAN					0.04	18.80	13.37	88.9	64.8	1.604	1.685
730620											

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - EM-EFF EIGHTMILE CR STP EFF-PRITCHARD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
			730618	1310	27.0			6.7					
			730618	1650	28.0			7.0					
			730619	0730	25.0			3.3					
730618	1310	(C)	730619	1300		30.0	140		4.2	72	21	337	133
			730619	1500	27.5			6.9					
			730620	1440	26.5			6.2					
730619	1500	(C)	730620	1500		64.0	158		6.9	84	22	366	160
730618													
NUMBER					5	2	2	5	2	2	2	2	2
MAXIMUM					28.0	64.0	158	7.0	6.9	84	22	366	160
MINIMUM					25.0	30.0	140	3.3	4.2	72	21	337	133
LOG MEAN					26.8	43.8	149	5.8	5.4	78	21	351	146
730620													

DATE	TIME		DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L
730618	1310	(C)	730619	1300	314	110	23	23	0.5K	15.60	5.10	16.50
730619	1500	(C)	730620	1500	329	137	37	23	0.6	13.00	2.65	14.80
730618												
NUMBER					2	2	2	2	2	2	2	2
MAXIMUM					329	137	37	23	0.6	15.60	5.10	16.50
MINIMUM					314	110	23	23	0.5K	13.00	2.65	14.80
LOG MEAN					321	123	29	23	0.5	14.24	3.68	15.63
730620												

DATE	TIME		DATE	TIME	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD	50060 CHLORINE TOT RESD MG/L
			730618	1310				1100	200K		1.470	3.00
			730618	1500				500	200K		1.330	
			730618	1650				1100	200		2.030	3.50
			730619	0730				20K	20K		1.330	30.00
			730619	0930				230	50		1.900	2.00
			730619	1130				790	50		1.540	2.00L
730618	1310	(C)	730619	1300	13.80	42.0	58.0			1.340		
			730619	1500							2.030	1.50
			730620	0930				24000	2800		3.400	2.00
			730620	1130				7900	80		2.200	2.00
			730620	1330				35000	1800		2.600	1.50
			730620	1440				4900	460			1.50
730619	1500	(C)	730620	1500	11.90	61.0	38.0			1.920		
730618												
NUMBER					2	2	2	10	10	2	10	10
MAXIMUM					13.80	61.0	58.0	35000	2800	1.920	3.400	30.00L
MINIMUM					11.90	42.0	38.0	20K	20K	1.340	1.330	1.50
LOG MEAN					12.81	50.6	46.9	1533	194	1.604	1.899	2.65
730620												

[redacted]PENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - GS-INF THREEMILE CR-GROVER ST. STP INF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L
			730618	0845	25.5			7.4				
			730618	1535	26.5			7.1				
			730618	1830	26.5			6.9				
			730619	0900	26.0			7.5				
			730620	0900	25.5			6.5				
730619	0900	(C)	730620	0900		290.0	490		7.0	158	30	461
			730621	0845	25.5			7.2				
730620	0900	(C)	730621	0900		185.0	276		7.2	142	19	452
			730621	1330	27.0			9.6				
			730622	0800	25.5			7.0				
730621	0900	(C)	730622	0900			442		7.2	170	25	536
730618												
NUMBER					8	2	3	8	3	3	3	3
MAXIMUM					27.0	290.0	490	9.6	7.2	170	30	536
MINIMUM					25.5	185.0	276	6.5	7.0	142	19	452
LOG MEAN					26.0	231.6	391	7.4	7.1	156	24	482
730622												

DATE	TIME		DATE	TIME	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L
730619	0900	(C)	730620	0900	162	402	119	59	43	11.0	23.50
730620	0900	(C)	730621	0900	207	380	169	72	38	6.0	22.50
730621	0900	(C)	730622	0900	196	424	129	112	67	8.0	22.00
730618											
NUMBER					3	3	3	3	3	3	3
MAXIMUM					207	424	169	112	67	11.0	23.50
MINIMUM					162	380	119	59	38	6.0	22.00
LOG MEAN					187	402	137	78	48	8.1	22.66
730622											

DATE	TIME		DATE	TIME	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD
			730619	0900							1.500
			730620	0900							1.500
730619	0900	(C)	730620	0900	0.01K	23.30	15.00	115.0	53.0	1.420	
			730621	0845							1.500
730620	0900	(C)	730621	0900	0.01K	22.00	13.00	75.0	44.0	1.470	
			730621	1330							1.700
			730622	0800							1.000
730621	0900	(C)	730622	0900	0.01K	26.00	12.20		56.0	1.340	
730618											
NUMBER					3	3	3	2	3	3	5
MAXIMUM					0.01K	26.00	15.00	115.0	56.0	1.470	1.700
MINIMUM					0.01K	22.00	12.20	75.0	44.0	1.340	1.000
LOG MEAN					0.01	23.71	13.35	92.9	50.7	1.409	1.418
730622											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - GS-EFF THREEMILE CR-GROVER ST. STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
		730618	0840	27.0			6.1					
		730618	1600	29.0			6.4					
		730618	1840	28.5			6.3					
		730619	0700	26.0			5.5					
		730619	0850	26.5			7.3					
		730619	1800	28.0			5.8					
		730620	0800	26.0			6.6					
		730620	0900	25.5			6.3					
730619	0850	(C)730620	0900		27.0	107		6.8	44	13	380	105
		730620	1730	28.0			5.9					
		730621	0825	25.5			6.5					
730620	0900	(C)730621	0900		33.0	91		6.7	39	16	390	124
		730621	1315	28.0			6.6					
		730622	0830	25.5			6.8					
730621	0900	(C)730622	0900			99		6.8	47	17	404	126
730618												
NUMBER				12	2	3	12	3	3	3	3	3
MAXIMUM				29.0	33.0	107	7.3	6.8	47	17	404	126
MINIMUM				25.5	27.0	91	5.5	6.7	39	13	380	105
LOG MEAN				26.9	29.8	99	6.3	6.8	43	15	391	118
730622												

DATE	TIME	DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730619	0850	(C)730620	0900	372	98	8	7	0.5K	3.55	13.50	6.48	14.20
730620	0900	(C)730621	0900	358	109	32	15	0.5K	3.55	14.00	6.48	13.30
730621	0900	(C)730622	0900	382	124	21	2	0.5K	2.65	13.80	5.05	10.00
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				382	124	32	15	0.5K	3.55	14.00	6.48	14.20
MINIMUM				358	98	8	2	0.5K	2.65	13.50	5.05	10.00
LOG MEAN				371	110	18	6	0.5	3.22	13.77	5.96	12.36
730622												

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - GS-EFF THREEMILE CR-GROVER ST. STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD	50060 CHLORINE TOT RESD MG/L	00550 OIL-GRSE TOT-SXLT MG/L
		730618	0840			200K	200K			3.75	
		730618	1100			230000	33000				
		730618	1400			7900	800				
		730618	1600							1.50	7.0
		730618	1700			200	200K				
		730618	1840							1.00	
		730619	0700			33000	3300			0.75	
		730619	0850			130000	28000		1.500	1.00	
		730619	1100			23000	490		1.880	0.60	
		730619	1300			4900	940		1.880	2.00	
		730619	1800						1.400	10.00	5.0K
		730620	0700			1300	330		1.120	0.80	
		730620	0800						1.120	1.75	
		730620	0900			330	50		1.500	1.00	
730619	0850 (C)	730620	0900	33.0	57.0			1.420			
		730620	1100			490	80		2.200	1.20	
		730620	1300			2300	330		2.100	1.00	
		730620	1730						1.550	1.50	5.0K
		730621	0700			80	20K		0.900	1.20	
		730621	0825						1.500	1.50	
730620	0900 (C)	730621	0900	34.0	51.0			1.470			
		730621	1315						1.700		5.0K
		730622	0830						1.000	1.25	
730621	0900 (C)	730622	0900		52.0			1.340			
730618											
NUMBER				2	3	13	13	3	14	17	4
MAXIMUM				34.0	57.0	230000	33000	1.470	2.200	10.00	7.0
MINIMUM				33.0	51.0	80K	20K	1.340	0.900	0.60	5.0K
LOG MEAN				33.5	53.3	2963	547	1.409	1.474	1.40	5.4
730622											

DATE	TIME	DATE	TIME	00720 CYANIDE CN-TOT MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	32730 PHENOLS TOTAL UG/L
		730618	1600	0.015							102
		730619	1800	0.017							7
730619	0850 (C)	730620	0900		20K	57	25	100K	50K	195	
		730620	1730	0.001K							10
730620	0900 (C)	730621	0900		20K	50K	20K	100K	50K	136	
		730621	1315	0.027							5
730621	0900 (C)	730622	0900		20K	62	23	100K	50K	140	
730618											
NUMBER				4	3	3	3	3	3	3	4
MAXIMUM				0.027	20K	62	25	100K	50K	195	102
MINIMUM				0.001K	20K	50K	20K	100K	50K	136	5
LOG MEAN				0.009	20	56	23	100	50	155	14
730622											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - T4-INF SPRING BR-THREEMILE CK STP INF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACIDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
			730620	1330	27.0		6.4					
			730622	1300	27.0		6.4					
730621	1300	(C)	730622	1300		1290		6.7	128	52	832	504
			730622	1400	27.5		6.5					
730622	1300	(C)	730623	1300		2500		6.8	144	68	1436	1064
			730624	1300	27.0		6.8					
730623	1300	(C)	730624	1300		1190		6.6	29	30	826	484
730620												
NUMBER					4	3	4	3	3	3	3	3
MAXIMUM					27.5	2500	6.8	6.8	144	68	1436	1064
MINIMUM					27.0	1190	6.4	6.6	29	30	826	484
LOG MEAN					27.1	1566	6.5	6.7	81	47	996	638
730624												

DATE	TIME		DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L
730621	1300	(C)	730622	1300	292	80	540	424	20.0	15.50	0.01K
730622	1300	(C)	730623	1300	146	0	1290	1064	18.0	18.50	0.03
730623	1300	(C)	730624	1300	342	95	484	389	18.0	8.50	0.01K
730620											
NUMBER					3	3	3	3	3	3	3
MAXIMUM					342	95	1290	1064	20.0	18.50	0.03
MINIMUM					146	0	484	389	18.0	8.50	0.01K
LOG MEAN					244	0	696	560	18.6	13.46	0.01
730624											

DATE	TIME		DATE	TIME	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD	71900 MERCURY HG-TOTAL UG/L
			730620	1330						8.800	
			730622	1300						9.000	0.2K
730621	1300	(C)	730622	1300	18.90	1290.00	404.0	64.0	6.700		
			730622	1400						6.000	
730622	1300	(C)	730623	1300	26.00	2500.00	355.0	67.0	6.000		
730623	1300	(C)	730624	1300	10.60	1190.00	355.0	42.0	6.000		
730620											
NUMBER					3	3	3	3	3	3	1
MAXIMUM					26.00	2500.00	404.0	67.0	6.700	9.000	
MINIMUM					10.60	1190.00	355.0	42.0	6.000	6.000	
LOG MEAN					17.33	1565.64	370.6	56.5	6.225	7.804	
730624											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - TM-EFF SPRING BR-THREEMILE CK STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
		730620	1400	26.5		6.4					
		730620	1720	28.0		6.3					
		730621	1245	27.5		7.0					
		730622	1300	27.5		6.8					
730621	1300	(C)730622	1300		127		7.2	113	14	462	292
		730622	1445	28.0		6.7					
		730623	1300	27.0		6.9					
730622	1300	(C)730623	1300		174		7.3	131	17	560	344
		730624	1215	27.0		6.7					
730623	1300	(C)730624	1300		138		7.3	17	9	372	120
730620											
NUMBER				7	3	7	3	3	3	3	3
MAXIMUM				28.0	174	7.0	7.3	131	17	560	344
MINIMUM				26.5	127	6.3	7.2	17	9	372	120
LOG MEAN				27.4	145	6.7	7.3	63	13	458	229
730624											

DATE	TIME	DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLABLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L
730621	1300	(C)730622	1300	452	285	10	7	0.5K	16.80	0.28
730622	1300	(C)730623	1300	526	327	34	17	0.5K	14.40	0.13
730623	1300	(C)730624	1300	354	107	18	13	0.5K	7.60	0.10
730620										
NUMBER				3	3	3	3	3	3	3
MAXIMUM				526	327	34	17	0.5K	16.80	0.28
MINIMUM				354	107	10	7	0.5K	7.60	0.10
LOG MEAN				438	215	18	12	0.5	12.72	0.15
730624										

DATE	TIME	DATE	TIME	00635 NH3-ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD
		730620	1400					240000L	240000L	
		730620	1720					240000L	240000L	
		730621	0800					23000	1400	
		730621	1000					130000	1700	
		730621	1200					23000	7900	
		730621	1500					5400000	490000	
		730622	0700					23000	800	

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - TW-EFF SPRING BR-THREEMILE CK STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD
			730622	0900					13000	500	
			730622	1100					230000	13000	
			730622	1300					230000	23000	
730621	1300	(C)	730622	1300	18.40	8.00	30.0	49.0			6.700
			730623	0700					2800	80	
			730623	0900					110000	1100	
			730623	1100					1000000	20000	
			730623	1300					240000	13000	
730622	1300	(C)	730623	1300	16.20	8.80	44.0	49.0			6.000
730623	1300	(C)	730624	1300	8.40	10.70	32.0	44.0			6.000
730620											
	NUMBER				3	3	3	3	14	14	3
	MAXIMUM				18.40	10.70	44.0	49.0	5400000L	490000L	6.700
	MINIMUM				8.40	8.00	30.0	44.0	2800	80	6.000
	LOG MEAN				13.58	9.10	34.8	47.3	106766	7391	6.225
730624											

DATE	TIME		DATE	TIME	50051 FLOW RATE INST MGD	50060 CHLORINE TOT RESD MG/L	00550 OIL-GRSE TOT-SXLT MG/L	00720 CYANIDE CN-TOT MG/L	01034 CHROMIUM CR,TOT UG/L	32730 PHENOLS TOTAL UG/L	71900 MERCURY HG,TOTAL UG/L
			730620	1400	8.800	1.40					
			730620	1720	8.400	1.30					
			730621	0800	4.800	1.20					
			730621	1000	7.000	0.90					
			730621	1200	7.800	1.20					
			730621	1245	9.000						
			730621	1300			5.0K	0.001K		52	
			730621	1500	9.500	1.30					
			730622	0700	3.800						
			730622	0900	5.900						
			730622	1100	7.200						
			730622	1300	8.000	1.50	5.0K	0.001K		22	
730621	1300	(C)	730622	1300							0.4
			730622	1445	6.800	0.70					
			730623	0700	3.800	1.20					
			730623	0900	4.600	0.90					
			730623	1100	6.100	0.90					
			730623	1300	8.000	2.00	5.0K	0.033		12	
730622	1300	(C)	730623	1300					20K		0.6
			730624	1215	6.600						
730623	1300	(C)	730624	1300							0.3
730620											
	NUMBER				17	12	3	3	1	3	3
	MAXIMUM				9.500	2.00	5.0K	0.033		52	0.6
	MINIMUM				3.800	0.70	5.0K	0.001K		12	0.3
	LOG MEAN				7.383	1.17	5.0	0.003		24	0.4
730624											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - MI-INF MOBILE BAY-MCDUFFIE IS. STP INF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L
730620	1000	(C)	730621	1000		194.0	395		6.8	124	28	2592
			730621	1100	29.0			7.6				
			730622	0940	28.0			6.7				
			730622	1025	28.5			6.9				
730621	1100	(C)	730622	1100			694		6.8	40	42	872
730622	1000	(C)	730623	1000			174		6.9	139	41	858
			730623	1055	28.5			6.9				
730620												
NUMBER					4	1	3	4	3	3	3	3
MAXIMUM					29.0		694	7.6	6.9	139	42	2592
MINIMUM					28.0		174	6.7	6.8	40	28	858
LOG MEAN					28.5		363	7.0	6.8	88	36	1247
730623												

DATE	TIME		DATE	TIME	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L
730620	1000	(C)	730621	1000	204	2504	159	88	45	7.0	17.80
730621	1100	(C)	730622	1100	268	607	102	269	166	24.0	23.00
730622	1000	(C)	730623	1000	444	485	430	373	14	12.0	19.50
730620											
NUMBER					3	3	3	3	3	3	3
MAXIMUM					444	2504	430	373	166	24.0	23.00
MINIMUM					204	485	102	88	14	7.0	17.80
LOG MEAN					290	903	191	207	47	12.6	19.99
730623											

DATE	TIME		DATE	TIME	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C MG/L	00940 CHLORIDE CL MG/L	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD
730620	1000	(C)	730621	1000	0.30	16.00	9.40	88.0	98.0	5.130	
			730621	1100							7.000
			730622	0940							6.500
			730622	1025							5.100
730621	1100	(C)	730622	1100	0.01K	24.50	694.00	178.0	110.0	5.500	
730622	1000	(C)	730623	1000	0.01K	24.20	12.20	188.0	105.0	4.800	
730620											
NUMBER					3	3	3	3	3	3	3
MAXIMUM					0.30	24.50	694.00	188.0	110.0	5.500	7.000
MINIMUM					0.01K	16.00	9.40	88.0	98.0	4.800	5.100
LOG MEAN					0.03	22.02	43.01	143.3	104.2	5.135	6.523
730623											

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - MI-EFF MOBILE BAY-MCDUFFIE IS. STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00010 WATER TEMP CENT	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00400 PH SU	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
730620	1000	(C)	730621	1000		53.0	158		7.2	118	12	520	84
			730621	1100	29.0			7.1					
			730622	0930	28.5			6.8					
			730622	1030	28.5			6.8					
730621	1100	(C)	730622	1100			229		7.2	138	18	424	100
			730622	1115	28.5			6.7					
			730623	1040	29.0			6.9					
730622	1100	(C)	730623	1100			142		7.3	98	9	412	118
730620													
NUMBER					5	1	3	5	3	3	3	3	3
MAXIMUM					29.0		229	7.1	7.3	138	18	520	118
MINIMUM					28.5		142	6.7	7.2	98	9	412	84
LOG MEAN					28.7		173	6.9	7.2	117	12	450	100
730623													

DATE	TIME		DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730620	1000	(C)	730621	1000	559	52	61	32	0.5K	16.50	0.02	18.20	7.80
730621	1100	(C)	730622	1100	387	80	37	20	0.5K	15.50	0.02	23.90	7.30
730622	1100	(C)	730623	1100	391	107	21	11	0.5K	15.30	0.01	16.00	6.00
730620													
NUMBER					3	3	3	3	3	3	3	3	3
MAXIMUM					559	107	61	32	0.5K	16.50	0.02	23.90	7.80
MINIMUM					387	52	21	11	0.5K	15.30	0.01	16.00	6.00
LOG MEAN					439	76	36	19	0.5	15.76	0.02	19.09	6.99
730623													

DATE	TIME		DATE	TIME	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD	50060 CHLORINE TOT RESD MG/L	00550 OIL-GRSE TOT-SXLT MG/L	00720 CYANIDE CN-TOT MG/L
			730620	1000			790	330		6.200	0.75		
			730620	1200			170000	110000		6.800	0.75		
			730620	1400			490	50		7.500	0.60		
			730620	1600			130	20		7.000	0.70		
730620	1000	(C)	730621	1000	54.0	110.0			5.130				
			730621	1030			1100	130		7.000	0.10		
			730621	1100						7.000	0.00	11.0	0.088
			730621	1230			1300	230					
			730621	1430			80	20					

APPENDIX E-I

MUNICIPAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - MI-EFF MOBILE BAY-MCDUFFIE IS. STP EFF MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	50050 CONDUIT FLOW MGD	50051 FLOW RATE INST MGD	50060 CHLORINE TOT RESD MG/L	00550 OIL-GRSE TOT-SXLT MG/L	00720 CYANIDE CN-TOT MG/L
			730621	1620			200K	200K					
			730622	0930			46000	11000		6.300	0.85		
			730622	1030						6.100			
730621	1100	(C)	730622	1100	32.0	105.0			5.500				
			730622	1115			35000	2300		6.200	0.10	5.0K	0.336
			730622	1415			13000	3300		7.200			
			730622	1530			790	20		7.200			
			730623	1040			330	80			3.50	5.0K	0.040
730622	1100	(C)	730623	1100	42.0	100.0			4.800				
730620													
NUMBER					3	3	13	13	3	11	9	3	3
MAXIMUM					54.0	110.0	170000	110000	5.500	7.500	3.50	11.0	0.336
MINIMUM					32.0	100.0	80K	20K	4.800	6.100	0.00	5.0K	0.040
LOG MEAN					41.7	104.9	1710	331	5.135	6.757	0.00	6.5	0.106
730623													

DATE	TIME		DATE	TIME	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	32730 PHENOLS TOTAL UG/L	71900 MERCURY HG,TOTAL UG/L
730620	1000	(C)	730621	1000	20K	138	50	350	50K	385		0.4
			730621	1100							46	0.2K
			730622	0930								0.3
730621	1100	(C)	730622	1100		188						0.4
			730622	1115							15	
			730623	1040							9	
730622	1100	(C)	730623	1100		95						0.3
730620												
NUMBER					1	3	1	1	1	1	3	5
MAXIMUM						188					46	0.4
MINIMUM						95					9	0.2K
LOG MEAN						135					18	0.3
730623												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

AGENCY	PRIMARY STATION	SECONDARY	STATION LOCATION	STATE	MINOR BASIN
1113S000	015230	A-001	MOBILE R-ALCOA PLANT EFFLUENT	ALABAMA	MOBILE RIVER BASIN
	015231	A-001A	MOBILE R-ALCOA PUMP C DISCHARGE	ALABAMA	MOBILE RIVER BASIN
	015232	A-001B	MOBILE R-ALCOA PRESS LEAF DISCH.	ALABAMA	MOBILE RIVER BASIN
	015233	A-001C	MOBILE R-ALCOA PUMP B DISCHARGE.	ALABAMA	MOBILE RIVER BASIN
	015234	A-001D	MOBILE R-ALCOA POWER HOUSE DISCH	ALABAMA	MOBILE RIVER BASIN
	015235	A-001E	MOBILE R-ALCOA HEATER ACID DISCH	ALABAMA	MOBILE RIVER BASIN
	015236	A-001F	MOBILE R-ALCOA PUMP A DISCHARGE	ALABAMA	MOBILE RIVER BASIN
	015180	AW-001	MOBILE BAY-ALA. WOOD PRE. RE.SYS	ALABAMA	MOBILE RIVER BASIN
	015190	AW-002	MOBILE BAY-ALA. WOOD COND. WATER	ALABAMA	MOBILE RIVER BASIN
	015200	CA-001	MOBILE R-CHEVRON ASPHALT COMPANY	ALABAMA	MOBILE RIVER BASIN
	015445	DS-R	HOG BAYOU-DIAMOND SHAMRK RAW H2O	ALABAMA	MOBILE RIVER BASIN
	015430	DS-001	HOG BAYOU-DIAMOND SHAMRCK TR. EF	ALABAMA	MOBILE RIVER BASIN
	015440	DS-002	HOG BAYOU-DIAMOND SHAMRCK H2O EF	ALABAMA	MOBILE RIVER BASIN
	015280	EC-001	IND. CANAL-EAGLE CHEMICAL CO.	ALABAMA	MOBILE RIVER BASIN
	015240	GC-001	THREEMILE CK-GULFPORT CREOSOTING	ALABAMA	MOBILE RIVER BASIN
	015210	IC-001	MOBILE R-IDEAL CEM. PRO. WST&SEW	ALABAMA	MOBILE RIVER BASIN
	015220	IC-002	MOBILE R-IDEAL CEMENT PROC. WST.	ALABAMA	MOBILE RIVER BASIN
	015350	IP-IB	CHICKASAW CK-IP IMPOUNDMNT BASIN	ALABAMA	MOBILE RIVER BASIN
	015410	IP-002	HOG BAYOU-IP BOILER ASH PIT	ALABAMA	MOBILE RIVER BASIN
	015420	IP-003	HOG BAYOU-IP POWER PLT FLOOR DRN	ALABAMA	MOBILE RIVER BASIN
	015360	IP-012	CHICKASAW CK-IP PRIMARY TRT. PLT	ALABAMA	MOBILE RIVER BASIN
	015380	IP-015-E	CHICKASAW CK-IP WDYD. LOG FLM EF	ALABAMA	MOBILE RIVER BASIN
	015370	IP-015-I	CHICKASAW CK-IP WDYD. LOG FLM IN	ALABAMA	MOBILE RIVER BASIN
	015400	IP-018-E	CHICKASAW CK-IP COOLING H2O EFF	ALABAMA	MOBILE RIVER BASIN
	015390	IP-018-I	CHICKASAW CK-IP COOLING H2O INF	ALABAMA	MOBILE RIVER BASIN
	015250	MR-001	THREEMILE CK-MOBILE ROSIN OIL	ALABAMA	MOBILE RIVER BASIN
	015170	NG-001	MOBILE BAY-NATIONAL GYPSUM	ALABAMA	MOBILE RIVER BASIN
	015290	S-001	CHICKASAW CK-SCOTT WASTE TRT SYS	ALABAMA	MOBILE RIVER BASIN
	015300	S-002	CHICKASAW CK-SCOTT BLEACH PLANT	ALABAMA	MOBILE RIVER BASIN
	015310	S-003	CHICKASAW CK-SCOTT PULP MILL	ALABAMA	MOBILE RIVER BASIN
	015320	S-004	CHICKASAW CK-SCOTT WTP STORM SEW	ALABAMA	MOBILE RIVER BASIN
	015330	S-005	CHICKASAW CK-SCOTT W MILL STM DN	ALABAMA	MOBILE RIVER BASIN
	015340	S-007	CHICKASAW CK-SCOTT CEN. MILL DRN	ALABAMA	MOBILE RIVER BASIN
	015260	SC-001	THREEMILE CK-STONE CONTAINER WTS	ALABAMA	MOBILE RIVER BASIN
	015270	SC-002	THREEMILE CT-STONE CONT COOL H2O	ALABAMA	MOBILE RIVER BASIN
	015450	UCC-001	HOG BAYOU-UNION CARBIDE CAU. EFF	ALABAMA	MOBILE RIVER BASIN
	015460	UCC-002	HOG BAYOU-UNION CARBIDE SALT EFF	ALABAMA	MOBILE RIVER BASIN

0000008	LAB	IDENT.	NUMBER	NUMBER USED IN SAMPLE ACCOUNTING PROCEDURE
0000310	BOD	5 DAY	MG/L	BIOCHEMICAL OXYGEN DEMAND (MG/L, 5 DAY - 20DEG C)
0000340	COD	HI LEVEL	MG/L	CHEMICAL OXYGEN DEMAND, .25N K2CR207 (MG/L)
0000403	LAB	PH	SU	PH (STANDARD UNITS) LAB
0000410	T ALK	CACO3	MG/L	ALKALINITY, TOTAL (MG/L AS CACO3)
0000435	T ACDITY	CACO3	MG/L	ACIDITY, TOTAL (MG/L AS CACO3)
0000500	RESIDUE	TOTAL	MG/L	RESIDUE, TOTAL (MG/L)
0000505	RESIDUE	TOT VOL	MG/L	RESIDUE, TOTAL VOLATILE (MG/L)
0000515	RESIDUE	DISS-105	C MG/L	RESIDUE, TOTAL FILTRABLE (DRIED AT 105C),MG/L
0000520	RESIDUE	VOL FLT	MG/L	RESIDUE, VOLATILE FILTRABLE (MG/L)
0000530	RESIDUE	TOT NFLT	MG/L	RESIDUE, TOTAL NONFILTRABLE (MG/L)
0000535	RESIDUE	VOL NFLT	MG/L	RESIDUE, VOLATILE NONFILTRABLE (MG/L)
0000545	RESIDUE	SETTLBLE	ML/L	RESIDUE, SETTLEABLE (ML/L)
0000680	T ORG C	C	MG/L	CARBON, TOTAL ORGANIC (MG/L AS C)
0001027	CADMIUM	CD,TOT	UG/L	CADMIUM, TOTAL (UG/L AS CD)
0001034	CHROMIUM	CR,TOT	UG/L	CHROMIUM, TOTAL (UG/L AS CR)
0001042	COPPER	CU,TOT	UG/L	COPPER, TOTAL (UG/L AS CU)
0001051	LEAD	PB,TOT	UG/L	LEAD, TOTAL (UG/L AS PB)
0001067	NICKEL	NI,TOTAL	UG/L	NICKEL, TOTAL (UG/L AS NI)
0001092	ZINC	ZN,TOT	UG/L	ZINC, TOTAL (UG/L AS ZN)
0050050	CONDUIT	FLOW	MGD	FLOW IN CONDUIT OR THRU A TREATMENT PLANT (MGD)
0000010	WATER	TEMP	CENT	TEMPERATURE, WATER (DEGREES CENTIGRADE)
0000400	PH		SU	PH (STANDARD UNITS)
0050051	FLOW	RATE	INST MGD	FLOW RATE INSTANTANEOUS (MGD)
0000550	OIL-GRSE	TOT-SXLT	MG/L	OIL & GREASE (SOXHLET EXTRACTION) TOTAL,REC.,MG/L
0032730	PHENOLS	TOTAL	UG/L	PHENOLICS, TOTAL, RECOVERABLE (UG/L)
0000610	NH3-N	TOTAL	MG/L	NITROGEN, AMMONIA, TOTAL (MG/L AS N)
0000630	NO2&NO3	N-TOTAL	MG/L	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)
0000635	NH3&ORG	N-TOTAL	MG/L	NITROGEN, AMMONIA&ORG., TOTAL 1 DET (MG/L AS N)
0000665	PHOS-TOT		MG/L P	PHOSPHORUS, TOTAL (MG/L AS P)
0071900	MERCURY	HG,TOTAL	UG/L	MERCURY, TOTAL (UG/L AS HG)
0000080	COLOR	PT-CO	UNITS	COLOR (PLATINUM-COBALT UNITS)
0031505	TOT COLI	MPN CONF	/100ML	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)
0031615	FEC COLI	MPNECMED	/100ML	FECAL COLIFORM,MPN,EC MED,44.5C (TUBE 31614)
0000940	CHLORIDE	CL	MG/L	CHLORIDE (MG/L AS CL)

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - UCC-001 HOG BAYOU-UNION CARBIDE CAU. EFF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
730618	1000	(C)730619	1100	6.0	113	13.5	8200	0	14330	2484	14030	2459
730619	1100	(C)730620	1115	8.0K	67	12.7	10300	0	66680	13340	66490	13310
730620	1100	(C)730621	1045	8.0K	44	12.8	8968	0	17260	3206	16910	3139
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				6.0	113	13.5	10300	0	66680	13340	66490	13310
MINIMUM				6.0K	44	12.7	8200	0	14330	2484	14030	2459
MEAN					75	13.0	9156	0	32757	6343	32477	6303
730621												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L
730618	1000	(C)730619	1100	300	25	40	125.0					
730619	1100	(C)730620	1115	186	22	21	128.0					
730620	1100	(C)730621	1045	353	67	27	98.0					
730618	1001	(C)730621	1046					25	40	45	300	160
730618												
NUMBER				3	3	3	3	1	1	1	1	1
MAXIMUM				353	67	40	128.0					
MINIMUM				186	22	21	98.0					
MEAN				280	38	29	117.0					
730621												

DATE	TIME	DATE	TIME	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00940 CHLORIDE CL MG/L
		730619	1100			38.0	10.0					
730618	1000	(C)730619	1100		0.620			14.30	1.030	11.80	0.85	350.0
		730620	1115			35.0	10.7					
730619	1100	(C)730620	1115		0.450			5.00	0.960	7.50	0.60	350.0
		730621	1045			36.0						
730620	1100	(C)730621	1045		0.440			4.90	0.820	2.54	0.70	400.0
730618	1001	(C)730621	1046	60								
730618												
NUMBER				1	3	3	2	3	3	3	3	3
MAXIMUM					0.620	38.0	10.7	14.30	1.030	11.80	0.85	400.0
MINIMUM					0.440	35.0	10.0	4.90	0.820	2.54	0.60	350.0
MEAN					0.503	36.3	10.3	8.07	0.937	7.28	0.72	366.7
730621												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - UCC-002 HOG BAYOU-UNION CARBIDE SALT EFF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
730618	1000	(C)730619	1100	8.0K	253	9.8	175	0	6813	382	6531	380
730619	1100	(C)730620	1120	8.0K	182	9.8	150	0	798	208	741	208
730620	1100	(C)730621	1100	8.0K	202	9.6	462	0	4811	144	4772	125
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				8.0K	253	9.8	462	0	6813	382	6531	380
MINIMUM				8.0K	182	9.6	150	0	798	144	741	125
MEAN					212	9.7	262	0	4141	245	4015	238
730621												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L
730618	1000	(C)730619	1100	33	2	1K	6.0					
730619	1100	(C)730620	1120	7	1K	1K	6.0					
730620	1100	(C)730621	1100	39	19	1K	6.0					
730618	1001	(C)730621	1101					20K	40K	20	100	60
730618												
NUMBER				3	3	3	3	1	1	1	1	1
MAXIMUM				39	19	1K	6.0					
MINIMUM				7	1K	1K	6.0					
MEAN				26			6.0					
730621												

DATE	TIME	DATE	TIME	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00940 CHLORIDE CL MG/L
		730619	1100			32.5	9.9					
730618	1000	(C)730619	1100		0.420			11.90	0.360	11.30	0.21	2900.0
		730620	1120			33.0	8.9					
730619	1100	(C)730620	1120		0.500			27.00	0.280	25.00	0.16	3400.0
		730621	1100			34.0						
730620	1100	(C)730621	1100		0.500			90.00	0.280	86.00	0.18	3000.0
730618	1001	(C)730621	1101	20								
730618												
NUMBER				1	3	3	2	3	3	3	3	3
MAXIMUM					0.500	34.0	9.9	90.00	0.360	86.00	0.21	3400.0
MINIMUM					0.420	32.5	8.9	11.90	0.280	11.30	0.16	2900.0
MEAN					0.473	33.2	9.4	42.97	0.307	40.77	0.18	3100.0
730621												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - OS-R HOG BAYOU-DIAMOND SHAMRK RAW H2O

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730619	1030	30.0	6.6	0.600
		730620	1015			0.600
		730621	1000	29.0	6.0	0.600
730619						
NUMBER				2	2	3
MAXIMUM				30.0	6.6	0.600
MINIMUM				29.0	6.0	0.600
MEAN				29.5	6.3	0.600
730621						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - DS-001 HOG BAYOU-DIAMOND SHAMRCK TR. EF

DATE	TIME		DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
			730619	1045	46.0	1306	9.8	500	0	6198	233	6187
			730620	1030	28.0	915	9.6	500	0	16430	320	16390
730620	1030	(C)	730621	1000	22.0	416	9.5	500	0	16850	210	16770
730619												
NUMBER					3	3	3	3	3	3	3	3
MAXIMUM					46.0	1306	9.8	500	0	16850	320	16770
MINIMUM					22.0	416	9.5	500	0	6198	210	6187
MEAN					32.0	879	9.6	500	0	13159	254	13116
730621												

DATE	TIME		DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L
			730619	1045	222	11	11	1K	108.0			
			730620	1030	283	44	37	1K	360.0			
730620	1030	(C)	730621	1000	168	79	42	1K	121.0			
730619	1046	(C)	730621	1001						20	40K	25
730619												
NUMBER					3	3	3	3	3	1	1	1
MAXIMUM					283	79	42	1K	360.0			
MINIMUM					168	11	11	1K	108.0			
MEAN					224	45	30		196.3			
730621												

DATE	TIME		DATE	TIME	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	71900 MERCURY HG,TOTAL UG/L
			730619	1045					30.0	8.9	0.070	61.0
			730620	1030					28.0	5.8	0.090	13.3
			730621	1000					31.0	9.6	0.090	
730620	1030	(C)	730621	1000				0.090				14.8
730619	1046	(C)	730621	1001	165	150	25					
730619												
NUMBER					1	1	1	1	3	3	3	3
MAXIMUM									31.0	9.6	0.090	61.0
MINIMUM									28.0	5.8	0.070	13.3
MEAN									29.7	8.1	0.083	29.7
730621												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - DS-002 HOG BAYOU-DIAMOND SHAMROCK H2O EF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1055	8.0K	10	4.7	3		450	102	441
		730620	1040	8.0K	8	6.8	4	2	47	35	47
		730621	1025	8.0K	9	3.5	0	14	78	24	66
730619											
NUMBER				3	3	3	3	2	3	3	3
MAXIMUM				8.0K	10	6.8	4	14	450	102	441
MINIMUM				8.0K	8	3.5	0	2	47	24	47
MEAN					9	5.0	2	8	192	54	185
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L
		730619	1055	93	9	9	1K	4.0			
		730620	1040	35	1K	1K	1K	4.0			
		730621	1025	24	12	1K	1K	3.0			
730619	1056 (C)	730621	1026						20K	40K	20
730619											
NUMBER				3	3	3	3	3	1	1	1
MAXIMUM				93	12	9	1K	4.0			
MINIMUM				24	1K	1K	1K	3.0			
MEAN				51				3.7			
730621											

DATE	TIME	DATE	TIME	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	71900 MERCURY HG,TOTAL UG/L
		730619	1055						0.580	2.3
		730620	1040				31.0	5.6	0.600	1.3
		730621	1025				30.0	3.6	0.610	0.6
730619	1056 (C)	730621	1026	100K	40K	60				
730619										
NUMBER				1	1	1	2	2	3	3
MAXIMUM							31.0	5.6	0.610	2.3
MINIMUM							30.0	3.6	0.580	0.6
MEAN							30.5	4.6	0.597	1.4
730621										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-IB CHICKASAW CK-IP IMPOUNDMNT BASIN

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1445	175.0	556	6.9	950	73	2077	560	1818
		730620	1340	355.0	1663	7.2	1250	70	3520	1214	3597
		730621	1320	100.0	515	7.2	1000	100	2182	558	1904
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				355.0	1663	7.2	1250	100	3520	1214	3597
MINIMUM				100.0	515	6.9	950	70	2077	558	1818
MEAN				210.0	911	7.1	1067	81	2593	777	2440
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L
		730619	1445	433	259	127	22	169.0	20K	50K
		730620	1340	774	923	440	40L	700.0	20K	57
		730621	1320	420	278	138	16	170.0	20K	20K
730619										
NUMBER				3	3	3	3	3	3	3
MAXIMUM				774	923	440	40L	700.0	20K	57
MINIMUM				420	259	127	16	169.0	20K	20K
MEAN				542	487	235		346.3		
730621										

DATE	TIME	DATE	TIME	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1445	20K	100K	50	117	1.010	38.0	6.9
		730620	1340	97	100K	108	763	1.010	40.0	6.7
		730621	1320	30	100K	60	203	1.010	39.0	
730619										
NUMBER				3	3	3	3	3	3	2
MAXIMUM				97	100K	108	763	1.010	40.0	6.9
MINIMUM				20K	100K	50	117	1.010	38.0	6.7
MEAN						73	361	1.010	39.0	6.8
730621										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-002 HOG BAYOU-IP BOILER ASH PIT

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1415	20.0K	14	8.1	75	1500	358	147	350
		730620	1355	20.0K	17	7.3	29	17	510	12	502
		730621	1335	8.0K	10	6.8	34	17	660	152	636
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				20.0K	17	8.1	75	1500	660	152	636
MINIMUM				8.0K	10	6.8	29	17	358	12	350
MEAN					14	7.4	46	511	509	104	496
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1415	144	8	3	1K	5.0	0.430	34.0	6.7
		730620	1355	11	8	1	1K	5.0	0.430	33.0	6.5
		730621	1335	149	24	3	1K	8.0	0.430	34.0	
730619											
NUMBER				3	3	3	3	3	3	3	2
MAXIMUM				149	24	3	1K	8.0	0.430	34.0	6.7
MINIMUM				11	8	1	1K	5.0	0.430	33.0	6.5
MEAN				101	13	2		6.0	0.430	33.7	6.6
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-003 HOG BAYOU-IP POWER PLT FLOOR DRN

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1425	20.0K	78	5.4	15	13	513	27	472
		730620	1400	20.0K	107	6.7	52	20	630	35	614
		730621	1340	20.0K	71	4.4	1	62	716	148	604
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				20.0K	107	6.7	52	62	716	148	614
MINIMUM				20.0K	71	4.4	1	13	513	27	472
MEAN					85	5.5	23	32	620	70	563
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1425	22	41	5	1K	15.0	0.360	39.0	5.2
		730620	1400	26	16	9	1K	32.0	0.360	40.0	6.3
		730621	1340	106	112	42	7	10.0	0.360	44.0	
730619											
NUMBER				3	3	3	3	3	3	3	2
MAXIMUM				106	112	42	7	32.0	0.360	44.0	6.3
MINIMUM				22	16	5	1K	10.0	0.360	39.0	5.2
MEAN				51	56	19		19.0	0.360	41.0	5.7
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-012 CHICKASAW CK-IP PRIMARY TRT. PLT

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730618	1600	(C)730619	1510	200.0	944	6.6	135	9	1138	339	978
730619	1510	(C)730620	1500	180.0	964	7.3	154	14	1554	356	1547
730620	1500	(C)730621	1425	245.0	948	9.8	300	0	1772	502	1628
730618											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				245.0	964	9.8	300	14	1772	502	1628
MINIMUM				180.0	944	6.6	135	0	1138	339	978
MEAN				208.3	952	7.9	196	8	1488	399	1384
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L
730618	1600	(C)730619	1510	249	160	90	1K	290.0	20K	50K	33
730619	1510	(C)730620	1500	349	7	7	1K	340.0	20K	50K	32
		730621	1030					115.0			
730620	1500	(C)730621	1425	398	144	104	1K	344.0	20K	20K	38
730618											
NUMBER				3	3	3	3	4	3	3	3
MAXIMUM				398	160	104	1K	344.0	20K	50K	38
MINIMUM				249	7	7	1K	115.0	20K	20K	32
MEAN				332	104	67		272.3			34
730621											

DATE	TIME	DATE	TIME	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	32730 PHENOLS TOTAL UG/L
		730618	1600					50.0	7.0	2690
		730619	1510					50.0	6.9	1900
730618	1600	(C)730619	1510	100K	50K	137	36.400			
		730620	1500					48.0	9.3	1900
730619	1510	(C)730620	1500	100K	50K	150	36.400			
		730621	1425					46.0		3080
730620	1500	(C)730621	1425	100K	50K	160	36.400			
730618										
NUMBER				3	3	3	3	4	3	4
MAXIMUM				100K	50K	160	36.400	50.0	9.3	3080
MINIMUM				100K	50K	137	36.400	46.0	6.9	1900
MEAN						149	36.400	48.5	7.7	2393
730621										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-012 CHICKASAW CK-IP PRIMARY TRT. PLT

DATE	TIME		DATE	TIME	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00080 COLOR PT-CO UNITS	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730618	1600						200K	200K
			730619	0730						20K	20K
			730619	1030						20K	20K
			730619	1315						20K	20K
			730619	1510						20K	20K
730618	1600	(C)	730619	1510	0.35	0.040	2.60	0.54	1850		
			730620	0730						230	20K
			730620	1030						20	20K
			730620	1330						490	20K
			730620	1500						20K	20K
730619	1510	(C)	730620	1500	0.25	0.010	1.75	0.60	3000		
			730621	0730						20K	20K
			730621	1030						20K	20K
			730621	1425						20K	20K
730620	1500	(C)	730621	1425	0.46	0.050	2.41	0.68	1750		
730618											
	NUMBER				3	3	3	3	3	12	12
	MAXIMUM				0.46	0.050	2.60	0.68	3000	490	200K
	MINIMUM				0.25	0.010	1.75	0.54	1750	20K	20K
	MEAN				0.35	0.033	2.25	0.61	2200		
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-015-I CHICKASAW CK-IP WDYD. LOG FLM IN

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1330	63.0	152	6.5	72	10	577	114	547
		730620	1440	35.0	154	7.1	80	13	676	88	676
		730621	1420	18.0	142	7.0	77	9	806	132	756
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				63.0	154	7.1	80	13	806	132	756
MINIMUM				18.0	142	6.5	72	9	577	88	547
MEAN				38.7	149	6.9	76	11	686	111	660
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1330	95	30	19	1K	57.0	34.530	37.0	6.6
		730620	1440	88	1K	1K	1K	51.0	34.530	33.5	6.7
		730621	1420	112	50	20	1K	60.0	34.530	36.5	
730619											
NUMBER				3	3	3	3	3	3	3	2
MAXIMUM				112	50	20	1K	60.0	34.530	37.0	6.7
MINIMUM				88	1K	1K	1K	51.0	34.530	33.5	6.6
MEAN				98				56.0	34.530	35.7	6.6
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-015-E CHICKASAW CK-IP WDYD. LOG FLM EF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1340	30.0	144	6.3	65	6	557	111	498
		730620	1420	25.0	110	7.2	66	10	630	82	594
		730621	1405	44.0	150	7.0	71	6	8518	828	8410
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				44.0	150	7.2	71	10	8518	828	8410
MINIMUM				25.0	110	6.3	65	6	557	82	498
MEAN				33.0	135	6.8	67	7	3235	340	3167
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1340	96	59	15	1K	53.0	34.530	34.5	6.9
		730620	1420	80	36	2	1K	36.0	34.530	31.0	6.8
		730621	1405	782	108	46	2	55.0	34.530	32.5	
730619											
NUMBER				3	3	3	3	3	3	3	2
MAXIMUM				782	108	46	2	55.0	34.530	34.5	6.9
MINIMUM				80	36	2	1K	36.0	34.530	31.0	6.8
MEAN				319	68	21		48.0	34.530	32.7	6.8
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-018-E CHICKASAW CK-IP COOLING H20 EFF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1345	40.0K	46	5.9	32	8	489	90	463
		730620	1410	20.0K	42	6.9	44	11	488	14	484
		730621	1400	8.0K	47	6.7	46	13	644	126	605
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				40.0K	47	6.9	46	13	644	126	605
MINIMUM				8.0K	42	5.9	32	8	488	14	463
MEAN					45	6.5	41	11	540	77	517
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L
		730619	1345	80	26	10	1K	10.0	20K	50K
		730620	1410	14	4	1K	1K	15.0	20K	50K
		730621	1400	120	39	6	1K	20.0	20K	20K
730619										
NUMBER				3	3	3	3	3	3	3
MAXIMUM				120	39	10	1K	20.0	20K	50K
MINIMUM				14	4	1K	1K	10.0	20K	20K
MEAN				71	23			15.0		
730621										

