APPENDIX A

Maps of the Study Area

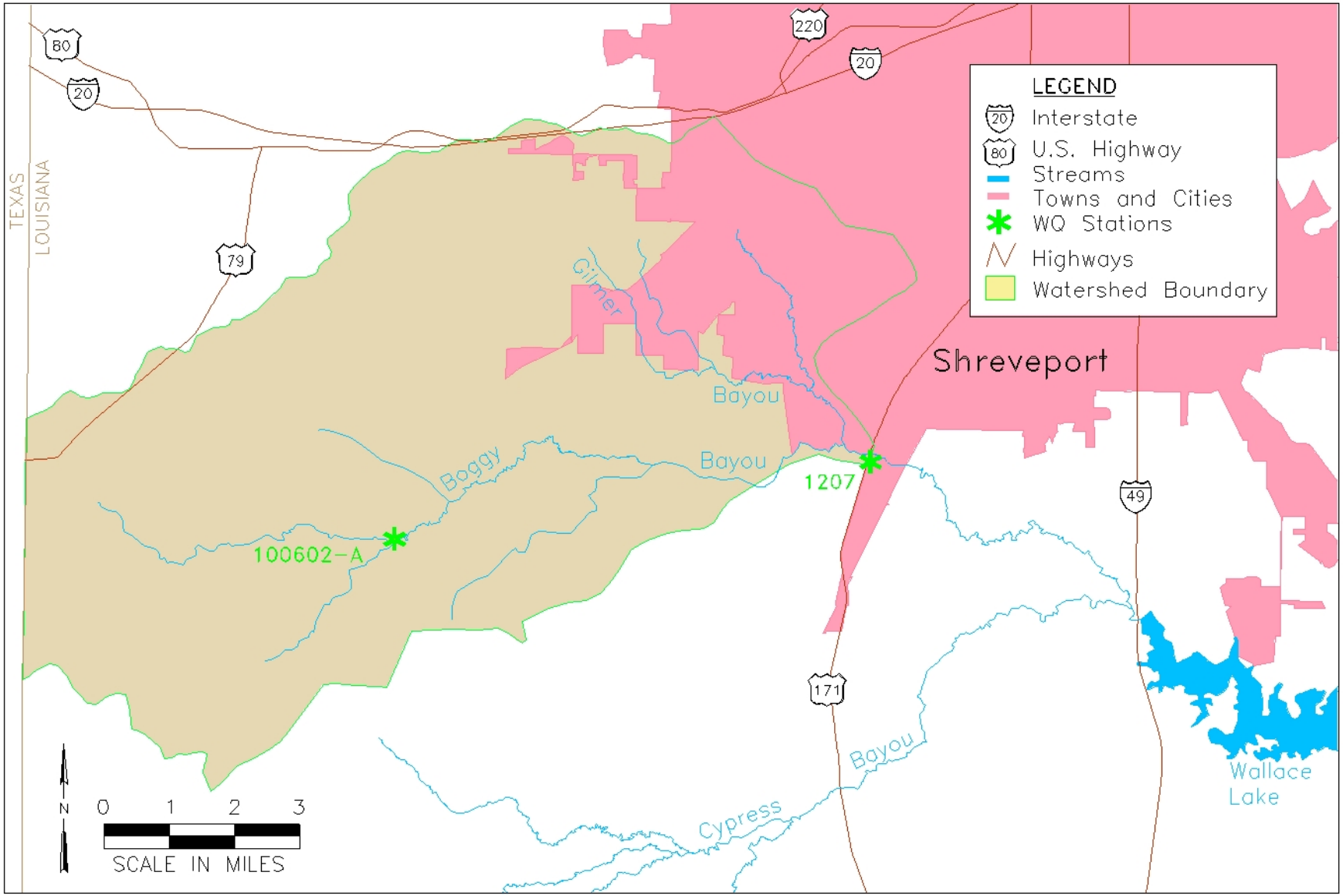

Figure A.1. Watershed map for subsegment 100602.

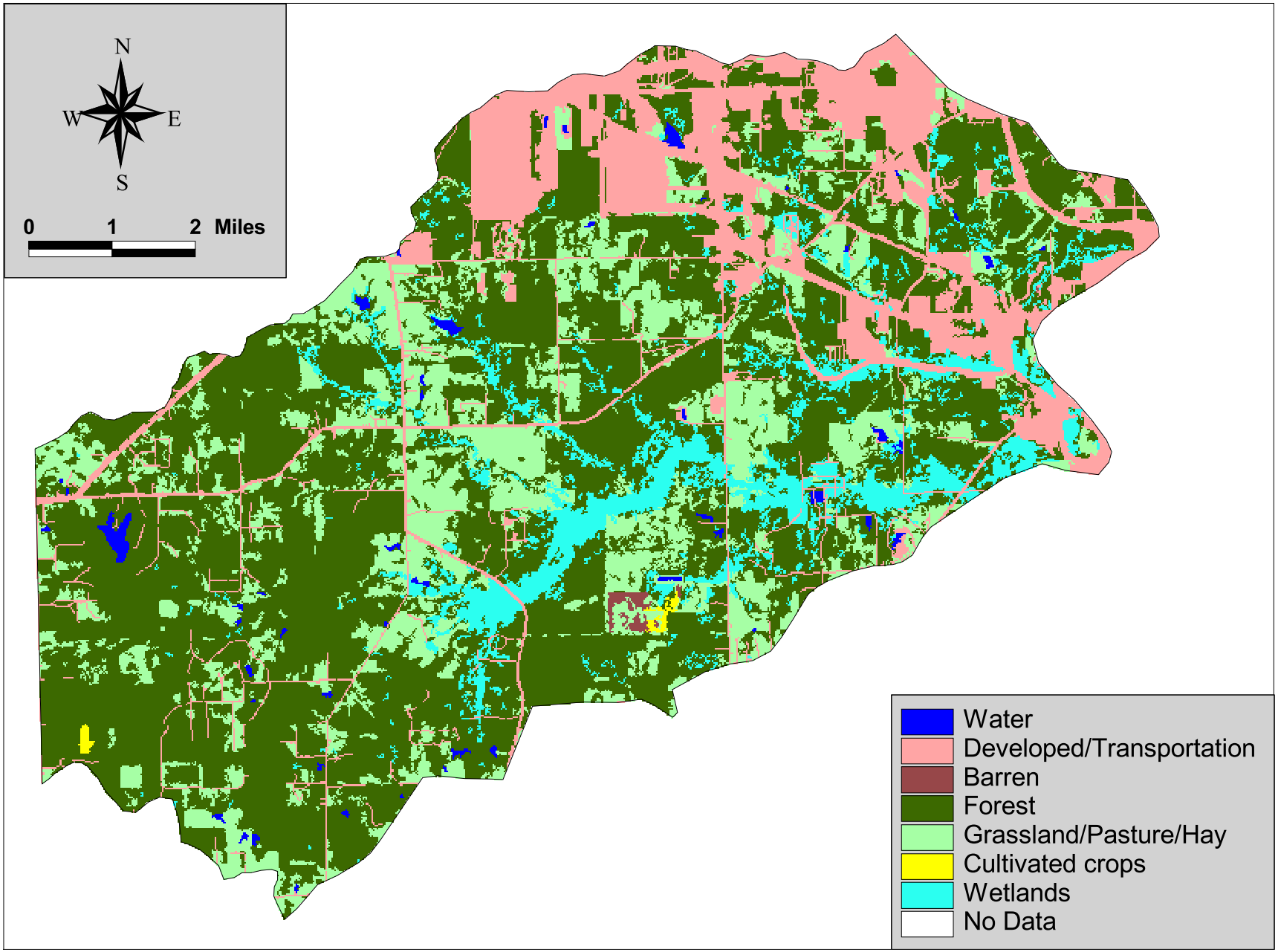

Figure A.2. Land use/land cover for subsegment 100602.

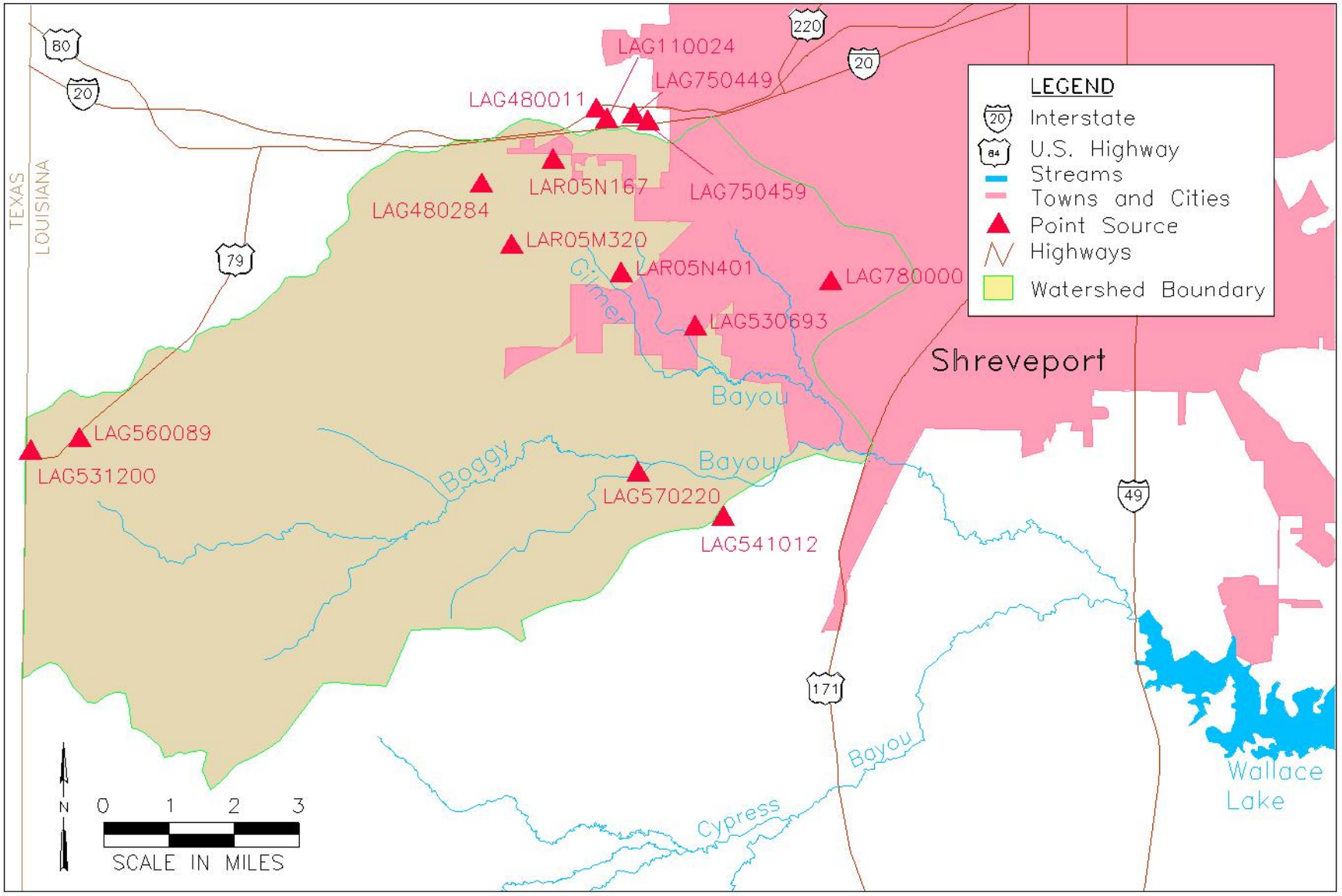

Figure A.3. Locations of point source discharges.

APPENDIX B

LDEQ Water Quality Data

Table B.1. LDEQ historical water quality data for Boggy Bayou southwest ot Shreveport, LA (1207)

Collection Date	Collection Time	Sample Depth (meters)	DO (mg/L)	$NO_2 + NO_3$ (mg/L)[A]	NH_3 (mg/L)[A]	TKN (mg/L)	Total P (mg/L)[A]	Calculated Total N (mg/L)
01/07/02	2:15:00 PM	1.02	8.99	0.17	< 0.10	0.93	0.20	1.10
02/05/02	1:00:00 PM	1	10.80	0.09	< 0.10	0.70	0.10	0.79
03/05/02	11:40:00 AM	1	12.56	0.37	0.12	0.62	0.11	0.99
04/02/02	12:35:00 PM	1	7.02	< 0.05	< 0.10	0.91	0.10	0.94
05/07/02	12:10:00 PM	1	5.90	0.11	< 0.10	0.54	0.13	0.65
06/04/02	12:20:00 PM	1	5.43	< 0.05	< 0.10	0.68	0.07	0.71
07/09/02	9:30:00 AM	1	4.51	< 0.05	< 0.10	0.51	0.09	0.54
08/06/02	1:10:00 PM	1	4.26	< 0.05	< 0.10	0.63	0.10	0.66
09/10/02	12:15 PM	1	4.41	< 0.05	< 0.10	0.48	0.07	0.51
10/08/02	12:40 PM			0.07	< 0.10	0.73	0.06	0.80
11/06/02	12:20 PM	1	8.43	0.13	< 0.10	1.09	0.18	1.22
12/03/02	12:20 PM	1	9.10	0.22	0.13	0.88	0.24	1.10
01/13/04	11:20 AM	1	10.36	0.29	0.56	0.76	0.20	1.05
02/03/04	12:40 PM	0.25	10.02	0.15	< 0.10	0.94	0.22	1.09
03/09/04	2:10 PM	1	7.60	0.06	< 0.10	0.92	0.12	0.98
04/07/04	12:50 PM	1	6.10	< 0.05	< 0.10	1.58	0.10	1.61
05/05/04	10:30 AM	1	6.96	0.06	0.14	1.35	< 0.05	< 0.05
06/29/04	9:50 AM	1	4.98	< 0.05	< 0.10	1.51	0.10	1.54
07/27/04	10:20 AM	1	5.20	< 0.05	< 0.10	0.37	0.12	0.40
08/24/04	12:55 PM	1	5.63	0.07	0.10	0.68	0.12	0.75
09/14/04	1:25 PM	1	5.95	< 0.05	0.24	0.47	0.10	0.50
10/13/04	11:05 AM			0.11	< 0.10	0.92	0.09	1.03
10/20/04	12:30 PM			0.11	< 0.10	0.87	0.15	0.98
11/16/04	10:15 AM	1	8.11	0.27	< 0.10	0.19	0.17	0.46
03/22/05	10:05 AM	1	8.01	0.12	< 0.10	0.53	0.09	0.65
04/12/05	11:10 AM		5.92	0.11	< 0.10	1.35	0.13	1.46
04/26/05	11:28 AM	1	7.52	0.23	< 0.10	0.92	0.16	1.15
05/10/05	9:34 AM	1	5.42	0.07	< 0.10	0.62	0.10	0.69
05/24/05	11:35 AM	1	4.86	< 0.05	< 0.10	0.55	0.08	0.58
06/07/05	9:35 AM	1	3.89	< 0.05	< 0.10	0.72	0.08	0.75
06/21/05	9:56 AM	1	3.52	< 0.05	< 0.10	0.70	0.13	0.73
07/05/05	10:25 AM	1	2.00	0.29	0.22	1.39	0.21	1.68
07/19/05	9:25 AM	1	3.99	0.42	0.11	0.81	0.14	1.23
08/09/05	10:44 AM	1	1.84	0.05	< 0.10	0.55	0.08	0.60
08/23/05	9:40 AM	1	1.95	< 0.05	0.13	0.68	0.10	0.71
09/27/05	10:38 AM	1	2.14	0.05	< 0.10	5.89	0.91	5.94
	Number of Values =		33	36	36	36	36	36
	Minimum =		1.84	< 0.05	< 0.10	0.19	< 0.05	0.40
	Median =		5.90	0.07	0.05	0.73	0.11	0.87
	Average =		6.16	0.11	0.09	0.94	0.14	1.05
	Maximum =		12.56	0.42	0.56	5.89	0.91	5.94
	Number of Values Below Criterion =		12	NA	NA	NA	NA	NA
	Percent of Values Below Criterion =		36%	NA	NA	NA	NA	NA

Note: A. Values below the detection limit were estimated as half the detection limit to calculate statistics.

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Table B.2. LDEQ Intensive Survey Data for Subsegments in the Ouachita and Calcasieu Basins With At Least 70% Forest.

Subseg #	Sample No.	CBOD decay rate	UCBOD (mg/l)	Initial TOC (mg/l)	NBOD decay rate	UNBOD (mg/l)	Ratio CBODu / TOC
030401	Mill Creek @ Highway 112	0.07	6.49	6.10	0.06	1.20	1.06
	Mill Creek @ iron bridge	0.04	13.22	15.30	0.08	1.84	0.86
	Mill Creek @ Oakdale Road	0.06	5.49	7.80	0.06	0.80	0.70
	Mill Creek @ Tower Road	0.04	16.42	18.00	0.09	2.18	0.91
	Mill Creek Just above the confluence with Calcasieu	0.04	10.37	12.10	0.05	0.64	0.86
030807	BCH1 / Bear Head Creek @ Hwy. 110 SE of Merryville	0.05	15.60	10.80	0.18	1.42	1.44
	BCH2 / Bear Head Creek @ Hwy. 109 SW of Singer	0.04	21.35	15.90	0.06	1.05	1.34
	BCH3 / Bear Head Creek @ Hwy. 389 E of Fields	0.06	18.37	17.90	0.17	1.71	1.03
	BCH4 / Bear Head Creek @ Green Island Rd. N of Starks	0.04	20.43	20.10	0.06	1.61	1.02
	BCH5 / Bear Head Creek @ Hwy. 12 NE of Starks	0.05	21.49	16.40	0.13	1.53	1.31
	BCH6 / Bear Head Creek @ Creek Rd.	0.04	14.90	2.00	0.09	1.29	7.45
081501	CC1 / Castor Creek @ Hwy. 124 above spillway	0.03	9.58	12.10	0.09	0.62	0.79
	CC2 / Castor Creek @ Hwy. 127	0.03	10.13	11.80	0.03	1.17	0.86
	CC3 / Castor Creek @ Hwy. 506	0.03	9.19	14.00	0.15	0.84	0.66
	CC4 / Castor Creek @ Hwy. 126	0.04	14.15	15.30	0.09	1.76	0.92
	CC5 / Castor Creek @ Hwy. 846	0.03	16.37	16.10	0.11	0.92	1.02
	CC6 / Castor Creek @ Hwy. 4	0.07	11.74	14.40	0.17	2.04	0.82
	CC7 / Castor Creek @ Hwy. 34	0.03	14.85	14.70	0.18	0.67	1.01
	CC8 / Castor Creek @ Chatham Cemetery Road	0.04	14.74	14.50	0.04	0.58	1.02
081401	DR10 / Dugdemona River Smurfit-Stone outfall canal sampling sit	0.05	37.90	29.00	0.10	5.87	1.31
	DR12 / Dugdemona River @ LA 4 located W. of Jonesboro	0.03	20.91	26.90	0.06	1.39	0.78
	DR13 / Dugdemona River @ Parish Rd. W of Evergreen Rd. S. of LA	0.03	13.83	22.60	0.05	0.91	0.61
	DR14 / Dugdemona River @ LA 126 located just E of Brewtons Mill	0.03	11.15	21.70	0.09	0.78	0.51
	DR15 / Dugdemona River @ Carter Crossing Rd. located off Hwy. 5	0.03	7.21	15.40	0.03	0.67	0.47
	DR16 / Dugdemona River just past Restriction below Big Creek do	0.03	7.39	14.40	0.04	0.65	0.51
	DR19 / Dugdemona River Cypress Creek in Jackson-Bienville Wildl	0.05	6.59	6.60	0.04	0.89	1.00
	DR32 / Dugdemona River Little Dugdemona River @ Hwy. 167 betwee	0.05	9.07	2.00	0.07	1.33	4.53
	DR41 / Dugdemona River Big Creek @ LA 505 SW of Dodson	0.05	11.13	12.00	0.05	0.96	0.93
	DR5 / Dugdemona River @ Union Church Rd. (Parish Rd. 122)	0.03	6.72	2.00	0.04	0.52	3.36
	DR6 / Dugdemona River located just W. of Quitman	0.04	7.12	8.00	0.04	0.69	0.89
	DR7 / Dugdemona River located just W. of Hodge	0.05	9.32	8.00	0.03	0.87	1.16
	DR9 / Dugdemona River "In canal, upstream of Smurfit-Stone outf"	0.04	135.26	51.30	0.13	29.26	2.64
	DR25 / Dugdemona River Madden Creek/Redwine Creek @ Turner Rd.	0.03	6.72	7.50	0.03	0.85	0.90
081504	FLCR1 / Flat Creek @ Hwy. 147	0.04	15.66	20.30	0.04	3.79	0.77
	FLCR2 / Flat Creek @ Hwy. 127	0.03	14.71	15.70	0.05	1.18	0.94
	FLCR3 / Flat Creek @ confluence with Castor Creek-~ 3 miles	0.05	8.75	12.80	0.09	1.30	0.68
	Count	36	36	36	36	36	36
	Min	0.03	5.49	2.00	0.03	0.52	0.47
	Average	0.04	16.51	14.76	0.08	2.11	1.31
	Median	0.04	12.48	14.45	0.06	1.11	0.93
	Max	0.07	135.26	51.30	0.18	29.26	7.45

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Figure B.1. Observed DO for Boggy Bayou southwest of Shreveport, LA (1207)

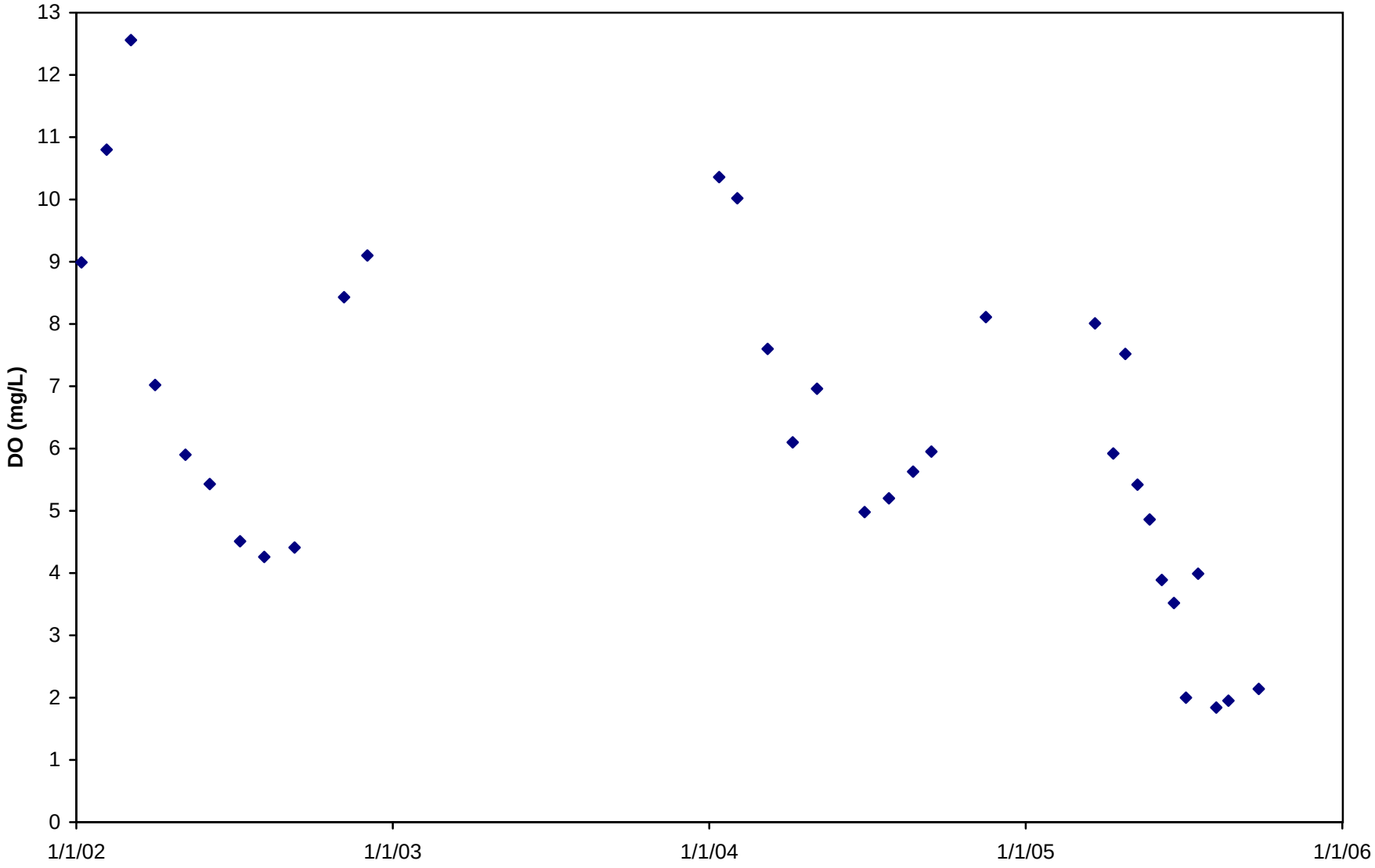


Figure B.2. Observed NO2+NO3 for Boggy Bayou southwest of Shreveport, LA (1207)

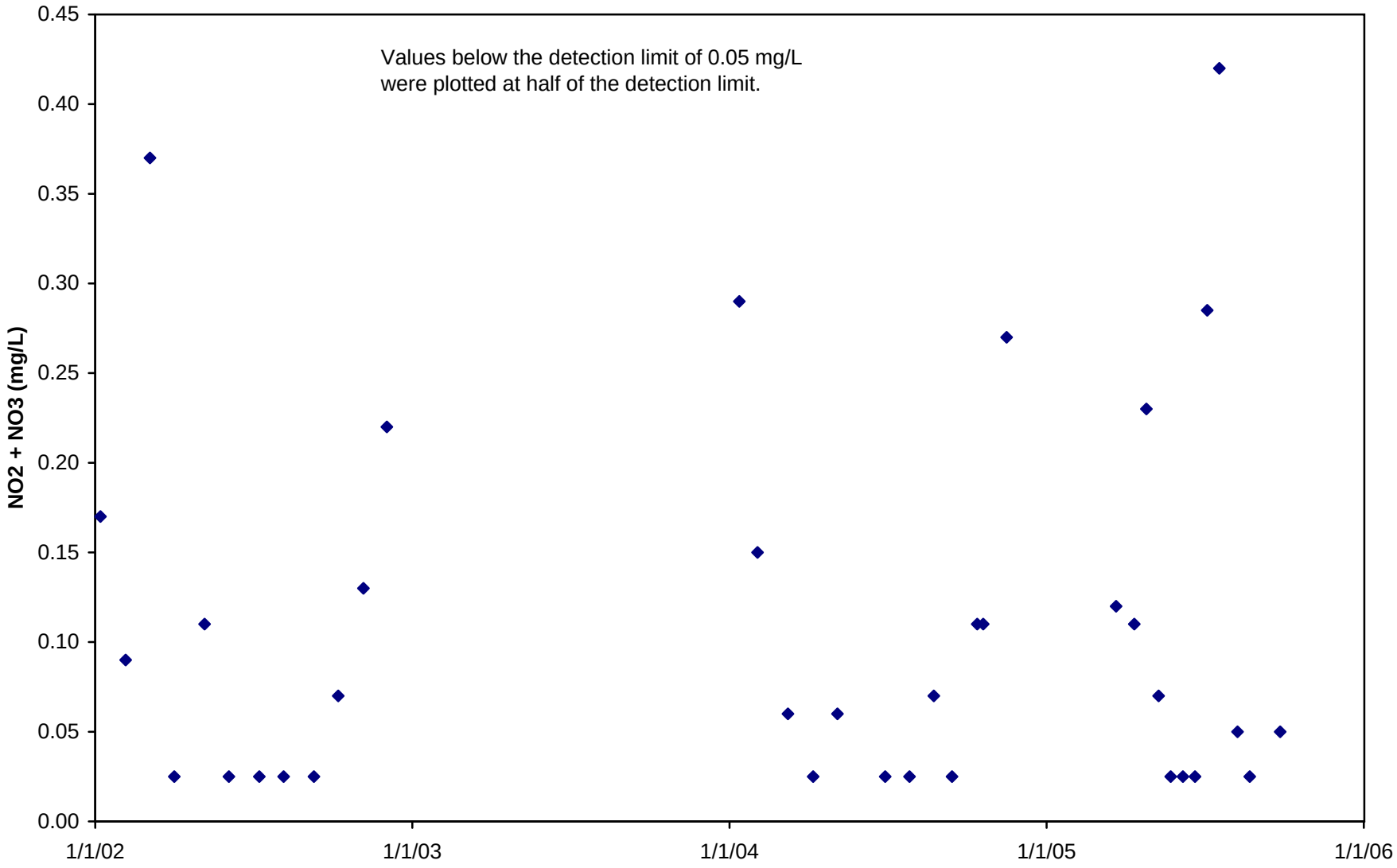


Figure B.3. Observed Ammonia Nitrogen for Boggy Bayou southwest of Shreveport (1207)

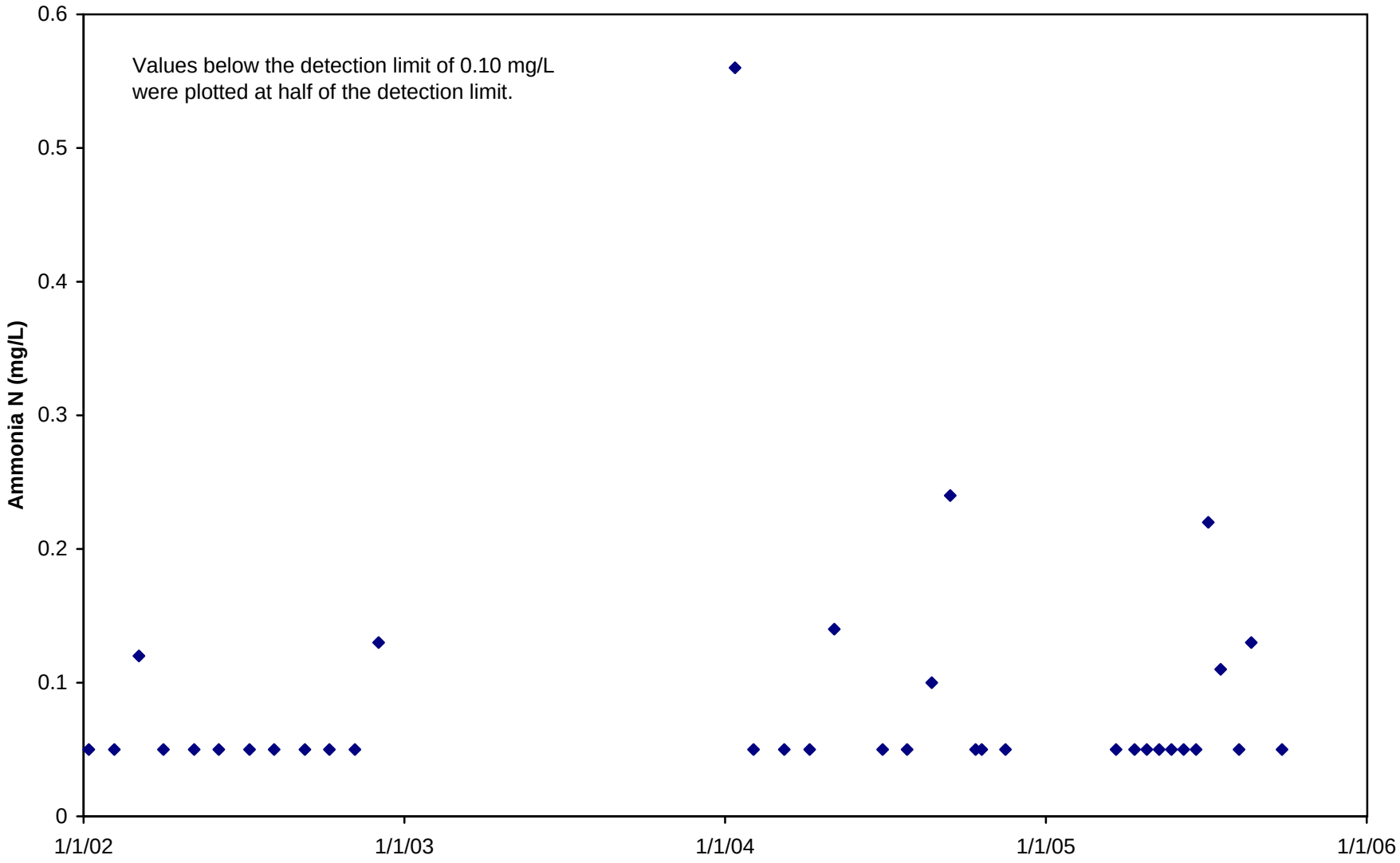


Figure B.4. Observed TKN for Boggy Bayou southwest Shreveport, LA (1207)

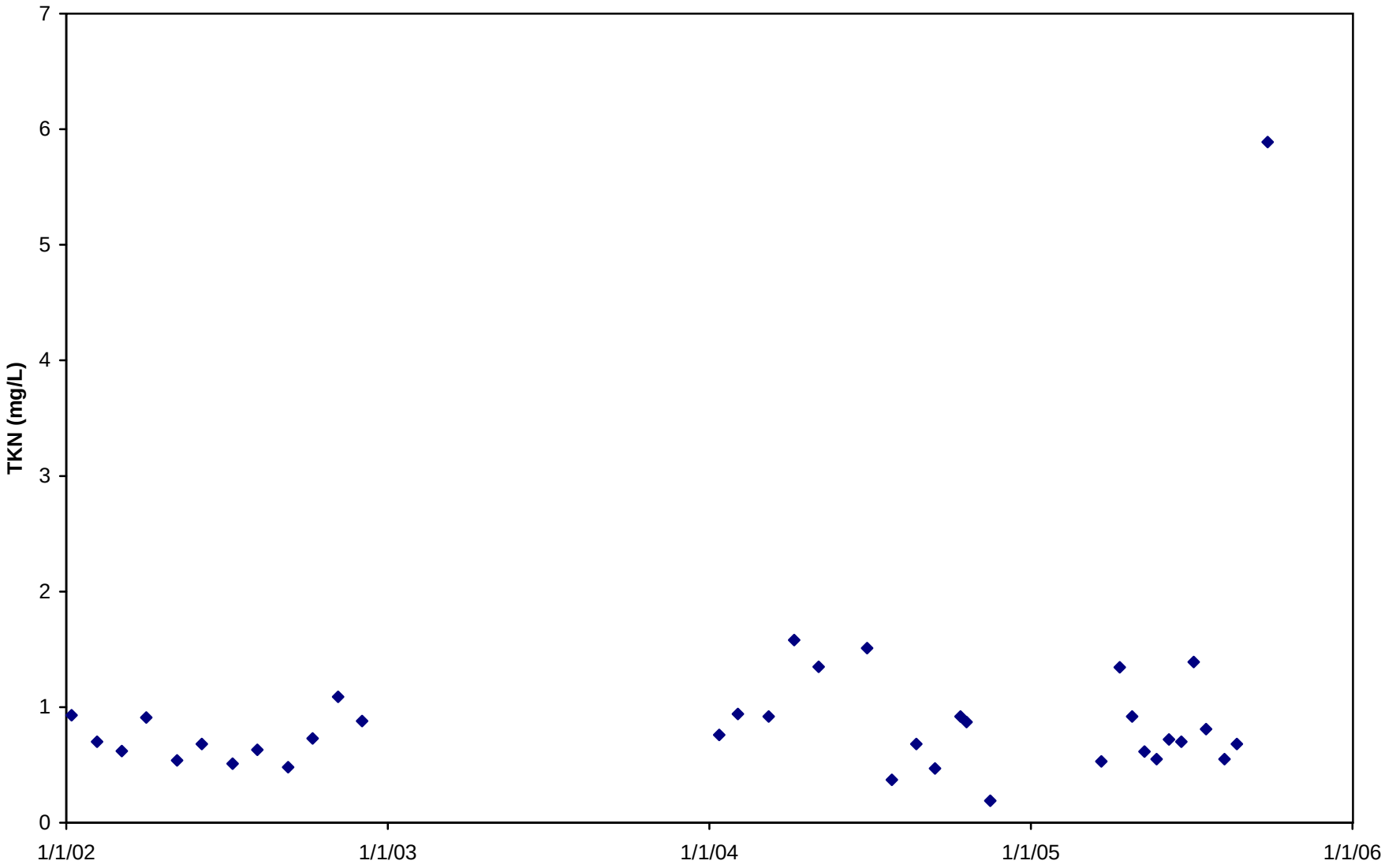
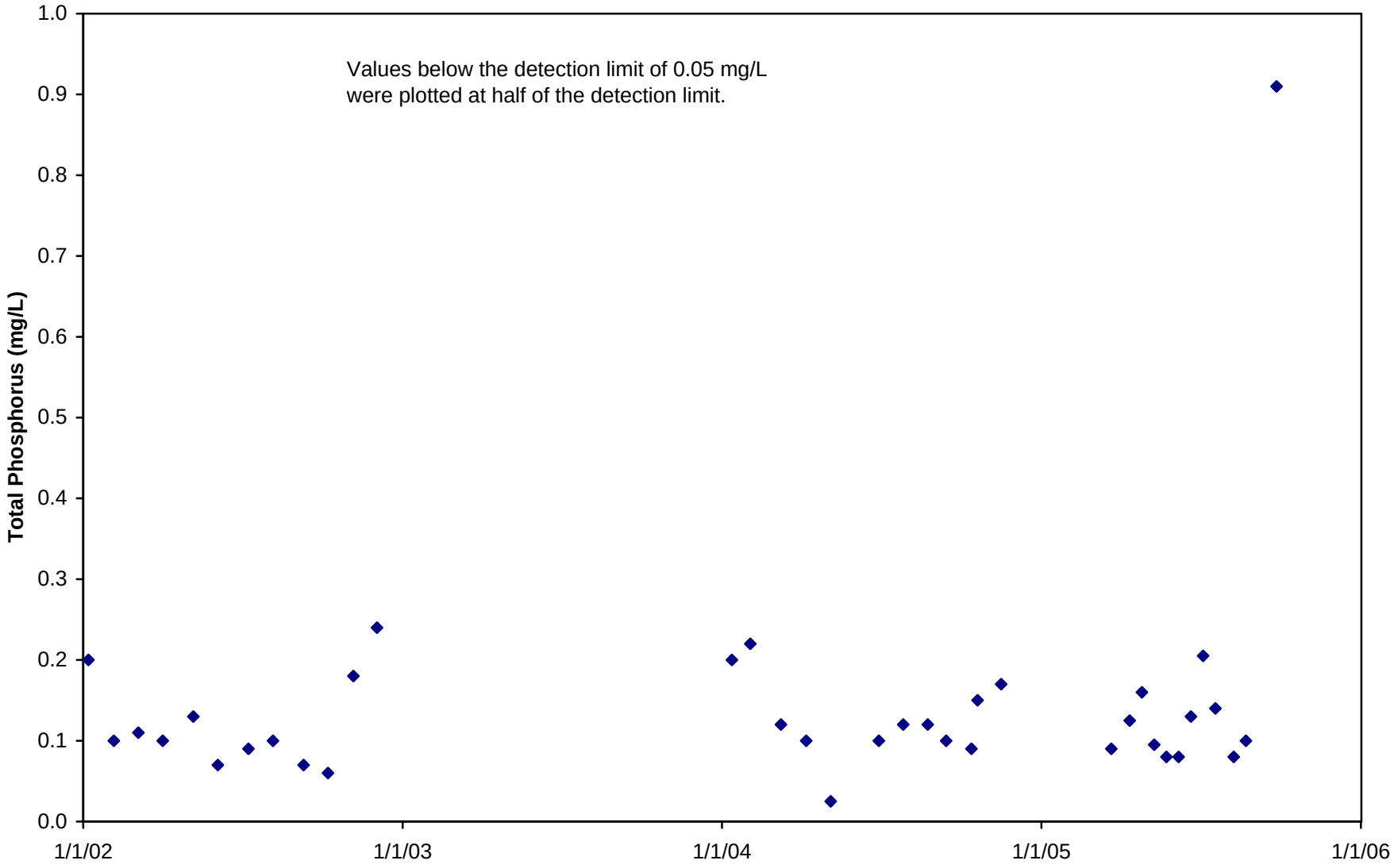


Figure B.5. Observed Total Phosphorus for Boggy Bayou southwest of Shreveport, LA (1207)



APPENDIX C

FTN Field Survey Data

Table C.1. Field data collection sites for FTN Field survey for Red and Sabine basins.

SUBSEG. NUMBER	SITE NO.	SITE NAME	DIRECTIONS	TYPE OF DATA COLLECTED
Red River basin				
100404	100404-A	Cypress Bayou Reservoir at upper end	At LA Hwy 162 bridge east of Benton	In situ
100404	1181	Cypress Bayou Reservoir southeast of Benton, LA	At spillway on Parks Road, 3.1 miles southeast of Benton, 3.5 miles southwest of Bellevue, 9.1 miles north of Bossier	In situ, sample
100405	100405-A	Black Bayou near Benton, LA	At LA Hwy 162 on east edge of Benton	In situ, sample
100405	1182	Black Bayou Reservoir at Linton Road, southeast of Benton, LA	4.4 miles southeast of Benton, 3.2 miles northeast of Dukedale, 4.3 miles southwest of Linton	In situ, sample
100406	363	Flat River Drainage Canal north of Bossier City, LA	At Airline Drive bridge, 4.0 miles south-southeast of Benton, LA	In situ, sample, flow, width
100406	389	Flat River Drainage Canal northeast of Bossier City, LA	At Swan Lake Road bridge 7.5 miles north-northeast of City Hall in Bossier City, LA	In situ, width, flow
100406	390	Flat River Drainage Canal NE of Shreveport	At Deer Point Road bridge 5.75 miles southeast of Benton, LA	In situ, width
100406	272	Flat River east of Taylortown, LA	At State Highway 527 bridge, 13 miles southeast of Shreveport, LA	In situ, flow, width, contin.
100406	100406-A	Flat River east of Poole, LA	At Poole Rd, 3 miles southeast of intersection of Poole Rd and US Hwy 71	In situ, flow, width
100501	100501-A	Bayou Dorcheat south of AR state line	At LA Hwy 157 several miles south of AR state line, east of Springhill, LA	In situ, sample, flow, width
100501	100501-B	Bayou Dorcheat NE of Cotton Valley	At LA Hwy 160 about 4-5 miles northeast of Cotton Valley, LA	In situ, sample, flow, width
100501	61	Bayou Dorcheat west of Minden, LA	At bridge on US Hwy 80, 3.0 miles west of Minden	In situ, flow, width
100501	274	Bayou Dorcheat west of Sibley, LA	At State Highway 164 bridge, 2.0 miles west of Sibley, LA, 6.0 miles southwest of Minden, LA	In situ, flow, width,
100601	100601-A	Wallace Bayou upstream of Bayou Pierre	At White Springs Rd, about 4 miles southwest of Gayles, LA, about 2 miles downstream of Wallace Lake	In situ, sample, flow, width
100601	278	Bayou Pierre near Shreveport, LA	At State Highway 526 bridge, 0.75 mile northeast of Forbing, LA, 8.0 miles south of Shreveport, LA	In situ, sample, flow, width
100601	1183	Bayou Pierre at Ellerbee Road, S of Gayles	3.2 miles south of Gayles, 2.4 miles southwest of Cecile, 5 miles northeast of Frierson	In situ, sample, flow, width
100601	100601-B	Bayou Pierre southwest of Williams, LA	At highway 509, about 4 miles southwest of Williams, LA, about 9 miles south of Caddo/Red River Parish line	In situ, flow, width
100602	100602-A	Boggy Bayou SE of Hicks Crossing, LA	At LA Hwy 169, about 2-3 miles southeast of Hicks Crossing	In situ, sample, flow, width
100602	1207	Boggy Bayou southwest of Shreveport, LA	6.4 miles southwest of Shreveport, 3.1 miles north of Keithville, 2.9 miles southeast of Reservoir	In situ, sample, flow, width
100702	100702-A	Black Lake Bayou west of Mt. Lebanon	At LA Hwy 793 about 5-6 miles west of Mt. Lebanon (in 100701)	In situ, flow, width
100702	100702-B	Leatherman Creek west of Mt. Lebanon	At LA Hwy 793 about 4 miles west of Mt. Lebanon	In situ, sample, flow, width

SUBSEG. NUMBER	SITE NO.	SITE NAME	DIRECTIONS	TYPE OF DATA COLLECTED
100702	282	Black Lake Bayou west of Castor, LA	At LA Highway 4, 2.5 miles west of Castor, LA, 18.5 miles northeast of Coushatta, LA	In situ, sample, flow, width
100702	1187	Black Lake Bayou at Hwy 155, E of Martin	At bridge on State Hwy 155, 3.5 miles east of Martin, 6.2 miles west of Skidder, 5 miles SW of Ashland	In situ, sample, flow, width
100703	100703-A	Black Lake northeast of Campti, LA	On LA Hwy 9 bridge about 6 miles northeast of Campti, LA	In situ, sample
100703	100703-B	Clear Lake outlet northeast of Clarence, LA	At LA Hwy 1226, just downstream of Chivery Dam at outlet of Clear Lake, about 5 miles northeast of Clarence	In situ, sample, flow, width
100803	100803-A	Saline Bayou northeast of Clarence, LA	Access point at end of LA Hwy 1227 at Allen Dam, about 5.5 miles NE of Clarence	In situ, sample, flow, width
100803	1214	Saline Bayou southeast of Clarence, LA	At US Hwy 71, 7 miles east of Natchitoches, 5.1 miles southeast of Clarence, 3.4 miles south of Trichell	In situ, sample, flow, width, contin.
101301	556	Cress Creek west of Oak Grove, LA	At bridge on LA Hwy 8, 2.8 miles W of Oak Grove, 4 miles S of Fairfield, 3.7 miles N of Bagdad	In situ, sample
101301	101301-A	Rigolette Bayou WNW of Bagdad, LA	At LA Hwy 492, about 1 mile WNW of Bagdad, about 7 miles southeast of Colfax	In situ, sample, flow, width
101301	1220	Rigolette Bayou northwest of Pineville, LA	Bridge on Rigolette Rd., 4.8 miles NW of Pineville, 1.6 miles NE of Barrett, 3.9 miles SW of Tio	In situ, sample, flow, width, contin.
101302	101302-A	Iatt Creek near upstream end of Iatt Lake	At LA Hwy 122 about 10 miles east of Montgomery, LA	In situ, sample
101302	570	Beaver Creek south of Faircloth, LA	0.35 miles west of Faircloth, 2 miles northwest of Fairfield, 4.5 miles southwest of Wilhana	In situ, sample
101302	1221	Iatt Lake southwest of Fairfield, LA	Public boat launch near spillway, 4.4 miles southwest Fairfield, 7.1 miles northwest of Oak Grove, 3.7 miles northeast	In situ, sample
101503	371	Saline Bayou east of Alexandria, LA	9.0 miles east of Buckeye, LA, 1.5 mile northeast of Saline Lake, 0.5 mile south of entrance to Bushyhead Bayou	In situ
101503	101503-A	Saline Bayou southeast of Saline Lake	At local road about 1-2 miles southeast of east end of Saline Lake	In situ, sample
101604	1231	Lake Concordia at Ferriday, LA	Sportsman's Marina, 1.7 miles NW of Ridgecrest, 6.8 miles S of Clayton, 16 miles E of Jonesville	In situ, sample
101604	101604-A	Bayou Cocodrie at Ferriday, LA	At US Hwy 65 bridge, about 0.5 miles SW of Lake Concordia	In situ, width, xcs
Sabine River basin				
110401	110401-A	Toro Creek southeast of Florien, LA	At Plainview Road, about 3-4 miles southeast of Florien, LA	In situ, sample, flow, width
110401	1160	Bayou Toro northeast of Toro, LA	At LA Hwy 473, about 2 miles northeast of Toro, LA	In situ, sample, flow, width

Note: "contin." = continuous in situ monitoring

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Table C.2. In situ data for FTN field survey in Red River and Sabine River basins.