DATE	TIME	DATE	TIME	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1345	20K	100K	50K	30	60.430	36.0	6.3
		730620	1410	20K	100K	50K	33	60.430	36.5	6.4
		730621	1400	20K	100K	50K	42	60.430	37.5	
730619										
NUMBER				3	3	3	3	3	3	2
MAXIMUM				20K	100K	50K	42	60.430	37.5	6.4
MINIMUM				20K	100K	50K	30	60.430	36.0	6.3
MEAN							35	60.430	36.7	6.3
730621										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IP-018-I CHICKASAW CK-IP COOLING H2O INF

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	1400	20.0K	58	5.9	32	4	515	98	460
		730620	1425	20.0K	51	7.0	45	12	574	52	554
		730621	1410	5.0	59	6.7	48	10	642	110	556
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				20.0	59	7.0	48	12	642	110	556
MINIMUM				5.0K	51	5.9	32	4	515	52	460
MEAN					56	6.5	42	9	577	87	523
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L
		730619	1400	82	55	16	1K	14.0	20K	50K
		730620	1425	52	20	1K	1K	16.0	20K	50K
		730621	1410	87	86	23	1K	20.0	20K	20K
730619										
NUMBER				3	3	3	3	3	3	3
MAXIMUM				87	86	23	1K	20.0	20K	50K
MINIMUM				52	20	1K	1K	14.0	20K	20K
MEAN				74	54			16.7		
730621										

DATE	TIME	DATE	TIME	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1400	524	100K	50K	87	60.430	33.0	6.5
		730620	1425	432	100K	50K	63	60.430	31.0	6.7
		730621	1410	800	100K	50K	108	60.430	31.0	
730619										
NUMBER				3	3	3	3	3	3	2
MAXIMUM				800	100K	50K	108	60.430	33.0	6.7
MINIMUM				432	100K	50K	63	60.430	31.0	6.5
MEAN				585			86	60.430	31.7	6.6
730621										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-001 CHICKASAW CK-SCOTT WASTE TRT SYS

DATE	TIME		DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730618	1145	(C)	730619	0830	43.0	264	7.1	128	7	685	206	592
730619	0830	(C)	730620	0815	37.0		7.2	102	6	641	199	549
730620	0815	(C)	730621	0730	24.0	218	7.2	94	10	2942	748	2901
730618												
NUMBER					3	2	3	3	3	3	3	3
MAXIMUM					43.0	264	7.2	128	10	2942	748	2901
MINIMUM					24.0	218	7.1	94	6	641	199	549
MEAN					34.7	241	7.2	108	8	1423	384	1347
730621												

DATE	TIME		DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L
730618	1145	(C)	730619	0830	140	93	66	40	115.0	20K	50K	28
730619	0830	(C)	730620	0815	137	92	62	18		20K	50K	24
730620	0815	(C)	730621	0730	725	41	23	1K	10.0	20K	50K	20
730618												
NUMBER					3	3	3	3	2	3	3	3
MAXIMUM					725	93	66	40	115.0	20K	50K	28
MINIMUM					137	41	23	1K	10.0	20K	50K	20
MEAN					334	75	50		62.5			24
730621												

DATE	TIME		DATE	TIME	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	32730 PHENOLS TOTAL UG/L
			730618	0900					40.0	9.3	400
			730619	0830					40.5	7.0	25
730618	1145	(C)	730619	0830	100K	50K	56	54.330			
			730619	1015					40.5	6.8	
			730620	0815					40.5	6.8	
730619	0830	(C)	730620	0815	100K	50K	405	51.090			42
730620	0815	(C)	730621	0730	147	50K	33	55.830			
			730621	0830					38.5		13
730618											
NUMBER					3	3	3	3	5	4	4
MAXIMUM					147	50K	405	55.830	40.5	9.3	400
MINIMUM					100K	50K	33	51.090	38.5	6.8	13
MEAN							165	53.750	40.0	7.5	120
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-001 CHICKASAW CK-SCOTT WASTE TRT SYS

DATE	TIME		DATE	TIME	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00080 COLOR PT-CO UNITS	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730618	0900						700	400
			730618	1130						400	200K
			730618	1315						200K	200K
			730618	1515						3300	1300
			730619	0830						17000	11000
730618	1145	(C)	730619	0830	1.63	0.010	2.68	5.10			
			730619	1015						14000	7000
			730619	1230						2300	2300
			730619	1500						7900	1700
			730620	0815						7000	2800
730619	0830	(C)	730620	0815					1000		
			730620	1030						33000	110
			730620	1230						17000	7000
			730620	1430						130000	2200
730620	0815	(C)	730621	0730	0.48	0.010K	4.05	3.40	700		
730618											
	NUMBER				2	2	2	2	2	12	12
	MAXIMUM				1.63	0.010	4.05	5.10	1000	130000	11000
	MINIMUM				0.48	0.010K	2.68	3.40	700	200K	110K
	MEAN				1.05		3.36	4.25	850		
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-002 CHICKASAW CK-SCOTT BLEACH PLANT

DATE	TIME		DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
730619	1050	(C)	730620	0840	90.0	321	2.4	0	300	1358	558
730620	0840	(C)	730621	0845	62.0	265	2.4	0	300	1266	624
			730622	0840		297	2.4	0	300	1788	980
730619											
NUMBER					2	3	3	3	3	3	3
MAXIMUM					90.0	321	2.4	0	300	1788	980
MINIMUM					62.0	265	2.4	0	300	1266	558
MEAN					76.0	294	2.4	0	300	1471	721
730622											

DATE	TIME		DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L
730619	1050	(C)	730620	0840	1340	540	18	18	1K	121.0	
730620	0840	(C)	730621	0845	1234	602	32	22	1K	112.0	20K
			730622	0840	1770	967	18	13	1K	146.0	
730619											
NUMBER					3	3	3	3	3	3	1
MAXIMUM					1770	967	32	22	1K	146.0	
MINIMUM					1234	540	18	13	1K	112.0	
MEAN					1448	703	23	18		126.3	
730622											

DATE	TIME		DATE	TIME	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLO* MGD	00010 WATER TEMP CENT
			730620	0840							35.0
730619	1050	(C)	730620	0840						6.050	
			730621	0845							36.0
730620	0840	(C)	730621	0845	50K	20K	100K	50K	65	5.830	
			730622	0840	20K					5.920	37.5
730621	0845	(C)	730622	0840						5.920	
730619											
NUMBER					2	1	1	1	1	4	3
MAXIMUM					50K					6.050	37.5
MINIMUM					20K					5.830	35.0
MEAN										5.930	36.2
730622											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-002 CHICKASAW CK-SCOTT BLEACH PLANT

DATE	TIME		DATE	TIME	00400 PH SU	32730 PHENOLS TOTAL UG/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00080 COLOR PT-CO UNITS
			730620	0840	2.5						
730619	1050	(C)	730620	0840		22	0.43	0.090	0.25	0.60	75
			730621	0845		57					
730620	0840	(C)	730621	0845			0.22	0.070	0.40	0.70	65
			730622	0840	2.6	24	0.16	0.080	4.64	0.50	60
730619											
NUMBER					2	3	3	3	3	3	3
MAXIMUM					2.6	57	0.43	0.090	4.64	0.70	75
MINIMUM					2.5	22	0.16	0.070	0.25	0.50	60
MEAN					2.5	34	0.27	0.080	1.76	0.60	67
730622											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-004 CHICKASAW CK-SCOTT WTP STORM SEW

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACIDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
730618	0945	(C)730619	0945	23.0	625	6.6	59	10	1401	481	225	98
730619	0945	(C)730620	0925	20.0K		6.0	14	24	748	344		
730620	0925	(C)730621	0931	40.0K	407	6.5	16	27	1380	464	282	75
730618												
NUMBER				3	2	3	3	3	3	3	2	2
MAXIMUM				23.0	625	6.6	59	27	1401	481	282	98
MINIMUM				20.0K	407	6.0	14	10	748	344	225	75
MEAN					516	6.4	30	20	1176	430	254	87
730621												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L
730618	0945	(C)730619	0945	1176	383	40L	190.0	20K	217	190	100K	50K
730619	0945	(C)730620	0925	928	312	40L		20K	50K	105	100K	50K
730620	0925	(C)730621	0931	1098	389	40L	170.0	20K	100	93	100K	50K
730618												
NUMBER				3	3	3	2	3	3	3	3	3
MAXIMUM				1176	389	40L	190.0	20K	217	190	100K	50K
MINIMUM				928	312	40L	170.0	20K	50K	93	100K	50K
MEAN				1067	361		180.0			129		
730621												

DATE	TIME	DATE	TIME	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
		730618	0945			27.0	7.8				
		730619	0945			31.0	5.6				
730618	0945	(C)730619	0945	180	2.880			1.81	0.080	5.28	5.80
		730620	0925			24.0	6.4				
730619	0945	(C)730620	0925	80	2.790						
		730621	0931			26.5					
730620	0925	(C)730621	0931	88	2.750			1.30	0.080	4.89	0.71
730618											
NUMBER				3	3	4	3	2	2	2	2
MAXIMUM				180	2.880	31.0	7.8	1.81	0.080	5.28	5.80
MINIMUM				80	2.750	24.0	5.6	1.30	0.080	4.89	0.71
MEAN				116	2.807	27.1	6.6	1.55	0.080	5.08	3.25
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-003 CHICKASAW CK-SCOTT PULP MILL

DATE	TIME		DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730618	1210	(C)	730619	0930	66.0	183	8.3	58	0	249	188	176
730619	0930	(C)	730620	0915	71.0	336	10.2	156	0	694	326	672
730620	0915	(C)	730621	1010	44.0	249	9.8	60	0	400	190	325
730618												
NUMBER					3	3	3	3	3	3	3	3
MAXIMUM					71.0	336	10.2	156	0	694	326	672
MINIMUM					44.0	183	8.3	58	0	249	188	176
MEAN					60.3	256	9.4	91	0	448	235	391
730621												

DATE	TIME		DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
			730618	1040							29.5	8.7
			730619	0930							29.5	9.5
730618	1210	(C)	730619	0930	115	73	73	8	66.0	0.160		
			730620	0915							28.0	9.7
730619	0930	(C)	730620	0915	306	22	20	5	180.0	0.400		
			730621	1010							29.5	
730620	0915	(C)	730621	1010	121	75	69	11	70.0	0.230		
730618												
NUMBER					3	3	3	3	3	3	4	3
MAXIMUM					306	75	73	11	180.0	0.400	29.5	9.7
MINIMUM					115	22	20	5	66.0	0.160	28.0	8.7
MEAN					181	57	54	8	105.3	0.263	29.1	9.3
730621												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-007 CHICKASAW CK-SCOTT CEN. MILL DRN

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730619	0905	13.0	23	6.6	10	4	77	26	74
		730620	0855	8.0K	16	7.0	24	1	170	36	167
		730621	0910	8.0K	17	6.9	10	3	140	56	130
730619											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				13.0	23	7.0	24	4	170	56	167
MINIMUM				8.0K	16	6.6	10	1	77	26	74
MEAN					19	6.8	15	3	129	39	124
730621											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	0905	25	3	1	1K	8.0	0.810	35.0	7.3
		730620	0855	35	3	1	1K	6.0	0.810	35.0	6.9
		730621	0910	55	10	1	1K	10.0	0.810	35.0	
730619											
NUMBER				3	3	3	3	3	3	3	2
MAXIMUM				55	10	1	1K	10.0	0.810	35.0	7.3
MINIMUM				25	3	1	1K	6.0	0.810	35.0	6.9
MEAN				38	5	1		8.0	0.810	35.0	7.1
730621											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - S-005 CHICKASAW CK-SCOTT W MILL STM DN

DATE	TIME		DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730618	1015	(C)	730619	1000	127.0	330	4.7	10	38	842	418	740
730619	1000	(C)	730620	0945	134.0	387	3.2	0	108	1106	534	1040
730621	0945	(C)	730622	0900		321	3.2	0	125	1076	311	946
730618												
NUMBER					2	3	3	3	3	3	3	3
MAXIMUM					134.0	387	4.7	10	125	1106	534	1040
MINIMUM					127.0	321	3.2	0	38	842	311	740
MEAN					130.5	346	3.7	3	90	1008	421	909
730622												

DATE	TIME		DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
			730618	1015							30.0	4.1
			730619	1000							35.5	3.1
730618	1015	(C)	730619	1000	336	102	82	1K	108.0	1.070		
			730620	0945							32.0	2.3
730619	1000	(C)	730620	0945	475	66	59	22	125.0	0.760		
			730621	0945							32.0	
			730622	0900							32.0	4.5
730621	0945	(C)	730622	0900	190	130	121	18	180.0	1.160		
730618												
NUMBER					3	3	3	3	3	3	5	4
MAXIMUM					475	130	121	22	180.0	1.160	35.5	4.5
MINIMUM					190	66	59	1K	108.0	0.760	30.0	2.3
MEAN					334	99	87		137.7	0.997	32.3	3.5
730622												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - SC-001 THREEMILE CK-STONE CONTAINER WTS

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730619	1200	(C)730620	1030	525.0	1193	6.2	122	38	1397	553	739
730620	1030	(C)730621	1045	540.0	1010	6.3	132	31	1458	644	1313
730621	1030	(C)730622	1015		538	6.5	150	32	1362	584	1150
730619											
NUMBER				2	3	3	3	3	3	3	3
MAXIMUM				540.0	1193	6.5	150	38	1458	644	1313
MINIMUM				525.0	538	6.2	122	31	1362	553	739
MEAN				532.5	914	6.3	135	34	1406	594	1067
730622											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L
730619	1200	(C)730620	1030	227	658	326	1K	410.0	20K	50K
730620	1030	(C)730621	1045	536	145	108	1K	38.0	20K	50K
730621	1030	(C)730622	1015	446	212	138	1K	400.0		25
730619										
NUMBER				3	3	3	3	3	2	3
MAXIMUM				536	658	326	1K	410.0	20K	50
MINIMUM				227	145	108	1K	38.0	20K	25K
MEAN				403	338	191		282.7		
730622										

DATE	TIME	DATE	TIME	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
		730619	1230						31.0	5.6
		730620	1030						27.0	6.2
730619	1200	(C)730620	1030	48	173	50K	639	0.003		
		730621	1045						30.0	6.1
730620	1030	(C)730621	1045	43	179	50K	595	0.003		
		730622	1015						28.5	6.3
730621	1030	(C)730622	1015					0.003		
730619										
NUMBER				2	2	2	2	3	4	4
MAXIMUM				48	179	50K	639	0.003	31.0	6.3
MINIMUM				43	173	50K	595	0.003	27.0	5.6
MEAN				46	176		617	0.003	29.1	6.0
730622										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - SC-001 THREEMILE CK-STONE CONTAINER WTS

DATE	TIME		DATE	TIME	32730 PHENOLS TOTAL UG/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730619	1230	184					170000	79000
			730620	1030	245					220000	7000
730619	1200	(C)	730620	1030		0.18	0.050	9.15	0.64		
			730620	1300						220000	11000
			730620	1500						170000	7900
			730621	0730						170000	49000
			730621	1045	224						
730620	1030	(C)	730621	1045		0.24	0.010	9.30	0.60		
			730621	1100						350000	46000
			730621	1300						350000	11000
			730621	1500						350000	22000
			730622	0730						540000	79000
			730622	1015	235					350000	79000
730621	1030	(C)	730622	1015		0.10	0.010K	4.38	0.40		
730619											
NUMBER					4	3	3	3	3	10	10
MAXIMUM					245	0.24	0.050	9.30	0.64	540000	79000
MINIMUM					184	0.10	0.010K	4.38	0.40	170000	7000
MEAN					222	0.17		7.61	0.55	289000	39090
730622											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - SC-002 THREEMILE CT-STONE CONT COOL H20

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
		730619	1145	5.0	15	5.4	25	12	121	170	56	150
		730620	1030	6.0	22	6.4	26	12	118	49	117	48
		730621	1040	8.0K	5	6.5	25	17	192	60	187	59
		730622	1000		4K	6.7	29	24	82	20	82	20
730619												
NUMBER				3	4	4	4	4	4	4	4	4
MAXIMUM				6.0	22	6.7	29	24	192	170	187	150
MINIMUM				5.0K	4K	5.4	25	12	82	20	56	20
MEAN						6.2	26	16	128	75	111	69
730622												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLABLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	00080 COLOR PT-CO UNITS
		730619	1145	65	20	1K	6.0	49.0	6.3	0.100	55
		730620	1030	1	1	1K	4.0	52.0	6.4	0.100	
		730621	1040	5	1	1K	4.0	50.0	6.1	0.100	
		730622	1000	1K	1K	1K	2.0	45.0	6.1	0.100	
730619											
NUMBER				4	4	4	4	4	4	4	1
MAXIMUM				65	20	1K	6.0	52.0	6.4	0.100	
MINIMUM				1K	1K	1K	2.0	45.0	6.1	0.100	
MEAN							4.0	49.0	6.2	0.100	
730622											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - MR-001 THREEMILE CK-MOBILE ROSIN OIL

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
		730618	1400	200.0	351	7.0	132	5	391	111	189	58
730618												
NUMBER				1	1	1	1	1	1	1	1	1
MAXIMUM												
MINIMUM												
MEAN												
730618												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	00550 OIL-GRSE TOT-SXLT MG/L	32730 PHENOLS TOTAL UG/L
		730618	1400	202	53	1	98.0	40.0	6.9	0.001K	21.0	65
730618												
NUMBER				1	1	1	1	1	1	1	1	1
MAXIMUM												
MINIMUM												
MEAN												
730618												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - EC-001 IND. CANAL-EAGLE CHEMICAL CO.

DATE	TIME	DATE	TIME	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730625	1415	4K	3.6	0	120	836	750	423
		730626	1055	4K	9.4	98	0	23990	204	23690
730625										
NUMBER				2	2	2	2	2	2	2
MAXIMUM				4K	9.4	98	120	23990	750	23690
MINIMUM				4K	3.6	0	0	836	204	423
MEAN					6.5	49	60	12413	477	12057
730627										

DATE	TIME		DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L
			730625	1415	106	413	44	1K	1.0K		
			730626	1055	172	298	32	1K	1.0		
730625	1416	(C)	730626	1056						30	40K
730625											
NUMBER					2	2	2	2	2	1	1
MAXIMUM					172	413	44	1K	1.0		
MINIMUM					106	298	32	1K	1.0K		
MEAN					139	356	38				
730627											

DATE	TIME		DATE	TIME	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU
			730625	1415					0.010	41.0	3.6
			730626	1055					0.010	42.0	9.2
730625	1416	(C)	730626	1056	70	290	130	170			
			730627	0820					0.010	39.0	9.2
730625											
NUMBER					1	1	1	1	3	3	3
MAXIMUM									0.010	42.0	9.2
MINIMUM									0.010	39.0	3.6
MEAN									0.010	40.7	7.3
730627											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - GC-001 THREEMILE CK-GULFPORT CREOSOTING

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
		730618	0755	2115.0	3228	4.8	162	394	1227	832
		730619	0755	1700.0	3380	4.7	137	725	1377	947
		730620	0755	1750.0	3524	4.7	116	425	1309	884
730618										
NUMBER				3	3	3	3	3	3	3
MAXIMUM				2115.0	3524	4.8	162	725	1377	947
MINIMUM				1700.0	3228	4.7	116	394	1227	832
MEAN				1855.0	3377	4.7	138	515	1304	888
730620										

DATE	TIME	DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L
		730618	0755	966	704	261	128	1	1265.0
		730619	0755	1216	820	161	127	1K	1290.0
		730620	0755	1171	752	138	132	1K	1280.0
730618									
NUMBER				3	3	3	3	3	3
MAXIMUM				1216	820	261	132	1	1290.0
MINIMUM				966	704	138	127	1K	1265.0
MEAN				1118	759	187	129		1278.3
730620									

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	00550 OIL-GRSE TOT-SXLT MG/L	32730 PHENOLS TOTAL UG/L	00080 COLOR PT-CO UNITS
		730618	0755	28.0	4.5	0.005	10.0		
		730619	0755	29.5	4.6	0.005	12.0	39300	375
		730620	0755	29.5	4.5	0.005	5.0K	31000	
730618									
NUMBER				3	3	3	3	2	1
MAXIMUM				29.5	4.6	0.005	12.0	39300	
MINIMUM				28.0	4.5	0.005	5.0K	31000	
MEAN				29.0	4.5	0.005		35150	
730620									

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001 MOBILE R-ALCOA PLANT EFFLUENT

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L
730618	0950	(C)730618	1035	44.0	124	11.2	625	0	1248	301
730619	0831	(C)730619	0915		156	5.9	84	92	2290	316
730620	0820	(C)730620	0915	34.0	124	8.8	206	0	1395	128
730618										
NUMBER				2	3	3	3	3	3	3
MAXIMUM				44.0	156	11.2	625	92	2290	316
MINIMUM				34.0	124	5.9	84	0	1248	128
MEAN				39.0	135	8.6	305	31	1644	248
730620										

DATE	TIME	DATE	TIME	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L
730618	0950	(C)730618	1035	1196	290	52	11	1K	54.0	
730619	0831	(C)730619	0915	1756	264	534	152		60.0	
730620	0820	(C)730620	0915	1141	36	254	92	40L	42.0	
730618	0951	(C)730620	0916							20K
730618										
NUMBER				3	3	3	3	2	3	1
MAXIMUM				1756	290	534	152	40L	60.0	
MINIMUM				1141	36	52	11	1K	42.0	
MEAN				1364	197	280	85		52.0	
730620										

DATE	TIME	DATE	TIME	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD
730618	0950	(C)730618	1035						0.800
730619	0831	(C)730619	0915						0.800
730620	0820	(C)730620	0915						0.800
730618	0951	(C)730620	0916	100	20	100K	90	20	
730618									
NUMBER				1	1	1	1	1	3
MAXIMUM									0.800
MINIMUM									0.800
MEAN									0.800
730620									

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001A MOBILE R-ALCOA PUMP C DISCHARGE

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	1010	30.0	11.2	0.230
		730619	0850	27.0	11.7	0.230
		730620	0820	26.0	11.8	0.230
730618						
	NUMBER			3	3	3
	MAXIMUM			30.0	11.8	0.230
	MINIMUM			26.0	11.2	0.230
	MEAN			27.7	11.6	0.230
730620						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001B MOBILE R-ALCOA PRESS LEAF DISCH.

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	0950	28.0	2.1	0.014
		730619	0845	39.0	0.9	0.014
730618						
NUMBER				2	2	2
MAXIMUM				39.0	2.1	0.014
MINIMUM				28.0	0.9	0.014
MEAN				33.5	1.5	0.014
730619						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001C MOBILE R-ALCOA PUMP B DISCHARGE.

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	1015	31.0	9.6	0.200
		730619	0900	28.0	9.7	0.200
		730620	0835	29.0	9.3	0.200
730618						
NUMBER				3	3	3
MAXIMUM				31.0	9.7	0.200
MINIMUM				28.0	9.3	0.200
MEAN				29.3	9.5	0.200
730620						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001D MOBILE R-ALCOA POWER HOUSE DISCH

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	1025	65.5	8.4	0.500
		730619	0915	53.0	8.2	0.500
		730620	0845	51.0	8.6	
730618						
NUMBER				3	3	2
MAXIMUM				65.5	8.6	0.500
MINIMUM				51.0	8.2	0.500
MEAN				56.5	8.4	0.500
730620						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001E MOBILE R-ALCOA HEATER ACID DISCH

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730619	0831	41.0	1.6	0.002
		730620	0850	39.0	1.0	
730619						
NUMBER				2	2	1
MAXIMUM				41.0	1.6	
MINIMUM				39.0	1.0	
MEAN				40.0	1.3	
730620						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IC-001 MOBILE R-IDEAL CEM. PRO. WST&SEW

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
		730618	0900	20.0K	22	9.0	124	0	812	95	812	95
		730619	0935	8.0K	31	8.8	170	0	893	182	815	174
		730620	0930	20.0K	46	8.9	104	0	683	66	651	60
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				20.0K	46	9.0	170	0	893	182	815	174
MINIMUM				8.0K	22	8.8	104	0	683	66	651	60
MEAN					33	8.9	133	0	796	114	759	110
730620												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730618	0900	1K	1K	1	7.0	0.830	32.0	8.8	350000	17000
		730619	0935	78	8	1K	10.0	0.830	32.0	8.9	700000	79000
		730620	0930	32	6	1K	6.0	0.830	28.0	8.6	70000	17000
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				78	8	1	10.0	0.830	32.0	8.9	700000	79000
MINIMUM				1K	1K	1K	6.0	0.830	28.0	8.6	70000	17000
MEAN							7.7	0.830	30.7	8.8	373333	37667
730620												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - A-001F MOBILE R-ALCOA PUMP A DISCHARGE

DATE	TIME	DATE	TIME	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	1035	30.0	11.8	0.057
		730619	0905	28.0	12.2	0.057
		730620	0915	27.0	12.4	
730618						
NUMBER				3	3	2
MAXIMUM				30.0	12.4	0.057
MINIMUM				27.0	11.8	0.057
MEAN				28.3	12.1	0.057
730620						

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - IC-002 MOBILE R-IDEAL CEMENT PROC. WST.

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730618	0915	8.0K	108	12.9	1050	0	6580	72	6280
		730619	0930	8.0K	58	12.2	825	0	7097	337	6643
		730620	0925	20.0K	85	12.5		0	6138	243	5695
730618											
NUMBER				3	3	3	2	3	3	3	3
MAXIMUM				20.0K	108	12.9	1050	0	7097	337	6643
MINIMUM				8.0K	58	12.2	825	0	6138	72	5695
MEAN					84	12.5	938	0	6605	217	6206
730620											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD
		730618	0915	57	300	15	7	4.0	26.0	12.0	0.260
		730619	0930	322	454	15	15	4.0	26.0	11.2	0.080
		730620	0925	200	453	43	35	24.0	26.0	12.2	0.080
730618											
NUMBER				3	3	3	3	3	3	3	3
MAXIMUM				322	454	43	35	24.0	26.0	12.2	0.260
MINIMUM				57	300	15	7	4.0	26.0	11.2	0.080
MEAN				193	402	24	19	10.7	26.0	11.8	0.140
730620											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - CA-001 MOBILE R-CHEVRON ASPHALT COMPANY

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
		730618	1300	20.0	17	6.5	34	12	261	63	201
		730620	1000	20.0K	23	7.1	36	2	311	74	284
730618											
NUMBER				2	2	2	2	2	2	2	2
MAXIMUM				20.0	23	7.1	36	12	311	74	284
MINIMUM				20.0K	17	6.5	34	2	261	63	201
MEAN					20	6.8	35	7	286	69	243
730620											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU
		730618	1300	27	60	36	1K	10.0	29.0	7.2
		730619	1000						28.0	6.6
		730620	1000	54	27	20	1K	10.0	27.0	6.8
730618										
NUMBER				2	2	2	2	2	3	3
MAXIMUM				54	60	36	1K	10.0	29.0	7.2
MINIMUM				27	27	20	1K	10.0	27.0	6.6
MEAN				41	44	28		10.0	28.0	6.9
730620										

DATE	TIME	DATE	TIME	50051 FLOW RATE INST MGD	00550 OIL-GRSE TOT-SXLT MG/L	32730 PHENOLS TOTAL UG/L	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
		730618	1300	1.310	5.0K	5K	0.03	0.260	0.36	0.11
		730619	1000	1.310	5.0K	20				
		730620	1000	1.310	9.0	133	0.10	0.270	0.40	0.11
730618										
NUMBER				3	3	3	2	2	2	2
MAXIMUM				1.310	9.0	133	0.10	0.270	0.40	0.11
MINIMUM				1.310	5.0K	5K	0.03	0.260	0.36	0.11
MEAN				1.310			0.06	0.265	0.38	0.11
730620										

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - AW-001 MOBILE BAY-ALA. WOOD PRE. RE.SYS

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
		730619	1420	1132.0	936	4.9	48	40	1011	786	599	578
		730621	0830	1216.0	3059	4.8	46	125	1168	802	876	547
730619												
NUMBER				2	2	2	2	2	2	2	2	2
MAXIMUM				1216.0	3059	4.9	48	125	1168	802	876	578
MINIMUM				1132.0	936	4.8	46	40	1011	786	599	547
MEAN				1174.0	1998	4.8	47	83	1090	794	738	563
730621												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	00550 OIL-GRSE TOT-SXLT MG/L	32730 PHENOLS TOTAL UG/L
		730619	1420	412	208	40L	956.0	34.0	4.3	0.010	370.0	148000
		730621	0830	292	255	1K	1120.0			0.010	322.0	122000
730619												
NUMBER				2	2	2	2	1	1	2	2	2
MAXIMUM				412	255	40L	1120.0			0.010	370.0	148000
MINIMUM				292	208	1K	956.0			0.010	322.0	122000
MEAN				352	232		1038.0			0.010	346.0	135000
730621												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - AW-002 MOBILE BAY-ALA. WOOD COND. WATER

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L	00520 RESIDUE VOL FLT MG/L
		730618	0800	15.0	8	8.8	30	0	152	66	149	66
		730619	1430	8.0K	4	7.6	14	1	128	14	73	3
		730620	1330	11.0	14	7.3	15	1	164	34	164	34
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				15.0	14	8.8	30	1	164	66	164	66
MINIMUM				8.0K	4	7.3	14	0	128	14	73	3
MEAN					9	7.9	20	1	148	38	129	34
730620												

DATE	TIME	DATE	TIME	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	00550 OIL-GRSE TOT-SXLT MG/L	32730 PHENOLS TOTAL UG/L
		730618	0800	3	1K	1K	1.0	29.0	6.8	0.130	5.0K	565
		730619	1430	55	11	1K	3.0	30.0	7.4	0.130	5.0K	51
		730620	1330	1K	1K	1K	6.0	32.0	6.9	0.130	5.0K	95
730618												
NUMBER				3	3	3	3	3	3	3	3	3
MAXIMUM				55	11	1K	6.0	32.0	7.4	0.130	5.0K	565
MINIMUM				1K	1K	1K	1.0	29.0	6.8	0.130	5.0K	51
MEAN							3.3	30.3	7.0	0.130		237
730620												

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - NG-001 MOBILE BAY-NATIONAL GYPSUM

DATE	TIME		DATE	TIME	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00080 COLOR PT-CO UNITS	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730618	0730						9200000	110000
			730618	1000						16000000	79000
			730618	1300						24000000L	130000
			730618	1500						24000000L	130000
			730619	0740						24000000L	220000
730618	0700	(C)	730619	0740	3.80	0.010	15.10	2.00	747		
			730619	1000						17000000	130000
			730619	1300						4600000	130000
			730619	1500						7900000	70000
			730620	0730						7900000	33000
730619	0730	(C)	730620	0730	4.50	0.010	17.20	2.80			
			730620	1000						2800000	15000
			730620	1300						4600000	14000
			730620	1530						3300000	2000
730618											
NUMBER					2	2	2	2	1	12	12
MAXIMUM					4.50	0.010	17.20	2.80		24000000L	220000
MINIMUM					3.80	0.010	15.10	2.00		2800000	2000
MEAN					4.15	0.010	16.15	2.40			88583
730620											

APPENDIX E-II

INDUSTRIAL WASTE SOURCE DATA
MOBILE RIVER AND TRIBUTARIES

STATION - NG-001 MOBILE BAY-NATIONAL GYPSUM

DATE	TIME	DATE	TIME	00310 BOD 5 DAY MG/L	00340 COD HI LEVEL MG/L	00403 LAB PH SU	00410 T ALK CACO3 MG/L	00435 T ACDITY CACO3 MG/L	00500 RESIDUE TOTAL MG/L	00505 RESIDUE TOT VOL MG/L	00515 RESIDUE DISS-105 C MG/L
730618	0700	(C)730619	0740	260.0	959	8.0	199	6	3121	427	3037
730619	0730	(C)730620	0730	250.0	944	8.0	325	8	3116	319	2718
730618											
	NUMBER			2	2	2	2	2	2	2	2
	MAXIMUM			260.0	959	8.0	325	8	3121	427	3037
	MINIMUM			250.0	944	8.0	199	6	3116	319	2718
	MEAN			255.0	952	8.0	262	7	3119	373	2878
730620											

DATE	TIME	DATE	TIME	00520 RESIDUE VOL FLT MG/L	00530 RESIDUE TOT NFLT MG/L	00535 RESIDUE VOL NFLT MG/L	00545 RESIDUE SETTLBLE ML/L	00680 T ORG C C MG/L	01027 CADMIUM CD,TOT UG/L	01034 CHROMIUM CR,TOT UG/L	01042 COPPER CU,TOT UG/L
730618	0700	(C)730619	0740	355	84	72	1K	315.0	20K	50K	23
730619	0730	(C)730620	0730	171	398	148		290.0	20K	50K	30
730618											
	NUMBER			2	2	2	1	2	2	2	2
	MAXIMUM			355	398	148		315.0	20K	50K	30
	MINIMUM			171	84	72		290.0	20K	50K	23
	MEAN			263	241	110		302.5			27
730620											

DATE	TIME	DATE	TIME	01051 LEAD PB,TOT UG/L	01067 NICKEL NI,TOTAL UG/L	01092 ZINC ZN,TOT UG/L	50050 CONDUIT FLOW MGD	00010 WATER TEMP CENT	00400 PH SU	50051 FLOW RATE INST MGD	32730 PHENOLS TOTAL UG/L
		730618	0730					29.0	7.4	1.010	25
		730619	0740					33.0	6.8	1.020	95
730618	0700	(C)730619	0740	100K	50K	1337	1.010				
		730620	0730					29.0	7.1	1.020	25
730619	0730	(C)730620	0730	243	50K	98	1.010				
730618											
	NUMBER			2	2	2	2	3	3	3	3
	MAXIMUM			243	50K	1337	1.010	33.0	7.4	1.020	95
	MINIMUM			100K	50K	98	1.010	29.0	6.8	1.010	25
	MEAN					718	1.010	30.3	7.1	1.017	48
730620											

APPENDIX E-III

SPARK SOURCE SCAN

APPENDIX E-III

SPARK SOURCE SCAN METAL ANALYSIS
ALUMINUM COMPANY OF AMERICA
COMPOSITE DISCHARGE

Element	µg/L
Uranium	<1
Thorium	5
Lead	22
Tungsten	24
Praseodymium	1
Neodymium	4
Cerium	9
Lanthanum	3
Barium	30
Molybdenum	780
Niobium	4
Antimony	<1
Silver	<1
Zirconium	53
Strontium	103
Rubidium	4
Bromine	18
Selenium	<19
Arsenic	107
Gallium	417
Zinc	<83
Copper	31
Nickel	<1000
Cobalt	15
Iron	Off Scale
Manganese	44
Chromium	164
Vanadium	168
Titanium	494
Scandium	50
Calcium	Off Scale
Potassium	"
Chlorine	"
Sulfur	"
Silicon	"
Aluminum	"
Sodium	"
Fluorine	"
Boron	62
*Beryllium	18
*Lithium	4

* - Not Confirmed

APPENDIX E-IV

ORGANIC COMPOUNDS IDENTIFIED

APPENDIX E-IV
ORGANIC COMPOUNDS IDENTIFIED IN
INDUSTRIAL WASTE DISCHARGES

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
National Gypsum Co. (NG-001)						
"	di-isopropyl ether	estimated 0.025	miscible[1]	toxic[1]	unknown	similar to ethyl ether
"	n-propanol	estimated 1.1	miscible	oral - human LD[5] 8 mg/kg	unknown	detection by odor in[4] water 9 ppm
"	dehydroabietic acid	---------	insoluble	unknown	unknown	no odor
"	palmitic acid	estimated 0.13	insoluble	practically non-toxic[2]	unknown	no odor
"	stearic acid	estimated <0.1	insoluble	practically non-toxic	unknown	no odor
"	oleic acid	estimated 0.1	insoluble	practically non-toxic	unknown	no odor
International Paper Co. (IP-12)	di-isooctyl phthalate	estimated 0.36	insoluble	unknown	unknown	unknown
"	camphor	---------	insoluble	moderately toxic[1]	unknown	minimum detectable conc[3] that can be tasted 1.9 mg/L

ORGANIC COMPOUNDS IDENTIFIED AND ENVIRONMENTAL EFFECTS OF EACH

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
International Paper Co.(IP-12)	pimaric acid	est. 0.640	insoluble	unknown	unknown	no odor
"	iso-pimaric acid	est. 0.29	insoluble	unknown	unknown	no odor
"	dehydroabietic acid	2.7	insoluble	unknown	unknown	no odor
"	Vanillin	est. 1.6	slightly soluble	low toxicity [1]	unknown	odor threshold for water is 0.15 mg/L [3]
"	acetovanillon	est. 0.49	soluble	unknown	unknown	similar to vanillin
"	acetosyringone	est. 0.14	soluble in hot water	unknown [2]	unknown	slight odor [4]
"	methyl ethyl ketone	est. 2.2	soluble	oral LD 50 for rats 3.98 gm per kg [3]	Bluegill in tap water @ 20°C visibly affected at 3380 mg/L [3]	detection by odor in water 50 ppm [4]
"	methyl propyl ketone	--	slightly soluble [1]	moderately toxic [1]	unknown	unknown

ORGANIC COMPOUNDS IDENTIFIED AND ENVIRONMENTAL EFFECTS OF EACH

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
International Paper Co. (IP-12)	borneol	---	slightly soluble	very toxic - probable lethal dose for humans 50-500 mg/kg [2]	unknown	unknown
"	diethyl phthalate	estimated 0.018	insoluble	moderately toxic by ingestion [1]	unknown	unknown
"	dibenzyl amine	estimated 0.007	insoluble	unknown	unknown	unknown
"	fenchyl alcohol	---	slightly soluble	unknown	unknown	unknown
"	octa sulfur	---	insoluble	relatively non toxic [3]	1600 mg/L of colloidal sulfur in tap water fatal to goldfish 3.5 to 5.25 hrs [3]	unknown
"	palmitic acid	0.17	insoluble	practically non toxic - probable lethal dose >15 gm/kg	unknown	no odor
"	methyl benzoate	estimated 0.016	insoluble	highly toxic by ingestion and inhalation [1]	unknown	fragrant odor [1]
"	Alpha terpineol	0.30	slightly soluble	moderately toxic - probable lethal dose for humans: 500 mg-5g/kg/2	unknown	odor detection in water 350 parts per billion [4]
"	o-methoxy phenol	1.4	moderately soluble	very toxic - probably lethal dose for humans 50-500 mg/kg [2]	killing strength for perch 70-80 mg/l [3]	odor threshold for water 30°C is 0.002 mg/L
"	stearic acid	0.15	insoluble	practically non toxic	unknown	no odor

ORGANIC COMPOUNDS IDENTIFIED AND ENVIRONMENTAL EFFECTS OF EACH

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
International Paper Co.(IP-12)	chloroform	-----	slightly soluble	Prolonged ingestion may be fatal [1]	unknown	sweet taste [1] characteristic odor
"	2-ethyl-1-hexanol	est. 0.067	insoluble	low toxicity [1]	unknown	unknown
"	Terpinene-4-01	est. 0.02	insoluble	unknown	unknown	No data
"	dimethyl disulfide	est. 0.2	insoluble	unknown	unknown	stench
"	dimethyl trisulfide	---	unknown	unknown	unknown	stench
Scott Paper Co. (S-002)						
"	chloroform	est. 0.27	slightly soluble	Prolonged ingestion may be fatal [1]	unknown	sweet taste [1] characteristic odor
"	methanol	est. 4.8	miscible	Very toxic to man - small amounts lead to blindness;10ml has caused death [3]	Trout can withstand 10,000 ppm in tap water 2 hours without apparent injury	No data
Scott Paper Co. (S-001)						
"	chloroform	est. 1.7	slightly soluble	Prolonged ingestion may be fatal [1]	unknown	sweet taste [1] characteristic odor

ORGANIC COMPOUNDS IDENTIFIED AND ENVIRONMENTAL EFFECTS OF EACH

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
Scott Paper S-001	dimethyl disulfide	est. 0.028	insoluble	unknown	unknown	stench
"	dimethyl trisulfide	-----	----------	unknown	unknown	stench
"	camphor	est. 0.015	insoluble	moderately toxic [1]	unknown	minimal detectable conc that can be tasted in water 1.9 mg/L [3]
"	terpineol	est. 0.023	slightly soluble	moderately toxic - probable lethal dose for humans: 500 mg-5g/kg [2]	unknown	odor detection in water 350 parts per billion [4]
"	dibenzylamine	est. 0.008	insoluble	unknown	unknown	unknown
Stone Container SC-1	acetaldehyde	est. 0.68	miscible	oral LD 50 for rats 1.93 grams per kg body weight [3]	Bluegill in salt water 18-20°C - 96 hr TLM 53 mg/L [2]	taste detection in water 130 ppm; odor detection limit in water $4X10^{-3}$ ppm [4]
"	methyl ethyl ketone	-----	soluble	oral LD 50 for rats 3.98 gm per kg [3]	Bluegill in tap water @ 20°C visibly affected at 3380 mg/L [3]	detection by odor in water 50 ppm [4]
"	isopropyl alcohol	-----	soluble	unknown	unknown	unknown

ORGANIC COMPOUNDS IDENTIFIED AND ENVIRONMENTAL EFFECTS OF EACH

Industry or Source	Organic Compound	Conc. Found mg/L	Solubility	Toxicity Data mg/kg of Body Weight	Fish Toxicity mg/L	Taste & Odor
Stone Container SC-1	n-propyl alcohol	est. 0.75	miscible	oral; man LD 8 mg/kg [5]	unknown	detection by odor in water 9.0 ppm [4]
"	diethyl phthalate	est. 0.11	insoluble	moderately toxic by ingestion [1]	unknown	unknown
"	meta or para cresol	est. 0.079	soluble in hot water	very toxic; probable lethal dose to man 50-500 mg/kg [2]	48 hr TLM for flathead minnows is 24 mg/L [3]	detection by odor in water for meta cresol is 0.68 ppm [4]
"	hydrocinnamic acid	-----	soluble	unknown	unknown	hyacinth - rose odor [1]

1/ The Condensed Chemical Dictionary, Van Nostrand Reinhold Co., New York, New York 8th Ed., 1971.

2/ Gleason, Gosselin, Hodge & Smith, Clinical Toxicology of Commercial Products, The Williams & Wilkins Co., Baltimore, Maryland 3rd Ed., 1969.

3/ California Water Quality Criteria, California Water Resources Control Board, Publ. 2-A, 2nd Ed. 1963.

4/ Compilation of Odor and Taste Threshold Values Data, American Society for Testing and Materials, Philadelphia, PA, 1973.

5/ Toxic Substances List, 1972 Ed., US Dept of Health, Education and Welfare, National Institute for Occupational Safety and Health, Rockville, Maryland, June, 1972.

APPENDIX F

WATER QUALITY DATA

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

AGENCY	PRIMARY STATION	SECONDARY	STATION LOCATION	STATE	MINOR BASIN
11135000	015070	01	MOBILE R AT L&N RAILROAD BRIDGE	ALABAMA	MOBILE RIVER BASIN
	015060	02	MOBILE R AT LOWER END 12 MI. IS.	ALABAMA	MOBILE RIVER BASIN
	015050	03	MOBILE R BTWN CHICK. CK&SPAIN. R	ALABAMA	MOBILE RIVER BASIN
	015040	04	MOBILE R AT BAY BRIDGE	ALABAMA	MOBILE RIVER BASIN
	015030	05	MOBILE R AT ALABAMA STATE DOCKS	ALABAMA	MOBILE RIVER BASIN
	015020	06	MOBILE R AT BANKHEAD TUNNEL	ALABAMA	MOBILE RIVER BASIN
	015010	07	MOBILE R AT CHOCTAW POINT	ALABAMA	MOBILE RIVER BASIN
	015000	08	MOBILE BAY NAVIGATION CHANNEL	ALABAMA	MOBILE RIVER BASIN
	015160	09	CHICKASAW CK AT SHELTON BEACH HY	ALABAMA	MOBILE RIVER BASIN
	015150	10	CHICKASAW CK AT US HWY 43 BRIDGE	ALABAMA	MOBILE RIVER BASIN
	015140	11	CHICKASAW CK AT END OF SHIPYARD	ALABAMA	MOBILE RIVER BASIN
	015130	12	CHICKASAW CK BELOW HOG BAYOU	ALABAMA	MOBILE RIVER BASIN
	015120	13	CHICKASAW CK AT MOUTH-L&N RR BRD	ALABAMA	MOBILE RIVER BASIN
	015110	14	THREEMILE CK-RR BRIDGE AT MI 6.4	ALABAMA	MOBILE RIVER BASIN
	015100	15	THREEMILE CK AT US HWY 45 BRIDGE	ALABAMA	MOBILE RIVER BASIN
	015090	16	THREEMILE CK AT US HWY 43 BRIDGE	ALABAMA	MOBILE RIVER BASIN
	015080	17	THREEMILE CK AT L&N RR BRIDGE	ALABAMA	MOBILE RIVER BASIN

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

PARAMETER	DESCRIPTION
00003	SAMPLING STATION LOCATION, VERTICAL (FEET)
00002	X-SEC. LOC., HORIZ (% FROM R BANK LOOK UPSTR.)
70211	TIDE, HIGH OR LOW,BEFORE OR AFTER,HOUR,MINUTE*
00010	TEMPERATURE, WATER (DEGREES CENTIGRADE)
00070	TURBIDITY, (JACKSON CANDLE UNITS)
00300	OXYGEN, DISSOLVED (MG/L)
00310	BIOCHEMICAL OXYGEN DEMAND (MG/L, 5 DAY - 20DEG C)
00403	PH (STANDARD UNITS) LAB
00610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)
00630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)
00635	NITROGEN, AMMONIA&ORG., TOTAL 1 DET (MG/L AS N)
00665	PHOSPHORUS, TOTAL (MG/L AS P)
00680	CARBON, TOTAL ORGANIC (MG/L AS C)
00940	CHLORIDE (MG/L AS CL)
31505	COLIFORM,TOT,MPN,CONFIRMED TEST,35C (TUBE 31506)
31615	FECAL COLIFORM,MPN,EC MED,44.5C (TUBE 31614)
00003	DEPTH IN FEET
00400	PH (STANDARD UNITS)

* First Digit - 1 = highwater slack
2 = low water slack

Second Digit - 0 = ± 3 hours
1 = ± 2 hours
2 = ± 1 hour
3 = ± 40 minutes
4 = ± 20 minutes
5 = ± 10 minutes
6 = ± 5 minutes

Third Digit - 0 = no remark

Fourth Digit - 0 = no remark

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 01 MOBILE R AT L&N RAILROAD BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	1028	1	50	1100	28.5		6.7		
			730624	1029	12	50	1100	28.0		6.7		
			730624	1030	24	50	1100	28.0		6.7		
730624	1028	(C)	730624	1030			1100		40			6.8
			730624	2155	1	50	2000			5.6		
			730624	2156	17	50	2000			5.7		
			730624	2157	34	50	2000			5.8		
730624	2155	(C)	730624	2157			2000		51			6.6
			730625	0925	1	50	1200	28.0		6.2		
			730625	0926	12	50	1200	28.0		6.3		
			730625	0927	23	50	1200	28.0		6.2		
730625	0925	(C)	730625	0927			1200		39			6.8
			730625	1955	1	50	2600	28.5		6.4		
			730625	1956	9	50	2600	28.5		6.5		
			730625	1957	17	50	2600	28.5		6.4		
730625	1955	(C)	730625	1957			2600		38			7.1
			730626	1018	1	50	1400	28.0		6.0		
			730626	1019	13	50	1400	28.0		6.1		
			730626	1020	26	50	1400	28.0		5.9		
730626	1018	(C)	730626	1020			1400		40			8.9
			730626	1954	1	50	2200	28.5		6.0		
			730626	1955	8	50	2200	28.5		6.0		
			730626	1956	15	50	2200	28.5				
730626	1954	(C)	730626	1956			2200		42			6.7
			730627	1113	1	50	1200	29.0		5.9		
			730627	1114	15	50	1200	29.0		6.0		
			730627	1115	30	50	1200	29.0		5.9		
730627	1113	(C)	730627	1115			1200		34		1.2	6.8
			730627	2000	1	50	2100	28.0		5.6		
			730627	2001	13	50	2100	28.0		5.5		
			730627	2002	25	50	2100	28.0		5.6		
730627	2000	(C)	730627	2002			2100		34		0.7	6.7
730624												
NUMBER								21	8	23	2	8
MAXIMUM								29.0	51	6.7	1.2	8.9
MINIMUM								28.0	34	5.5	0.7	6.6
LOG MEAN								28.3	39	6.1	0.9	7.0
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 01 MOBILE R AT L&N RAILROAD BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	1028	(C)730624	1030			1100	0.10	0.38	0.30	0.08
730624	2155	(C)730624	2157			2000	0.06	0.34	0.35	0.10
730625	0925	(C)730625	0927			1200	0.03	0.34	0.24	0.08
730625	1955	(C)730625	1957			2600	0.06	0.34	0.33	0.07
730626	1018	(C)730626	1020			1400	0.03	0.32	0.28	0.08
730626	1954	(C)730626	1956			2200	0.07	0.32	0.40	0.07
730627	1113	(C)730627	1115			1200	0.02	0.32	0.25	0.09
730627	2000	(C)730627	2002			2100	0.01	0.32	0.37	0.06
730624										
NUMBER							8	8	8	8
MAXIMUM							0.10	0.38	0.40	0.10
MINIMUM							0.01	0.32	0.24	0.06
LOG MEAN							0.04	0.33	0.31	0.08
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	1028	1	50	1100		8.0	230	50
		730624	1029	12	50	1100		8.0		
		730624	1030	24	50	1100		7.0		
730624	1028	(C)730624	1030			1100	6.0			
		730624	2155	1	50	2000		7.0	790	60
		730624	2156	17	50	2000		13.0		
		730624	2157	34	50	2000		7.0		
730624	2155	(C)730624	2157			2000	4.0			
		730625	0925	1	50	1200		6.0	230	80
		730625	0926	12	50	1200		6.0		
		730625	0927	23	50	1200		6.0		
730625	0925	(C)730625	0927			1200	3.0			
		730625	1955	1	50	2600		7.0	1100	80
		730625	1956	9	50	2600		7.0		
		730625	1957	17	50	2600		7.0		
730625	1955	(C)730625	1957			2600	3.0			
		730626	1018	1	50	1400		8.0	490	170
		730626	1019	13	50	1400		6.0		
		730626	1020	26	50	1400		6.0		
730626	1018	(C)730626	1020			1400	4.0			
		730626	1954	1	50	2200		12.0	130	20K
		730626	1955	8	50	2200		6.0		
		730626	1956	15	50	2200		6.0		
730626	1954	(C)730626	1956			2200	4.0			
		730627	1113	1	50	1200		7.0	130	20K
		730627	1114	15	50	1200		7.0		
		730627	1115	30	50	1200		7.0		
730627	1113	(C)730627	1115			1200	4.0			
		730627	2000	1	50	2100		7.0		
		730627	2001	13	50	2100		7.0		
		730627	2002	25	50	2100		11.0		
730627	2000	(C)730627	2002			2100	3.0			
730624										
NUMBER							8	24	7	7
MAXIMUM							6.0	13.0	1100	170
MINIMUM							3.0	6.0	130	20K
LOG MEAN							3.8	7.3	325	54
[illegible]627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 02 MOBILE R AT LOWER END 12 MI. IS. MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	1010	1	50	1100	28.0		6.7		
			730624	1011	18	50	1100	28.0		6.4		
			730624	1012	36	50	1100	28.0		6.6		
730624	1010	(C)	730624	1012			1100		30			6.8
			730624	2130	1	50	2000	28.0		5.7		
			730624	2131	15	50	2000	28.0		6.0		
			730624	2132	29	50	2000	28.0		5.8		
730624	2130	(C)	730624	2132			2000		31			6.8
			730625	0905	1	50	1200	28.0		6.5		
			730625	0906	18	50	1200	28.0		6.3		
			730625	0907	35	50	1200	28.0		6.3		
730625	0905	(C)	730625	0907			1200		30			6.9
			730625	1936	1	50	2500	28.5		6.3		
			730625	1937	16	50	2500	28.5		6.4		
			730625	1938	31	50	2500	28.5		6.4		
730625	1936	(C)	730625	1938			2500		28			7.0
			730626	1000	1	50	1600	28.5		5.9		
			730626	1001	19	50	1600	28.0		6.3		
			730626	1002	38	50	1600	28.0		6.1		
730626	1000	(C)	730626	1002			1600		28			7.1
			730626	1936	1	50	2200	28.5		5.9		
			730626	1937	14	50	2200	28.5		6.0		
			730626	1938	28	50	2200	28.5		6.1		
730626	1936	(C)	730626	1938			2200		32			6.8
			730627	1110	1	50	1200	30.0		6.6		
			730627	1111	18	50	1200	29.0		6.1		
			730627	1112	35	50	1200	28.0		1.0		
730627	1110	(C)	730627	1112			1200		18		0.7	7.1
			730627	2255	1	50	2200	28.0		5.6		
			730627	2256	14	50	2200	28.0		5.5		
			730627	2257	27	50	2200	28.0		5.6		
730627	2255	(C)	730627	2257			2200		48		0.7	6.8
730624												
NUMBER								24	8	24	2	8
MAXIMUM								30.0	48	6.7	0.7	7.1
MINIMUM								28.0	18	1.0	0.7	6.8
LOG MEAN								28.3	30	5.7	0.7	6.9
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 02 MOBILE R AT LOWER END 12 MI. IS. MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	1010	(C)	730624	1012			1100	0.03	0.38	0.50	0.06
730624	2130	(C)	730624	2132			2000	0.05	0.35	0.23	0.07
730625	0905	(C)	730625	0907			1200	0.02	0.35	0.30	0.08
730625	1936	(C)	730625	1938			2500	0.02	0.33	0.24	0.06
730626	1000	(C)	730626	1002			1600	0.02	0.31	0.22	0.11
730626	1936	(C)	730626	1938			2200	0.02	0.32	0.25	0.06
730627	1110	(C)	730627	1112			1200	0.12	0.23	0.31	0.05
730627	2255	(C)	730627	2257			2200	0.01	0.30	0.25	0.06
730624											
	NUMBER							8	8	8	8
	MAXIMUM							0.12	0.38	0.50	0.11
	MINIMUM							0.01	0.23	0.22	0.05
	LOG MEAN							0.03	0.32	0.28	0.07
730627											

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730624	1010	1	50	1100		8.0	54000	790
			730624	1011	18	50	1100		8.0		
			730624	1012	36	50	1100		8.0		
730624	1010	(C)	730624	1012			1100	6.0			
			730624	2130	1	50	2000		9.0	230	50
			730624	2131	15	50	2000		37.0		
			730624	2132	29	50	2000		8.0		
730624	2130	(C)	730624	2132			2000	3.0			
			730625	0905	1	50	1200		7.0	500	200
			730625	0906	18	50	1200		7.0		
			730625	0907	35	50	1200		7.0		
730625	0905	(C)	730625	0907			1200	2.0			
			730625	1936	1	50	2500		7.0	790	80
			730625	1937	16	50	2500		7.0		
			730625	1938	31	50	2500		8.0		
730625	1936	(C)	730625	1938			2500	3.0			
			730626	1000	1	50	1600		6.0	230	80
			730626	1001	19	50	1600		10.0		
			730626	1002	38	50	1600		8.0		
730626	1000	(C)	730626	1002			1600	3.0			
			730626	1936	1	50	2200		8.0	700	20K
			730626	1937	14	50	2200		8.0		
			730626	1938	28	50	2200		8.0		
730626	1936	(C)	730626	1938			2200	4.0			
			730627	1110	1	50	1200		14.0	130	50
			730627	1111	18	50	1200		73.0		
			730627	1112	35	50	1200		8200.0		
730627	1110	(C)	730627	1112			1200	3.0			
			730627	2255	1	50	2200		10.0		
			730627	2256	14	50	2200		15.0		
			730627	2257	27	50	2200		150.0		
730627	2255	(C)	730627	2257			2200	3.0			
730624											
	NUMBER							8	24	7	7
	MAXIMUM							6.0	8200.0	54000	790
	MINIMUM							2.0	6.0	130	20K
	LOG MEAN							3.2	14.6	722	91
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 03 MOBILE R BTWN CHICK. CRASPAIN. R MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLE % FROM AT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	0945	1	20	1100	28.0		6.7		
		730624	0946	5	20	1100	27.5		6.7		
		730624	0947	11	20	1100	27.5		6.5		
		730624	0950	1	50	1100	28.0		6.6		
		730624	0951	11	50	1100	27.5		6.6		
		730624	0952	21	50	1100	27.0		4.8		
		730624	0955	1	80	1100	28.0		6.6		
		730624	0956	12	80	1100	27.5		6.4		
		730624	0957	24	80	1100	26.5		1.4		
730624	0958	(C) 730624	0957			1100		24			7.1
		730624	2105	1	20	2100	28.5		5.8		
		730624	2106	10	20	2100	28.5		5.7		
		730624	2107	20	20	2100	28.5		5.8		
		730624	2110	1	50	2100	28.5		5.8		
		730624	2111	11	50	2100	28.5		5.8		
		730624	2112	21	50	2100	28.5		5.6		
		730624	2115	1	80	2100	28.5		5.9		
		730624	2116	13	80	2100	28.5		5.7		
		730624	2117	25	80	2100	27.0		1.9		
730624	2105	(C) 730624	2117			2100		26			6.9
		730625	0945	1	20	1300	28.0		6.2		
		730625	0946	7	20	1300	28.0		6.3		
		730625	0947	14	20	1300	28.0		6.2		
		730625	0948	1	50	1300	28.0		6.3		
		730625	0949	12	50	1300	28.0		6.1		
		730625	0950	23	50	1300	27.0		1.4		
		730625	0954	1	80	1200	28.0		6.2		
		730625	0955	13	80	1200	28.0		6.3		
		730625	0956	25	80	1200	26.5		1.7		
730625	0945	(C) 730625	0956			1300		24			7.0
		730625	1920	1	20	2400	29.0		6.4		
		730625	1921	7	20	2400	29.0		6.5		
		730625	1922	14	20	2400	29.0		6.4		
		730625	1925	1	50	2400	28.5		6.3		
		730625	1926	10	50	2500	28.5		6.3		
		730625	1927	19	50	2500	28.5		5.8		
		730625	1929	1	80	2500	28.5		6.4		
		730625	1930	12	80	2500	28.5		6.1		
		730625	1931	23	80	2500	28.5		6.3		
730625	1920	(C) 730625	1931			2500		26			7.1
		730626	0940	1	20	1400	28.5		6.2		
		730626	0941	10	20	1400	28.5		6.3		
		730626	0942	19	20	1400	27.5		2.8		
		730626	0944	1	50	1400	28.5		6.1		
		730626	0945	12	50	1400	28.0		6.0		
		730626	0946	22	50	1500	27.5		3.4		
		730626	0947	1	80	1500	28.5		6.4		

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 03 MOBILE R BTWN CHICK. CK&SPAIN. R MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730626	0948	12	80	1500	28.0		6.0		
		730626	0949	22	80	1500	27.5		1.8		
730626	0940 (C)	730626	0949			1500		23			7.3
		730626	1919	1	20	2100	29.0		6.2		
		730626	1920	9	20	2100	28.5		6.1		
		730626	1921	17	20	2100	28.5		5.8		
		730626	1922	1	50	2100	28.5		6.0		
		730626	1923	10	50	2100	28.5		6.0		
		730626	1924	20	50	2100	28.5		0.7		
		730626	1926	1	80	2100	28.5		6.1		
		730626	1927	12	80	2100	28.5		5.8		
		730626	1928	23	80	2100	27.5		4.0		
730626	1919 (C)	730626	1928			2100		24			7.2
		730627	1055	1	20	1200	29.5		6.7		
		730627	1056	10	20	1200	28.5		6.1		
		730627	1057	19	20	1200	28.5		3.9		
		730627	1059	1	50	1200	29.5		6.6		
		730627	1100	11	50	1200	29.0		6.1		
		730627	1101	22	50	1200	27.0		1.3		
		730627	1103	1	80	1200	29.0		6.4		
		730627	1104	14	80	1200	28.5		6.1		
		730627	1105	27	80	1200	27.5		1.5		
730627	1055 (C)	730627	1105			1200		20		0.5	7.3
		730627	2238	1	80	2200	28.5		5.8		
		730627	2239	12	80	2200	28.5		5.6		
		730627	2240	24	80	2200	27.5		2.5		
		730627	2245	1	50	2200	28.5		5.8		
		730627	2246	11	50	2200	28.5		5.4		
		730627	2247	21	50	2200	28.5		5.5		
		730627	2250	1	20	2200	28.5		5.7		
		730627	2251	8	20	2200	28.5		5.6		
		730627	2252	14	20	2200	28.5		5.4		
730627	2238 (C)	730627	2252			2200		27		0.6	7.0
730624											
	NUMBER						72	8	72	2	8
	MAXIMUM						29.5	27	6.7	0.6	7.3
	MINIMUM						26.5	20	0.7	0.5	6.9
	LOG MEAN						28.2	24	4.9	0.5	7.1
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 03 MOBILE R BTWN CHICK. CK&SPAIN. R MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0930	(C)	730624	0937			1100	0.08	0.30	0.31	0.06
730624	2105	(C)	730624	2117			2100	0.10	0.32	0.26	0.12
730625	0845	(C)	730625	0856			1300	0.11	0.28	0.27	0.15
730625	1920	(C)	730625	1931			2500	0.03	0.32	0.40	0.04
730626	0940	(C)	730626	0949			1500	0.21	0.27	0.38	0.30
730626	1919	(C)	730626	1928			2100	0.07	0.30	0.25	0.14
730627	1035	(C)	730627	1105			1200	0.14	0.24	0.33	0.05
730627	2238	(C)	730627	2252			2200	0.06	0.31	0.20	0.05
730624											
	NUMBER							8	8	8	8
	MAXIMUM							0.21	0.32	0.40	0.30
	MINIMUM							0.03	0.24	0.20	0.04
	LOG MEAN							0.09	0.29	0.29	0.09
730627											

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730624	0945	1	20	1100		28.0		
			730624	0946	5	20	1100		26.0		
			730624	0947	11	20	1100		41.0		
			730624	0950	1	50	1100		10.0		
			730624	0951	11	50	1100		48.0		
			730624	0952	21	50	1100		4450.0		
			730624	0955	1	80	1100		10.0		
730624	0945	(C)	730624	0955	1		1100			330	20K
			730624	0956	12	80	1100		85.0		
			730624	0957	24	80	1100		12000.0		
730624	0930	(C)	730624	0957			1100	6.0			
			730624	2105	1	20	2100		18.0		
			730624	2106	10	20	2100		29.0		
			730624	2107	20	20	2100		100.0		
			730624	2110	1	50	2100		11.0		
			730624	2111	11	50	2100		26.0		
			730624	2112	21	50	2100		88.0		
			730624	2115	1	80	2100		16.0		
730624	2105	(C)	730624	2115	1		2100			700	20
			730624	2116	13	80	2100		64.0		
			730624	2117	25	80	2100		12000.0		
730624	2105	(C)	730624	2117			2100	3.0			
			730625	0845	1	20	1300		16.0		
			730625	0846	7	20	1300		34.0		
			730625	0847	14	20	1300		350.0		
			730625	0848	1	50	1300		14.0		

STATION - 03 MOBILE R BTWN CHICK. CK&SPAIN. R MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730625	0849	12	50	1300		64.0		
			730625	0850	23	50	1300		11700.0		
			730625	0854	1	80	1200		30.0		
730625	0845	(C)	730625	0854	1		1300			220	20
			730625	0855	13	80	1200		100.0		
			730625	0856	25	80	1200		13750.0		
730625	0845	(C)	730625	0856			1300	2.0			
			730625	1920	1	20	2400		92.0		
			730625	1921	7	20	2400		100.0		
			730625	1922	14	20	2400		150.0		
			730625	1925	1	50	2400		39.0		
			730625	1926	10	50	2500		86.0		
			730625	1927	19	50	2500		1000.0		
			730625	1929	1	80	2500		12.0		
			730625	1930	12	80	2500		55.0		
			730625	1931	23	80	2500		150.0		
730625	1920	(C)	730625	1931			2500	3.0			
			730626	0940	1	20	1400		13.0		
			730626	0941	10	20	1400		29.0		
			730626	0942	19	20	1400		8200.0		
			730626	0944	1	50	1400		41.0		
			730626	0947	1	80	1500		14.0		
730626	0940	(C)	730626	0947	1		1500			170	40
			730626	0948	1	80	1500		16.0		
			730626	0949	22	80	1500		1000.0		
730626	0940	(C)	730626	0949			1500	3.0			
			730626	1919	1	20	2100		100.0		
			730626	1920	9	20	2100		100.0		
			730626	1921	17	20	2100		250.0		
			730626	1922	1	50	2100		32.0		
			730626	1923	10	50	2100		78.0		
			730626	1924	20	50	2100		13000.0		
			730626	1926	1	80	2100		32.0		
730626	1919	(C)	730626	1926	1		2100			4900	20K
			730626	1927	12	80	2100		125.0		
			730626	1928	23	80	2100		585.0		
730626	1919	(C)	730626	1928			2100	3.0			
			730627	1055	1	20	1200		7.0		
			730627	1056	10	20	1200		21.0		
			730627	1057	19	20	1200		3150.0		
			730627	1059	1	50	1200		20.0		
			730627	1100	11	50	1200		32.0		
			730627	1101	22	50	1200		12750.0		
			730627	1103	1	80	1200		14.0		
730627	1055	(C)	730627	1103	1		1200			330	50
			730627	1104	14	80	1200		150.0		
			730627	1105	27	80	1200		12250.0		
730627	1055	(C)	730627	1105			1200	4.0			
			730627	2236	1	80	2200		78.0		
			730627	2237	12	80	2200		45.0		
			730627	2240	24	80	2200		8350.0		
			730627	2245	1	50	2200		51.0		
			730627	2246	11	50	2200		200.0		
			730627	2247	21	50	2200		800.0		
			730627	2250	1	20	2200		150.0		
			730627	2251	8	20	2200		200.0		
			730627	2252	14	20	2200		250.0		
730627	2238	(C)	730627	2252			2200	4.0			
730624											
NUMBER								8	70	6	6
MAXIMUM								[illegible]	13750.0	4900	50
MINIMUM									7.0	170	20K
LOG MEAN									125.5	491	26
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 04 MOBILE R AT BAY BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM FT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	0906	1	20	1100	28.0		6.6		
		730624	0907	8	20	1100	27.5		6.5		
		730624	0908	15	20	1100	27.5		5.1		
		730624	0910	1	50	1100	28.0		6.8		
		730624	0911	17	50	1100	27.0		1.1		
		730624	0912	33	50	1100	26.0		2.0		
		730624	0915	1	80	1100	28.5		3.5		
		730624	0916	18	80	1100	27.5		1.1		
		730624	0917	36	80	1100	26.5		1.6		
730624	0906 (C)	730624	0917			1100		20			7.3
		730624	1930	1	20	2300	28.0		6.1		
		730624	1931	8	20	2300	28.0		5.8		
		730624	1932	15	20	2300	26.0		6.0		
		730624	1935	1	50	2300	28.5		6.0		
		730624	1936	16	50	2300	28.5		5.1		
		730624	1937	31	50	2300	28.0		0.5		
		730624	1940	1	80	2300	28.5		3.9		
		730624	1941	17	80	2300	28.5		3.7		
		730624	1942	33	80	2300	25.0		0.9		
730624	1930 (C)	730624	1942			2300		23			7.2
		730625	0740	1	20	1400	27.5		6.2		
		730625	0741	8	20	1400	27.5		6.0		
		730625	0742	16	20	1400	27.0		6.2		
		730625	0743	1	50	1400	28.0		6.3		
		730625	0744	17	50	1400	27.0		1.7		
		730625	0745	33	50	1400	28.5		1.5		
		730625	0746	1	80	1500	29.0		4.0		
		730625	0747	18	80	1500	27.5		1.4		
		730625	0748	35	80	1500	28.5		1.5		
730625	0740 (C)	730625	0748			1500		22			7.4
		730625	1845	1	20	2300	29.0		6.3		
		730625	1846	12	20	2300	28.5		6.1		
		730625	1847	24	20	2300	27.5		0.0		
		730625	1848	1	50	2300	28.5		6.2		
		730625	1849	17	50	2300	28.5		3.5		
		730625	1850	34	50	2300	26.5		0.5		
		730625	1853	1	80	2300	29.5		3.8		
		730625	1854	18	80	2300	28.0		0.0		
		730625	1855	36	80	2300	26.5		0.0		
730625	1845 (C)	730625	1855			2300		26			7.4
		730626	0825	1	20	1100	28.0		6.4		
		730626	0826	9	20	1100	28.0		6.0		
		730626	0827	17	20	1100	26.5		0.7		
		730626	0830	1	50	1200	28.0		6.4		
		730626	0831	17	50	1200	27.0		0.0		
		730626	0832	34	50	1200	26.0		1.3		
		730626	0834	1	80	1200	28.0		6.4		

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 04 MOBILE R AT BAY BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730626	0835	20	80	1200	26.5		1.1		
		730626	0836	40	80	1200	26.5		1.1		
730626	0825 (C)	730626	0836			1200		16			7.7
		730626	1843	1	20	2100	28.5		6.1		
		730626	1844	11	20	2100	29.0		6.2		
		730626	1845	22	20	2100	27.0		0.0		
		730626	1849	1	50	2100	28.5		5.9		
		730626	1850	15	50	2100	28.5		5.9		
		730626	1851	30	50	2100	26.5		0.0		
		730626	1856	1	80	2100	29.5		5.5		
		730626	1857	18	80	2100	28.5		4.8		
		730626	1858	36	80	2100	26.5		0.6		
730626	1843 (C)	730626	1858			2100		20			7.3
		730627	0919	1	20	1300	29.5		6.4		
		730627	0920	8	20	1300	28.0		6.1		
		730627	0921	16	20	1300	27.5		2.3		
		730627	0922	1	50	1300	29.0		6.4		
		730627	0923	16	50	1300	28.0		4.4		
		730627	0924	32	50	1300	26.5		1.2		
		730627	0925	1	80	1300	29.0		5.9		
		730627	0926	21	80	1300	27.0		1.8		
		730627	0927	41	80	1300	26.5		1.0		
730627	0919 (C)	730627	0927			1300		19		1.1	7.5
		730627	2215	1	20	2200	28.5		5.7		
		730627	2216	10	20	2200	28.5		5.6		
		730627	2217	19	20	2200	28.5		4.9		
		730627	2220	1	50	2200	28.5		5.7		
		730627	2221	13	50	2200	28.5		5.5		
		730627	2222	26	50	2200	27.0		0.0		
		730627	2225	1	80	2200	28.5		5.6		
		730627	2226	16	80	2200	28.5		5.1		
		730627	2227	31	80	2200	27.0		0.0		
730627	2215 (C)	730627	2227			2200		21		0.7	7.3
730624											
NUMBER							12	9	12	2	8
MAXIMUM							29.5	26	6.8	1.1	7.7
MINIMUM							25.0	16	0.0	0.7	7.2
LOG MEAN							27.5	21	0.0	0.9	7.4
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 04 MOBILE R AT BAY BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	72211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0905	(C)730624	0917			1100	0.14	0.21	0.24	0.05
730624	1930	(C)730624	1942			2300	0.13	0.27	0.20	0.13
730625	0740	(C)730625	0748			1500	0.14	0.20	0.33	0.08
730625	1945	(C)730625	1955			2300	0.17	0.18	0.33	0.06
730626	0525	(C)730626	0836			1200	0.16	0.18	0.40	0.05
730626	1943	(C)730626	1956			2100	0.16	0.20	0.33	0.07
730627	0919	(C)730627	0927			1300	0.14	0.19	0.28	0.03
730627	2215	(C)730627	2227			2200	0.14	0.25	0.28	0.05
730624										
NUMBER							8	8	8	8
MAXIMUM							0.17	0.27	0.40	0.13
MINIMUM							0.13	0.18	0.20	0.03
LOG MEAN							0.15	0.21	0.29	0.06
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	72211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	0905	1	20	1100		80.0		
		730624	0907	8	20	1100		850.0		
		730624	0908	15	20	1100		3150.0		
		730624	0910	1	50	1100		26.0		
		730624	0911	16	50	1100		9350.0		
		730624	0912	33	50	1100		13750.0		
		730624	0915	1	80	1100		103.0		
730624	0905	(C)730624	0915	1		1100			240000L	230
		730624	0916	18	80	1100		6900.0		
		730624	0917	36	80	1100		13250.0		
730624	0905	(C)730624	0917			1100	6.0			
		730624	1930	1	20	2300		125.0		
		730624	1931	8	20	2300		200.0		
		730624	1932	15	20	2300		400.0		
		730624	1935	1	50	2300		100.0		
		730624	1936	16	50	2300		1000.0		
		730624	1937	31	50	2300		13750.0		
		730624	1940	1	80	2300		125.0		
730624	1930	(C)730624	1940	1		2300			1100	80
		730624	1941	17	80	2300		2500.0		
		730624	1942	33	80	2300		13750.0		
730624	1930	(C)730624	1942			2300	3.0			
		730625	0740	1	20	1400		75.0		
		730625	0741	8	20	1400		100.0		
		730625	0742	16	20	1400		5900.0		
		730625	0743	1	50	1400		44.0		

STATION - 04 MOBILE R AT BAY BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730625	0744	17	50	1400		10750.0		
			730625	0745	33	50	1400		16250.0		
			730625	0746	1	80	1500		84.0		
730625	0740	(C)	730625	0746	1		1500			1700	200
			730625	0747	18	80	1500		9000.0		
			730625	0748	35	80	1500		14750.0		
730625	0740	(C)	730625	0748			1500	3.0			
			730625	1845	1	20	2300		125.0		
			730625	1846	12	20	2300		550.0		
			730625	1847	24	20	2300		9700.0		
			730625	1848	1	50	2300		49.0		
			730625	1849	17	50	2300		2000.0		
			730625	1850	34	50	2300		17500.0		
			730625	1853	1	80	2300		175.0		
730625	1845	(C)	730625	1853	1		2300			3300	170
			730625	1854	18	80	2300		5100.0		
			730625	1855	36	80	2300		14750.0		
730625	1845	(C)	730625	1855			2300	3.0			
			730626	0826	9	20	1100		250.0		
			730626	0827	17	20	1100		13700.0		
			730626	0830	1	50	1200		63.0		
			730626	0831	17	50	1200		8500.0		
			730626	0832	34	50	1200		15000.0		
			730626	0834	1	80	1200		70.0		
730626	0825	(C)	730626	0834	1		1200			230	50
			730626	0835	20	80	1200		13700.0		
			730626	0836	40	80	1200		15500.0		
730626	0825	(C)	730626	0836			1200	2.0			
			730626	1843	1	20	2100		210.0		
			730626	1844	11	20	2100		400.0		
			730626	1845	22	20	2100		11500.0		
			730626	1849	1	50	2100		92.0		
			730626	1850	15	50	2100		350.0		
			730626	1851	30	50	2100		15250.0		
			730626	1856	1	80	2100		155.0		
730626	1843	(C)	730626	1856	1		2100			1100	20
			730626	1857	18	80	2100		1950.0		
			730626	1858	36	80	2100		16850.0		
730626	1843	(C)	730626	1858			2100	9.0			
			730627	0919	1	20	1300		41.0		
			730627	0920	8	20	1300		125.0		
			730627	0921	16	20	1300		11200.0		
			730627	0922	1	50	1300		40.0		
			730627	0923	15	50	1300		2250.0		
			730627	0924	32	50	1300		15000.0		
			730627	0925	1	80	1300		49.0		
730627	0919	(C)	730627	0925	1		1300			1300	110
			730627	0926	21	80	1300		13000.0		
			730627	0927	41	80	1300		15500.0		
730627	0919	(C)	730627	0927			1300	3.0			
			730627	2215	1	20	2200		250.0		
			730627	2216	10	20	2200		450.0		
			730627	2217	19	20	2200		1850.0		
			730627	2220	1	50	2200		115.0		
			730627	2221	13	50	2200		1600.0		
			730627	2222	26	50	2200		14000.0		
			730627	2225	1	80	2200		237.0		
			730627	2226	16	80	2200		900.0		
			730627	2227	31	80	2200		14300.0		
730627	2215	(C)	730627	2227			2200	3.0			
[redacted] NUMBER								[redacted]	71	7	7
MAXIMUM								0	17500.0	240000L	230
MINIMUM								2.0	26.0	230	20
LOG MEAN								3.6	1155.1	2421	95

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 5 MOBILE R AT ALABAMA STATE DOCKS MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH SAMPLE FEET	00002 %SAMPLOC FROM AT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	0820	1	50	1200	27.0		6.3		
			730624	0821	18	50	1200	26.0		1.8		
			730624	0822	37	50	1200	26.0		1.5		
730624	0820	(C)	730624	0822			1200		18			7.6
			730624	1900	1	50	2600	27.0				
			730624	1901	17	50	2600	26.5		3.8		
			730624	1902	34	50	2600	26.5		1.1		
730624	1900	(C)	730624	1902			2600		18			7.3
			730625	0712	1	50	1300	27.5		6.1		
			730625	0713	19	50	1300	27.0		2.8		
			730625	0714	37	50	1300	26.5		1.9		
730625	0712	(C)	730625	0714			1300		20			7.7
			730625	1810	1	50	2200	29.0		6.4		
			730625	1811	18	50	2200	28.5		4.7		
			730625	1812	35	50	2200	28.5		1.5		
730625	1810	(C)	730625	1812			2200		18			7.6
			730626	0738	1	50	1100	28.0		6.2		
			730626	0739	19	50	1100	26.5		1.8		
			730626	0740	37	50	1100	26.5		2.0		
730626	0738	(C)	730626	0740			1100		13			7.9
			730626	1815	1	50	2000	29.0		6.1		
			730626	1816	17	50	2000	28.0		4.3		
			730626	1817	34	50	2000	26.5		1.4		
730626	1815	(C)	730626	1817			2000		17			7.5
			730627	0825	1	50	1100	28.5		6.1		
			730627	0826	18	50	1100	27.0				
			730627	0827	35	50	1100	26.5		1.8		
730627	0825	(C)	730627	0827			1100		15		0.8	7.6
			730627	2205	1	50	2200	28.0		5.7		
			730627	2206	18	50	2200	28.5		4.9		
			730627	2207	35	50	2200	27.0		0.5		
730627	2205	(C)	730627	2207			2200		16		0.7	7.4
730624												
NUMBER								24	8	22	2	8
MAXIMUM								29.0	20	6.4	0.8	7.9
MINIMUM								26.0	13	0.5	0.7	7.3
LOG MEAN								27.2	17	2.9	0.7	7.6
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 05 MOBILE R AT ALABAMA STATE DOCKS MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0820	(C)730624	0822			1200	0.18	0.17	0.26	0.05
730624	1900	(C)730624	1902			2600	0.13	0.21	0.33	0.04
730625	0712	(C)730625	0714			1300	0.15	0.17	0.30	0.05
730625	1610	(C)730625	1612			2200	0.12	0.20	0.33	0.08
730626	0738	(C)730626	0740			1100	0.16	0.13	0.30	0.03
730626	1815	(C)730626	1817			2000	0.13	0.22	0.43	0.03
730627	0825	(C)730627	0827			1100	0.18	0.15	0.28	0.03
730627	2205	(C)730627	2207			2200	0.18	0.21	0.34	0.04
730624										
NUMBER							8	8	8	8
MAXIMUM							0.18	0.22	0.43	0.08
MINIMUM							0.12	0.13	0.26	0.03
LOG MEAN							0.16	0.18	0.32	0.04
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	0820	1	50	1200		83.0	330	130
		730624	0821	18	50	1200		11450.0		
		730624	0822	37	50	1200		13750.0		
730624	0820	(C)730624	0822			1200	5.0			
		730624	1900	1	50	2600		191.0	790	50
		730624	1901	17	50	2600		3150.0		
		730624	1902	34	50	2600		16000.0		
730624	1900	(C)730624	1902			2600	2.0			
		730625	0712	1	50	1300		78.0	3300	50
		730625	0713	19	50	1300		950.0		
		730625	0714	37	50	1300		18250.0		
730625	0712	(C)730625	0714			1300	2.0			
		730625	1610	1	50	2200		170.0	490	50
		730625	1611	18	50	2200		2100.0		
		730625	1612	35	50	2200		14750.0		
730625	1610	(C)730625	1612			2200	2.0			
		730626	0738	1	50	1100		150.0	230	20
		730626	0739	19	50	1100		14300.0		
		730626	0740	37	50	1100		15850.0		
730626	0738	(C)730626	0740			1100	2.0			
		730626	1815	1	50	2000		250.0	4600	20K
		730626	1816	17	50	2000		2750.0		
		730626	1817	34	50	2000		15500.0		
730626	1815	(C)730626	1817			2000	3.0			
		730627	0825	1	50	1100		170.0	790	230
		730627	0826	18	50	1100		10000.0		
		730627	0827	36	50	1100		15000.0		
730627	0825	(C)730627	0827			1100	3.0			
		730627	2205	1	50	2200		300.0		
		730627	2206	18	50	2200		1450.0		
		730627	2207	35	50	2200		15000.0		
730627	2205	(C)730627	2207			2200	2.0			
730624										
NUMBER							5	24	7	7
MAXIMUM							5.0	15250.0	4600	230
MINIMUM							2.0	78.0	230	20K
LOG MEAN							2.5	2093.0	852	55
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 05 MOBILE R AT BANKHEAD TUNNEL MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLDC % FROM AT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	0815	1	50	1300	27.0		6.1		
			730624	0816	19	50	1300	26.5		2.5		
			730624	0817	34	50	1300	26.0		1.8		
730624	0815	(C)	730624	0817			1300		24			7.8
			730624	1850	1	50	2500	26.0		5.6		
			730624	1851	19	50	2500	26.5		2.1		
			730624	1852	37	50	2500	26.5		1.7		
730624	1850	(C)	730624	1852			2500		16			7.6
			730625	0700	1	50	1200	26.0		5.9		
			730625	0701	19	50	1200	26.5		3.0		
			730625	0702	37	50	1200	26.5		2.7		
730625	0700	(C)	730625	0702			1200		15			7.8
			730625	1755	1	50	2100	29.0		5.6		
			730625	1756	22	50	2100	26.5		2.0		
			730625	1757	43	50	2100	26.5		1.7		
730625	1755	(C)	730625	1757			2100		12			7.8
			730626	0715	1	50	1000	28.0		4.8		
			730626	0716	19	50	1000	27.0		2.7		
			730626	0717	36	50	1000	26.5		2.2		
730626	0715	(C)	730626	0717			1000		17			7.8
			730626	1805	1	50	2000	29.0		4.9		
			730626	1805	19	50	2000	29.0		4.5		
			730626	1806	37	50	2000	26.5		1.8		
730626	1804	(C)	730626	1806			2000		16			7.6
			730627	0811	1	50	1100	26.5		6.1		
			730627	0812	20	50	1100	27.0		2.5		
			730627	0813	39	50	1100	26.5		2.0		
730627	0811	(C)	730627	0813			1100		41		1.1	7.7
			730627	2147	1	50	2300	28.5		5.1		
			730627	2148	20	50	2300	26.5		3.4		
			730627	2149	39	50	2300	26.5		1.1		
730627	2147	(C)	730627	2149			2300		16		0.4	7.5

730624
730627

NUMBER	24	8	24	2	8
MAXIMUM	29.0	41	6.1	1.1	7.8
MINIMUM	26.0	12	1.1	0.4	7.5
LOG MEAN	27.2	18	3.0	0.7	7.7

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 6 MOBILE R AT BANKHEAD TUNNEL MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC & FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0815	(C)	730624	0817			1300	0.15	0.14	0.24	0.07
730624	1850	(C)	730624	1852			2500	0.14	0.17	0.24	0.11
730625	0700	(C)	730625	0702			1200	0.14	0.14	0.21	0.12
730625	1755	(C)	730625	1757			2100	0.19	0.12	0.33	0.03
730626	0715	(C)	730626	0717			1000	0.14	0.13	0.33	0.07
730626	1804	(C)	730626	1806			2000	0.11	0.19	0.31	0.03
730627	0811	(C)	730627	0813			1100	0.20	0.15	0.38	0.10
730627	2147	(C)	730627	2149			2300	0.18	0.20	0.25	0.09
730624											
NUMBER								8	8	8	8
MAXIMUM								0.20	0.20	0.38	0.12
MINIMUM								0.11	0.12	0.21	0.03
LOG MEAN								0.15	0.15	0.28	0.07
730627											

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC & FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
			730624	0815	1	50	1300		325.0	1300	80
			730624	0816	19	50	1300		12550.0		
			730624	0817	34	50	1300		14250.0		
730624	0815	(C)	730624	0817			1300	3.0			
			730624	1850	1	50	2500		325.0	1700	110
			730624	1851	19	50	2500		8700.0		
			730624	1852	37	50	2500		14750.0		
730624	1850	(C)	730624	1852			2500	2.0			
			730625	0700	1	50	1200		325.0	230	50
			730625	0701	19	50	1200		13750.0		
			730625	0702	37	50	1200		17500.0		
730625	0700	(C)	730625	0702			1200	1.0			
			730625	1755	1	50	2100		450.0		
			730625	1756	22	50	2100		13750.0		
			730625	1757	43	50	2100		15200.0		
730625	1755	(C)	730625	1757			2100	1.0			
			730625	1755	1	50				2200	90
			730626	0715	1	50	1000		325.0	330	50
			730626	0716	19	50	1000		13000.0		
			730626	0717	38	50	1000		15200.0		
730626	0715	(C)	730626	0717			1000	3.0			
			730626	1804	1	50	2000		400.0	4900	40
			730626	1805	19	50	2000		1200.0		
			730626	1806	37	50	2000		15000.0		
730626	1804	(C)	730626	1806			2000	3.0			
			730627	0811	1	50	1100		400.0	230	130
			730627	0812	20	50	1100		12250.0		
			730627	0813	39	50	1100		15500.0		
730627	0811	(C)	730627	0813			1100	4.0			
			730627	2147	1	50	2300		700.0		
			730627	2148	20	50	2300		4000.0		
			730627	2149	39	50	2300		16000.0		
730627	2147	(C)	730627	2149			2300	2.0			
730624											
NUMBER								8	24	7	7
MAXIMUM								4.0	17500.0	4900	130
MINIMUM								1.0	325.0	230	40
LOG MEAN								2.1	3633.5	852	72
27											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 27 MOBILE R AT CHOCTAW POINT MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME			00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	0810	1	50	1300	27.0		5.4		
		730624	0811	21	50	1300	26.5		3.5		
		730624	0812	43	50	1300	25.5		3.2		
730624	0810 (C)	730624	0812			1300		18			7.8
		730624	1042	1	50	2400	26.5		4.6		
		730624	1043	22	50	2400	26.5		2.3		
		730624	1044	44	50	2400	26.0		2.0		
730624	1042 (C)	730624	1044			2400		16			7.8
		730625	0650	1	50	1200	27.5		5.5		
		730625	0651	22	50	1200	26.5		3.1		
		730625	0652	43	50	1200	26.5		3.5		
730625	0650 (C)	730625	0652			1200		15			7.9
		730625	1745	1	50	2100	26.5		6.3		
		730625	1746	21	50	2100	26.5		2.4		
		730625	1747	42	50	2100	26.5		2.5		
730625	1745 (C)	730625	1747			2100		12			7.8
		730626	0705	1	50	1000	28.0		5.1		
		730626	0706	22	50	1000	27.0		2.9		
		730626	0707	43	50	1000	26.5		1.9		
730626	0705 (C)	730626	0707			1000		34			7.9
		730626	1755	1	50	2000	29.0		4.5		
		730626	1756	23	50	2000	27.0		2.4		
		730626	1757	46	50	2000	26.5		2.0		
730626	1755 (C)	730626	1757			2000		15			7.7
		730627	0805	1	50	1100	28.5		6.1		
		730627	0806	22	50	1100	27.0		2.8		
		730627	0807	43	50	1100	26.5		1.4		
730627	0805 (C)	730627	0807			1100		12		1.8	7.8
		730627	2140	1	50	2300	28.0		5.3		
		730627	2141	20	50	2300	28.0		4.2		
		730627	2142	40	50	2300	26.5		1.3		
730627	2140 (C)	730627	2142			2300		15		0.6	7.5
730724											
NUMBER							24	8	24	2	8
MAXIMUM							29.0	34	6.3	1.8	7.9
MINIMUM							25.5	12	1.3	0.6	7.5
LOG MEAN							27.0	16	3.2	1.0	7.8
730827											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 67 MOBILE R AT CHOCTAW POINT MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0810	(C)730624	0812			1300	0.14	0.15	0.27	0.13
730624	1642	(C)730624	1644			2400	0.14	0.14	0.21	0.03
730625	0650	(C)730625	0652			1200	0.16	0.13	0.32	0.06
730625	1745	(C)730625	1747			2100	0.20	0.12	0.40	0.03
730626	0705	(C)730626	0707			1000	0.12	0.14	0.43	0.07
730626	1755	(C)730626	1757			2000	0.16	0.16	0.37	0.03
730627	0805	(C)730627	0807			1100	0.16	0.13	0.25	0.05
730627	2140	(C)730627	2142			2300	0.16	0.19	0.25	0.03
730624										
	NUMBER						8	8	8	8
	MAXIMUM						0.20	0.19	0.43	0.13
	MINIMUM						0.12	0.12	0.21	0.03
	LOG MEAN						0.15	0.14	0.30	0.05
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	0810	1	50	1300		1050.0	22000	230
		730624	0811	21	50	1300		10750.0		
		730624	0812	43	50	1300		14250.0		
730624	0810	(C)730624	0812			1300	3.0			
		730624	1642	1	50	2400		1350.0	4900	50
		730624	1643	22	50	2400		13750.0		
		730624	1644	44	50	2400		16750.0		
730624	1642	(C)730624	1644			2400	2.0			
		730625	0650	1	50	1200		900.0	2300	200K
		730625	0651	22	50	1200		14750.0		
		730625	0652	43	50	1200		16750.0		
730625	0650	(C)730625	0652			1200	2.0			
		730625	1745	1	50	2100		900.0	1700	80
		730625	1746	21	50	2100		14750.0		
		730625	1747	42	50	2100		16750.0		
730625	1745	(C)730625	1747			2100	1.0			
		730625	0705	1	50	1000		600.0	490	20
		730625	0706	22	50	1000		12000.0		
		730626	0707	43	50	1000		15850.0		
730626	0705	(C)730626	0707			1000	3.0			
		730626	1755	1	50	2000		750.0	13000	170
		730626	1756	24	50	2000		11750.0		
		730626	1757	47	50	2000		16250.0		
730626	1755	(C)730626	1757			2000	3.0			
		730627	0805	1	50	1100		700.0	1400	130
		730627	0806	22	50	1100		12250.0		
		730627	0807	43	50	1100		15500.0		
730627	0805	(C)730627	0807			1100	2.0			
		730627	2140	1	50	2300		750.0		
		730627	2141	20	50	2300		2600.0		
		730627	2142	40	50	2300		16000.0		
730627	2140	(C)730627	2142			2300	2.0			
730624										
	NUMBER						8	24	7	7
	MAXIMUM						3.0	16750.0	22000	230
	MINIMUM						1.0	600.0	490	20K
	LOG MEAN						2.1	5220.0	3241	97
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - [illegible] MOBILE BAY NAVIGATION CHANNEL MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM PT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	0755	1	50	1400	26.5		4.8		
			730624	0756	23	50	1400	26.5		3.3		
			730624	0757	45	50	1400	26.0		2.7		
730624	0755	(C)	730624	0757			1400		28			7.8
			730624	1830	1	50	2400	26.5		5.5		
			730624	1831	15	50	2400	26.5		2.8		
			730624	1832	30	50	2400	26.5		2.3		
730624	1830	(C)	730624	1832			2400		16			7.8
			730625	0845	1	50	1200	28.0		5.4		
			730625	0846	19	50	1200	27.0		4.0		
			730625	0847	37	50	1200	26.5		2.9		
730625	0845	(C)	730625	0847			1200		18			8.0
			730625	1735	1	50	2100	28.5		6.3		
			730625	1736	22	50	2100	27.0		3.3		
			730625	1737	43	50	2100	27.0		2.3		
730625	1735	(C)	730625	1737			2100		25			7.9
			730626	0854	1	50	1000	28.0		5.1		
			730626	0855	22	50	1000	27.0		2.8		
			730626	0856	43	50	1000	26.5		1.8		
730626	0854	(C)	730626	0856			1000		26			7.8
			730626	1745	1	50	2000	29.0		5.0		
			730626	1746	20	50	2000	27.0		2.7		
			730626	1747	39	50	2000	26.5		1.7		
730626	1745	(C)	730626	1747			2000		15			7.8
			730627	0753	1	50	1100	28.5		6.4		
			730627	0754	22	50	1100	27.0		2.1		
			730627	0755	44	50	1100	26.5		1.8		
730627	0753	(C)	730627	0755			1100		12		1.1	7.8
			730627	2120	1	50	2400	28.5		5.2		
			730627	2122	21	50	2400	28.0		3.3		
			730627	2123	41	50	2400	26.5		1.1		
730627	2120	(C)	730627	2123			2400		15		0.6	7.6
730624												
[illegible]								24	8	24	2	8
MAXIMUM								29.0	28	6.4	1.1	8.0
MINIMUM								25.5	12	1.1	0.6	7.6
LOG MEAN								27.1	19	3.2	0.8	7.8
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION = 0c MOBILE BAY NAVIGATION CHANNEL MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM MT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	0755	(C)730624	0757			1400	0.18	0.12	0.46	0.07
730624	1630	(C)730624	1632			2400	0.17	0.15	0.33	0.04
730625	0645	(C)730625	0647			1200	0.11	0.13	0.30	0.20
730625	1735	(C)730625	1737			2100	0.17	0.11	0.37	0.50
730626	0654	(C)730626	0656			1000	0.14	0.13	0.36	0.06
730626	1745	(C)730626	1747			2000	0.15	0.16	0.38	0.37
730627	0753	(C)730627	0755			1100	0.16	0.11	0.38	0.03
730627	2120	(C)730627	2123			2400	0.16	0.16	0.25	0.03
730624										
NUMBER							8	8	8	8
MAXIMUM							0.18	0.16	0.46	0.50
MINIMUM							0.11	0.11	0.25	0.03
LOG MEAN							0.15	0.13	0.35	0.10
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM MT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	0755	1	50	1400		2850.0	330	50
		730624	0756	23	50	1400		13250.0		
		730624	0757	45	50	1400		16000.0		
730624	0755	(C)730624	0757			1400	3.0			
		730624	1630	1	50	2400		1900.0	1100	130
		730624	1631	15	50	2400		9200.0		
		730624	1632	30	50	2400		15250.0		
730624	1630	(C)730624	1632			2400	3.0			
		730625	0645	1	50	1200		1350.0	460	20
		730625	0646	19	50	1200		14750.0		
		730625	0647	37	50	1200		17500.0		
730625	0645	(C)730625	0647			1200	1.0			
		730625	1735	1	50	2100		1050.0	330	80
		730625	1736	22	50	2100		14250.0		
		730625	1737	43	50	2100		16750.0		
730625	1735	(C)730625	1737			2100	2.0			
		730626	0654	1	50	1000		1175.0	490	230
		730626	0655	22	50	1000		12750.0		
		730626	0656	43	50	1000		16750.0		
730626	0654	(C)730626	0656			1000	3.0			
		730626	1745	1	50	2000		950.0	4900	50
		730626	1746	20	50	2000		12250.0		
		730626	1747	39	50	2000		16450.0		
730626	1745	(C)730626	1747			2000	3.0			
		730627	0753	1	50	1100			1100	110
		730627	0754	22	50	1100		12500.0		
		730627	0755	44	50	1100		15800.0		
730627	0753	(C)730627	0755			1100	1.0			
		730627	2120	1	50	2400		950.0		
		730627	2122	21	50	2400		6900.0		
		730627	2123	41	50	2400		16000.0		
730627	2120	(C)730627	2123			2400	2.0			
730624										
NUMBER							8	23	7	7
MAXIMUM							3.0	17500.0	4900	230
MINIMUM							1.0	950.0	330	20
LOG MEAN							2.1	6805.9	759	75
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 09 CHICKASAW CK AT SHELTON BEACH HY MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L
		730624	0915	1	50	23.0	6	7.8		5.7	0.01	0.05
		730625	1250	1	50	25.0	5	7.4		5.9	0.16	0.15
		730626	1145	1	50	25.5	11	7.7		6.8	0.05	0.05
		730627	0655	1	50	24.5	5	7.2	1.3	5.9	0.01K	0.06
730624												
NUMBER						4	4	4	1	4	4	4
MAXIMUM						25.5	11	7.8		6.8	0.16	0.15
MINIMUM						23.0	5	7.2		5.7	0.01K	0.05
LOG MEAN						24.5	6	7.5		6.1	0.03	0.07
730627												