Subsegment Number	Site No.	Site Name	Date	Time	Water Temp. (C)	DO (mg/L)	Conductivity (umhos/cm)	pH (su)
100404	1181	Cypress Bayou Reservoir southeast of Benton	09/01/05	10:44	30.8	7.3	54	7.3
	100404-A	Cypress Bayou Reservoir @ Hwy 162	09/01/05	11:20	30.4	6.1	51	7.0
100405	1182	Black Bayou Reservoir @ Linton Rd	09/01/05	10:20	29.8	5.5	75	7.2
	100405-A	Black Bayou @ Hwy 162	09/01/05	11:45	24.9	1.0	440	6.9
100406	272	Flat River @ Hwy 527	09/02/05	08:15	25.5	2.9	811	7.1
	363	Flat River Airline Dr. bridge	09/01/05	09:30	29.3	5.2	90	7.1
	389	Flat River Dr. Canal Swan L. Rd.	09/01/05	07:54	26.9	1.4	336	7.6
	390	Flat River @ Deer Pt. Road	09/01/05	08:40	27.1	0.4	179	7.2
	100406-A	Flat River @ Swan Lake Bridge	08/31/05	19:00	30.6	5.3	888	7.3
100501	61	Bayou Dorcheat @ Hwy 80	09/01/05	18:45	32.6	7.1	127	6.7
	274	Bayou Dorcheat @ Hwy 164	09/02/05	09:40	29.1	6.2	193	7.6
	100501-A	Bayou Dorcheat	09/01/05	14:35	27.1	3.2	418	7.1
	100501-B	Bayou Dorcheat @ Hwy 160	09/01/05	15:55	31.8	5.9	76	7.2
100601	278	Bayou Pierre nr Shreveport	08/31/05	12:20	31.0	6.8	498	7.0
	1183	Bayou Pierre @ Ellerbee Rd	08/31/05	10:10	25.0	3.7	476	7.2
	100601-A	Wallace Bayou	08/31/05	11:10	29.5	5.9	214	7.6
	100601-B	Bayou Pierre	08/31/05	08:45	26.6	4.9	338	7.4
100602	1207	Boggy Bayou Hwy 171	08/31/05	14:40	31.5	5.2	156	7.1
	100602-A	Boggy Bayou @ Hwy 169	08/31/05	13:45	27.2	4.4	208	7.1
100702	282	Black Lake Bayou Hwy 4	09/07/05	09:20	24.7	5.3	35	6.1
	1187	Black Lake Bayou Hwy 155	09/07/05	10:25	24.9	5.3	40	6.3
	100702-A	Black Lake Bayou Hwy 793	09/07/05	07:20	23.4	2.9	167	6.3
	100702-B	Leatherman Creek	09/07/05	08:05	23.3	3.4	54	6.3
100703	100703-A	Black Lake @ Hwy 9	09/07/05	11:20	27.6	5.3	71	6.4
	100703-B	Clear Lake outlet	09/07/05	12:40	29.8	6.9	96	6.9
100803	1214	Saline Bayou @ Hwy 71	09/07/05	14:40	30.2	5.4	105	6.8
	100803-A	Saline Bayou @ Allen Dam	09/07/05	13:40	30.6	8.3	82	7.8
101301	556	Cress Creek @ Hwy 8	09/08/05	11:30	21.7	7.5	22	6.5
	1220	Rigolette Bayou @ Rig. Road	09/08/05	09:35	27.4	4.3	108	6.8
	101301-A	Rigolette Bayou @ hwy 492	09/08/05	10:20	24.2	5.0	54	6.6
101302	570	Beaver Creek	09/08/05	12:30	20.3	8.3	29	6.5
	1221	Iatt Lake	09/08/05	11:05	26.5	3.2	6	6.3
	101302-A	Iatt Creek @ Hwy 122	09/08/05	12:05	24.2	1.2	129	6.4
101503	101503-A	Saline Bayou on Farm Rd.	09/09/05	07:05	24.0	3.3	179	6.9
101504	371	Saline Bayou @ WMA boatramp	09/08/05	15:30	30.6	8.3	47	8.0
101604	1231	Lake Concordia @ Sportmans Lodge	09/09/05	08:45	28.9	7.5	251	8.3
	101604-A	Bayou Cocodrie @ Hwy 65	09/09/05	08:30	27.2	2.2	282	6.9
110401	1160	Bayou Toro @ Hwy 473	09/08/05	07:30	24.4	4.8	99	6.4
	110401-A	Toro Creek @ Plainview Rd.	09/08/05	06:40	21.8	1.3	81	6.3

FILE: R:\PROJECTS\2110-616\TECH\FIELD_STUDIES\IN-SITU DATA RED-SABINE.XLS

Table C.3 Analytical laboratory results from samples collected in FTN field survey for Red River and Sabine River basins.

Subsegment Number	Site Number	Site Name	Sampling Date	TSS (mg/L	TKN (mg/L)	Total Phos. (mg/L)	TOC (mg/L)	Chlorophyll a (mg/L)	Ammonia as N (mg/L)	NO3 + NO2 N (mg/L)
100404	1181	Cypress Bayou Reservoir nr Benton	09/01/05	7.7	1.8	0.045	9.1	0.035	0.24	<0.05
100405	1182	Black Bayou Reservoir nr Linden Rd	09/01/05	8	1.9	0.061	10	0.051	0.14	<0.05
	100405-A	Black Bayou nr Benton	09/01/05	8.4	2.4	0.082	12	<0.02	0.56	<0.05
100406	363-1	Flat River Dr. Canal nr Bossier City	09/01/05	26	2.5	0.093	10	0.027	0.39	<0.05
	363-2	Flat River Dr. Canal nr Bossier City	09/01/05	26	2.2	0.074	11	0.03	0.36	<0.05
100501	100501-A	Bayou Dorcheat nr AR line	09/01/05	11	1.6	0.15	5.7	<0.02	0.2	0.26
	100501-B	Bayou Dorcheat NE Cotton Valley	09/01/05	4.4	1.7	0.048	8.3	0.021	0.18	<0.05
100601	278	Bayou Pierre nr Shreveport	08/31/05	9.8	1.4	0.25	7.6	<0.02	0.13	<0.05
	1183	Bayou Pierre at Ellerbee Rd.	08/31/05	16	2.3	0.22	2.6	<0.02	0.22	0.39
	100601-A-1	Wallace Bayou u/s B. Pierre	08/31/05	19	1.6	0.085	6.8	<0.02	<0.1	<0.05
	100601-A-2	Wallace Bayou u/s B. Pierre	08/31/05	18	1.8	0.085	6.7	<0.02	<0.1	0.06
100602	1207	Boggy Bayou SW of Shreveport	08/31/05	19	1.5	0.14	6.1	<0.02	<0.1	<0.05
	100602-A	Boggy Bayou SE of Hicks Crossing	08/31/05	78	1.8	0.15	8.1	<0.02	<0.1	<0.05
100702	100702-B	Leatherman Creek	09/07/05	18	2.4	0.11	7.5	0.076	0.32	<0.05
	282	Black Lake Bayou w of Castor	09/07/05	4.8	1.6	0.048	5.9	<0.02	0.22	0.064
	1187	Black Lake Bayou @ Hwy 155	09/07/05	5.2	1.7	0.064	6	<0.02	0.17	0.096
100703	100703-A-1	Black Lake NE Campti	09/07/05	73	1.7	0.048	7.7	<0.02	0.17	<0.05
	100703-A-2	Black Lake NE Campti	09/07/05	4.4	1.9	0.05	7.8	<0.02	0.17	<0.05
	100703-B	Clear Lake outlet	09/07/05	16	1.9	0.12	9.2	0.1	0.25	<0.05
100803	1214	Saline Bayou SE of Clarence	09/07/05	22	1.9	0.08	8.6	0.034	0.23	<0.05
	100803-A	Saline Bayou NE of Clarence	09/07/05	16	3	0.098	8.7	0.05	0.21	<0.05
101301	556	Cress Creek	09/08/05	<4	<1	<0.02	3.1	<0.02	0.16	<0.05
	1220	Rigolette Bayou NE of Pineville	09/08/05	13	1.1	0.082	4.9	<0.02	0.12	<0.05
	570	Beaver Creek	09/08/05	6.2	<1	<0.02	1.5	<0.02	<0.1	0.1
	101301-A	Rigolette Bayou WNW of Bagdad	09/08/05	41	1.3	0.08	3.2	<0.02	0.19	<0.05
101302	1221	Iatt Lake	09/08/05	<4	<1	<0.02	9	<0.02	0.19	<0.05
	101302-A-1	Iatt Creek	09/08/05	5.4	1.4	0.048	11	<0.02	0.22	0.059
	101302-A-2	Iatt Creek	09/08/05	5.2	<1	0.048	11	<0.02	0.14	<0.05
101503	101503-A	Saline Bayou SE of Saline L.	09/09/05	280	2.2	0.15	6.8	0.026	0.58	0.068
101604	1231	Lake Concordia	09/09/05	12	1.9	0.15	7.9	0.049	0.23	<0.05
110401	1160	Bayou Toro NE of Toro	09/08/05	16	1.7	0.1	6.4	<0.02	0.14	<0.05
	110401-A	Toro Creek	09/08/05	6.8	1.4	0.11	7.3	<0.02	0.16	<0.05

FILE: R:\PROJECTS\2110-616\TECH\FIELD_STUDIES\LAB DATA SUMMARY RED-SABINE.XLS

Table C.4. Summary of CBOD time series data from FTN field survey of Red River and Sabine River basins..

Subsegment Number	Sample No.	CBOD 1, 2-day	CBOD 2, 5-day	CBOD 3, 9-day	CBOD 4, 14-Day	CBOD 5, 20-day	k rate (1/day)	CBODu (mg/l)
100404	1181	<2	3.3	5	5.3	5.2	0.22	5.49
100405	1182	2.9	4.8	6.7	8.1	12	0.06	15.61
	100405-A	<2	<2	3.3	5.1	6.9	0.05	12.47
100406	363-1	<2	<2	4.3	5.7	6.6	0.12	7.50
	363-2	<2	<2	4.2	5.8	6.8	0.12	7.69
100501	100501-A	2.4	3.2	3.9	4.2	4.8	0.30	4.43
	100501-B	5.2	6.5	7.6	7.9	12	0.21	10.13
100601	278	<2	<2	2.3	4.6	6.8	0.04	13.85
	1183	<2	<2	<2	5.1	3.9	0.60	4.50
	100601-A-1	<2	<2	<2	2.8	4.4	0.16	5.38
	100601-A-2	<2	2.1	2.3	4.1	5.4	0.04	9.83
100602	1207	<2	<2	2.1	3.4	6	0.04	13.05
	100602-A	2.7	3.9	5	7.8	9.4	0.07	11.99
100702	282	<2	<2	<2	<2	2.2	--	--
	1187	<2	<2	<2	<2	<2	--	--
	100702-B	<2	2.1	3.7	4.6	6.2	0.05	9.62
100703	100703-A-1	<2	<2	<2	2.5	4	0.05	8.69
	100703-A-2	<2	<2	<2	2.3	3.1	0.05	5.60
	100703-B	2.4	5.9	8.9	9.6	14	0.08	16.99
100803	1214	<2	2.7	7.1	7.3	8.9	0.31	8.42
	100803-A	<2	<2	3.9	4.8	6.6	0.05	10.75
101301	556	<2	<2	<2	<2	<2	--	--
	1220	<2	<2	<2	3.1	3.9	0.15	4.43
	101301-A	<2	<2	<2	<2	<2	--	--
101302	570	<2	<2	<2	<2	<2	--	--
	1221	<2	<2	<2	<2	2.2	--	--
	101302-A-1	<2	<2	2.7	3.6	4.3	0.10	5.04
	101302-A-2	<2	<2	<2	2.5	3.4	0.05	5.75
101503	101503-A	<2	<2	3.6	6.2	6.9	0.22	7.29
101604	1231	<2	3.6	7.3	9.9	12	0.06	18.50
110401	1160	<2	<2	<2	<2	2	--	--
	110401-A	<2	<2	<2	<2	2.3	--	--

FILE: R:\PROJECTS\2110-616\TECH\FIELD_STUDIES\RED AND SABINE SUMMARY GSBOD TABLE.XLS

FIELD SHEETS ARE AVAILABLE FROM EPA UPON REQUEST.

APPENDIX D

LA-QUAL Vector Diagram

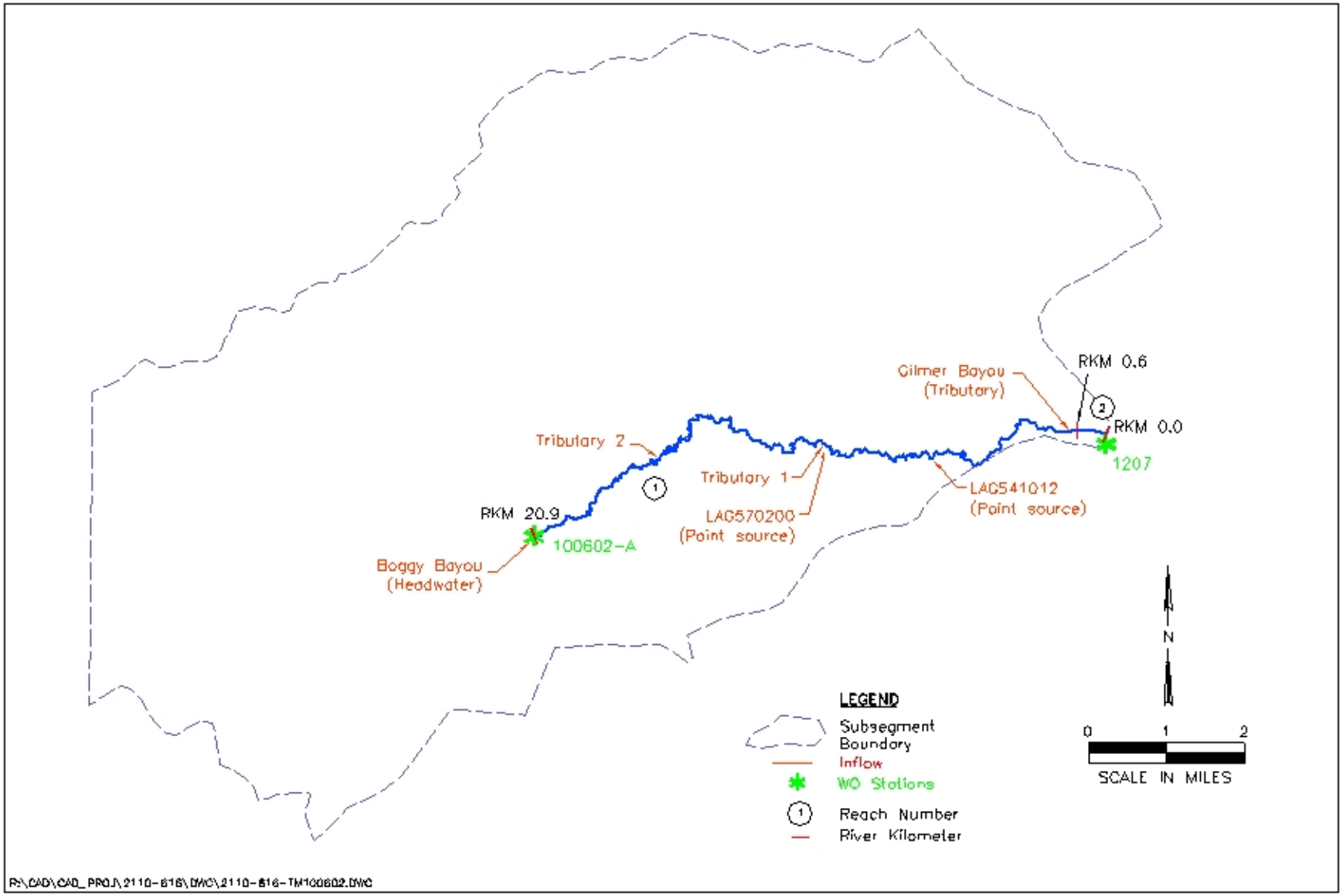
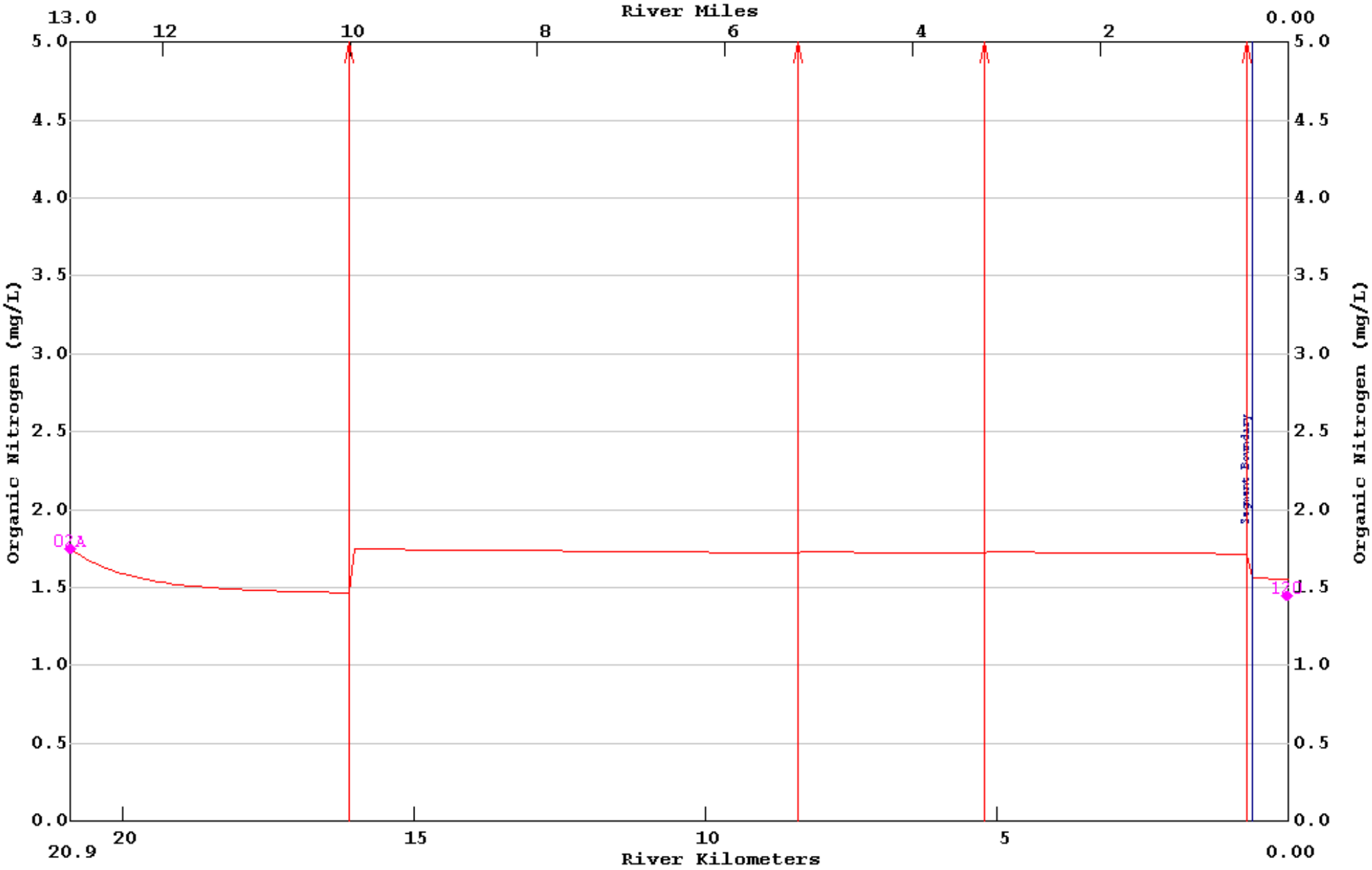


Figure D.1. LA-QUAL vector diagram for Boggy Bayou.

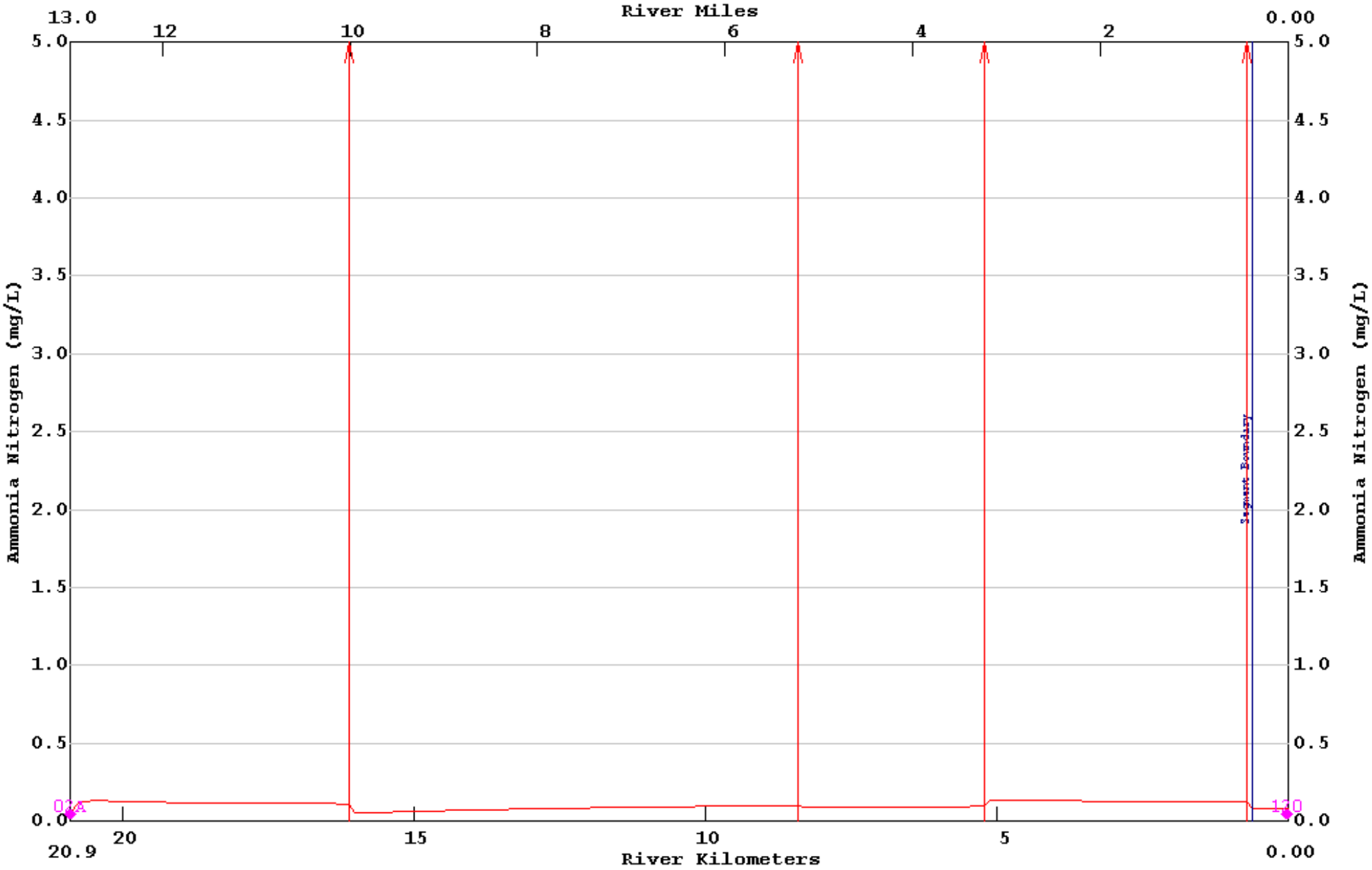
APPENDIX E

Plots of Predicted and Observed Water Quality

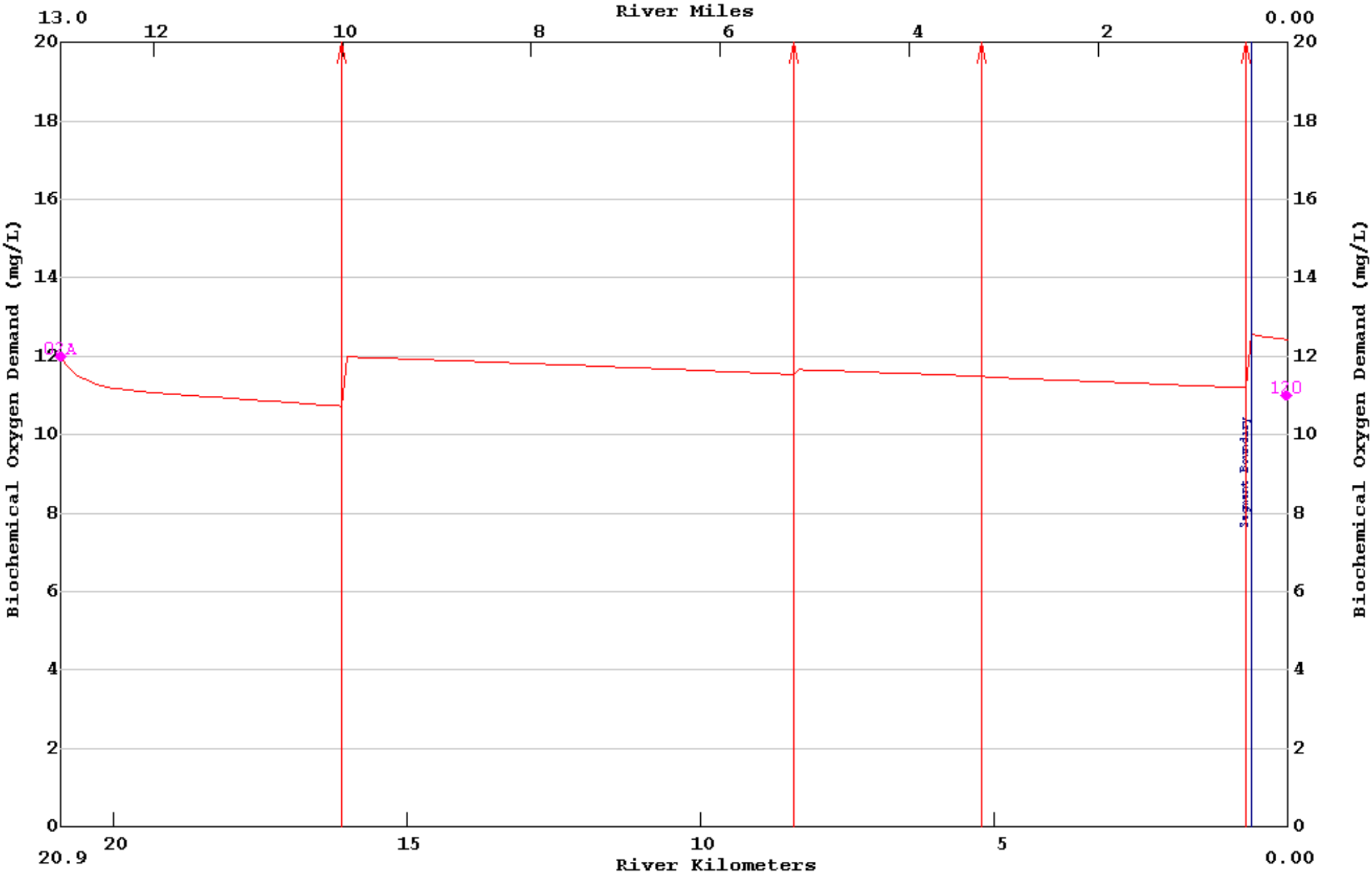
LA-QUAL Version 8.11 Run at 13:14 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\Boggy LA-QUAL Calib.txt
Calibration to FTN field survey on 8-31-05 min= 1.47 max= 1.75
Boggy Bayou Calibration



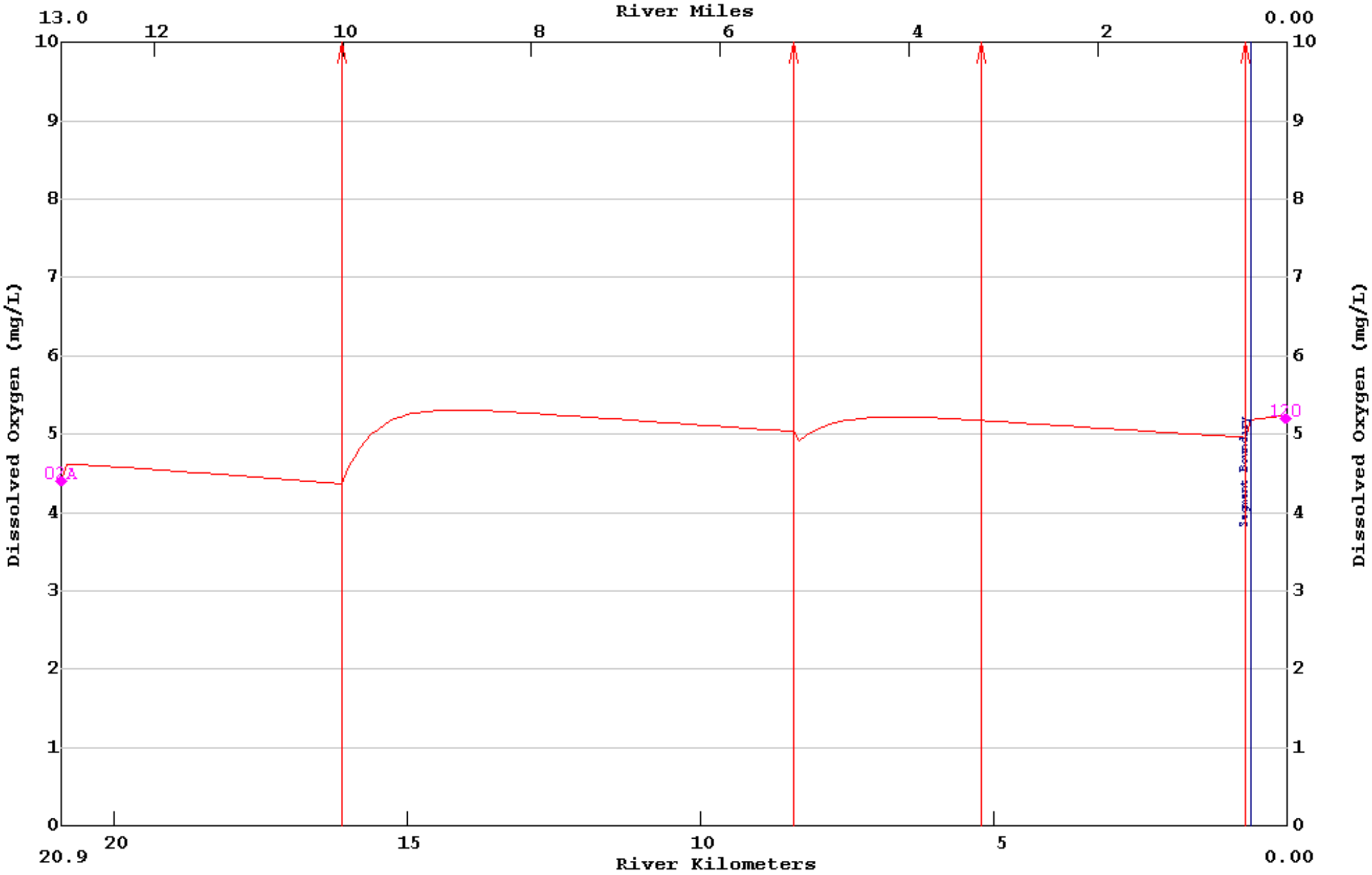
LA-QUAL Version 8.11 Run at 13:14 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\Boggy LA-QUAL Calib.txt
Calibration to FTN field survey on 8-31-05 min= 0.05 max= 0.13
Boggy Bayou Calibration



LA-QUAL Version 8.11 Run at 13:14 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\Boggy LA-QUAL Calib.txt
Calibration to FTN field survey on 8-31-05 min= 10.73 max= 12.55
Boggy Bayou Calibration



LA-QUAL Version 8.11 Run at 13:14 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\Boggy LA-QUAL Calib.txt
Calibration to FTN field survey on 8-31-05 min= 4.37 max= 5.31
Boggy Bayou Calibration



APPENDIX F

Printout of Model Output for Calibration

```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\Boggy LA-QUAL Calib.txt
Output produced at 10:52 on 09/25/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL Model for Boggy Bayou (100602)
TITLE02         Calibration to FTN field survey on 8-31-05
CNTROL03  YES   METR
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMPERATURE
MODOPT02   NO   SALINITY
MODOPT03   NO   CONSERVATIVE MATERIAL #1                        UNITS =
MODOPT04   NO   CONSERVATIVE MATERIAL #2                        UNITS =
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND #1
MODOPT07   NO   BOD2 BIOCHEMICAL OXYGEN DEMAND #2
MODOPT08  YES   NITROGEN SERIES
MODOPT09   NO   PHOSPHORUS
MODOPT10   NO   CHLOROPHYLL A
MODOPT11   NO   MACROPHYTES
MODOPT12   NO   COLIFORMS
MODOPT13   NO   NONCONSERVATIVE MATERIAL                        UNITS =
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                      VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =        2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =      200.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                      VALUE
```

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$

CARD TYPE	REACH	ID	NAME	BEGIN REACH km		END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1	B1	Boggy Bayou u/s of Gilmer	20.90	TO	0.60	0.1000	20.30	203	1	203
REACH ID	2	B2	Boggy Bayou d/s of Gilmer	0.60	TO	0.00	0.1000	0.60	6	204	209

ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH	ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1	B1	4.100	0.000	0.000	0.280	0.000	0.000	0.00000	0.000
HYDR-1	2	B2	9.100	0.000	0.000	0.160	0.000	0.000	0.00000	0.000

ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH	ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"

ENDATA10

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

CARD TYPE	REACH	ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1	B1	27.20	0.00	4.39	0.05	0.03	0.00	0.00	0.00
INITIAL	2	B2	31.50	0.00	5.17	0.05	0.03	0.00	0.00	0.00

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

CARD	RCH	RCH	K2	K2	K2	K2	BKGRND	BOD	BOD	BOD CONV	ANAER BOD2	BOD2	BOD2	BOD2 CONV	ANAER BOD2

```
TYPE     NUM   ID  OPT                  "A"       "B"       "C"       SOD      DECAY      SETT    TO SOD      DECAY      DECAY      SETT    TO SOD      DECAY
                                                                    g/m²/d    per day       m/d              per day    per day       m/d              per day

COEFF-1    1   B1  15 LOUISIANA        0.000     0.000     0.000     1.500     0.055     0.000     0.000     0.000      0.000      0.000     0.000     0.000
COEFF-1    2   B2  15 LOUISIANA        0.000     0.000     0.000     1.900     0.055     0.000     0.000     0.000      0.000      0.000     0.000     0.000
ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

CARD TYPE      REACH  ID       ORG-N     ORG-N   ORGN CONV       NH3       NH3      PHOS     DENIT
                               DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEFF-2          1   B1       0.020     0.000     1.000       0.180     0.000     0.000     0.000
COEFF-2          2   B2       0.020     0.000     1.000       0.080     0.000     0.000     0.000
ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

CARD TYPE      REACH  ID       SECCHI    ALGAE:     ALGAE    ALG CONV     ALGAE     ALGAE     MACRO     MACRO
                               DEPTH     CHL A      SETT     TO SOD      GROW      RESP      GROW      RESP   SHADING

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF      DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP     SALIN      CM-I     CM-II   IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD     ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS     CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO     BOD#2
```

```
NONPOINT          1   B1       20.00      0.80      0.00      0.00      0.00      0.00
NONPOINT          2   B2        0.00      0.00      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT      FLOW      FLOW    TEMP    SALIN      CM-I      CM-II
                                                         m3/s       cfs   deg C      ppt

HDWTR-1           1     Boggy Bayou              0   0.00028    0.010    0.00     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO      BOD#1      ORG-N      NH3-N      NO3-N      BOD#2
                                                    mg/L       mg/L       mg/L       mg/L       mg/L       mg/L

HDWTR-2           1     Boggy Bayou               4.40      12.00       1.75       0.05       0.00       0.00
ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                       PHOS      CHL A       COLI        NCM
                                                    mg/L       mg/L       mg/L       mg/L

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE  ELEMENT    RKILO  NAME                      FLOW       FLOW      FLOW    TEMP    SALIN      CM-I      CM-II
                                                       m3/s        cfs       MGD   deg C      ppt

WSTLD-1        49     16.10  NPS Unnamed Trib 1     0.02750    0.97105    0.628    0.00     0.00     0.000     0.000
WSTLD-1       126      8.40  NPS Unnamed Trib 2     0.01060    0.37429    0.242    0.00     0.00     0.000     0.000
WSTLD-1       126      8.40  LaLaurie Ln Ox Pond    0.00000    0.00000    0.000    0.00     0.00     0.000     0.000
WSTLD-1       158      5.20  Grawood Church         0.00026    0.00918    0.006    0.00     0.00     0.000     0.000
WSTLD-1       203      0.70  NPS Gilmer Bayou       0.05500    1.94209    1.255    0.00     0.00     0.000     0.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                  % BOD                          %
CARD TYPE     ELEMENT   NAME                        DO       BOD      RMVL      ORG-N      NH3-N    NITRIF      NO3-N      BOD#2
                                                    mg/L       mg/L                 mg/L       mg/L                 mg/L       mg/L
```

```
WSTLD-2          49     NPS Unnamed Trib 1          4.40     12.00      0.00      1.75      0.05      0.00      0.00      0.00
WSTLD-2         126     NPS Unnamed Trib 2          4.40     12.00      0.00      1.75      0.05      0.00      0.00      0.00
WSTLD-2         126     LaLaurie Ln Ox Pond         0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
WSTLD-2         158     Grawood Church              5.00      8.56      0.00      3.00      6.00      0.00      0.00      0.00
WSTLD-2         203     NPS Gilmer Bayou            5.20     13.50      0.00      1.45      0.05      0.00      0.00      0.00
ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                        PHOS      CHL A      COLI       NCM
                                                    mg/L       mg/L      mg/L      mg/L

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

CARD TYPE    CONSTITUENT                    CONCENTRATION

ENDATA27

$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN      "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   2
PLOT RCH  1  2
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


OVERLAY 1 Boggy.OVL                       :Boggy Bayou Calibration
ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
```

.....TRIDIAGONAL MATRIX TERMS INITIALIZED
.....OXYGEN DEPENDENT RATES CONVERGENT IN 3 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
.....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

FINAL REPORT Boggy Bayou — LA-QUAL Model for Boggy Bayou (100602)
REACH NO. 1 Boggy Bayou u/s of Gilmer — Calibration to FTN field survey on 8-31-05

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00028	0.00	0.00	0.00	0.00	4.40	12.00	0.00	12.00	0.00	1.75	0.05	0.00	0.00	0.00	0.00	0.00
49	WSTLD	0.02750	0.00	0.00	0.00	0.00	4.40	12.00	0.00	12.00	0.00	1.75	0.05	0.00	0.00	0.00	0.00	0.00
126	WSTLD	0.01060	0.00	0.00	0.00	0.00	4.40	12.00	0.00	12.00	0.00	1.75	0.05	0.00	0.00	0.00	0.00	0.00
158	WSTLD	0.00026	0.00	0.00	0.00	0.00	5.00	8.56	0.00	8.56	0.00	3.00	6.00	0.00	0.00	0.00	0.00	0.00
203	WSTLD	0.05500	0.00	0.00	0.00	0.00	5.20	13.50	0.00	13.50	0.00	1.45	0.05	0.00	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
1	20.90	20.80	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
2	20.80	20.70	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
3	20.70	20.60	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
4	20.60	20.50	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
5	20.50	20.40	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
6	20.40	20.30	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
7	20.30	20.20	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
8	20.20	20.10	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
9	20.10	20.00	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
10	20.00	19.90	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
11	19.90	19.80	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
12	19.80	19.70	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
13	19.70	19.60	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
14	19.60	19.50	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
15	19.50	19.40	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
16	19.40	19.30	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
17	19.30	19.20	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
18	19.20	19.10	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
19	19.10	19.00	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
20	19.00	18.90	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
21	18.90	18.80	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
22	18.80	18.70	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
23	18.70	18.60	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000

24	18.60	18.50	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
25	18.50	18.40	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
26	18.40	18.30	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
27	18.30	18.20	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
28	18.20	18.10	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
29	18.10	18.00	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
30	18.00	17.90	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
31	17.90	17.80	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
32	17.80	17.70	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
33	17.70	17.60	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
34	17.60	17.50	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
35	17.50	17.40	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
36	17.40	17.30	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
37	17.30	17.20	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
38	17.20	17.10	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
39	17.10	17.00	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
40	17.00	16.90	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
41	16.90	16.80	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
42	16.80	16.70	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
43	16.70	16.60	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
44	16.60	16.50	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
45	16.50	16.40	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
46	16.40	16.30	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
47	16.30	16.20	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
48	16.20	16.10	0.00028	0.0	0.00024	4.75	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.000
49	16.10	16.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
50	16.00	15.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
51	15.90	15.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
52	15.80	15.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
53	15.70	15.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
54	15.60	15.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
55	15.50	15.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
56	15.40	15.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
57	15.30	15.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
58	15.20	15.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
59	15.10	15.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
60	15.00	14.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
61	14.90	14.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
62	14.80	14.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
63	14.70	14.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
64	14.60	14.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
65	14.50	14.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
66	14.40	14.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
67	14.30	14.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
68	14.20	14.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
69	14.10	14.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
70	14.00	13.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
71	13.90	13.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
72	13.80	13.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
73	13.70	13.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
74	13.60	13.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024