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
		730624	0915	1	50	0.33	0.00K	10.0	2.0	4600	70	5.2
		730625	1250	1	50	0.28	0.13	4.0	2.0	1100	80	5.2
		730626	1145	1	50	0.37	0.00K	4.0	2.0	330	130	6.2
		730627	0655	1	50	0.31	0.00K	3.0	3.0	2300	20	6.3
730624												
NUMBER						4	4	4	4	4	4	4
MAXIMUM						0.37	0.13	10.0	3.0	4600	130	6.3
MINIMUM						0.28	0.00K	3.0	2.0	330	20	5.2
LOG MEAN						0.32	0.01	4.7	2.2	1400	62	5.7
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 10 CHICKASAW CK AT US HWY 43 BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	1120	1	50	1000	27.0		6.7		
			730624	1121	10	50	1000	25.0		6.1		
			730624	1122	19	50	1000	25.0		5.8		
730624	1120	(C)	730624	1122			1000		8			6.2
			730624	2015	1	50	2200	26.5		6.2		
			730624	2016	7	50	2200	25.5		5.3		
			730624	2017	14	50	2200	25.5		4.8		
730624	2015	(C)	730624	2017			2200		8			5.8
			730625	0821	1	50	1400	26.5		6.4		
			730625	0822	12	50	1400	25.0		4.1		
			730625	0823	24	50	1400	25.0		5.1		
730625	0821	(C)	730625	0823			1400		10			6.1
			730625	2055	1	50	2200	29.5		8.0		
			730625	2056	6	50	2200	27.0		4.6		
			730625	2057	12	50	2200	25.0		4.8		
730625	2055	(C)	730625	2057			2200		8			6.4
			730626	0924	1	50	1300	27.5		5.8		
			730626	0925	10	50	1300	26.0		4.7		
			730626	0926	20	50	1300	26.0		4.7		
730626	0924	(C)	730626	0926			1300		8			6.0
			730626	2100	1	50	2600	28.0		7.2		
			730626	2101	8	50	2600	26.5		5.5		
			730626	2102	15	50	2600	26.0		4.7		
730626	2100	(C)	730626	2102			2600		8			5.9
			730627	1015	1	50	1400	30.0		1.4		
			730627	1016	8	50	1400	28.0		2.5		
			730627	1017	16	50	1400	26.5		4.2		
730627	1015	(C)	730627	1017			1400		9		2.8	6.3
			730627	2357	1	50	2000	27.0		5.0		
			730627	2358	8	50	2000	27.0		4.9		
			730627	2359	15	50	2000	26.0		4.4		
730627	2357	(C)	730627	2359			2000		7		1.4	5.9
730624												
COUNT								24	8	24	2	8
MAXIMUM								30.0	10	8.0	2.8	6.4
MINIMUM								25.0	7	1.4	1.4	5.8
LOG MEAN								26.5	8	4.9	2.0	6.1
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 1[illegible] CHICKASAW CR AT US HWY 43 BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P
730624	1120	(C)730624	1122			1000	0.03	0.08	0.22	0.06
730624	2015	(C)730624	2017			2200	0.09	0.09	0.24	0.04
730625	0821	(C)730625	0823			1400	0.29	0.08	0.42	0.08
730625	2055	(C)730625	2057			2200	0.15	0.07	0.20	0.10
730626	0924	(C)730626	0926			1300	0.07	0.05	0.40	0.06
730626	2100	(C)730626	2102			2600	0.06	0.09	0.25	0.06
730627	1015	(C)730627	1017			1400	0.10	0.04	0.38	0.07
730627	2357	(C)730627	2359			2000	0.08	0.10	0.45	0.05
730624										
NUMBER							8	8	8	8
MAXIMUM							0.29	0.10	0.45	0.10
MINIMUM							0.03	0.04	0.20	0.04
LOG MEAN							0.09	0.07	0.31	0.06
730627										

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00680 T ORG C C MG/L	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML
		730624	1120	1	10	1000		11.0	790	130
		730624	1121	10	50	1000		9.0		
		730624	1122	19	90	1000		12.0		
730624	1120	(C)730624	1122			1000	6.0			
		730624	2015	1	50	2200		12.0	940	50
		730624	2016	7	50	2200		11.0		
		730624	2017	14	50	2200		14.0		
730624	2015	(C)730624	2017			2200	6.0			
		730625	0821	1	50	1400		17.0	3300	50
		730625	0822	12	50	1400		16.0		
		730625	0823	24	50	1400		24.0		
730625	0821	(C)730625	0823			1400	6.0			
		730625	2055	1	50	2200		11.0	2100	80
		730625	2056	6	50	2200		14.0		
		730625	2057	12	50	2200		16.0		
730625	2055	(C)730625	2057			2200	7.0			
		730626	0924	1	50	1300		32.0	790	330
		730626	0925	10	50	1300		21.0		
		730626	0926	20	50	1300		22.0		
730626	0924	(C)730626	0926			1300	9.0			
		730626	2100	1	50	2600		12.0	3500	290
		730626	2101	8	50	2600		10.0		
		730626	2102	15	50	2600		16.0		
730626	2100	(C)730626	2102			2600	7.0			
		730627	1015	1	50	1400		250.0	4900	220
		730627	1016	8	50	1400		105.0		
		730627	1017	16	50	1400		31.0		
730627	1015	(C)730627	1017			1400	13.0			
		730627	2357	1	50	2000		30.0		
		730627	2358	8	50	2000		20.0		
		730627	2359	15	50	2000		18.0		
730624										
NUMBER							7	24	7	7
MAXIMUM							13.0	250.0	4900	330
MINIMUM							6.0	9.0	790	50
LOG MEAN							7.4	19.7	1834	127
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 11 CHICKASAW CK AT END OF SHIPYARD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	1105	1	50	1000	28.5		5.9		
			730624	1106	12	50	1000	26.0		4.3		
			730624	1107	22	50	1000	27.0		0.4		
730624	1105	(C)	730624	1107			1000		12			6.8
			730624	2025	1	50	2200	28.5		5.4		
			730624	2026	12	50	2200	27.0		3.8		
			730624	2027	24	50	2200	26.5		0.0		
730624	2025	(C)	730624	2027			2200		14			
			730625	0815	1	50	1400	30.0		0.9		
			730625	0816	11	50	1400	27.0		4.5		
			730625	0817	21	50	1400	26.5		0.0		
730625	0815	(C)	730625	0817			1400		15			6.8
			730625	2040	1	50	2200	29.5		4.2		
			730625	2041	11	50	2200	27.0		2.5		
			730625	2042	21	50	2200	26.5		0.0		
730625	2040	(C)	730625	2042			2200		16			6.7
			730626	0904	1	50	1200	31.5		0.0		
			730626	0905	12	50	1200	27.0		1.8		
			730626	0906	23	50	1200	27.0		0.0		
730626	0904	(C)	730626	0906			1200		26			7.0
			730626	2035	1	50	2400	31.0		4.4		
			730626	2036	11	50	2400	28.0		4.5		
			730626	2037	22	50	2400	27.0		0.0		
730626	2035	(C)	730626	2037			2400		9			6.8
			730627	1010	1	50	1500	32.0		0.0		
			730627	1011	12	50	1500	28.0		1.3		
			730627	1012	23	50	1500	27.0		0.0		
730627	1010	(C)	730627	1012			1500		29		8.2	7.2
			730627	2345	1	50	2000	29.0		0.0		
			730627	2346	10	50	2000	28.5		1.9		
			730627	2347	20	50	2000	28.0		0.0		
730627	2345	(C)	730627	2347			2000		9		3.2	6.6
730624												
NUMBER								24	8	24	2	7
MAXIMUM								32.0	29	5.9	8.2	7.2
MINIMUM								26.0	9	0.0	3.2	6.6
LOG MEAN								28.0	15	0.0	5.1	6.8
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 11 CHICKASAW CK AT END OF SHIPYARD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00635 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L
730624	1105	(C)730624	1107			1000	0.24	0.03	0.62	0.06	9.0
730624	2025	(C)730624	2027			2200	0.41	0.03	0.52	0.10	8.0
730625	0815	(C)730625	0817			1400	0.36	0.01	0.68	0.12	8.0
730625	2040	(C)730625	2042			2200	0.39	0.03	0.85	0.11	10.0
730626	0904	(C)730626	0906			1200	0.34	0.01K	0.83	0.07	12.0
730626	2035	(C)730626	2037			2400	0.28	0.01K	0.72	0.10	13.0
730627	1010	(C)730627	1012			1500	0.37	0.01K	0.50	0.07	14.0
730627	2345	(C)730627	2347			2000	0.05	0.01K	0.45	0.09	6.0
730624											
NUMBER							8	8	8	8	8
MAXIMUM							0.41	0.03	0.85	0.12	14.0
MINIMUM							0.05	0.01K	0.45	0.06	6.0
LOG MEAN							0.27	0.02	0.63	0.09	9.7
730627											

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC - FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
		730624	1105	1	50	1000	117.0	700	30	
		730624	1106	12	50	1000	96.0			
		730624	1107	22	50	1000	12550.0			
		730624	2025	1	50	2200	66.0	2200	490	
		730624	2026	12	50	2200	350.0			
		730624	2027	24	50	2200	10100.0			
730624	2025	(C)730624	2027			2200				7.1
		730625	0815	1	50	1400	400.0	7900	130	
		730625	0816	11	50	1400	200.0			
		730625	0817	21	50	1400	13000.0			
		730625	2040	1	50	2200	125.0	2000	95	
		730625	2041	11	50	2200	350.0			
		730625	2042	21	50	2200	13250.0			
		730626	0904	1	50	1200	700.0	7900	330	
		730626	0905	12	50	1200	450.0			
		730626	0906	23	50	1200	13750.0			
		730626	2035	1	50	2400	75.0	7900	230	
		730626	2036	11	50	2400	150.0			
		730626	2037	22	50	2400	13250.0			
		730627	1010	1	50	1500	575.0	4600	330	
		730627	1011	12	50	1500	500.0			
		730627	1012	23	50	1500	14000.0			
		730627	2345	1	50	2000	250.0			
		730627	2346	10	50	2000	150.0			
		730627	2347	20	50	2000	1700.0			
730624										
NUMBER							24	7	7	1
MAXIMUM							14000.0	7900	490	
MINIMUM							66.0	700	30	
LOG MEAN							768.9	3541	173	
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 1< CHICKASAW CK BELOW HOG BAYOU MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 HSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	1100	1	50	1000	31.5		0.0		
			730624	1101	12	50	1000	30.0		0.0		
			730624	1102	25	50	1000	30.5		0.0		
730624	1100	(C)	730624	1102			1000		18			7.0
			730624	2035	1	50	2100	33.5		0.0		
			730624	2036	12	50	2100	30.0		0.0		
			730624	2037	24	50	2100	26.5		0.0		
730624	2035	(C)	730624	2037			2100		36			
			730625	0800	1	50	1600	32.0		0.0		
			730625	0807	13	50	1600	29.0		0.5		
			730625	0808	25	50	1600	26.5		0.0		
730625	0805	(C)	730625	0808			1600		23			7.1
			730625	2030	1	50	2200	32.0		0.0		
			730625	2031	13	50	2200	30.5		0.0		
			730625	2032	25	50	2200	27.0		0.0		
730625	2030	(C)	730625	2032			2200		20			7.0
			730626	0900	1	50	1200	32.0		0.0		
			730626	0901	13	50	1200	30.0		0.0		
			730626	0902	26	50	1200	27.0		0.0		
730626	0900	(C)	730626	0902			1200		20			7.2
			730626	2030	1	50	2400	34.0		0.0		
			730626	2031	12	50	2400	31.0		0.0		
			730626	2032	24	50	2400	26.5		0.0		
730626	2030	(C)	730626	2032			2400		32			7.2
			730627	0959	1	50	1600	34.0		0.0		
			730627	1000	13	50	1600	29.5		0.0		
			730627	1001	26	50	1600	27.5		0.0		
730627	0959	(C)	730627	1001			1600		38		34.0	8.4
			730627	2340	1	50	2000	32.5		0.0		
			730627	2341	12	50	2000	30.5		0.0		
			730627	2342	23	50	2000	28.0		0.0		
730627	2340	(C)	730627	2342			2000		32		25.0	7.4
730624												
								24	8	24	2	7
								34.0	38	0.5	34.0	8.4
								26.5	18	0.0	25.0	7.0
								30.0	26	0.0	29.2	7.3
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 12 CHICKASAW CK BELOW HOG BAYOU MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L
730624	1100	(C)	730624	1102			1000	0.03	0.01K	0.56	0.30	22.0
730624	2035	(C)	730624	2037			2100	0.14	0.01K	0.68	0.10	29.0
730625	0806	(C)	730625	0808			1600	0.06	0.01K	0.50	0.08	22.0
730625	2030	(C)	730625	2032			2200	0.10	0.01K	0.63	0.95	25.0
730626	0900	(C)	730626	0902			1200	0.25	0.01K	1.13	0.06	16.0
730626	2030	(C)	730626	2032			2400	0.22	0.01K	0.85	0.50	18.0
730627	0959	(C)	730627	1001			1600	0.05	0.02	0.28	0.50	44.0
730627	2340	(C)	730627	2342			2000	0.14	0.01K	0.68	0.07	36.0
730624												
	NUMBER							8	8	8	8	8
	MAXIMUM							0.25	0.02	1.13	0.95	44.0
	MINIMUM							0.03	0.01K	0.28	0.06	16.0
	LOG MEAN							0.10	0.01	0.62	0.20	25.2
730627												

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
			730624	1100	1	50	1000	525.0	24000	1700	
			730624	1101	12	50	1000	650.0			
			730624	1102	25	50	1000	700.0			
			730624	2035	1	50	2100	375.0	150000	4800	
			730624	2036	12	50	2100	700.0			
			730624	2037	24	50	2100	12500.0			
730624	2035	(C)	730624	2037			2100				7.2
			730625	0806	1	50	1600	525.0	54000	1700	
			730625	0807	13	50	1600	950.0			
			730625	0808	25	50	1600	16000.0			
			730625	2030	1	50	2200	550.0	11000	700	
			730625	2031	13	50	2200	1000.0			
			730625	2032	25	50	2200	13750.0			
			730626	0900	1	50	1200	600.0	2200	130	
			730626	0901	13	50	1200	2800.0			
			730626	0902	25	50	1200	15000.0			
			730626	2030	1	50	2400	525.0	1700	110	
			730626	2031	12	50	2400	950.0			
			730626	2032	24	50	2400	15000.0			
			730627	0959	1	50	1600	375.0	3300	230	
			730627	1000	13	50	1600	1700.0			
			730627	1001	26	50	1600	14300.0			
			730627	2340	1	50	2000	575.0			
			730627	2341	12	50	2000	900.0			
			730627	2342	23	50	2000	9500.0			
730624											
	NUMBER							24	7	7	1
	MAXIMUM							16000.0	150000	4800	
	MINIMUM							375.0	1700	110	
	LOG MEAN							1711.6	11487	611	
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 13 CHICKASAW CK AT MOUTH-L&N RR BRD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	0918	1	20	1100	34.0		0.0		
		730624	0919	10	20	1100	30.0		0.0		
		730624	0920	20	20	1100	27.5		0.0		
		730624	0930	1	50	1100	32.0		0.0		
		730624	0931	13	50	1100	28.5		0.0		
		730624	0932	27	50	1100	26.5		0.7		
		730624	0934	4	80	1100			0.0		
730624	0918 (C)	730624	0934			1100		24			6.9
		730624	2045	1	20	2100	33.5		0.8		
		730624	2046	13	20	2100			0.0		
		730624	2047	25	20	2100	26.5		0.0		
		730624	2048	1	50	2100	33.5		0.0		
		730624	2049	13	50	2100	30.0		0.0		
		730624	2050	25	50	2100	26.5		0.0		
		730624	2055	4	80	2100	32.5		0.0		
730624	2045 (C)	730624	2055			2100		24			
		730625	0750	-1	20	1500	24.5		0.0		
		730625	0751	14	20	1500	29.0		0.0		
		730625	0752	27	20	1500	26.5		0.6		
		730625	0754	1	50	1500	32.5		0.0		
		730625	0755	14	50	1500	29.0		0.7		
		730625	0756	27	50	1500	26.5		0.7		
		730625	0801	4	80	1600	32.0		0.0		
730625	0750 (C)	730625	0801			1600		22			6.7
		730625	1900	1	20	2400	33.5		0.0		
		730625	1901	11	20	2400			0.0		
		730625	1902	21	20	2400	30.0		0.0		
		730625	1905	1	50	2400	32.5		0.0		
		730625	1907	13	50	2400	29.0		0.0		
		730625	1908	25	50	2400	26.5		0.0		
		730625	1910	4	80	2400	32.0		0.0		
730625	1900 (C)	730625	1910			2400		28			6.9
		730626	0840	1	20	1200	33.0		0.0		
		730626	0841	14	20	1200			1.1		
		730626	0842	27	20	1200	26.5		1.3		
		730626	0844	1	50	1200	32.0		0.0		
		730626	0845	15	50	1200	32.0		0.0		
		730626	0846	29	50	1200	26.5		0.9		
		730626	0848	4	80	1200	32.0		0.0		
730626	0840 (C)	730626	0848			1200		26			6.9
		730626	1903	1	20	2100	33.5		0.0		
		730626	1904	13	20	2100	30.0		0.0		
		730626	1905	25	20	2100	27.5		0.0		
		730626	1907	1	50		33.5		0.0		
		730626	1908	14	50	2100	30.5		0.0		
		730626	1909	27	50	2100	27.5		0.0		
		730626	1912	4	80	2100	34.0		0.0		

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 13 CHICKASAW CK AT MOUTH-L&N RR BRD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
730926	1903	(C)730926	1912			2100		33			7.1
		730927	0945	1	20	1500	32.5		0.0		
		730927	0946	15	20	1500	28.5		2.4		
		730927	0947	28	20	1500	27.0		0.7		
		730927	0948	1	50	1500	32.5		0.0		
		730927	0949	14	50	1500	29.0		4.0		
		730927	0950	27	50	1500	28.5		0.9		
		730927	0955	4	80	1600	30.0		2.4		
730927	0945	(C)730927	0955			1500		31		5.7	7.1
		730927	2320	1	20	2100	33.0		0.0		
		730927	2321	11	20	2100	31.0		0.0		
		730927	2322	21	20	2100	30.0		0.0		
		730927	2326	1	50	2100	32.5		0.0		
		730927	2327	13	50	2100	30.5		0.0		
		730927	2328	25	50	2100	29.0		0.0		
		730927	2330	3	80	2100	31.0		0.0		
730927	2320	(C)730927	2330			2100		38		21.0	7.1
730924											
NUMBER							32	8	36	2	7
MAXIMUM							34.0	38	4.0	21.0	7.1
MINIMUM							26.5	22	0.0	5.7	6.7
LOG MEAN							30.1	28	0.0	10.9	7.0
730927											

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C MG/L
730924	0918	(C)730924	0934			1100	0.03	0.01K	0.60	0.35	30.0
730924	2045	(C)730924	2055			2100	0.05	0.01	0.70	0.16	31.0
730925	0750	(C)730925	0801			1000	0.08	0.02	0.68	0.15	24.0
730925	1900	(C)730925	1910			2400	0.09	0.01	0.75	0.57	31.0
730926	0840	(C)730926	0848			1200	0.01	0.01	0.85	0.20	29.0
730926	1903	(C)730926	1912			2100	0.02	0.01K	0.68	0.23	40.0
730927	0945	(C)730927	0955			1500	0.10	0.13	0.34	0.14	14.0
730927	2320	(C)730927	2330			2100	0.14	0.01K	0.68	0.17	
730924											
NUMBER							8	8	8	8	7
MAXIMUM							0.14	0.13	0.85	0.57	40.0
MINIMUM							0.01	0.01K	0.34	0.14	14.0
LOG MEAN							0.05	0.02	0.64	0.22	27.3
730927											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 13 CHICKASAW CK AT MOUTH-L&N RR BRD MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLDC FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
			730824	0918	1	20	1100	350.0			
			730824	0919	10	20	1100	400.0			
			730824	0920	20	20	1100	12600.0			
			730824	0930	1	50	1100	250.0			
			730824	0931	13	50	1100	2000.0			
			730824	0932	27	50	1100	13250.0			
730824	0918	(C)	730824	0933	1		1100		13000	490	
			730824	0934	4	80	1100	300.0			
			730824	2045	1	20	2100	375.0			
			730824	2046	13	20	2100	700.0			
			730824	2047	25	20	2100	13750.0			
			730824	2048	1	50	2100	350.0			
			730824	2049	13	50	2100	500.0			
			730824	2050	25	50	2100	14250.0			
730824	2045	(C)	730824	2054	1		2100		54000	2200	
			730824	2055	4	80	2100	300.0			
730824	2045	(C)	730824	2055			2100				7.0
			730825	0750	1	20	1500	175.0			
			730825	0751	14	20	1500	2450.0			
			730825	0752	27	20	1500	14750.0			
			730825	0753	1	50	1500	250.0			
			730825	0755	14	50	1500	3000.0			
			730825	0759	27	50	1500	14750.0			
730825	0750	(C)	730825	0900	1		1600		23000	750	
			730825	0901	4	80	1600	225.0			
			730825	1900	1	20	2400	400.0			
			730825	1901	11	20	2400	8000.0			
			730825	1902	21	20	2400	2000.0			
			730825	1903	1	50	2400	450.0			
			730825	1907	13	50	2400	1000.0			
			730825	1908	25	50	2400	13250.0			
730825	1908	(C)	730825	1909	1		2400		140000	940	
			730825	1910	4	80	2400	350.0			
			730826	0941	1	20	1200	250.0			
			730826	0942	13	20	1200	1300.0			
			730826	0946	27	20	1200	14000.0			
			730826	0944	1	50	1200	237.0			
			730826	0945	13	50	1200	3500.0			
			730826	0948	25	50	1200	15250.0			
730826	0840	(C)	730826	0947	1		1200		3300	2300	
			730826	0949	4	80	1200	227.0			
			730826	1903	1	20	2100	325.0			
			730826	1904	13	20	2100	750.0			
			730826	1905	25	20	2100	13500.0			
			730826	1906	14	50	2100	1250.0			
			730826	1909	27	50	2100	13750.0			
730826	1904	(C)	730826	1911	1		2100		17000	3300	
			730826	1912	4	80	2100	300.0			
			730827	0943	1	20	1500	175.0			
			730827	0944	13	20	1500	2250.0			
			730827	0947	28	20	1500	13500.0			
			730827	0948	1	50	1500	175.0			
			730827	0949	14	50	1500	1400.0			
			730827	0950	27	50	1500	14000.0			
730827	0943	(C)	730827	0954	1		1500		54000	4400	
			730827	0955	4	80	1500	425.0			
			730827	2320	1	20	2100	500.0			
			730827	2321	11	20	2100	700.0			
			730827	2322	21	20	2100	2000.0			
			730827	2325	1	50	2100	500.0			
			730827	2327	13	50	2100	450.0			
			730827	2328	25	50	2100	5250.0			
			730827	2330	4	80	2100	525.0			

730824
730827

NUMBER	55	7	7
MAXIMUM	15550.0	140000	4900
MINIMUM	175.0	3300	490
LOG MEAN	1341.4	27147	1012

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WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 14 THREEMILE CK-RR BRIDGE AT MI 6.4 MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLOC % FROM RT BANK	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L
		730624	0945	0	50	25.0	10	7.9		6.8	0.10	0.20
		730625	1210	0	50	30.0	11	7.2		6.8	0.34	0.24
		730626	1245	1	50	30.5	10	7.0		6.8	0.28	0.22
		730627	0720	0	50	24.5	10	6.6	2.6	6.8	0.14	0.20
730624												
NUMBER						4	4	4	1	4	4	4
MAXIMUM						30.5	11	7.9		6.8	0.34	0.24
MINIMUM						24.5	10	6.6		6.8	0.10	0.20
LOG MEAN						27.4	10	7.2		6.8	0.19	0.21
730627												

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLOC % FROM RT BANK	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C MG/L C	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
		730624	0945	0	50	0.30	0.04	9.0	6.0	35000	7900	6.9
		730625	1210	0	50	0.75	0.30	3.0	6.0	350000	130000	6.6
		730625	1245	1	50	0.45	0.07	3.0	6.0	130000	49000	6.8
		730627	0720	0	50	0.22	0.07	2.0	6.0	130000	49000	6.9
730624												
NUMBER						4	4	4	4	4	4	4
MAXIMUM						0.75	0.30	9.0	6.0	350000	130000	6.9
MINIMUM						0.22	0.07	2.0	6.0	35000	7900	6.6
LOG MEAN						0.39	0.11	3.5	6.0	119951	39627	6.8
730627												

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 15 THREEMILE CK AT US HWY 45 BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	1010	2	50	1000	24.0	11	5.1		6.5
		730625	1140	1	50	1000	27.0	22	4.7		6.7
		730626	1320	2	50	1000	28.5	14	7.2		6.8
		730627	0750	1	50	1100	25.5	11	1.3	4.6	6.4
730624											
NUMBER							4	4	4	1	4
MAXIMUM							28.5	22	7.2		6.8
MINIMUM							24.0	11	1.3		6.4
LOG MEAN							26.2	14	3.9		6.6
730627											

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L
		730624	1010	2	50	1000	0.52	0.40	0.88	0.13	10.0
		730625	1140	1	50	1000	0.70	0.35	1.25	0.55	4.0
		730626	1320	2	50	1000	0.24	0.29	0.48	0.23	4.0
		730627	0750	1	50	1100	0.54	0.30	0.87	0.28	5.0
730624											
NUMBER							4	4	4	4	4
MAXIMUM							0.70	0.40	1.25	0.55	10.0
MINIMUM							0.24	0.29	0.48	0.13	4.0
LOG MEAN							0.47	0.33	0.82	0.26	5.3
730627											

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 SAMPLOC % FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
		730624	1010	2	50	1000	9.0	<40000L	160000	6.3
		730625	1140	1	50	1000	11.0	490000	230000	6.3
		730626	1320	2	50	1000	8.0	130000	28000	6.5
		730627	0750	1	50	1100	9.0	790000	330000	6.6
730624										
NUMBER							4	4	4	4
MAXIMUM							11.0	790000L	330000	6.6
MINIMUM							8.0	130000	28000	6.3
LOG MEAN							9.2	331508	135793	6.4
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 16 THREEMILE CK AT US HWY 43 BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
		730624	0850	1	50	1200	27.0		0.8		
		730624	0851	5	50	1200	27.0		0.0		
		730624	0852	9	50	1200	26.5		0.5		
730624	0850 (C)	730624	0852			1200		8			7.0
		730624	1915	1	50	2400	25.5		5.3		
		730624	1916	5	50	2400	25.5		5.7		
		730624	1917	9	50	2400	25.5		0.0		
730624	1915 (C)	730624	1917			2400		13			
		730625	0729	1	50	1300	27.5		0.8		
		730625	0729	5	50	1300	28.0		0.5		
		730625	0730	10	50	1300	28.0		0.0		
730625	0729 (C)	730625	0730			1300		13			6.9
		730625	1829	1	50	2200	31.5		10.3		
		730625	1830	5	50	2200	30.0		5.3		
		730625	1831	9	50	2200	27.5		0.0		
730625	1829 (C)	730625	1831			2200		25			7.0
		730626	0755	1	50	1100	28.0		0.7		
		730626	0756	5	50	1100	28.0		0.0		
		730626	0757	10	50	1100	28.0		0.0		
730626	0755 (C)	730626	0757			1100		12			6.9
		730626	1830	1	50	2100	30.5		4.5		
		730626	1831	5	50	2100	29.0		0.0		
		730626	1832	9	50	2100	28.0		0.0		
730626	1830 (C)	730626	1832			2100		10			6.8
		730627	0855	1	50	1200	29.0		3.4		
		730627	0856	5	50	1200	29.0		3.1		
		730627	0857	10	50	1200	29.0		2.3		
730627	0855 (C)	730627	0857			1200		16		2.9	6.9
		730627	2030	4	50	2400	28.5	8	0.0	4.0	6.8
730624											
NUMBER							22	8	22	2	7
MAXIMUM							31.5	25	10.3	4.0	7.0
MINIMUM							25.5	8	0.0	2.9	6.8
LOG MEAN							28.0	12	0.0	3.4	6.9
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 1- THREEMILE CK AT US HWY 43 BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C MG/L
730624	0850	(C)	730624	0852			1200	3.65	0.08	3.94	2.00	9.0
730624	1915	(C)	730624	1917			2400	1.12	0.26	5.60	3.70	16.0
730625	0728	(C)	730625	0730			1300	3.20	0.10	3.13	1.75	9.0
730625	1829	(C)	730625	1831			2200	3.92	0.42	4.52	3.60	13.0
730626	0755	(C)	730626	0757			1100	2.65	0.10	2.76	1.70	9.0
730626	1830	(C)	730626	1832			2100	5.80	0.15	7.70	3.50	16.0
730627	0855	(C)	730627	0857			1200	1.12	0.19	1.32	0.70	6.0
			730627	2036	4	50	2400	5.80	0.27	5.10	3.00	
730624												
	NUMBER							8	8	8	8	7
	MAXIMUM							5.80	0.42	7.70	3.70	16.0
	MINIMUM							1.12	0.08	1.32	0.70	6.0
	LOG MEAN							2.91	0.17	3.81	2.22	10.6
730627												

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPNECMED /100ML	00400 PH SU
			730624	0850	1	50	1200	98.0	24000	24000	
			730624	0851	5	50	1200	130.0			
			730624	0852	9	50	1200	145.0			
			730624	1915	1	50	2400	46.0	11000	1700	
			730624	1916	5	50	2400	42.0			
			730624	1917	9	50	2400	42.0			
730624	1915	(C)	730624	1917			2400				7.0
			730625	0728	1	50	1300	250.0	3300	1100	
			730625	0729	5	50	1300	125.0			
			730625	0730	10	50	1300	200.0			
			730625	1829	1	50	2200	61.0	3300	330	
			730625	1830	5	50	2200	56.0			
			730625	1831	9	50	2200	44.0			
			730626	0755	1	50	1100	300.0	4900	1100	
			730626	0756	5	50	1100	300.0			
			730626	0757	10	50	1100	300.0			
			730626	1830	1	50	2100	48.0	160000	7000	
			730626	1831	5	50	2100	46.0			
			730626	1832	9	50	2100	42.0			
			730627	0855	1	50	1200	350.0	1300	110	
			730627	0856	5	50	1200	350.0			
			730627	0857	10	50	1200	350.0			
			730627	2036	4	50	2400	52.0			
730624											
	NUMBER							22	7	7	1
	MAXIMUM							350.0	160000	24000	
	MINIMUM							42.0	1300	110	
	LOG MEAN							109.8	8391	1435	
730627											

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 17 THREEMILE Cr AT L&N RR BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00610 NH3-N TOTAL MG/L	00630 NO2&NO3 N-TOTAL MG/L	00625 NH3&ORG N-TOTAL MG/L	00665 PHOS-TOT MG/L P	00680 T ORG C C MG/L
730624	0845	(C)730624	0847			1200	1.05	0.18	1.27	0.60	7.0
730624	1910	(C)730624	1912			2500	3.25	0.09	3.28	1.90	9.0
730625	0720	(C)730625	0722			1300	0.50	0.14	0.88	0.38	
730625	1620	(C)730625	1622			2200	2.76	0.12	2.95	1.80	10.0
730626	0750	(C)730626	0752			1100	0.14	0.24	0.52	0.19	9.0
730626	1825	(C)730626	1827			2000	3.15	0.11	3.30	2.00	11.0
730627	0835	(C)730627	0837			1200	0.10	0.29	0.37	0.10	4.0
730627	2030	(C)730627	2032			2400	3.02	0.15	3.30	2.10	
730624											
NUMBER							8	8	8	8	6
MAXIMUM							3.25	0.29	3.30	2.10	11.0
MINIMUM							0.10	0.09	0.37	0.10	4.0
LOG MEAN							0.94	0.15	1.48	0.71	7.9
730627											

DATE	TIME	DATE	TIME	00003 DEPTH FEET	00002 %SAMPLOC FROM RT BANK	70211 TIDE STAGE	00940 CHLORIDE CL MG/L	31505 TOT COLI MPN CONF /100ML	31615 FEC COLI MPN CMED /100ML	00400 PH SU
		730624	0845	1	50	1200	350.0	2300	110	
		730624	0846	5	50	1200	350.0			
		730624	0847	11	50	1200	350.0			
		730624	1910	1	50	2500	227.0	7900	1700	
		730624	1911	5	50	2500	220.0			
		730624	1912	10	50	2500	200.0			
730624	1910	(C)730624	1912			2500				7.1
		730625	0720	1	50	1300	275.0	3100	140	
		730625	0721	6	50	1300	300.0			
		730625	0722	11	50	1300	600.0			
		730625	1620	1	50	2200	150.0	4900	490	
		730625	1621	6	50	2200	200.0			
		730625	1622	11	50	2200	500.0			
		730626	0750	1	50	1100	350.0	3300	170	
		730626	0751	5	50	1100	375.0			
		730626	0752	10	50	1100	525.0			
		730626	1825	1	50	2000	200.0	7900	790	
		730626	1826	5	50	2000	250.0			
		730626	1827	9	50	2000	400.0			
		730627	0835	1	50	1200	200.0	1100	310	
		730627	0836	6	50	1200	225.0			
		730627	0837	12	50	1200	450.0			
		730627	2030	1	50	2400	150.0			
		730627	2031	5	50	2400	200.0			
		730627	2032	10	50	2400	600.0			
730624										
NUMBER							24	7	7	1
MAXIMUM							600.0	7900	1700	
MINIMUM							150.0	1100	110	
LOG MEAN							293.0	3605	341	
730627										

WATER QUALITY DATA
MOBILE RIVER AND TRIBUTARIES

STATION - 17 THREEMILE CK AT L&N RR BRIDGE MOBILE RIVER BASIN MOBILE STUDY

DATE	TIME		DATE	TIME	00003 DEPTH FEET	00002 MSAMPLOC % FROM RT BANK	70211 TIDE STAGE	00010 WATER TEMP CENT	00070 TURB JKSN JTU	00300 DO MG/L	00310 BOD 5 DAY MG/L	00403 LAB PH SU
			730624	0845	1	50	1200	27.5		2.0		
			730624	0846	5	50	1200	27.5		2.1		
			730624	0847	11	50	1200	27.0		2.0		
730624	0845	(C)	730624	0847			1200		15			7.1
			730624	1910	1	50	2500	26.5		2.4		
			730624	1911	5	50	2500	26.5		1.7		
			730624	1912	11	50	2500	26.5		1.3		
730624	1910	(C)	730624	1912			2500		13			
			730625	0720	1	50	1300	28.0		3.7		
			730625	0721	6	50	1300	28.0		3.4		
			730625	0722	11	50	1300	28.0		2.1		
730625	0720	(C)	730625	0722			1300		22			6.9
			730625	1820	1	50	2200	30.0		3.3		
			730625	1821	6	50	2200	29.5		2.8		
			730625	1822	11	50	2200	29.0		1.9		
730625	1820	(C)	730625	1822			2200		16			7.0
			730626	0750	1	50	1100	28.0		2.8		
			730626	0751	5	50	1100	28.0		2.6		
			730626	0752	10	50	1100	28.0		2.1		
730626	0750	(C)	730626	0752			1100		25			6.9
			730626	1425	1	50	2000	29.5		2.7		
			730626	1426	5	50	2000	29.0		1.5		
			730626	1427	9	50	2000	29.0		1.0		
730626	1425	(C)	730626	1427			2000		12			6.9
			730627	0835	1	50	1200	28.5		5.5		
			730627	0836	6	50	1200	28.5		5.3		
			730627	0837	12	50	1200	28.5		4.2		
730627	0835	(C)	730627	0837			1200		22		1.5	7.0
			730627	2030	1	50	2400	28.5		0.8		
			730627	2031	5	50	2400	28.5		1.0		
			730627	2032	10	50	2400	28.5		2.4		
730627	2030	(C)	730627	2032			2400		11		5.2	7.0
730624												
[illegible]								24	8	24	2	7
MAXIMUM								30.0	25	5.5	5.2	7.1
MINIMUM								26.5	11	0.8	1.5	6.9
[illegible]								28.2	16	2.3	2.8	7.0
730627												

The planning and operation of this project was carried out under the supervision of Mr. B. H. Adams, Chief, Engineering Services Branch.

Mr. M. D. Lair was project engineer and principal author of this report.

All Environmental Protection Agency personnel are assigned to the Surveillance and Analysis Division located in Athens, Georgia. The Division is under the direction of Mr. J. A. Little.

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INTRODUCTION

The U. S. Environmental Protection Agency (EPA), Surveillance and Analysis Division, conducted waste source and water quality investigations of the Mobile River, Alabama, during June 1973. These studies, specifically requested by the Alabama Water Improvement Commission and the EPA, Air and Water Division, were limited to the Mobile River and tributaries between Mobile Bay and the confluence of the Spanish River. Primary study objectives were to:

- Determine the feasibility of upgrading current lower water use classifications of the Mobile River, Chickasaw Creek, and Threemile Creek to the Fish and Wildlife Use Classification;
- Generate industrial waste source data to permit evaluation of National Pollutant Discharge Elimination System Permits, and
- Conduct treatment efficiency studies at selected municipal waste treatment plants designated by the EPA Air and Water Division.

The cooperation of the Alabama Water Improvement Commission, the City of Mobile, Alabama, as well as the respective municipalities and industries is gratefully acknowledged.

STUDY FINDINGS

1. Industrial and municipal wastewater sources discharged the following pollutants and waste loads into Chickasaw Creek during the study:

   - International Paper Company (133.1 mgd) - including wastewaters (38.2 mgd), 5-day biological oxygen demand (65,100 lbs/day), suspended solids (40,700 lbs/day), ammonia (107 lbs/day), phenols (726 lbs/day); heated water from the primary clarifier discharge (36.4 mgd at 48.5°C); and cooling water discharges (60.4 mgd at a temperature rise of 5°C).
   - Scott Paper Company (64.6 mgd) - 5-day biochemical oxygen demand (20,500 lbs/day), suspended solids (60,600 lbs/day), ammonia (531 lbs/day) and total phosphorus (2,060 lbs/day); the wastewater treatment system effluent (53.75 mgd) contained total and fecal coliform densities of 5,220 and 1,330/100 ml, respectively, as well as high temperature (40°C).
   - Diamond Shamrock Company (0.69 mgd) - 5-day biochemical oxygen demand (from 24 to <39 lbs/day), suspended solids (<25 to 61 lbs/day) and mercury (0.03 lbs/day).

- Union Carbide Company (0.97 mgd) - 5-day biochemical oxygen demand (<29.4 to <31.6 lbs/day), suspended solids (1,283 lbs/day), and ammonia (214 lbs/day).
- Chickasaw Steam Plant, Alabama Power Company - Recirculated 157.1 to 212.5 mgd of once-through cooling water at a temperature rise that ranged from 4.9 to 10.6°C.
- Chickasaw Municipal Lagoons (0.9 mgd) - 5-day biochemical oxygen demand (100 lbs/day), ammonia (31 lbs/day), suspended solids (172 lbs/day) and effluent total and fecal coliform densities of 100,000 and 19,000/100 ml, respectively.
- Prichard Eightmile Creek sewage treatment plants (STP) (1.63 mgd) - 5-day biochemical oxygen demand (680 lbs/day), ammonia (191 lbs/day), suspended solids (425 lbs/day), and effluent total and fecal coliform densities of from <1,500 to <190/100 ml, respectively.

2. The results of the water quality studies disclosed that the lower reaches of Chickasaw Creek downstream from Shell Bayou would not have met the following water quality criteria for the fish and wildlife use classification in the following areas:
   - Dissolved oxygen concentrations less than the required 5.0 mg/l.