75	13.50	13.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
76	13.40	13.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
77	13.30	13.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
78	13.20	13.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
79	13.10	13.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
80	13.00	12.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
81	12.90	12.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
82	12.80	12.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
83	12.70	12.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
84	12.60	12.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
85	12.50	12.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
86	12.40	12.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
87	12.30	12.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
88	12.20	12.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
89	12.10	12.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
90	12.00	11.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
91	11.90	11.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
92	11.80	11.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
93	11.70	11.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
94	11.60	11.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
95	11.50	11.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
96	11.40	11.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
97	11.30	11.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
98	11.20	11.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
99	11.10	11.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
100	11.00	10.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
101	10.90	10.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
102	10.80	10.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
103	10.70	10.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
104	10.60	10.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
105	10.50	10.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
106	10.40	10.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
107	10.30	10.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
108	10.20	10.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
109	10.10	10.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
110	10.00	9.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
111	9.90	9.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
112	9.80	9.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
113	9.70	9.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
114	9.60	9.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
115	9.50	9.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
116	9.40	9.30	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
117	9.30	9.20	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
118	9.20	9.10	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
119	9.10	9.00	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
120	9.00	8.90	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
121	8.90	8.80	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
122	8.80	8.70	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
123	8.70	8.60	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
124	8.60	8.50	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024
125	8.50	8.40	0.02778	99.0	0.02420	0.05	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.024

126	8.40	8.30	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
127	8.30	8.20	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
128	8.20	8.10	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
129	8.10	8.00	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
130	8.00	7.90	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
131	7.90	7.80	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
132	7.80	7.70	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
133	7.70	7.60	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
134	7.60	7.50	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
135	7.50	7.40	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
136	7.40	7.30	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
137	7.30	7.20	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
138	7.20	7.10	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
139	7.10	7.00	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
140	7.00	6.90	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
141	6.90	6.80	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
142	6.80	6.70	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
143	6.70	6.60	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
144	6.60	6.50	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
145	6.50	6.40	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
146	6.40	6.30	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
147	6.30	6.20	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
148	6.20	6.10	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
149	6.10	6.00	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
150	6.00	5.90	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
151	5.90	5.80	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
152	5.80	5.70	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
153	5.70	5.60	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
154	5.60	5.50	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
155	5.50	5.40	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
156	5.40	5.30	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
157	5.30	5.20	0.03838	99.3	0.03343	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.033
158	5.20	5.10	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
159	5.10	5.00	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
160	5.00	4.90	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
161	4.90	4.80	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
162	4.80	4.70	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
163	4.70	4.60	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
164	4.60	4.50	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
165	4.50	4.40	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
166	4.40	4.30	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
167	4.30	4.20	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
168	4.20	4.10	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
169	4.10	4.00	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
170	4.00	3.90	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
171	3.90	3.80	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
172	3.80	3.70	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
173	3.70	3.60	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
174	3.60	3.50	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
175	3.50	3.40	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
176	3.40	3.30	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034

177	3.30	3.20	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
178	3.20	3.10	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
179	3.10	3.00	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
180	3.00	2.90	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
181	2.90	2.80	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
182	2.80	2.70	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
183	2.70	2.60	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
184	2.60	2.50	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
185	2.50	2.40	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
186	2.40	2.30	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
187	2.30	2.20	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
188	2.20	2.10	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
189	2.10	2.00	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
190	2.00	1.90	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
191	1.90	1.80	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
192	1.80	1.70	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
193	1.70	1.60	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
194	1.60	1.50	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
195	1.50	1.40	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
196	1.40	1.30	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
197	1.30	1.20	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
198	1.20	1.10	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
199	1.10	1.00	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
200	1.00	0.90	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
201	0.90	0.80	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
202	0.80	0.70	0.03864	99.3	0.03366	0.03	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.034
203	0.70	0.60	0.09364	99.7	0.08157	0.01	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.082
TOT						234.13			23304.43	83230.00					
AVG					0.0010		0.28	4.10			1.15				
CUM						234.13									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
1	20.800	7.94	2.86	0.08	0.00	0.00	0.00	0.00	0.00	2.36	2.36	2.36	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	20.700	7.93	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.37	2.37	2.37	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	20.600	7.93	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.37	2.37	2.37	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	20.500	7.93	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.37	2.37	2.37	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	20.400	7.92	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.38	2.38	2.38	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	20.300	7.92	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.38	2.38	2.38	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	20.200	7.92	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.38	2.38	2.38	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	20.100	7.92	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.39	2.39	2.39	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	20.000	7.91	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.39	2.39	2.39	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	19.900	7.91	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.39	2.39	2.39	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	19.800	7.91	2.87	0.08	0.00	0.00	0.00	0.00	0.00	2.40	2.40	2.40	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	19.700	7.90	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.40	2.40	2.40	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

13	19.600	7.90	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.40	2.40	2.40	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	19.500	7.90	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	19.400	7.89	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	19.300	7.89	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	19.200	7.89	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.41	2.41	2.41	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	19.100	7.89	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.42	2.42	2.42	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	19.000	7.88	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.42	2.42	2.42	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	18.900	7.88	2.88	0.08	0.00	0.00	0.00	0.00	0.00	2.42	2.42	2.42	0.02	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	18.800	7.88	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.43	2.43	2.43	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	18.700	7.87	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.43	2.43	2.43	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	18.600	7.87	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.43	2.43	2.43	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	18.500	7.87	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.44	2.44	2.44	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	18.400	7.87	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.44	2.44	2.44	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	18.300	7.86	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.44	2.44	2.44	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	18.200	7.86	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.45	2.45	2.45	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	18.100	7.86	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.45	2.45	2.45	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	18.000	7.85	2.89	0.08	0.00	0.00	0.00	0.00	0.00	2.45	2.45	2.45	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	17.900	7.85	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.46	2.46	2.46	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	17.800	7.85	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.46	2.46	2.46	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	17.700	7.84	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.46	2.46	2.46	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	17.600	7.84	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.47	2.47	2.47	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	17.500	7.84	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.47	2.47	2.47	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	17.400	7.84	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.47	2.47	2.47	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	17.300	7.83	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.48	2.48	2.48	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	17.200	7.83	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.48	2.48	2.48	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	17.100	7.83	2.90	0.08	0.00	0.00	0.00	0.00	0.00	2.48	2.48	2.48	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	17.000	7.82	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.49	2.49	2.49	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	16.900	7.82	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.49	2.49	2.49	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	16.800	7.82	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.49	2.49	2.49	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	16.700	7.82	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	0.02	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	16.600	7.81	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	16.500	7.81	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.50	2.50	2.50	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	16.400	7.81	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.51	2.51	2.51	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	16.300	7.80	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.51	2.51	2.51	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	16.200	7.80	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.51	2.51	2.51	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	16.100	7.80	2.91	0.08	0.00	0.00	0.00	0.00	0.00	2.52	2.52	2.52	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	16.000	7.79	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.52	2.52	2.52	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	15.900	7.79	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.52	2.52	2.52	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	15.800	7.79	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.53	2.53	2.53	0.02	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	15.700	7.79	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.53	2.53	2.53	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	15.600	7.78	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.53	2.53	2.53	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	15.500	7.78	4.21	0.08	0.00	0.00	0.00	0.00	0.00	2.54	2.54	2.54	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	15.400	7.78	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.54	2.54	2.54	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	15.300	7.77	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.54	2.54	2.54	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	15.200	7.77	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.55	2.55	2.55	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	15.100	7.77	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.55	2.55	2.55	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	15.000	7.77	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.55	2.55	2.55	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	14.900	7.76	4.22	0.08	0.00	0.00	0.00	0.00	0.00	2.56	2.56	2.56	0.02	0.00	0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	14.800	7.76	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.56	2.56	2.56	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	14.700	7.76	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.56	2.56	2.56	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	14.600	7.75	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.57	2.57	2.57	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

64	14.500	7.75	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.57	2.57	2.57	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	14.400	7.75	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.57	2.57	2.57	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	14.300	7.75	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.58	2.58	2.58	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	14.200	7.74	4.23	0.08	0.00	0.00	0.00	0.00	0.00	2.58	2.58	2.58	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	14.100	7.74	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.58	2.58	2.58	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	14.000	7.74	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.59	2.59	2.59	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	13.900	7.73	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.59	2.59	2.59	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	13.800	7.73	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.60	2.60	2.60	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	13.700	7.73	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.60	2.60	2.60	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	13.600	7.73	4.24	0.08	0.00	0.00	0.00	0.00	0.00	2.60	2.60	2.60	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	13.500	7.72	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.61	2.61	2.61	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	13.400	7.72	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.61	2.61	2.61	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	13.300	7.72	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.61	2.61	2.61	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	13.200	7.71	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.62	2.62	2.62	0.02	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	13.100	7.71	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.62	2.62	2.62	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	13.000	7.71	4.25	0.08	0.00	0.00	0.00	0.00	0.00	2.62	2.62	2.62	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	12.900	7.71	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.63	2.63	2.63	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	12.800	7.70	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.63	2.63	2.63	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	12.700	7.70	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.63	2.63	2.63	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	12.600	7.70	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.64	2.64	2.64	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	12.500	7.69	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.64	2.64	2.64	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	12.400	7.69	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.64	2.64	2.64	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	12.300	7.69	4.26	0.08	0.00	0.00	0.00	0.00	0.00	2.65	2.65	2.65	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	12.200	7.69	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.65	2.65	2.65	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	12.100	7.68	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.65	2.65	2.65	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	12.000	7.68	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.66	2.66	2.66	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	11.900	7.68	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.66	2.66	2.66	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	11.800	7.67	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.67	2.67	2.67	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	11.700	7.67	4.27	0.08	0.00	0.00	0.00	0.00	0.00	2.67	2.67	2.67	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	11.600	7.67	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.67	2.67	2.67	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	11.500	7.67	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.68	2.68	2.68	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	11.400	7.66	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.68	2.68	2.68	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	11.300	7.66	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.68	2.68	2.68	0.02	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	11.200	7.66	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.69	2.69	2.69	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	11.100	7.65	4.28	0.08	0.00	0.00	0.00	0.00	0.00	2.69	2.69	2.69	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	11.000	7.65	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.69	2.69	2.69	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	10.900	7.65	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.70	2.70	2.70	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	10.800	7.65	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.70	2.70	2.70	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	10.700	7.64	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.70	2.70	2.70	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	10.600	7.64	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.71	2.71	2.71	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	10.500	7.64	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.71	2.71	2.71	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	10.400	7.63	4.29	0.08	0.00	0.00	0.00	0.00	0.00	2.72	2.72	2.72	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	10.300	7.63	4.30	0.08	0.00	0.00	0.00	0.00	0.00	2.72	2.72	2.72	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	10.200	7.63	4.30	0.08	0.00	0.00	0.00	0.00	0.00	2.72	2.72	2.72	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	10.100	7.63	4.30	0.09	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	10.000	7.62	4.30	0.09	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	9.900	7.62	4.30	0.09	0.00	0.00	0.00	0.00	0.00	2.73	2.73	2.73	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	9.800	7.62	4.30	0.09	0.00	0.00	0.00	0.00	0.00	2.74	2.74	2.74	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	9.700	7.61	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.74	2.74	2.74	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	9.600	7.61	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.74	2.74	2.74	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	9.500	7.61	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.75	2.75	2.75	0.02	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

115	9.400	7.61	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.75	2.75	2.75	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	9.300	7.60	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.76	2.76	2.76	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	9.200	7.60	4.31	0.09	0.00	0.00	0.00	0.00	0.00	2.76	2.76	2.76	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	9.100	7.60	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.76	2.76	2.76	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	9.000	7.60	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.77	2.77	2.77	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	8.900	7.59	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.77	2.77	2.77	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	8.800	7.59	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.77	2.77	2.77	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	8.700	7.59	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.78	2.78	2.78	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	8.600	7.58	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.78	2.78	2.78	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124	8.500	7.58	4.32	0.09	0.00	0.00	0.00	0.00	0.00	2.79	2.79	2.79	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	8.400	7.58	4.33	0.09	0.00	0.00	0.00	0.00	0.00	2.79	2.79	2.79	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	8.300	7.58	4.89	0.09	0.00	0.00	0.00	0.00	0.00	2.79	2.79	2.79	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	8.200	7.57	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.80	2.80	2.80	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	8.100	7.57	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.80	2.80	2.80	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	8.000	7.57	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.80	2.80	2.80	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	7.900	7.56	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.81	2.81	2.81	0.02	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	7.800	7.56	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.81	2.81	2.81	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	7.700	7.56	4.90	0.09	0.00	0.00	0.00	0.00	0.00	2.82	2.82	2.82	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	7.600	7.56	4.91	0.09	0.00	0.00	0.00	0.00	0.00	2.82	2.82	2.82	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	7.500	7.55	4.91	0.09	0.00	0.00	0.00	0.00	0.00	2.82	2.82	2.82	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	7.400	7.55	4.91	0.09	0.00	0.00	0.00	0.00	0.00	2.83	2.83	2.83	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	7.300	7.55	4.91	0.09	0.00	0.00	0.00	0.00	0.00	2.83	2.83	2.83	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	7.200	7.55	4.91	0.09	0.00	0.00	0.00	0.00	0.00	2.83	2.83	2.83	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	7.100	7.54	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.84	2.84	2.84	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	7.000	7.54	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.84	2.84	2.84	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	6.900	7.54	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.85	2.85	2.85	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	6.800	7.53	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.85	2.85	2.85	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	6.700	7.53	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.85	2.85	2.85	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	6.600	7.53	4.92	0.09	0.00	0.00	0.00	0.00	0.00	2.86	2.86	2.86	0.02	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	6.500	7.53	4.93	0.09	0.00	0.00	0.00	0.00	0.00	2.86	2.86	2.86	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	6.400	7.52	4.93	0.09	0.00	0.00	0.00	0.00	0.00	2.86	2.86	2.86	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	6.300	7.52	4.93	0.09	0.00	0.00	0.00	0.00	0.00	2.87	2.87	2.87	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	6.200	7.52	4.93	0.09	0.00	0.00	0.00	0.00	0.00	2.87	2.87	2.87	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	6.100	7.52	4.93	0.09	0.00	0.00	0.00	0.00	0.00	2.88	2.88	2.88	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	6.000	7.51	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.88	2.88	2.88	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	5.900	7.51	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.88	2.88	2.88	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	5.800	7.51	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.89	2.89	2.89	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	5.700	7.50	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.89	2.89	2.89	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	5.600	7.50	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.89	2.89	2.89	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	5.500	7.50	4.94	0.09	0.00	0.00	0.00	0.00	0.00	2.90	2.90	2.90	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	5.400	7.50	4.95	0.09	0.00	0.00	0.00	0.00	0.00	2.90	2.90	2.90	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	5.300	7.49	4.95	0.09	0.00	0.00	0.00	0.00	0.00	2.91	2.91	2.91	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	5.200	7.49	4.95	0.09	0.00	0.00	0.00	0.00	0.00	2.91	2.91	2.91	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	5.100	7.49	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.91	2.91	2.91	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	5.000	7.49	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.92	2.92	2.92	0.02	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	4.900	7.48	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.92	2.92	2.92	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	4.800	7.48	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.93	2.93	2.93	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	4.700	7.48	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.93	2.93	2.93	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	4.600	7.47	4.97	0.09	0.00	0.00	0.00	0.00	0.00	2.93	2.93	2.93	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	4.500	7.47	4.98	0.09	0.00	0.00	0.00	0.00	0.00	2.94	2.94	2.94	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	4.400	7.47	4.98	0.09	0.00	0.00	0.00	0.00	0.00	2.94	2.94	2.94	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

166	4.300	7.47	4.98	0.09	0.00	0.00	0.00	0.00	0.00	2.95	2.95	2.95	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	4.200	7.46	4.98	0.09	0.00	0.00	0.00	0.00	0.00	2.95	2.95	2.95	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	4.100	7.46	4.98	0.09	0.00	0.00	0.00	0.00	0.00	2.95	2.95	2.95	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
169	4.000	7.46	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.96	2.96	2.96	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	3.900	7.46	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.96	2.96	2.96	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	3.800	7.45	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.97	2.97	2.97	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172	3.700	7.45	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.97	2.97	2.97	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
173	3.600	7.45	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.97	2.97	2.97	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	3.500	7.44	4.99	0.09	0.00	0.00	0.00	0.00	0.00	2.98	2.98	2.98	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	3.400	7.44	5.00	0.09	0.00	0.00	0.00	0.00	0.00	2.98	2.98	2.98	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176	3.300	7.44	5.00	0.09	0.00	0.00	0.00	0.00	0.00	2.99	2.99	2.99	0.02	0.00	0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	3.200	7.44	5.00	0.09	0.00	0.00	0.00	0.00	0.00	2.99	2.99	2.99	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
178	3.100	7.43	5.00	0.09	0.00	0.00	0.00	0.00	0.00	2.99	2.99	2.99	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179	3.000	7.43	5.00	0.09	0.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	2.900	7.43	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.00	3.00	3.00	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
181	2.800	7.43	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.01	3.01	3.01	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
182	2.700	7.42	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.01	3.01	3.01	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
183	2.600	7.42	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.01	3.01	3.01	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184	2.500	7.42	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.02	3.02	3.02	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	2.400	7.41	5.01	0.09	0.00	0.00	0.00	0.00	0.00	3.02	3.02	3.02	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186	2.300	7.41	5.02	0.09	0.00	0.00	0.00	0.00	0.00	3.03	3.03	3.03	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
187	2.200	7.41	5.02	0.09	0.00	0.00	0.00	0.00	0.00	3.03	3.03	3.03	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
188	2.100	7.41	5.02	0.09	0.00	0.00	0.00	0.00	0.00	3.03	3.03	3.03	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
189	2.000	7.40	5.02	0.09	0.00	0.00	0.00	0.00	0.00	3.04	3.04	3.04	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190	1.900	7.40	5.02	0.09	0.00	0.00	0.00	0.00	0.00	3.04	3.04	3.04	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	1.800	7.40	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.05	3.05	3.05	0.02	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
192	1.700	7.40	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.05	3.05	3.05	0.02	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
193	1.600	7.39	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.05	3.05	3.05	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
194	1.500	7.39	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.06	3.06	3.06	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
195	1.400	7.39	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.06	3.06	3.06	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
196	1.300	7.39	5.03	0.09	0.00	0.00	0.00	0.00	0.00	3.07	3.07	3.07	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
197	1.200	7.38	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.07	3.07	3.07	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
198	1.100	7.38	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.07	3.07	3.07	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	1.000	7.38	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.08	3.08	3.08	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200	0.900	7.37	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.08	3.08	3.08	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
201	0.800	7.37	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.09	3.09	3.09	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202	0.700	7.37	5.04	0.09	0.00	0.00	0.00	0.00	0.00	3.09	3.09	3.09	0.03	0.00	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
203	0.600	7.37	8.06	0.09	0.00	0.00	0.00	0.00	0.00	3.09	3.09	3.09	0.03	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			3.54	0.05	0.00	0.00	0.00	0.00	0.00	1.50			0.02	0.00	0.18	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	20.800	27.22	0.00	0.00	0.00	4.61	11.79	0.00	11.79	0.00	1.72	0.10	0.14	1.96	0.00	0.00	0.00	0.	0.00
2	20.700	27.24	0.00	0.00	0.00	4.62	11.63	0.00	11.63	0.00	1.70	0.12	0.30	2.13	0.00	0.00	0.00	0.	0.00

3	20.600	27.26	0.00	0.00	0.00	4.61	11.51	0.00	11.51	0.00	1.68	0.13	0.48	2.29	0.00	0.00	0.00	0.	0.00
4	20.500	27.28	0.00	0.00	0.00	4.61	11.42	0.00	11.42	0.00	1.66	0.13	0.66	2.45	0.00	0.00	0.00	0.	0.00
5	20.400	27.31	0.00	0.00	0.00	4.60	11.35	0.00	11.35	0.00	1.64	0.13	0.84	2.61	0.00	0.00	0.00	0.	0.00
6	20.300	27.33	0.00	0.00	0.00	4.60	11.29	0.00	11.29	0.00	1.63	0.13	1.02	2.78	0.00	0.00	0.00	0.	0.00
7	20.200	27.35	0.00	0.00	0.00	4.60	11.25	0.00	11.25	0.00	1.61	0.13	1.20	2.94	0.00	0.00	0.00	0.	0.00
8	20.100	27.37	0.00	0.00	0.00	4.59	11.22	0.00	11.22	0.00	1.60	0.13	1.37	3.10	0.00	0.00	0.00	0.	0.00
9	20.000	27.39	0.00	0.00	0.00	4.59	11.19	0.00	11.19	0.00	1.59	0.13	1.55	3.27	0.00	0.00	0.00	0.	0.00
10	19.900	27.41	0.00	0.00	0.00	4.58	11.17	0.00	11.17	0.00	1.58	0.13	1.72	3.43	0.00	0.00	0.00	0.	0.00
11	19.800	27.43	0.00	0.00	0.00	4.58	11.15	0.00	11.15	0.00	1.57	0.13	1.90	3.59	0.00	0.00	0.00	0.	0.00
12	19.700	27.45	0.00	0.00	0.00	4.57	11.13	0.00	11.13	0.00	1.56	0.12	2.07	3.75	0.00	0.00	0.00	0.	0.00
13	19.600	27.48	0.00	0.00	0.00	4.57	11.11	0.00	11.11	0.00	1.55	0.12	2.24	3.92	0.00	0.00	0.00	0.	0.00
14	19.500	27.50	0.00	0.00	0.00	4.56	11.10	0.00	11.10	0.00	1.54	0.12	2.41	4.08	0.00	0.00	0.00	0.	0.00
15	19.400	27.52	0.00	0.00	0.00	4.55	11.08	0.00	11.08	0.00	1.54	0.12	2.58	4.24	0.00	0.00	0.00	0.	0.00
16	19.300	27.54	0.00	0.00	0.00	4.55	11.07	0.00	11.07	0.00	1.53	0.12	2.75	4.41	0.00	0.00	0.00	0.	0.00
17	19.200	27.56	0.00	0.00	0.00	4.54	11.06	0.00	11.06	0.00	1.53	0.12	2.92	4.57	0.00	0.00	0.00	0.	0.00
18	19.100	27.58	0.00	0.00	0.00	4.54	11.05	0.00	11.05	0.00	1.52	0.12	3.09	4.73	0.00	0.00	0.00	0.	0.00
19	19.000	27.60	0.00	0.00	0.00	4.53	11.04	0.00	11.04	0.00	1.52	0.12	3.26	4.90	0.00	0.00	0.00	0.	0.00
20	18.900	27.62	0.00	0.00	0.00	4.53	11.02	0.00	11.02	0.00	1.51	0.12	3.42	5.06	0.00	0.00	0.00	0.	0.00
21	18.800	27.64	0.00	0.00	0.00	4.52	11.01	0.00	11.01	0.00	1.51	0.12	3.59	5.22	0.00	0.00	0.00	0.	0.00
22	18.700	27.67	0.00	0.00	0.00	4.52	11.00	0.00	11.00	0.00	1.51	0.12	3.76	5.38	0.00	0.00	0.00	0.	0.00
23	18.600	27.69	0.00	0.00	0.00	4.51	10.99	0.00	10.99	0.00	1.50	0.12	3.93	5.55	0.00	0.00	0.00	0.	0.00
24	18.500	27.71	0.00	0.00	0.00	4.50	10.98	0.00	10.98	0.00	1.50	0.12	4.09	5.71	0.00	0.00	0.00	0.	0.00
25	18.400	27.73	0.00	0.00	0.00	4.50	10.97	0.00	10.97	0.00	1.50	0.12	4.26	5.87	0.00	0.00	0.00	0.	0.00
26	18.300	27.75	0.00	0.00	0.00	4.49	10.96	0.00	10.96	0.00	1.49	0.12	4.42	6.04	0.00	0.00	0.00	0.	0.00
27	18.200	27.77	0.00	0.00	0.00	4.49	10.95	0.00	10.95	0.00	1.49	0.12	4.59	6.20	0.00	0.00	0.00	0.	0.00
28	18.100	27.79	0.00	0.00	0.00	4.48	10.94	0.00	10.94	0.00	1.49	0.12	4.75	6.36	0.00	0.00	0.00	0.	0.00
29	18.000	27.81	0.00	0.00	0.00	4.48	10.93	0.00	10.93	0.00	1.49	0.12	4.92	6.52	0.00	0.00	0.00	0.	0.00
30	17.900	27.84	0.00	0.00	0.00	4.47	10.92	0.00	10.92	0.00	1.49	0.12	5.08	6.69	0.00	0.00	0.00	0.	0.00
31	17.800	27.86	0.00	0.00	0.00	4.47	10.91	0.00	10.91	0.00	1.48	0.12	5.25	6.85	0.00	0.00	0.00	0.	0.00
32	17.700	27.88	0.00	0.00	0.00	4.46	10.89	0.00	10.89	0.00	1.48	0.12	5.41	7.01	0.00	0.00	0.00	0.	0.00
33	17.600	27.90	0.00	0.00	0.00	4.45	10.88	0.00	10.88	0.00	1.48	0.12	5.58	7.18	0.00	0.00	0.00	0.	0.00
34	17.500	27.92	0.00	0.00	0.00	4.45	10.87	0.00	10.87	0.00	1.48	0.12	5.74	7.34	0.00	0.00	0.00	0.	0.00
35	17.400	27.94	0.00	0.00	0.00	4.44	10.86	0.00	10.86	0.00	1.48	0.11	5.91	7.50	0.00	0.00	0.00	0.	0.00
36	17.300	27.96	0.00	0.00	0.00	4.44	10.85	0.00	10.85	0.00	1.48	0.11	6.07	7.66	0.00	0.00	0.00	0.	0.00
37	17.200	27.98	0.00	0.00	0.00	4.43	10.84	0.00	10.84	0.00	1.48	0.11	6.24	7.83	0.00	0.00	0.00	0.	0.00
38	17.100	28.00	0.00	0.00	0.00	4.43	10.83	0.00	10.83	0.00	1.48	0.11	6.40	7.99	0.00	0.00	0.00	0.	0.00
39	17.000	28.03	0.00	0.00	0.00	4.42	10.82	0.00	10.82	0.00	1.47	0.11	6.57	8.15	0.00	0.00	0.00	0.	0.00
40	16.900	28.05	0.00	0.00	0.00	4.41	10.81	0.00	10.81	0.00	1.47	0.11	6.73	8.32	0.00	0.00	0.00	0.	0.00
41	16.800	28.07	0.00	0.00	0.00	4.41	10.80	0.00	10.80	0.00	1.47	0.11	6.89	8.48	0.00	0.00	0.00	0.	0.00
42	16.700	28.09	0.00	0.00	0.00	4.40	10.79	0.00	10.79	0.00	1.47	0.11	7.06	8.64	0.00	0.00	0.00	0.	0.00
43	16.600	28.11	0.00	0.00	0.00	4.40	10.78	0.00	10.78	0.00	1.47	0.11	7.22	8.80	0.00	0.00	0.00	0.	0.00
44	16.500	28.13	0.00	0.00	0.00	4.39	10.77	0.00	10.77	0.00	1.47	0.11	7.39	8.97	0.00	0.00	0.00	0.	0.00
45	16.400	28.15	0.00	0.00	0.00	4.39	10.76	0.00	10.76	0.00	1.47	0.11	7.55	9.13	0.00	0.00	0.00	0.	0.00
46	16.300	28.17	0.00	0.00	0.00	4.38	10.75	0.00	10.75	0.00	1.47	0.11	7.71	9.29	0.00	0.00	0.00	0.	0.00
47	16.200	28.20	0.00	0.00	0.00	4.37	10.74	0.00	10.74	0.00	1.47	0.11	7.88	9.46	0.00	0.00	0.00	0.	0.00
48	16.100	28.22	0.00	0.00	0.00	4.37	10.73	0.00	10.73	0.00	1.47	0.11	8.04	9.62	0.00	0.00	0.00	0.	0.00
49	16.000	28.24	0.00	0.00	0.00	4.57	11.98	0.00	11.98	0.00	1.75	0.05	0.08	1.88	0.00	0.00	0.00	0.	0.00
50	15.900	28.26	0.00	0.00	0.00	4.71	11.98	0.00	11.98	0.00	1.75	0.05	0.08	1.88	0.00	0.00	0.00	0.	0.00
51	15.800	28.28	0.00	0.00	0.00	4.82	11.97	0.00	11.97	0.00	1.75	0.05	0.08	1.88	0.00	0.00	0.00	0.	0.00
52	15.700	28.30	0.00	0.00	0.00	4.92	11.97	0.00	11.97	0.00	1.75	0.06	0.08	1.89	0.00	0.00	0.00	0.	0.00
53	15.600	28.32	0.00	0.00	0.00	5.00	11.96	0.00	11.96	0.00	1.75	0.06	0.09	1.89	0.00	0.00	0.00	0.	0.00

54	15.500	28.34	0.00	0.00	0.00	5.06	11.96	0.00	11.96	0.00	1.75	0.06	0.09	1.89	0.00	0.00	0.00	0.	0.00
55	15.400	28.37	0.00	0.00	0.00	5.12	11.95	0.00	11.95	0.00	1.74	0.06	0.09	1.89	0.00	0.00	0.00	0.	0.00
56	15.300	28.39	0.00	0.00	0.00	5.16	11.95	0.00	11.95	0.00	1.74	0.06	0.09	1.89	0.00	0.00	0.00	0.	0.00
57	15.200	28.41	0.00	0.00	0.00	5.19	11.94	0.00	11.94	0.00	1.74	0.06	0.09	1.89	0.00	0.00	0.00	0.	0.00
58	15.100	28.43	0.00	0.00	0.00	5.22	11.94	0.00	11.94	0.00	1.74	0.06	0.09	1.90	0.00	0.00	0.00	0.	0.00
59	15.000	28.45	0.00	0.00	0.00	5.24	11.93	0.00	11.93	0.00	1.74	0.06	0.09	1.90	0.00	0.00	0.00	0.	0.00
60	14.900	28.47	0.00	0.00	0.00	5.26	11.93	0.00	11.93	0.00	1.74	0.06	0.09	1.90	0.00	0.00	0.00	0.	0.00
61	14.800	28.49	0.00	0.00	0.00	5.28	11.92	0.00	11.92	0.00	1.74	0.06	0.09	1.90	0.00	0.00	0.00	0.	0.00
62	14.700	28.51	0.00	0.00	0.00	5.29	11.92	0.00	11.92	0.00	1.74	0.07	0.09	1.90	0.00	0.00	0.00	0.	0.00
63	14.600	28.53	0.00	0.00	0.00	5.29	11.91	0.00	11.91	0.00	1.74	0.07	0.09	1.90	0.00	0.00	0.00	0.	0.00
64	14.500	28.56	0.00	0.00	0.00	5.30	11.90	0.00	11.90	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
65	14.400	28.58	0.00	0.00	0.00	5.30	11.90	0.00	11.90	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
66	14.300	28.60	0.00	0.00	0.00	5.31	11.89	0.00	11.89	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
67	14.200	28.62	0.00	0.00	0.00	5.31	11.89	0.00	11.89	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
68	14.100	28.64	0.00	0.00	0.00	5.31	11.88	0.00	11.88	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
69	14.000	28.66	0.00	0.00	0.00	5.31	11.88	0.00	11.88	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
70	13.900	28.68	0.00	0.00	0.00	5.30	11.87	0.00	11.87	0.00	1.74	0.07	0.10	1.91	0.00	0.00	0.00	0.	0.00
71	13.800	28.70	0.00	0.00	0.00	5.30	11.87	0.00	11.87	0.00	1.74	0.07	0.10	1.92	0.00	0.00	0.00	0.	0.00
72	13.700	28.73	0.00	0.00	0.00	5.30	11.86	0.00	11.86	0.00	1.74	0.07	0.10	1.92	0.00	0.00	0.00	0.	0.00
73	13.600	28.75	0.00	0.00	0.00	5.30	11.86	0.00	11.86	0.00	1.74	0.08	0.11	1.92	0.00	0.00	0.00	0.	0.00
74	13.500	28.77	0.00	0.00	0.00	5.29	11.85	0.00	11.85	0.00	1.74	0.08	0.11	1.92	0.00	0.00	0.00	0.	0.00
75	13.400	28.79	0.00	0.00	0.00	5.29	11.84	0.00	11.84	0.00	1.74	0.08	0.11	1.92	0.00	0.00	0.00	0.	0.00
76	13.300	28.81	0.00	0.00	0.00	5.29	11.84	0.00	11.84	0.00	1.74	0.08	0.11	1.92	0.00	0.00	0.00	0.	0.00
77	13.200	28.83	0.00	0.00	0.00	5.28	11.83	0.00	11.83	0.00	1.74	0.08	0.11	1.93	0.00	0.00	0.00	0.	0.00
78	13.100	28.85	0.00	0.00	0.00	5.28	11.83	0.00	11.83	0.00	1.74	0.08	0.11	1.93	0.00	0.00	0.00	0.	0.00
79	13.000	28.87	0.00	0.00	0.00	5.27	11.82	0.00	11.82	0.00	1.74	0.08	0.11	1.93	0.00	0.00	0.00	0.	0.00
80	12.900	28.89	0.00	0.00	0.00	5.27	11.82	0.00	11.82	0.00	1.74	0.08	0.11	1.93	0.00	0.00	0.00	0.	0.00
81	12.800	28.92	0.00	0.00	0.00	5.26	11.81	0.00	11.81	0.00	1.74	0.08	0.12	1.93	0.00	0.00	0.00	0.	0.00
82	12.700	28.94	0.00	0.00	0.00	5.26	11.80	0.00	11.80	0.00	1.74	0.08	0.12	1.93	0.00	0.00	0.00	0.	0.00
83	12.600	28.96	0.00	0.00	0.00	5.25	11.80	0.00	11.80	0.00	1.74	0.08	0.12	1.94	0.00	0.00	0.00	0.	0.00
84	12.500	28.98	0.00	0.00	0.00	5.25	11.79	0.00	11.79	0.00	1.74	0.08	0.12	1.94	0.00	0.00	0.00	0.	0.00
85	12.400	29.00	0.00	0.00	0.00	5.24	11.79	0.00	11.79	0.00	1.73	0.08	0.12	1.94	0.00	0.00	0.00	0.	0.00
86	12.300	29.02	0.00	0.00	0.00	5.24	11.78	0.00	11.78	0.00	1.73	0.08	0.12	1.94	0.00	0.00	0.00	0.	0.00
87	12.200	29.04	0.00	0.00	0.00	5.23	11.78	0.00	11.78	0.00	1.73	0.08	0.12	1.94	0.00	0.00	0.00	0.	0.00
88	12.100	29.06	0.00	0.00	0.00	5.23	11.77	0.00	11.77	0.00	1.73	0.09	0.13	1.94	0.00	0.00	0.00	0.	0.00
89	12.000	29.09	0.00	0.00	0.00	5.22	11.76	0.00	11.76	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
90	11.900	29.11	0.00	0.00	0.00	5.22	11.76	0.00	11.76	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
91	11.800	29.13	0.00	0.00	0.00	5.21	11.75	0.00	11.75	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
92	11.700	29.15	0.00	0.00	0.00	5.21	11.75	0.00	11.75	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
93	11.600	29.17	0.00	0.00	0.00	5.20	11.74	0.00	11.74	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
94	11.500	29.19	0.00	0.00	0.00	5.20	11.73	0.00	11.73	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
95	11.400	29.21	0.00	0.00	0.00	5.19	11.73	0.00	11.73	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
96	11.300	29.23	0.00	0.00	0.00	5.19	11.72	0.00	11.72	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
97	11.200	29.25	0.00	0.00	0.00	5.18	11.72	0.00	11.72	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
98	11.100	29.28	0.00	0.00	0.00	5.17	11.71	0.00	11.71	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
99	11.000	29.30	0.00	0.00	0.00	5.17	11.70	0.00	11.70	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
100	10.900	29.32	0.00	0.00	0.00	5.16	11.70	0.00	11.70	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
101	10.800	29.34	0.00	0.00	0.00	5.16	11.69	0.00	11.69	0.00	1.73	0.09	0.14	1.97	0.00	0.00	0.00	0.	0.00
102	10.700	29.36	0.00	0.00	0.00	5.15	11.68	0.00	11.68	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
103	10.600	29.38	0.00	0.00	0.00	5.15	11.68	0.00	11.68	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
104	10.500	29.40	0.00	0.00	0.00	5.14	11.67	0.00	11.67	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00

105	10.400	29.42	0.00	0.00	0.00	5.14	11.67	0.00	11.67	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
106	10.300	29.45	0.00	0.00	0.00	5.13	11.66	0.00	11.66	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
107	10.200	29.47	0.00	0.00	0.00	5.13	11.65	0.00	11.65	0.00	1.73	0.09	0.15	1.98	0.00	0.00	0.00	0.	0.00
108	10.100	29.49	0.00	0.00	0.00	5.12	11.65	0.00	11.65	0.00	1.73	0.10	0.16	1.98	0.00	0.00	0.00	0.	0.00
109	10.000	29.51	0.00	0.00	0.00	5.12	11.64	0.00	11.64	0.00	1.73	0.10	0.16	1.98	0.00	0.00	0.00	0.	0.00
110	9.900	29.53	0.00	0.00	0.00	5.11	11.63	0.00	11.63	0.00	1.73	0.10	0.16	1.98	0.00	0.00	0.00	0.	0.00
111	9.800	29.55	0.00	0.00	0.00	5.11	11.63	0.00	11.63	0.00	1.73	0.10	0.16	1.98	0.00	0.00	0.00	0.	0.00
112	9.700	29.57	0.00	0.00	0.00	5.10	11.62	0.00	11.62	0.00	1.73	0.10	0.16	1.98	0.00	0.00	0.00	0.	0.00
113	9.600	29.59	0.00	0.00	0.00	5.10	11.61	0.00	11.61	0.00	1.73	0.10	0.16	1.99	0.00	0.00	0.00	0.	0.00
114	9.500	29.61	0.00	0.00	0.00	5.09	11.61	0.00	11.61	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
115	9.400	29.64	0.00	0.00	0.00	5.09	11.60	0.00	11.60	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
116	9.300	29.66	0.00	0.00	0.00	5.08	11.60	0.00	11.60	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
117	9.200	29.68	0.00	0.00	0.00	5.08	11.59	0.00	11.59	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
118	9.100	29.70	0.00	0.00	0.00	5.07	11.58	0.00	11.58	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
119	9.000	29.72	0.00	0.00	0.00	5.07	11.58	0.00	11.58	0.00	1.72	0.10	0.17	2.00	0.00	0.00	0.00	0.	0.00
120	8.900	29.74	0.00	0.00	0.00	5.06	11.57	0.00	11.57	0.00	1.72	0.10	0.18	2.00	0.00	0.00	0.00	0.	0.00
121	8.800	29.76	0.00	0.00	0.00	5.06	11.56	0.00	11.56	0.00	1.72	0.10	0.18	2.00	0.00	0.00	0.00	0.	0.00
122	8.700	29.78	0.00	0.00	0.00	5.05	11.56	0.00	11.56	0.00	1.72	0.10	0.18	2.00	0.00	0.00	0.00	0.	0.00
123	8.600	29.81	0.00	0.00	0.00	5.04	11.55	0.00	11.55	0.00	1.72	0.10	0.18	2.00	0.00	0.00	0.00	0.	0.00
124	8.500	29.83	0.00	0.00	0.00	5.04	11.54	0.00	11.54	0.00	1.72	0.10	0.18	2.00	0.00	0.00	0.00	0.	0.00
125	8.400	29.85	0.00	0.00	0.00	5.03	11.54	0.00	11.54	0.00	1.72	0.10	0.18	2.01	0.00	0.00	0.00	0.	0.00
126	8.300	29.87	0.00	0.00	0.00	4.92	11.66	0.00	11.66	0.00	1.73	0.09	0.13	1.95	0.00	0.00	0.00	0.	0.00
127	8.200	29.89	0.00	0.00	0.00	4.98	11.65	0.00	11.65	0.00	1.73	0.09	0.14	1.95	0.00	0.00	0.00	0.	0.00
128	8.100	29.91	0.00	0.00	0.00	5.02	11.65	0.00	11.65	0.00	1.73	0.09	0.14	1.95	0.00	0.00	0.00	0.	0.00
129	8.000	29.93	0.00	0.00	0.00	5.06	11.64	0.00	11.64	0.00	1.73	0.09	0.14	1.95	0.00	0.00	0.00	0.	0.00
130	7.900	29.95	0.00	0.00	0.00	5.09	11.64	0.00	11.64	0.00	1.73	0.09	0.14	1.95	0.00	0.00	0.00	0.	0.00
131	7.800	29.97	0.00	0.00	0.00	5.12	11.63	0.00	11.63	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
132	7.700	30.00	0.00	0.00	0.00	5.14	11.63	0.00	11.63	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
133	7.600	30.02	0.00	0.00	0.00	5.16	11.62	0.00	11.62	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
134	7.500	30.04	0.00	0.00	0.00	5.18	11.62	0.00	11.62	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
135	7.400	30.06	0.00	0.00	0.00	5.19	11.61	0.00	11.61	0.00	1.73	0.09	0.14	1.96	0.00	0.00	0.00	0.	0.00
136	7.300	30.08	0.00	0.00	0.00	5.20	11.61	0.00	11.61	0.00	1.73	0.09	0.15	1.96	0.00	0.00	0.00	0.	0.00
137	7.200	30.10	0.00	0.00	0.00	5.21	11.60	0.00	11.60	0.00	1.73	0.09	0.15	1.96	0.00	0.00	0.00	0.	0.00
138	7.100	30.12	0.00	0.00	0.00	5.21	11.60	0.00	11.60	0.00	1.73	0.09	0.15	1.96	0.00	0.00	0.00	0.	0.00
139	7.000	30.14	0.00	0.00	0.00	5.22	11.59	0.00	11.59	0.00	1.73	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
140	6.900	30.17	0.00	0.00	0.00	5.22	11.58	0.00	11.58	0.00	1.72	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
141	6.800	30.19	0.00	0.00	0.00	5.22	11.58	0.00	11.58	0.00	1.72	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
142	6.700	30.21	0.00	0.00	0.00	5.22	11.57	0.00	11.57	0.00	1.72	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
143	6.600	30.23	0.00	0.00	0.00	5.22	11.57	0.00	11.57	0.00	1.72	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
144	6.500	30.25	0.00	0.00	0.00	5.22	11.56	0.00	11.56	0.00	1.72	0.09	0.15	1.97	0.00	0.00	0.00	0.	0.00
145	6.400	30.27	0.00	0.00	0.00	5.22	11.56	0.00	11.56	0.00	1.72	0.09	0.16	1.97	0.00	0.00	0.00	0.	0.00
146	6.300	30.29	0.00	0.00	0.00	5.22	11.55	0.00	11.55	0.00	1.72	0.09	0.16	1.97	0.00	0.00	0.00	0.	0.00
147	6.200	30.31	0.00	0.00	0.00	5.21	11.55	0.00	11.55	0.00	1.72	0.09	0.16	1.97	0.00	0.00	0.00	0.	0.00
148	6.100	30.33	0.00	0.00	0.00	5.21	11.54	0.00	11.54	0.00	1.72	0.09	0.16	1.98	0.00	0.00	0.00	0.	0.00
149	6.000	30.36	0.00	0.00	0.00	5.21	11.53	0.00	11.53	0.00	1.72	0.09	0.16	1.98	0.00	0.00	0.00	0.	0.00
150	5.900	30.38	0.00	0.00	0.00	5.20	11.53	0.00	11.53	0.00	1.72	0.09	0.16	1.98	0.00	0.00	0.00	0.	0.00
151	5.800	30.40	0.00	0.00	0.00	5.20	11.52	0.00	11.52	0.00	1.72	0.09	0.16	1.98	0.00	0.00	0.00	0.	0.00
152	5.700	30.42	0.00	0.00	0.00	5.20	11.52	0.00	11.52	0.00	1.72	0.09	0.16	1.98	0.00	0.00	0.00	0.	0.00
153	5.600	30.44	0.00	0.00	0.00	5.19	11.51	0.00	11.51	0.00	1.72	0.09	0.17	1.98	0.00	0.00	0.00	0.	0.00
154	5.500	30.46	0.00	0.00	0.00	5.19	11.51	0.00	11.51	0.00	1.72	0.09	0.17	1.98	0.00	0.00	0.00	0.	0.00
155	5.400	30.48	0.00	0.00	0.00	5.19	11.50	0.00	11.50	0.00	1.72	0.10	0.17	1.98	0.00	0.00	0.00	0.	0.00