- Increases in water temperature (temperature rise), caused by heated discharges, in excess of the permitted 5°F (2.8°C), and
- Fecal coliform densities in excess of the maximum 2,000/100 ml permitted for individual samples.

3. A mathematical model was used to predict the effects of wastewater discharges on Chickasaw Creek for the 7-day, 10-year low flow condition. The model showed that average daily dissolved oxygen concentrations associated with the fish and wildlife use classification could be met only if:
   - The combined Scott and International Paper Company 5-day biochemical oxygen demand loadings are removed from Chickasaw Creek. The application of Best Available Technology (BAT) to both Scott Paper Company and International Paper Company waste treatment would elevate the dissolved oxygen in lower Chickasaw Creek only to 2.0 mg/l;
   - The Chickasaw lagoons and Eightmile Creek STP's are upgraded to best practical treatment, and
   - All wastewater effluents maintained minimum effluent dissolved oxygen concentrations of 4.0 mg/l.

4. The respective Threemile Creek industrial and municipal wastewater sources discharged the following pollutants and waste loads during the study:

- Mobile Rosin Oil Company - Insignificant;
- Stone Container Company (0.10 mgd) - 5-day biochemical oxygen demand (18 lbs/day), lagoon effluent total and fecal coliform densities of 270,000 and 26,000/100 ml, respectively;
- Gulfport Creosoting Company (0.005 mgd) - 5-day biochemical oxygen demand (77 lbs/day) and phenols (1.5 lbs/day);
- Eagle Chemical Company (0.01 mgd) - suspended solids (30 lbs/day).
- Mobile Threemile Creek STP (6.23 mgd) - chemical oxygen demand (7,570 lbs/day), suspended solids (1,050 lbs/day), ammonia (718 lbs/day), and effluent total and fecal coliform densities of 110,000 and 7,400/100 ml, respectively.
- Prichard Grover Street STP (1.41 mgd) - 5-day biochemical oxygen demand (362 lbs/day), suspended solids (241 lbs/day), ammonia (38 lbs/day), nitrite-nitrate nitrogen (162 lbs/day), and total and fecal coliform densities of 3,000 and <550/100 ml, respectively.

5. Results of water quality studies disclosed that Threemile Creek would not have met the following water quality criteria for the fish and wildlife use classification:

- Dissolved oxygen concentrations less than the required 5 mg/l downstream from all major waste discharges, and
- Fecal coliform densities exceeding the permitted 2,000/100 ml in individual samples.

6. A mathematical model used to predict the effects of wastewater discharges on Threemile Creek at the 7-day, 10-year low flow condition showed that the highest attainable minimum average daily dissolved oxygen level was 2.6 mg/l, and then only if:
   - The Stone Container Corporation plant discharged their NPDES permitted load;
   - The Gulfport Creosoting Company facility discharged their interim guideline NPDES permitted load;
   - The Mobile Threemile Creek and Prichard Grover Street STP's convert to best practical treatment, and
   - All discharges maintained minimum effluent dissolved oxygen concentrations of 4 mg/l.
7. Mobile River industrial wastewater sources discharged the following pollutants and wasteloads during the study:
   - Alcoa (0.80 mgd) - 5-day biochemical oxygen demand (260 lbs/day) and suspended solids (1,870 lbs/day);
   - Ideal Cement Company (0.97 mgd) - suspended solids (675 lbs/day);

- Chevron Asphalt Company (1.31 mgd) - 5-day biochemical oxygen demand (<219 to 219 lbs/day), suspended solids (476 lbs/day) and oil and grease (<55 to 98 lbs/day), and
- Alabama Wood Treating (0.14 mgd) - 5-day biochemical oxygen demand (98 to 114 lbs/day), suspended solids (29 to 89 lbs/day), oil and grease (29 lbs/day), and phenols (11.3 lbs/day).

8. The McDuffie Island STP and the National Gypsum Company plant wastewaters discharge into Mobile Bay and the Garrows Bend area of Mobile Bay, respectively. During the study, these sources discharged the following pollutants and waste loads:
   - National Gypsum Company (1.01 mgd) - 5-day biochemical oxygen demand (2,150 lbs/day) and suspended solids (2,030 lbs/day) and effluent total and fecal coliform densities of 9,300,000 and 53,000/100 ml, respectively, and
   - McDuffie Island STP (5.14 mgd) - 5-day biochemical oxygen demand (2,270 lbs/day), suspended solids (1,720 lbs/day), ammonia (677 lbs/day), oil and grease (<259 to 643 lbs/day), cyanide (11.3 lbs/day), and effluent total and fecal coliform densities of 1,700 and 330/100 ml, respectively.
9. Mobile River dissolved oxygen concentrations less than the 5.0 mg/l which would be required by the water

quality criteria associated with the fish and wildlife use classification were detected during the study. Almost all of the low dissolved oxygen concentrations were found at mid-depth and bottom sampling locations, particularly those located downstream from the Cochran Bridge in the Mobile River Ship Channel.

10. A mathematical model capable of predicting the effects of Chickasaw Creek, Threemile Creek and direct waste discharges on the dissolved oxygen balance of the Mobile River is not currently available. Therefore, no predictions of Mobile River dissolved oxygen concentrations at the 7-day, 10-year low flow condition were made.

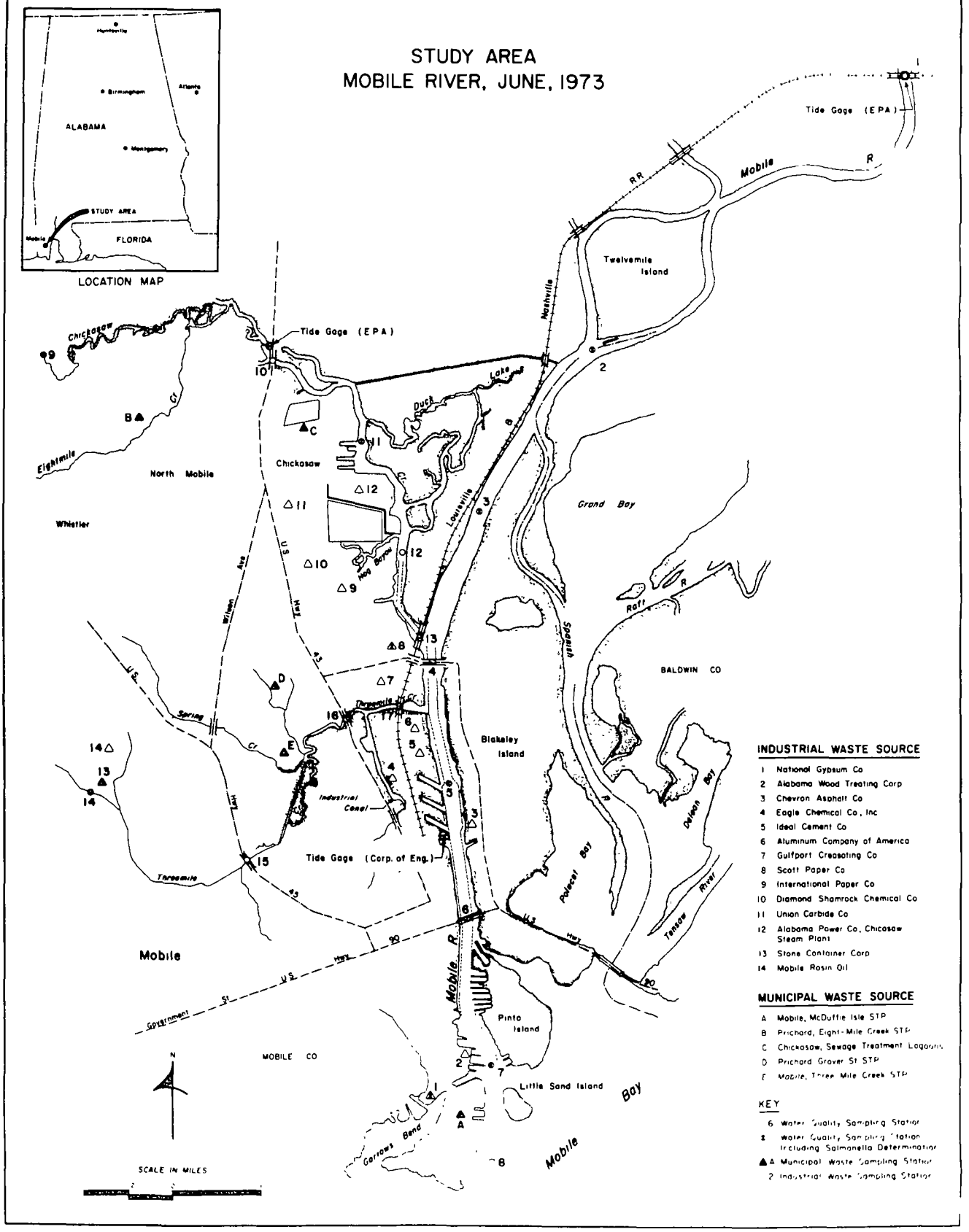
STUDY AREA

GENERAL

The study area was confined to the reach of the Mobile River Basin between the Louisville and Nashville (L and N) Railroad bridge and Mobile Bay (Figure 1). Two major tributaries of the Mobile River, Chickasaw and Threemile Creeks, were of primary interest. The study area also included portions of the cities of Mobile, Prichard and Chickasaw, Alabama. These cities encompass most of the Mobile County population of 317,000 (1970 census). The Mobile metropolitan area is heavily industrialized with almost all major industry located on the shores of the Mobile River, Chickasaw Creek, and Threemile Creek, within the confines of the study area. The port of Mobile is one of the largest and most important seaports on the Gulf of Mexico. The Alabama State Docks, located on the Mobile River, provide port and auxiliary facilities for the extensive waterborn traffic utilizing the port. The port also provides extensive inland waterway transportation facilities serving the Warrior, Tombigbee and Alabama River systems.

The Mobile River is navigable from its mouth to St. Louis Point (just upstream from Threemile Creek) for large ships and along its entire length for barge traffic. The authorized depth of the Mobile River channel to St. Louis

FIGURE


STUDY AREA
MOBILE RIVER, JUNE, 1973
LOCATION MAP
ALABAMA
FLORIDA
STUDY AREA
Tide Gage (EPA)
Mobile R
R.R.
Twelvemile Island
Nashville
Chickasaw
Eightmile Cr
North Mobile
Whistler
Duck Lake
Lowesville
Grand Bay
Wilson Ave
U.S. Hwy 43
Hog Bayou
Raft R
Spanish
BALDWIN CO
Spring Hill
Industrial Canal
Tide Gage (Corp. of Eng.)
Blakeley Island
Polecat Bay
Dyas Bay
Tensaw River
Threemile
Mobile
U.S. Hwy 90
Government St
Pinto Island
MOBILE CO
Little Sand Island
Garrows Bend
Bay
SCALE IN MILES
INDUSTRIAL WASTE SOURCE
1 National Gypsum Co
2 Alabama Wood Treating Corp
3 Chevron Asphalt Co
4 Eagle Chemical Co., Inc
5 Ideal Cement Co
6 Aluminum Company of America
7 Gulfport Creosoting Co
8 Scott Paper Co
9 International Paper Co
10 Diamond Shamrock Chemical Co
11 Union Carbide Co
12 Alabama Power Co., Chicasaw Steam Plant
13 Stone Container Corp
14 Mobile Rosin Oil
MUNICIPAL WASTE SOURCE
A Mobile, McDuffie Isle STP
B Prichard, Eight-Mile Creek STP
C Chickasaw, Sewage Treatment Lagoons
D Prichard Grover St STP
E Mobile, Three Mile Creek STP
KEY
6 Water Quality Sampling Station
1 Water Quality Sampling Station Including Salmonella Determination
▲A Municipal Waste Sampling Station
2 Industrial Waste Sampling Station

Point is 40 feet. From St. Louis Point to Chickasaw Creek, controlling depths are 25 feet. From Chickasaw Creek to the confluence of the Alabama and Tombigbee Rivers, the controlling depth of the Mobile River is 14 feet.(1)

Major industries located on the Mobile River include the Alcoa Corporation, the Ideal Cement Company, the Alabama Wood Preserving Company and the Chevron Oil Company. All of these industries discharge wastes into the study area. In addition, the National Gypsum Company discharges waste into the Garrows Bend area and the Mobile McDuffie Island sewage treatment plant discharges into Mobile Bay just below the mouth of the Mobile River.

Threemile Creek enters the Mobile River from the western shore at River Mile (RM) 2.3. The creek provides access to the industrial canal which is located off Threemile Creek approximately one mile upstream from the mouth and extends about one mile southward. Controlling depth in Threemile Creek to and including the industrial canal is 12 feet. Threemile Creek is navigable for only a short distance upstream from the confluence of the industrial canal where the creek becomes a small stream providing drainage for a large area of Mobile. The Eagle Chemical Company discharges wastes into the industrial canal; the Gulfport Creosoting Company discharges wastes just downstream from the industrial canal, and the Stone Container Company discharges wastes into Threemile Creek

upstream at River Mile 6.4. Two sewage treatment plants, the Mobile Threemile Creek and Prichard Grover Street plants, also discharge wastes into Threemile Creek upstream from U. S. Highway 43 (Figure 1).

Chickasaw Creek also enters the Mobile River from the western shore at River Mile 3.2. The creek is navigable from its mouth to a point just downstream from Shell Bayou with a controlling depth of 25 feet. Several large industries, including the Scott and International Paper Companies, as well as the Diamond Shamrock and Union Carbide Chemical Companies, are located on and discharge wastes into the lower reaches of Chickasaw Creek. The Chickasaw steam plant of the Alabama Power Company discharges once-through cooling water into Chickasaw Creek just downstream from Shell Bayou. Municipal wastes from the cities of Chickasaw (Chickasaw Lagoons) and Prichard (Eight Mile Creek STP) are discharged into Chickasaw Creek upstream from Shell Bayou (Figure 1).

WATER USE AND STREAM CLASSIFICATIONS

The primary water uses of the Mobile River within the study area are for navigation, industrial water supply (primarily cooling water) and disposal of municipal and industrial wastewaters.

The current water use classifications for the Mobile River, Chickasaw Creek and Threemile Creek are:

Stream	Classification Limits	Classification
Mobile River	Spanish River to Mouth	Agricultural & Industrial Water Supply
Chickasaw Creek	Mobile River to Shell Bayou	Navigation
Chickasaw Creek	Shell Bayou to the Limit of Tidal Effects	Fish & Wildlife
Threemile Creek	Mobile River to Conception Street Road	Navigation
Threemile Creek	Conception Street Road to Mobile Street	Agricultural & Industrial Water Supply

The water quality criteria associated with each of these water use classifications is contained in Appendix D.

HYDROLOGY

The Mobile River discharge is influenced by natural diversion into the Tensaw River below Mt. Vernon, Alabama. It has been estimated that 60 percent of the flow in the Mobile River is diverted to the Tensaw River during periods of low to moderate flows and 50 percent is diverted during high flows.(2) The Mobile River flow is also affected by regulation of dams on the Alabama and Tombigbee Rivers.

The U. S. Geological Survey does not maintain a flow measuring station on the main stem of the Mobile River. However, gaging stations are located on the Tombigbee River near Coffeeville, Alabama, and on the Alabama River near Clairborn, Alabama. The combined drainage area above these

two stations is 40,500 square miles or 95 percent of the 43,000 square mile drainage area of both rivers at their confluence (RM 45). The maximum/minimum river discharge for the period of record at these stations are 153,000/957 cfs and 267,000/2,850 cfs for the Tombigbee and Alabama Rivers, respectively. The 7-day, 10-year low flow at Mt. Vernon, Alabama, (RM 42) has been estimated at 8,000 cfs. (2,3,4)

The entire Chickasaw Creek drainage basin (approximately 185 square miles at the U. S. Highway 43 bridge) is within Mobile County. The U. S. Geological Survey maintains a stream flow gaging station near Kushla, Alabama (Approximate RM 12.6). The drainage area above this gage is 125 square miles or 68 percent of the entire Chickasaw Creek drainage area. The 20-year average discharge at this station is 258 cfs. The maximum/minimum discharge for the period of record is 42,000/18 cfs. The 7-day, 10-year low flow at the gaging station is estimated to be 30.7 cfs.(4) The flow of Chickasaw Creek is affected by the withdrawal of an average 38.7 cfs (25 mgd) by the Scott Paper Company at the Shelton Beach Highway (RM 9.0). Considering the 38.7 cfs Scott Paper Company withdrawal at the Shelton Beach road, the 7-day, 10-year low flow at the U. S. Highway 43 bridge is estimated to be 47 cfs.

Data have not been published on the 7-day, 10-year low flow for Threemile Creek. However, the U. S. Geological Survey has estimated that the 7-day, 10-year low flow at

River Mile 6.4 is 9.8 cfs (for a drainage area of 12.1 square miles).(2) If the U. S. Geological survey estimate were applied over the entire Threemile Creek drainage basin (estimated at 26.6 square miles), the 7-day, 10-year low flow at the mouth would be 21.5 cfs.

TIDAL EFFECTS

The Mobile River is influenced by the tides as far upstream as Mt. Vernon, Alabama. Chickasaw Creek is tidal to Interstate Highway 65, and Threemile Creek is tidal to Stone Street in Mobile. The tides at Mobile are chiefly diurnal with a tide cycle of approximately 25 hours. The diurnal tide range (difference between high and low tide) is 1.5 feet for the Mobile River.

CLIMATOLOGY

The warm temperate climate of the Mobile area is significantly influenced by the Gulf of Mexico resulting in warm, humid summers and relatively mild winters. The average normal daily maximum and minimum temperatures for Mobile are 78.0 and 58.4°F, respectively. Normal daily maximum and minimum temperatures for June are 91.4 and 71.5°F, respectively.(5)

The normal rainfall total for Mobile is 68.13 inches which is uniformly distributed throughout the year. The normal rainfall total for June is 6.23 inches.

INDUSTRIAL WASTE SOURCES

Thirteen industrial sources that discharged directly into the receiving waters in the study area were sampled. A summary of waste concentrations and waste loads discharged from each plant are presented in Tables I and II, respectively. A complete listing of all industrial waste data collected during the study is presented in Appendix E. Industry locations are shown on Figure 1. Study results are discussed for each plant in the following sections.

Chickasaw Steam Plant

The Chickasaw Steam Plant, owned and operated by the Alabama Power Company, is a small electrical generating plant located on Chickasaw Creek. The plant is used primarily to provide power for peak electrical loads. Once-through cooling water is withdrawn from Chickasaw Creek through a discharge canal that enters the creek at the mouth of Hog Bayou.

During the study (June 24-27, 1973), cooling water pumpage ranged from 157.1 mgd to 212.5 mgd. Temperature rises through the plant ranged from 8.8°F (4.9°C) to 19.0°F (10.6°c).

TABLE 1

SUMMARY OF INDUSTRIAL WASTEWATER CONCENTRATIONS[1]
MOBILE, ALABAMA
JUNE 1973

Facility	Sample Design	Sample Location	Receiving Stream	Flow (mgd)	Temp (°C)	BOD_5 (mg/l)	TOC (mg/l)	COD (mg/l)	Solids (mg/l)			Nitrogenous Compounds (mg/l)			Tot Phos P (mg/l)	O&G (mg/l)	Lab pH	Heavy Metals and Toxic Compounds (µg/l)							Phenols[3]
									Total	Diss	Susp	TKN	NH_3	NO_2-NO_3				Hg[2]	Cd	Cr	Cu	Pb	Ni	Zn	
Alabama Wood Treating	AW-001[2]	Oil Sep Eff	Mobile River	0.01[4]	34.0	1170	1040	2000	1090	738	352	--	--	--	--	346	4.8	--	--	--	--	--	--	--	135,000
	AW-002[2]	Condensat Watet	Mobile River	0.13[4]	30.3	<8-15.0	3.3	9.0	148	129	<1-55	--	--	--	--	<5.0	7.9	--	--	--	--	--	--	--	237
Alcoa	A-001[2]	Composited from all Disch Points	Mobile River	0.80	--	39.0	52.0	135	1640	1360	280	--	--	--	--	--	8.6	--	<20	100	20	<100	90	20	--
	A-001A	Pump C Disch		0.230[4]	27.7	--	--	--	--	--	--	--	--	--	--	--	11.6	--	--	--	--	--	--	--	--
	A-001B	Press Leaf Disch		0.014[4]	33.5	--	--	--	--	--	--	--	--	--	--	--	1.5	--	--	--	--	--	--	--	--
	A-001C	Pump B Disch		0.200[4]	29.3	--	--	--	--	--	--	--	--	--	--	--	9.5	--	--	--	--	--	--	--	--
	A-001D	Power House Disch		0.500[4]	56.5	--	--	--	--	--	--	--	--	--	--	--	8.4	--	--	--	--	--	--	--	--
	A-001E	Heater Acid Disch		0.002[4]	40.0	--	--	--	--	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--	--
	A-001F	Pump A Disch		0.057[4]	28.3	--	--	--	--	--	--	--	--	--	--	--	12.1	--	--	--	--	--	--	--	--
Chevron Asphalt	CA-001[2]	Effluent Ditch	Mobile River	1.31[4]	28.0	<20-20	10.0	20.0	286	243	44	0.4	0.06	0.26	0.11	<5-9.0	6.8	--	--	--	--	--	--	--	<5-133
Diamond Shamrock	DS-001[2]	Treatment Systems Ditch	Hog Bayou to Chickasaw Cr	0.09	29.7	32.0	196	879	13200	13100	45.0	--	--	--	--	--	9.6	29.7	20	<40	25	165	150	25	--
	DS-002[2]	Cooling Water		0.60[4]	30.5	<8.0	3.7	9.0	192	185	<1.0-12.0	--	--	--	--	--	5.0	1.4	<20	<40	20	<100	<40	60	--
Eagle Chemical	EC-001	Lagoon Effluent	Industrial Canal to Threemile Creek	0.01	40.7	--	<1-1.0	<4.0	12410	12100	356	--	--	--	--	--	6.5	--	30	<40	70	290	130	170	--
Gulfport Creosoting	GC-001[2]	Plant Effluent	Threemile Cr	0.005[4]	29.0	1860	1280	3380	1300	1120	187	--	--	--	--	<5-12.0	4.7	--	--	--	--	--	--	--	35,200
Ideal Cement	IC-001[2]	Process Waste & Sewage	Mobile River	0.83	30.7	<16.0	7.7	33.0	796	759	<1-78	--	--	--	--	--	8.9	--	--	--	--	--	--	--	--
	IC-002[2]	Process waste	Mobile River	0.14[4]	26.0	<12.0	10.7	84.0	6600	6210	402	--	--	--	--	--	12.5	--	--	--	--	--	--	--	--
International Paper	IP-002[2]	Boiler Ash Pit	Hog Bayou	0.43	33.7	<16.0	6.0	14.0	509	496	13.0	--	--	--	--	--	7.4	--	--	--	--	--	--	--	--
	IP-003[2]	Power Plt Floor Drains	Hog Bayou	0.36	41.0	<20.0	19.0	85.0	620	563	56.0	--	--	---	--	--	5.5	--	--	--	--	--	--	--	--
	IP-012	Primary Trtmt Plt Eff	Chickasaw Cr	36.40	48.5	208	272	952	1490	1380	104	2.2	0.35	0.03	0.61	--	7.9	--	<20	<40	34	<100	<50	149	2,393
	IP-015[2]	Woodyard Log Flume (Inf)		34.50	35.7	38.7	56.0	149	686	660	27.0	--	--	--	--	--	6.9	--	--	--	--	--	--	--	--
	IP-015E[2]	Woodyard Log Flume (Eff)	Chickasaw Cr	34.50	32.7	33.0	48.0	135	3240	3170	68.0	--	--	--	--	--	6.8	--	--	--	--	--	--	--	--
	IP-018[2]	Cooling Water (Inf)		60.40	31.7	<5-20.0	16.7	56.0	577	523	54.0	--	--	--	--	--	6.5	--	<20	<40	585	<100	<50	86	--
	IP-018E[2]	Cooling Water (Eff)	Chickasaw Cr	60.40	36.7	<22.7	15.0	45.0	540	517	23.0	--	--	--	--	--	6.5	--	<20	<40	<20	<100	<50	35	--
	IP-1B[2]	Impoundment Basin	Chickasaw Cr	1.01	39.0	210	346	911	2590	2440	487	--	--	--	--	--	7.1	--	<20	<20-57	<20-97	<100	73	361	--
Mobile Rosin Oil	MR-001[2]	Plant Effluent	Threemile Cr	<0.001[4]	40.0	200	98.0	351	391	189	202	--	--	--	--	21.0	7.0	--	--	--	--	--	--	--	65
National Gypsum	NG-001	Treatment Systems Eff	Mobile Bay	1.01	30.3	255	302	952	3120	2880	241	16.2	4.15	0.01	2.40	--	8.0	--	<20	<50	27	<100-243	<50	718	48
Scott Paper	S-001	Waste Trtmt Sys Eff	Chickasaw Cr	53.75	40.0	34.7	62.5	241	1420	1350	75.0	3.4	1.05	<.01-.01	4.25	--	7.2	--	<20	<50	24	<100	<50	165	120
	S-002[3]	Bleach Plt Cl Sewer	Chickasaw Cr	5.93	36.2	76.0	126	294	1470	1450	23.0	1.8	27	0.08	0.60	--	2.4	--	<20	<35	<20	<100	<50	65	34
	S-003	Pulp Mill Storm Sewer	Chickasaw Cr	0.26	29.1	60.3	105	256	448	391	57.0	--	--	--	--	--	9.4	--	--	--	--	--	--	--	--
	S-004	WTP Storm Sewer	Chickasaw Cr	2.81	27.1	<20-<40	180	516	1180	254	1070	5.1	1.55	0.08	3.25	--	6.7	--	<20	<50-217	129	<100	<50	116	--
	S-005	West Mill Storm Sewer	Chickasaw Cr	0.997	32.3	130	138	346	1010	909	99.0	--	--	--	--	--	3.7	--	--	--	--	--	--	--	--
	S-007[2]	Central Mill Storm Sewer	Chickasaw Cr	0.81	35.0	<8.0-13.0	8.0	19.0	129	124	5.0	--	--	--	--	--	6.8	--	--	--	--	--	--	--	--
Stone Container	SC-001	STP Effluent	Threemile Cr	0.003	29.1	532	283	914	1410	1070	338	7.6	0.17	< 01-.05	0.55	--	6.3	--	<20	25-<50	46	176	<50	617	222
	SC-002[2]	Cooling Water	Threemile Cr	0.10[4]	49.0	5.5	4.0	<4-22	128	111	<1-65	--	--	--	--	--	6.2	--	--	--	--	--	--	--	--
Union Carbide	UCC-001	Caustic Effluent	Chickasaw Cr	0.50	36.3	6.0-<8.0	117	75.0	32000	32500	280	7.3	8.07	0.94	0.72	--	13.0	--	25	40	45	300	160	60	--
	UCC-002	Salt Effluent	Chickasaw Cr	0.47	33.2	<8.0	6.0	212	4140	4020	26.0	40.8	43.0	0.31	0.18	--	9.7	--	<20	<40	20	100	60	20	--

1/ Based on 24-hour composite unless noted to the contrary.

2/ Grab samples.

3/ Based on one grab and two composite samples.

4/ Instantaneous flow

5/ All phenol, oil & grease, and mercury analyses from grab samples.

TABLE II

SUMMAR OF INDUSTRIAL LOADS (LBS/DAY)[1/]
MOBILE, ALABAMA
JUNE 1973

Facility	Sample Design	Flow (mgd)	BOD_5	TOC	COD	Solids			Nitrogenous Compounds			Total P	Oil & Grease[5/]	Heavy Metals and Toxic Compounds[5/]
						Total	Dissolved	Suspended	TKN	NH_3	NO_2-NO_3			
Alabama Wood Treating	AW-001[2/]	0.01[4/]	98	86.6	167	91	62	29	--	--	--	--	29.0	phenols:11.0
	AW-002[2/]	0.13[4/]	<8.7-16.3	3.6	9	161	140	<1-60	--	--	--	--	<5.4	phenols:0.26
Alcoa	A-001[2/]	0.80	260	347	899	11,000	9,110	1,870	--	--	--	--	--	Cd:<0.13;Cr:0.67;Cu:0.13;Pb.<0.67;Ni:0.60;Zn:C.13
Chevron Asphalt	CA-001[2/]	1.31[4/]	<219-219	109	219	3,130	2,650	476	4.2	0.71	2.90	1.2	<54.7-98.4	phenols:<.05-1.45
Diamond Shamrock	DS-001[2/]	0.09[4/]	24	167	725	7,980	7,960	20	--	--	--	--	--	Hg:0.02;Cd:.014; Cr:.028;Cu..017;Pb:.114,Ni:.104;Zn:.017
	DS-002[2/]	0.60[4/]	<39 8	18.2	45	937	902	<5-61	--	--	--	--	--	Hg:0.007;Cd:<.1:Cr.<.199,Cu:.1;Pb:<.498,Ni:<.199,Zn:.299
Eagle Chemical	EC-001[3/]	0.01	--	< 1-.1	0	1,040	1,010	30	--	--	--	--	--	Cd:.002;Cr.<.003,Cu:.006;Pb:<30,Ni.<15,Zn:45,phenols 726
Gulfport Creosoting	GC-001[2/]	0.005[4/]	77	53	141	54	47	8	--	--	--	--	<.2-.5	phenols:1.5
Ideal Cement	IC-001[2/]	0.83	<111	53.1	229	5,510	5,260	<7-540	--	--	--	--	--	--
	IC-002[2/]	0.14[4/]	<12.0	9.1	110	7,700	7,290	419		--	--	--	--	--
International Paper	IP-002[2/]	0.43	<57.4	21.5	49	1,830	1,780	48		--	--	--	--	--
	IP-003[2/]	0.36	<60.1	57.1	256	1,860	1,690	169	--	--	--	--	--	--
	IP-012	36.40	63,300	98,600	289,000	452,000	421,000	31,500	684	107	10.1	185	--	Cd:<10;Cr:<20,Cu 10;Pb:<30;Ni:<15;Zn:45;phenols·726
	IP-015I[2/]	34.53	11,100	16,100	43,000	198,000	190,000	<288-14,400	--	--	--	--	--	--
	IP-015E[2/]	34.53	9,510	13,800	38,800	932,000	913,000	19,500	--	--	--	--	--	--
	IP-018I[2/]	60.43	2,520-<10,100	8,410	28,200	291,000	264,000	27,100	--	--	--	--	--	Cd·40;Cr:<10,Cu:295;Pb:<50;Ni·<25;Zn:43
	IP-018E[2/]	60.43	<11,400	7,560	22,700	272,000	261,000	11,600	--	--	--	--	--	Cd.40;Cr:<10;Cu:<10;Pb.<50;Ni:<25;Zn:18
	IP-1E[2/]	1.01	1,770	2,920	7,680	21,900	20,600	4,100	--	--	--	--	--	Cd:0,Cr:0;Cu:0.33;Pb:<1;Ni:1;Zn:3
Mobile Rosin Oil	MR-001[2/]	<0.001[4/]	1.7	0.8	3	3	2	2	--	--	--	--	0.2	phenols.0
National Gypsum	NG-001	1.01	2,150	2,550	8,020	26,300	24,300	2,030	136	35	0.084	20.2	--	Cd 0;Cr.0;Cu:0;Pb:<1-2;Ni:0;Zn:6;phenols 0
Scott Paper	S-001	53.75	15,500	28,400	111,000	652,000	618,000	33,500	1,550	481	<4.66	1,950	--	Cd:<9;Cr:<22;Cu·11,Pb:<43-68;Ni:<22;Zn.71,phenols.18
	S-002[3/]	5.93	3,780	6,260	14,600	72,800	71,700	1,120	87.1	13.4	3.97	29.7	--	Cd·<1;Cr:<1.5,Cu:<1,Pb:<5;Ni <2.Zn.3;phenols.1
	S-003	0.26	137	274	615	1,140	1,030	105	--	--	--	--	--	--
	S-004	2.81	<466-<918	4,230	12,200	27,600	5,940	25,000	120	36.7	1.88	77 8	--	Cd.0;Cr:<1-5;Cu.3,Pb:<2;Ni:<1,Zn:3
	S-005	1.00	992	1,170	2,840	8,320	7,450	863	--	--	--	--	--	--
	S-007[2/]	0.81	<54-88	54.1	126	872	836	36	--	--	--	--	--	--
Stone Container	SC-001	0.003	13.3	7.1	23.0	35	27	8.0	0.2	0	<0.001	0.01	--	Cd.0,Cr:0;Cu:0;Pb:0;Ni·0;Zn.0,phenols:0
	SC-002[2/]	0.10[4/]	4.6	3.3	<3-18	107	92	<1-54	--	--	--	--	--	--
Union Carbide	UCC-001	0.50	<29.4-31.0	496.0	333	129,000	128,000	1,180	32 8	36.9	3.98	3.07	--	Cd:0.10;Cr:0.17,Cu:0.19;Pb:1.26;Ni:0.67;Zn:0.25
	UCC-002	0.47	<31.6	23.7	830	15,800	15,300	103	168	177	1.20	0.72	--	Cd <0.08;Cr:<0.16,Cu:0.08;Pb:0.39;Ni:0.24;Zn:0.08

1/ Based on 24-hour composite samples and average daily flow unless noted to the contrary.

2/ Based on grab sample results.

3/ Based on one grab and two composite samples.

4/ Instantaneous flow.

5/ All phenol, oil & grease, and mercury analyses from gr[illegible]

Union Carbide Corporation

The Union Carbide Corporation, located on U. S. Highway 43 near the Chickasaw city limits, manufactures synthetic zeolite crystal products, commonly called molecular sieves. Wastewater treatment practices include: segregation of caustic and salt wastes into separate ponds; pH control in the discharge canal by the addition of sulfuric acid to the caustic effluent at the pond sump, and a landfill to collect, hold and dry wet solids transferred from salt and caustic settling ponds. Paper bags used to ship barium salt are burned in a special incinerator. Ashes are washed down, collected, treated to neutralize soluble barium, and transferred to the salt pond. Spent solutions containing metal salts are collected, precipitated, coagulated, and filtered to recover the metals as a hydroxide. Ammonia is recovered from spent solution by steam stripping and absorption in fresh solution for recycle back to the process. Wastewater is discharged into Chickasaw Creek via the Alabama Power Company discharge canal through two effluent lines designated UC-001 (caustic effluent) and UC-002 (salt effluent).

The caustic effluent had an average flow of 0.5 mgd and was characterized by high pH (13.0), a BOD_5 range of less than 6.0 to 8.0 mg/l (less than 29 to 31.0 lbs/day), total solids of 32,800 mg/l (129,000 lbs/day) and suspended solids of 280 mg/l (1,180 lbs/day). The total dissolved solids

concentration of 32,500 mg/l (128,000 lbs/day) included 367 mg/l (1,530 lbs/day) of chlorides. The BOD:COD ratio of 0.08 indicated a highly inorganic waste. The ammonia nitrogen discharge was 8.07 mg/l (36.9 lbs/day). Lead and nickel concentrations were 300 µg/l (1.16 lbs/day) and 160 µg/l (0.67 lbs/day), respectively.

The salt effluent discharge (0.47 mgd) contained less than 8 mg/l (less than 31.6 lbs/day) of BOD_5. However, the inorganic salt content of this discharge was quite high. The total solids were 4,140 mg/l (15,800 lbs/day) of which 4,020 mg/l (15,300 lbs/day) were dissolved solids. The chlorides were the primary inorganic salt at 3,100 mg/l (12,300 lbs/day). The ammonia nitrogen concentration was significant, 43 mg/l (177 lbs/day). The only metal of any significance was lead, 100 µg/l (0.39 lbs/day).

Diamond Shamrock

The Diamond Shamrock Chemical Company, located off U. S. Highway 43 near Hog Bayou, manufactures chlorine and caustic soda by electrolysis of sodium chloride brine. Wastewater which has been in direct contact with process fluids is segregated from other wastewater streams in separate drainage systems and recycled to the fullest extent possible. The contaminated wastewater which cannot be recycled is treated with sulfide to precipitate mercury. The chemically treated wastewater then flows through a small

settling basin and into a large retention basin where suspended solids settle before discharge to an ionic mercury adsorption bed. The flow is measured continuously, and the mercury content of the final discharge stream is analyzed routinely. This discharge, which is intermittent, flows into a diked area. Drainage pumps, located adjacent to the Gulf Warrior docking facilities, periodically pump water from the diked area into Chickasaw Creek.

Wastewater from the treatment system was sampled at the effluent weir (outfall DS-001) prior to discharge into the diked area. The flow was 0.09 mgd. The mercury concentration ranged from 13.3 to 61.0 µg/l with an average of 29.7 µg/l (.02 lbs/day). The discharge is primarily inorganic as indicated by the BOD:COD ratio of 0.04. The discharge had a dissolved solids concentration of 13,100 mg/l (7,960 lbs/day), most of which were probably chlorides used in the manufacturing process. The total solids concentration was 13,200 mg/l (7,980 lbs/day). The pH was 9.6.

The cooling water discharge (outfall DS-002) bypasses the treatment system and flows into Chickasaw Creek via Hog Bayou. The flow was 0.6 mgd and the mercury concentration was 1.4 µg/l (0.007 lbs/day). The pH ranged from 3.5 to 6.8; however, company personnel suspected a leak in the sulfuric acid heat exchanger during the sampling period which would explain the lower pH values.

The total mercury discharged by Diamond Shamrock from outfalls DS-001 and DS-002 during the sampling period was .027 lbs/day.

International Paper Company

The International Paper Company's integrated kraft pulp and paper mill is located adjacent to Chickasaw Creek upstream from the Scott Paper Company and downstream from Hog Bayou. The mill produces 1,015 tons per day of bleached and unbleached sulphate pulp (420 tons per day are bleached) and 300 tons per day of groundwood. Paper production includes 1,295 tons per day of various grades of unbleached, bleached and semi-bleached kraft wrapping and converting papers; bleached kraft business papers and newsprint. During the study, the International Paper Company was discharging wastewater from the following outfalls and sources:

Outfall [1/]	Source	Receiving Stream
002	Cyclone boiler ash pit overflow	Hog Bayou to Chickasaw Cr.
003	Power plant floor drains & intermittent surface drainage	Hog Bayou to Chickasaw Cr.

1/ Outfall numbers are from the Refuse Act permit application.

List of outfalls and sources (continued)

004-011	Primary clarifier sludge impounding basin overflow	Hog Bayou & Chickasaw Ck.
012	Industrial waste primary clarifier	Chickasaw Cr.
013	Roundwood spray storage area	Chickasaw Cr.
015	Woodyard log flume overflow	Chickasaw Cr.
016	Surface discharge and division research process drainage	Shell Bayou
017	Car wash and research process drain	Shell Bayou
018	Power house once-through cooling water discharge	Chickasaw Cr.

During the study, the roundwood spray was not operated, and consequently, there was no discharge from outfall 013. The discharge from outfalls 016 and 017 (surface drainage, car wash, and research facilities) were not sampled because they were intermittent and low in volume, 0.07 and 0.3 mgd, respectively.

The cyclone boiler ash pit overflow (outfall 002) is impounded and flows through the settled boiler ash. Consequently, this small discharge, estimated at 0.43 mgd by the company, did not contain significant amounts of pollutants. Similarly, the power plant floor drain (outfall 003) effluent with an estimated flow of 0.36 mgd was not a significant discharge, except for a slightly low pH (5.5) and elevated temperature (41.0°C).

The primary treatment plant effluent (outfall 012) was the most significant discharge in the study area. The treatment plant receives the bulk of the International Paper Company's process waste discharges. This source discharged 63,300 lbs/day of BOD_5, 31,500 lbs/day of suspended solids, 10 lbs/day of copper, 45 lbs/day of zinc and 726 lbs/day of phenols. The effluent had an average temperature of 48.5°C and pH of 7.9 during the study. Mean[2/] coliform densities were low with densities ranging from <20 to 490/100 ml for total coliforms and from <20 to <200/100 ml for fecal coliform. Low coliform densities may have been caused by the high temperatures in the primary basin. This effluent was subjected to gas chromatographic-mass spectrographic analysis for identification of organic compounds. This effluent contained a number of organic solvents (Appendix E).

Sludge underflow from the primary clarifier is withdrawn and pumped into a diked area located adjacent to Chickasaw Creek and downstream from Hog Bayou. The sludge is allowed to settle within the confines of the impounded area and the resultant effluent enters Hog Bayou and Chickasaw Creek through a series of overflow pipes (outfalls 004-011). Only a portion of the outfalls are operational

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2/ All bacterial means in this report are expressed as the logarithmic mean.

at any one time. Grab samples were collected from each of the operating outfalls and composited into a single daily sample for analysis. These outfalls (designated IP-IB) were sampled for three days. Calculated loads, based on a company estimate flow of 1.01 mgd, from these outfalls were 1,770 lbs/day of BOD_5 and 4,100 lbs/day of suspended solids.

Water used in the plant log flume is withdrawn from Chickasaw Creek upstream from the Scott Paper Company waste discharges, pumped through the log flume, screened and returned to Chickasaw Creek through outfall 015. Daily grab samples of the pumped intake water and the effluent were collected. The company estimated flow rate was 34.53 mgd. Based on the grab sample results, approximately 5,100 lbs/day of suspended solids and 723,000 lbs/day of total dissolved solids were added to the intake water by operation of the log flume. The BOD_5 concentrations in the effluent were lower than those found in the intake.

The effluent discharged through outfall 018 (60.4 mgd) consisted of once-through cooling water from the mill powerhouse. This discharge was sampled in exactly the same way as the plant log flume. The effluent temperature (36.7°C) was 5°C higher than the influent temperature. Concentrations of other pollutants were less than those found in the influent of the once-through cooling water.

The combined total discharge of BOD_5 by the International Paper Company during the study was approximately 65,100 lbs/day.

The International Paper Company was in the process of installing a new aerated lagoon at the time the study was made. This lagoon will provide additional treatment for the primary treatment plant effluent (outfall 012), the power plant floor drains (outfall 003), and the research and car wash waste (outfalls 16 and 17). Current plans are to make a closed loop system of the current woodyard log flume (outfall 015) discharge. Sanitary wastes will be separated from the process waste treatment system and routed to a new treatment system which will be operated by the City of Mobile Water and Sewer Commission.

Scott Paper Company

The Mobile plant of the Scott Paper Company is located on Chickasaw Creek near its confluence with the Mobile River. Scott's manufacturing facilities include a sulphate pulp mill and two paper mills producing 1,400 tons per day of pulp and paper. Approximately 90 percent of the pulp is bleached. The paper mills include a specialty mill producing 600 tons/day of bleached and unbleached kraft specialty papers and a tissue mill producing 800 tons/day of bathroom tissue, towels and allied products. The facility

discharges wastewaters through the eight outfalls listed below:

Outfall	Source	Receiving Stream
001	Industrial Waste Treatment System	Chickasaw Creek
002	Bleach Plant Chlorine Sewer	Chickasaw Creek
003	Pulp Mill Storm Sewer	Sewer to Chickasaw Creek
004	Water Treatment Plant Storm Sewer	Sewer to Chickasaw Creek
005	West Mill Storm Drain	Sewer to Chickasaw Creek
006	Tissue Mill Storm Drain	Sewer to Chickasaw Creek
007	Central Mill Storm Sewer	Sewer to Chickasaw Creek
008	Emergency Outfall	Sewer to Chickasaw Creek

Effluents from outfalls 001-005 and 007 were sampled during the study. The drainage from Outfall 006 was insignificant and outfall 008 is used only during plant emergencies when wastes cannot be pumped to the treatment plant. The industrial waste treatment process consists of neutralization, nutrient addition, primary settling and activated sludge with secondary settling. Primary sludge is vacuum filtered and hauled to a landfill by a private contractor. Excess activated sludge was being impounded during the study. The impounding basin used for excess activated sludge disposal has since been filled to capacity, and the company is currently allowing excess sludge to be

discharged over the effluent weir. Sanitary wastes are currently discharged into the industrial waste treatment system. Sanitary waste will be removed from the industrial waste treatment system and routed to a new proposed waste treatment system operated by the City of Mobile.

The average treatment plant discharge (outfall 001) was 53.75 mgd with the subsequent discharge of 15,500 lbs/day of BOD_5, 33,500 lbs/day of suspended solids, 481 lbs/day of ammonia and 1,950 lbs/day of total phosphorus. Gas chromatographic-mass spectrographic analysis (Appendix E) showed this effluent contained high concentrations of volatile organic solvents and other organic compounds. Copper (11 lbs/day), lead (less than 43 to 68 lbs/day), zinc (71 lbs/day) and phenols (18 lbs/day) were also discharged. The effluent contained mean total and fecal coliform densities of 5,220 and 1,330/100ml, respectively.

The bleach plant chlorine sewer effluent (outfall-002) also contained significant quantities of BOD_5 (3,780 lbs/day) and suspended solids (1,120 lbs/day). Gas chromatographic-mass spectrographic analysis (Appendix E) of this effluent also showed the presence of volatile organic solvents.

The pulp mill storm sewer effluent (outfall 003) was lower in volume (0.26 mgd) and, consequently, lower quantities of BOD_5 (137 lbs/day) and suspended solids (105 lbs/day) were discharged. This was also true for the

central mill storm drain discharge (outfall 007) which had an estimated flow of 0.81 mgd and a BOD_5 discharge that ranged from less than 54 lbs/day to 88 lbs/day.

The discharge (2.81 mgd) from the water treatment plant storm sewer (outfall-004) was high in suspended solids resulting in the discharge of 1,070 mg/l (25,000 lbs/day). Most of the suspended solids were inorganic as evidenced by the low BOD_5:COD ratio of 0.13 for the waste discharge during the study.

The west mill storm drain effluent (outfall-005) of 1.0 mgd had the highest BOD_5 concentration (130 mg/l) of any effluent sampled at the plant. An average of 992 lbs/day of BOD_5 and 963 lbs/day of suspended solids were discharged from this source.

The combined discharges into Chickasaw Creek from the facility during the study were approximately 20,500 lbs/day of BOD_5, 141,400 lbs/day of COD and 60,600 lbs/day of suspended solids.

Stone Container Corporation

The Stone Container Corporation facility, located at the upper end of Threemile Creek, produces paper board from waste paper. Waste paper is trucked to the mill and processed in a hydropulper where it is diluted with water and steam. The resulting mixture is pumped through a cleaning process to the cylinder formers on the paper

machine. The boxboard is formed, dried and removed from the end of the paper machine in the form of rolls or sheets.

The treatment system consists of a clarifier followed by a 2.5 million gallon aeration basin and a 375,000 gallon evaporation basin. The evaporation basin (outfall SC-001) and untreated non-contact cooling water (outfall SC-002) effluents are discharged separately into Threemile Creek.

Flow from the treatment system (0.003 mgd) was estimated by the company from records because of a malfunction in the company flow measuring device. The effluent BOD_5 concentration of 532 mg/l was relatively high; however, the resulting BOD_5 load was only 13.3 lbs/day. The mean total solids and suspended solids were 1,410 mg/l (35 lbs/day) and 338 mg/l (8 lbs/day), respectively. The suspended solids ranged from 145 mg/l (4 lbs/day) to 658 mg/l (16 lbs/day). The effluent contained mean total and fecal coliform densities of 270,000 and 26,000/100 ml, respectively. The effluent was grey in color and imparted this color to the receiving stream at the point of discharge. The distance that the discoloration persisted downstream was not determined.

The analytical results for the cooling water discharge (outfall SC-002) were higher than would be expected for non-contact cooling water obtained from a city water system. The BOD_5 was 5.5 mg/l (4.6 lbs/day), total solids 128 mg/l (107 lbs/day) and suspended solids ranged from less than 1.0

to 65 mg/l with an approximate average of 18 mg/l (15 lbs/day). The cooling water flow was 0.1 mgd.

Mobile Rosin Oil

Mobile Rosin Oil, located just north of Threemile Creek, manufactures tactifiers, plasticizers, rubber reclaimed oils, rosin soaps and other rubber processing aids. The discharge from this plant is primarily steam condensate from boilers. The flow was too low for measurement. Analytical results indicated that the effluent contained no significant contaminants.

Eagle Chemical Company

The Eagle Chemical Company, located on the east bank of the Industrial Canal, manufactures a silica dessicant. The acidic wash water from the process is neutralized in a mixing tank with sodium hydroxide and then flows to a 18,000 gallon pond with a theoretical detention time of three hours. The pond discharge enters Threemile Creek via the industrial canal.

The primary constituents in the 0.01 mgd discharge were cadmium - 30µg/l, copper - 7 µg/l, lead - 290 µg/l, nickel - 130 µg/l and zinc - 170 µg/l. However, because of the small flow, insignificant loads were discharged into the receiving stream. The inorganic nature of the wastewater was evident from the total solids concentration of 12,400 mg/l (1,040

lbs/day) of which only 477 mg/l (40 lbs/day) was volatile. The suspended solids concentration of 356 mg/l (30 lbs/day) was due to sluffing off of floc precipitated in the neutralization process from the bottom of the impounding basin.

Gulfport Creosoting Company

The Gulfport Creosoting Company facility, located on the north bank of Threemile Creek near the confluence of the Mobile River, treats poles, piling, posts and lumber with creosote or penta chlorophenol for prevention of decay and insect damage. The treatment consists of an oil recovery system followed by two concrete ponds operated in series, a flocculation tank and an aeration tank with subsequent discharge to Threemile Creek. At the time of the study, an evaporation-perculation lagoon was 75 percent complete.

Although the BOD_5 concentration of 1,860 mg/l and suspended solids concentration of 187 mg/l were excessive, the small flow (0.005 mgd) accounted for small loadings of 77 and 8 lbs/day, respectively. The wastewater was acidic with a pH of 4.7. The oil and grease concentration ranged from less than 5.0 to 12 mg/l. The phenol concentration was quite high (35,200 µg/l); however, only 1.5 lbs/day were discharged due to the small flow.

Alcoa

The Alcoa plant, located on the west bank of the Mobile River at the Alabama State Docks, produces alumina (aluminum oxide) from bauxite. Alumina tri-hydrate is extracted from bauxite ore by dissolving in caustic solution in digesters. The mud residue is removed from the caustic solution by filtering and is discharged into the mud lakes on the east bank of the Mobile River. Clarified water from the mud lakes is re-used in the mud slurry wash cycle and discharges back into the mud lakes in a closed loop. The alumina tri-hydrate is then crystallized from the clarified solution, washed and heated in rotary kilns to drive off the water of crystallation. The resultant product is alumina.

The Alcoa plant is in the process of renewing the floors in Building 35 (filtration) and Building 80 (calcination). The concrete floor slabs have deteriorated and caustic plant liquor spilled on the slabs could leak through the flooring and deteriorate the wood support pilings. The preservation of the wood pilings requires flushing of the pilings several times per week with river water. New concrete slabs will be constructed such that any spilled caustic liquor will be collected in sumps and pumped back into the process. The EPA sampling took place (June 18-20) during the period when the original concrete slabs were being replaced. Alcoa is also in the process of

designing a closed circuit effluent system to keep all plant wastewater from entering the Mobile River.

At present, the sanitary sewage is discharged into the plant storm sewer system which discharges into the Mobile River. However, a state-approved sewer main has been designed for the Alabama State Docks and should alleviate the sanitary waste disposal problem at Alcoa.

Samples from the press leaf wash, piling treatment water (Building 45, Building 80 and Pump C) and the powerhouse were composited proportional to flow into a single sample. On June 19 and 20, the discharge from the heater acid was added to the sample.

The average flow was 0.8 mgd which was obtained by weighting the variable flows from the various unit processes. The effect of the heater acid discharge is reflected in the pH results below:

	pH
June 18	11.2*
June 19	5.9
June 20	8.6

* Does not contain heater acid discharge.

The average BOD_5 discharged was relatively low, 39 mg/l (260 lbs/day). The BOD:COD ratio of 0.29 indicated an inorganic waste. The total solids concentration of 1,640 mg/l (11,000 lbs/day) contained 1,360 mg/l (9,110 lbs/day) dissolved and 280 mg/l (1,870 lbs/day) suspended solids.

A spark source metal scan is presented in Appendix E. Metals of significance were 780 µg/l (5.2 lbs/day) of molybdenum and 164 µg/l (1.1 lbs/day) of total chromium.

Ideal Cement

The Ideal Cement plant, located on the Alabama State Docks, manufactures Portland Cement by the wet process. The primary source of waste is the classifier, which suspends and flocculates dust particles in water. The classifier overflow discharges into a recarbonation tank where the pH is reduced from approximately 11 to 9. A settling agent is added to the overflow from the recarbonation tank which flows by gravity to a "lamella" thickener. Solids from the recarbonation tank and the "lamella" thickener are returned to the process. The two effluents from the plant, a storm sewer containing process water and sanitary sewage (outfall IC-001) and a ditch containing process wastewater only (outfall IC-002), discharge into the Mobile River.

The flow of outfall IC-001 was 0.83 mgd during the sampling period. The presence of sanitary sewage was evident from the mean total and fecal coliform densities of 258,000 and 28,400/100 ml, respectively. The total solids were 796 mg/l (5,510 lbs/day) of which 759 mg/l (5,260 lbs/day) were dissolved solids. The suspended solids ranged from less than 1 to 78 mg/l with an approximate mean of 37

mg/l (256 lbs/day). The wastewater was alkaline with a pH range of 8.8 to 9.0 during the sampling period.

Outfall IC-002, which contained only process wastewater, discharged 0.14 mgd. This effluent had a total solids concentration of 6,600 mg/l (7,700 lbs/day) and suspended solids concentration of 402 mg/l (419 lbs/day). The total alkalinity was 938 mg/l as $CaCo_3$ which was reflected in the pH which ranged from 12.2 to 12.9.

Chevron Asphalt Company

The Chevron Asphalt Company facility, located on the east bank of the Mobile River on Blakely Island, manufactures paving, roofing and industrial asphalts. Products are produced from semi-finished materials in a process requiring no distillation of crude petroleum. The plant effluent consists of cooling water mixed with some condensed steam and the discharge from an oil separator. These streams combine in a common ditch, which also drains the highway, and flows into the Mobile River. Sanitary wastes are discharged into a septic tank.

The average discharge was 1.31 mgd. The BOD_5 analyses of grab samples ranged from less than 20 mg/l to 20 mg/l (219 lbs/day). The nitrogen compounds present were 0.4 mg/l (4.2 lbs/day) of TKN and 0.26 mg/l (2.9 lbs/day) of nitrite-nitrate nitrogen. The oil and grease concentration ranged from less than 5.0 to 9.0 mg/l (less than 54.7 lbs/day to

98.4 lbs/day). The phenol ranged from less than 5 to 133 µg/l with an approximate mean concentration of 53 µg/l (0.58 lbs/day).

Alabama Wood Treating

The Alabama Wood Treating Corporation facilities, located on the west bank of the Mobile River at Choctaw Pass, treats poles and cross-ties with creosote or a pentachlorophenol (penta) solution to to protect against decay and insects. Contaminated water from the creosoting cylinders and water from the penta solution cylinders flow into an oil separation system. The discharge from the separation system flows through sand and gravel filters and thence through a straw filter into a cooling water drain. The cooling water and the oil separation system effluent flow in a common ditch into the Mobile River at Choctaw Pass. Both the penta and creosote are reclaimed. Sanitary wastes are discharged into a septic tank.

The 0.01 mgd of effluent from the oil separator (AW-001) contained BOD_5 of 1,170 mg/l (98 lbs/day) and dissolved and suspended solids of 738 (62 lbs/day) and 352 mg/l (29 lbs/day), respectively. The pH of the wastewater stream was acidic at 4.8. Other significant constituents found in the oil separator effluent were the concentrations of phenols - 135,000 µg/l (11 lbs/day) and oil and grease - 346 mg/l (29 lbs/day).

The cooling water discharge (AW-002) was 0.13 mgd. The phenol concentrations ranged from 51 to 545 µg/l with a mean value of 237 µg/l (0.26 lbs/day). The total solids were 148 mg/l (162 lbs/day) of which 129 mg/l (140 lbs/day) were dissolved solids. The pH ranged between 7.3 and 8.8 units.

National Gypsum

The National Gypsum Company plant, located at Garrows Bend on Mobile Bay, manufactures insulation board by refining ground wood from wood chips. Water conservation measures are employed throughout the plant, with fiber recovery and water recycle. The treatment system consists of a primary clarifier, aeration lagoon and secondary clarifier from which the effluent flows down a 0.75 mile ditch before flowing into Mobile Bay at Garrows Bend. All sanitary wastes discharge into a septic tank. The effluent from National Gypsum plant will be discharged to the Mobile McDuffie Island STP in the near future.

Flow from the aeration lagoons to the final clarifier was maintained at a constant rate of 1.01 mgd during the study period. The analytical results indicate high total solids in the effluent of 3,120 mg/l (26,300 lbs/day), of which, 2,880 mg/l (24,300 lbs/day) was dissolved and 241 mg/l (2,030 lbs/day) suspended solids. The BOD_5 was 255 mg/l (2,150 lbs/day). The effluent contained mean total and

fecal coliform densities of 9,300,000 and 53,000/100 ml, respectively.

Lead and zinc were the significant metals observed in the discharge and could be detrimental to aquatic life in the receiving stream due to their toxic nature. The lead concentration ranged from less than 100 to 243 µg/l (2 lbs/day). The mean zinc concentration was 718 µg/l (6 lbs/day).

Gas chromatograph/mass spectrometric analysis (Appendix E) of the treated wastewater showed organics typical of paper manufacture.

MUNICIPAL WASTE SOURCES

Efficiency of treatment studies were conducted at the five Mobile area municipal wastewater treatment plants that discharged directly into the study area. A summary of waste concentrations detected and waste loads discharged from each plant are shown in Tables III and IV, respectively. Study results for each plant are discussed in the following sections. Municipal treatment plant locations are shown on Figure 1. A complete municipal waste analytical data listing is presented in Appendix E.

Chickasaw, Alabama

Municipal wastes from the City of Chickasaw are treated in a two-cell lagoon system which is operated in parallel. Each cell of the lagoon is 25 acres in size. The Chickasaw sewer system is a separate system with no known significant industrial waste connections. The lagoon serves a population of 8,500 (1970 census was 8,447). The lagoon system was designed for a hydraulic load of 1.5 mgd and a BOD_5 loading of 2,500 lbs/day. This BOD_5 loading is equivalent to a population (PE) of 15,000[3/]. The lagoon treatment system does not have post chlorination facilities nor an adequate flow measuring device. The lagoon discharges directly into Chickasaw Creek.

3/ PE based on a BOD_5 loading of 0.17 lbs. BOD_5/capita/day.

TABLE III

SUMMARY OF MUNICIPAL WASTEWATER CONCENTRATIONS[1/]
MOBILE RIVER STUDY
June 1973

Waste Source	Receiving Stream	Source	Flow[2/] (mgd)	Lab pH	Alkalinity (mg/l)	Acidity (mg/l)	BOD_5 (mg/l)	COD (mg/l)	TOC (mg/l)	Solids (mg/l) Total	Solids (mg/l) Susp	Nitrogenous Compounds (mg/l) TKN	Nitrogenous Compounds (mg/l) NH_3	Nitrogenous Compounds (mg/l) NO_2-NO_3	Tot Phos P (mg/l)
Chickasaw Lagoon	Chickasaw Creek	Inf	--	6.4	86	165	138	732	59.5	599	318	10.7	7.95	<.01-.02	8.5
		Eff	0.86	9.6	48	0	14.0	121	28.5	230	24	5.55	4.32	<.01-.01	3.0
Prichard Eightmile Creek STP	Eightmile Creek	Inf	--	6.9	121	30	136	529	89.0	465	131	19.0	19.2	0.08	13.7
		Eff	1.63	5.5	78	22	47	149	51.5	352	30	15.6	14.3	3.86	12.8
Threemile Creek STP	Spring Br	Inf	--	6.7	100	50	--	1660	371.0	1030	771	18.5	14.2	<.01-.03	1660
		Eff	6.23	7.3	87	13	--	146	35.0	465	21	14.3	13.6	0.17	9.17
Grover Street STP	Threemile Creek	Inf	--	7.1	157	25	238	403	95.0	483	81	23.8	22.7	<.01	13.4
		Eff	1.41	6.8	43	15	30	99	33.5	391	20	6.0	3.25	13.8	12.5
McDuffie Island STP	Mobile Bay	Inf	--	6.8	101	37	194	421	151.0	1440	243	22.2	20.1	<.01-.30	239
		Eff	5.14	7.2	118	13	53	176	42.7	452	40	19.4	15.8	0.02	7.03

Waste Source	Source	O & G[3/] (mg/l)	Heavy Metals and Toxic Compounds (µg/l) Phenols[3/]	CD	CN[3/]	Cr	Cu	Hg	Pb	Ni	Zn	Coliform Bacteria[4/] Tot/100 ml	Coliform Bacteria[4/] Fecal/100 ml	Chlorine Residual (mg/l)
Chickasaw Lagoon	Inf	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eff	--	--	--	--	--	--	--	--	--	--	100,000	19,000	--
Prichard Eightmile Creek STP	Inf	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eff	--	--	--	--	--	--	--	--	--	--	< 1,500	< 190	1.5 - 30
Threemile Creek STP	Inf	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eff	<5.0	29	--	<1-33	<20	--	0.4	--	--	--	110,000	7,400	1.21
Grover Street STP	Inf	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eff	<5-7.0	31.0	<20	<1-27	<50-62	<20-25	--	<100	<50	157	3,000	< 550	1.87
McDuffie Island STP	Inf	--	--	--	--	--	--	--	--	--	--	--	--	--
	Eff	<5-11.0	23	<20	155	140	50	<0.2-.4	350	<50	385	1,700	330	0.82

1/ All data based on 24-hour composite samples unless noted to the contrary.

2/ Average daily flow.

3/ Data from grab samples

4/ Logarithmic mean.

TABLE IV

SUMMARY OF MUNICIPAL WASTE LOADS (LBS/DAY)[1/]
MOBILE RIVER STUDY
JUNE 1973

Waste Source	Receiving Stream	Flow mgd	BOD_5	COD	TOC	Solids		Nitrogenous Compounds			Total Phos	Oil & Grease[2/]	Heavy Metals or Toxic Compounds[2/]
						Total	Susp	TKN	NH_3	NO_2-NO_3			
Chickasaw Lagoon	Chickasaw Creek	0.86	100	868	204	1650	172	39.8	31.0	<.072-.072	21.5	--	--
Prichard Eightmile Creek	Eightmile Creek	1.63	680	2050	724	4820	425	211	191	49.7	172	--	--
Threemile Creek STP	Spring Branch	6.23	--	7570	1830	24200	1050	754	718	9.06	475	<33.4	Hg:.02, CN:<.07-2.20, Phenols:1.0
Grover Street STP	Threemile Creek	1.41	362	1160	404	4600	241	70.9	38.4	162	148	<58.4-70.9	CN:<.013-.383, Cd:0.0, Cr:<1-1.0, Cu:0.0, Pb:<1.0, Ni:<1.0, Zn:2.0, Phenols:0.0
McDuffie Island STP	Mobile Bay	5.14	2270	7654	1820	19400	1720	839	677	0.72	303	<259-643	Hg:0.0, CN:11.3, Cd:<1.0, Cr:6, Cu:2, Pb:15, Ni:<2.0, Zn:16, Phenols: 1.3

1/ All loads based on 24-hour composite samples and average daily flow unless noted to the contrary.

2/ Oil and grease, phenol and cyanide data are based on grab samples.

Accurate flow measurements were not obtained during the study because the effluent weir of the lagoon system was affected by high tides. The average daily flow was estimated at 0.86 mgd, based on low tide measurements. The BOD_5 and suspended solids removals were 89.5 and 88.5 percent, respectively for the two-day study period. Because of the lack of post chlorination, mean total and fecal coliform densities were 100,000 and 19,000/100 ml, respectively. The lagoon discharged 100 lbs/day of BOD_5, 31 lbs/day of ammonia and 172 lbs/day of suspended solids.

Prichard, Alabama

Eightmile Creek STP

The Eightmile Creek sewage treatment plant (STP) serves 15,200 of Prichard's population of 41,578 (1970 census). There are no known industrial wastes discharged into the treatment plant. The treatment facility is a high rate trickling filter with a hydraulic design capacity of 1.5 mgd and a design BOD_5 loading of 2,500 lbs/day (PE of 15,000). Post chlorination of the plant effluent is provided. Plant effluent is discharged into Eightmile Creek and subsequently into Chickasaw Creek.

The plant did not have a standard flow measuring device and flows were estimated from a suppressed sharp crested weir formula. The estimated average flow for the two-day sampling period was 1.63 mgd. During the study, the plant

was not performing at secondary treatment levels with BOD_5 and suspended solids removals of 66 and 73 percent, respectively. These low removals were caused by hydraulic overloading of the plant. The average influent BOD_5 of 136 mg/l is much lower than expected for a typical domestic waste, indicating that groundwater infiltration may have contributed to the hydraulically overloaded condition. Mean total and fecal coliform densities were low, from less than 1,500 to less than 190/100 ml, respectively. Low coliform densities were due to total residual chlorine concentrations which ranged from 1.5 to 30 mg/l. The 30 mg/l of total chlorine residual was caused by a sticking chlorine tank valve.

During the study, the plant discharged 680 lbs/day of BOD_5, 425 lbs/day of suspended solids and 191 lbs/day of ammonia into Eightmile Creek.

Grover Street STP

The Grover Street sewage treatment plant serves 20,500 of the residents of Prichard. Several industries including a dairy, a small plating operation, a truck line terminal and several small plastic manufacturing operations discharge wastes into the sewerage system. The plant is a high-rate, two-stage, trickling filter with a hydraulic design capacity of 4.1 mgd and a design BOD_5 loading of 7,000 lbs/day (PE of 41,000). The plant provides effluent post chlorination.

The effluent is discharged into a small tributary of Threemile Creek.

During the three-day study period, BOD_5 and suspended solids removals averaged 86.5 and 74.3 percent, respectively. Mean total and fecal coliform densities were 3,000 and less than 550/100 ml, respectively. The average total chlorine residual was 1.9 mg/l and ranged from 0.60 to 10.0 mg/l. Comparison of the influent and effluent ammonia and nitrite-nitrate nitrogen concentrations (Table III) show that the plant is producing a highly nitrified effluent. The plant discharged an average of 362 lbs/day of BOD_5, 38 lbs/day of ammonia, 162 lbs/day of nitrite-nitrate nitrogen and 241 lbs/day of suspended solids at a discharge rate of 1.41 mgd. The only significant metal or toxic compound discharged was zinc at a rate of 2 lbs/day.

Mobile, Alabama

Threemile Creek STP

The Threemile Creek STP is one of two plants operated by the City of Mobile which discharges into receiving waters within the study area. The plant is a high rate trickling filter process designed for a hydraulic load of 10.0 mgd and a BOD_5 load of 17,000 lbs/day (PE of 100,000). The plant serves approximately 55,000 of the Mobile population of 190,000 (1970 census). Some industrial wastes, including those from the GAF Corporation (manufacturing roofing

materials) discharge into the sewer system served by this plant. The plant provides effluent post chlorination of the effluent which is discharged into Spring Branch, a tributary of Threemile Creek.

Because of a malfunction of laboratory equipment, all BOD_5 analyses were lost. The plant removed 90 percent of suspended solids during the study. The plant discharged mean total and fecal coliform densities of 110,000 and 7,400/100 ml, respectively. Total chlorine residuals ranged from 0.7 to 2.0 mg/l with an average of 1.21 mg/l. The high coliform densities, undoubtedly, resulted because the plant does not have a chlorine contact chamber and chlorine contact time was inadequate at the point of collection. Samples for coliform analyses were collected at a manhole as the effluent leaves the plant. Coliform densities would probably have been lower if samples had been collected at the end of the effluent pipe or downstream from the plant. The average daily discharge of 6.23 mgd contained 7,570 lbs. of COD, 1,050 lbs. of suspended solids and 718 lbs. of ammonia. The only significant quantities of toxic compounds discharged were one lb/day of phenol and less than 0.07 to 2.20 lbs/day of cyanide.

McDuffie Island STP

The McDuffie Island STP, located on McDuffie Island, discharges its effluent directly into Mobile Bay near the

mouth of the Mobile River through a submerged outfall located off the eastern shore of McDuffie's Island. The plant is an activated sludge facility with effluent post chlorination. The plant was designed for a hydraulic load of 16.0 mgd and a BOD_5 loading of 27,000 lbs/day (PE of 160,000). Several industrial sources discharge wastes into the sewer served by the McDuffie Island STP, including those from an aircraft motor repair operation, a paper bag manufacturing company and a paint stripping operation. The waste currently discharged from the National Gypsum Company will be connected to the McDuffie Island STP in the near future.

During the study, the BOD_5 and suspended solids removals at the plant were 73 and 70.3 percent, respectively. Because of a malfunction of laboratory equipment, only one set of BOD_5 data were available for the three-day study period. Mean total and fecal coliform densities were 1,700 and 330/100 ml, respectively. The average total chlorine residual was 0.82 mg/l. The plant discharged 2,270 lbs/day of BOD_5, 1,720 lbs/day of suspended solids, 677 lbs/day of ammonia and less than 259 to 643 lbs/day of oil and grease at an average flow of 5.14 mgd. Significant quantities of metals and toxic compounds were also discharged, including 16 lbs/day of zinc, 2 lbs/day of copper, 6 lbs/day of chromium, 15 lbs/day of lead, 1.3 lbs/day of phenols and 11.3 lbs/day of cyanide.

WATER QUALITY STUDIES

Seventeen water quality sampling stations were used to depict Mobile River and tributary water quality in the study reach during the period June 24-27, 1973. Eight sampling stations were located on the Mobile River, five on Chickasaw Creek and four on Threemile Creek. The locations of these sampling stations are shown on Figure 1.

Water quality samples were collected at consecutive tidal sacks on tidal reaches. Samples were collected at midstream at all stations. Additionally, quarter point samples were collected at the mouth of Chickasaw Creek (station number 13) and upstream and downstream from the confluence of Chickasaw Creek with the Mobile River (station numbers 3 and 4). Samples were collected as follows:

Water Depth (Feet)	Sample Depth
≤10	Mid-depth
≤20	Surface (one foot depth) & bottom (one foot from bottom)
≤20	Surface, mid-depth & bottom

Dissolved oxygen, temperature and chloride analyses were made at every sampling location and depth. The BOD_5, TOC, turbidity, pH and nutrient samples were composited from each sampling statien location and depth. Total and fecal coliform samples were collected from surface locations and were composited where quarter points were sampled. In

addition to total and fecal coliform determinations, special samples were collected to detect members of the genus Salmonella at selected stations. Methodology to enumerate Salmonella density is presently inadequate and only the presence or absence of Salmonella at stations was determined. All water quality analytical data collected during the survey are contained in Appendix F.

Hydrology and Climatology

The river flows for the Alabama River, Tombigbee River and Chickasaw Creek for June 1973 are given in Table V. Immediately preceeding and during the water quality study period, June 24-27, 1973, the combined Alabama and Tombigbee River discharges were substantially higher than the 7-day, 10-year low flow of 8,000 cfs reported for the Mobile River at Mt. Vernon, Alabama. A similar hydraulic condition existed in Chickasaw Creek where daily flows were much higher than the reported 7-day, 10-year low flow of 30.8 cfs.

A total of 5.33 inches of rain was recorded during June 1973 at the Mobile airport. All rainfall occurred between June 6 and June 21 with the heaviest rainfall occurring on June 7 (3.17 inches) and during the period June 19-21 (0.97 inches). The daily maximum and minimum temperatures ranged from 89-95°F and 68-75°F, respectively. (6)

TABLE V

MOBILE RIVER AND TRIBUTARY FRESHWATER DISCHARGE[1/]
June 1973

Date	Alabama River At Clairborn, AL (cfs)	Tombigbee River At Coffeeville, AL (cfs)	Chickasaw Creek Near Kushla, AL (cfs)
6/1	98,300	58,100	154
6/2	102,000	62,000	149
6/3	101,000	63,000	118
6/4	88,100	50,400	102
6/5	70,300	33,300	93
6/6	58,000	34,000	95
6/7	64,300	37,900	162
6/8	69,800	40,900	437
6/9	73,000	41,700	372
6/10	72,300	38,000	175
6/11	72,500	31,000	123
6/12	61,100	23,900	234
6/13	61,200	20,700	399
6/14	65,000	25,000	355
6/15	63,100	30,900	243
6/16	56,700	28,800	173
6/17	51,600	27,100	138
6/18	42,200	23,600	142
6/19	37,800	19,000	149
6/20	38,400	24,900	247
6/21	47,000	28,900	308
6/22	44,200	41,700	274
6/23	43,500	36,000	219
6/24	34,800	34,600	126
6/25	31,500	29,100	103
6/26	31,500	20,600	93
6/27	30,400	17,200	90
6/28	30,000	17,100	364
6/29	39,300	17,300	176
6/30	19,700	14,500	113

1/ Provisional U.S. Geological Survey Data.

Tidal Effects

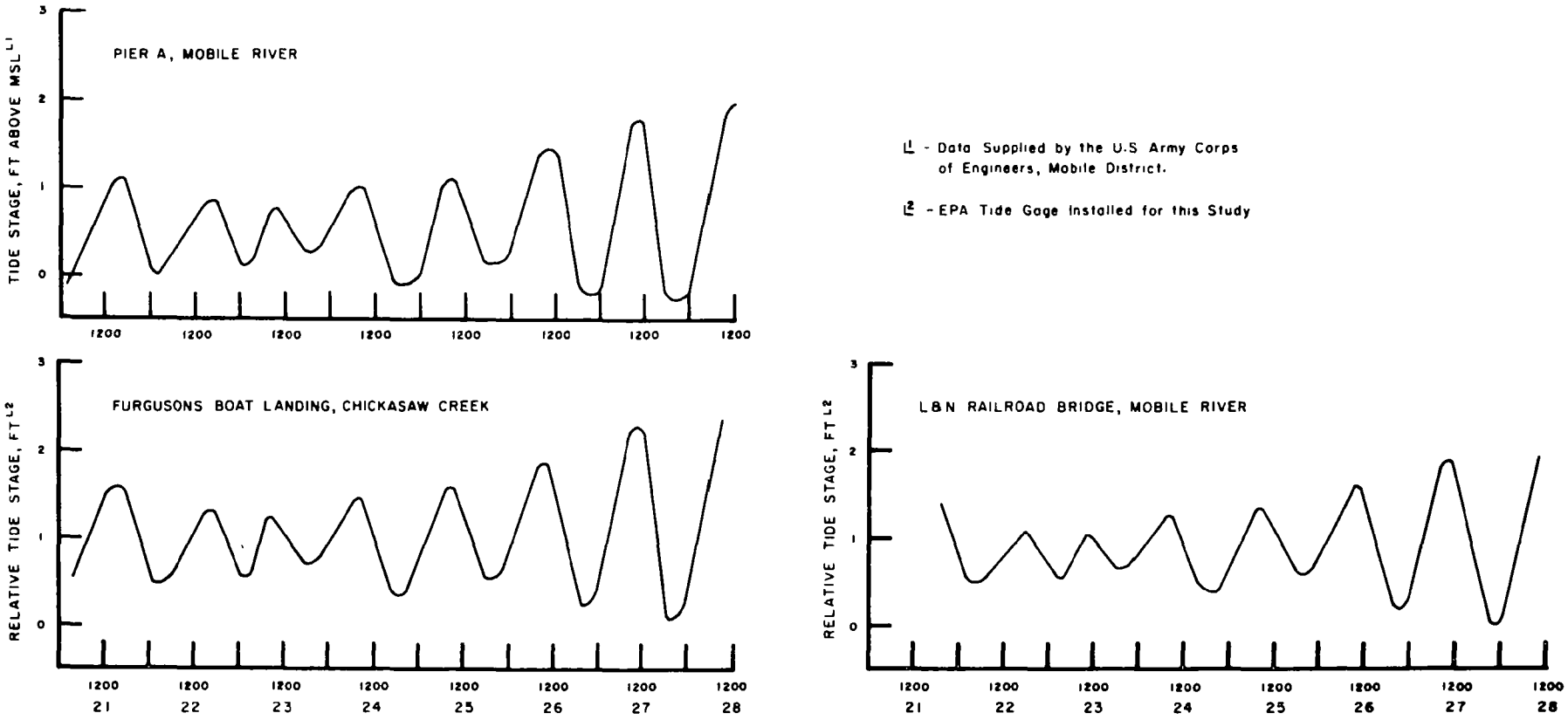
Tide gages were established in Chickasaw Creek at Ferguson's boat landing (RM 4.5) and in the Mobile River at the L&N Railroad bridge (RM 13.3). The U. S. Army Corps of Engineers tide gage located on Pier A of the Alabama State Docks was also utilized. The tide stage for each of these gages during the study is shown on Figure 2. The tidal range for Pier A Corps of Engineers tide gage ranged from 1.15 to 2.18 feet during the study and was, for all practical purposes, identical to that measured at the Ferguson's boat landing gage. There was no significant time difference in tidal stage measured between the Pier A and Ferguson boat landing gages. The tidal range at the L&N Railroad bridge gage varied from 0.8 to 1.96 feet while tidal stage times were from zero to 1.5 hours later than those at the Pier A gage. The 1.5-hour delay in tide stage at the L&N Railroad bridge occurred at flood tide on the day that the largest tidal range was noted.

Chickasaw Creek

Chlorides

Chickasaw Creek was vertically stratified with respect to chlorides during the study (Figure 3). A saltwater wedge extended from the mouth of the creek upstream as far as Shell Bayou, the present limit of the dredged channel. The upstream limit of saltwater intrusion appeared to be water

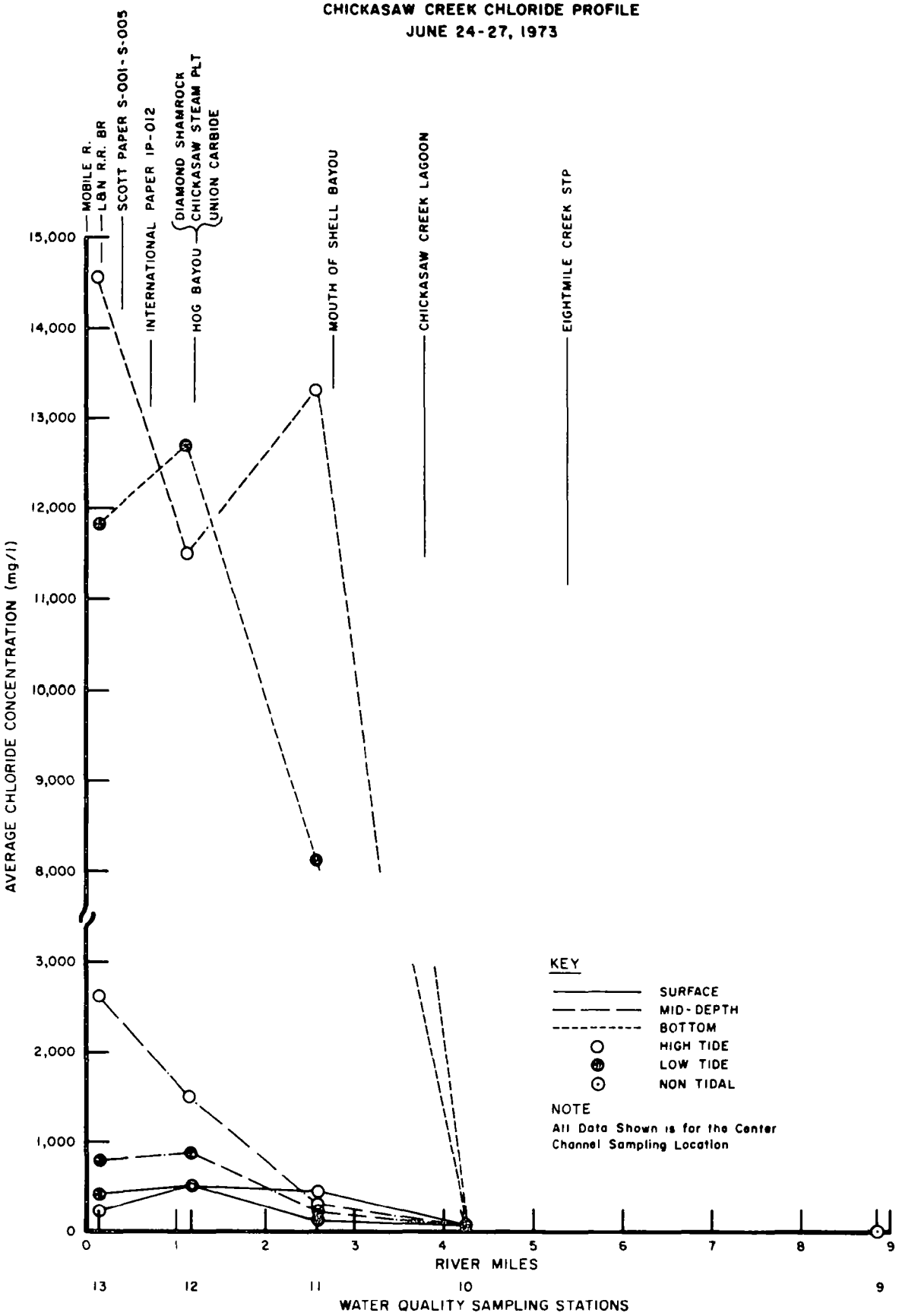
FIGURE 2
MOBILE RIVER AND CHICKASAW CREEK TIDE STAGE
JUNE 21-23, 1973



[1] - Data Supplied by the U.S Army Corps of Engineers, Mobile District.

[2] - EPA Tide Gage Installed for this Study

FIGURE 3
CHICKASAW CREEK CHLORIDE PROFILE
JUNE 24-27, 1973



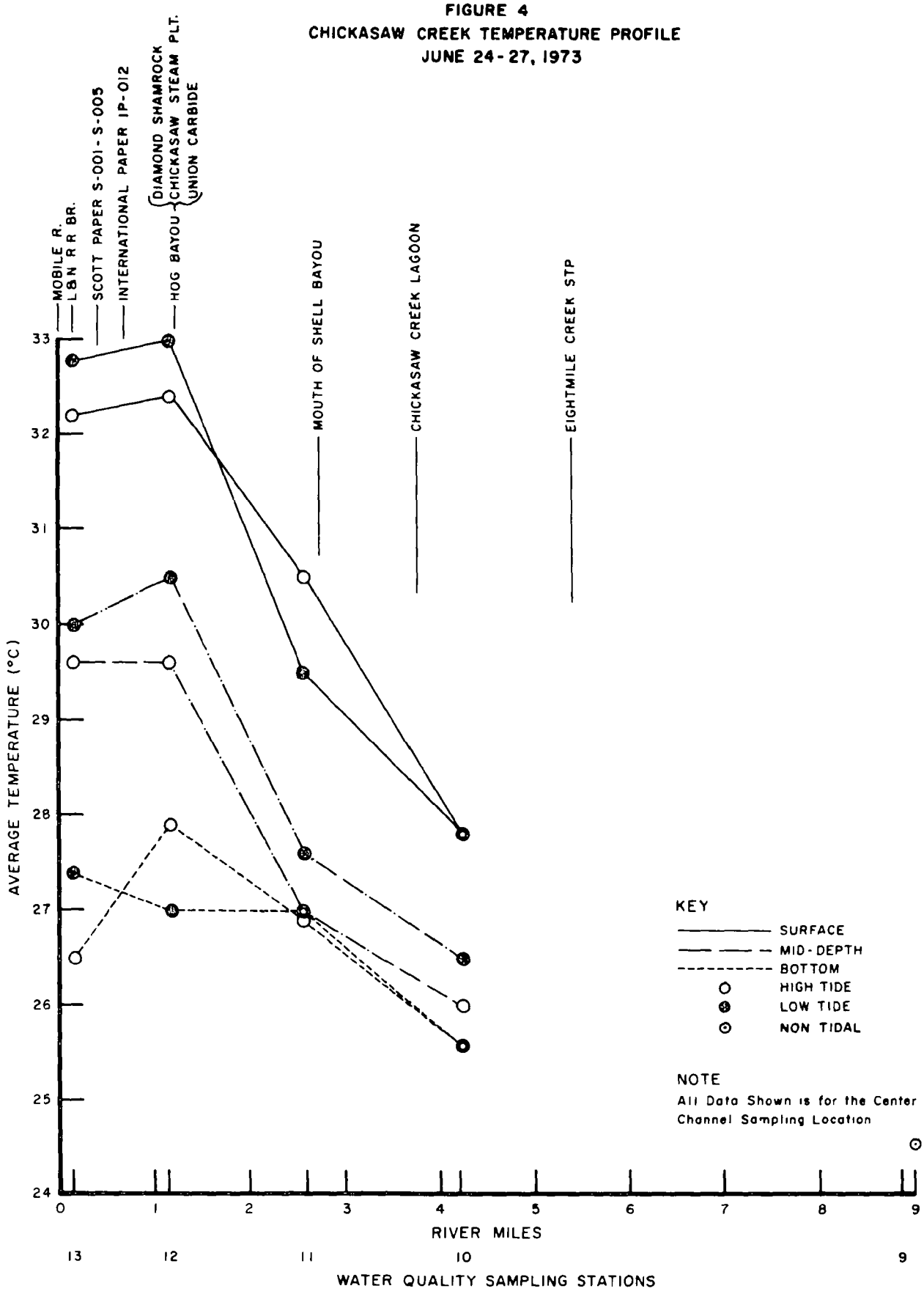
quality sampling station number 10 located at the U. S. Highway 43 bridge. Chloride concentrations at this station were less than 100 mg/l throughout the vertical cross-section at both high and low tide.

Temperature

Thermal stratification in Chickasaw Creek was also readily apparent (Figure 4). High tide water temperatures, as high as 34°C (93.0°F), were detected at the surface sampling location downstream from the Alabama Power Company discharge (sampling station number 12) and at the mouth of Chickasaw Creek (near the north bank at station number 13). Average high tide surface temperatures at center channel sampling locations decreased less than 0.5°C from station number 12 to the mouth of Chickasaw Creek. These extremely high water temperatures were attributed to once-through cooling water discharges from the Alabama Power Company and the International Paper Company facilities, as well as wastewater discharges from International Paper and the Scott Paper Company operations.

As shown by Figure 4, the highest average water temperatures were measured at the surface with significant (2-3°C) temperature decreases at mid-depth and bottom sampling locations. Average water temperatures were within 1°C for high and low tide, for each sampling location, at each sampling site.

FIGURE 4
CHICKASAW CREEK TEMPERATURE PROFILE
JUNE 24-27, 1973



Assuming that water temperatures measured at the U. S. Highway 43 bridge are representative of background conditions, it is evident that violations of the Alabama water quality criteria for the fish and wildlife use classification would have occurred during the study. Average temperature rises exceeding the temperature criteria of 5°F (2.8°C) would have occurred at the surface and mid-depth sampling locations at sampling station numbers 12 and 13. Although the criteria specify that temperature is to be measured at the 5-foot depth, it is evident that since the criteria was exceeded for surface (1-foot depth) and mid-depth (10-13 feet) samples, it would also have been exceeded at the 5-foot depth.

pH

The lowest pH values were detected at the freshwater background sampling location (station number 9 at RM 8.9) where values ranged from 5.7 to 6.8. pH values increased downstream and were highest in the lower reaches of Chickasaw Creek. Downstream from Shell Bayou, at sampling stations 11, 12, and 13, pH values ranged from 6.6 to 7.4. No pH values below 6.0 or greater than 8.5, the pH range specified by the Alabama water quality criteria for the fish and wildlife use classification, were found in areas directly affected by waste discharges.

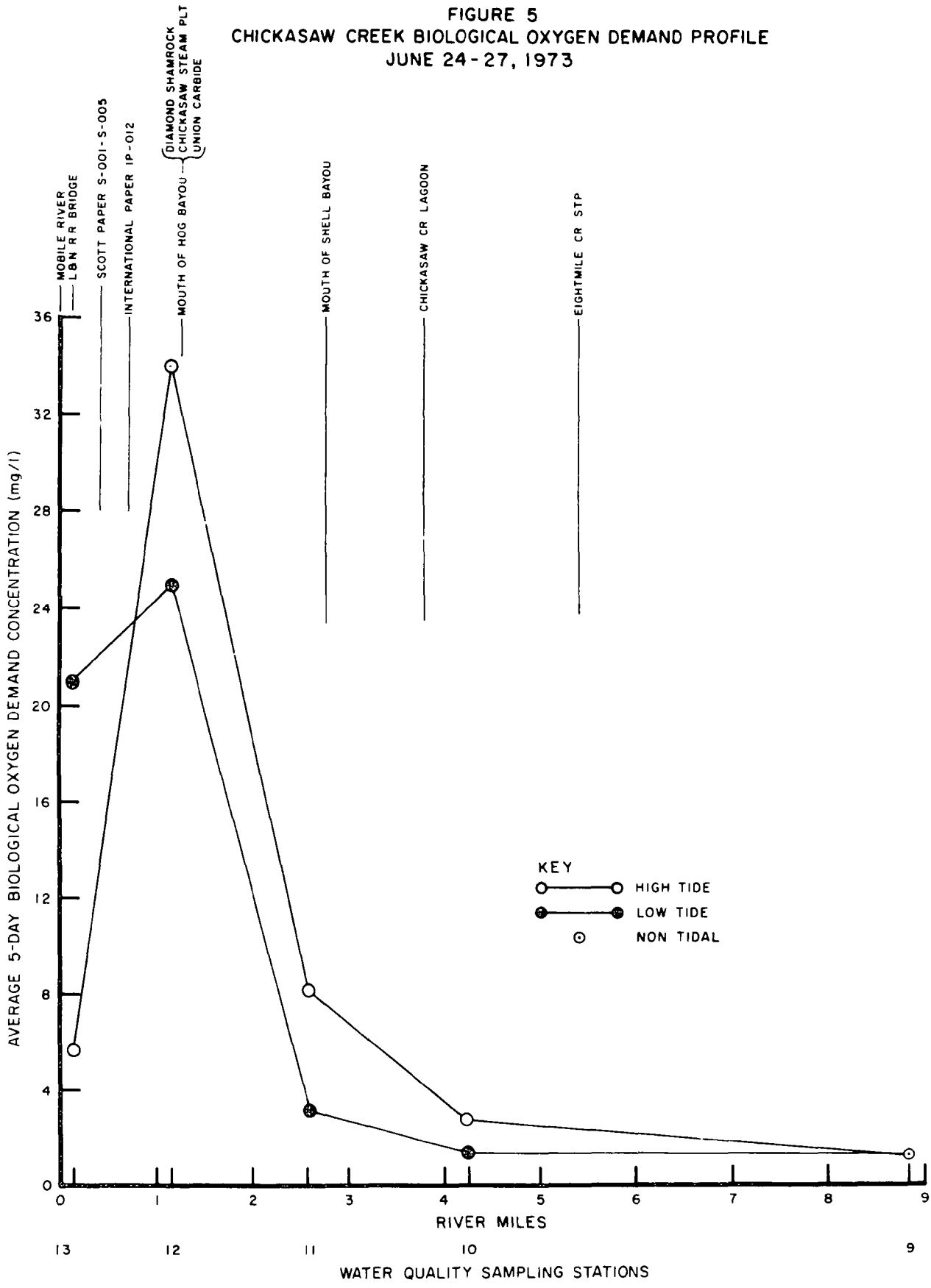
TABLE VI

WATER QUALITY SUMMARY
CHICKASAW CREEK

Station	Tide	Lab pH	BOD_5 (mg/l)	TOC (mg/l)	Turbidity JTU	Nitrogenous Compounds (mg/l)			Total Phos P (mg/l)	Coliform Bacteria 1/	
						TKN	NH_3	NO_2-NO_3		Tot/100ml	Fecal/100ml
9	Non-Tidal	6.1	1.3	5.30	7	0.32	<.01-.16	0.08	0.04	1400	62
10	High	6.2	2.8	8.50	9	0.36	0.12	0.06	0.07	1800	150
	Low	6.0	1.4	6.67	8	0.28	0.10	0.09	0.06	1900	100
11	High	7.0	8.2	10.75	20	0.66	0.33	<.01-.03	0.08	3800	140
	Low	6.7	3.2	9.25	12	0.64	0.28	<.01-.03	0.29	3300	220
12	High	7.4	34.0	26.0	25	0.62	0.10	<.01-.02	0.24	9800	540
	Low	7.2	25.0	27.0	30	0.71	0.15	< 0.01	0.40	14000	720
13	High	6.9	5.7	24.2	26	0.62	0.05	<.01-.13	0.21	10000	1400
	Low	7.0	21.0	34.0	32	0.70	0.08	<.01-.01	0.28	50000	1900

1/ Logarithmic mean

FIGURE 5
CHICKASAW CREEK BIOLOGICAL OXYGEN DEMAND PROFILE
JUNE 24-27, 1973



Turbidity

Turbidity (Table VI) increased significantly from relatively low values of 7 Jackson Turbidity Units (JTU) at the freshwater control station to values ranging from 25 to 30 JTU in the lower reaches of Chickasaw Creek at stations 12 and 13. The higher turbidity in the lower reaches of Chickasaw Creek are directly attributable to the major waste discharges entering this reach.