156	5.300	30.50	0.00	0.00	0.00	5.18	11.49	0.00	11.49	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
157	5.200	30.53	0.00	0.00	0.00	5.18	11.49	0.00	11.49	0.00	1.72	0.10	0.17	1.99	0.00	0.00	0.00	0.	0.00
158	5.100	30.55	0.00	0.00	0.00	5.17	11.46	0.00	11.46	0.00	1.73	0.13	0.17	2.03	0.00	0.00	0.00	0.	0.00
159	5.000	30.57	0.00	0.00	0.00	5.17	11.46	0.00	11.46	0.00	1.73	0.13	0.17	2.04	0.00	0.00	0.00	0.	0.00
160	4.900	30.59	0.00	0.00	0.00	5.16	11.45	0.00	11.45	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
161	4.800	30.61	0.00	0.00	0.00	5.16	11.45	0.00	11.45	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
162	4.700	30.63	0.00	0.00	0.00	5.15	11.44	0.00	11.44	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
163	4.600	30.65	0.00	0.00	0.00	5.15	11.43	0.00	11.43	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
164	4.500	30.67	0.00	0.00	0.00	5.14	11.43	0.00	11.43	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
165	4.400	30.70	0.00	0.00	0.00	5.14	11.42	0.00	11.42	0.00	1.73	0.13	0.18	2.04	0.00	0.00	0.00	0.	0.00
166	4.300	30.72	0.00	0.00	0.00	5.13	11.42	0.00	11.42	0.00	1.73	0.13	0.19	2.04	0.00	0.00	0.00	0.	0.00
167	4.200	30.74	0.00	0.00	0.00	5.13	11.41	0.00	11.41	0.00	1.73	0.13	0.19	2.05	0.00	0.00	0.00	0.	0.00
168	4.100	30.76	0.00	0.00	0.00	5.12	11.41	0.00	11.41	0.00	1.73	0.13	0.19	2.05	0.00	0.00	0.00	0.	0.00
169	4.000	30.78	0.00	0.00	0.00	5.12	11.40	0.00	11.40	0.00	1.73	0.13	0.19	2.05	0.00	0.00	0.00	0.	0.00
170	3.900	30.80	0.00	0.00	0.00	5.11	11.39	0.00	11.39	0.00	1.73	0.13	0.19	2.05	0.00	0.00	0.00	0.	0.00
171	3.800	30.82	0.00	0.00	0.00	5.11	11.39	0.00	11.39	0.00	1.72	0.13	0.19	2.05	0.00	0.00	0.00	0.	0.00
172	3.700	30.84	0.00	0.00	0.00	5.10	11.38	0.00	11.38	0.00	1.72	0.13	0.20	2.05	0.00	0.00	0.00	0.	0.00
173	3.600	30.86	0.00	0.00	0.00	5.10	11.38	0.00	11.38	0.00	1.72	0.13	0.20	2.05	0.00	0.00	0.00	0.	0.00
174	3.500	30.89	0.00	0.00	0.00	5.09	11.37	0.00	11.37	0.00	1.72	0.13	0.20	2.05	0.00	0.00	0.00	0.	0.00
175	3.400	30.91	0.00	0.00	0.00	5.09	11.36	0.00	11.36	0.00	1.72	0.13	0.20	2.06	0.00	0.00	0.00	0.	0.00
176	3.300	30.93	0.00	0.00	0.00	5.08	11.36	0.00	11.36	0.00	1.72	0.13	0.20	2.06	0.00	0.00	0.00	0.	0.00
177	3.200	30.95	0.00	0.00	0.00	5.08	11.35	0.00	11.35	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
178	3.100	30.97	0.00	0.00	0.00	5.07	11.35	0.00	11.35	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
179	3.000	30.99	0.00	0.00	0.00	5.07	11.34	0.00	11.34	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
180	2.900	31.01	0.00	0.00	0.00	5.06	11.33	0.00	11.33	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
181	2.800	31.03	0.00	0.00	0.00	5.06	11.33	0.00	11.33	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
182	2.700	31.06	0.00	0.00	0.00	5.05	11.32	0.00	11.32	0.00	1.72	0.13	0.21	2.06	0.00	0.00	0.00	0.	0.00
183	2.600	31.08	0.00	0.00	0.00	5.05	11.32	0.00	11.32	0.00	1.72	0.13	0.22	2.06	0.00	0.00	0.00	0.	0.00
184	2.500	31.10	0.00	0.00	0.00	5.04	11.31	0.00	11.31	0.00	1.72	0.13	0.22	2.07	0.00	0.00	0.00	0.	0.00
185	2.400	31.12	0.00	0.00	0.00	5.04	11.30	0.00	11.30	0.00	1.72	0.13	0.22	2.07	0.00	0.00	0.00	0.	0.00
186	2.300	31.14	0.00	0.00	0.00	5.04	11.30	0.00	11.30	0.00	1.72	0.13	0.22	2.07	0.00	0.00	0.00	0.	0.00
187	2.200	31.16	0.00	0.00	0.00	5.03	11.29	0.00	11.29	0.00	1.72	0.13	0.22	2.07	0.00	0.00	0.00	0.	0.00
188	2.100	31.18	0.00	0.00	0.00	5.03	11.29	0.00	11.29	0.00	1.72	0.13	0.22	2.07	0.00	0.00	0.00	0.	0.00
189	2.000	31.20	0.00	0.00	0.00	5.02	11.28	0.00	11.28	0.00	1.72	0.13	0.23	2.07	0.00	0.00	0.00	0.	0.00
190	1.900	31.22	0.00	0.00	0.00	5.02	11.27	0.00	11.27	0.00	1.72	0.13	0.23	2.07	0.00	0.00	0.00	0.	0.00
191	1.800	31.25	0.00	0.00	0.00	5.01	11.27	0.00	11.27	0.00	1.72	0.13	0.23	2.07	0.00	0.00	0.00	0.	0.00
192	1.700	31.27	0.00	0.00	0.00	5.01	11.26	0.00	11.26	0.00	1.72	0.13	0.23	2.08	0.00	0.00	0.00	0.	0.00
193	1.600	31.29	0.00	0.00	0.00	5.00	11.25	0.00	11.25	0.00	1.72	0.12	0.23	2.08	0.00	0.00	0.00	0.	0.00
194	1.500	31.31	0.00	0.00	0.00	5.00	11.25	0.00	11.25	0.00	1.72	0.12	0.23	2.08	0.00	0.00	0.00	0.	0.00
195	1.400	31.33	0.00	0.00	0.00	4.99	11.24	0.00	11.24	0.00	1.72	0.12	0.24	2.08	0.00	0.00	0.00	0.	0.00
196	1.300	31.35	0.00	0.00	0.00	4.99	11.24	0.00	11.24	0.00	1.72	0.12	0.24	2.08	0.00	0.00	0.00	0.	0.00
197	1.200	31.37	0.00	0.00	0.00	4.98	11.23	0.00	11.23	0.00	1.72	0.12	0.24	2.08	0.00	0.00	0.00	0.	0.00
198	1.100	31.39	0.00	0.00	0.00	4.98	11.22	0.00	11.22	0.00	1.72	0.12	0.24	2.08	0.00	0.00	0.00	0.	0.00
199	1.000	31.42	0.00	0.00	0.00	4.97	11.22	0.00	11.22	0.00	1.72	0.12	0.24	2.08	0.00	0.00	0.00	0.	0.00
200	0.900	31.44	0.00	0.00	0.00	4.97	11.21	0.00	11.21	0.00	1.72	0.12	0.25	2.08	0.00	0.00	0.00	0.	0.00
201	0.800	31.46	0.00	0.00	0.00	4.96	11.20	0.00	11.20	0.00	1.72	0.12	0.25	2.09	0.00	0.00	0.00	0.	0.00
202	0.700	31.48	0.00	0.00	0.00	4.96	11.20	0.00	11.20	0.00	1.72	0.12	0.25	2.09	0.00	0.00	0.00	0.	0.00
203	0.600	31.50	0.00	0.00	0.00	5.18	12.55	0.00	12.55	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00

REACH NO. 2 Boggy Bayou d/s of Gilmer Calibration to FTN field survey on 8-31-05

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
204	UPR RCH	0.09364	31.50	0.00	0.00	0.00	5.18	12.55	0.00	12.55	0.00	1.56	0.08	0.10	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
204	0.60	0.50	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
205	0.50	0.40	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
206	0.40	0.30	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
207	0.30	0.20	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
208	0.20	0.10	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
209	0.10	0.00	0.09364	99.7	0.06431	0.02	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.064
TOT						0.11			873.60	5460.00					
AVG					0.0643		0.16	9.10			1.46				
CUM						234.24									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
204	0.500	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
205	0.400	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
206	0.300	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
207	0.200	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	0.100	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
209	0.000	7.37	12.21	0.09	0.00	0.00	0.00	0.00	0.00	3.92	3.92	3.92	0.03	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			9.89	0.05	0.00	0.00	0.00	0.00	0.00	1.90			0.02	0.00	0.08	0.00	0.00	0.00			0.00	0.00	0.00

* $g/m^2/d$ ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m^3	COLI #/100mL	NCM

204	0.500	31.50	0.00	0.00	0.00	5.19	12.52	0.00	12.52	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00
205	0.400	31.50	0.00	0.00	0.00	5.20	12.50	0.00	12.50	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00
206	0.300	31.50	0.00	0.00	0.00	5.21	12.48	0.00	12.48	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00
207	0.200	31.50	0.00	0.00	0.00	5.22	12.46	0.00	12.46	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00
208	0.100	31.50	0.00	0.00	0.00	5.23	12.44	0.00	12.44	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00
209	0.000	31.50	0.00	0.00	0.00	5.23	12.42	0.00	12.42	0.00	1.56	0.08	0.10	1.74	0.00	0.00	0.00	0.	0.00

STREAM SUMMARY
Boggy Bayou

LA-QUAL Model for Boggy Bayou (100602)
Calibration to FTN field survey on 8-31-05

TRAVEL TIME	=	234.24	DAYS		
MAXIMUM EFFLUENT	=	99.70	PERCENT		
FLOW	=	0.00028	TO	0.09364	m^3/s
DISPERSION	=	0.0000	TO	0.0000	m^2/s
VELOCITY	=	0.00024	TO	0.08157	m/s
DEPTH	=	0.16	TO	0.28	m
WIDTH	=	4.10	TO	9.10	m
BOD DECAY	=	0.08	TO	0.09	per day
NH3 DECAY	=	0.18	TO	0.42	per day
SOD	=	2.36	TO	3.92	$g/m^2/d$
NH3 SOURCE	=	0.00	TO	0.00	$g/m^2/d$
REAERATION	=	2.86	TO	12.21	per day
BOD SETTLING	=	0.00	TO	0.00	per day
ORG-N DECAY	=	0.02	TO	0.03	per day
ORG-N SETTLING	=	0.00	TO	0.00	per day
TEMPERATURE	=	27.22	TO	31.50	deg C
DISSOLVED OXYGEN	=	4.37	TO	5.31	mg/L

LA-QUAL Model for Boggy Bayou (100602)
Calibration to FTN field survey on 8-31-05

INPUT/OUTPUT LOADING SUMMARY

	FLOW m^3/s	DO kg/d	BOD#1 kg/d	BOD#2 kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A	NCM
HEADWATER FLOW	0.000	0.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WASTELOADS	0.093	39.3	103.8	0.0	12.7	0.5	0.0	0.0	0.0	0.0
WITHDRAWLS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FLOW THRU LOWER BNDRY	-0.094	-42.3	-100.5	0.0	-12.6	-0.7	-0.8	0.0	0.0	0.0
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DISPERSION THRU HDWTR BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	20.0	0.0	0.8					0.0
NATURAL REAERATION		277.5								
DAM REAERATION		0.0								
BACKGROUND SOD		-247.2								
BOD#1 DECAY		-23.7	-23.7							
BOD#1 SETTLING		0.0	0.0							
ANAEROBIC BOD#1 DECAY			0.0							
BOD#2 DECAY		0.0		0.0						
BOD#2 SETTLING		0.0		0.0						
ANAEROBIC BOD#2 DECAY				0.0						
ORG-N DECAY		0.0			-1.0	1.0				
ORG-N SETTLING					0.0	0.0				
NH3 DECAY		-3.7				-0.8	0.8			
BACKGROUND NH3 SOURCE						0.0				
OTHER DENITRIFICATION							0.0			
PHOSPHORUS SOURCE								0.0		
ALGAE PHOTOSYNTHESIS		0.0				0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0				0.0		0.0	0.0	
ALGAE SETTLING		0.0							0.0	
MACRO PHOTOSYNTHESIS		0.0				0.0	0.0	0.0		
NCM DECAY		0.0								0.0
NCM SETTLING		0.0								0.0
TOTAL INPUTS	0.094	316.9	124.1	0.0	13.6	1.5	0.8	0.0	0.0	0.0
TOTAL OUTPUTS	-0.094	-316.9	-124.1	0.0	-13.6	-1.5	-0.8	0.0	0.0	0.0
NET CONVERGENCE ERROR	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

.....EXECUTION COMPLETED

APPENDIX G

90th Percentile Temperature Calculations

Table G.1. Calculations for 90th percentile temperatures for Black Bayou near Rodessa (LDEQ 0011)

Summer 90th Percentile Temperature = 30.1 C, interpolated from values highlighted below
Winter 90th Percentile Temperature = 21.0 C, from values highlighted below

Date	Season	Water Temp (C)	Percentile
10/13/86	summer	15.9	0.35
10/01/75	summer	16.0	1.04
5/12/81	summer	16.0	1.74
10/10/88	summer	18.1	2.43
10/12/87	summer	18.4	3.13
10/05/76	summer	19.0	3.82
5/15/79	summer	19.0	4.51
10/14/80	summer	19.0	5.21
6/02/76	summer	20.0	5.90
10/13/81	summer	20.0	6.60
10/11/82	summer	20.0	7.29
10/09/89	summer	20.0	7.99
5/09/83	summer	20.4	8.68
10/11/83	summer	20.4	9.38
5/06/02	summer	20.6	10.07
10/09/84	summer	20.8	10.76
5/01/67	summer	21.0	11.46
5/01/69	summer	21.0	12.15
6/03/75	summer	21.0	12.85
7/06/76	summer	21.0	13.54
5/04/77	summer	21.0	14.24
6/12/79	summer	21.0	14.93
5/09/78	summer	21.5	15.63
5/08/89	summer	21.5	16.32
9/01/68	summer	22.0	17.01
5/01/73	summer	22.0	17.71
5/02/75	summer	22.0	18.40
9/02/76	summer	22.0	19.10
10/04/77	summer	22.0	19.79
10/09/78	summer	22.0	20.49
6/10/80	summer	22.0	21.18
8/04/76	summer	22.5	21.88
10/07/02	summer	22.7	22.57
5/14/85	summer	22.8	23.26
5/12/87	summer	22.9	23.96
5/01/68	summer	23.0	24.65
10/01/74	summer	23.0	25.35
8/05/75	summer	23.0	26.04
9/11/79	summer	23.0	26.74
5/11/82	summer	23.0	27.43
10/15/85	summer	23.0	28.13
5/12/86	summer	23.0	28.82
8/05/77	summer	23.5	29.51
9/08/86	summer	23.7	30.21
6/01/67	summer	24.0	30.90
10/01/68	summer	24.0	31.60

Date	Season	Water Temp (C)	Percentile
12/11/84	winter	0.1	0.35
1/11/83	winter	0.7	1.05
1/10/77	winter	1.0	1.75
4/12/83	winter	1.8	2.45
1/01/70	winter	3.0	3.15
1/01/73	winter	3.0	3.85
3/04/02	winter	3.3	4.55
1/15/85	winter	3.6	5.24
1/08/02	winter	3.8	5.94
1/01/68	winter	4.0	6.64
1/08/76	winter	4.0	7.34
2/12/80	winter	4.0	8.04
2/08/83	winter	4.2	8.74
1/12/88	winter	4.2	9.44
2/12/85	winter	4.8	10.14
12/02/76	winter	5.0	10.84
1/09/79	winter	5.0	11.54
1/13/81	winter	5.0	12.24
1/18/82	winter	5.0	12.94
2/10/82	winter	5.0	13.64
2/08/88	winter	5.1	14.34
1/13/87	winter	5.6	15.03
12/13/88	winter	6.6	15.73
1/10/84	winter	6.9	16.43
1/01/69	winter	7.0	17.13
12/12/78	winter	7.0	17.83
12/15/81	winter	7.0	18.53
12/13/82	winter	7.0	19.23
1/14/86	winter	7.0	19.93
12/02/02	winter	7.7	20.63
2/17/87	winter	7.8	21.33
1/09/89	winter	7.8	22.03
12/11/89	winter	7.9	22.73
2/01/67	winter	8.0	23.43
2/04/77	winter	8.0	24.13
2/13/79	winter	8.5	24.83
11/01/68	winter	9.0	25.52
3/01/69	winter	9.0	26.22
12/01/74	winter	9.0	26.92
11/18/80	winter	9.0	27.62
2/04/02	winter	9.2	28.32
12/14/87	winter	9.3	29.02
12/13/83	winter	9.7	29.72
2/01/68	winter	10.0	30.42
12/08/75	winter	10.0	31.12
2/06/76	winter	10.0	31.82

Date	Season	Water Temp (C)	Percentile
6/01/69	summer	24.0	32.29
6/01/70	summer	24.0	32.99
10/01/72	summer	24.0	33.68
9/01/74	summer	24.0	34.38
5/13/80	summer	24.0	35.07
6/13/88	summer	24.0	35.76
9/13/05	summer	24.0	36.46
5/15/84	summer	24.3	37.15
6/12/89	summer	24.4	37.85
5/09/88	summer	24.5	38.54
6/03/02	summer	24.5	39.24
9/20/05	summer	24.9	39.93
7/12/05	summer	25.0	40.63
10/01/67	summer	25.0	41.32
10/01/69	summer	25.0	42.01
9/01/71	summer	25.0	42.71
5/01/72	summer	25.0	43.40
6/01/73	summer	25.0	44.10
10/01/73	summer	25.0	44.79
6/02/77	summer	25.0	45.49
7/10/79	summer	25.0	46.18
6/09/81	summer	25.0	46.88
9/15/81	summer	25.0	47.57
6/14/05	summer	25.0	48.26
7/12/83	summer	25.1	48.96
8/14/89	summer	25.1	49.65
6/08/87	summer	25.2	50.35
8/14/84	summer	25.5	51.04
9/12/88	summer	25.6	51.74
8/16/05	summer	25.7	52.43
6/10/86	summer	25.7	53.13
9/14/87	summer	25.8	53.82
9/09/02	summer	25.8	54.51
7/01/67	summer	26.0	55.21
9/01/67	summer	26.0	55.90
10/01/70	summer	26.0	56.60
7/06/77	summer	26.0	57.29
9/12/78	summer	26.0	57.99
9/11/84	summer	26.0	58.68
7/26/05	summer	26.2	59.38
9/13/83	summer	26.2	60.07
8/15/78	summer	26.5	60.76
9/11/89	summer	26.5	61.46
9/10/85	summer	26.7	62.15
7/11/89	summer	26.9	62.85
5/01/70	summer	27.0	63.54
9/01/73	summer	27.0	64.24
9/06/77	summer	27.0	64.93
8/14/79	summer	27.0	65.63
8/11/81	summer	27.0	66.32
6/15/82	summer	27.0	67.01
1/04/78	winter	10.0	32.52
12/11/79	winter	10.0	33.22
1/15/80	winter	10.0	33.92
3/14/88	winter	10.7	34.62
12/01/67	winter	11.0	35.31
12/01/68	winter	11.0	36.01
2/10/81	winter	11.0	36.71
3/09/82	winter	11.0	37.41
12/08/04	winter	11.1	38.11
11/20/02	winter	11.4	38.81
1/12/05	winter	11.9	39.51
3/13/84	winter	11.9	40.21
11/13/84	winter	11.9	40.91
3/01/68	winter	12.0	41.61
12/01/69	winter	12.0	42.31
2/01/70	winter	12.0	43.01
1/01/72	winter	12.0	43.71
12/01/72	winter	12.0	44.41
4/02/76	winter	12.0	45.10
12/05/77	winter	12.0	45.80
3/06/78	winter	12.0	46.50
4/15/80	winter	12.0	47.20
11/17/81	winter	12.0	47.90
11/06/79	winter	12.5	48.60
12/09/80	winter	12.5	49.30
2/13/89	winter	12.5	50.00
4/11/88	winter	12.6	50.70
12/08/86	winter	12.7	51.40
12/10/85	winter	12.8	52.10
2/01/69	winter	13.0	52.80
1/01/74	winter	13.0	53.50
3/10/81	winter	13.0	54.20
11/15/83	winter	13.3	54.90
3/10/87	winter	13.3	55.59
3/04/77	winter	13.5	56.29
4/10/89	winter	13.5	56.99
11/17/87	winter	13.7	57.69
2/01/72	winter	14.0	58.39
1/03/75	winter	14.0	59.09
2/05/75	winter	14.0	59.79
3/05/75	winter	14.0	60.49
3/11/80	winter	14.0	61.19
3/15/05	winter	14.0	61.89
2/14/84	winter	14.2	62.59
11/17/86	winter	14.6	63.29
3/01/67	winter	15.0	63.99
11/01/67	winter	15.0	64.69
2/01/73	winter	15.0	65.38
11/01/74	winter	15.0	66.08
11/04/75	winter	15.0	66.78
3/14/79	winter	15.0	67.48

Table G.1 90th Percentile Temperature Calculations for Station 0011

Date	Season	Water Temp (C)	Percentile
9/14/82	summer	27.0	67.71
8/13/02	summer	27.1	68.40
7/08/02	summer	27.3	69.10
7/13/87	summer	27.5	69.79
6/11/85	summer	27.7	70.49
7/11/88	summer	27.7	71.18
7/09/85	summer	27.8	71.88
9/01/72	summer	28.0	72.57
5/01/74	summer	28.0	73.26
7/03/75	summer	28.0	73.96
6/13/78	summer	28.0	74.65
7/14/81	summer	28.0	75.35
6/12/84	summer	28.0	76.04
8/12/86	summer	28.0	76.74
8/09/83	summer	28.1	77.43
7/10/84	summer	28.3	78.13
8/12/80	summer	28.5	78.82
8/13/85	summer	28.5	79.51
7/14/86	summer	28.8	80.21
7/01/68	summer	29.0	80.90
5/01/71	summer	29.0	81.60
10/01/71	summer	29.0	82.29
7/01/73	summer	29.0	82.99
6/01/74	summer	29.0	83.68
9/01/75	summer	29.0	84.38
7/11/78	summer	29.0	85.07
7/13/82	summer	29.0	85.76
8/10/82	summer	29.0	86.46
8/08/88	summer	29.6	87.15
8/01/69	summer	30.0	87.85
7/01/70	summer	30.0	88.54
7/01/72	summer	30.0	89.24
8/01/73	summer	30.0	89.93
8/10/87	summer	30.5	90.63
8/01/68	summer	31.0	91.32
9/01/69	summer	31.0	92.01
8/01/67	summer	32.0	92.71
8/01/70	summer	32.0	93.40
8/01/71	summer	32.0	94.10
6/01/72	summer	32.0	94.79
8/01/72	summer	32.0	95.49
6/01/68	summer	33.0	96.18
9/01/70	summer	33.0	96.88
7/01/74	summer	34.0	97.57
8/01/74	summer	34.0	98.26
6/01/71	summer	35.0	98.96
7/01/71	summer	41.0	99.65

Date	Season	Water Temp (C)	Percentile
4/13/82	winter	15.0	68.18
3/15/83	winter	15.1	68.88
2/21/05	winter	15.1	69.58
11/14/88	winter	15.7	70.28
2/17/86	winter	15.8	70.98
4/01/02	winter	15.8	71.68
3/01/73	winter	16.0	72.38
4/06/77	winter	16.0	73.08
4/15/86	winter	16.5	73.78
11/01/72	winter	17.0	74.48
4/01/73	winter	17.0	75.17
2/01/74	winter	17.0	75.87
3/04/76	winter	17.0	76.57
4/10/84	winter	17.1	77.27
11/13/89	winter	17.1	77.97
3/17/86	winter	17.2	78.67
4/08/85	winter	17.7	79.37
3/13/89	winter	17.9	80.07
11/01/73	winter	18.0	80.77
11/03/77	winter	18.0	81.47
3/12/85	winter	18.4	82.17
12/01/73	winter	19.0	82.87
4/03/75	winter	19.0	83.57
4/19/05	winter	19.4	84.27
4/01/68	winter	20.0	84.97
4/01/69	winter	20.0	85.66
11/01/69	winter	20.0	86.36
2/01/71	winter	20.0	87.06
4/11/78	winter	20.0	87.76
11/18/85	winter	20.3	88.46
4/01/70	winter	21.0	89.16
3/01/71	winter	21.0	89.86
3/01/72	winter	21.0	90.56
4/17/79	winter	21.0	91.26
4/13/87	winter	21.5	91.96
12/01/70	winter	22.0	92.66
1/01/71	winter	22.0	93.36
11/14/78	winter	22.0	94.06
4/13/81	winter	22.5	94.76
11/01/70	winter	23.0	95.45
4/01/67	winter	24.0	96.15
11/01/71	winter	24.0	96.85
4/01/72	winter	24.0	97.55
4/01/71	winter	25.0	98.25
4/01/74	winter	25.0	98.95
3/01/74	winter	27.0	99.65

FILE: R:\PROJECTS\2110-616\TECH\90TH PERC TEMPS\STN 1207-90TH PERC TEMP, BOGGY BAYOU.XLS

Table G.1 90th Percentile Temperature Calculations for Station 0011

Table G.2. Calculations for 90th percentile temperatures for Boggy Bayou (LDEQ 1207)

Boggy Bayou (LDEQ 1207)			Black Bayou (Station 0011)		
Date	Water Temp (C)	Season	Date	Water Temp (C)	Season
1/7/02	6.03	winter	1/8/02	3.8	winter
2/5/02	8.78	winter	2/4/02	9.21	winter
3/5/02	7.65	winter	3/4/02	3.31	winter
4/2/02	17.62	winter	4/1/02	15.82	winter
5/7/02	24.83	summer	5/6/02	20.58	summer
6/4/02	28.28	summer	6/3/02	24.5	summer
7/9/02	29.96	summer	7/8/02	27.31	summer
8/6/02	29.45	summer	8/13/02	27.09	summer
9/10/02	27.02	summer	9/9/02	25.81	summer
Oct 2002	no data	--	10/7/02	22.68	summer
11/6/02	12.59	winter	11/20/02	11.41	winter
12/3/02	9.77	winter	12/2/02	7.65	winter
1/13/04	8.39	winter	Jan 2004	no data	--
2/3/04	8.79	winter	Jan 2004	no data	--
3/9/04	16.10	winter	Jan 2004	no data	--
4/7/04	17.41	winter	Jan 2004	no data	--
Dec 2004	no data	--	12/8/04	11.1	winter

SUMMER (May - October)

Averages for summer months in which both stations were sampled (May-Sep 2002):
Boggy = 27.9 C Black = 25.1 C

Difference between stations = 2.8 C

From Table G.1, 90th percentile summer temperature for Black Bayou = 30.1 C

Adjusted 90th percentile temp for Boggy Bayou for summer = 30.1 + 2.8 = 32.9 C

WINTER (November - April)

Averages for winter months in which both stations were sampled (Jan-Apr 2002, Nov-Dec 2002):
Boggy = 10.4 C Black = 8.5 C

Difference between stations = 1.9 C

From Table G.1, 90th percentile winter temperature for Black Bayou = 21.0 C

Adjusted 90th percentile temp for Boggy Bayou for winter = 21.0 + 1.9 = 22.9 C

FILE: R:\PROJECTS\2110-616\TECH\90TH PERC TEMPS\STN 1207-90TH PERC TEMP, BOGGY BAYOU.XLS

APPENDIX H

Inflow DO Calculations for Projections

INFLOW DO CALCULATIONS FOR BOGGY BAYOU PROJECTIONS

ASSUMPTIONS: % saturation from calibration represents no reduction of NPS loads
100% saturation represents complete reduction of NPS loads

METHDOLOGY: First determine % saturation for calibration conditions, then calculate % saturation for projection conditions based on the assumptions above and the percent reductions specified for that projection. Then convert each % saturation to mg/L based on the projection temperature.

NPS REDUCTIONS: 46% for summer
0% for winter

Calibration:	Calib. Temp (C)	Calib. DO (mg/L)	DO at 100% sat. (mg/L)	% sat for calib.
Headwater inflow	27.2	4.40	7.94	55.4%
Unnamed tribs	27.2	4.40	7.94	55.4%
Gilmer Bayou	31.5	5.20	7.36	70.6%

Summer projection:	% sat for proj.	Proj. temp (C)	DO at 100% sat. (mg/L)	Proj. input DO (mg/L)
Headwater inflow	75.9%	32.0	7.30	5.54
Unnamed tribs	75.9%	32.0	7.30	5.54
Gilmer Bayou	84.1%	32.0	7.30	6.14

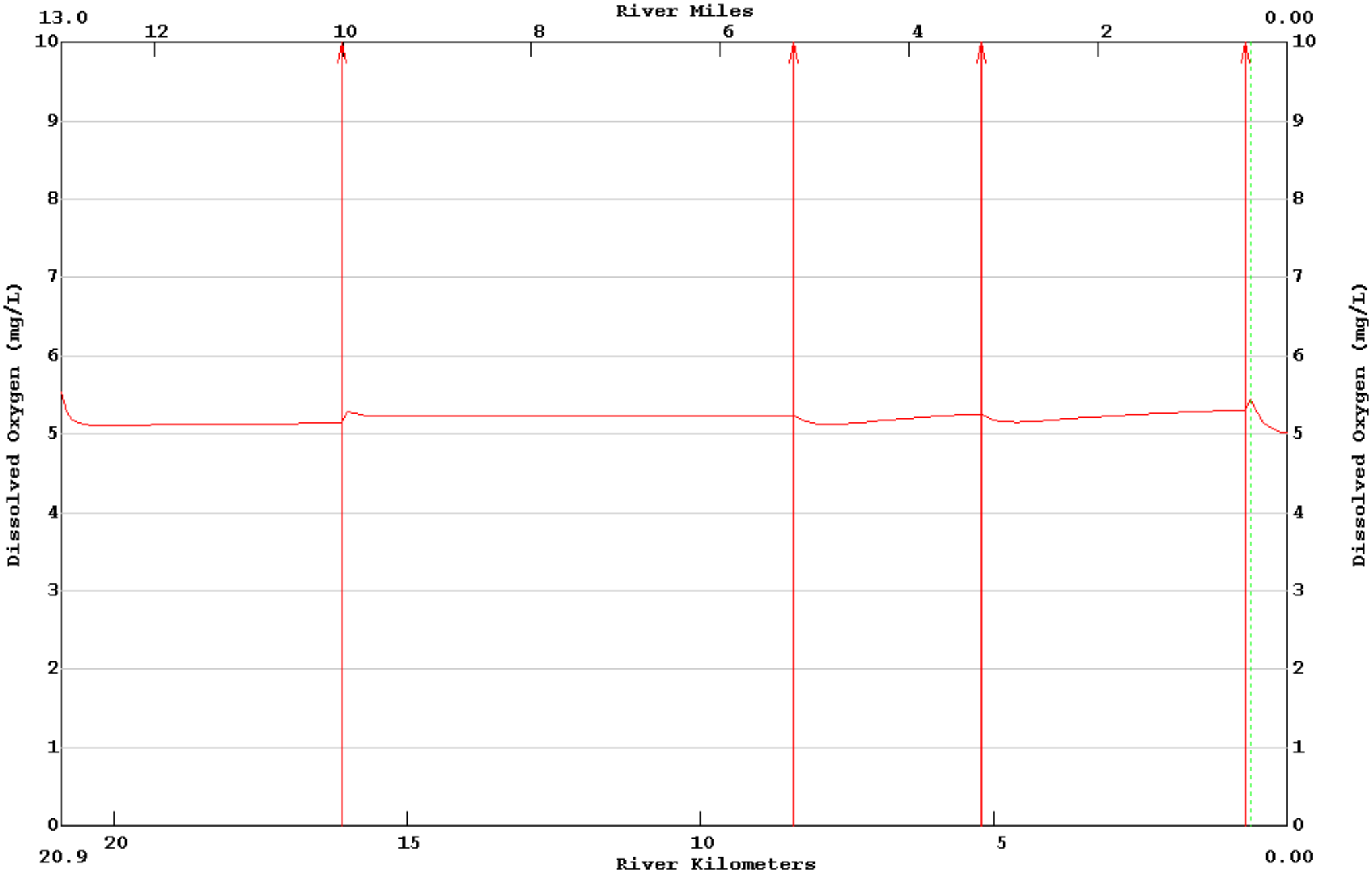
Winter projection:	% sat for proj.	Proj. temp (C)	DO at 100% sat. (mg/L)	Proj. input DO (mg/L)
Headwater inflow	55.4%	22.9	8.60	4.76
Unnamed tribs	55.4%	22.9	8.60	4.76
Gilmer Bayou	70.6%	22.9	8.60	6.07

FILE: R:\PROJECTS\2110-616\TECH\LA-QUAL\BOGGY\PROJECTION_INPUTS.XLS

APPENDIX I

LA-QUAL Output for Summer Projection

LA-QUAL Version 8.11 Run at 12:58 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\bogsum.txt
Summer Projection with 46% NPS reduction min= 5.02 max= 5.54
LA-QUAL Model for Boggy Bayou (100602)



```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\bogsum.txt
Output produced at 12:58 on 09/28/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL Model for Boggy Bayou (100602)
TITLE02         Summer Projection with 46% NPS reduction
CNTROL03  YES   METR
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMPERATURE
MODOPT02   NO   SALINITY
MODOPT03   NO   CONSERVATIVE MATERIAL #1                       UNITS =
MODOPT04   NO   CONSERVATIVE MATERIAL #2                       UNITS =
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND #1
MODOPT07   NO   BOD2 BIOCHEMICAL OXYGEN DEMAND #2
MODOPT08  YES   NITROGEN SERIES
MODOPT09   NO   PHOSPHORUS
MODOPT10   NO   CHLOROPHYLL A
MODOPT11   NO   MACROPHYTES
MODOPT12   NO   COLIFORMS
MODOPT13   NO   NONCONSERVATIVE MATERIAL                       UNITS =
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                     VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =        2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =      200.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                     VALUE
```

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$

CARD TYPE	REACH ID	NAME	BEGIN REACH km		END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1 B1	Boggy Bayou u/s of Gilmer	20.90	TO	0.60	0.1000	20.30	203	1	203
REACH ID	2 B2	Boggy Bayou d/s of Gilmer	0.60	TO	0.00	0.1000	0.60	6	204	209

ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1 B1	4.100	0.000	0.000	0.280	0.000	0.000	0.00000	0.000
HYDR-1	2 B2	9.100	0.000	0.000	0.160	0.000	0.000	0.00000	0.000

ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"

ENDATA10

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

CARD TYPE	REACH ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1 B1	32.00	0.00	5.00	0.05	0.03	0.00	0.00	0.00
INITIAL	2 B2	32.00	0.00	5.00	0.05	0.03	0.00	0.00	0.00

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

CARD	RCH	RCH K2	K2	K2	K2	BKGRND	BOD	BOD	BOD CONV	ANAER BOD2	BOD2	BOD2	BOD2 CONV	ANAER BOD2

```
TYPE     NUM   ID  OPT                  "A"       "B"       "C"       SOD      DECAY      SETT    TO SOD      DECAY      DECAY      SETT    TO SOD      DECAY
                                                                    g/m²/d    per day       m/d               per day    per day       m/d               per day

COEFF-1    1   B1  15 LOUISIANA       0.000     0.000     0.000     0.810     0.055     0.000     0.000     0.000     0.000     0.000     0.000     0.000
COEFF-1    2   B2  15 LOUISIANA       0.000     0.000     0.000     1.030     0.055     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

CARD TYPE      REACH  ID       ORG-N     ORG-N   ORGN CONV       NH3       NH3      PHOS     DENIT
                               DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEFF-2            1   B1      0.020     0.000     1.000       0.180     0.000     0.000     0.000
COEFF-2            2   B2      0.020     0.000     1.000       0.080     0.000     0.000     0.000
ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

CARD TYPE      REACH  ID       SECCHI    ALGAE:     ALGAE    ALG CONV     ALGAE     ALGAE     MACRO     MACRO
                               DEPTH     CHL A      SETT     TO SOD      GROW      RESP      GROW      RESP   SHADING

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF      DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP      SALIN      CM-I      CM-II    IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD      ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS      CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO      BOD#2
```

```
NONPOINT          1   B1       10.80      0.43      0.00      0.00      0.00      0.00
NONPOINT          2   B2        0.00      0.00      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m3/s      cfs   deg C      ppt

HDWTR-1           1     Boggy Bayou              0   0.00283    0.100    0.00     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO      BOD#1     ORG-N     NH3-N     NO3-N     BOD#2
                                                    mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     Boggy Bayou               5.54      6.48      0.95      0.03      0.00      0.00
ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                      PHOS      CHL A       COLI       NCM
                                                  mg/L       mg/L       mg/L       mg/L

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE  ELEMENT    RKILO  NAME                      FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                       m3/s        cfs      MGD   deg C      ppt

WSTLD-1       49      16.10  NPS Unnamed Trib 1     0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
WSTLD-1      126       8.40  NPS Unnamed Trib 2     0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
WSTLD-1      126       8.40  LaLaurie Ln Ox Pond    0.00329    0.11617    0.075    0.00     0.00     0.000     0.000
WSTLD-1      158       5.20  Grawood Church         0.00033    0.01165    0.008    0.00     0.00     0.000     0.000
WSTLD-1      203       0.70  NPS Gilmer Bayou       0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                          % BOD                          %
CARD TYPE     ELEMENT   NAME                        DO       BOD       RMVL      ORG-N     NH3-N    NITRIF     NO3-N     BOD#2
                                                    mg/L      mg/L                  mg/L      mg/L                 mg/L      mg/L
```

```
WSTLD-2          49     NPS Unnamed Trib 1          5.54      6.48      0.00      0.95      0.03      0.00      0.00      0.00
WSTLD-2         126     NPS Unnamed Trib 2          5.54      6.48      0.00      0.95      0.03      0.00      0.00      0.00
WSTLD-2         126     LaLaurie Ln Ox Pond         5.00     23.00      0.00      3.30      1.70      0.00      0.00      0.00
WSTLD-2         158     Grawood Church              5.00     69.00      0.00      5.00     10.00      0.00      0.00      0.00
WSTLD-2         203     NPS Gilmer Bayou            6.14      7.29      0.00      0.78      0.03      0.00      0.00      0.00
ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                        PHOS      CHL A      COLI       NCM
                                                    mg/L       mg/L      mg/L      mg/L

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

CARD TYPE    CONSTITUENT                    CONCENTRATION

ENDATA27

$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN       "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   2
PLOT RCH  1  2
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
```

.....OXYGEN DEPENDENT RATES CONVERGENT IN 2 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
.....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

FINAL REPORT Boggy Bayou LA-QUAL Model for Boggy Bayou (100602)
REACH NO. 1 Boggy Bayou u/s of Gilmer Summer Projection with 46% NPS reduction

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
49	WSTLD	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
126	WSTLD	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
126	WSTLD	0.00329	0.00	0.00	0.00	0.00	5.00	23.00	0.00	23.00	0.00	3.30	1.70	0.00	0.00	0.00	0.00	0.00
158	WSTLD	0.00033	0.00	0.00	0.00	0.00	5.00	69.00	0.00	69.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00	0.00
203	WSTLD	0.00283	0.00	0.00	0.00	0.00	6.14	7.29	0.00	7.29	0.00	0.78	0.03	0.00	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
1	20.90	20.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
2	20.80	20.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
3	20.70	20.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
4	20.60	20.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
5	20.50	20.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
6	20.40	20.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
7	20.30	20.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
8	20.20	20.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
9	20.10	20.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
10	20.00	19.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
11	19.90	19.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
12	19.80	19.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
13	19.70	19.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
14	19.60	19.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
15	19.50	19.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
16	19.40	19.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
17	19.30	19.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
18	19.20	19.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
19	19.10	19.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
20	19.00	18.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
21	18.90	18.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
22	18.80	18.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
23	18.70	18.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002

24	18.60	18.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
25	18.50	18.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
26	18.40	18.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
27	18.30	18.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
28	18.20	18.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
29	18.10	18.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
30	18.00	17.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
31	17.90	17.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
32	17.80	17.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
33	17.70	17.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
34	17.60	17.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
35	17.50	17.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
36	17.40	17.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
37	17.30	17.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
38	17.20	17.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
39	17.10	17.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
40	17.00	16.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
41	16.90	16.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
42	16.80	16.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
43	16.70	16.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
44	16.60	16.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
45	16.50	16.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
46	16.40	16.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
47	16.30	16.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
48	16.20	16.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
49	16.10	16.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
50	16.00	15.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
51	15.90	15.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
52	15.80	15.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
53	15.70	15.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
54	15.60	15.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
55	15.50	15.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
56	15.40	15.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
57	15.30	15.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
58	15.20	15.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
59	15.10	15.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
60	15.00	14.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
61	14.90	14.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
62	14.80	14.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
63	14.70	14.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
64	14.60	14.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
65	14.50	14.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
66	14.40	14.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
67	14.30	14.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
68	14.20	14.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
69	14.10	14.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
70	14.00	13.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
71	13.90	13.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
72	13.80	13.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
73	13.70	13.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
74	13.60	13.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005

75	13.50	13.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
76	13.40	13.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
77	13.30	13.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
78	13.20	13.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
79	13.10	13.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
80	13.00	12.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
81	12.90	12.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
82	12.80	12.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
83	12.70	12.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
84	12.60	12.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
85	12.50	12.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
86	12.40	12.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
87	12.30	12.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
88	12.20	12.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
89	12.10	12.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
90	12.00	11.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
91	11.90	11.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
92	11.80	11.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
93	11.70	11.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
94	11.60	11.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
95	11.50	11.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
96	11.40	11.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
97	11.30	11.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
98	11.20	11.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
99	11.10	11.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
100	11.00	10.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
101	10.90	10.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
102	10.80	10.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
103	10.70	10.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
104	10.60	10.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
105	10.50	10.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
106	10.40	10.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
107	10.30	10.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
108	10.20	10.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
109	10.10	10.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
110	10.00	9.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
111	9.90	9.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
112	9.80	9.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
113	9.70	9.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
114	9.60	9.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
115	9.50	9.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
116	9.40	9.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
117	9.30	9.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
118	9.20	9.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
119	9.10	9.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
120	9.00	8.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
121	8.90	8.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
122	8.80	8.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
123	8.70	8.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
124	8.60	8.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
125	8.50	8.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005

126	8.40	8.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
127	8.30	8.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
128	8.20	8.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
129	8.10	8.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
130	8.00	7.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
131	7.90	7.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
132	7.80	7.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
133	7.70	7.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
134	7.60	7.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
135	7.50	7.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
136	7.40	7.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
137	7.30	7.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
138	7.20	7.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
139	7.10	7.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
140	7.00	6.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
141	6.90	6.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
142	6.80	6.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
143	6.70	6.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
144	6.60	6.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
145	6.50	6.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
146	6.40	6.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
147	6.30	6.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
148	6.20	6.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
149	6.10	6.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
150	6.00	5.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
151	5.90	5.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
152	5.80	5.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
153	5.70	5.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
154	5.60	5.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
155	5.50	5.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
156	5.40	5.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
157	5.30	5.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
158	5.20	5.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
159	5.10	5.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
160	5.00	4.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
161	4.90	4.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
162	4.80	4.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
163	4.70	4.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
164	4.60	4.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
165	4.50	4.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
166	4.40	4.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
167	4.30	4.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
168	4.20	4.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
169	4.10	4.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
170	4.00	3.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
171	3.90	3.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
172	3.80	3.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
173	3.70	3.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
174	3.60	3.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
175	3.50	3.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
176	3.40	3.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011