Biochemical Oxygen Demand and Dissolved Oxygen

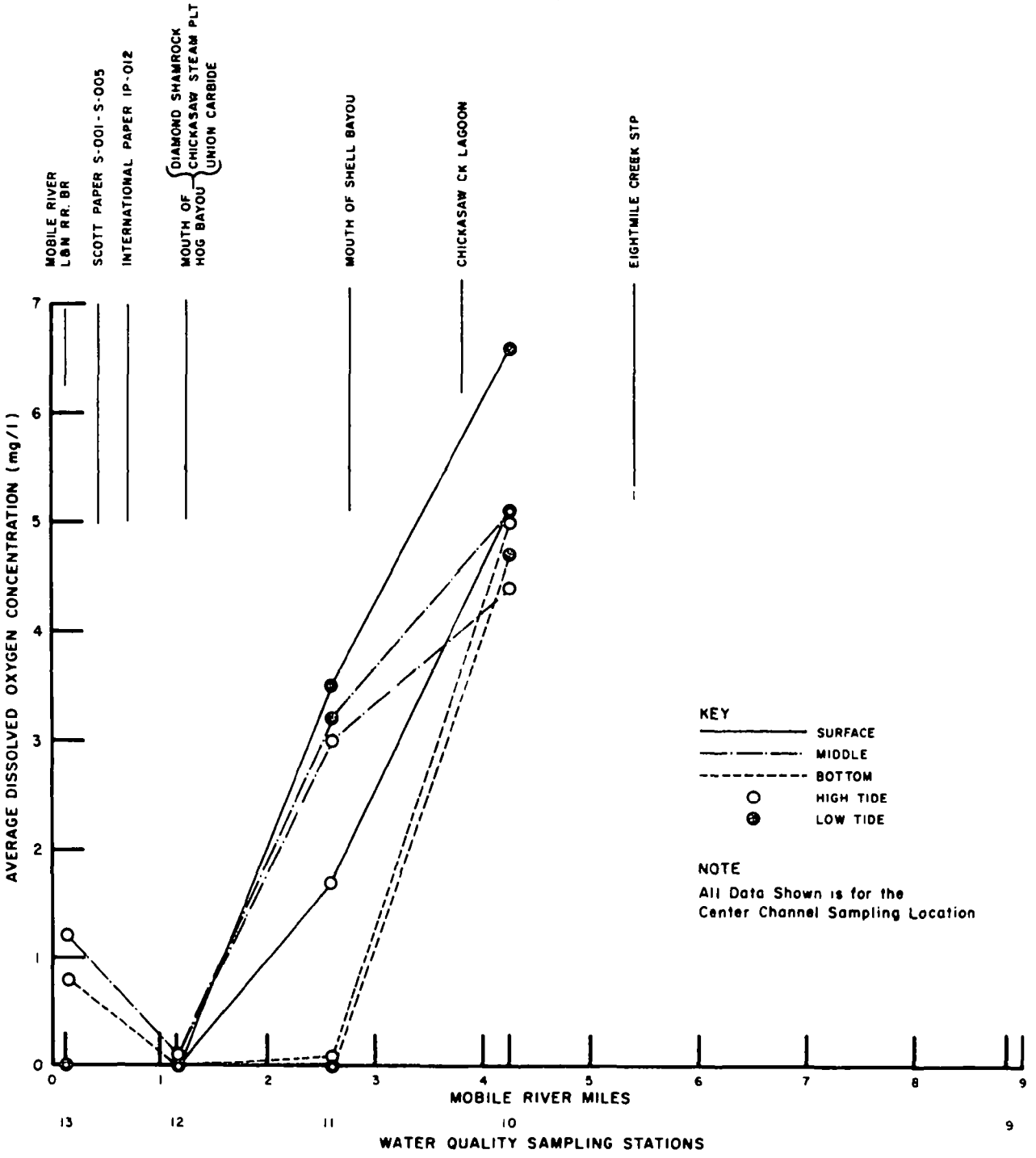
Because of a malfunction of laboratory equipment, only one BOD_5 analysis for each tidal condition was obtained at each station. These data, shown by Figure 5, were highest just downstream from Hog Bayou (station number 12) where high and low tide concentrations of 34 mg/l and 25 mg/l, respectively, were observed. The BOD_5 concentrations decreased markedly at the mouth of Chickasaw Creek (station number 13) and upstream from station number 12. These excessive BOD_5 concentrations were attributed to the high waste discharges from the International Paper and Scott Paper Company mills of approximately 65,100 lbs/day and 20,500 lbs/day, respectively. As shown by Figure 5, the high tide BOD_5 concentration of 5.7 mg/l was much lower at the mouth of Chickasaw Creek. Apparently, this is due to dilution with lower BOD_5 Mobile River water. The average BOD_5 concentration (1.3 mg/l) at the control sampling

station (number 10 at RM 8.9) was representative of background levels.

The dissolved oxygen (DO) profiles shown in Figure 6 is almost the direct inverse of the BOD_5 profile. Average DO concentrations were lowest throughout the vertical cross-section near Hog Bayou (station number 12), where concentrations were zero or nearly zero at both high and low tide. Average bottom sampling location DO concentrations were zero from the mouth of Chickasaw Creek (station number 13) to the mouth of Shell Bayou (station number 11 at RM 2.6). At surface and mid-depth sampling locations during high tide, the DO concentrations at the mouth of Chickasaw Creek improved slightly, increasing to approximately 1 mg/l. However, high and low tide DO concentrations were zero, for all practical purposes, in samples collected at quarter point locations at all depths (Appendix F). Significant improvement in surface and mid-depth oxygen concentrations was noted upstream from the major industrial waste sources at sampling station numbers 10 and 11. Low tide DO concentrations were higher at these two upstream stations due to the presence of relatively less polluted Chickasaw Creek water flushed from upstream reaches at low tide. The control sampling station had an average DO concentration of 7.5 mg/l or 89 percent of DO saturation during the study.

It should be noted that only those waters upstream from Shell Bayou would have been in compliance with the DO

FIGURE 6
CHICKASAW CREEK DISSOLVED OXYGEN PROFILE
JUNE 24-27, 1973



criteria required for the fish and wildlife use classification.

Nitrogen and Phosphorus

The concentrations of total Kjeldahl nitrogen (0.32 mg/l) and ammonia (<0.01 to 0.16 mg/l) measured at the Chickasaw Creek control station were essentially the same downstream to Shell Bayou (Table VI). The effect of significant discharges of total Kjeldahl nitrogen and ammonia, 211 and 171 lbs/day, respectively, from the Prichard Eightmile Creek sewage treatment plant (enters Chickasaw Creek at RM 5.4) was not apparent at the sampling station located downstream from this discharge (station number 10 at RM 4.2). The total Kjeldahl nitrogen and ammonia increased to average values of 0.65 mg/l and 0.30 mg/l, respectively, just downstream from Shell Bayou (station number 11). The total Kjeldahl nitrogen concentrations varied only slightly, but the ammonia concentrations decreased downstream from Shell Bayou to the mouth. The increase in total Kjeldahl nitrogen and ammonia downstream from Shell Bayou is difficult to explain, since the other major ammonia dischargers -Union Carbide (214 lbs/day), International Paper (107 lbs/day) and Scott Paper Companies (531 lbs/day) are located downstream from Shell Bayou. The increase in total Kjeldahl nitrogen and ammonia concentrations may have been due to decomposing sediment

deposits or swamp drainage. The decrease in ammonia concentrations downstream from Shell Bayou at station numbers 12 and 13, coupled with the relatively high ammonia discharges in the reach between these two stations, indicated that nitrification may have been occurring. Nitrite-Nitrate nitrogen decreased from 0.08 mg/l at the control station to <0.01 to 0.1 mg/l at the mouth of Chickasaw Creek. The decrease in nitrite-nitrate concentrations, particularly those in the oxygen depleted lower reaches of Chickasaw Creek (downstream from Shell Bayou), may have been due to bacterial denitrification.

The total phosphorus concentrations averaged 0.04 mg/l at the control station. The high tide phosphorus concentration downstream from Shell Bayou at station number 11 (0.08 mg/l) was slightly greater than that detected at station number 10 (0.07 mg/l); the low tide phosphorus concentration, 0.29 mg/l, was an order of magnitude higher. The increase in total phosphorus concentration at station number 10 and 11 could be explained by discharges of total phosphorus from the Eightmile Creek STP (172 lbs/day) and the Chickasaw Creek lagoons (21.5 lbs/day). The highest concentration of total phosphorus (0.40 mg/l at low tide) was detected just downstream from Hog Bayou, at station number 12. The most significant discharge of total phosphorus in the lower reaches of Chickasaw Creek was from the Scott Paper Company waste treatment system (1,950

lbs/day) and from the International Paper Company facility (185 lbs/day). The total phosphorus concentrations at high tide (averaged 0.21 mg/l) at the mouth of Chickasaw Creek were slighly lower than low tide concentrations (0.28 mg/l), presumably due to an influx of Mobile River water.

Microbiology

The mean total and fecal coliform densities at the background water quality sampling station (number 9 at RM 8.9) were 1,400 and 62/100 ml, respectively. Densities increased slightly downstream at station number 10 to 1,800 and 130/100 ml total and fecal coliforms, respectively. Density increases were due to a combination of the discharges from the Eightmile Creek STP (discharged <1,500 total and <190 fecal coliform/100 ml), swamp drainage and the discharge from Chickasaw lagoons (100,000 total and 19,000 fecal coliform/100 ml). The effects of the Chickasaw lagoons (located just downstream from station number 10 at RM 3.8) were detected at station number 10 at high tide (Table VI).

Surprisingly, coliform densities at station number 11, downstream from the Chickasaw lagoons and Shell Bayou were only slightly higher (3,500 total and 170 fecal coliforms/100 ml) than those detected at station number 10. High tide densities at station number 11 were greater than

low tide densities, indicating a source of coliforms downstream from this station.

The highest coliform densities were detected in the lower reach of Chickasaw Creek, downstream from Hog Bayou, where mean total and fecal coliform densities were 11,000 and 610/100 ml, respectively, and near the mouth of Chickasaw Creek where total and fecal coliform densities were 20,000 and 1,600/100 ml, respectively. Coliform densities at both of these stations were significantly higher at low tide (Table VI). The only known major source of coliforms discharging into the lower reach was from the Scott paper mill waste treatment system effluent (outfall S-002) which contained total and fecal coliform densities of 5,200 and 1,300/100 ml, respectively. It is likely that these high coliform densities were due to bacterial aftergrowth in the nutrient rich and warm waters of the lower reaches of Chickasaw Creek.

The Alabama water quality criteria for the fish and wildlife classification specify that bacteria of the fecal coliform group shall not exceed 1,000/100 ml as a monthly logarithmic mean nor exceed a maximum of 2,000/100 ml in any sample. Densities exceeding the 1,000/100 ml criteria were found in the lower reaches of Chickasaw Creek.

Salmonella is a large serologically related genus comprised of over 1,300 serotypes and is probably the easiest enteric pathogen to isolate from surface waters.

All Salmonella serotypes are considered pathogenic for either man, animals, or both. Listed below are the Chickasaw Creek sampling stations where Salmonella isolation was attempted, the fecal coliform densities measured at these stations and the serotypes isolated.

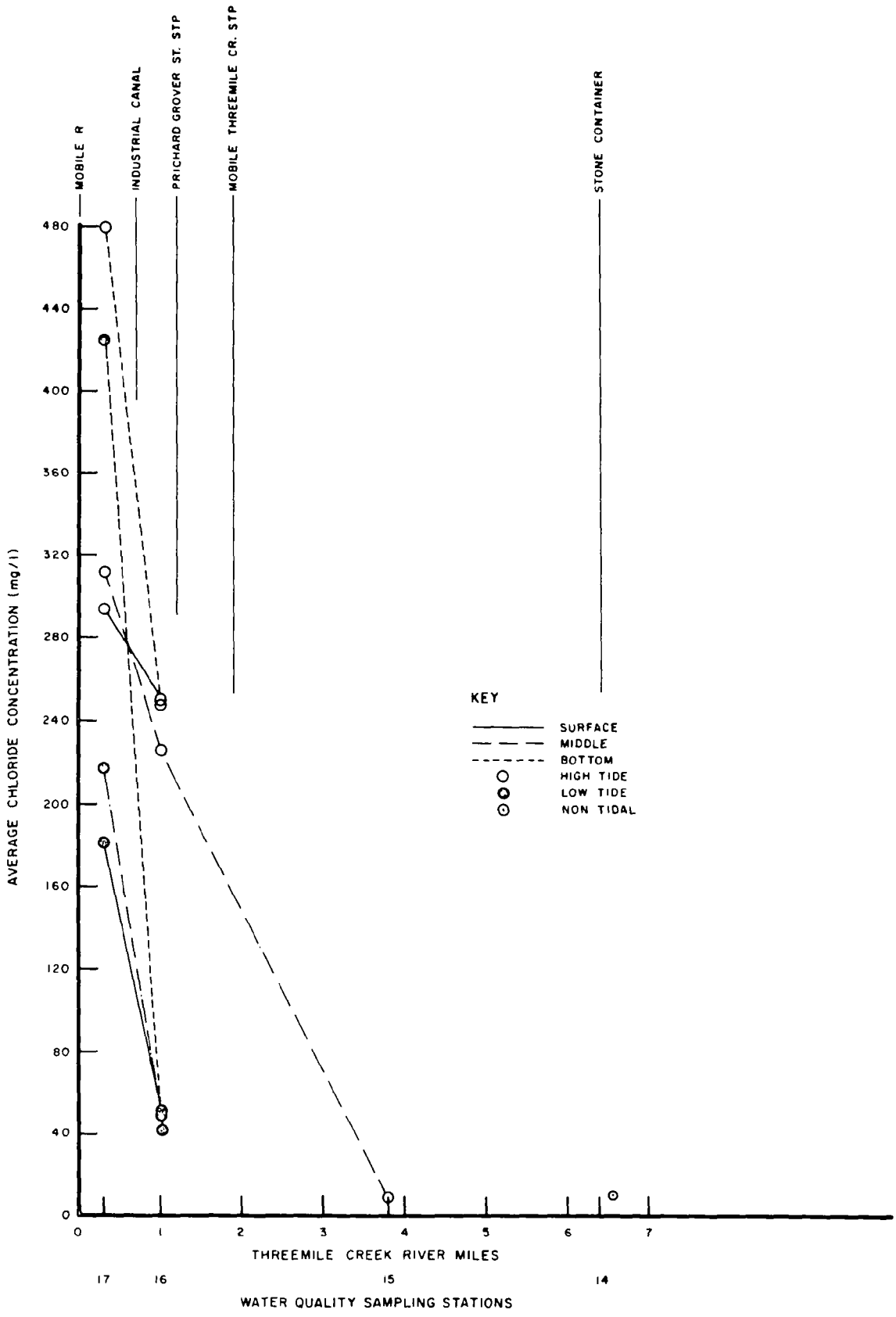
Station	Log Mean Fecal Coliform/100 ml	Salmonella enteriditis Serotypes Isolated
9	62	None
11	610	Inverness, Anatum
13	1,600	Inverness

Threemile Creek

Chlorides

Chloride concentrations measured in Threemile Creek (Figure 7) were much lower, particularly at bottom sampling locations, than those measured for either Chickasaw Creek or the Mobile River. Lower chloride concentrations were the result of the shallow depths in the tidal reaches of Threemile Creek (10 to 12 feet) which prevented the inflow of higher salinity Mobile River water. As shown by Figure 7, only sampling station numbers 16 and 17 were significantly affected by saltwater. At low tide, the water at station number 16 was essentially fresh.

FIGURE 7
THREEMILE CREEK CHLORIDE PROFILE
JUNE 24 - 27, 1973



Temperature

Water temperatures ranged from 24°C to 30.5°C in the shallow waters at control station number 14 (RM 6.4); the temperature averaged 27.5°C (Table VII). The lowest temperatures were measured in the morning, the highest in the afternoon. No source of heated water was known to exist upstream of this station. Similar variations in water temperature were noted downstream at sampling station number 15.

In the deeper, tidally affected waters found at station numbers 16 and 17, average temperatures throughout the vertical cross-section ranged from 27.0 to 27.9°C and 27.9°C to 28.6°C, respectively. Surface water temperatures were approximately 1°C higher at low tide at each of these stations.

All water temperatures measured on Threemile Creek would have been within the temperature criteria specified by the Alabama wter quality criteria for the fish and wildlife use classification.

pH

The pH values increased gradually downstream from 6.8 at the freshwater control stations to values ranging from 6.9 to 7.1 near the mouth of Threemile Creek. All pH measurements on samples from Threemile Creek would have been

within limits specified by the Alabama water quality criteria for the fish and wildlife use classification.

Turbidity

The average turibidity at the freshwater control station was 10 JTU. Turbidity concentrations increased downstream at station numbers 15, 16 and 17 (Table VII). The higher turbidity concentrations at downstream sampling stations may have been due to algae blooms.

Biochemical Oxygen Demand and Dissolved Oxygen

The average BOD_5 concentration of 2.6 mg/l suggested a source of pollution upstream of the control station. However, no significant municipal or industrial waste sources are known to exist upstream of this station. The average BOD_5 concentration increased to 4.6 mg/l at station 15. The only known source of BOD_5 discharged upstream from station 15 was from the Stone Container Corporation (18 lbs/day). The increase in BOD_5 (2 mg/l) at station number 5 was probably primarily due to the downstream waste discharges which were pushed upstream at high tide. (All of the samples collected at sampling station number 15 were collected at high tide.) At station number 16, located downstream from the Mobile Threemile Creek and Grover Street STPs, the BOD_5 concentrations were 2.9 and 4.0 mg/l at high and low tide, respectively. Near the mouth of Threemile

TABLE VII

WATER QUALITY SUMMARY
THREEMILE CREEK

Station	Tide	Lab pH	BOD_5 (mg/l)	TOC (mg/l)	Turbidity JTU	Nitrogenous Compounds (mg/l)			Total Phos P (mg/l)	Coliform Bacteria[1/]	
						TKN	NH_3	NO_2-NO_3		Tot/100ml	Fecal/100ml
14	Non-Tidal	6.8	2.6	4.30	10	0.43	0.21	0.22	0.13	120,000	40,000
15	High	6.6	4.6	5.80	15	0.87	0.50	0.34	0.30	330,000	140,000
	Low	--	--	--	--	--	--	--	--	--	--
16	High	6.9	2.9	8.25	12	2.79	2.66	0.12	1.54	4,700	1,300
	Low	6.9	4.0	15.0	14	5.73	4.16	0.28	3.45	18,000	1,600
17	High	7.0	1.5	6.67	21	0.76	0.45	0.21	0.32	2,300	170
	Low	7.0	5.2	10.0	13	3.21	3.04	0.12	1.95	6,700	870

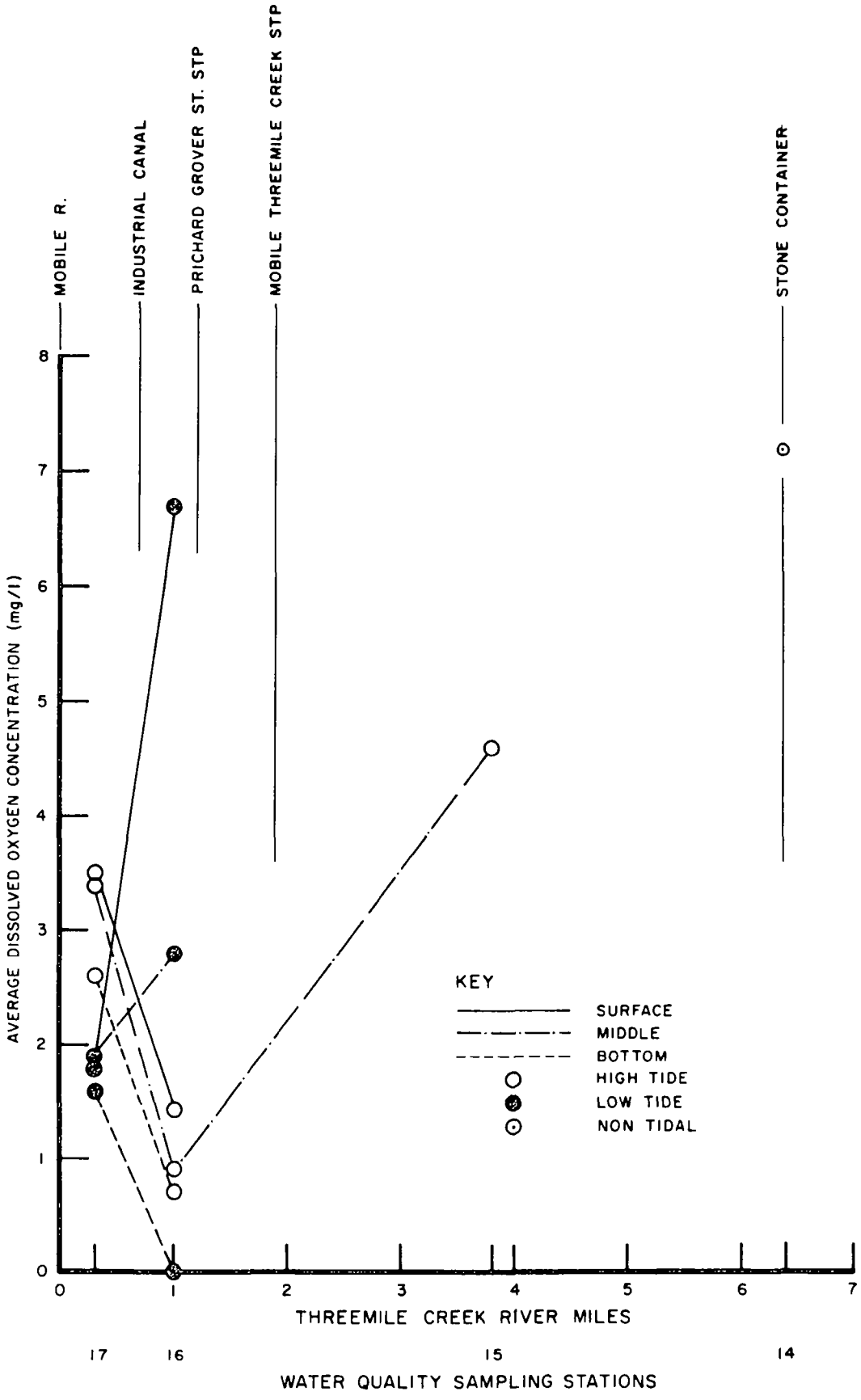
1/ Logarithmic mean

Creek (station number 17), average concentrations were 1.5 and 5.2 mg/l, respectively, for the same tidal conditions. These increased BOD_5 concentrations at low tide were, in all probability, due to BOD_5 discharges from the Mobile Threemile Creek STP (estimated at 2,500 lbs/day) and the Prichard Grover Street sewage treatment plant (362 lbs/day). The Gulfport Creosoting Company discharged 77 lbs/day of BOD_5 into the creek just upstream of station number 17. The lower BOD_5 concentrations measured at these two stations at low tide indicate that these wastes may have been pushed upstream at high tide.

Dissolved oxygen concentrations at the freshwater control station ranged from 6.6 to 7.9 and averaged 7.2 mg/l. The DO varied widely at station number 15 from concentrations of 1.3 mg/l in the morning (7:50 a.m.) to 7.2 mg/l in the early afternoon (1:20 p.m.) and averaged 4.6 mg/l. Wide fluctuations in DO concentrations were probably caused by an algae bloom. The presence of such a bloom would also account for the increased BOD_5 concentrations detected.

The DO concentrations at sampling stations downstream of the two STP discharges (station numbers 16 and 17), were significantly lower (Figure 8) than those found upstream. At station number 16, average DO concentrations at high tide were extremely low at surface (1.4 mg/l), mid-depth (0.9 mg/l) and bottom (0.7 mg/l) sampling locations. At low

FIGURE 8
THREEMILE CREEK DISSOLVED OXYGEN PROFILE
JUNE 24-27, 1973



tide, these concentrations increased to 6.7 and 2.8 mg/l at surface and mid-depth locations and decreased to 0.0 mg/l at the bottom. The increase in DO coupled with an increase in BOD_5 at low tide suggests the definite possibility of an algal bloom. Low dissolved oxygen concentrations near the mouth of Threemile Creek increased during high tides reflecting the influence of higher DO Mobile River water.

Dissolved oxygen concentrations measured at sampling station numbers 15, 16, and 17 would have been less than those permitted by the Alabama water quality criteria for the fish and wildlife classification.

Nitrogen and Phosphorus

Nitrogen and phosphorus concentrations at the control station were significantly high (Table VII), particularly the average ammonia (0.21 mg/l) and nitrite-nitrate (0.22 mg/l) nitrogen concentrations. These concentrations were indicative of an upstream waste source.

Concentrations of nitrogen and phosphorus increased downstream with the highest concentrations of total Kjeldahl (5.73 mg/l), ammonia (4.16 mg/l) and total phosphorus (2.79 mg/l) measured downstream from the STP discharges (station number 16) at low tide. Similarly, concentrations of these parameters were also high near the mouth of the creek at low tide. High tide nitrogen and phosphorus concentrations at

station number 16 were reduced significantly, and at station number 17 approached levels detected in the Mobile River.

The Mobile Threemile and Prichard Grover Street sewage treatment plants were the principal sources of nitrogen and phosphorus discharged into Threemile Creek. During the study, the Mobile Threemile Creek STP discharged 754 lbs/day of total Kjeldahl (718 lbs/day as ammonia), 9.1 lbs/day of nitrite-nitrate nitrogen and 475 lbs/day of total phosphorus, while the Prichard Grover Street STP discharged 70.9 lbs/day of total Kjeldahl (38 lbs/day as ammonia), 162 lbs/day of nitrite-nitrate nitrogen, and 148 lbs/day of total phosphorus. It is evident that these nutrient discharges were responsible for the exceedingly high nitrogen and total phosphorus concentration detected at downstream sampling stations.

Waters at station number 16 were deep green in color. The green color, the increase in DO and the exceedingly high nitrogen and phosphorus concentrations detected at this station strongly indicate the presence of high algae concentrations.

Microbiology

The freshwater control station (number 14), presumably located upstream from all identified major waste sources, had mean total and fecal coliform densities of 120,000 and 40,000/100 ml, respectively. These coliform densities

indicated a significant fecal waste source upstream from the control station. The source of wastes is unknown.

Station number 15, located 2.6 miles downstream from the control station, had elevated mean total and fecal coliform densities of 330,000 and 140,000/100 ml (Table VII). Stone Container, immediately downstream from the control station, discharged industrial wastes with mean total and fecal coliform densities of 270,000 and 26,000/100 ml, respectively. Effluents from Threemile Creek sewage treatment plant (mean total and fecal coliform densities of 110,000 and 7,400/100 ml, respectively) and Prichard Grover Street sewage treatment plants (total and fecal coliform densities of 3,000 and <550/100 ml, respectively) discharge into the creek between station numbers 15 and 16.

Sampling station number 15, located immediately downstream from the Grover Street sewage treatment plant had mean total and fecal coliform densities of 8,400 and 1,400/100 ml. A significant decrease in coliform densities is apparent between station numbers 15 and 16. However, mean total and fecal coliform densities were higher at low tide at station numbers 16 and 17 suggesting that the high coliform densities measured at station number 15 were caused by the high tide pushing the wastes from the sewage treatment plants (particularly Threemile Creek STP) upstream.

Threemile Creek contributed mean total and fecal coliform densities of 3,600 and 340/100 ml, respectively, to the Mobile River as measured near the mouth (station number 17).

Salmonella isolation was attempted on Threemile Creek. Listed below are the stations where Salmonella isolation was attempted, the fecal coliform densities measured at these stations and the serotypes isolated.

Station	Logarithmic Mean Fecal Coliform/100 ml	Salmonella enteriditis Serotypes Isolated
14	40,000	None
16	1,400	Infantis, Newport
17	340	Infantis

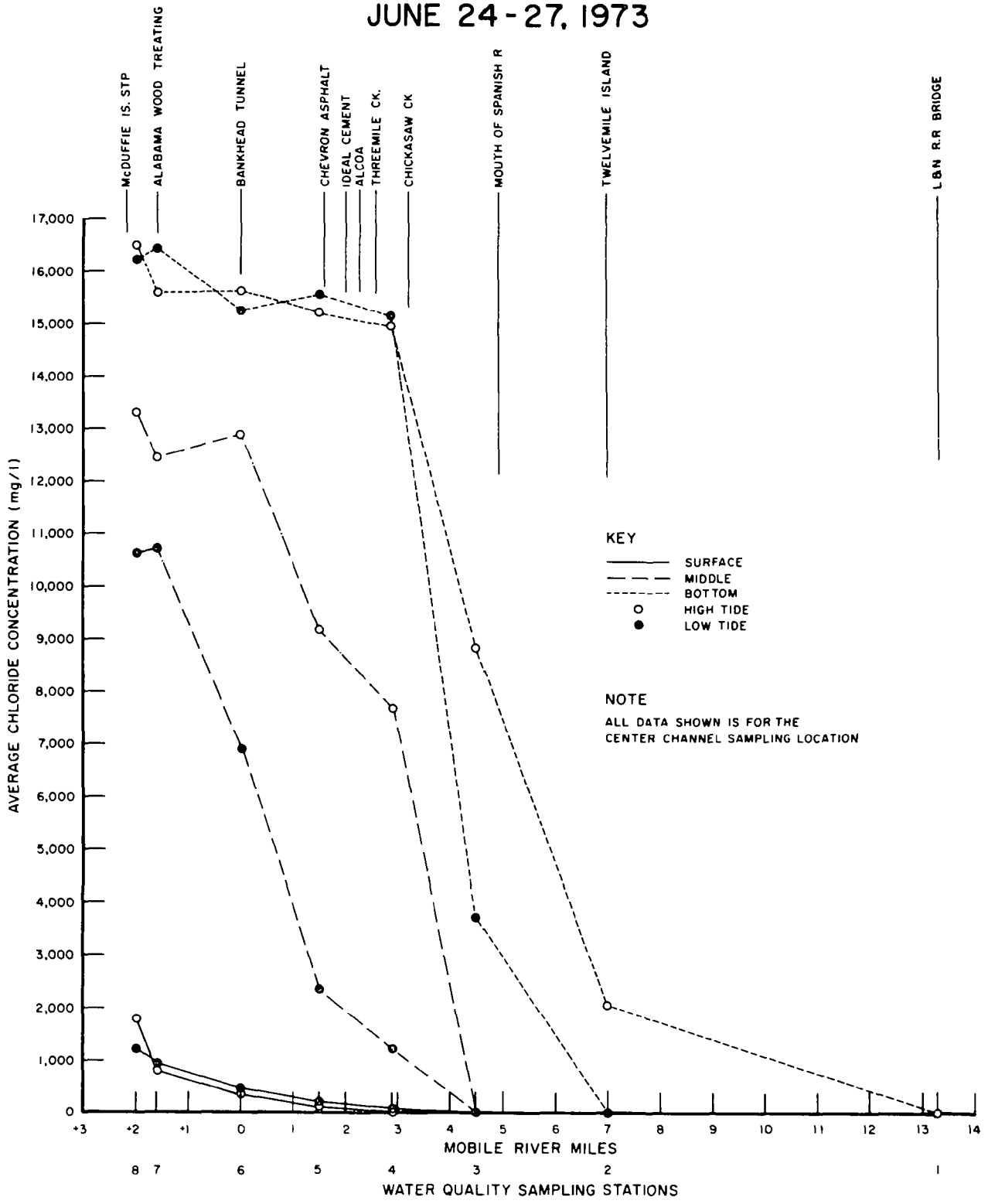
No Salmonella serotypes were isolated at station number 14 which had a mean fecal coliform density of 40,000/100 ml; however, fecal coliform densities of this magnitude indicate significant fecal pollution and the presence of enteric pathogenic bacteria should be assumed.

Mobile River

Chlorides

The Mobile River chloride profile, Figure 9, shows that the river was vertically stratified during the study. A saltwater wedge was observed at high tide as far upstream as the Twelvemile Island sampling station (number 2 at RM 7.0). Chloride concentrations at the freshwater control station

FIGURE 9
MOBILE RIVER - CHLORIDE PROFILE
JUNE 24 - 27, 1973



(number 1) averaged 7.5 mg/l during the study. Average surface concentrations increased gradually downstream to values of 1,790 mg/l and 1,210 mg/l for high and low tide conditions, respectively, at sampling station number 8 located in Mobile Bay. Average mid-depth concentrations remained low (less than 100 mg/l) downstream as far as station number 3 located between Chickasaw Creek and Spanish River. At the Cochran Bridge (sampling station number 4), average mid-depth concentrations were 7,740 mg/l and 1,240 mg/l at high and low tide, respectively. Mid-depth concentrations increased rapidly from this point downstream to Mobile Bay where they were 13,300 mg/l and 10,650 mg/l, at high and low tide, respectively. Average bottom chloride concentrations were as high as 2,060 mg/l at station number 2 at high tide. These concentrations increased to approximately 15,000 mg/l at station number 4 at both high and low tide. Bottom chloride concentrations were relatively stable in the 15,000-16,000 mg/l range from station number 4 downstream to station number 8 at both high and low tide. It should be noted that the area of highest bottom chloride concentrations were in the main ship channel which is maintained at a depth of 40 feet.

Temperature

Surface water temperatures decreased slightly from an average of 28.4°C at the freshwater control station to

27.9°C at the head of Mobile Bay. The heated discharges from Chickasaw Creek did not influence the center channel surface water temperatures plotted on Figure 10. An examination of surface temperatures from quarter point sampling locations (downstream from Chickasaw Creek) similarly indicated no effect from Chickasaw Creek (Appendix F). The decrease in mid-depth and bottom water temperatures from those found at the freshwater control station was greater than that for surface temperatures. The largest decreases were noted below the Cochran Bridge in the deeper waters of the Mobile Ship Channel. These water temperatures would have been within limits specified by the Alabama water quality criteria for the fish and wildlife use classification.

pH

The pH values increased downstream from the freshwater control station as salinity increased, reflecting the influence of higher pH Mobile Bay waters (Table VIII). Only a few pH values less than 6.0 were detected, and these did not occur where waste discharges were present. There would have been no pH violations of Alabama water quality criteria for the fish and wildlife use classification.

Turbidity

Average turbidity concentrations decreased from

FIGURE 10
MOBILE RIVER TEMPERATURE PROFILE
JUNE 24-27, 1973

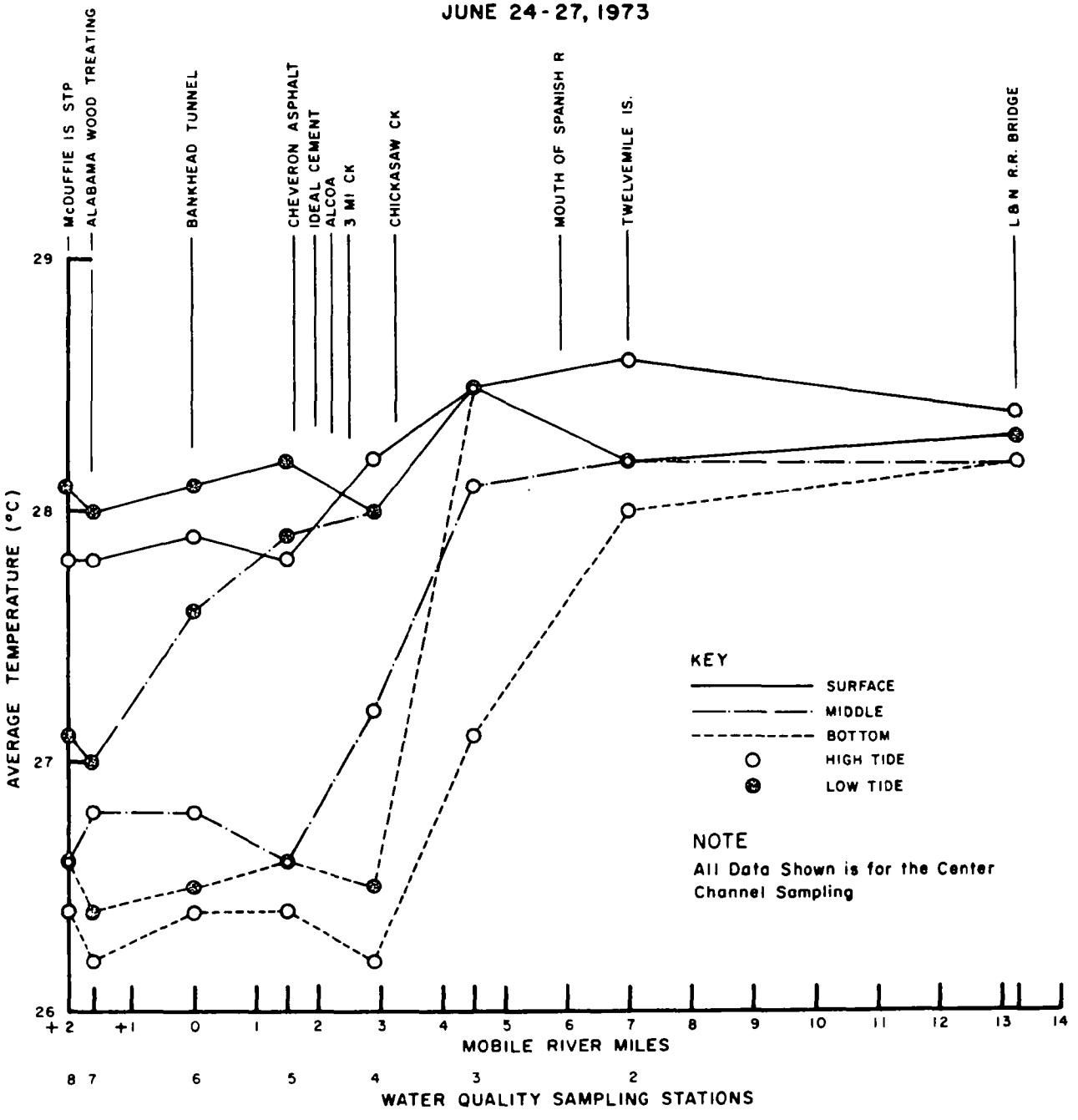


TABLE VIII

WATER QUALITY SUMMARY
MOBILE RIVER

Station	Tide	Lab pH	BOD_5 (mg/l)	TOC (mg/l)	Turbidity JTU	Nitrogenous Compounds (mg/l)			Total Phos P (mg/l)	Coliform Bacteria[1]	
						TKN	NH_3	NO_2-NO_3		Tot/100ml	Fecal/100ml
1	High	7.3	1.2	4.25	38	0.27	0.04	0.34	0.30	240	<61
	Low	6.8	0.7	3.50	41	0.36	0.05	0.33	0.08	480	<46
2	High	7.0	0.7	3.50	26	0.33	0.05	0.32	0.08	950	160
	Low	6.8	0.7	3.25	35	0.24	0.02	0.32	0.06	500	<43
3	High	7.2	0.5	3.75	23	0.32	0.14	0.27	0.14	250	<30
	Low	7.0	0.6	3.25	26	0.28	0.06	0.31	0.09	1800	<20
4	High	7.5	1.1	3.50	19	0.31	0.14	0.20	0.05	> 3300	130
	Low	7.3	0.7	4.50	22	0.28	0.15	0.22	0.08	1600	65
5	High	7.7	0.8	3.00	16	0.28	0.17	0.16	0.04	670	74
	Low	7.4	0.7	2.25	17	0.36	0.14	0.21	0.05	1200	<37
6	High	7.8	1.1	2.75	24	0.29	0.16	0.14	0.09	390	71
	Low	7.6	0.4	2.00	15	0.28	0.16	0.17	0.06	2600	73
7	High	7.8	1.8	2.50	20	0.32	0.14	0.14	0.08	2400	110
	Low	7.7	0.6	2.00	14	0.31	0.15	0.16	0.03	4800	88
8	High	7.8	1.1	2.00	21	0.38	0.15	0.12	0.09	540	71
	Low	7.8	0.6	2.50	18	0.33	0.16	0.14	0.24	1200	80

1/ Logarithmic mean

control station values of 38 and 41 JTU at high and low tide, respectively, to values of 21 and 18, respectively, at the head of Mobile Bay (station number 8). Neither Chickasaw Creek nor Threemile Creek discharges had any noticeable affect on average turbidity concentrations. However, a dark plume extending from the mouth of Chickasaw Creek for several hundred feet out into the Mobile River, was observed at low tide. This plume hugged the western shore of the Mobile River and was observable for several hundred feet downstream from Cochran Bridge.

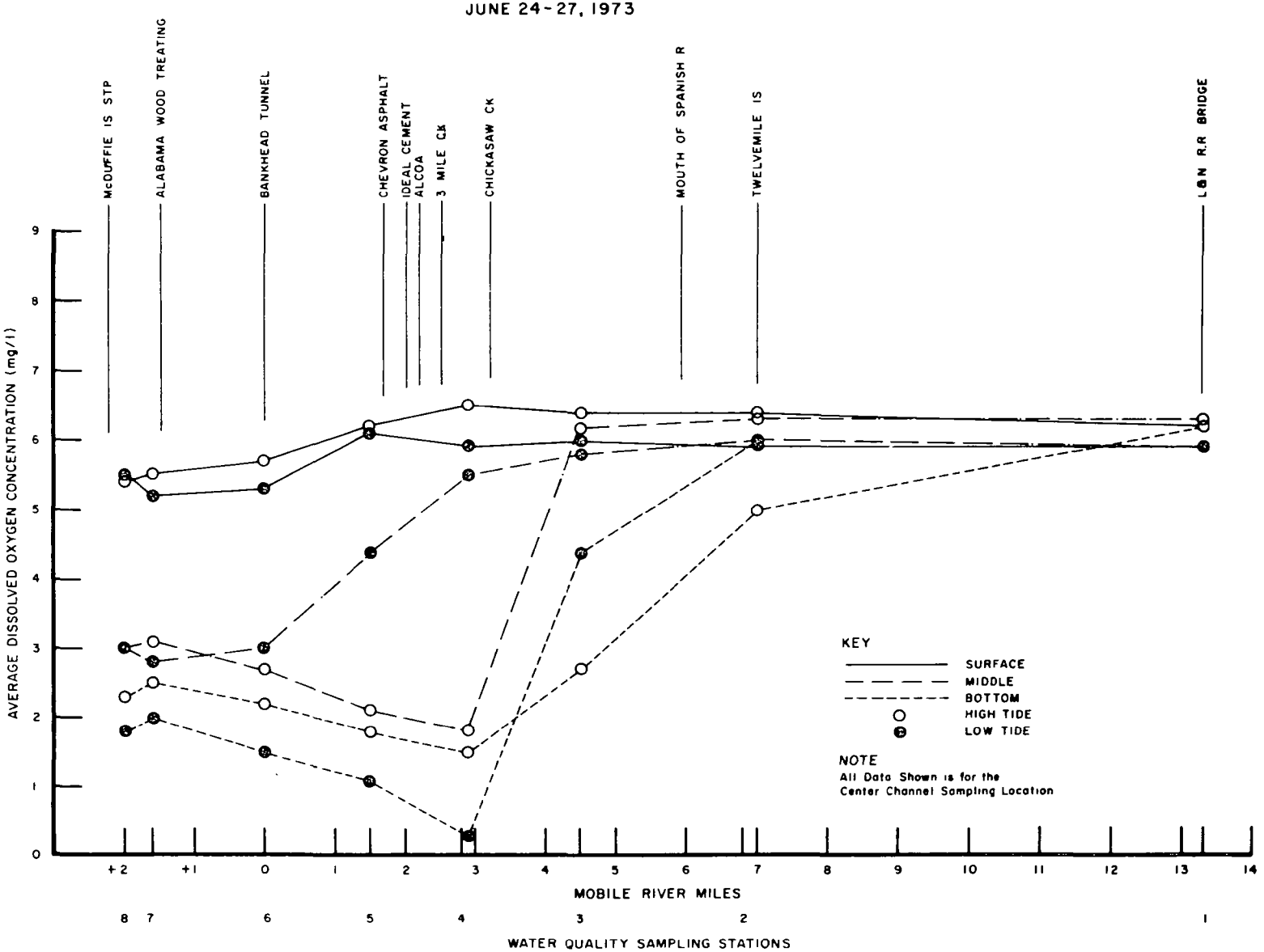
Biochemical Oxygen Demand and Dissolved Oxygen

Because of laboratory equipment failure, only one BOD_5 analysis per sampling station at each tidal condition was available for interpretation. The BOD_5 concentrations (Table VIII) ranged from 0.4 mg/l to 0.7 mg/l at low tide. Average high tide BOD_5 concentrations were generally higher at each station, ranging from 0.7 to 1.8 mg/l. The highest BOD_5 concentration was 1.8 mg/l (high tide concentration) which was detected at a station (number 7) located near the mouth of Mobile River. While there was a slight increase in BOD_5 just downstream from Chickasaw Creek (station number 4), the data were too limited to make any general assumptions.