177	3.30	3.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
178	3.20	3.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
179	3.10	3.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
180	3.00	2.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
181	2.90	2.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
182	2.80	2.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
183	2.70	2.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
184	2.60	2.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
185	2.50	2.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
186	2.40	2.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
187	2.30	2.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
188	2.20	2.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
189	2.10	2.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
190	2.00	1.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
191	1.90	1.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
192	1.80	1.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
193	1.70	1.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
194	1.60	1.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
195	1.50	1.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
196	1.40	1.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
197	1.30	1.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
198	1.20	1.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
199	1.10	1.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
200	1.00	0.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
201	0.90	0.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
202	0.80	0.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
203	0.70	0.60	0.01494	81.1	0.01301	0.09	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.013
TOT						49.25			23304.43	83230.00					
AVG					0.0048		0.28	4.10			1.15				
CUM						49.25									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
1	20.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	20.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	20.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	20.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	20.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	20.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	20.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	20.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	20.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	19.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	19.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	19.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

13	19.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	19.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	19.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	19.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	19.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	19.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	19.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	18.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	18.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	18.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	18.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	18.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	18.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	18.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	18.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	18.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	18.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	17.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	17.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	17.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	17.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	17.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	17.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	17.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	17.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	17.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	17.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	16.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	16.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	16.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	16.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	16.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	16.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	16.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	16.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	16.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	16.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	15.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	15.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	15.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	15.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	15.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	15.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	15.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	15.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	15.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	15.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	14.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	14.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	14.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	14.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

64	14.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	14.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	14.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	14.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	14.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	14.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	13.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	13.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	13.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	13.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	13.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	13.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	13.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	13.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	13.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	13.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	12.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	12.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	12.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	12.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	12.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	12.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	12.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	12.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	12.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	12.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	11.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	11.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	11.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	11.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	11.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	11.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	11.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	11.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	11.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	11.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	10.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	10.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	10.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	10.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	10.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	10.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	10.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	10.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	10.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	10.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	9.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	9.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	9.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	9.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	9.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

115	9.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	9.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	9.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	9.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	9.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	8.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	8.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	8.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	8.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124	8.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	8.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	8.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	8.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	8.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	8.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	7.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	7.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	7.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	7.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	7.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	7.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	7.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	7.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	7.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	7.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	6.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	6.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	6.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	6.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	6.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	6.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	6.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	6.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	6.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	6.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	5.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	5.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	5.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	5.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	5.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	5.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	5.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	5.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	5.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	5.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	4.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	4.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	4.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	4.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	4.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	4.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

166	4.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	4.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	4.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
169	4.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	3.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	3.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172	3.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
173	3.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	3.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	3.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176	3.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	3.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
178	3.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179	3.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	2.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
181	2.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
182	2.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
183	2.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184	2.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	2.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186	2.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
187	2.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
188	2.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
189	2.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190	1.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	1.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
192	1.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
193	1.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
194	1.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
195	1.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
196	1.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
197	1.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
198	1.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	1.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200	0.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
201	0.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202	0.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
203	0.600	7.30	3.78	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.70	0.05	0.00	0.00	0.00	0.00	0.00	0.81			0.02	0.00	0.18	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	20.800	32.00	0.00	0.00	0.00	5.28	6.41	0.00	6.41	0.00	0.95	0.03	0.01	0.99	0.00	0.00	0.00	0.	0.00
2	20.700	32.00	0.00	0.00	0.00	5.18	6.34	0.00	6.34	0.00	0.94	0.04	0.01	0.99	0.00	0.00	0.00	0.	0.00

3	20.600	32.00	0.00	0.00	0.00	5.14	6.28	0.00	6.28	0.00	0.94	0.04	0.02	1.00	0.00	0.00	0.00	0.	0.00
4	20.500	32.00	0.00	0.00	0.00	5.12	6.22	0.00	6.22	0.00	0.94	0.04	0.03	1.01	0.00	0.00	0.00	0.	0.00
5	20.400	32.00	0.00	0.00	0.00	5.11	6.16	0.00	6.16	0.00	0.94	0.04	0.04	1.02	0.00	0.00	0.00	0.	0.00
6	20.300	32.00	0.00	0.00	0.00	5.11	6.10	0.00	6.10	0.00	0.93	0.05	0.05	1.03	0.00	0.00	0.00	0.	0.00
7	20.200	32.00	0.00	0.00	0.00	5.11	6.05	0.00	6.05	0.00	0.93	0.05	0.06	1.04	0.00	0.00	0.00	0.	0.00
8	20.100	32.00	0.00	0.00	0.00	5.11	6.00	0.00	6.00	0.00	0.93	0.05	0.07	1.05	0.00	0.00	0.00	0.	0.00
9	20.000	32.00	0.00	0.00	0.00	5.11	5.95	0.00	5.95	0.00	0.93	0.05	0.08	1.05	0.00	0.00	0.00	0.	0.00
10	19.900	32.00	0.00	0.00	0.00	5.11	5.90	0.00	5.90	0.00	0.93	0.05	0.09	1.06	0.00	0.00	0.00	0.	0.00
11	19.800	32.00	0.00	0.00	0.00	5.11	5.86	0.00	5.86	0.00	0.92	0.05	0.10	1.07	0.00	0.00	0.00	0.	0.00
12	19.700	32.00	0.00	0.00	0.00	5.12	5.82	0.00	5.82	0.00	0.92	0.05	0.11	1.08	0.00	0.00	0.00	0.	0.00
13	19.600	32.00	0.00	0.00	0.00	5.12	5.77	0.00	5.77	0.00	0.92	0.05	0.12	1.09	0.00	0.00	0.00	0.	0.00
14	19.500	32.00	0.00	0.00	0.00	5.12	5.74	0.00	5.74	0.00	0.92	0.05	0.13	1.10	0.00	0.00	0.00	0.	0.00
15	19.400	32.00	0.00	0.00	0.00	5.12	5.70	0.00	5.70	0.00	0.91	0.05	0.14	1.11	0.00	0.00	0.00	0.	0.00
16	19.300	32.00	0.00	0.00	0.00	5.12	5.66	0.00	5.66	0.00	0.91	0.05	0.15	1.12	0.00	0.00	0.00	0.	0.00
17	19.200	32.00	0.00	0.00	0.00	5.12	5.63	0.00	5.63	0.00	0.91	0.05	0.16	1.12	0.00	0.00	0.00	0.	0.00
18	19.100	32.00	0.00	0.00	0.00	5.12	5.59	0.00	5.59	0.00	0.91	0.05	0.17	1.13	0.00	0.00	0.00	0.	0.00
19	19.000	32.00	0.00	0.00	0.00	5.12	5.56	0.00	5.56	0.00	0.91	0.05	0.18	1.14	0.00	0.00	0.00	0.	0.00
20	18.900	32.00	0.00	0.00	0.00	5.12	5.53	0.00	5.53	0.00	0.90	0.05	0.19	1.15	0.00	0.00	0.00	0.	0.00
21	18.800	32.00	0.00	0.00	0.00	5.12	5.50	0.00	5.50	0.00	0.90	0.05	0.20	1.16	0.00	0.00	0.00	0.	0.00
22	18.700	32.00	0.00	0.00	0.00	5.12	5.48	0.00	5.48	0.00	0.90	0.05	0.22	1.17	0.00	0.00	0.00	0.	0.00
23	18.600	32.00	0.00	0.00	0.00	5.13	5.45	0.00	5.45	0.00	0.90	0.05	0.23	1.18	0.00	0.00	0.00	0.	0.00
24	18.500	32.00	0.00	0.00	0.00	5.13	5.42	0.00	5.42	0.00	0.89	0.05	0.24	1.18	0.00	0.00	0.00	0.	0.00
25	18.400	32.00	0.00	0.00	0.00	5.13	5.40	0.00	5.40	0.00	0.89	0.05	0.25	1.19	0.00	0.00	0.00	0.	0.00
26	18.300	32.00	0.00	0.00	0.00	5.13	5.38	0.00	5.38	0.00	0.89	0.05	0.26	1.20	0.00	0.00	0.00	0.	0.00
27	18.200	32.00	0.00	0.00	0.00	5.13	5.35	0.00	5.35	0.00	0.89	0.05	0.27	1.21	0.00	0.00	0.00	0.	0.00
28	18.100	32.00	0.00	0.00	0.00	5.13	5.33	0.00	5.33	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
29	18.000	32.00	0.00	0.00	0.00	5.13	5.31	0.00	5.31	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
30	17.900	32.00	0.00	0.00	0.00	5.13	5.29	0.00	5.29	0.00	0.88	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
31	17.800	32.00	0.00	0.00	0.00	5.13	5.27	0.00	5.27	0.00	0.88	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
32	17.700	32.00	0.00	0.00	0.00	5.13	5.26	0.00	5.26	0.00	0.88	0.05	0.32	1.25	0.00	0.00	0.00	0.	0.00
33	17.600	32.00	0.00	0.00	0.00	5.13	5.24	0.00	5.24	0.00	0.88	0.05	0.33	1.26	0.00	0.00	0.00	0.	0.00
34	17.500	32.00	0.00	0.00	0.00	5.13	5.22	0.00	5.22	0.00	0.88	0.05	0.34	1.27	0.00	0.00	0.00	0.	0.00
35	17.400	32.00	0.00	0.00	0.00	5.13	5.21	0.00	5.21	0.00	0.87	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
36	17.300	32.00	0.00	0.00	0.00	5.13	5.19	0.00	5.19	0.00	0.87	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
37	17.200	32.00	0.00	0.00	0.00	5.14	5.18	0.00	5.18	0.00	0.87	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
38	17.100	32.00	0.00	0.00	0.00	5.14	5.16	0.00	5.16	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
39	17.000	32.00	0.00	0.00	0.00	5.14	5.15	0.00	5.15	0.00	0.87	0.05	0.40	1.31	0.00	0.00	0.00	0.	0.00
40	16.900	32.00	0.00	0.00	0.00	5.14	5.14	0.00	5.14	0.00	0.87	0.05	0.41	1.32	0.00	0.00	0.00	0.	0.00
41	16.800	32.00	0.00	0.00	0.00	5.14	5.13	0.00	5.13	0.00	0.86	0.05	0.42	1.33	0.00	0.00	0.00	0.	0.00
42	16.700	32.00	0.00	0.00	0.00	5.14	5.11	0.00	5.11	0.00	0.86	0.05	0.43	1.34	0.00	0.00	0.00	0.	0.00
43	16.600	32.00	0.00	0.00	0.00	5.14	5.10	0.00	5.10	0.00	0.86	0.05	0.44	1.35	0.00	0.00	0.00	0.	0.00
44	16.500	32.00	0.00	0.00	0.00	5.14	5.09	0.00	5.09	0.00	0.86	0.05	0.45	1.36	0.00	0.00	0.00	0.	0.00
45	16.400	32.00	0.00	0.00	0.00	5.14	5.08	0.00	5.08	0.00	0.86	0.05	0.46	1.37	0.00	0.00	0.00	0.	0.00
46	16.300	32.00	0.00	0.00	0.00	5.14	5.07	0.00	5.07	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
47	16.200	32.00	0.00	0.00	0.00	5.14	5.06	0.00	5.06	0.00	0.86	0.05	0.48	1.38	0.00	0.00	0.00	0.	0.00
48	16.100	32.00	0.00	0.00	0.00	5.14	5.05	0.00	5.05	0.00	0.85	0.05	0.49	1.39	0.00	0.00	0.00	0.	0.00
49	16.000	32.00	0.00	0.00	0.00	5.29	5.75	0.00	5.75	0.00	0.90	0.04	0.25	1.19	0.00	0.00	0.00	0.	0.00
50	15.900	32.00	0.00	0.00	0.00	5.26	5.73	0.00	5.73	0.00	0.90	0.04	0.25	1.19	0.00	0.00	0.00	0.	0.00
51	15.800	32.00	0.00	0.00	0.00	5.25	5.71	0.00	5.71	0.00	0.90	0.04	0.26	1.20	0.00	0.00	0.00	0.	0.00
52	15.700	32.00	0.00	0.00	0.00	5.24	5.69	0.00	5.69	0.00	0.90	0.04	0.26	1.20	0.00	0.00	0.00	0.	0.00
53	15.600	32.00	0.00	0.00	0.00	5.23	5.67	0.00	5.67	0.00	0.90	0.04	0.27	1.21	0.00	0.00	0.00	0.	0.00

54	15.500	32.00	0.00	0.00	0.00	5.23	5.65	0.00	5.65	0.00	0.90	0.05	0.27	1.21	0.00	0.00	0.00	0.	0.00
55	15.400	32.00	0.00	0.00	0.00	5.23	5.64	0.00	5.64	0.00	0.89	0.05	0.27	1.22	0.00	0.00	0.00	0.	0.00
56	15.300	32.00	0.00	0.00	0.00	5.23	5.62	0.00	5.62	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
57	15.200	32.00	0.00	0.00	0.00	5.23	5.60	0.00	5.60	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
58	15.100	32.00	0.00	0.00	0.00	5.23	5.59	0.00	5.59	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
59	15.000	32.00	0.00	0.00	0.00	5.23	5.57	0.00	5.57	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
60	14.900	32.00	0.00	0.00	0.00	5.23	5.55	0.00	5.55	0.00	0.89	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
61	14.800	32.00	0.00	0.00	0.00	5.23	5.54	0.00	5.54	0.00	0.89	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
62	14.700	32.00	0.00	0.00	0.00	5.23	5.52	0.00	5.52	0.00	0.89	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
63	14.600	32.00	0.00	0.00	0.00	5.23	5.51	0.00	5.51	0.00	0.89	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
64	14.500	32.00	0.00	0.00	0.00	5.23	5.49	0.00	5.49	0.00	0.89	0.05	0.32	1.25	0.00	0.00	0.00	0.	0.00
65	14.400	32.00	0.00	0.00	0.00	5.23	5.48	0.00	5.48	0.00	0.89	0.05	0.32	1.26	0.00	0.00	0.00	0.	0.00
66	14.300	32.00	0.00	0.00	0.00	5.23	5.47	0.00	5.47	0.00	0.88	0.05	0.33	1.26	0.00	0.00	0.00	0.	0.00
67	14.200	32.00	0.00	0.00	0.00	5.23	5.45	0.00	5.45	0.00	0.88	0.05	0.33	1.27	0.00	0.00	0.00	0.	0.00
68	14.100	32.00	0.00	0.00	0.00	5.23	5.44	0.00	5.44	0.00	0.88	0.05	0.34	1.27	0.00	0.00	0.00	0.	0.00
69	14.000	32.00	0.00	0.00	0.00	5.23	5.43	0.00	5.43	0.00	0.88	0.05	0.34	1.28	0.00	0.00	0.00	0.	0.00
70	13.900	32.00	0.00	0.00	0.00	5.23	5.42	0.00	5.42	0.00	0.88	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
71	13.800	32.00	0.00	0.00	0.00	5.23	5.40	0.00	5.40	0.00	0.88	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
72	13.700	32.00	0.00	0.00	0.00	5.23	5.39	0.00	5.39	0.00	0.88	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
73	13.600	32.00	0.00	0.00	0.00	5.23	5.38	0.00	5.38	0.00	0.88	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
74	13.500	32.00	0.00	0.00	0.00	5.23	5.37	0.00	5.37	0.00	0.88	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
75	13.400	32.00	0.00	0.00	0.00	5.23	5.36	0.00	5.36	0.00	0.88	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
76	13.300	32.00	0.00	0.00	0.00	5.23	5.35	0.00	5.35	0.00	0.88	0.05	0.38	1.31	0.00	0.00	0.00	0.	0.00
77	13.200	32.00	0.00	0.00	0.00	5.23	5.34	0.00	5.34	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
78	13.100	32.00	0.00	0.00	0.00	5.23	5.32	0.00	5.32	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
79	13.000	32.00	0.00	0.00	0.00	5.23	5.31	0.00	5.31	0.00	0.87	0.05	0.40	1.32	0.00	0.00	0.00	0.	0.00
80	12.900	32.00	0.00	0.00	0.00	5.23	5.30	0.00	5.30	0.00	0.87	0.05	0.40	1.32	0.00	0.00	0.00	0.	0.00
81	12.800	32.00	0.00	0.00	0.00	5.23	5.29	0.00	5.29	0.00	0.87	0.05	0.41	1.33	0.00	0.00	0.00	0.	0.00
82	12.700	32.00	0.00	0.00	0.00	5.23	5.28	0.00	5.28	0.00	0.87	0.05	0.41	1.33	0.00	0.00	0.00	0.	0.00
83	12.600	32.00	0.00	0.00	0.00	5.23	5.28	0.00	5.28	0.00	0.87	0.05	0.42	1.34	0.00	0.00	0.00	0.	0.00
84	12.500	32.00	0.00	0.00	0.00	5.23	5.27	0.00	5.27	0.00	0.87	0.05	0.42	1.34	0.00	0.00	0.00	0.	0.00
85	12.400	32.00	0.00	0.00	0.00	5.23	5.26	0.00	5.26	0.00	0.87	0.05	0.43	1.35	0.00	0.00	0.00	0.	0.00
86	12.300	32.00	0.00	0.00	0.00	5.24	5.25	0.00	5.25	0.00	0.87	0.05	0.43	1.35	0.00	0.00	0.00	0.	0.00
87	12.200	32.00	0.00	0.00	0.00	5.24	5.24	0.00	5.24	0.00	0.87	0.05	0.44	1.35	0.00	0.00	0.00	0.	0.00
88	12.100	32.00	0.00	0.00	0.00	5.24	5.23	0.00	5.23	0.00	0.86	0.05	0.44	1.36	0.00	0.00	0.00	0.	0.00
89	12.000	32.00	0.00	0.00	0.00	5.24	5.22	0.00	5.22	0.00	0.86	0.05	0.45	1.36	0.00	0.00	0.00	0.	0.00
90	11.900	32.00	0.00	0.00	0.00	5.24	5.22	0.00	5.22	0.00	0.86	0.05	0.45	1.37	0.00	0.00	0.00	0.	0.00
91	11.800	32.00	0.00	0.00	0.00	5.24	5.21	0.00	5.21	0.00	0.86	0.05	0.46	1.37	0.00	0.00	0.00	0.	0.00
92	11.700	32.00	0.00	0.00	0.00	5.24	5.20	0.00	5.20	0.00	0.86	0.05	0.46	1.38	0.00	0.00	0.00	0.	0.00
93	11.600	32.00	0.00	0.00	0.00	5.24	5.19	0.00	5.19	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
94	11.500	32.00	0.00	0.00	0.00	5.24	5.18	0.00	5.18	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
95	11.400	32.00	0.00	0.00	0.00	5.24	5.18	0.00	5.18	0.00	0.86	0.05	0.48	1.39	0.00	0.00	0.00	0.	0.00
96	11.300	32.00	0.00	0.00	0.00	5.24	5.17	0.00	5.17	0.00	0.86	0.05	0.48	1.39	0.00	0.00	0.00	0.	0.00
97	11.200	32.00	0.00	0.00	0.00	5.24	5.16	0.00	5.16	0.00	0.86	0.05	0.49	1.40	0.00	0.00	0.00	0.	0.00
98	11.100	32.00	0.00	0.00	0.00	5.24	5.16	0.00	5.16	0.00	0.86	0.05	0.49	1.40	0.00	0.00	0.00	0.	0.00
99	11.000	32.00	0.00	0.00	0.00	5.24	5.15	0.00	5.15	0.00	0.86	0.05	0.50	1.41	0.00	0.00	0.00	0.	0.00
100	10.900	32.00	0.00	0.00	0.00	5.24	5.14	0.00	5.14	0.00	0.86	0.05	0.50	1.41	0.00	0.00	0.00	0.	0.00
101	10.800	32.00	0.00	0.00	0.00	5.24	5.14	0.00	5.14	0.00	0.85	0.05	0.51	1.41	0.00	0.00	0.00	0.	0.00
102	10.700	32.00	0.00	0.00	0.00	5.24	5.13	0.00	5.13	0.00	0.85	0.05	0.51	1.42	0.00	0.00	0.00	0.	0.00
103	10.600	32.00	0.00	0.00	0.00	5.24	5.13	0.00	5.13	0.00	0.85	0.05	0.52	1.42	0.00	0.00	0.00	0.	0.00
104	10.500	32.00	0.00	0.00	0.00	5.24	5.12	0.00	5.12	0.00	0.85	0.05	0.52	1.43	0.00	0.00	0.00	0.	0.00

105	10.400	32.00	0.00	0.00	0.00	5.24	5.11	0.00	5.11	0.00	0.85	0.05	0.53	1.43	0.00	0.00	0.00	0.	0.00
106	10.300	32.00	0.00	0.00	0.00	5.24	5.11	0.00	5.11	0.00	0.85	0.05	0.53	1.44	0.00	0.00	0.00	0.	0.00
107	10.200	32.00	0.00	0.00	0.00	5.24	5.10	0.00	5.10	0.00	0.85	0.05	0.54	1.44	0.00	0.00	0.00	0.	0.00
108	10.100	32.00	0.00	0.00	0.00	5.24	5.10	0.00	5.10	0.00	0.85	0.05	0.54	1.44	0.00	0.00	0.00	0.	0.00
109	10.000	32.00	0.00	0.00	0.00	5.24	5.09	0.00	5.09	0.00	0.85	0.05	0.55	1.45	0.00	0.00	0.00	0.	0.00
110	9.900	32.00	0.00	0.00	0.00	5.24	5.09	0.00	5.09	0.00	0.85	0.05	0.56	1.45	0.00	0.00	0.00	0.	0.00
111	9.800	32.00	0.00	0.00	0.00	5.24	5.08	0.00	5.08	0.00	0.85	0.05	0.56	1.46	0.00	0.00	0.00	0.	0.00
112	9.700	32.00	0.00	0.00	0.00	5.24	5.08	0.00	5.08	0.00	0.85	0.05	0.57	1.46	0.00	0.00	0.00	0.	0.00
113	9.600	32.00	0.00	0.00	0.00	5.24	5.07	0.00	5.07	0.00	0.85	0.05	0.57	1.47	0.00	0.00	0.00	0.	0.00
114	9.500	32.00	0.00	0.00	0.00	5.24	5.07	0.00	5.07	0.00	0.85	0.05	0.58	1.47	0.00	0.00	0.00	0.	0.00
115	9.400	32.00	0.00	0.00	0.00	5.24	5.06	0.00	5.06	0.00	0.84	0.05	0.58	1.48	0.00	0.00	0.00	0.	0.00
116	9.300	32.00	0.00	0.00	0.00	5.24	5.06	0.00	5.06	0.00	0.84	0.05	0.59	1.48	0.00	0.00	0.00	0.	0.00
117	9.200	32.00	0.00	0.00	0.00	5.24	5.05	0.00	5.05	0.00	0.84	0.05	0.59	1.48	0.00	0.00	0.00	0.	0.00
118	9.100	32.00	0.00	0.00	0.00	5.24	5.05	0.00	5.05	0.00	0.84	0.05	0.60	1.49	0.00	0.00	0.00	0.	0.00
119	9.000	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.60	1.49	0.00	0.00	0.00	0.	0.00
120	8.900	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.61	1.50	0.00	0.00	0.00	0.	0.00
121	8.800	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.61	1.50	0.00	0.00	0.00	0.	0.00
122	8.700	32.00	0.00	0.00	0.00	5.24	5.03	0.00	5.03	0.00	0.84	0.05	0.62	1.51	0.00	0.00	0.00	0.	0.00
123	8.600	32.00	0.00	0.00	0.00	5.24	5.03	0.00	5.03	0.00	0.84	0.05	0.62	1.51	0.00	0.00	0.00	0.	0.00
124	8.500	32.00	0.00	0.00	0.00	5.24	5.02	0.00	5.02	0.00	0.84	0.05	0.63	1.51	0.00	0.00	0.00	0.	0.00
125	8.400	32.00	0.00	0.00	0.00	5.24	5.02	0.00	5.02	0.00	0.84	0.05	0.63	1.52	0.00	0.00	0.00	0.	0.00
126	8.300	32.00	0.00	0.00	0.00	5.20	10.33	0.00	10.33	0.00	1.55	0.49	0.33	2.36	0.00	0.00	0.00	0.	0.00
127	8.200	32.00	0.00	0.00	0.00	5.16	10.28	0.00	10.28	0.00	1.55	0.47	0.35	2.36	0.00	0.00	0.00	0.	0.00
128	8.100	32.00	0.00	0.00	0.00	5.14	10.22	0.00	10.22	0.00	1.55	0.45	0.37	2.37	0.00	0.00	0.00	0.	0.00
129	8.000	32.00	0.00	0.00	0.00	5.13	10.16	0.00	10.16	0.00	1.54	0.43	0.39	2.37	0.00	0.00	0.00	0.	0.00
130	7.900	32.00	0.00	0.00	0.00	5.13	10.10	0.00	10.10	0.00	1.54	0.42	0.41	2.37	0.00	0.00	0.00	0.	0.00
131	7.800	32.00	0.00	0.00	0.00	5.12	10.05	0.00	10.05	0.00	1.54	0.40	0.43	2.37	0.00	0.00	0.00	0.	0.00
132	7.700	32.00	0.00	0.00	0.00	5.13	9.99	0.00	9.99	0.00	1.54	0.39	0.45	2.38	0.00	0.00	0.00	0.	0.00
133	7.600	32.00	0.00	0.00	0.00	5.13	9.94	0.00	9.94	0.00	1.53	0.37	0.47	2.38	0.00	0.00	0.00	0.	0.00
134	7.500	32.00	0.00	0.00	0.00	5.13	9.88	0.00	9.88	0.00	1.53	0.36	0.49	2.38	0.00	0.00	0.00	0.	0.00
135	7.400	32.00	0.00	0.00	0.00	5.14	9.83	0.00	9.83	0.00	1.53	0.35	0.50	2.38	0.00	0.00	0.00	0.	0.00
136	7.300	32.00	0.00	0.00	0.00	5.15	9.78	0.00	9.78	0.00	1.53	0.34	0.52	2.38	0.00	0.00	0.00	0.	0.00
137	7.200	32.00	0.00	0.00	0.00	5.15	9.73	0.00	9.73	0.00	1.52	0.33	0.54	2.39	0.00	0.00	0.00	0.	0.00
138	7.100	32.00	0.00	0.00	0.00	5.16	9.67	0.00	9.67	0.00	1.52	0.31	0.55	2.39	0.00	0.00	0.00	0.	0.00
139	7.000	32.00	0.00	0.00	0.00	5.17	9.62	0.00	9.62	0.00	1.52	0.30	0.57	2.39	0.00	0.00	0.00	0.	0.00
140	6.900	32.00	0.00	0.00	0.00	5.17	9.57	0.00	9.57	0.00	1.52	0.29	0.58	2.39	0.00	0.00	0.00	0.	0.00
141	6.800	32.00	0.00	0.00	0.00	5.18	9.52	0.00	9.52	0.00	1.52	0.28	0.59	2.39	0.00	0.00	0.00	0.	0.00
142	6.700	32.00	0.00	0.00	0.00	5.19	9.47	0.00	9.47	0.00	1.51	0.28	0.61	2.40	0.00	0.00	0.00	0.	0.00
143	6.600	32.00	0.00	0.00	0.00	5.19	9.42	0.00	9.42	0.00	1.51	0.27	0.62	2.40	0.00	0.00	0.00	0.	0.00
144	6.500	32.00	0.00	0.00	0.00	5.20	9.37	0.00	9.37	0.00	1.51	0.26	0.63	2.40	0.00	0.00	0.00	0.	0.00
145	6.400	32.00	0.00	0.00	0.00	5.20	9.33	0.00	9.33	0.00	1.51	0.25	0.64	2.40	0.00	0.00	0.00	0.	0.00
146	6.300	32.00	0.00	0.00	0.00	5.21	9.28	0.00	9.28	0.00	1.50	0.24	0.66	2.40	0.00	0.00	0.00	0.	0.00
147	6.200	32.00	0.00	0.00	0.00	5.22	9.23	0.00	9.23	0.00	1.50	0.24	0.67	2.41	0.00	0.00	0.00	0.	0.00
148	6.100	32.00	0.00	0.00	0.00	5.22	9.18	0.00	9.18	0.00	1.50	0.23	0.68	2.41	0.00	0.00	0.00	0.	0.00
149	6.000	32.00	0.00	0.00	0.00	5.23	9.14	0.00	9.14	0.00	1.50	0.22	0.69	2.41	0.00	0.00	0.00	0.	0.00
150	5.900	32.00	0.00	0.00	0.00	5.23	9.09	0.00	9.09	0.00	1.50	0.22	0.70	2.41	0.00	0.00	0.00	0.	0.00
151	5.800	32.00	0.00	0.00	0.00	5.24	9.05	0.00	9.05	0.00	1.49	0.21	0.71	2.41	0.00	0.00	0.00	0.	0.00
152	5.700	32.00	0.00	0.00	0.00	5.24	9.00	0.00	9.00	0.00	1.49	0.20	0.72	2.42	0.00	0.00	0.00	0.	0.00
153	5.600	32.00	0.00	0.00	0.00	5.24	8.96	0.00	8.96	0.00	1.49	0.20	0.73	2.42	0.00	0.00	0.00	0.	0.00
154	5.500	32.00	0.00	0.00	0.00	5.25	8.91	0.00	8.91	0.00	1.49	0.19	0.74	2.42	0.00	0.00	0.00	0.	0.00
155	5.400	32.00	0.00	0.00	0.00	5.25	8.87	0.00	8.87	0.00	1.48	0.19	0.75	2.42	0.00	0.00	0.00	0.	0.00

156	5.300	32.00	0.00	0.00	0.00	5.26	8.83	0.00	8.83	0.00	1.48	0.18	0.76	2.43	0.00	0.00	0.00	0.	0.00
157	5.200	32.00	0.00	0.00	0.00	5.26	8.79	0.00	8.79	0.00	1.48	0.18	0.77	2.43	0.00	0.00	0.00	0.	0.00
158	5.100	32.00	0.00	0.00	0.00	5.21	10.37	0.00	10.37	0.00	1.57	0.43	0.77	2.77	0.00	0.00	0.00	0.	0.00
159	5.000	32.00	0.00	0.00	0.00	5.19	10.31	0.00	10.31	0.00	1.57	0.42	0.79	2.77	0.00	0.00	0.00	0.	0.00
160	4.900	32.00	0.00	0.00	0.00	5.17	10.26	0.00	10.26	0.00	1.57	0.40	0.81	2.78	0.00	0.00	0.00	0.	0.00
161	4.800	32.00	0.00	0.00	0.00	5.16	10.20	0.00	10.20	0.00	1.57	0.39	0.82	2.78	0.00	0.00	0.00	0.	0.00
162	4.700	32.00	0.00	0.00	0.00	5.15	10.14	0.00	10.14	0.00	1.56	0.37	0.84	2.78	0.00	0.00	0.00	0.	0.00
163	4.600	32.00	0.00	0.00	0.00	5.15	10.09	0.00	10.09	0.00	1.56	0.36	0.86	2.78	0.00	0.00	0.00	0.	0.00
164	4.500	32.00	0.00	0.00	0.00	5.16	10.04	0.00	10.04	0.00	1.56	0.35	0.87	2.78	0.00	0.00	0.00	0.	0.00
165	4.400	32.00	0.00	0.00	0.00	5.16	9.98	0.00	9.98	0.00	1.56	0.34	0.89	2.79	0.00	0.00	0.00	0.	0.00
166	4.300	32.00	0.00	0.00	0.00	5.16	9.93	0.00	9.93	0.00	1.56	0.33	0.91	2.79	0.00	0.00	0.00	0.	0.00
167	4.200	32.00	0.00	0.00	0.00	5.17	9.88	0.00	9.88	0.00	1.55	0.32	0.92	2.79	0.00	0.00	0.00	0.	0.00
168	4.100	32.00	0.00	0.00	0.00	5.17	9.82	0.00	9.82	0.00	1.55	0.31	0.94	2.79	0.00	0.00	0.00	0.	0.00
169	4.000	32.00	0.00	0.00	0.00	5.18	9.77	0.00	9.77	0.00	1.55	0.30	0.95	2.79	0.00	0.00	0.00	0.	0.00
170	3.900	32.00	0.00	0.00	0.00	5.19	9.72	0.00	9.72	0.00	1.55	0.29	0.96	2.80	0.00	0.00	0.00	0.	0.00
171	3.800	32.00	0.00	0.00	0.00	5.19	9.67	0.00	9.67	0.00	1.54	0.28	0.98	2.80	0.00	0.00	0.00	0.	0.00
172	3.700	32.00	0.00	0.00	0.00	5.20	9.62	0.00	9.62	0.00	1.54	0.27	0.99	2.80	0.00	0.00	0.00	0.	0.00
173	3.600	32.00	0.00	0.00	0.00	5.20	9.57	0.00	9.57	0.00	1.54	0.26	1.00	2.80	0.00	0.00	0.00	0.	0.00
174	3.500	32.00	0.00	0.00	0.00	5.21	9.52	0.00	9.52	0.00	1.54	0.25	1.01	2.80	0.00	0.00	0.00	0.	0.00
175	3.400	32.00	0.00	0.00	0.00	5.21	9.47	0.00	9.47	0.00	1.53	0.25	1.02	2.81	0.00	0.00	0.00	0.	0.00
176	3.300	32.00	0.00	0.00	0.00	5.22	9.43	0.00	9.43	0.00	1.53	0.24	1.04	2.81	0.00	0.00	0.00	0.	0.00
177	3.200	32.00	0.00	0.00	0.00	5.22	9.38	0.00	9.38	0.00	1.53	0.23	1.05	2.81	0.00	0.00	0.00	0.	0.00
178	3.100	32.00	0.00	0.00	0.00	5.23	9.33	0.00	9.33	0.00	1.53	0.23	1.06	2.81	0.00	0.00	0.00	0.	0.00
179	3.000	32.00	0.00	0.00	0.00	5.23	9.29	0.00	9.29	0.00	1.53	0.22	1.07	2.81	0.00	0.00	0.00	0.	0.00
180	2.900	32.00	0.00	0.00	0.00	5.24	9.24	0.00	9.24	0.00	1.52	0.21	1.08	2.82	0.00	0.00	0.00	0.	0.00
181	2.800	32.00	0.00	0.00	0.00	5.24	9.19	0.00	9.19	0.00	1.52	0.21	1.09	2.82	0.00	0.00	0.00	0.	0.00
182	2.700	32.00	0.00	0.00	0.00	5.25	9.15	0.00	9.15	0.00	1.52	0.20	1.10	2.82	0.00	0.00	0.00	0.	0.00
183	2.600	32.00	0.00	0.00	0.00	5.25	9.11	0.00	9.11	0.00	1.52	0.20	1.11	2.82	0.00	0.00	0.00	0.	0.00
184	2.500	32.00	0.00	0.00	0.00	5.26	9.06	0.00	9.06	0.00	1.51	0.19	1.12	2.82	0.00	0.00	0.00	0.	0.00
185	2.400	32.00	0.00	0.00	0.00	5.26	9.02	0.00	9.02	0.00	1.51	0.19	1.13	2.83	0.00	0.00	0.00	0.	0.00
186	2.300	32.00	0.00	0.00	0.00	5.26	8.97	0.00	8.97	0.00	1.51	0.18	1.13	2.83	0.00	0.00	0.00	0.	0.00
187	2.200	32.00	0.00	0.00	0.00	5.27	8.93	0.00	8.93	0.00	1.51	0.18	1.14	2.83	0.00	0.00	0.00	0.	0.00
188	2.100	32.00	0.00	0.00	0.00	5.27	8.89	0.00	8.89	0.00	1.51	0.18	1.15	2.83	0.00	0.00	0.00	0.	0.00
189	2.000	32.00	0.00	0.00	0.00	5.27	8.85	0.00	8.85	0.00	1.50	0.17	1.16	2.83	0.00	0.00	0.00	0.	0.00
190	1.900	32.00	0.00	0.00	0.00	5.28	8.81	0.00	8.81	0.00	1.50	0.17	1.17	2.84	0.00	0.00	0.00	0.	0.00
191	1.800	32.00	0.00	0.00	0.00	5.28	8.77	0.00	8.77	0.00	1.50	0.16	1.17	2.84	0.00	0.00	0.00	0.	0.00
192	1.700	32.00	0.00	0.00	0.00	5.28	8.73	0.00	8.73	0.00	1.50	0.16	1.18	2.84	0.00	0.00	0.00	0.	0.00
193	1.600	32.00	0.00	0.00	0.00	5.29	8.69	0.00	8.69	0.00	1.50	0.16	1.19	2.84	0.00	0.00	0.00	0.	0.00
194	1.500	32.00	0.00	0.00	0.00	5.29	8.65	0.00	8.65	0.00	1.49	0.15	1.20	2.84	0.00	0.00	0.00	0.	0.00
195	1.400	32.00	0.00	0.00	0.00	5.29	8.61	0.00	8.61	0.00	1.49	0.15	1.20	2.85	0.00	0.00	0.00	0.	0.00
196	1.300	32.00	0.00	0.00	0.00	5.29	8.57	0.00	8.57	0.00	1.49	0.15	1.21	2.85	0.00	0.00	0.00	0.	0.00
197	1.200	32.00	0.00	0.00	0.00	5.30	8.53	0.00	8.53	0.00	1.49	0.15	1.22	2.85	0.00	0.00	0.00	0.	0.00
198	1.100	32.00	0.00	0.00	0.00	5.30	8.49	0.00	8.49	0.00	1.48	0.14	1.22	2.85	0.00	0.00	0.00	0.	0.00
199	1.000	32.00	0.00	0.00	0.00	5.30	8.45	0.00	8.45	0.00	1.48	0.14	1.23	2.85	0.00	0.00	0.00	0.	0.00
200	0.900	32.00	0.00	0.00	0.00	5.30	8.42	0.00	8.42	0.00	1.48	0.14	1.24	2.86	0.00	0.00	0.00	0.	0.00
201	0.800	32.00	0.00	0.00	0.00	5.31	8.38	0.00	8.38	0.00	1.48	0.14	1.24	2.86	0.00	0.00	0.00	0.	0.00
202	0.700	32.00	0.00	0.00	0.00	5.31	8.34	0.00	8.34	0.00	1.48	0.13	1.25	2.86	0.00	0.00	0.00	0.	0.00
203	0.600	32.00	0.00	0.00	0.00	5.45	8.12	0.00	8.12	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00

REACH NO. 2 Boggy Bayou d/s of Gilmer Summer Projection with 46% NPS reduction

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
204	UPR RCH	0.01494	32.00	0.00	0.00	0.00	5.45	8.12	0.00	8.12	0.00	1.34	0.11	1.02	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
204	0.60	0.50	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
205	0.50	0.40	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
206	0.40	0.30	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
207	0.30	0.20	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
208	0.20	0.10	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
209	0.10	0.00	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
TOT						0.68			873.60	5460.00					
AVG					0.0103		0.16	9.10			1.46				
CUM						49.92									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
204	0.500	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
205	0.400	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
206	0.300	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
207	0.200	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	0.100	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
209	0.000	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.07	0.05	0.00	0.00	0.00	0.00	0.00	1.03			0.02	0.00	0.08	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM

204	0.500	32.00	0.00	0.00	0.00	5.26	8.03	0.00	8.03	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00
205	0.400	32.00	0.00	0.00	0.00	5.15	7.94	0.00	7.94	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00
206	0.300	32.00	0.00	0.00	0.00	5.09	7.86	0.00	7.86	0.00	1.33	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
207	0.200	32.00	0.00	0.00	0.00	5.05	7.78	0.00	7.78	0.00	1.33	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
208	0.100	32.00	0.00	0.00	0.00	5.03	7.69	0.00	7.69	0.00	1.32	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
209	0.000	32.00	0.00	0.00	0.00	5.02	7.61	0.00	7.61	0.00	1.32	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00

STREAM SUMMARY
Boggy Bayou

LA-QUAL Model for Boggy Bayou (100602)
Summer Projection with 46% NPS reduction

TRAVEL TIME	=	49.92 DAYS		
MAXIMUM EFFLUENT	=	81.06 PERCENT		
FLOW	=	0.00283 TO	0.01494	m^3/s
DISPERSION	=	0.0000 TO	0.0000	m^2/s
VELOCITY	=	0.00247 TO	0.01301	m/s
DEPTH	=	0.16 TO	0.28	m
WIDTH	=	4.10 TO	9.10	m
BOD DECAY	=	0.10 TO	0.10	per day
NH3 DECAY	=	0.19 TO	0.43	per day
SOD	=	1.72 TO	2.19	$g/m^2/d$
NH3 SOURCE	=	0.00 TO	0.00	$g/m^2/d$
REAERATION	=	3.11 TO	6.31	per day
BOD SETTLING	=	0.00 TO	0.00	per day
ORG-N DECAY	=	0.03 TO	0.03	per day
ORG-N SETTLING	=	0.00 TO	0.00	per day
TEMPERATURE	=	32.00 TO	32.00	deg C
DISSOLVED OXYGEN	=	5.02 TO	5.45	mg/L

LA-QUAL Model for Boggy Bayou (100602)
Summer Projection with 46% NPS reduction

INPUT/OUTPUT LOADING SUMMARY

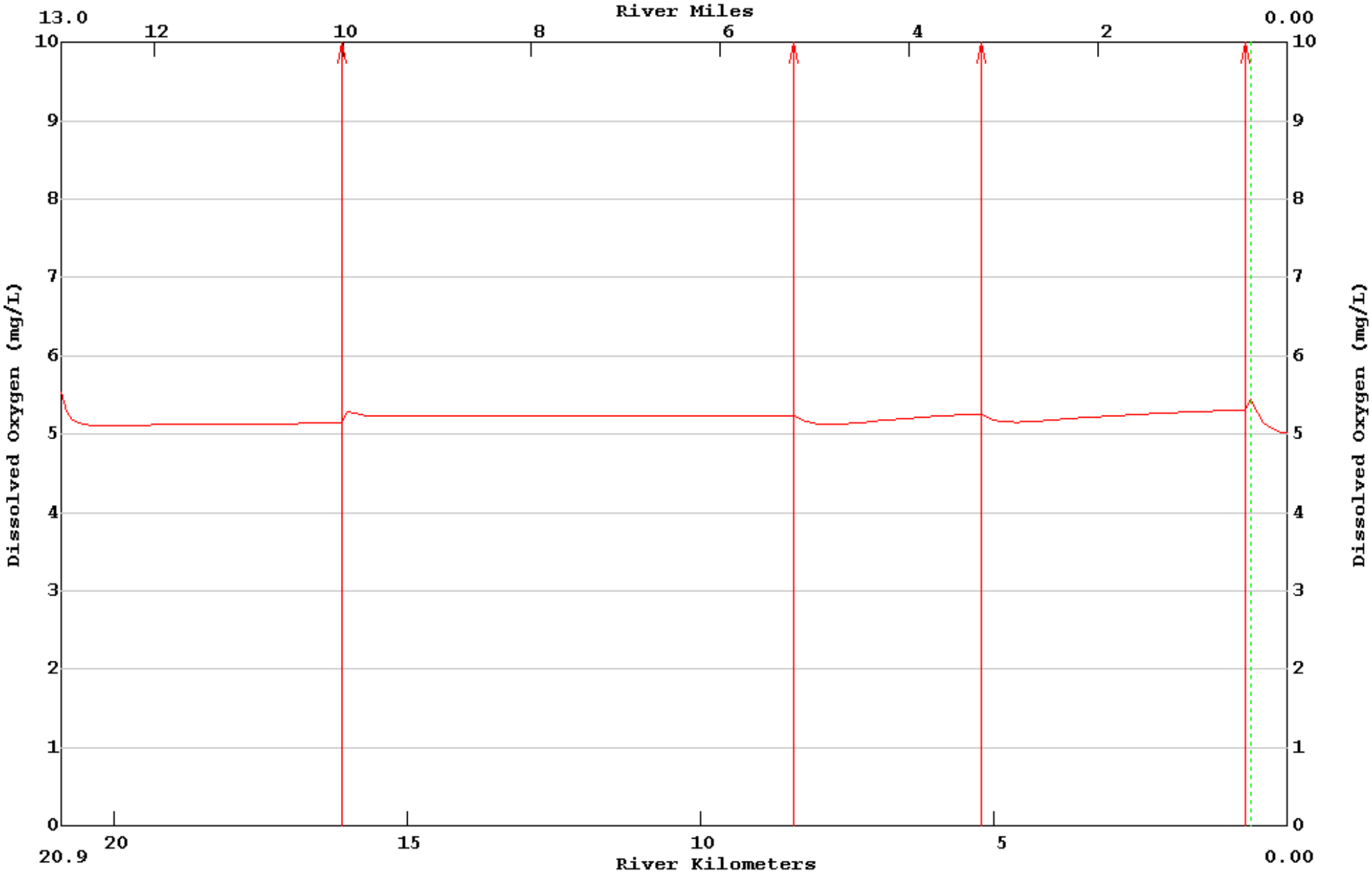
	FLOW m^3/s	DO kg/d	BOD#1 kg/d	BOD#2 kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A	NCM
HEADWATER FLOW	0.003	1.4	1.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WASTELOADS	0.012	5.8	13.5	0.0	1.7	0.8	0.0	0.0	0.0	0.0
WITHDRAWLS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FLOW THRU LOWER BNDRY	-0.015	-6.5	-9.8	0.0	-1.7	-0.2	-1.3	0.0	0.0	0.0
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DISPERSION THRU HDWTR BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	10.8	0.0	0.4					0.0
NATURAL REAERATION		176.7								
DAM REAERATION		0.0								
BACKGROUND SOD		-155.5								
BOD#1 DECAY		-16.0	-16.0							
BOD#1 SETTLING		0.0	0.0							
ANAEROBIC BOD#1 DECAY			0.0							
BOD#2 DECAY		0.0		0.0						
BOD#2 SETTLING		0.0		0.0						
ANAEROBIC BOD#2 DECAY				0.0						
ORG-N DECAY		0.0			-0.7	0.7				
ORG-N SETTLING					0.0	0.0				
NH3 DECAY		-5.8				-1.3	1.3			
BACKGROUND NH3 SOURCE						0.0				
OTHER DENITRIFICATION							0.0			
PHOSPHORUS SOURCE								0.0		
ALGAE PHOTOSYNTHESIS		0.0				0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0				0.0		0.0	0.0	
ALGAE SETTLING		0.0							0.0	
MACRO PHOTOSYNTHESIS		0.0				0.0	0.0	0.0		
NCM DECAY		0.0								0.0
NCM SETTLING		0.0								0.0
TOTAL INPUTS	0.015	183.8	25.8	0.0	2.4	1.5	1.3	0.0	0.0	0.0
TOTAL OUTPUTS	-0.015	-183.8	-25.8	0.0	-2.4	-1.5	-1.3	0.0	0.0	0.0
NET CONVERGENCE ERROR	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

.....EXECUTION COMPLETED

APPENDIX J

LA-QUAL Output for Winter Projection

LA-QUAL Version 8.11 Run at 12:58 on 09/28/2007 File D:\comp_models\LA-QUAL_8p11\bogsum.txt
Summer Projection with 46% NPS reduction min= 5.02 max= 5.54
LA-QUAL Model for Boggy Bayou (100602)



```
LA-QUAL Version 8.11
Louisiana Department of Environmental Quality

Input file is D:\comp_models\LA-QUAL_8p11\bogsum.txt
Output produced at 12:58 on 09/28/2007

$$$ DATA TYPE 1 (TITLES AND CONTROL CARDS) $$$

CARD TYPE       CONTROL TITLES

TITLE01         LA-QUAL Model for Boggy Bayou (100602)
TITLE02         Summer Projection with 46% NPS reduction
CNTROL03  YES   METR
ENDATA01

$$$ DATA TYPE 2 (MODEL OPTIONS) $$$

CARD TYPE       MODEL OPTION

MODOPT01   NO   TEMPERATURE
MODOPT02   NO   SALINITY
MODOPT03   NO   CONSERVATIVE MATERIAL #1                       UNITS =
MODOPT04   NO   CONSERVATIVE MATERIAL #2                       UNITS =
MODOPT05  YES   DISSOLVED OXYGEN
MODOPT06  YES   BOD1 BIOCHEMICAL OXYGEN DEMAND #1
MODOPT07   NO   BOD2 BIOCHEMICAL OXYGEN DEMAND #2
MODOPT08  YES   NITROGEN SERIES
MODOPT09   NO   PHOSPHORUS
MODOPT10   NO   CHLOROPHYLL A
MODOPT11   NO   MACROPHYTES
MODOPT12   NO   COLIFORMS
MODOPT13   NO   NONCONSERVATIVE MATERIAL                       UNITS =
ENDATA02

$$$ DATA TYPE 3 (PROGRAM CONSTANTS) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                     VALUE

PROGRAM         HYDRAULIC CALCULATION METHOD       =        2.00000 (widths and depths)
PROGRAM         MAXIMUM ITERATION LIMIT            =      200.00000
ENDATA03

$$$ DATA TYPE 4 (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) $$$

 CARD TYPE     RATE CODE     THETA VALUE

ENDATA04

$$$ CONSTANTS TYPE 5 (TEMPERATURE DATA) $$$

CARD TYPE       DESCRIPTION OF CONSTANT                     VALUE
```

ENDATA05

$$$ DATA TYPE 6 (ALGAE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA06

$$$ DATA TYPE 7 (MACROPHYTE CONSTANTS) $$$

CARD TYPE DESCRIPTION OF CONSTANT VALUE

ENDATA07

$$$ DATA TYPE 8 (REACH IDENTIFICATION DATA) $$$

CARD TYPE	REACH ID	NAME	BEGIN REACH km		END REACH km	ELEM LENGTH km	REACH LENGTH km	ELEMS PER RCH	BEGIN ELEM NUM	END ELEM NUM
REACH ID	1 B1	Boggy Bayou u/s of Gilmer	20.90	TO	0.60	0.1000	20.30	203	1	203
REACH ID	2 B2	Boggy Bayou d/s of Gilmer	0.60	TO	0.00	0.1000	0.60	6	204	209

ENDATA08

$$$ DATA TYPE 9 (ADVECTIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH ID	WIDTH "A"	WIDTH "B"	WIDTH "C"	DEPTH "D"	DEPTH "E"	DEPTH "F"	SLOPE	MANNINGS "N"
HYDR-1	1 B1	4.100	0.000	0.000	0.280	0.000	0.000	0.00000	0.000
HYDR-1	2 B2	9.100	0.000	0.000	0.160	0.000	0.000	0.00000	0.000

ENDATA09

$$$ DATA TYPE 10 (DISPERSIVE HYDRAULIC COEFFICIENTS) $$$

CARD TYPE	REACH ID	TIDAL RANGE	DISPERSION "A"	DISPERSION "B"	DISPERSION "C"	DISPERSION "D"

ENDATA10

$$$ DATA TYPE 11 (INITIAL CONDITIONS) $$$

CARD TYPE	REACH ID	TEMP	SALIN	DO	NH3	NO3+2	PHOS	CHL A	MACRO
INITIAL	1 B1	32.00	0.00	5.00	0.05	0.03	0.00	0.00	0.00
INITIAL	2 B2	32.00	0.00	5.00	0.05	0.03	0.00	0.00	0.00

ENDATA11

$$$ DATA TYPE 12 (REAERATION, SEDIMENT OXYGEN DEMAND, BOD COEFFICIENTS) $$$

CARD	RCH	RCH K2	K2	K2	K2	BKGRND	BOD	BOD	BOD CONV	ANAER BOD2	BOD2	BOD2	BOD2 CONV	ANAER BOD2

```
TYPE     NUM   ID  OPT                  "A"       "B"       "C"       SOD      DECAY      SETT    TO SOD      DECAY      DECAY      SETT    TO SOD      DECAY
                                                                    g/m²/d    per day       m/d               per day    per day       m/d               per day

COEFF-1    1   B1  15 LOUISIANA       0.000     0.000     0.000     0.810     0.055     0.000     0.000     0.000     0.000     0.000     0.000     0.000
COEFF-1    2   B2  15 LOUISIANA       0.000     0.000     0.000     1.030     0.055     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ENDATA12

$$$ DATA TYPE 13 (NITROGEN AND PHOSPHORUS COEFFICIENTS) $$$

CARD TYPE      REACH  ID       ORG-N     ORG-N   ORGN CONV       NH3       NH3      PHOS     DENIT
                               DECA      SETT  TO NH3 SRCE     DECA      SRCE      SRCE      RATE

COEFF-2            1   B1      0.020     0.000     1.000       0.180     0.000     0.000     0.000
COEFF-2            2   B2      0.020     0.000     1.000       0.080     0.000     0.000     0.000
ENDATA13

$$$ DATA TYPE 14 (ALGAE AND MACROPHYTE COEFFICIENTS) $$$

CARD TYPE      REACH  ID       SECCHI    ALGAE:     ALGAE    ALG CONV     ALGAE     ALGAE     MACRO     MACRO
                               DEPTH     CHL A      SETT     TO SOD      GROW      RESP      GROW      RESP   SHADING

ENDATA14

$$$ DATA TYPE 15 (COLIFORM AND NONCONSERVATIVE COEFFICIENTS) $$$

CARD TYPE      REACH  ID    COLIFORM       NCM       NCM    NCM CONV
                            DIE-OFF      DECAY      SETT     TO SOD

ENDATA15

$$$ DATA TYPE 16 (INCREMENTAL DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE      REACH  ID       OUTFLOW      INFLOW      TEMP      SALIN      CM-I      CM-II    IN/DIST  OUT/DIST

ENDATA16

$$$ DATA TYPE 17 (INCREMENTAL DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE      REACH  ID          DO       BOD      ORG-N     NH3-N     NO3-N     BOD#2

ENDATA17

$$$ DATA TYPE 18 (INCREMENTAL DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

 CARD TYPE      REACH  ID        PHOS      CHL A      COLI       NCM

ENDATA18

$$$ DATA TYPE 19 (NONPOINT SOURCE DATA) $$$

CARD TYPE      REACH  ID       BOD#1     ORG-N      COLI       NCM        DO      BOD#2
```

```
NONPOINT          1   B1       10.80      0.43      0.00      0.00      0.00      0.00
NONPOINT          2   B2        0.00      0.00      0.00      0.00      0.00      0.00
ENDATA19

$$$ DATA TYPE 20 (HEADWATER FOR FLOW, TEMPERATURE, SALINITY AND CONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                  UNIT     FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                        m3/s      cfs   deg C      ppt

HDWTR-1           1     Boggy Bayou              0   0.00283    0.100    0.00     0.00     0.000     0.000   0.00
ENDATA20

$$$ DATA TYPE 21 (HEADWATER DATA FOR DO, BOD, AND NITROGEN) $$$

CARD TYPE     ELEMENT   NAME                        DO      BOD#1     ORG-N     NH3-N     NO3-N     BOD#2
                                                    mg/L      mg/L      mg/L      mg/L      mg/L      mg/L

HDWTR-2           1     Boggy Bayou               5.54      6.48      0.95      0.03      0.00      0.00
ENDATA21

$$$ DATA TYPE 22 (HEADWATER DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                      PHOS      CHL A       COLI       NCM
                                                  mg/L       mg/L       mg/L       mg/L

ENDATA22

$$$ DATA TYPE 23 (JUNCTION DATA) $$$

CARD TYPE   JUNCTION   UPSTRM     RIVER     NAME
             ELEMENT  ELEMENT     KILOM

ENDATA23

$$$ DATA TYPE 24 (WASTELOAD DATA FOR FLOW, TEMPERATURE, SALINITY, AND CONSERVATIVES) $$$

CARD TYPE  ELEMENT    RKILO  NAME                      FLOW       FLOW     FLOW    TEMP    SALIN      CM-I     CM-II
                                                       m3/s        cfs      MGD   deg C      ppt

WSTLD-1       49      16.10  NPS Unnamed Trib 1     0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
WSTLD-1      126       8.40  NPS Unnamed Trib 2     0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
WSTLD-1      126       8.40  LaLaurie Ln Ox Pond    0.00329    0.11617    0.075    0.00     0.00     0.000     0.000
WSTLD-1      158       5.20  Grawood Church         0.00033    0.01165    0.008    0.00     0.00     0.000     0.000
WSTLD-1      203       0.70  NPS Gilmer Bayou       0.00283    0.09993    0.065    0.00     0.00     0.000     0.000
ENDATA24

$$$ DATA TYPE 25 (WASTELOAD DATA FOR DO, BOD, AND NITROGEN) $$$
                                                                          % BOD                          %
CARD TYPE     ELEMENT   NAME                        DO       BOD       RMVL      ORG-N     NH3-N    NITRIF     NO3-N     BOD#2
                                                    mg/L      mg/L                  mg/L      mg/L                 mg/L      mg/L
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WSTLD-2          49     NPS Unnamed Trib 1          5.54      6.48      0.00      0.95      0.03      0.00      0.00      0.00
WSTLD-2         126     NPS Unnamed Trib 2          5.54      6.48      0.00      0.95      0.03      0.00      0.00      0.00
WSTLD-2         126     LaLaurie Ln Ox Pond         5.00     23.00      0.00      3.30      1.70      0.00      0.00      0.00
WSTLD-2         158     Grawood Church              5.00     69.00      0.00      5.00     10.00      0.00      0.00      0.00
WSTLD-2         203     NPS Gilmer Bayou            6.14      7.29      0.00      0.78      0.03      0.00      0.00      0.00
ENDATA25

$$$ DATA TYPE 26 (WASTELOAD DATA FOR PHOSPHORUS, CHLOROPHYLL, COLIFORM, AND NONCONSERVATIVES) $$$

CARD TYPE     ELEMENT   NAME                        PHOS      CHL A      COLI       NCM
                                                    mg/L       mg/L      mg/L      mg/L

ENDATA26

$$$ DATA TYPE 27 (LOWER BOUNDARY CONDITIONS) $$$

CARD TYPE    CONSTITUENT                    CONCENTRATION

ENDATA27

$$$ DATA TYPE 28 (DAM DATA) $$$

CARD TYPE     ELEMENT   NAME                  EQN       "A"       "B"       "H"

ENDATA28

$$$ DATA TYPE 29 (SENSITIVITY ANALYSIS DATA) $$$

CARD TYPE       PARAMETER     COL 1     COL 2     COL 3     COL 4     COL 5     COL 6     COL 7     COL 8

ENDATA29

$$$ DATA TYPE 30 (PLOT CONTROL CARDS) $$$


NUMBER OF PLOTS =  1
NUMBER OF REACHES IN PLOT 1 =   2
PLOT RCH  1  2
ENDATA30

$$$ DATA TYPE 31 (OVERLAY PLOT DATA) $$$


ENDATA31



     .....NO ERRORS DETECTED IN INPUT DATA
     .....HYDRAULIC CALCULATIONS COMPLETED
     .....TRIDIAGONAL MATRIX TERMS INITIALIZED
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.....OXYGEN DEPENDENT RATES CONVERGENT IN 2 ITERATIONS
.....CONSTITUENT CALCULATIONS COMPLETED
.....GRAPHICS DATA FOR PLOT 1 WRITTEN TO UNIT 11

FINAL REPORT Boggy Bayou LA-QUAL Model for Boggy Bayou (100602)
REACH NO. 1 Boggy Bayou u/s of Gilmer Summer Projection with 46% NPS reduction

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
1	HDWTR	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
49	WSTLD	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
126	WSTLD	0.00283	0.00	0.00	0.00	0.00	5.54	6.48	0.00	6.48	0.00	0.95	0.03	0.00	0.00	0.00	0.00	0.00
126	WSTLD	0.00329	0.00	0.00	0.00	0.00	5.00	23.00	0.00	23.00	0.00	3.30	1.70	0.00	0.00	0.00	0.00	0.00
158	WSTLD	0.00033	0.00	0.00	0.00	0.00	5.00	69.00	0.00	69.00	0.00	5.00	10.00	0.00	0.00	0.00	0.00	0.00
203	WSTLD	0.00283	0.00	0.00	0.00	0.00	6.14	7.29	0.00	7.29	0.00	0.78	0.03	0.00	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m^3/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m^3	SURFACE AREA m^2	X-SECT AREA m^2	TIDAL PRISM m^3	TIDAL VELO m/s	DISPRSN m^2/s	MEAN VELO m/s
1	20.90	20.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
2	20.80	20.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
3	20.70	20.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
4	20.60	20.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
5	20.50	20.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
6	20.40	20.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
7	20.30	20.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
8	20.20	20.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
9	20.10	20.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
10	20.00	19.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
11	19.90	19.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
12	19.80	19.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
13	19.70	19.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
14	19.60	19.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
15	19.50	19.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
16	19.40	19.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
17	19.30	19.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
18	19.20	19.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
19	19.10	19.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
20	19.00	18.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
21	18.90	18.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
22	18.80	18.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
23	18.70	18.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002

24	18.60	18.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
25	18.50	18.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
26	18.40	18.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
27	18.30	18.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
28	18.20	18.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
29	18.10	18.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
30	18.00	17.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
31	17.90	17.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
32	17.80	17.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
33	17.70	17.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
34	17.60	17.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
35	17.50	17.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
36	17.40	17.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
37	17.30	17.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
38	17.20	17.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
39	17.10	17.00	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
40	17.00	16.90	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
41	16.90	16.80	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
42	16.80	16.70	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
43	16.70	16.60	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
44	16.60	16.50	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
45	16.50	16.40	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
46	16.40	16.30	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
47	16.30	16.20	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
48	16.20	16.10	0.00283	0.0	0.00247	0.47	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.002
49	16.10	16.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
50	16.00	15.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
51	15.90	15.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
52	15.80	15.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
53	15.70	15.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
54	15.60	15.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
55	15.50	15.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
56	15.40	15.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
57	15.30	15.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
58	15.20	15.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
59	15.10	15.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
60	15.00	14.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
61	14.90	14.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
62	14.80	14.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
63	14.70	14.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
64	14.60	14.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
65	14.50	14.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
66	14.40	14.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
67	14.30	14.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
68	14.20	14.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
69	14.10	14.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
70	14.00	13.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
71	13.90	13.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
72	13.80	13.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
73	13.70	13.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
74	13.60	13.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005

75	13.50	13.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
76	13.40	13.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
77	13.30	13.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
78	13.20	13.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
79	13.10	13.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
80	13.00	12.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
81	12.90	12.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
82	12.80	12.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
83	12.70	12.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
84	12.60	12.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
85	12.50	12.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
86	12.40	12.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
87	12.30	12.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
88	12.20	12.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
89	12.10	12.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
90	12.00	11.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
91	11.90	11.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
92	11.80	11.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
93	11.70	11.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
94	11.60	11.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
95	11.50	11.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
96	11.40	11.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
97	11.30	11.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
98	11.20	11.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
99	11.10	11.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
100	11.00	10.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
101	10.90	10.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
102	10.80	10.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
103	10.70	10.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
104	10.60	10.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
105	10.50	10.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
106	10.40	10.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
107	10.30	10.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
108	10.20	10.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
109	10.10	10.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
110	10.00	9.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
111	9.90	9.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
112	9.80	9.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
113	9.70	9.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
114	9.60	9.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
115	9.50	9.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
116	9.40	9.30	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
117	9.30	9.20	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
118	9.20	9.10	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
119	9.10	9.00	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
120	9.00	8.90	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
121	8.90	8.80	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
122	8.80	8.70	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
123	8.70	8.60	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
124	8.60	8.50	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005
125	8.50	8.40	0.00566	50.0	0.00493	0.23	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.005

126	8.40	8.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
127	8.30	8.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
128	8.20	8.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
129	8.10	8.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
130	8.00	7.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
131	7.90	7.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
132	7.80	7.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
133	7.70	7.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
134	7.60	7.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
135	7.50	7.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
136	7.40	7.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
137	7.30	7.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
138	7.20	7.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
139	7.10	7.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
140	7.00	6.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
141	6.90	6.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
142	6.80	6.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
143	6.70	6.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
144	6.60	6.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
145	6.50	6.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
146	6.40	6.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
147	6.30	6.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
148	6.20	6.10	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
149	6.10	6.00	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
150	6.00	5.90	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
151	5.90	5.80	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
152	5.80	5.70	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
153	5.70	5.60	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
154	5.60	5.50	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
155	5.50	5.40	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
156	5.40	5.30	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
157	5.30	5.20	0.01178	76.0	0.01026	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.010
158	5.20	5.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
159	5.10	5.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
160	5.00	4.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
161	4.90	4.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
162	4.80	4.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
163	4.70	4.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
164	4.60	4.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
165	4.50	4.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
166	4.40	4.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
167	4.30	4.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
168	4.20	4.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
169	4.10	4.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
170	4.00	3.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
171	3.90	3.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
172	3.80	3.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
173	3.70	3.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
174	3.60	3.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
175	3.50	3.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
176	3.40	3.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011

177	3.30	3.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
178	3.20	3.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
179	3.10	3.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
180	3.00	2.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
181	2.90	2.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
182	2.80	2.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
183	2.70	2.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
184	2.60	2.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
185	2.50	2.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
186	2.40	2.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
187	2.30	2.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
188	2.20	2.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
189	2.10	2.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
190	2.00	1.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
191	1.90	1.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
192	1.80	1.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
193	1.70	1.60	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
194	1.60	1.50	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
195	1.50	1.40	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
196	1.40	1.30	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
197	1.30	1.20	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
198	1.20	1.10	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
199	1.10	1.00	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
200	1.00	0.90	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
201	0.90	0.80	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
202	0.80	0.70	0.01211	76.6	0.01055	0.11	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.011
203	0.70	0.60	0.01494	81.1	0.01301	0.09	0.28	4.10	114.80	410.00	1.15	0.00	0.000	0.000	0.013
TOT						49.25			23304.43	83230.00					
AVG					0.0048		0.28	4.10			1.15				
CUM						49.25									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
1	20.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	20.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	20.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	20.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	20.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	20.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	20.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	20.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	20.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	19.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	19.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	19.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

13	19.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	19.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	19.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	19.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	19.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	19.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	19.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	18.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	18.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	18.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	18.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	18.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	18.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	18.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	18.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	18.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	18.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	17.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	17.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	17.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	17.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	17.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	17.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	17.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	17.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	17.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	17.000	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	16.900	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
41	16.800	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	16.700	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	16.600	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	16.500	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	16.400	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
46	16.300	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	16.200	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	16.100	7.30	3.11	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
49	16.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	15.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	15.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	15.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
53	15.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54	15.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55	15.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
56	15.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57	15.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
58	15.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
59	15.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60	14.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
61	14.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62	14.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
63	14.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

64	14.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65	14.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
66	14.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67	14.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
68	14.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
69	14.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70	13.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
71	13.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72	13.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73	13.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
74	13.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75	13.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
76	13.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77	13.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
78	13.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
79	13.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80	12.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
81	12.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82	12.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
83	12.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
84	12.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85	12.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86	12.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87	12.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
88	12.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
89	12.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90	11.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91	11.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
92	11.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
93	11.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
94	11.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	11.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
96	11.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
97	11.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	11.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99	11.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100	10.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
101	10.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
102	10.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
103	10.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
104	10.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
105	10.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
106	10.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
107	10.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
108	10.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
109	10.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
110	9.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
111	9.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
112	9.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113	9.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
114	9.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

115	9.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
116	9.300	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
117	9.200	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
118	9.100	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
119	9.000	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
120	8.900	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
121	8.800	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
122	8.700	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
123	8.600	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
124	8.500	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
125	8.400	7.30	3.26	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126	8.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127	8.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
128	8.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
129	8.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
130	7.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
131	7.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
132	7.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
133	7.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
134	7.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
135	7.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
136	7.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
137	7.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
138	7.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
139	7.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140	6.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
141	6.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
142	6.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
143	6.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
144	6.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
145	6.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
146	6.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
147	6.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
148	6.100	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
149	6.000	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
150	5.900	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
151	5.800	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
152	5.700	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153	5.600	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
154	5.500	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
155	5.400	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
156	5.300	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
157	5.200	7.30	3.60	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
158	5.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
159	5.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
160	4.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
161	4.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
162	4.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
163	4.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
164	4.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
165	4.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

166	4.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167	4.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
168	4.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
169	4.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
170	3.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
171	3.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
172	3.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
173	3.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
174	3.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
175	3.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
176	3.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
177	3.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
178	3.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
179	3.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180	2.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
181	2.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
182	2.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
183	2.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
184	2.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
185	2.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
186	2.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
187	2.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
188	2.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
189	2.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
190	1.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
191	1.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
192	1.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
193	1.600	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
194	1.500	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
195	1.400	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
196	1.300	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
197	1.200	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
198	1.100	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	1.000	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200	0.900	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
201	0.800	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
202	0.700	7.30	3.62	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
203	0.600	7.30	3.78	0.10	0.00	0.00	0.00	0.00	0.00	1.72	1.72	1.72	0.03	0.00	0.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			2.70	0.05	0.00	0.00	0.00	0.00	0.00	0.81			0.02	0.00	0.18	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM
1	20.800	32.00	0.00	0.00	0.00	5.28	6.41	0.00	6.41	0.00	0.95	0.03	0.01	0.99	0.00	0.00	0.00	0.	0.00
2	20.700	32.00	0.00	0.00	0.00	5.18	6.34	0.00	6.34	0.00	0.94	0.04	0.01	0.99	0.00	0.00	0.00	0.	0.00

3	20.600	32.00	0.00	0.00	0.00	5.14	6.28	0.00	6.28	0.00	0.94	0.04	0.02	1.00	0.00	0.00	0.00	0.	0.00
4	20.500	32.00	0.00	0.00	0.00	5.12	6.22	0.00	6.22	0.00	0.94	0.04	0.03	1.01	0.00	0.00	0.00	0.	0.00
5	20.400	32.00	0.00	0.00	0.00	5.11	6.16	0.00	6.16	0.00	0.94	0.04	0.04	1.02	0.00	0.00	0.00	0.	0.00
6	20.300	32.00	0.00	0.00	0.00	5.11	6.10	0.00	6.10	0.00	0.93	0.05	0.05	1.03	0.00	0.00	0.00	0.	0.00
7	20.200	32.00	0.00	0.00	0.00	5.11	6.05	0.00	6.05	0.00	0.93	0.05	0.06	1.04	0.00	0.00	0.00	0.	0.00
8	20.100	32.00	0.00	0.00	0.00	5.11	6.00	0.00	6.00	0.00	0.93	0.05	0.07	1.05	0.00	0.00	0.00	0.	0.00
9	20.000	32.00	0.00	0.00	0.00	5.11	5.95	0.00	5.95	0.00	0.93	0.05	0.08	1.05	0.00	0.00	0.00	0.	0.00
10	19.900	32.00	0.00	0.00	0.00	5.11	5.90	0.00	5.90	0.00	0.93	0.05	0.09	1.06	0.00	0.00	0.00	0.	0.00
11	19.800	32.00	0.00	0.00	0.00	5.11	5.86	0.00	5.86	0.00	0.92	0.05	0.10	1.07	0.00	0.00	0.00	0.	0.00
12	19.700	32.00	0.00	0.00	0.00	5.12	5.82	0.00	5.82	0.00	0.92	0.05	0.11	1.08	0.00	0.00	0.00	0.	0.00
13	19.600	32.00	0.00	0.00	0.00	5.12	5.77	0.00	5.77	0.00	0.92	0.05	0.12	1.09	0.00	0.00	0.00	0.	0.00
14	19.500	32.00	0.00	0.00	0.00	5.12	5.74	0.00	5.74	0.00	0.92	0.05	0.13	1.10	0.00	0.00	0.00	0.	0.00
15	19.400	32.00	0.00	0.00	0.00	5.12	5.70	0.00	5.70	0.00	0.91	0.05	0.14	1.11	0.00	0.00	0.00	0.	0.00
16	19.300	32.00	0.00	0.00	0.00	5.12	5.66	0.00	5.66	0.00	0.91	0.05	0.15	1.12	0.00	0.00	0.00	0.	0.00
17	19.200	32.00	0.00	0.00	0.00	5.12	5.63	0.00	5.63	0.00	0.91	0.05	0.16	1.12	0.00	0.00	0.00	0.	0.00
18	19.100	32.00	0.00	0.00	0.00	5.12	5.59	0.00	5.59	0.00	0.91	0.05	0.17	1.13	0.00	0.00	0.00	0.	0.00
19	19.000	32.00	0.00	0.00	0.00	5.12	5.56	0.00	5.56	0.00	0.91	0.05	0.18	1.14	0.00	0.00	0.00	0.	0.00
20	18.900	32.00	0.00	0.00	0.00	5.12	5.53	0.00	5.53	0.00	0.90	0.05	0.19	1.15	0.00	0.00	0.00	0.	0.00
21	18.800	32.00	0.00	0.00	0.00	5.12	5.50	0.00	5.50	0.00	0.90	0.05	0.20	1.16	0.00	0.00	0.00	0.	0.00
22	18.700	32.00	0.00	0.00	0.00	5.12	5.48	0.00	5.48	0.00	0.90	0.05	0.22	1.17	0.00	0.00	0.00	0.	0.00
23	18.600	32.00	0.00	0.00	0.00	5.13	5.45	0.00	5.45	0.00	0.90	0.05	0.23	1.18	0.00	0.00	0.00	0.	0.00
24	18.500	32.00	0.00	0.00	0.00	5.13	5.42	0.00	5.42	0.00	0.89	0.05	0.24	1.18	0.00	0.00	0.00	0.	0.00
25	18.400	32.00	0.00	0.00	0.00	5.13	5.40	0.00	5.40	0.00	0.89	0.05	0.25	1.19	0.00	0.00	0.00	0.	0.00
26	18.300	32.00	0.00	0.00	0.00	5.13	5.38	0.00	5.38	0.00	0.89	0.05	0.26	1.20	0.00	0.00	0.00	0.	0.00
27	18.200	32.00	0.00	0.00	0.00	5.13	5.35	0.00	5.35	0.00	0.89	0.05	0.27	1.21	0.00	0.00	0.00	0.	0.00
28	18.100	32.00	0.00	0.00	0.00	5.13	5.33	0.00	5.33	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
29	18.000	32.00	0.00	0.00	0.00	5.13	5.31	0.00	5.31	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
30	17.900	32.00	0.00	0.00	0.00	5.13	5.29	0.00	5.29	0.00	0.88	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
31	17.800	32.00	0.00	0.00	0.00	5.13	5.27	0.00	5.27	0.00	0.88	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
32	17.700	32.00	0.00	0.00	0.00	5.13	5.26	0.00	5.26	0.00	0.88	0.05	0.32	1.25	0.00	0.00	0.00	0.	0.00
33	17.600	32.00	0.00	0.00	0.00	5.13	5.24	0.00	5.24	0.00	0.88	0.05	0.33	1.26	0.00	0.00	0.00	0.	0.00
34	17.500	32.00	0.00	0.00	0.00	5.13	5.22	0.00	5.22	0.00	0.88	0.05	0.34	1.27	0.00	0.00	0.00	0.	0.00
35	17.400	32.00	0.00	0.00	0.00	5.13	5.21	0.00	5.21	0.00	0.87	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
36	17.300	32.00	0.00	0.00	0.00	5.13	5.19	0.00	5.19	0.00	0.87	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
37	17.200	32.00	0.00	0.00	0.00	5.14	5.18	0.00	5.18	0.00	0.87	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
38	17.100	32.00	0.00	0.00	0.00	5.14	5.16	0.00	5.16	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
39	17.000	32.00	0.00	0.00	0.00	5.14	5.15	0.00	5.15	0.00	0.87	0.05	0.40	1.31	0.00	0.00	0.00	0.	0.00
40	16.900	32.00	0.00	0.00	0.00	5.14	5.14	0.00	5.14	0.00	0.87	0.05	0.41	1.32	0.00	0.00	0.00	0.	0.00
41	16.800	32.00	0.00	0.00	0.00	5.14	5.13	0.00	5.13	0.00	0.86	0.05	0.42	1.33	0.00	0.00	0.00	0.	0.00
42	16.700	32.00	0.00	0.00	0.00	5.14	5.11	0.00	5.11	0.00	0.86	0.05	0.43	1.34	0.00	0.00	0.00	0.	0.00
43	16.600	32.00	0.00	0.00	0.00	5.14	5.10	0.00	5.10	0.00	0.86	0.05	0.44	1.35	0.00	0.00	0.00	0.	0.00
44	16.500	32.00	0.00	0.00	0.00	5.14	5.09	0.00	5.09	0.00	0.86	0.05	0.45	1.36	0.00	0.00	0.00	0.	0.00
45	16.400	32.00	0.00	0.00	0.00	5.14	5.08	0.00	5.08	0.00	0.86	0.05	0.46	1.37	0.00	0.00	0.00	0.	0.00
46	16.300	32.00	0.00	0.00	0.00	5.14	5.07	0.00	5.07	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
47	16.200	32.00	0.00	0.00	0.00	5.14	5.06	0.00	5.06	0.00	0.86	0.05	0.48	1.38	0.00	0.00	0.00	0.	0.00
48	16.100	32.00	0.00	0.00	0.00	5.14	5.05	0.00	5.05	0.00	0.85	0.05	0.49	1.39	0.00	0.00	0.00	0.	0.00
49	16.000	32.00	0.00	0.00	0.00	5.29	5.75	0.00	5.75	0.00	0.90	0.04	0.25	1.19	0.00	0.00	0.00	0.	0.00
50	15.900	32.00	0.00	0.00	0.00	5.26	5.73	0.00	5.73	0.00	0.90	0.04	0.25	1.19	0.00	0.00	0.00	0.	0.00
51	15.800	32.00	0.00	0.00	0.00	5.25	5.71	0.00	5.71	0.00	0.90	0.04	0.26	1.20	0.00	0.00	0.00	0.	0.00
52	15.700	32.00	0.00	0.00	0.00	5.24	5.69	0.00	5.69	0.00	0.90	0.04	0.26	1.20	0.00	0.00	0.00	0.	0.00
53	15.600	32.00	0.00	0.00	0.00	5.23	5.67	0.00	5.67	0.00	0.90	0.04	0.27	1.21	0.00	0.00	0.00	0.	0.00

54	15.500	32.00	0.00	0.00	0.00	5.23	5.65	0.00	5.65	0.00	0.90	0.05	0.27	1.21	0.00	0.00	0.00	0.	0.00
55	15.400	32.00	0.00	0.00	0.00	5.23	5.64	0.00	5.64	0.00	0.89	0.05	0.27	1.22	0.00	0.00	0.00	0.	0.00
56	15.300	32.00	0.00	0.00	0.00	5.23	5.62	0.00	5.62	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
57	15.200	32.00	0.00	0.00	0.00	5.23	5.60	0.00	5.60	0.00	0.89	0.05	0.28	1.22	0.00	0.00	0.00	0.	0.00
58	15.100	32.00	0.00	0.00	0.00	5.23	5.59	0.00	5.59	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
59	15.000	32.00	0.00	0.00	0.00	5.23	5.57	0.00	5.57	0.00	0.89	0.05	0.29	1.23	0.00	0.00	0.00	0.	0.00
60	14.900	32.00	0.00	0.00	0.00	5.23	5.55	0.00	5.55	0.00	0.89	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
61	14.800	32.00	0.00	0.00	0.00	5.23	5.54	0.00	5.54	0.00	0.89	0.05	0.30	1.24	0.00	0.00	0.00	0.	0.00
62	14.700	32.00	0.00	0.00	0.00	5.23	5.52	0.00	5.52	0.00	0.89	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
63	14.600	32.00	0.00	0.00	0.00	5.23	5.51	0.00	5.51	0.00	0.89	0.05	0.31	1.25	0.00	0.00	0.00	0.	0.00
64	14.500	32.00	0.00	0.00	0.00	5.23	5.49	0.00	5.49	0.00	0.89	0.05	0.32	1.25	0.00	0.00	0.00	0.	0.00
65	14.400	32.00	0.00	0.00	0.00	5.23	5.48	0.00	5.48	0.00	0.89	0.05	0.32	1.26	0.00	0.00	0.00	0.	0.00
66	14.300	32.00	0.00	0.00	0.00	5.23	5.47	0.00	5.47	0.00	0.88	0.05	0.33	1.26	0.00	0.00	0.00	0.	0.00
67	14.200	32.00	0.00	0.00	0.00	5.23	5.45	0.00	5.45	0.00	0.88	0.05	0.33	1.27	0.00	0.00	0.00	0.	0.00
68	14.100	32.00	0.00	0.00	0.00	5.23	5.44	0.00	5.44	0.00	0.88	0.05	0.34	1.27	0.00	0.00	0.00	0.	0.00
69	14.000	32.00	0.00	0.00	0.00	5.23	5.43	0.00	5.43	0.00	0.88	0.05	0.34	1.28	0.00	0.00	0.00	0.	0.00
70	13.900	32.00	0.00	0.00	0.00	5.23	5.42	0.00	5.42	0.00	0.88	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
71	13.800	32.00	0.00	0.00	0.00	5.23	5.40	0.00	5.40	0.00	0.88	0.05	0.35	1.28	0.00	0.00	0.00	0.	0.00
72	13.700	32.00	0.00	0.00	0.00	5.23	5.39	0.00	5.39	0.00	0.88	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
73	13.600	32.00	0.00	0.00	0.00	5.23	5.38	0.00	5.38	0.00	0.88	0.05	0.36	1.29	0.00	0.00	0.00	0.	0.00
74	13.500	32.00	0.00	0.00	0.00	5.23	5.37	0.00	5.37	0.00	0.88	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
75	13.400	32.00	0.00	0.00	0.00	5.23	5.36	0.00	5.36	0.00	0.88	0.05	0.37	1.30	0.00	0.00	0.00	0.	0.00
76	13.300	32.00	0.00	0.00	0.00	5.23	5.35	0.00	5.35	0.00	0.88	0.05	0.38	1.31	0.00	0.00	0.00	0.	0.00
77	13.200	32.00	0.00	0.00	0.00	5.23	5.34	0.00	5.34	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
78	13.100	32.00	0.00	0.00	0.00	5.23	5.32	0.00	5.32	0.00	0.87	0.05	0.39	1.31	0.00	0.00	0.00	0.	0.00
79	13.000	32.00	0.00	0.00	0.00	5.23	5.31	0.00	5.31	0.00	0.87	0.05	0.40	1.32	0.00	0.00	0.00	0.	0.00
80	12.900	32.00	0.00	0.00	0.00	5.23	5.30	0.00	5.30	0.00	0.87	0.05	0.40	1.32	0.00	0.00	0.00	0.	0.00
81	12.800	32.00	0.00	0.00	0.00	5.23	5.29	0.00	5.29	0.00	0.87	0.05	0.41	1.33	0.00	0.00	0.00	0.	0.00
82	12.700	32.00	0.00	0.00	0.00	5.23	5.28	0.00	5.28	0.00	0.87	0.05	0.41	1.33	0.00	0.00	0.00	0.	0.00
83	12.600	32.00	0.00	0.00	0.00	5.23	5.28	0.00	5.28	0.00	0.87	0.05	0.42	1.34	0.00	0.00	0.00	0.	0.00
84	12.500	32.00	0.00	0.00	0.00	5.23	5.27	0.00	5.27	0.00	0.87	0.05	0.42	1.34	0.00	0.00	0.00	0.	0.00
85	12.400	32.00	0.00	0.00	0.00	5.23	5.26	0.00	5.26	0.00	0.87	0.05	0.43	1.35	0.00	0.00	0.00	0.	0.00
86	12.300	32.00	0.00	0.00	0.00	5.24	5.25	0.00	5.25	0.00	0.87	0.05	0.43	1.35	0.00	0.00	0.00	0.	0.00
87	12.200	32.00	0.00	0.00	0.00	5.24	5.24	0.00	5.24	0.00	0.87	0.05	0.44	1.35	0.00	0.00	0.00	0.	0.00
88	12.100	32.00	0.00	0.00	0.00	5.24	5.23	0.00	5.23	0.00	0.86	0.05	0.44	1.36	0.00	0.00	0.00	0.	0.00
89	12.000	32.00	0.00	0.00	0.00	5.24	5.22	0.00	5.22	0.00	0.86	0.05	0.45	1.36	0.00	0.00	0.00	0.	0.00
90	11.900	32.00	0.00	0.00	0.00	5.24	5.22	0.00	5.22	0.00	0.86	0.05	0.45	1.37	0.00	0.00	0.00	0.	0.00
91	11.800	32.00	0.00	0.00	0.00	5.24	5.21	0.00	5.21	0.00	0.86	0.05	0.46	1.37	0.00	0.00	0.00	0.	0.00
92	11.700	32.00	0.00	0.00	0.00	5.24	5.20	0.00	5.20	0.00	0.86	0.05	0.46	1.38	0.00	0.00	0.00	0.	0.00
93	11.600	32.00	0.00	0.00	0.00	5.24	5.19	0.00	5.19	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
94	11.500	32.00	0.00	0.00	0.00	5.24	5.18	0.00	5.18	0.00	0.86	0.05	0.47	1.38	0.00	0.00	0.00	0.	0.00
95	11.400	32.00	0.00	0.00	0.00	5.24	5.18	0.00	5.18	0.00	0.86	0.05	0.48	1.39	0.00	0.00	0.00	0.	0.00
96	11.300	32.00	0.00	0.00	0.00	5.24	5.17	0.00	5.17	0.00	0.86	0.05	0.48	1.39	0.00	0.00	0.00	0.	0.00
97	11.200	32.00	0.00	0.00	0.00	5.24	5.16	0.00	5.16	0.00	0.86	0.05	0.49	1.40	0.00	0.00	0.00	0.	0.00
98	11.100	32.00	0.00	0.00	0.00	5.24	5.16	0.00	5.16	0.00	0.86	0.05	0.49	1.40	0.00	0.00	0.00	0.	0.00
99	11.000	32.00	0.00	0.00	0.00	5.24	5.15	0.00	5.15	0.00	0.86	0.05	0.50	1.41	0.00	0.00	0.00	0.	0.00
100	10.900	32.00	0.00	0.00	0.00	5.24	5.14	0.00	5.14	0.00	0.86	0.05	0.50	1.41	0.00	0.00	0.00	0.	0.00
101	10.800	32.00	0.00	0.00	0.00	5.24	5.14	0.00	5.14	0.00	0.85	0.05	0.51	1.41	0.00	0.00	0.00	0.	0.00
102	10.700	32.00	0.00	0.00	0.00	5.24	5.13	0.00	5.13	0.00	0.85	0.05	0.51	1.42	0.00	0.00	0.00	0.	0.00
103	10.600	32.00	0.00	0.00	0.00	5.24	5.13	0.00	5.13	0.00	0.85	0.05	0.52	1.42	0.00	0.00	0.00	0.	0.00
104	10.500	32.00	0.00	0.00	0.00	5.24	5.12	0.00	5.12	0.00	0.85	0.05	0.52	1.43	0.00	0.00	0.00	0.	0.00

105	10.400	32.00	0.00	0.00	0.00	5.24	5.11	0.00	5.11	0.00	0.85	0.05	0.53	1.43	0.00	0.00	0.00	0.	0.00
106	10.300	32.00	0.00	0.00	0.00	5.24	5.11	0.00	5.11	0.00	0.85	0.05	0.53	1.44	0.00	0.00	0.00	0.	0.00
107	10.200	32.00	0.00	0.00	0.00	5.24	5.10	0.00	5.10	0.00	0.85	0.05	0.54	1.44	0.00	0.00	0.00	0.	0.00
108	10.100	32.00	0.00	0.00	0.00	5.24	5.10	0.00	5.10	0.00	0.85	0.05	0.54	1.44	0.00	0.00	0.00	0.	0.00
109	10.000	32.00	0.00	0.00	0.00	5.24	5.09	0.00	5.09	0.00	0.85	0.05	0.55	1.45	0.00	0.00	0.00	0.	0.00
110	9.900	32.00	0.00	0.00	0.00	5.24	5.09	0.00	5.09	0.00	0.85	0.05	0.56	1.45	0.00	0.00	0.00	0.	0.00
111	9.800	32.00	0.00	0.00	0.00	5.24	5.08	0.00	5.08	0.00	0.85	0.05	0.56	1.46	0.00	0.00	0.00	0.	0.00
112	9.700	32.00	0.00	0.00	0.00	5.24	5.08	0.00	5.08	0.00	0.85	0.05	0.57	1.46	0.00	0.00	0.00	0.	0.00
113	9.600	32.00	0.00	0.00	0.00	5.24	5.07	0.00	5.07	0.00	0.85	0.05	0.57	1.47	0.00	0.00	0.00	0.	0.00
114	9.500	32.00	0.00	0.00	0.00	5.24	5.07	0.00	5.07	0.00	0.85	0.05	0.58	1.47	0.00	0.00	0.00	0.	0.00
115	9.400	32.00	0.00	0.00	0.00	5.24	5.06	0.00	5.06	0.00	0.84	0.05	0.58	1.48	0.00	0.00	0.00	0.	0.00
116	9.300	32.00	0.00	0.00	0.00	5.24	5.06	0.00	5.06	0.00	0.84	0.05	0.59	1.48	0.00	0.00	0.00	0.	0.00
117	9.200	32.00	0.00	0.00	0.00	5.24	5.05	0.00	5.05	0.00	0.84	0.05	0.59	1.48	0.00	0.00	0.00	0.	0.00
118	9.100	32.00	0.00	0.00	0.00	5.24	5.05	0.00	5.05	0.00	0.84	0.05	0.60	1.49	0.00	0.00	0.00	0.	0.00
119	9.000	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.60	1.49	0.00	0.00	0.00	0.	0.00
120	8.900	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.61	1.50	0.00	0.00	0.00	0.	0.00
121	8.800	32.00	0.00	0.00	0.00	5.24	5.04	0.00	5.04	0.00	0.84	0.05	0.61	1.50	0.00	0.00	0.00	0.	0.00
122	8.700	32.00	0.00	0.00	0.00	5.24	5.03	0.00	5.03	0.00	0.84	0.05	0.62	1.51	0.00	0.00	0.00	0.	0.00
123	8.600	32.00	0.00	0.00	0.00	5.24	5.03	0.00	5.03	0.00	0.84	0.05	0.62	1.51	0.00	0.00	0.00	0.	0.00
124	8.500	32.00	0.00	0.00	0.00	5.24	5.02	0.00	5.02	0.00	0.84	0.05	0.63	1.51	0.00	0.00	0.00	0.	0.00
125	8.400	32.00	0.00	0.00	0.00	5.24	5.02	0.00	5.02	0.00	0.84	0.05	0.63	1.52	0.00	0.00	0.00	0.	0.00
126	8.300	32.00	0.00	0.00	0.00	5.20	10.33	0.00	10.33	0.00	1.55	0.49	0.33	2.36	0.00	0.00	0.00	0.	0.00
127	8.200	32.00	0.00	0.00	0.00	5.16	10.28	0.00	10.28	0.00	1.55	0.47	0.35	2.36	0.00	0.00	0.00	0.	0.00
128	8.100	32.00	0.00	0.00	0.00	5.14	10.22	0.00	10.22	0.00	1.55	0.45	0.37	2.37	0.00	0.00	0.00	0.	0.00
129	8.000	32.00	0.00	0.00	0.00	5.13	10.16	0.00	10.16	0.00	1.54	0.43	0.39	2.37	0.00	0.00	0.00	0.	0.00
130	7.900	32.00	0.00	0.00	0.00	5.13	10.10	0.00	10.10	0.00	1.54	0.42	0.41	2.37	0.00	0.00	0.00	0.	0.00
131	7.800	32.00	0.00	0.00	0.00	5.12	10.05	0.00	10.05	0.00	1.54	0.40	0.43	2.37	0.00	0.00	0.00	0.	0.00
132	7.700	32.00	0.00	0.00	0.00	5.13	9.99	0.00	9.99	0.00	1.54	0.39	0.45	2.38	0.00	0.00	0.00	0.	0.00
133	7.600	32.00	0.00	0.00	0.00	5.13	9.94	0.00	9.94	0.00	1.53	0.37	0.47	2.38	0.00	0.00	0.00	0.	0.00
134	7.500	32.00	0.00	0.00	0.00	5.13	9.88	0.00	9.88	0.00	1.53	0.36	0.49	2.38	0.00	0.00	0.00	0.	0.00
135	7.400	32.00	0.00	0.00	0.00	5.14	9.83	0.00	9.83	0.00	1.53	0.35	0.50	2.38	0.00	0.00	0.00	0.	0.00
136	7.300	32.00	0.00	0.00	0.00	5.15	9.78	0.00	9.78	0.00	1.53	0.34	0.52	2.38	0.00	0.00	0.00	0.	0.00
137	7.200	32.00	0.00	0.00	0.00	5.15	9.73	0.00	9.73	0.00	1.52	0.33	0.54	2.39	0.00	0.00	0.00	0.	0.00
138	7.100	32.00	0.00	0.00	0.00	5.16	9.67	0.00	9.67	0.00	1.52	0.31	0.55	2.39	0.00	0.00	0.00	0.	0.00
139	7.000	32.00	0.00	0.00	0.00	5.17	9.62	0.00	9.62	0.00	1.52	0.30	0.57	2.39	0.00	0.00	0.00	0.	0.00
140	6.900	32.00	0.00	0.00	0.00	5.17	9.57	0.00	9.57	0.00	1.52	0.29	0.58	2.39	0.00	0.00	0.00	0.	0.00
141	6.800	32.00	0.00	0.00	0.00	5.18	9.52	0.00	9.52	0.00	1.52	0.28	0.59	2.39	0.00	0.00	0.00	0.	0.00
142	6.700	32.00	0.00	0.00	0.00	5.19	9.47	0.00	9.47	0.00	1.51	0.28	0.61	2.40	0.00	0.00	0.00	0.	0.00
143	6.600	32.00	0.00	0.00	0.00	5.19	9.42	0.00	9.42	0.00	1.51	0.27	0.62	2.40	0.00	0.00	0.00	0.	0.00
144	6.500	32.00	0.00	0.00	0.00	5.20	9.37	0.00	9.37	0.00	1.51	0.26	0.63	2.40	0.00	0.00	0.00	0.	0.00
145	6.400	32.00	0.00	0.00	0.00	5.20	9.33	0.00	9.33	0.00	1.51	0.25	0.64	2.40	0.00	0.00	0.00	0.	0.00
146	6.300	32.00	0.00	0.00	0.00	5.21	9.28	0.00	9.28	0.00	1.50	0.24	0.66	2.40	0.00	0.00	0.00	0.	0.00
147	6.200	32.00	0.00	0.00	0.00	5.22	9.23	0.00	9.23	0.00	1.50	0.24	0.67	2.41	0.00	0.00	0.00	0.	0.00
148	6.100	32.00	0.00	0.00	0.00	5.22	9.18	0.00	9.18	0.00	1.50	0.23	0.68	2.41	0.00	0.00	0.00	0.	0.00
149	6.000	32.00	0.00	0.00	0.00	5.23	9.14	0.00	9.14	0.00	1.50	0.22	0.69	2.41	0.00	0.00	0.00	0.	0.00
150	5.900	32.00	0.00	0.00	0.00	5.23	9.09	0.00	9.09	0.00	1.50	0.22	0.70	2.41	0.00	0.00	0.00	0.	0.00
151	5.800	32.00	0.00	0.00	0.00	5.24	9.05	0.00	9.05	0.00	1.49	0.21	0.71	2.41	0.00	0.00	0.00	0.	0.00
152	5.700	32.00	0.00	0.00	0.00	5.24	9.00	0.00	9.00	0.00	1.49	0.20	0.72	2.42	0.00	0.00	0.00	0.	0.00
153	5.600	32.00	0.00	0.00	0.00	5.24	8.96	0.00	8.96	0.00	1.49	0.20	0.73	2.42	0.00	0.00	0.00	0.	0.00
154	5.500	32.00	0.00	0.00	0.00	5.25	8.91	0.00	8.91	0.00	1.49	0.19	0.74	2.42	0.00	0.00	0.00	0.	0.00
155	5.400	32.00	0.00	0.00	0.00	5.25	8.87	0.00	8.87	0.00	1.48	0.19	0.75	2.42	0.00	0.00	0.00	0.	0.00

156	5.300	32.00	0.00	0.00	0.00	5.26	8.83	0.00	8.83	0.00	1.48	0.18	0.76	2.43	0.00	0.00	0.00	0.	0.00
157	5.200	32.00	0.00	0.00	0.00	5.26	8.79	0.00	8.79	0.00	1.48	0.18	0.77	2.43	0.00	0.00	0.00	0.	0.00
158	5.100	32.00	0.00	0.00	0.00	5.21	10.37	0.00	10.37	0.00	1.57	0.43	0.77	2.77	0.00	0.00	0.00	0.	0.00
159	5.000	32.00	0.00	0.00	0.00	5.19	10.31	0.00	10.31	0.00	1.57	0.42	0.79	2.77	0.00	0.00	0.00	0.	0.00
160	4.900	32.00	0.00	0.00	0.00	5.17	10.26	0.00	10.26	0.00	1.57	0.40	0.81	2.78	0.00	0.00	0.00	0.	0.00
161	4.800	32.00	0.00	0.00	0.00	5.16	10.20	0.00	10.20	0.00	1.57	0.39	0.82	2.78	0.00	0.00	0.00	0.	0.00
162	4.700	32.00	0.00	0.00	0.00	5.15	10.14	0.00	10.14	0.00	1.56	0.37	0.84	2.78	0.00	0.00	0.00	0.	0.00
163	4.600	32.00	0.00	0.00	0.00	5.15	10.09	0.00	10.09	0.00	1.56	0.36	0.86	2.78	0.00	0.00	0.00	0.	0.00
164	4.500	32.00	0.00	0.00	0.00	5.16	10.04	0.00	10.04	0.00	1.56	0.35	0.87	2.78	0.00	0.00	0.00	0.	0.00
165	4.400	32.00	0.00	0.00	0.00	5.16	9.98	0.00	9.98	0.00	1.56	0.34	0.89	2.79	0.00	0.00	0.00	0.	0.00
166	4.300	32.00	0.00	0.00	0.00	5.16	9.93	0.00	9.93	0.00	1.56	0.33	0.91	2.79	0.00	0.00	0.00	0.	0.00
167	4.200	32.00	0.00	0.00	0.00	5.17	9.88	0.00	9.88	0.00	1.55	0.32	0.92	2.79	0.00	0.00	0.00	0.	0.00
168	4.100	32.00	0.00	0.00	0.00	5.17	9.82	0.00	9.82	0.00	1.55	0.31	0.94	2.79	0.00	0.00	0.00	0.	0.00
169	4.000	32.00	0.00	0.00	0.00	5.18	9.77	0.00	9.77	0.00	1.55	0.30	0.95	2.79	0.00	0.00	0.00	0.	0.00
170	3.900	32.00	0.00	0.00	0.00	5.19	9.72	0.00	9.72	0.00	1.55	0.29	0.96	2.80	0.00	0.00	0.00	0.	0.00
171	3.800	32.00	0.00	0.00	0.00	5.19	9.67	0.00	9.67	0.00	1.54	0.28	0.98	2.80	0.00	0.00	0.00	0.	0.00
172	3.700	32.00	0.00	0.00	0.00	5.20	9.62	0.00	9.62	0.00	1.54	0.27	0.99	2.80	0.00	0.00	0.00	0.	0.00
173	3.600	32.00	0.00	0.00	0.00	5.20	9.57	0.00	9.57	0.00	1.54	0.26	1.00	2.80	0.00	0.00	0.00	0.	0.00
174	3.500	32.00	0.00	0.00	0.00	5.21	9.52	0.00	9.52	0.00	1.54	0.25	1.01	2.80	0.00	0.00	0.00	0.	0.00
175	3.400	32.00	0.00	0.00	0.00	5.21	9.47	0.00	9.47	0.00	1.53	0.25	1.02	2.81	0.00	0.00	0.00	0.	0.00
176	3.300	32.00	0.00	0.00	0.00	5.22	9.43	0.00	9.43	0.00	1.53	0.24	1.04	2.81	0.00	0.00	0.00	0.	0.00
177	3.200	32.00	0.00	0.00	0.00	5.22	9.38	0.00	9.38	0.00	1.53	0.23	1.05	2.81	0.00	0.00	0.00	0.	0.00
178	3.100	32.00	0.00	0.00	0.00	5.23	9.33	0.00	9.33	0.00	1.53	0.23	1.06	2.81	0.00	0.00	0.00	0.	0.00
179	3.000	32.00	0.00	0.00	0.00	5.23	9.29	0.00	9.29	0.00	1.53	0.22	1.07	2.81	0.00	0.00	0.00	0.	0.00
180	2.900	32.00	0.00	0.00	0.00	5.24	9.24	0.00	9.24	0.00	1.52	0.21	1.08	2.82	0.00	0.00	0.00	0.	0.00
181	2.800	32.00	0.00	0.00	0.00	5.24	9.19	0.00	9.19	0.00	1.52	0.21	1.09	2.82	0.00	0.00	0.00	0.	0.00
182	2.700	32.00	0.00	0.00	0.00	5.25	9.15	0.00	9.15	0.00	1.52	0.20	1.10	2.82	0.00	0.00	0.00	0.	0.00
183	2.600	32.00	0.00	0.00	0.00	5.25	9.11	0.00	9.11	0.00	1.52	0.20	1.11	2.82	0.00	0.00	0.00	0.	0.00
184	2.500	32.00	0.00	0.00	0.00	5.26	9.06	0.00	9.06	0.00	1.51	0.19	1.12	2.82	0.00	0.00	0.00	0.	0.00
185	2.400	32.00	0.00	0.00	0.00	5.26	9.02	0.00	9.02	0.00	1.51	0.19	1.13	2.83	0.00	0.00	0.00	0.	0.00
186	2.300	32.00	0.00	0.00	0.00	5.26	8.97	0.00	8.97	0.00	1.51	0.18	1.13	2.83	0.00	0.00	0.00	0.	0.00
187	2.200	32.00	0.00	0.00	0.00	5.27	8.93	0.00	8.93	0.00	1.51	0.18	1.14	2.83	0.00	0.00	0.00	0.	0.00
188	2.100	32.00	0.00	0.00	0.00	5.27	8.89	0.00	8.89	0.00	1.51	0.18	1.15	2.83	0.00	0.00	0.00	0.	0.00
189	2.000	32.00	0.00	0.00	0.00	5.27	8.85	0.00	8.85	0.00	1.50	0.17	1.16	2.83	0.00	0.00	0.00	0.	0.00
190	1.900	32.00	0.00	0.00	0.00	5.28	8.81	0.00	8.81	0.00	1.50	0.17	1.17	2.84	0.00	0.00	0.00	0.	0.00
191	1.800	32.00	0.00	0.00	0.00	5.28	8.77	0.00	8.77	0.00	1.50	0.16	1.17	2.84	0.00	0.00	0.00	0.	0.00
192	1.700	32.00	0.00	0.00	0.00	5.28	8.73	0.00	8.73	0.00	1.50	0.16	1.18	2.84	0.00	0.00	0.00	0.	0.00
193	1.600	32.00	0.00	0.00	0.00	5.29	8.69	0.00	8.69	0.00	1.50	0.16	1.19	2.84	0.00	0.00	0.00	0.	0.00
194	1.500	32.00	0.00	0.00	0.00	5.29	8.65	0.00	8.65	0.00	1.49	0.15	1.20	2.84	0.00	0.00	0.00	0.	0.00
195	1.400	32.00	0.00	0.00	0.00	5.29	8.61	0.00	8.61	0.00	1.49	0.15	1.20	2.85	0.00	0.00	0.00	0.	0.00
196	1.300	32.00	0.00	0.00	0.00	5.29	8.57	0.00	8.57	0.00	1.49	0.15	1.21	2.85	0.00	0.00	0.00	0.	0.00
197	1.200	32.00	0.00	0.00	0.00	5.30	8.53	0.00	8.53	0.00	1.49	0.15	1.22	2.85	0.00	0.00	0.00	0.	0.00
198	1.100	32.00	0.00	0.00	0.00	5.30	8.49	0.00	8.49	0.00	1.48	0.14	1.22	2.85	0.00	0.00	0.00	0.	0.00
199	1.000	32.00	0.00	0.00	0.00	5.30	8.45	0.00	8.45	0.00	1.48	0.14	1.23	2.85	0.00	0.00	0.00	0.	0.00
200	0.900	32.00	0.00	0.00	0.00	5.30	8.42	0.00	8.42	0.00	1.48	0.14	1.24	2.86	0.00	0.00	0.00	0.	0.00
201	0.800	32.00	0.00	0.00	0.00	5.31	8.38	0.00	8.38	0.00	1.48	0.14	1.24	2.86	0.00	0.00	0.00	0.	0.00
202	0.700	32.00	0.00	0.00	0.00	5.31	8.34	0.00	8.34	0.00	1.48	0.13	1.25	2.86	0.00	0.00	0.00	0.	0.00
203	0.600	32.00	0.00	0.00	0.00	5.45	8.12	0.00	8.12	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00

REACH NO. 2 Boggy Bayou d/s of Gilmer Summer Projection with 46% NPS reduction

********** REACH INPUTS **********

ELEM NO.	TYPE	FLOW	TEMP deg C	SALN ppt	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	PHOS mg/L	CHL A µg/L	COLI #/100mL	NCM
204	UPR RCH	0.01494	32.00	0.00	0.00	0.00	5.45	8.12	0.00	8.12	0.00	1.34	0.11	1.02	0.00	0.00	0.00	0.00

********** HYDRAULIC PARAMETER VALUES **********

ELEM NO.	BEGIN DIST km	ENDING DIST km	FLOW m³/s	PCT EFF	ADVCTV VELO m/s	TRAVEL TIME days	DEPTH m	WIDTH m	VOLUME m³	SURFACE AREA m²	X-SECT AREA m²	TIDAL PRISM m³	TIDAL VELO m/s	DISPRSN m²/s	MEAN VELO m/s
204	0.60	0.50	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
205	0.50	0.40	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
206	0.40	0.30	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
207	0.30	0.20	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
208	0.20	0.10	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
209	0.10	0.00	0.01494	81.1	0.01026	0.11	0.16	9.10	145.60	910.00	1.46	0.00	0.000	0.000	0.010
TOT						0.68			873.60	5460.00					
AVG					0.0103		0.16	9.10			1.46				
CUM						49.92									

********** BIOLOGICAL AND PHYSICAL COEFFICIENTS **********

ELEM NO.	ENDING DIST	SAT D.O. mg/L	REAER RATE 1/da	BOD#1 DECAY 1/da	BOD#1 SETT 1/da	ABOD#1 DECAY 1/da	BOD#2 DECAY 1/da	BOD#2 SETT 1/da	ABOD#2 DECAY 1/da	BKGD SOD *	FULL SOD *	CORR SOD *	ORGN DECAY 1/da	ORGN SETT 1/da	NH3 DECAY 1/da	NH3 SRCE *	DENIT RATE 1/da	PO4 SRCE *	ALG PROD **	MAC PROD **	COLI DECAY 1/da	NCM DECAY 1/da	NCM SETT 1/da
204	0.500	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
205	0.400	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
206	0.300	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
207	0.200	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
208	0.100	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
209	0.000	7.30	6.31	0.10	0.00	0.00	0.00	0.00	0.00	2.19	2.19	2.19	0.03	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AVG 20 DEG C RATE			5.07	0.05	0.00	0.00	0.00	0.00	0.00	1.03			0.02	0.00	0.08	0.00	0.00	0.00			0.00	0.00	0.00

* g/m²/d ** mg/L/day

********** WATER QUALITY CONSTITUENT VALUES **********

ELEM NO.	ENDING DIST	TEMP DEG C	SALN PPT	CM-I	CM-II	DO mg/L	BOD#1 mg/L	BOD#2 mg/L	EBOD#1 mg/L	EBOD#2 mg/L	ORGN mg/L	NH3 mg/L	NO3+2 mg/L	TOTN mg/L	PHOS mg/L	CHL A µg/L	MACRO g/m³	COLI #/100mL	NCM

204	0.500	32.00	0.00	0.00	0.00	5.26	8.03	0.00	8.03	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00
205	0.400	32.00	0.00	0.00	0.00	5.15	7.94	0.00	7.94	0.00	1.34	0.11	1.02	2.47	0.00	0.00	0.00	0.	0.00
206	0.300	32.00	0.00	0.00	0.00	5.09	7.86	0.00	7.86	0.00	1.33	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
207	0.200	32.00	0.00	0.00	0.00	5.05	7.78	0.00	7.78	0.00	1.33	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
208	0.100	32.00	0.00	0.00	0.00	5.03	7.69	0.00	7.69	0.00	1.32	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00
209	0.000	32.00	0.00	0.00	0.00	5.02	7.61	0.00	7.61	0.00	1.32	0.12	1.03	2.47	0.00	0.00	0.00	0.	0.00

STREAM SUMMARY
Boggy Bayou

LA-QUAL Model for Boggy Bayou (100602)
Summer Projection with 46% NPS reduction

TRAVEL TIME	=	49.92 DAYS		
MAXIMUM EFFLUENT	=	81.06 PERCENT		
FLOW	=	0.00283 TO	0.01494	m^3/s
DISPERSION	=	0.0000 TO	0.0000	m^2/s
VELOCITY	=	0.00247 TO	0.01301	m/s
DEPTH	=	0.16 TO	0.28	m
WIDTH	=	4.10 TO	9.10	m
BOD DECAY	=	0.10 TO	0.10	per day
NH3 DECAY	=	0.19 TO	0.43	per day
SOD	=	1.72 TO	2.19	$g/m^2/d$
NH3 SOURCE	=	0.00 TO	0.00	$g/m^2/d$
REAERATION	=	3.11 TO	6.31	per day
BOD SETTLING	=	0.00 TO	0.00	per day
ORG-N DECAY	=	0.03 TO	0.03	per day
ORG-N SETTLING	=	0.00 TO	0.00	per day
TEMPERATURE	=	32.00 TO	32.00	deg C
DISSOLVED OXYGEN	=	5.02 TO	5.45	mg/L

LA-QUAL Model for Boggy Bayou (100602)
Summer Projection with 46% NPS reduction

INPUT/OUTPUT LOADING SUMMARY

	FLOW m^3/s	DO kg/d	BOD#1 kg/d	BOD#2 kg/d	ORG-N kg/d	NH3-N kg/d	NO3-N kg/d	PHOS kg/d	CHL A	NCM
HEADWATER FLOW	0.003	1.4	1.6	0.0	0.2	0.0	0.0	0.0	0.0	0.0
INCREMENTAL INFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
INCREMENTAL OUTFLOW	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WASTELOADS	0.012	5.8	13.5	0.0	1.7	0.8	0.0	0.0	0.0	0.0
WITHDRAWLS	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FLOW THRU LOWER BNDRY	-0.015	-6.5	-9.8	0.0	-1.7	-0.2	-1.3	0.0	0.0	0.0
DISPERSION THRU LOWER BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
DISPERSION THRU HDWTR BNDRY		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NON-POINT INPUT		0.0	10.8	0.0	0.4					0.0
NATURAL REAERATION		176.7								
DAM REAERATION		0.0								
BACKGROUND SOD		-155.5								
BOD#1 DECAY		-16.0	-16.0							
BOD#1 SETTLING		0.0	0.0							
ANAEROBIC BOD#1 DECAY			0.0							
BOD#2 DECAY		0.0		0.0						
BOD#2 SETTLING		0.0		0.0						
ANAEROBIC BOD#2 DECAY				0.0						
ORG-N DECAY		0.0			-0.7	0.7				
ORG-N SETTLING					0.0	0.0				
NH3 DECAY		-5.8				-1.3	1.3			
BACKGROUND NH3 SOURCE						0.0				
OTHER DENITRIFICATION							0.0			
PHOSPHORUS SOURCE								0.0		
ALGAE PHOTOSYNTHESIS		0.0				0.0	0.0	0.0	0.0	
ALGAE RESPIRATION		0.0				0.0		0.0	0.0	
ALGAE SETTLING		0.0							0.0	
MACRO PHOTOSYNTHESIS		0.0				0.0	0.0	0.0		
NCM DECAY		0.0								0.0
NCM SETTLING		0.0								0.0
TOTAL INPUTS	0.015	183.8	25.8	0.0	2.4	1.5	1.3	0.0	0.0	0.0
TOTAL OUTPUTS	-0.015	-183.8	-25.8	0.0	-2.4	-1.5	-1.3	0.0	0.0	0.0
NET CONVERGENCE ERROR	0.000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

.....EXECUTION COMPLETED

APPENDIX K

Input and Output for TMDL Calculation Program

SUMMARY OF TMDL CALCULATIONS FOR DO TMDLs IN RED AND SABINE BASINS

Total maximum daily load (TMDL) is sum of these six components:

- Wasteload allocations (WLA) for point sources
- Margin of safety (MOS) for point sources
- Future growth (FG) for point sources
- Load allocations (LA) for nonpoint sources
- Margin of safety (MOS) for nonpoint sources
- Future growth (FG) for nonpoint sources

Point sources:

- For this analysis, all effluent flows are set to 125% of design or expected flow (for both simulated point sources and minor point sources)

- Each load calculated as: Load, kg/day = (Flow, m^3/sec) × (Concentration, mg/L) × 86.4

- Oxygen demand from ammonia and organic nitrogen = nitrogen load × 4.33

- Total point source load = sum of point source loads simulated in model + sum of minor point source loads calculated in spreadsheet

- MOS for all point sources = 10% × total point source load
- FG for all point sources = 10% × total point source load

- WLA for each simulated point source = 80% × simulated load for that point source
- WLA for all minor point sources = 80% × total load for minor point sources

Nonpoint sources:

- This includes headwaters, tributaries, incremental inflow, sediment oxygen demand, benthic ammonia loads, mass loads of CBODu, and mass loads of organic nitrogen.

- Each load for headwaters, tributaries, and incremental inflow is calculated as:
  Load, kg/day = (Flow, m^3/sec) × (Concentration, mg/L) × 86.4

- For this analysis, the sediment oxygen demand (SOD) is corrected for temperature by multiplying the model input values times 1.065^(Temperature, °C – 20)

- Loads from SOD and benthic ammonia are calculated as:
  Load, kg/day = (rate per unit area, g/m^2/day)× (stream bottom area, m^2) × 0.001

- Oxygen demand from ammonia and organic nitrogen = nitrogen load × 4.33

- MOS for nonpoint sources = 10% × sum of all nonpoint source loads
- FG for nonpoint sources = 10% × sum of all nonpoint source loads

- LA for nonpoint sources = 80% × sum of all nonpoint source loads