The low BOD_5 concentrations measured in the Mobile River undoubtedly resulted from the high Mobile River flows during the study. The manner in which the samples were composited may also have resulted in lower BOD_5 concentrations reported. Since samples were composited throughout the vertical (and horizontal at quarter point sampling locations) cross sections, effects of freshwater waste discharges may have been masked. The effects of these discharges would have been exerted in the less saline surface layers of the stratified Mobile River system.

The average surface dissolved oxygen concentrations (Figure 11) remained relatively constant at approximately 6.5 mg/l at high tide and 6.0 mg/l at low tide from the freshwater control station as far downstream as the Cochran Bridge (station number 4). Surface DO concentrations at the Cochran Bridge western quarter point (20 percent) were significantly lower than those detected at mid-channel (50 percent) or eastern quarter point sampling locations (Appendix F). This condition was true for both high and low tidal conditions. Lower DO concentrations were detected within the plume from Chickasaw Creek previously noted. Downstream from Cochran Bridge, surface DO concentrations decreased to between 5.0 and approximately 6.0 mg/l with higher average concentrations occurring at high tide. This decrease in DO concentration reflects the discharge from Chickasaw Creek and Mobile River waste discharges.

FIGURE 11
MOBILE RIVER DISSOLVED OXYGEN PROFILE
JUNE 24-27, 1973



Average mid-depth DO concentrations had a variation similar to surface samples downstream from the freshwater control station to station number 3, located midway between Chickasaw Creek and the Mobile River. At the Cochran Bridge sampling locations, high tide DO concentrations dropped off abruptly to an average value of 1.8 mg/l and increased gradually downstream to approximately 3.0 mg/l near the mouth of the river. Low tide mid-depth DO concentrations also declined but did not exhibit a "sag." The low tide mid-depth DO concentrations declined from an average value of 5.5 mg/l at Cochran Bridge, to 3.0 mg/l at the head of Mobile Bay. Bottom DO concentrations started declining at Twlevemile Island at high tide; this was the most upstream location of the salt wedge detected during the study.

Average bottom DO concentrations dropped to 1.5 mg/l at high tide and 0.3 mg/l at low tide at Cochran Bridge and increased to 2.3 and 1.8, respectively, for the same tidal conditions at the head of Mobile Bay. The abrupt drop in bottom DO concentrations at Cochran Bridge occurred at the beginning of the deep Mobile Ship Channel (40 feet deep) which extends into Mobile Bay.

The decrease in DO concentrations for surface samples detected downstream from Cochran Bridge were probably related to waste discharges. While some of the decline in DO of mid-depth and bottom samples downstream of the Cochran Bridge was due to waste discharges, the primary causes were

probably due to higher chloride concentrations, lack of reaeration due to chloride stratification and the presence of oxygen demanding sediment deposits.

The Alabama water quality criteria specify a DO concentration of 5.0 mg/l for fish and wildlife use classification. As shown by Figure 11, only surface samples would have met these criteria throughout the study reach.

Nitrogen and Phosphorus

Average total Kjeldahl nitrogen varied only slightly in the study reach ranging from 0.24 mg/l at Twelvemile Island (station number 2) at low tide to 0.38 mg/l at the upper end of Mobile Bay at high tide (Table VIII). At the background station, located at the L&N Railroad bridge, average ammonia concentrations were 0.04 mg/l and 0.05 mg/l at high and low tide, respectively. These concentrations increased significantly downstream from Chickasaw Creek where high and low tide average ammonia concentrations in the stream reach from Cochran Bridge to Mobile Bay ranged from 0.14 to 0.17 mg/l. Average nitrite-nitrate nitrogen concentrations decreased gradually downstream from values of 0.34 mg/l and 0.33 mg/l at the L&N Railroad bridge, at high and low tide, respectively, to 0.12 and 0.14 mg/l for the same tidal conditions at the upper end of Mobile Bay.

Average total phosphorus concentrations ranged from 0.03 mg/l at low tide near the mouth of the Mobile River to 0.30 mg/l at high tide at the control station.

Microbiology

High tide and low tide coliform data were analyzed separately in an effort to determine the effect of bacterial densities contributed by tributaries on the bacterial water quality of the Mobile River. These data are summarized in Table VIII. However, high and low tide mean coliform densities were not significantly different.

Background mean total and fecal coliform densities of 320 and <54/100 ml, respectively, at the control station indicated insignificant fecal contamination. Downstream, some 8.6 miles (station number 3), the mean total coliform density increased to 490/100 ml while the mean fecal coliform density decreased to <26/100 ml. Mean total and fecal coliform densities increased to >2400 and 95/100 ml, respectively, at the Cochran Bridge station as a result of the coliform contribution from Chickasaw Creek which flows into the Mobile River 0.3 mile upstream from Cochran Bridge.

Threemile Creek contributed mean total and fecal coliform densities of 3,600 and 340/100 ml, respectively. These densities had little effect on the bacterial quality of the river as seen at station number 5, which is located downstream from the confluence of Threemile Creek. Slightly

decreased total and fecal coliform densities of 860 and <55/100 ml, respectively were recorded at this station.

Downstream from station number 5, unidentified waste sources, possibly raw sanitary waste discharges from the Alabama State Docks, increased the mean total and fecal coliform densities to 3,200 and 97/100 ml, respectively, as measured at station number 7, located near the mouth of the Mobile River.

The mean total coliform densities at the station located in the upper portion of Mobile Bay decreased to 760/100 ml. The mean fecal coliform density at this station remained at approximately the same level as densities near the mouth of the river.

Total and fecal coliform densities measured in the same reach of the Mobile River during a 1969 survey by the U. S. Department of the Interior were significantly higher than those measured during this survey.(6)

Salmonella isolation was attempted at seven Mobile River sampling stations. A list of all stations where Salmonella isolations were attempted, the fecal coliform densities measured at this stations, and the serotypes isolated follows:

Station	Logarithmic Mean Fecal Coliform/100 ml	Salmonella enteriditis Serotypes Isolated
01	<54	Inverness
02	<91	Sampler not recovered

03	<28	Tallahassee
04	95	Inverness
05	<55	Inverness, Pensacola
06	72	Inverness, Give, Anatum
07	97	Inverness

It should be noted that one Salmonella serotype, Inverness, was quite prevalent during the study period. The source or sources of this particular serotype was not known. Salmonella was isolated at one station (number 3) where the mean fecal coliform density was <28/100 ml, which indicates that the presence of low fecal coliform densities alone do not completely eliminate the possibilities of enteric pathogens.

All Mobile River fecal coliform samples collected during this study were within limits specified by the Alabama water quality criteria for the fish and wildlife use classification.

ASSIMILATIVE CAPACITY STUDIES

General

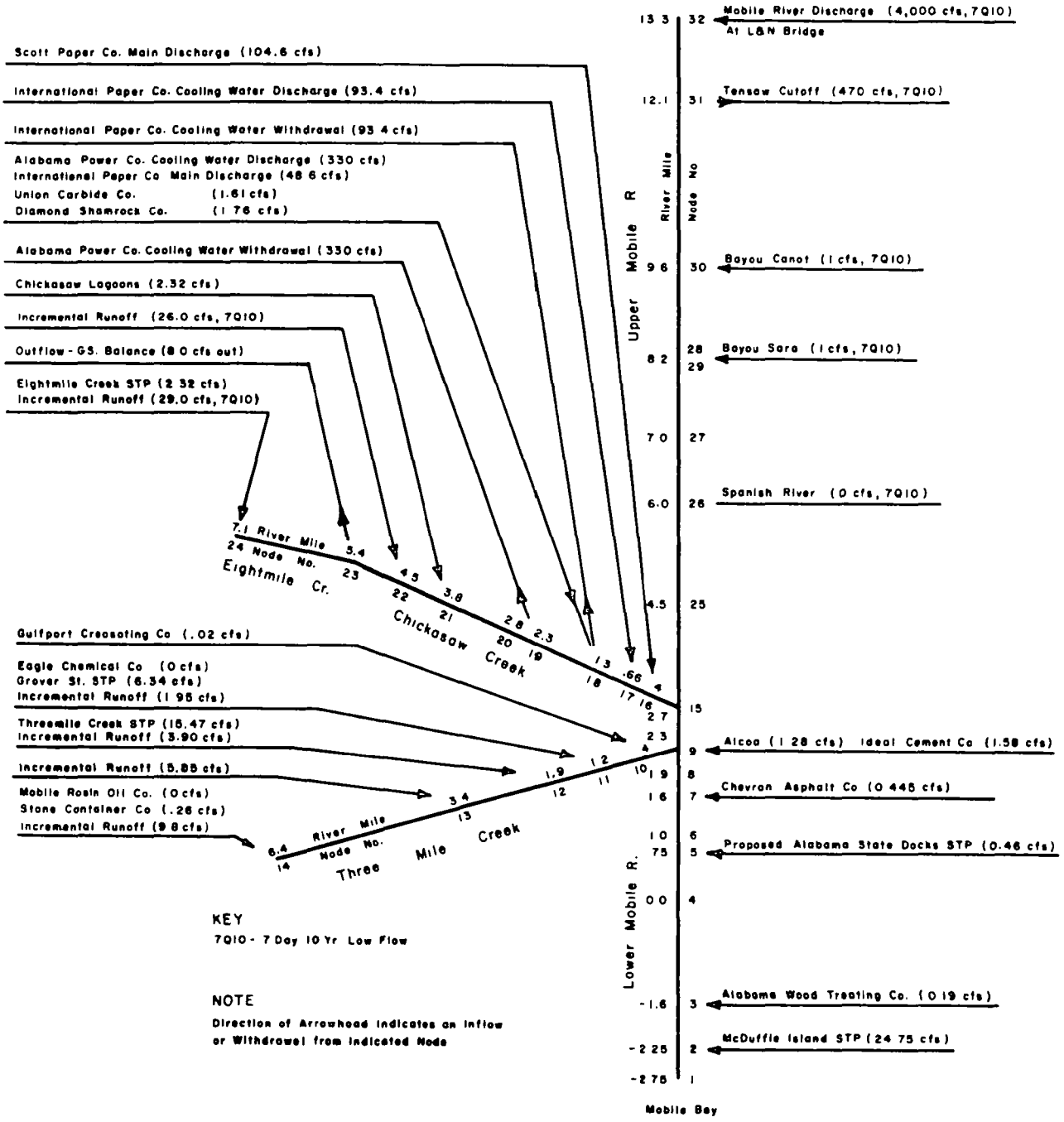
A waste assimilative capacity study was made of the Mobile River, Chickasaw Creek and Threemile Creek using the "Receiving Waters Section" of the EPA "Storm Water Management Model."(7) This mathematical model simulates the physical and biological phenomenon related to the dissolved oxygen balance in estuaries. A comprehensive description of this model will not be attempted in the report; however, a complete discussion of the model and instructions for its use are given in the referenced EPA report.

Model Structure and Assumptions

The basic model structure used for these studies is shown in schematic form on Figure 12. The limits of the model were the Mobile River between Mobile Bay and the L & N Railroad Bridge (RM 13.3); Chickasaw Creek from the Mobile River to the Shelton Beach Highway (RM 7.1), and Threemile Creek from the Mobile River to the GM&O Railroad bridge (RM 6.4). The 32 model data points (nodes) used to input data and retrieve results are also shown on the schematic diagram.

The model hydraulics were constructed using channel cross-sections derived from field study results, U. S. Army Corps of Engineers data, and estimates from U. S. Geological

FIGURE 12
MATHEMATICAL MODEL NETWORK
MOBILE RIVER, CHICKASAW CREEK & THREEMILE CREEK



Survey quadrangles. Stream flows were obtained from U. S. Geological Survey gaging station records and estimates. The stream flow data were discussed previously in the area and water quality sections of this report. The stream flows for the 7-day, 10-year low flow condition and wastewater flows actually used for final model runs are shown on Figure 12. Coefficients of the Manning open channel equation of 0.02 were assumed in the lower reaches of all three streams; a value of 0.03 was used in the upper reaches. A tidal range of slightly over two feet was input into the model at the mouth of the Mobile River.

Model Limitations

Ordinarily, the first step taken after an estuarine model has been constructed is to verify the model against chloride profiles from field studies. In this case, it was impossible, since the Mobile River and lower reach of Chickasaw Creek were vertically stratified due to the higher river flows during the study. The receiving waters model assumes vertically and horizontally well-mixed conditions and is not valid for stratified estuaries.

It was assumed that Chickasaw Creek would be well mixed at low flows because of its relatively shallow depths and large volumes of cooling waters recirculated in the lower reaches. In all probability, the Mobile River would be stratified even at low flows. Therefore, the model was used

to estimate the waste assimilative capacities of Chickasaw and Threemile Creeks but was not used to estimate the assimilative capacities of the Mobile River.

Stream Parameter and Waste Load Assumptions

A uniform water temperature of 30°C (based on field study results) was assumed throughout the study reach. A deoxygenation rate (K_2) of 0.10 per day at 20 °C (0.16 per day at 30°C) and a DO saturation of 7.4 mg/l (corresponding to a chloride concentration of 4,000 mg/l) were assumed for the entire reach. Reaeration rates (K) were calculated for each model reach between nodes and were based on model hydraulics using the O'Conner and Dobbins theory.

In general, industrial waste loads input into the model were interim guideline values supplied by the EPA, Region IV, Enforcement Division. Where guideline values were not available, BOD_5 waste loads reported on the National Pollutant Discharge Elimination System (NPDES) permit applications were reduced by 85 percent and input into the model. Waste flows in all cases were obtained from the NPDES permit applications. All waste loads were converted to ultimate oxygen demand using appropriate deoxygenation rate coefficients for BOD_5 and by using an ammonia to ultimate oxygen demand coefficient of 4.0 (8,9).

Municipal waste loadings were obtained by using design flows and best practical treatment guidelines.(10) Best

practical treatment for municipal wastes is defined as follows:

$$\text{Ultimate Oxygen Demand} = 1.5\ (BOD_5) + 4.5\ (TKN) - \text{Effluent Dissolved Oxygen} = 50\ mg/l$$

The municipal waste loads were also obtained using secondary treatment guidelines (BOD_5 = 30 mg/l) and ammonia loads discharged during the field study.(11)

Table IX contains the municipal and industrial waste loadings input into the model and the various assumtions used to convert to the ultimate demand loadings.

Model Results

Chickasaw Creek

During model runs, the guideline waste loads from the Scott and International Paper Company facilities were varied while the Union Carbide plant, Chickasaw Creek lagoons and Eightmile Creek STP waste loads were held constant. Effluent DO concentrations for municipal and industrial dischargers of 2 and 4 mg/l were used in separate model runs. The DO of cooling water discharges was assumed to be at the DO concentration of the intake cooling water. The results of these model runs are shown on Figure 13 and 14. Also shown on these figures are the effects of using best practical and secondary treatment at the two municipal treatment plants.

TABLE IX

MODEL ASSUMPTIONS
MUNICIPAL AND INDUSTRIAL WASTE LOADS

Source	Flow[1] (mgd)	Waste Loading[2] (lbs/day) BOD_5	Waste Loading[2] (lbs/day) Ammonia	Ultimate Oxygen Demand[4] Conversion Factors	Ultimate Oxygen Demand[4] Lbs/Day
Chickasaw Steam Plant	213	0	0	--	0
Union Carbide Co.	1.04	0	100	Ammonia x 4 = UND[3]	400
Diamond Shamrock Co.	1.14	0	0	--	0
International Paper Co.	31.4	16740	0	K_1=0.10(20°C)	30130
International Paper Co. (Cooling)	60.4	0	0	--	0
Scott Paper Co.	67.6	12920	0	K_1=0.10(20°C)	23250
Stone Container Co.	0.17	50	0	K_1=0.10(20°C)	90
Mobile Rosin Oil	0	0	0	--	0
Gulfport Creosoting Co.	0.01	76	0	K_1=0.23(20°C)	91
Alcoa	0.83	11	0	K_1=0.23(20°C)	14
Proposed AL State Docks STP	0.30	77	--	K_1=0.23(20°C)	92
Chevron Asphalt Co.	0.29	23	4.8	K_1=0.23(20°C), Ammonia x 4 = UND	47
AL Wood Treating Co.	0.12	72	0	K_1=0.23(20°C)	86
Ideal Cement Co.	1.02	2	3	K_1=0.23(20°C), Ammonia x 4 = UND	15
Eightmile Cr STP	1.50	--	--	BPT-Effluent DO=2 mg/l	600
		--	--	BPT-Effluent DO=4 mg/l	575
		375	191	Sec Trt, K_1=0.23(20°C), Ammonia x 4 = UND	1214
Chickasaw Lagoons	1.50	--	--	BPT-Effluent DO=2 mg/l	600
		--	--	BPT-Effluent DO=4 mg/l	575
		375	31	Sec Trt, K_1=0.23(20°C), Ammonia x 4 = UND	574
Threemile Ck STP	10.0	--	--	BPT-Effluent DO=2 mg/l	4000
		--	--	BPT-Effluent DO=4 mg/l	3840
Grover Street STP	4.1	--	--	BPT-Effluent DO=2 mg/l	1640
		--	--	BPT-Effluent DO=4 mg/l	1570
McDuffie Isle STP	16.0	4000	1330	Sec Trt, K_1=0.23(20°C), Ammonia x 4 = UND	10140

1/ Flow from respective NPDES Permit or STP design flow.

2/ Waste load based on NPDES interim guidelines or assumed at 85 percent (secondary treatment) of load reported on NPDES Permit. Municipal loads based on best practical treatment (BPT) guidelines or secondary treatment guidelines and design flow.

3/ Ultimate nitrogen demand.

4/ For the purposes of this study ultimate oxygen demand is defined as the ultimate carbonaceous BOD plus 4.0 times the ammonia concentration.

As shown by Figure 14, it would require the elimination of the Scott Paper and International Paper Company facility discharges before the minimum average daily 5.0 mg/l DO specified for the fish and wildlife classification could be met. This condition would also be dependent on both the Chickasaw lagoons and Eightmile Creek STP converting to best practical treatment; the Union Carbide Plant discharging a proposed 100 lbs/day of ammonia, and all waste discharges maintaining a minimum effluent DO of 4 mg/l.

Figure 15 presents the data shown in Figures 13 and 14 in a more useful fashion. The amount of ultimate oxygen demand that can be discharged for a given minimum average DO concentration in Chickasaw Creek is shown. It should be noted that a discontinuity in the curves shown in Figure 15 occur when the Scott Paper and International Paper Company facility discharges are completely removed from the system. This discontinuity is principally caused by the hydraulic effects of removing these two discharges.

Threemile Creek

The results of Threemile Creek model runs are shown on Figure 16. Best practical treatment was assumed for the Mobile Threemile Creek and Grover Street STPs; permit conditions were assumed for the Stone Container Company, and interim guideline conditions were assumed for the Gulfport Creosoting Company. Effluent DO concentrations were assumed

FIGURE 13
MATHEMATICAL MODEL DISSOLVED OXYGEN PROFILES
CHICKASAW AND EIGHTMILE CREEKS
(WASTEWATER EFFLUENT CONTAINS 2 mg/l D.O.)

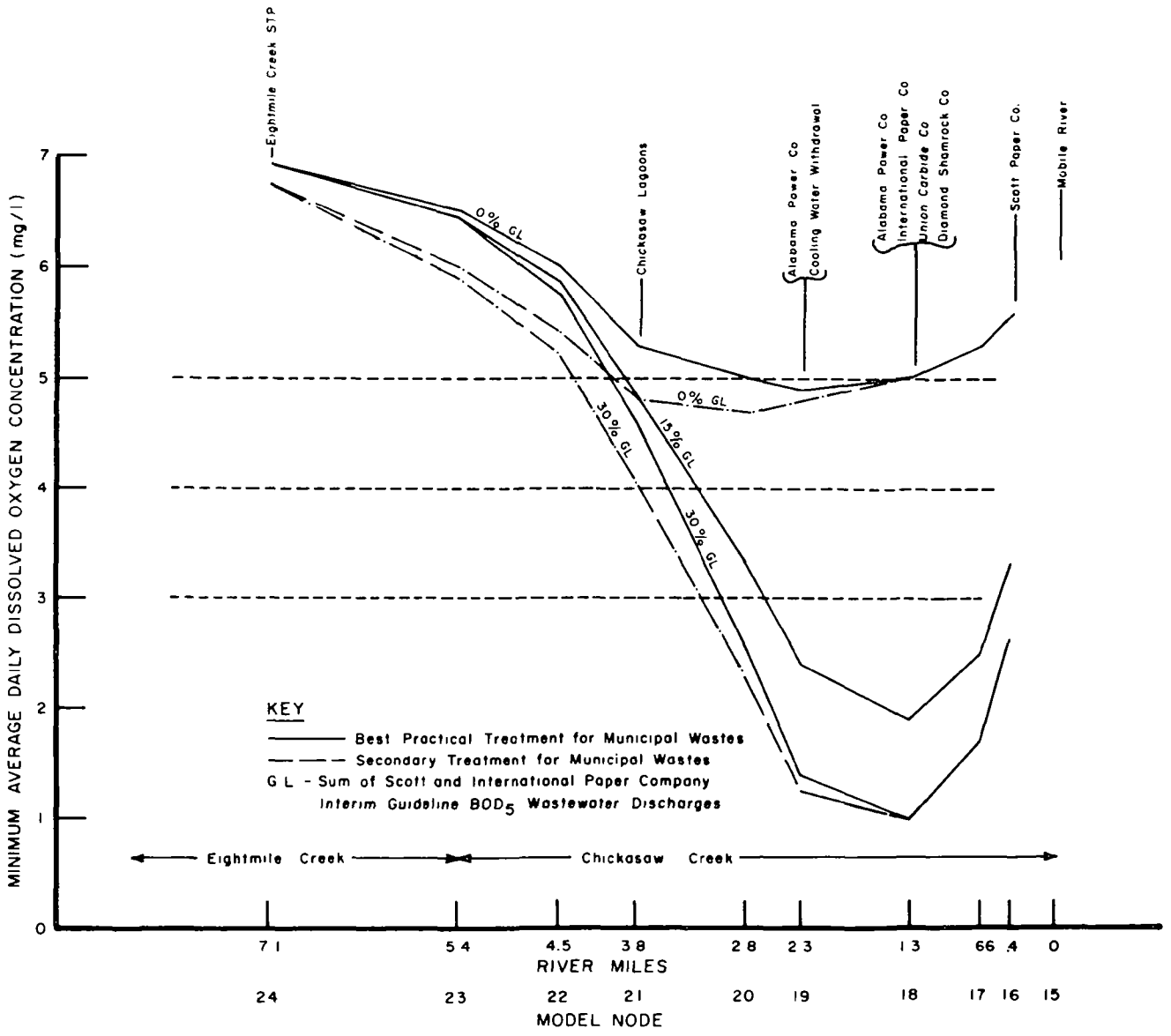


FIGURE 14
MATHEMATICAL MODEL DISSOLVED OXYGEN PROFILES
CHICKASAW AND EIGHTMILE CREEKS
(WASTEWATER EFFLUENT CONTAINS 4 mg/l D.O.)

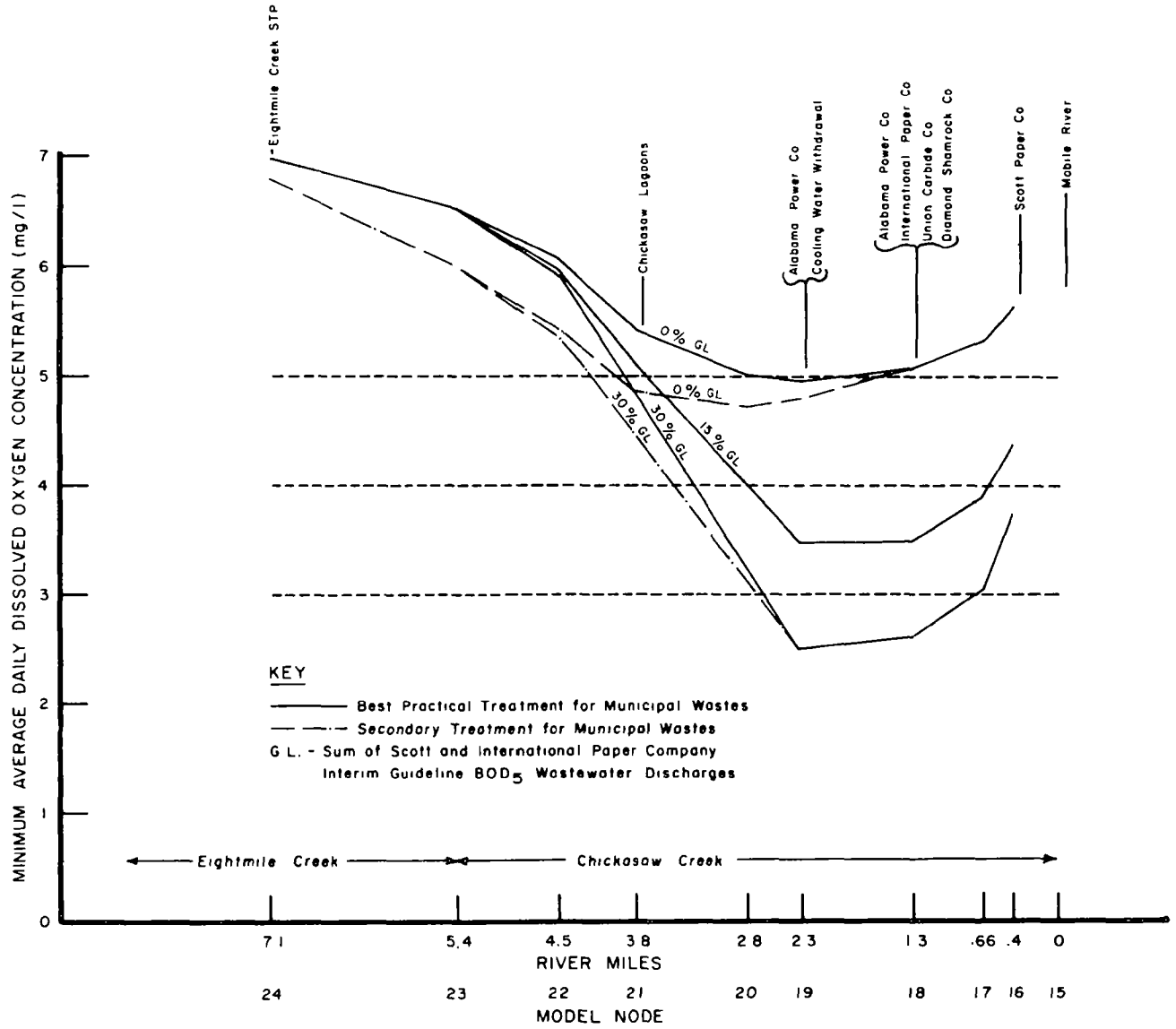
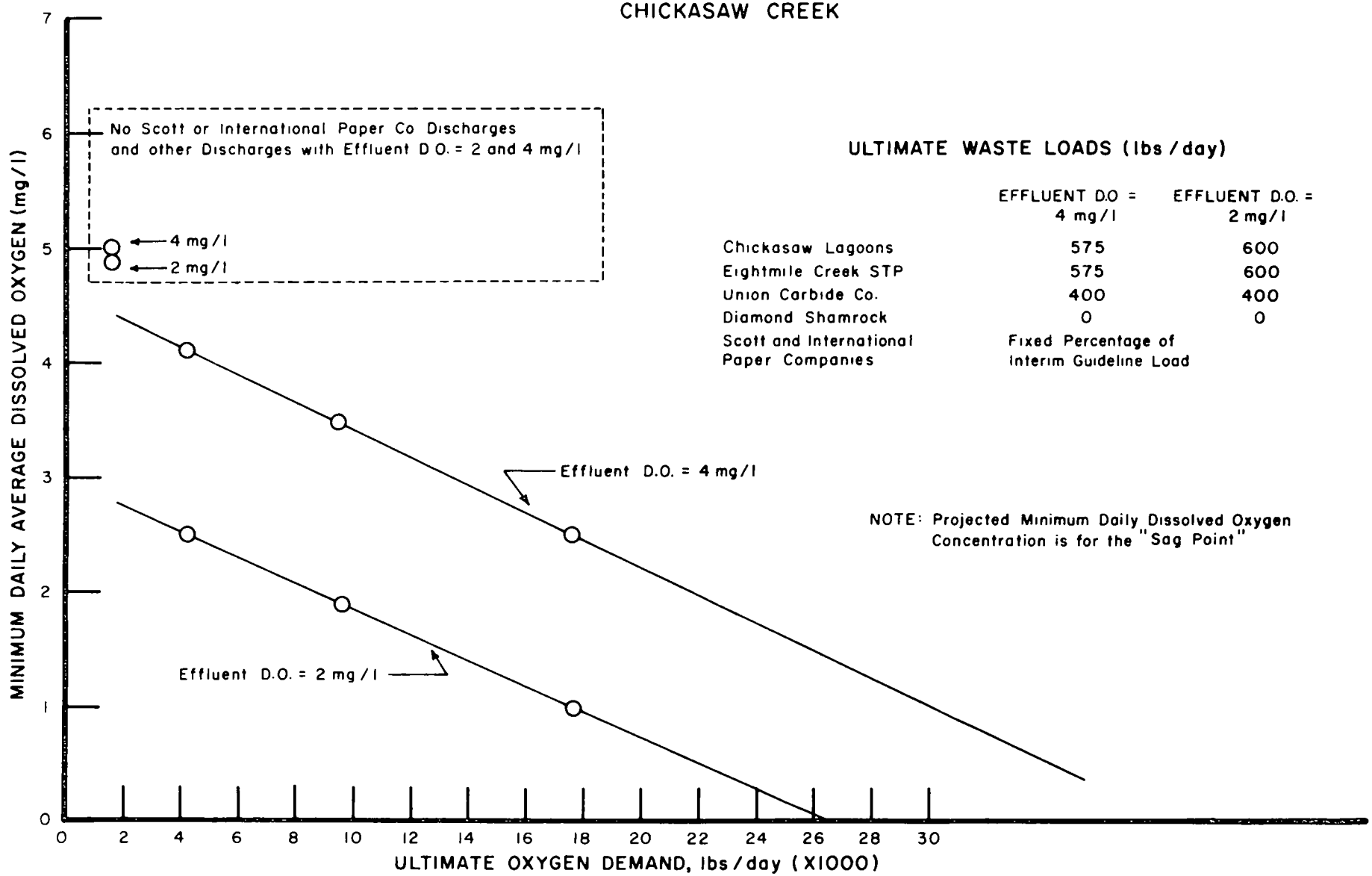


FIGURE 15
WASTE ASSIMILATIVE CAPACITY PROFILE
CHICKASAW CREEK



ULTIMATE WASTE LOADS (lbs/day)

	EFFLUENT D.O = 4 mg/l	EFFLUENT D.O. = 2 mg/l
Chickasaw Lagoons	575	600
Eightmile Creek STP	575	600
Union Carbide Co.	400	400
Diamond Shamrock	0	0
Scott and International Paper Companies	Fixed Percentage of Interim Guideline Load	

NOTE: Projected Minimum Daily Dissolved Oxygen Concentration is for the "Sag Point"

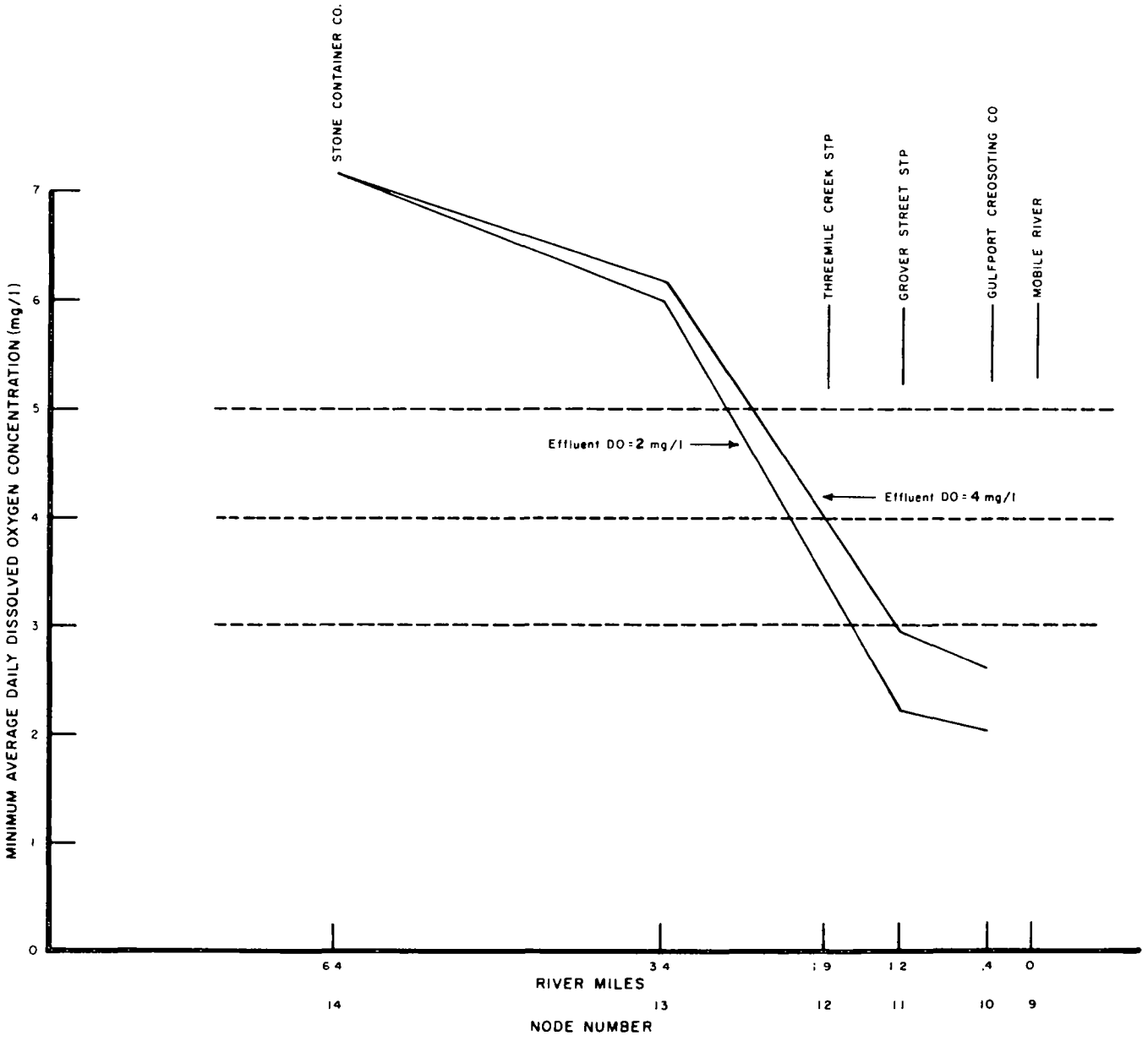
at 2 and 4 mg/l. As shown by Figure 16, even with best practical treatment at both of the municipal STPs and effluent DO concentrations of 4 mg/l for all waste discharges, the highest minimum average DO obtainable in Threemile Creek was approximately 2.6 mg/l.

Discussion

Results of the waste assimilation studies on Chickasaw and Threemile Creeks demonstrate that technology is not yet available to reduce the loads to a level which would meet the minimum DO concentration (5 mg/l) specified for the fish and wildlife use classification. There is no appreciable difference in DO concentrations in Chickasaw Creek when load reductions derived from the application of secondary treatment and best practical treatment guidelines are applied to the discharges from the Eightmile Creek sewage treatment plant and Chickasaw lagoons. Applying the best available treatment technology to the loads discharged from the Scott Paper and International Paper Company facilities would only allow the daily average DO in Chickasaw Creek to rise to approximately 2 mg/l. There is insufficient flow in Threemile Creek to assimilate the waste from current sources if they operate at design capacity.

It appears that the only feasible effluent disposal alternative for wastewater from the Scott Paper and International Paper Company facilities would be to discharge

FIGURE 16
MATHEMATICAL MODEL DISSOLVED OXYGEN PROFILES
THREEMILE CREEK



into the Mobile River. Sources discharging into Threemile Creek could either be routed to the McDuffie Island sewage treatment plant and/or conveyed to the Mobile River. The feasibility of these alternatives have not been investigated. Unfortunately, a mathematical model which would predict the effect of these waste discharges on the Mobile River and Mobile Bay is not currently available. However, the U. S. Army Corps of Engineers has a physical model located at Vicksburg, Mississippi, which might be useful in assessing the effects of these discharges. The use of the model for this purpose should be actively pursued by the U. S. Environmental Protection Agency and Alabama Water Improvement Commission.

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9. "The Jackson Metro/Regional Water Quality Management Plan", Pearl River Basin Development District, Jackson, Mississippi, July 1973.

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11. "Secondary Treatment Fact Sheet", EPA Internal Draft, Communication Services Division, OPA, August 30, 1973.

APPENDICES

APPENDIX A

PROJECT PERSONNEL ROSTER

APPENDIX A

PROJECT PERSONNEL ROSTER

M. D. Lair, Project Engineer
R. L. Barrow, Sanitary Engineer

Microbiology Laboratory

B. J. Carroll, Chief, Microbiological Services
R. Gentry, Microbiologist
H. Barden, Microbiologist
M. McCreery, Microbiological Aid

Chemistry Laboratory

R. P. Lawless, Project Chemist
T. Sack, Physical Science Aid

Field Sampling Personnel

Ray Wilkerson, Hydraulic Engineering Technician
E. Shollenberger, Engineering Technician
H. Vick, Chemist
M. Cronic, Physical Science Aid

Data Handling

J. Burger - Engineering Aid

APPENDIX B

BACTERIOLOGICAL ANALYTICAL METHODS

APPENDIX B

BACTERIOLOGICAL ANALYTICAL METHODS

TOTAL COLIFORM ENUMERATION

The standard coliform procedure outlined in Standard Methods (1) for the five-tube MPN multiple-tube dilution was used. The procedure employs lauryl tryptose broth incubated at 35 $\pm$ 0.5°C for 24 and 48 $\pm$ 3 hours followed by confirmation using brilliant green lactose bile broth incubated at 35 $\pm$ 0.5°C for 24 and 48 $\pm$ 3 hours.

FECAL COLIFORM ENUMERATION

The fecal coliform procedure outlined in Standard Methods (1) for the five-tube MPN multiple-tube dilution was used. The procedure employs the standard presumptive test using lauryl tryptose broth followed by fecal coliform confirmation using EC medium at an elevated temperature (44.5 $\pm$ 0.2°C water bath) for 24 $\pm$ 2 hours.

SALMONELLA ISOLATION AND IDENTIFICATION: The inoculated enrichment was incubated from 24 to 48 hours at 41.5°C according to the procedure of Spino (2). After either primary or sub-culture enrichment, an inoculum for each enrichment was streaked onto Xylose Lysine Desoxycholate Agar (XLD) and Hektoen Enteric Agar (HE) plates and incubated at 36° $\pm$ 0.5°C for 18-24 hours. Suspected Salmonella colonies were picked from the respective plates and subjected to the identification scheme outlined in Table B-1.

The methods and media outlined in Table B-1 are described by Ewing (3), with the exception of the Cytochrome Oxidase Method.

Oxidase activity was determined using Patho-Tec-CO[1/] reagent impregnated strips.

Definitive serological identification of Salmonella isolates was made at the Southeast Environmental Research Laboratory, Athens, Georgia. The methodology used was the Standard Serological procedure described by Edwards and Ewing (4).

REFERENCES

1. American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 13th Edition, 1971.

2. Spino, D. F., "Elevated-Temperature Technique for the Isolation of Salmonella from Streams." Appl. Microbiol., 14, No. 4, 1966.

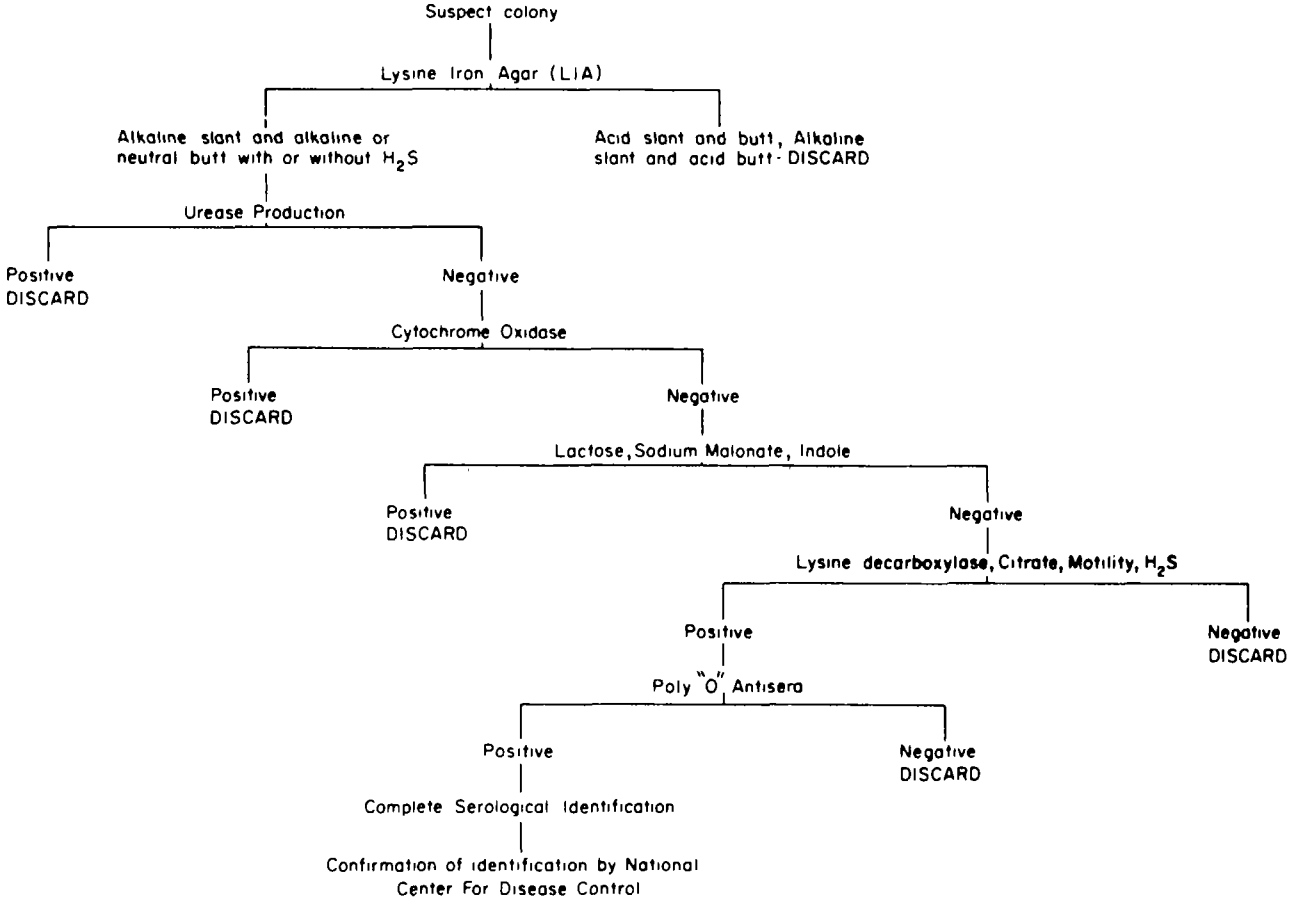
3. Edwards, P. R., and Ewing, W. H., Identification of Enterobacteriaceae, Burgess Publication Company, Minneapolis, Minn., 1952.

4. Ewing, W. H., "Enterobacteriaceae, Biochemical Methods for Group Differentiation." Public Health Service Publication No. 734, Revised 1962.

1/ Does not imply endorsement of the product.

TABLE B-1

IDENTIFICATION SCHEME FOR SALMONELLA SUSPECTS



APPENDIX C

CHEMICAL ANALYTICAL METHODS

APPENDIX C

CHEMICAL ANALYTICAL METHODS

PARAMETER	METHOD	REFERENCE
Acidity	N_aOH Titration	1
Alkalinity	H_2SO_4 Titration	1
Ammonia Nitrogen	Automated Phenolate	2
BOD	Winkler - BOD Probe	1
COD	Potassium dichromate digestion	1
Cyanide	Manual distillation Automated pyridine pyrazolane	4
DO	Winkler - BOD Probe	1
Hardness	EDTA Titration	1
Metals	Total Nitric (AA)	5
Metals, Trace	SS/MS	
Nitrate Nitrogen	Automated (Cadmium Reduction)	2
Kjeldahl Nitrogen, Total	Automated (Digestion-Phenolate)	2
Oil and Grease	Freon extraction	1
Phenol	Manual distillation Automated 4AAP	2
Phosphorous	Automated (Single Reagent)	2
pH	Electrometric	1
Organics	GC/MS	3
Solids	Suspended (Glass Fiber 105°C) Volatile Suspended (550°C) Total (Gravimetric 105°C) Volatile Total (550°C)	1 1 1 1
TOC	Instrumental	2

REFERENCE

1/
Standard Methods for the Examination of Water and Wastewater, 13th Edition, 1971.

2/
Methods for Chemical Analysis of Water and Wastes, FWPCA, 1971.

3/
Region IV, Chemical Services Branch Method WO-11/72.

4/
American Society for Testing Materials, 1972, Part 23.

5/
Federal Register, Volume 38, No. 199.