```
100602                  Subsegment number for this TMDL
"Boggy Bayou"           Subsegment name (max 50 chars)
"bogsum.out"            Name of LA-QUAL output file
2                       Total number of reaches in the model
100602                  Subsegment that reach 1 is in
100602                  Subsegment that reach 2 is in
10                      point source margin of safety (%)
10                      point source Future Gorwth (%)
10                      NPS margin of safety (%)
10                      NPS Future Growth (%)
4.33                    Ratio of oxygen demand to nitrogen
6                       Number of minor point sources
                        MINOR POINT SOURCE DISCHARGE #1:
"LAG480011"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0018                     Flow (MGD)
"LA Lift & Equip"          Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #2:
"LAG480284"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0026                     Flow (MGD)
"Jack Cooper Trans"        Comment for flow (max 40 chars)
45                          CBOD5 or BOD5 permit limit
0                           COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #3:
"LAG530693"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.000675                   Flow (MGD)
"KEH Property"             Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #4:
"LAG560089"                NPDES permit number (9 chars)
"   "                      Outfall number (3 chars)
0.033                      Flow (MGD)
"Wildwood Estates"         Comment for flow (max 40 chars)
20                         CBOD5 or BOD5 permit limit
0                          COD permit limit
6.7                        Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #5:
"LAG750459"                NPDES permit number (9 chars)
"002"                      Outfall number (3 chars)
0.005                      Flow (MGD)
"Norwell Equip"            Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #6:
"LAG750449"                NPDES permit number (9 chars)
"002"                      Outfall number (3 chars)
0.005                      Flow (MGD)
"Deep South Equip"         Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
```

```
0                       COD permit limit
10                      Ammonia N permit limit
""                      Comment for conc. limits (max 40 chars)
No                  Nutrient TMDL needed?
1.0                 Natural ratio of total N to total P
```

TMDL CALCULATIONS FOR SUBSEGMENT: 100602 Boggy Bayou
FTN ASSOCIATES, LTD.
Program:Pr20m6f

INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIONS:
File name:tmdlbogs.inp

INFO FOR LA-QUAL OUTPUT FILE:
File name:bogsum.out
Date/Time:Output produced at 12:58 on 09/28/2007
LA-QUAL Version 8.11

LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:
Reach 1 (Elements 1 - 203) is in subsegment 100602 Boggy Bayou u/s
Reach 2 (Elements 204 - 209) is in subsegment 100602 Boggy Bayou d/s

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CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

Reach or Element number	Inflow rate (m3/sec)	CBODu conc. (mg/L)	Organic N conc. (mg/L)	Ammonia N conc. (mg/L)	NO2+NO3 N conc. (mg/L)	Name of inflow
1	0.00283	6.48	0.95	0.03	0.00	Boggy Bayou
49	0.00283	6.48	0.95	0.03	0.00	NPS Unnamed Trib 1
126	0.00283	6.48	0.95	0.03	0.00	NPS Unnamed Trib 2
203	0.00283	7.29	0.78	0.03	0.00	NPS Gilmer Bayou

Calculated values:

Element number	CBODu load (kg/day)	Organic N load (kg/day)	Ammonia N load (kg/day)	NO2+NO3 N load (kg/day)
1	1.58	0.23	0.01	0.00
49	1.58	0.23	0.01	0.00
126	1.58	0.23	0.01	0.00
203	1.78	0.19	0.01	0.00
Subsegment totals:	5.07	0.88	0.04	0.00

CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:

Values from LA-QUAL output:

Reach number	CBODu mass load (kg/day)	Organic N mass load (kg/day)
1	10.80	0.43
2	0.00	0.00
Subsegment totals	10.80	0.43

CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:

SOD temperature correction factor used in LA-QUAL model: 1.065 (default)

Equations used: SOD temp. corrected = (SOD at 20 C) * 1.065^(Water temp - 20 C)
SOD load = (SOD temp. corrected, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g
Benthic NH3-N load = (Benthic ammonia N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g

		Values from LA-QUAL output:				Calculated values:		
Reach number	Element number	Water temp. (deg C)	Surface area (m2)	SOD at 20 C (g/m2/day)	Benthic ammonia N (g/m2/day)	SOD temp. corrected (g/m2/day)	SOD load (kg/day)	Benthic NH3-N load (kg/day)
1	1	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	2	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	3	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	4	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	5	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	6	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	7	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	8	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	9	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	10	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	11	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	12	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	13	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	14	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	15	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	16	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	17	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	18	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	19	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	20	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	21	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	22	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	23	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	24	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	25	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	26	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	27	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	28	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	29	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	30	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	31	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	32	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	33	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	34	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	35	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	36	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	37	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	38	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	39	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	40	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	41	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	42	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	43	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	44	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	45	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	46	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	47	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	48	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	49	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	50	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	51	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	52	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	53	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	54	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	55	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	56	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	57	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	58	32.00	410.0	1.720	0.00	1.720	0.71	0.00

1	59	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	60	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	61	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	62	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	63	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	64	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	65	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	66	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	67	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	68	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	69	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	70	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	71	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	72	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	73	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	74	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	75	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	76	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	77	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	78	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	79	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	80	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	81	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	82	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	83	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	84	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	85	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	86	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	87	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	88	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	89	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	90	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	91	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	92	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	93	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	94	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	95	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	96	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	97	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	98	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	99	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	100	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	101	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	102	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	103	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	104	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	105	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	106	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	107	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	108	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	109	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	110	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	111	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	112	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	113	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	114	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	115	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	116	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	117	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	118	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	119	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	120	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	121	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	122	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	123	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	124	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	125	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	126	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	127	32.00	410.0	1.720	0.00	1.720	0.71	0.00

1	128	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	129	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	130	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	131	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	132	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	133	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	134	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	135	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	136	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	137	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	138	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	139	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	140	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	141	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	142	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	143	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	144	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	145	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	146	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	147	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	148	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	149	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	150	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	151	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	152	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	153	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	154	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	155	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	156	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	157	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	158	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	159	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	160	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	161	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	162	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	163	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	164	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	165	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	166	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	167	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	168	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	169	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	170	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	171	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	172	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	173	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	174	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	175	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	176	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	177	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	178	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	179	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	180	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	181	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	182	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	183	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	184	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	185	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	186	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	187	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	188	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	189	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	190	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	191	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	192	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	193	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	194	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	195	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	196	32.00	410.0	1.720	0.00	1.720	0.71	0.00

1	197	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	198	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	199	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	200	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	201	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	202	32.00	410.0	1.720	0.00	1.720	0.71	0.00
1	203	32.00	410.0	1.720	0.00	1.720	0.71	0.00
2	204	32.00	910.0	1.720	0.00	2.190	1.99	0.00
2	205	32.00	910.0	1.720	0.00	2.190	1.99	0.00
2	206	32.00	910.0	1.720	0.00	2.190	1.99	0.00
2	207	32.00	910.0	1.720	0.00	2.190	1.99	0.00
2	208	32.00	910.0	1.720	0.00	2.190	1.99	0.00
2	209	32.00	910.0	1.720	0.00	2.190	1.99	0.00
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				Subsegment totals:			155.11	0.00

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CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

Element number	Inflow rate (m3/sec)	CBODu conc. (mg/L)	Organic N conc. (mg/L)	Ammonia N conc. (mg/L)	NO2+NO3 N conc. (mg/L)	Name of discharge
126	0.00329	23.000	3.300	1.700	0.000	LaLaurie Ln Ox Pon
158	0.00033	69.000	5.000	10.000	0.000	Grawood Church

Calculated values:

Element number	CBODu load (kg/day)	Organic N load (kg/day)	Ammonia N load (kg/day)	NO2+NO3 N load (kg/day)
126	6.54	0.94	0.48	0.00
158	1.97	0.14	0.29	0.00
Subsegment total	8.51	1.08	0.77	0.00

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CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:

Equations used: Flow rate from TMDL calcs = Permit flow rate * 1.250 (to incorporate MOS and FG)
(Load, kg/day) = (Flow rate, MGD) * (Conc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

Assumptions: Ratio of CBODu to CBOD5 for point source dissharges = 2.3 (guidance from LTP).
For permits with BOD or ammonia limits, NO2+NO3 = 10 mg/L (drinking water criteria).
For permits with COD limits, assume that CBODu is about the same magnitude as COD and that discharges of nitrogen (organic, ammonia, and NO2+NO3) are negligible.

NPDES permit number	Outfall number	Permit flow rate (MGD)	Factor to incorporate MOS and FG into flow	Flow rate for TMDL calcs (MGD	Comments
LAG480011	001	0.002	1.250	0.002	LA Lift & Equip
LAG480284	001	0.003	1.250	0.003	Jack Cooper Trans

LAG530693	001	0.001	1.250	0.001	KEH Property
LAG560089		0.033	1.250	0.041	Wildwood Estates
LAG750459	002	0.005	1.250	0.006	Norwell Equip
LAG750449	002	0.005	1.250	0.006	Deep South Equip

User specified permit limits:

NPDES permit number	Outfall number	CBOD5 (mg/L)	COD (mg/L)	Ammonia (mg/L)	Comments
LAG480011	001	45.0	0.0	10.0	
LAG480284	001	45.0	0.0	10.0	
LAG530693	001	45.0	0.0	10.0	
LAG560089		20.0	0.0	6.7	
LAG750459	002	45.0	0.0	10.0	
LAG750449	002	45.0	0.0	10.0	

Values for TMDL calculations:

NPDES permit number	Outfall number	CBODu (mg/L)	Organic N (mg/L)	Ammonia N (mg/L)	NO2+NO3 N (mg/L)	Comments
LAG480011	001	103.50	20.00	10.00	0.00	
LAG480284	001	103.50	20.00	10.00	0.00	
LAG530693	001	103.50	20.00	10.00	0.00	
LAG560089		46.00	13.40	6.70	0.00	
LAG750459	002	103.50	20.00	10.00	0.00	
LAG750449	002	103.50	20.00	10.00	0.00	

Calculated loads:

NPDES permit number	Outfall number	CBODu (kg/day)	Organic N (kg/day)	AmmoniaN (kg.day)	NO2+NO3 N (kg.day)	Comments
LAG480011	001	0.88	0.17	0.09	0.00	
LAG480284	001	1.27	0.25	0.12	0.00	
LAG530693	001	0.33	0.06	0.03	0.00	
LAG560089		7.18	2.09	1.05	0.00	
LAG750459	002	2.45	0.47	0.24	0.00	
LAG750449	002	2.45	0.47	0.24	0.00	
Subsegment total		14.56	3.52	1.76	0.00	

SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of safety = 10.0% * nonpoint source load
Future Growth = 10.0% * nonpoint source load
Load Allocation = 80.0% * nonpoint source load

Values from calculations above

			Nitrogen loads (kg/day of N):		
	SOD (kg/day)	CBODu (kg/day)	Organic (kg/day)	Ammonia (kg/day)	NO2+NO3 N (kg/day)
NPS inflows	N/A	5.07	0.88	0.04	0.00
Mass LOads (data type 19)	N/A	10.80	0.43	N/A	N/A
SOD and Benthic	155.11	N/A	N/A	0.00	N/A

Calculated loads of oxygen demand:

	SOD (kg/day)	CBODu (kg/day)	Oygen demand loads: Organic (kg/day)	Oygen demand loads: Ammonia (kg/day)	Total Oxygen demand (kg/day)
NPS inflows	N/A	5.07	3.81	0.17	9.06
Mass LOads (data type 19)	N/A	10.80	1.86	N/A	12.66
SOD and Benthic	155.11	N/A	N/A	0.00	155.11
Total for all NPS loads	155.11	15.87	5.67	0.17	176.83
NPS future growth (10.0%)	15.51	1.59	0.57	0.02	17.68
NPS margin of safety (10.0%)	15.51	1.59	0.57	0.02	17.68
NPS load allocation (80.0%)	124.09	12.69	4.53	0.13	141.47

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SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of Safety = 10.0% * point source load
Future Growth = 10.0% * nonpoint source load
Wasteload Allocation (WLA) for modeled point source = 80.0% * modeled load
Wasteload Allocation (WLA) for minor point sources = 80.0% * calculated load

Values from calculations above

	CBODu (kg/day)	Nitrogen loads (kg/day of N): Organic N (kg/day)	Ammonia N (kg/day)	NO3+NO2 (kg/day)
Modeled load for: LaLaurie Ln Ox Pon	6.54	0.94	0.48	0.00
Modeled load for: Grawood Church	1.97	0.14	0.29	0.00
Calculated load for minor point source	14.56	3.52	1.76	0.00

Calculated loads of oxygen demand

	CBODu (kg/day)	Oygen demand loads: Organic N (kg/day)	Ammonia N (kg/day)	Total Oxygen demand (kg/day)
Modeled load for: LaLaurie Ln Ox Pon	6.54	4.06	2.09	12.69
Modeled load for: Grawood Church	1.97	0.62	1.23	3.82
Calculated load for minor point source	14.56	15.24	7.62	37.42
Total for all point source loads	23.07	19.91	10.94	53.93
MOS for all point Sources (10.0%)	2.31	1.99	1.09	5.39
FG for all point Sources (10.0%)	2.31	1.99	1.09	5.39
WLA for: LaLaurie Ln Ox Pon (80.0%)	5.23	3.25	1.67	10.15
WLA for: Grawood Church (80.0%)	1.57	0.49	0.99	3.06
WLA for minor point sources (80.0%)	11.65	12.19	6.09	29.93

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100602                  Subsegment number for this TMDL
"Boggy Bayou"           Subsegment name (max 50 chars)
"bogwin.out"            Name of LA-QUAL output file
2                       Total number of reaches in the model
100602                  Subsegment that reach 1 is in
100602                  Subsegment that reach 2 is in
10                      point source margin of safety (%)
10                      point source Future Gorwth (%)
10                      NPS margin of safety (%)
10                      NPS Future Growth (%)
4.33                    Ratio of oxygen demand to nitrogen
6                       Number of minor point sources
                        MINOR POINT SOURCE DISCHARGE #1:
"LAG480011"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0018                     Flow (MGD)
"LA Lift & Equip"          Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #2:
"LAG480284"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.0026                     Flow (MGD)
"Jack Cooper Trans"        Comment for flow (max 40 chars)
45                          CBOD5 or BOD5 permit limit
0                           COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #3:
"LAG530693"                NPDES permit number (9 chars)
"001"                      Outfall number (3 chars)
0.000675                   Flow (MGD)
"KEH Property"             Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #4:
"LAG560089"                NPDES permit number (9 chars)
"  "                       Outfall number (3 chars)
0.033                      Flow (MGD)
"Wildwood Estates"         Comment for flow (max 40 chars)
20                         CBOD5 or BOD5 permit limit
0                          COD permit limit
6.7                        Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #5:
"LAG750459"                NPDES permit number (9 chars)
"002"                      Outfall number (3 chars)
0.005                      Flow (MGD)
"Norwell Equip"            Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
                        MINOR POINT SOURCE DISCHARGE #6:
"LAG750449"                NPDES permit number (9 chars)
"002"                      Outfall number (3 chars)
0.005                      Flow (MGD)
"Deep South Equip"         Comment for flow (max 40 chars)
45                         CBOD5 or BOD5 permit limit
0                          COD permit limit
10                         Ammonia N permit limit
""                         Comment for conc. limits (max 40 chars)
No                      Nutrient TMDL needed?
1.0                     Natural ratio of total N to total P
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TMDL CALCULATIONS FOR SUBSEGMENT: 100602 Boggy Bayou
FTN ASSOCIATES, LTD.
Program:Pr20m6f

INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIONS:
File name:tmdlbogw.inp

INFO FOR LA-QUAL OUTPUT FILE:
File name:bogwin.out
Date/Time:Output produced at 13:02 on 09/28/2007
LA-QUAL Version 8.11

LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:
Reach 1 (Elements 1 - 203) is in subsegment 100602 Boggy Bayou u/s
Reach 2 (Elements 204 - 209) is in subsegment 100602 Boggy Bayou d/s

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CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

Reach or Element number	Inflow rate (m3/sec)	CBODu conc. (mg/L)	Organic N conc. (mg/L)	Ammonia N conc. (mg/L)	NO2+NO3 N conc. (mg/L)	Name of inflow
1	0.02830	12.00	1.75	0.05	0.00	Boggy Bayou
49	0.02830	12.00	1.75	0.05	0.00	NPS Unnamed Trib 1
126	0.02830	12.00	1.75	0.05	0.00	NPS Unnamed Trib 2
203	0.02830	13.50	1.45	0.05	0.00	NPS Gilmer Bayou

Calculated values:

Element number	CBODu load (kg/day)	Organic N load (kg/day)	Ammonia N load (kg/day)	NO2+NO3 N load (kg/day)
1	29.34	4.28	0.12	0.00
49	29.34	4.28	0.12	0.00
126	29.34	4.28	0.12	0.00
203	33.01	3.55	0.12	0.00
Subsegment totals:	92.69	16.39	0.48	0.00

CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:

Values from LA-QUAL output:

Reach number	CBODu mass load (kg/day)	Organic N mass load (kg/day)
1	20.00	0.80
2	0.00	0.00
Subsegment totals	20.00	0.80

CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:

SOD temperature correction factor used in LA-QUAL model: 1.065 (default)

Equations used: SOD temp. corrected = (SOD at 20 C) * 1.065^(Water temp - 20 C)
SOD load = (SOD temp. corrected, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g
Benthic NH3-N load = (Benthic ammonia N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g

		Values from LA-QUAL output:				Calculated values:		
Reach number	Element number	Water temp. (deg C)	Surface area (m2)	SOD at 20 C (g/m2/day)	Benthic ammonia N (g/m2/day)	SOD temp. corrected (g/m2/day)	SOD load (kg/day)	Benthic NH3-N load (kg/day)
1	1	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	2	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	3	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	4	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	5	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	6	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	7	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	8	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	9	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	10	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	11	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	12	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	13	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	14	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	15	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	16	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	17	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	18	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	19	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	20	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	21	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	22	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	23	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	24	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	25	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	26	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	27	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	28	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	29	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	30	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	31	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	32	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	33	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	34	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	35	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	36	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	37	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	38	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	39	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	40	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	41	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	42	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	43	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	44	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	45	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	46	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	47	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	48	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	49	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	50	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	51	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	52	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	53	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	54	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	55	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	56	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	57	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	58	22.90	410.0	1.800	0.00	1.800	0.74	0.00

1	59	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	60	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	61	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	62	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	63	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	64	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	65	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	66	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	67	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	68	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	69	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	70	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	71	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	72	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	73	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	74	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	75	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	76	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	77	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	78	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	79	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	80	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	81	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	82	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	83	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	84	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	85	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	86	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	87	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	88	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	89	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	90	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	91	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	92	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	93	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	94	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	95	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	96	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	97	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	98	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	99	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	100	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	101	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	102	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	103	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	104	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	105	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	106	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	107	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	108	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	109	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	110	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	111	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	112	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	113	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	114	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	115	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	116	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	117	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	118	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	119	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	120	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	121	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	122	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	123	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	124	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	125	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	126	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	127	22.90	410.0	1.800	0.00	1.800	0.74	0.00

1	128	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	129	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	130	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	131	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	132	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	133	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	134	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	135	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	136	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	137	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	138	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	139	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	140	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	141	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	142	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	143	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	144	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	145	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	146	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	147	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	148	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	149	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	150	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	151	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	152	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	153	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	154	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	155	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	156	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	157	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	158	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	159	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	160	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	161	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	162	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	163	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	164	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	165	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	166	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	167	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	168	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	169	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	170	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	171	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	172	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	173	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	174	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	175	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	176	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	177	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	178	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	179	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	180	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	181	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	182	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	183	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	184	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	185	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	186	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	187	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	188	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	189	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	190	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	191	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	192	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	193	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	194	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	195	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	196	22.90	410.0	1.800	0.00	1.800	0.74	0.00

1	197	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	198	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	199	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	200	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	201	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	202	22.90	410.0	1.800	0.00	1.800	0.74	0.00
1	203	22.90	410.0	1.800	0.00	1.800	0.74	0.00
2	204	22.90	910.0	1.800	0.00	2.280	2.07	0.00
2	205	22.90	910.0	1.800	0.00	2.280	2.07	0.00
2	206	22.90	910.0	1.800	0.00	2.280	2.07	0.00
2	207	22.90	910.0	1.800	0.00	2.280	2.07	0.00
2	208	22.90	910.0	1.800	0.00	2.280	2.07	0.00
2	209	22.90	910.0	1.800	0.00	2.280	2.07	0.00
							162.26	0.00
				Subsegment totals:				

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:

Equation used: (Load, kg/day) = (Inflow rate, m3/sec) * (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 * 86400 sec/day

Values from LA-QUAL output:

Element number	Inflow rate (m3/sec)	CBODu conc. (mg/L)	Organic N conc. (mg/L)	Ammonia N conc. (mg/L)	NO2+NO3 N conc. (mg/L)	Name of discharge
126	0.00329	23.000	3.300	1.700	0.000	LaLaurie Ln Ox Pon
158	0.00033	69.000	5.000	10.000	0.000	Grawood Church

Calculated values:

Element number	CBODu load (kg/day)	Organic N load (kg/day)	Ammonia N load (kg/day)	NO2+NO3 N load (kg/day)
126	6.54	0.94	0.48	0.00
158	1.97	0.14	0.29	0.00
Subsegment total	8.51	1.08	0.77	0.00

CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:

Equations used: Flow rate from TMDL calcs = Permit flow rate * 1.250 (to incorporate MOS and FG)
(Load, kg/day) = (Flow rate, MGD) * (Conc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

Assumptions: Ratio of CBODu to CBOD5 for point source dissharges = 2.3 (guidance from LTP).
For permits with BOD or ammonia limits, NO2+NO3 = 10 mg/L (drinking water criteria).
For permits with COD limits, assume that CBODu is about the same magnitude as COD and that discharges of nitrogen (organic, ammonia, and NO2+NO3) are negligible.

NPDES permit number	Outfall number	Permit flow rate (MGD)	Factor to incorporate MOS and FG into flow	Flow rate for TMDL calcs (MGD	Comments
LAG480011	001	0.002	1.250	0.002	LA Lift & Equip
LAG480284	001	0.003	1.250	0.003	Jack Cooper Trans

LAG530693	001	0.001	1.250	0.001	KEH Property
LAG560089		0.033	1.250	0.041	Wildwood Estates
LAG750459	002	0.005	1.250	0.006	Norwell Equip
LAG750449	002	0.005	1.250	0.006	Deep South Equip

User specified permit limits:

NPDES permit number	Outfall number	CBOD5 (mg/L)	COD (mg/L)	Ammonia (mg/L)	Comments
LAG480011	001	45.0	0.0	10.0	
LAG480284	001	45.0	0.0	10.0	
LAG530693	001	45.0	0.0	10.0	
LAG560089		20.0	0.0	6.7	
LAG750459	002	45.0	0.0	10.0	
LAG750449	002	45.0	0.0	10.0	

Values for TMDL calculations:

NPDES permit number	Outfall number	CBODu (mg/L)	Organic N (mg/L)	Ammonia N (mg/L)	NO2+NO3 N (mg/L)	Comments
LAG480011	001	103.50	20.00	10.00	0.00	
LAG480284	001	103.50	20.00	10.00	0.00	
LAG530693	001	103.50	20.00	10.00	0.00	
LAG560089		46.00	13.40	6.70	0.00	
LAG750459	002	103.50	20.00	10.00	0.00	
LAG750449	002	103.50	20.00	10.00	0.00	

Calculated loads:

NPDES permit number	Outfall number	CBODu (kg/day)	Organic N (kg/day)	AmmoniaN (kg.day)	NO2+NO3 N (kg.day)	Comments
LAG480011	001	0.88	0.17	0.09	0.00	
LAG480284	001	1.27	0.25	0.12	0.00	
LAG530693	001	0.33	0.06	0.03	0.00	
LAG560089		7.18	2.09	1.05	0.00	
LAG750459	002	2.45	0.47	0.24	0.00	
LAG750449	002	2.45	0.47	0.24	0.00	
Subsegment total		14.56	3.52	1.76	0.00	

SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of safety = 10.0% * nonpoint source load
Future Growth = 10.0% * nonpoint source load
Load Allocation = 80.0% * nonpoint source load

Values from calculations above

			Nitrogen loads (kg/day of N):		
	SOD (kg/day)	CBODu (kg/day)	Organic (kg/day)	Ammonia (kg/day)	NO2+NO3 N (kg/day)
NPS inflows	N/A	92.69	16.39	0.48	0.00
Mass LOads (data type 19)	N/A	20.00	0.80	N/A	N/A
SOD and Benthic	162.26	N/A	N/A	0.00	N/A

Calculated loads of oxygen demand:

	SOD (kg/day)	CBODu (kg/day)	Oygen demand loads: Organic (kg/day)	Oygen demand loads: Ammonia (kg/day)	Total Oxygen demand (kg/day)
NPS inflows	N/A	92.69	70.97	2.08	165.74
Mass LOads (data type 19)	N/A	20.00	3.46	N/A	23.46
SOD and Benthic	162.26	N/A	N/A	0.00	162.26
Total for all NPS loads	162.26	112.69	74.43	2.08	351.47
NPS future growth (10.0%)	16.23	11.27	7.44	0.21	35.15
NPS margin of safety (10.0%)	16.23	11.27	7.44	0.21	35.15
NPS load allocation (80.0%)	129.80	90.15	59.55	1.66	281.17

SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT

Equations used: Organic N oxygen demand, kg/day = 4.3300 * Organic N load, kg/day of N
Ammonia N oxygen demand, kg/day = 4.3300 * Ammonia N load, kg/day of N
Margin of Safety = 10.0% * point source load
Future Growth = 10.0% * nonpoint source load
Wasteload Allocation (WLA) for modeled point source = 80.0% * modeled load
Wasteload Allocation (WLA) for minor point sources = 80.0% * calculated load

Values from calculations above

	CBODu (kg/day)	Nitrogen loads (kg/day of N): Organic N (kg/day)	Ammonia N (kg/day)	NO3+NO2 (kg/day)
Modeled load for: LaLaurie Ln Ox Pon	6.54	0.94	0.48	0.00
Modeled load for: Grawood Church	1.97	0.14	0.29	0.00
Calculated load for minor point source	14.56	3.52	1.76	0.00

Calculated loads of oxygen demand

	CBODu (kg/day)	Oygen demand loads: Organic N (kg/day)	Oygen demand loads: Ammonia N (kg/day)	Total Oxygen demand (kg/day)
Modeled load for: LaLaurie Ln Ox Pon	6.54	4.06	2.09	12.69
Modeled load for: Grawood Church	1.97	0.62	1.23	3.82
Calculated load for minor point source	14.56	15.24	7.62	37.42
Total for all point source loads	23.07	19.91	10.94	53.93
MOS for all point Sources (10.0%)	2.31	1.99	1.09	5.39
FG for all point Sources (10.0%)	2.31	1.99	1.09	5.39
WLA for: LaLaurie Ln Ox Pon (80.0%)	5.23	3.25	1.67	10.15
WLA for: Grawood Church (80.0%)	1.57	0.49	0.99	3.06
WLA for minor point sources (80.0%)	11.65	12.19	6.09	29.93

APPENDIX L

Source Code for TMDL Calculation Program

```
        program pr20m6f
C**** For this prograqm to work the echo of the input and final report must be turned on:
C     1) The echo of the input provides MAJORITY of the ionformation for the calcuations,
C     2) The Hydralic, SOD, and NH3Sr data (needed for surface area for the SOD) are found
C        in the final report reach summary.

C     Printing:
C     This is printed in MSWord or VSlick by setting the left and right margins to 0.3 and 0.38
C     and setting the font to Courier New 9 pt normal text.

C     This program is specifcally formated for LA-QUAL 8.11.


C**********************************Search program (part 1)**************************************
C This whole program is written by Richard R. Bennett on 9/20/07 for LA-QUAL version 8.0
C Every variable is used in this program except

       INTEGER imp,i,a,c,d,e,f,g,h,j,k,l,m,n,o,q,k1
       Character*132 line,stream_id
       Character*8 target
       character*21 target2
       character*15 target3
       character*16 target3b,target5b,target5c,target6,t
     &arget7,target8,target9,target10
       character*36 target4


C**********All arrays are entered in the order in which they occurr in the program
C**************Input REAL arrays

      integer total_elem
      integer incr_reach(1:999)
       REAL SOD_temp_cor(1:999),C2_NH3SR(1:999),
     &incr2_CBODu_con(1:999),incr2_Org_N_con(1:999), incr2_Amm_N_con(1:
     &999),incr2_Nitrate_con(1:999), NP_BOD(1:999),NP_ORG(1:999),
     & HDWT1_Flow(1:999),incr_flow(1:999)
       INTEGER HDWT1_elem(1:999)
       REAL WSTLD_Flow(1:999),Elem_end(1:999),Elem_begin(1:999)
       character NPS_wstld_name(1:999)*25,PS_Wstld_name(1:999)*20
       REAL WSTLD2_BOD(1:999),WSTLD2_ORG(1:999),WSTLD2
     &_NH3(1:999), WSTLD2_NO3(1:999)
       REAL nps_WSTLD_Flow(1:999),nps_elem_wstld(1:999)
       REAL NPS_WSTLD2_BOD(1:999),NPS_WSTLD2_ORG(1:999),NPS_WSTLD2
     &_NH3(1:999),NPS_WSTLD2_NO3(1:999)
       REAL PS_WSTLD_Flow(1:999),ps_elem_wstld(1:999)
       REAL ps_WSTLD2_BOD(1:999),ps_WSTLD2_ORG(1:999),ps_WSTLD2
     &_NH3(1:999),ps_WSTLD2_NO3(1:999)
       Integer NP_reach(1:999),elem_wstld(1:999),num,num_pt_sour
       real ps_mos,ps_mos_per,nps_mos,nps_mos_per
       real ps_FG,ps_FG_per,nps_FG,nps_FG_per
       Real Temp(1:999),S_area_int(1:1000)
       integer elem_col_int
       character source_type(1:999)*3,reach_name(1:999)*15,wstld_name(1:
     &100)*20, hdwt1_name(1:999)*25,reach_subseg_num(1:999)*20,
     &permit_number(1:999)*20,outfall_num(1:999)*20,comment(1:999)*40,
     &comment_con(1:999)*40,nut_tmdl_need*4
       Real perm_flow(1:999),CBOD5_Perm(1:999), cod_perm(1:999),ammon_pe
     &rm(1:999),nat_rat,ammoxy_rat
       real HDWT2_BOD_con(1:999),HDWT2_ORG_con(1:999), HDWT2_NH3_con(1:1
     &00), HDWT2_NO3_con(1:999)
       real incr_outflow(1:999),incr_inflow(1:999)

C****************Character Search Strings
      target = 'CNTROL04'
      target2= 'THETA        BENTHAL'
      target3= '$$$ DATA TYPE 8'  ! Reach ID data
      target3b='$$$ DATA TYPE 11' ! Reach Initial conditions (need temps)
      target4= 'BIOLOGICAL AND PHYSICAL COEFFICIENTS' ! SOD and NH3Sr rates (Final Report)
      target5b= '$$$ DATA TYPE 16'  ! Incrmental flows
      target5c= '$$$ DATA TYPE 17'  ! Incrmental WQ
      target6= '$$$ DATA TYPE 19'   ! Mass laods
      target7= '$$$ DATA TYPE 20'   ! Headwater flows
      Target8= '$$$ DATA TYPE 21'   ! Headwater WQ
      Target9= '$$$ DATA TYPE 24'   ! Wasteload flows
```

```
      target10= '$$$ DATA TYPE 25'  ! Wastelaod WQ

C***************Array counterrs
      num=0
      num_incr=0
      num_hdwt=0
      num_wstld=0
      nps_num_wstld=0
      ps_num_wstld=0
      a=0
      cir=0
      c=0
      d=0
      e=0
      f=0
      g=0
      h=0
      j=0
      k=0
      k1=0
      l=0
      m=0
      nps=1
      ps=1
      n=0
      o=0
      q=0


      Character*70 userFilename,Laqualfilename,subsegname,subsegnumber,
     &pertime,LAQUAL_version,laqualfileoutput

      print*,'Enter user input filename: ' ! this is the TMDL program input file
      read*,userfilename                   ! it is NOT hte LA-QUAL file!!!!

      imp=1000000


C*Read input file
      OPEN(UNIT=12, FILE=userfilename, STATUS='OLD') ! input file
      Open (unit=11, FILE='tmdl-res.txt', Status='UNKNOWN')  ! output file
c      OPEN (UNIT=13, FILE='inter-res.txt', Status='UNKNOWN') ! debugging file
      REad(12,*)subsegnumber  ! subsegment number
      REad(12,*)subsegname    ! subsegment name
      read(12,*)laqualfileoutput ! LA-QUAL output file
      read(12,*)usernum          ! number of reaches in output file
      do 10 I=1,usernum          ! read subsegment number for each reach loop
10       read(12,*)reach_subseg_num(I)
      read(12,*)ps_mos_per  ! point source MOS in percent
      read(12,*)ps_FG_per   ! point source FG in percent
      read(12,*)nps_mos_per  ! nonpoint source MOS in percent
      read(12,*)nps_FG_per   ! nonpoint source FG in percent
      READ(12,*)ammoxy_rat   ! ammonia oxidation rate
      read(12,*)num_pt_sour  ! number of point sources in input file
      do 20 I=1,num_pt_sour  ! read point source data loop
         read(12,*)
         read(12,*)permit_number(I) ! permit number
         read(12,*)outfall_num(I)   ! outfall number
         read(12,*)perm_flow(I)     ! permit flow (MGD)
         read(12,*)comment(I)       ! comment (usually facility name)
         read(12,*)cbod5_perm(I)    ! CBOD5 or BOD5 permit conc in mg/L
         read(12,*)COD_perm(I)      ! COD permit conc in mg/L
         read(12,*)ammon_perm(I)    ! ammonia permit conc in mg/L
         read(12,*)comment_con(I)   ! comment for concentration
20    continue
      read(12,*)nut_tmdl_need       ! is a nutrietn TMDL needed?
      read(12,*) nat_rat            ! ratio of natural nitrogen to phosphorus

      ps_mos=ps_mos_per/100.000
      ps_FG=ps_FG_per/100.000
      nps_mos=nps_mos_per/100.000
      nps_FG=nps_FG_per/100.000

      laqualfilename=laqualfileoutput
```

```
      OPEN(UNIT=10, FILE=Laqualfilename, STATUS='OLD') ! this is teh LA-QUAL output file

1030  FORMAT(A35,3X,A25)
      DO 100 i=1,imp
      READ(10,'(A132)') line

C**********Are we at the end of the file?
      if(line(11:29).EQ.'EXECUTION COMPLETED')GO TO 900


C************ read LA-QUAL version
      if (i .EQ. 1) then
          read (line(1:32),'(A32)') LAQUAL_version
      end if

C**********when was the LA-QUAL file made and metric units
      if (line (1:6) .EQ. 'Output') then
         read(line(1:38),'(A38)') pertime
      else IF (line(1:8).EQ. target) then
1020     FORMAT (A35,3X,A10,3X,A10)

C**********Look for theta Benthal
         else IF (line(1:21).EQ. target2) then
1040        Format (A36,5X,A40)

C**********Data T8,Count number of reaches
         else IF (line (1:15) .EQ. target3) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
105         Read (10, '(A132)') stream_id
            if (stream_id(1:8).EQ. 'REACH ID')then
              num=num+1
              read(stream_ID(23:48),'(A15)')reach_name(num)
              read(stream_ID(109:111),)elem_begin(num)
              read(stream_ID(116:118),)elem_end(num)
              total_elem=elem_end(num)
              go to 105
            end if

C**********Data T11, read temp
      else IF (line (1:16).EQ. target3b) then
            READ (10,*)
            READ (10,*)
            READ (10,*)
107         READ (10,'(A132)') stream_id
            if (stream_id(1:7) .EQ. 'INITIAL') then
               q=q+1
               READ(stream_id(32:36),'(F5.0)') temp(q)
               go to 107
               end if

C**********FINAL REPORT,(read COEF-1 Bckgrd SOD and NH3SR)
      else IF (line (49:84) .EQ. target4) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
            Read (10,*)
110         Read (10, '(A132)') stream_id
            if (stream_id(1:7).NE. ' ') then
               a=a+1
               READ(Stream_id(1:4),'(I4)')elem
               READ(stream_id(68:73),'(F7.0)') SOD_temp_cor(elem)
               READ(Stream_id(106:111),'(F6.0)') C2_NH3SR(elem)
c               elem is used to put them in numerical order, NOT
c               in the order they are read from the LA_QUAL file!
c               (this only comes into play for branched models)
1060        FORMAT (A35,5X,A10,5X,A10)
            GO TO 110
            end if

C***********Data Type (incremenatal flow data part1)
```

```
       else if (line(1:16) .EQ. target5b) then
            read(10,*)
            read(10,*)
            read(10,*)
117         read(10,'(A132)')stream_id
            if (stream_id(1:6) .EQ. 'INCR-1') then
                num_incr=num_incr+1
                read(stream_id(17:19),'(I3)') incr_reach(num_incr)
                read(stream_id(32:38),'(F7.0)') incr_outflow(num_incr)
                read(stream_id(44:50),'(F7.0)') incr_inflow(num_incr)
                incr_flow(num_incr) = abs(incr_inflow(num_incr))-abs(inc
     &r_outflow(num_incr))
            go to 117
            end if

C**********Data Tyoe (incremental flow part 2)
       else if (line(1:16) .EQ. target5c) then
            num_incr=0
            read(10,*)
            read(10,*)
            read(10,*)
118          read(10,'(A132)')stream_id
            if (stream_id(1:6) .EQ. 'INCR-2') then
            num_incr=num_incr+1
            read(stream_id(37:46),'(F10.0)') incr2_CBODu_con(num_incr)
            read(stream_id(47:56),'(F10.0)') incr2_Org_N_con(num_incr)
            read(stream_id(57:66),'(F10.0)') incr2_Amm_N_con(num_incr)
            read(stream_id(67:76),'(F10.0)') incr2_Nitrate_con(num_incr)
            go to 118
            end if

C***********Data T19(reads BOD and ORG-N)
       else IF (line (1:16) .EQ. target6) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
120         Read (10, '(A132)') stream_id
            if (stream_id(1:8).EQ. 'NONPOINT') then
               c=c+1
               d=d+1
               read(stream_ID(17:19),'(I3)')NP_reach(c)
               READ(stream_id(28:36),'(F9.0)')NP_BOD(c)
               READ(stream_id(38:46),'(F9.0)')NP_ORG(d)
1080        Format (A35,5X,A10,2X,A10,2X,A10)
            GO TO 120
            end if

C**********DATA T20(reads flow for HDWTR-1)
         else IF (line (1:16) .EQ. target7) then
            Read (10,*)
            READ (10,*)
            Read (10,*)
            REad (10,*)
125         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'HDWTR-1') then
               num_hdwt=num_HDwt+1
               e=e+1
               Read(stream_id(17:19),'(I3)')HDWT1_elem(e)
               read(stream_id(25:44),'(A20)')hdwt1_name(e)
               READ(stream_id(53:59),'(F7.0)') HDWT1_Flow(e)
               GO TO 125
            end if

C**********DATA T21(read BOD,ORG-N,NH3,NO3+2 for HDWTR-2)
         else IF (line (1:16) .EQ. target8) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
            Read (10,*)
130         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'HDWTR-2') then
            f=f+1
            g=g+1
            h=h+1
```

```
            j=j+1
            READ(stream_id(58:66),'(F9.0)') HDWT2_BOD_con(f)
            READ(stream_id(68:76),'(F9.0)') HDWT2_ORG_con(g)
            READ(stream_id(78:86),'(F9.0)') HDWT2_NH3_con(h)
            READ(stream_id(88:96),'(F9.0)') HDWT2_NO3_con(j)
1090        Format (A35,5X,A5,5X,A5,5X,A5,5X,A5)
            GO TO 130
            end if

C**********DATA T24(flow for WSTLD-1)
          ps=1
          nps=1
          else IF (line (1:16) .EQ. target9) then
            Read (10,*)
            Read (10,*)
            Read (10,*)
            READ (10,*)
135         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'WSTLD-1') then
               num_wstld=num_wstld+1
               k=k+1
               READ(stream_id(52:59),'(F8.0)')WSTLD_Flow(k)
               read(stream_id(13:16),'(I4)')elem_wstld(k)
               read(stream_id(30:47),'(A18)')wstld_name(k)
               if (stream_id(30:32).EQ.'NPS') then !
                  nps_num_wstld=nps_num_wstld+1
                  NPS_wstld_name(nps) = wstld_name(K)
                  NPS_elem_wstld(nps) = elem_wstld(K)
                  NPS_wstld_flow(nps) = wstld_flow(K)
                  nps=nps+1
               else
                    ps_num_wstld=ps_num_wstld+1
                    PS_wstld_name(ps) = wstld_name(K)
                    PS_elem_wstld(ps) = elem_wstld(K)
                    PS_wstld_flow(ps) = wstld_flow(K)
                    ps=ps+1
c                   this loop and if statement is used to separate
c                   point and nonpoint wastelaods
               end if
            GO TO 135
            end if

C**********DATA T25(BOD,ORG-N,NH3,NO3+2) for WSTLD-2
      ps=1
      nps=1
         else IF (line (1:16) .EQ. target10) then
            Read (10,*)
            Read (10,*)
            READ (10,*)
            READ (10,*)
140         Read (10, '(A132)') stream_id
            if (stream_id(1:7).EQ. 'WSTLD-2') then
            l=l+1
            m=m+1
            n=n+1
            o=o+1
            k1=k1+1
            READ(stream_id(25:27),'(A3)')source_type(k1)
            READ(stream_id(57:66),'(F10.0)')WSTLD2_BOD(l)
            READ(stream_id(77:86),'(F10.0)')WSTLD2_ORG(m)
            READ(stream_id(87:96),'(F10.0)')WSTLD2_NH3(n)
            READ(stream_id(107:116),'(F10.0)')WSTLD2_NO3(o)
            if (source_type(K1).EQ.'NPS') then
                  nps_wstld2_bod(nps) = wstld2_bod(l)
                  nps_wstld2_org(nps) = wstld2_org(m)
                  nps_wstld2_nh3(nps) = WSTLD2_NH3(N)
                  nps_wstld2_no3(nps) = wstld2_no3(o)
                  nps=nps+1
               else
                  ps_wstld2_bod(ps) = wstld2_bod(l)
                  ps_wstld2_org(ps) = wstld2_org(m)
                  ps_wstld2_nh3(ps) = WSTLD2_NH3(N)
                  ps_wstld2_no3(ps) = wstld2_no3(o)
                  ps=ps+1
```

```
                end if
c must have blank space after else or the else will only apply to the first statement and NOT
c to all of them

1095        Format (A35,6X,A5,2X,A5,2X,A5,2X,A5,2X,A5)
            GO TO 140
            end if

C*************FINAL REPORT, hydrualic parameter
        else IF (line (1:62) .EQ. ' **********************************
     &*************** HYDRAULIC') then
             Read (10,*)
             READ (10,*)
             READ (10,*)
             READ (10,*)
             READ (10,*)
145          Read (10, '(A132)') stream_id
             if (stream_id(3:5).NE. '   ') then
c               p=p+1
C* these numbers are NOT in numerical order, they are in Branch (ie model layout) order
               read(stream_id(3:5),'(I3)')elem_col_int
               READ(stream_id(84:94),'(F11.0)')S_Area_int(elem_col_int)
               GO TO 145
            end if
1200  FORMAT (A35,5X,I4)
      END IF
100   Continue
900   CONTINUE
      Print*,'Program has finished reading the inputs!!!'


C***************************PART 2***********************************
C***********************Calculations

C*variables mostly in order of use
      real con3,con4,nps_FG_summary_org
      real mldt19_tot_cbodu, mldt19_tot_org
      real incr_CBODu(1:999), incr_Org_N(1:999), incr_Amm_N(1:999),
     &incr_NItrate(1:999)
      real incr_CBODu_tot, incr_Org_N_tot, incr_Amm_N_tot,incr_NItrate_t
     &ot
      real WSTLD2_BOD_con(1:999),WSTLD2_ORG_con(1:999),WSTLD2_NH3_con
     &(1:999),WSTLD2_NO3_con(1:999)
      real WSTLD2_BOD_cal(1:999),WSTLD2_Org_cal(1:999),WSTLD2_NH3_cal
     &(1:999),WSTLD2_NO3_cal(1:999)
      real WSTLD2_BOD_cal_tot,WSTLD2_Org_cal_tot,WSTLD2_NH3_cal_tot,
     &WSTLD2_NO3_cal_tot
      real ps_WSTLD2_BOD_con(1:999),ps_WSTLD2_ORG_con(1:999),ps_WSTLD2_N
     &H3_con(1:999),ps_WSTLD2_NO3_con(1:999)
      real ps_WSTLD2_BOD_cal(1:999),ps_WSTLD2_Org_cal(1:999),ps_WSTLD2_N
     &H3_cal(1:999),ps_WSTLD2_NO3_cal(1:999)
      real ps_WSTLD2_BOD_cal_tot, ps_WSTLD2_Org_cal_tot, ps_WSTLD2_NH3_c
     &al_tot,ps_WSTLD2_NO3_cal_tot
      real nps_WSTLD2_BOD_con(1:999),nps_WSTLD2_ORG_con(1:999),nps_WSTLD
     &2_NH3_con(1:999),nps_WSTLD2_NO3_con(1:999)
      real nps_WSTLD2_BOD_cal(1:999),nps_WSTLD2_Org_cal(1:999),nps_WSTLD
     &2_NH3_cal(1:999),nps_WSTLD2_NO3_cal(1:999)
      real nps_WSTLD2_BOD_cal_tot,nps_WSTLD2_Org_cal_tot, nps_WSTLD2_NH3
     &_cal_tot,nps_WSTLD2_NO3_cal_tot
      real nps_BOD_tot,nps_Org_N_tot,nps_NH3_N_tot,nps_NO3_tot
      real HDWT_BOD_cal(1:999), HDWT_Org_cal(1:999), HDWT_NH3_cal(1:999)
     &, HDWT_NO3_cal(1:999)
      real HDWT_BOD_cal_tot, HDWT_Org_cal_tot, HDWT_NH3_cal_tot,
     &HDWT_NO3_cal_tot
      real elem_benthis(1:1000), elem_sod(1:1000), elem_temp(1:1000)
     &,sod_load(1:1000), benthic(1:1000)
      real nps_sod_load_tot, nps_benthic_tot,fac_mos_FG
      reaL tmdl_cal_flow(1:999)
      real cbodu_tmdl_val(1:999), org_N_tmdl_val(1:999),ammon_tmdl_val(1
     &:100),no3_tmdl_val(1:999)
      real  cbodu_tmdl_cal(1:999),org_N_tmdl_cal(1:999), ammon_tmdl_cal(
     &1:100), no3_tmdl_cal(1:999)
      real  cbodu_tmdl_tot,org_N_tmdl_tot,ammon_tmdl_tot,no3_tmdl_tot
      real nps_summary_cbodu,nps_summary_org,nps_summary_ammon
```

```
 real oxy_dem_nps_org_N_tot, oxy_dem_nps_nh3_tot
 real nps_mos_sod_load_tot,nps_mos_summary_cbodu,nps_mos_summary_or
&g,nps_mos_summary_ammon,nps_mos_nps_NO3_tot
 real nps_FG_sod_load_tot,nps_FG_summary_cbodu
&,nps_FG_summary_ammon,nps_FG_nps_NO3_tot
 real nps_LA_sod_load_tot,nps_LA_summary_cbodu,nps_LA_summary_org,n
&ps_LA_summary_ammon,nps_LA_nps_NO3_tot
 real ps_summary_cbodu,ps_summary_org,ps_summary_nh3_n
 real mos_ps_summary_cbodu,mos_ps_summary_org,mos_ps_summary_nh3_n
 real FG_ps_summary_cbodu,FG_ps_summary_org,FG_ps_summary_nh3_n
 real wla_ps_cbodu_tmdl_tot,wla_ps_org_N_tmdl_tot, wla_ps_ammon_tmd
&l_tot
 real wla_ps_WSTLD2_BOD_cal(1:999),wla_ps_WSTLD2_ORG_cal(1:999),wla
&_ps_WSTLD2_NH3_cal(1:999)
 real oxy_dem_mldt19_tot_org,nps_inflows_tot_oxy_demand,
&mldt19_tot_oxy_dem,tot_oxy_dem_sod_ben
 real oxy_dem_ps_WSTLD2_Bod_cal(1:999),oxy_dem_ps_WSTLD2_ORG_cal(1:
&100),oxy_dem_ps_WSTLD2_Nh3_cal(1:999),tot_oxy_dem_nps,
&wla_min_ps_summary_tot
 real oxy_dem_ps_WSTLD2_Org_cal_tot,oxy_dem_ps_WSTLD2_NH3_cal_tot
 real nps_mos_tot_oxy_dem,nps_FG_tot_oxy_dem,nps_LA_tot_oxy_dem
 real oxy_dem_org_N_tmdl,oxy_dem_ammon_tmdl,min_ps_summary_tot,
&mod_tot_oxy_dem_ps(1:999),mos_tot_oxy_dem_summary,wla_mod_tot_oxy_
&dem_ps(1:999)
 real nut_tmdl_nps_org_N_tot,nps_tot_nitrogen_load,nps_total_P
 real ps_nut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,
&ps_nut_tmdl_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_
&final,ps_tot_sum_total_nitrogen_load,ps_tot_sum_total_P
 real mos_ps_nut_tmdl_sum_org_N_tot,
&mos_ps_nut_tmdl_sum_nh3_N_tot,
&mos_ps_nut_tmdl_sum_no3_N_tot,
&mos_ps_tot_nitrogen_final_load,
&mos_ps_tot_P_final
 real FG_ps_nut_tmdl_sum_org_N_tot,
&FG_ps_nut_tmdl_sum_nh3_N_tot,
&FG_ps_nut_tmdl_sum_no3_N_tot,
&FG_ps_tot_nitrogen_final_load,
&FG_ps_tot_P_final
 real wla_min_ps_nut_tmdl_sum_org,
&wla_min_ps_nut_tmdl_sum_nh3,
&wla_min_ps_nut_tmdl_sum_no3,
&wla_min_ps_nitrogen_final_load,
&wla_min_ps_P_final
 real wla_ps_WSTLD2_org_cal_sum(1:999),wla_ps_WSTLD2_NH3_cal_sum(1:
&100),wla_ps_WSTLD2_NO3_cal_sum(1:999)
 real wla_ps_total_nitrogen_load(1:999), wla_ps_total_P(1:999)
 real nps_mos_nut_tmdl_nps_Org_N_tot,nps_mos_nps_nh3_n_tot,
&nps_mos_tot_nitrogen_load,nps_mos_total_p
 real nps_FG_nut_tmdl_nps_Org_N_tot,nps_FG_nps_nh3_n_tot,
&nps_FG_tot_nitrogen_load,nps_FG_total_p
 real nps_la_nut_tmdl_nps_Org_N_tot,nps_la_nps_nh3_n_tot,
&nps_la_tot_nitrogen_load,nps_la_total_p
 real min_ps_total_nitrogen_load,min_ps_total_P
 real ps_total_nitrogen_load(1:999),ps_total_P(1:999)

 if (usernum.NE.num) then
   print*,'Usernum does not equal num, there has been a read failur
&e!',num,usernum
   Write(11,*)'This output is NOT correct!'
   end if

 mldt19_tot_cbodu=0
 mldt19_tot_org=0

 incr_CBODu_tot=0
 incr_Org_N_tot=0
 incr_Amm_N_tot=0
 incr_Nitrate_tot=0

 ps_WSTLD2_BOD_cal_tot=0
 ps_WSTLD2_Org_cal_tot=0
 ps_WSTLD2_NH3_cal_tot=0

 nps_WSTLD2_BOD_cal_tot=0
```

```
      nps_WSTLD2_Org_cal_tot=0
      nps_WSTLD2_NH3_cal_tot=0

      WSTLD2_BOD_cal_tot=0
      WSTLD2_Org_cal_tot=0
      WSTLD2_NH3_cal_tot=0

      HDWT_BOD_cal_tot=0
      HDWT_Org_cal_tot=0
      HDWT_NH3_cal_tot=0
      HDWT_NO3_cal_tot=0

      nps_sod_load_tot=0
      nps_benthic_tot=0

      cbodu_tmdl_tot=0
      org_N_tmdl_tot=0
      ammon_tmdl_tot=0
      no3_tmdl_tot=0

      fac_mos_FG=1/(1-(ps_mos+ps_FG))
      con3 = 1.00/1000000.00*1000.00*86400.00
      con4 = 3.7850000000 ! MGD * mg/L * con4,
c     con4 = 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg

      do 180 I=1,num
      mldt19_tot_cbodu=mldt19_tot_cbodu+NP_bod(I)
      mldt19_tot_org= mldt19_tot_org+NP_org(I)
180   continue

C* Here I will arrange the elemntal surface areas into the numerical order to match the order the SOD
C* and NH3 data are in.
c          elem_col(1) = elem_col_int(1)
c          S_Area(1) = S_Area_int(1)
c      DO 185 I=2,total_elem   !need to start at 2 for comaprisons
c          elem_col(I)=I
c          if (elem_col_int(I).EQ.I) then
c             S_Area(I) = S_Area_int(I)
c          else
c
c             DO 184 R=1,total_elem  !go through the list until we get a match
c             if (Elem_col_int(R).EQ.Elem_col(I)) then
c                S_Area(I) = S_Area_int(I)
c             end if
c184          continue
c          end if

c185   continue

      cir=num_incr
      DO 190 cirr=1,cir

      incr_CBODu(cirr)=incr_flow(cirr)*incr2_CBODu_con(cirr)*con3
      incr_Org_N(cirr)=incr_flow(cirr)*incr2_Org_N_con(cirr)*con3
      incr_Amm_N(cirr)=incr_flow(cirr)*incr2_Amm_N_con(cirr)*con3
      incr_NItrate(cirr)=incr_flow(cirr)*incr2_Nitrate_con(cirr)*con3

      incr_CBODu_tot=incr_CBODu_tot+incr_CBODu(cirr)
      incr_Org_N_tot=incr_Org_N_tot+incr_Org_N(cirr)
      incr_Amm_N_tot=incr_Amm_N_tot+incr_Amm_N(cirr)
      incr_Nitrate_tot=incr_Nitrate_tot+incr_Nitrate(cirr)
190   continue

C*********** calcualtions for point soucers EXPLICITLY modeled
      cir=ps_num_wstld
      DO 194 cirr=1,cir
      ps_WSTLD2_BOD_con(cirr)=ps_wstld2_bod(cirr)
      ps_WSTLD2_ORG_con(cirr)=ps_wstld2_org(cirr)
      ps_WSTLD2_NH3_con(cirr)=ps_wstld2_nh3(cirr)
      ps_WSTLD2_NO3_con(cirr)=ps_wstld2_no3(cirr)

      ps_WSTLD2_BOD_cal(cirr)=ps_WSTLD_Flow(cirr)*ps_WSTLD2_BOD_con(cirr
     &)*con3
      ps_WSTLD2_Org_cal(cirr)=ps_WSTLD_FLow(cirr)*ps_WSTLD2_Org_con(cirr
```

```
     &)*con3
      ps_WSTLD2_NH3_cal(cirr)=ps_WSTLD_FLow(cirr)*ps_WSTLD2_NH3_con(cirr
     &)*con3
      ps_WSTLD2_NO3_cal(cirr)=ps_WSTLD_Flow(cirr)*ps_WSTLD2_NO3_con(cirr
     &)*con3

      wla_ps_WSTLD2_org_cal_sum(cirr)=ps_WSTLD2_org_cal(cirr)*(1-ps_mos-
     &ps_FG)
      wla_ps_WSTLD2_NH3_cal_sum(cirr)=ps_WSTLD2_NH3_cal(cirr)*(1-ps_mos-
     &ps_FG)
      wla_ps_WSTLD2_NO3_cal_sum(cirr)=ps_WSTLD2_NO3_cal(cirr)*(1-ps_mos-
     &ps_FG)

      ps_WSTLD2_BOD_cal_tot=ps_WSTLD2_BOD_cal_tot+ps_WSTLD2_BOD_cal(cirr
     &)
      ps_WSTLD2_Org_cal_tot=ps_WSTLD2_Org_cal_tot+ps_WSTLD2_Org_cal(cirr
     &)
      ps_WSTLD2_NH3_cal_tot=ps_WSTLD2_NH3_cal_tot+ps_WSTLD2_NH3_cal(cirr
     &)
      ps_WSTLD2_NO3_cal_tot=ps_WSTLD2_NO3_cal_tot+ps_WSTLD2_NO3_cal(cirr
     &)

       oxy_dem_ps_wstld2_bod_cal(cirr)=1*ps_WSTLD2_BOD_cal(cirr
     &)
       oxy_dem_ps_wstld2_org_cal(cirr)=ammoxy_rat*ps_wstld2_org_cal(cirr
     &)
       oxy_dem_ps_wstld2_nh3_cal(cirr)=ammoxy_rat*ps_wstld2_nh3_cal(cirr
     &)
       mod_tot_oxy_dem_ps(cirr)=oxy_dem_ps_wstld2_bod_cal(cirr)+oxy_dem_
     &ps_wstld2_org_cal(cirr)+ oxy_dem_ps_wstld2_nh3_cal(cirr)

       wla_ps_wstld2_bod_cal(cirr)=ps_wstld2_bod_cal(cirr)*(1-ps_mos-ps_
     &FG)
       wla_ps_WSTLD2_ORG_cal(cirr)=oxy_dem_ps_WSTLD2_Org_cal(cirr)*(1-ps
     &_mos-ps_FG)
       wla_ps_wstld2_nh3_cal(cirr)=oxy_dem_ps_WSTLD2_NH3_cal(cirr)*(1-ps
     &_mos-ps_FG)
       wla_mod_tot_oxy_dem_ps(cirr)=mod_tot_oxy_dem_ps(cirr)*(1-ps_mos-p
     &s_FG)

C     rounding functions (uisng the anint function)

       wla_ps_wstld2_bod_cal(cirr)=wla_ps_wstld2_bod_cal(cirr)*100
       wla_ps_wstld2_bod_cal(cirr)=anint(wla_ps_wstld2_bod_cal(cirr))
       wla_ps_wstld2_bod_cal(cirr)=wla_ps_wstld2_bod_cal(cirr)/100

       wla_ps_wstld2_org_cal(cirr)=wla_ps_wstld2_org_cal(cirr)*100
       wla_ps_wstld2_org_cal(cirr)=anint(wla_ps_wstld2_org_cal(cirr))
       wla_ps_wstld2_org_cal(cirr)=wla_ps_wstld2_org_cal(cirr)/100

       wla_ps_wstld2_nh3_cal(cirr)=wla_ps_wstld2_nh3_cal(cirr)*100
       wla_ps_wstld2_nh3_cal(cirr)=anint(wla_ps_wstld2_nh3_cal(cirr))
       wla_ps_wstld2_nh3_cal(cirr)=wla_ps_wstld2_nh3_cal(cirr)/100

       wla_mod_tot_oxy_dem_ps(cirr)=wla_mod_tot_oxy_dem_ps(cirr)*100
       wla_mod_tot_oxy_dem_ps(cirr)=anint(wla_mod_tot_oxy_dem_ps(cirr))
       wla_mod_tot_oxy_dem_ps(cirr)=wla_mod_tot_oxy_dem_ps(cirr)/100

C*************** nps wasteload calculations
194   continue
      do 196 cirr=1,nps_num_wstld
      nps_WSTLD2_BOD_con(cirr)=nps_wstld2_bod(cirr)
      nps_WSTLD2_ORG_con(cirr)=nps_wstld2_org(cirr)
      nps_WSTLD2_NH3_con(cirr)=nps_wstld2_nh3(cirr)
      nps_WSTLD2_NO3_con(cirr)=nps_wstld2_no3(cirr)

      nps_WSTLD2_BOD_cal(cirr)=nps_WSTLD_Flow(cirr)*nps_WSTLD2_BOD_con(c
     &irr)*con3
      nps_WSTLD2_Org_cal(cirr)=nps_WSTLD_FLow(cirr)*nps_WSTLD2_Org_con(c
     &irr)*con3
      nps_WSTLD2_NH3_cal(cirr)=nps_WSTLD_FLow(cirr)*nps_WSTLD2_NH3_con(c
     &irr)*con3
      nps_WSTLD2_NO3_cal(cirr)=nps_WSTLD_Flow(cirr)*nps_WSTLD2_NO3_con(c
     &irr)*con3
```

```
       nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot+nps_WSTLD2_BOD_cal(c
      &irr)
       nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot+nps_WSTLD2_Org_cal(c
      &irr)
       nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot+nps_WSTLD2_NH3_cal(c
      &irr)
       nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot+nps_WSTLD2_NO3_cal(c
      &irr)

       nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot*100
       nps_WSTLD2_BOD_cal_tot=anint(nps_WSTLD2_BOD_cal_tot)
       nps_WSTLD2_BOD_cal_tot=nps_WSTLD2_BOD_cal_tot/100

       nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot*100
       nps_WSTLD2_Org_cal_tot=anint(nps_WSTLD2_Org_cal_tot)
       nps_WSTLD2_Org_cal_tot=nps_WSTLD2_Org_cal_tot/100

       nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot*100
       nps_WSTLD2_NH3_cal_tot=anint(nps_WSTLD2_NH3_cal_tot)
       nps_WSTLD2_NH3_cal_tot=nps_WSTLD2_NH3_cal_tot/100

       nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot*100
       nps_WSTLD2_NO3_cal_tot=anint(nps_WSTLD2_NO3_cal_tot)
       nps_WSTLD2_NO3_cal_tot=nps_WSTLD2_NO3_cal_tot/100


c**********only wasteloads can be divided into point source and non point sources
196    continue

       do 198 cirr= 1, num_wstld
       WSTLD2_BOD_con(cirr)=WSTLD2_BOD(cirr)
       WSTLD2_ORG_con(cirr)=WSTLD2_Org(cirr)
       WSTLD2_NH3_con(cirr)=WSTLD2_NH3(cirr)
       WSTLD2_NO3_con(cirr)=WSTLD2_NO3(cirr)

       WSTLD2_BOD_cal(cirr)=WSTLD_Flow(cirr)*WSTLD2_BOD_con(cirr)*con3
       WSTLD2_Org_cal(cirr)=WSTLD_FLow(cirr)*WSTLD2_Org_con(cirr)*con3
       WSTLD2_NH3_cal(cirr)=WSTLD_FLow(cirr)*WSTLD2_NH3_con(cirr)*con3
       WSTLD2_NO3_cal(cirr)=WSTLD_Flow(cirr)*WSTLD2_NO3_con(cirr)*con3

       WSTLD2_BOD_cal_tot=WSTLD2_BOD_cal_tot+WSTLD2_BOD_cal(cirr)
       WSTLD2_Org_cal_tot=WSTLD2_Org_cal_tot+WSTLD2_Org_cal(cirr)
       WSTLD2_NH3_cal_tot=WSTLD2_NH3_cal_tot+WSTLD2_NH3_cal(cirr)
       WSTLD2_NO3_cal_tot=WSTLD2_NO3_cal_tot+WSTLD2_NO3_cal(cirr)

       wstld2_bod_cal_tot=wstld2_bod_cal_tot*100
       wstld2_bod_cal_tot=anint(wstld2_bod_cal_tot)
       wstld2_bod_cal_tot=wstld2_bod_cal_tot/100

       wstld2_org_cal_tot=wstld2_org_cal_tot*100
       wstld2_org_cal_tot=anint(wstld2_org_cal_tot)
       wstld2_org_cal_tot=wstld2_org_cal_tot/100

       wstld2_NH3_cal_tot=wstld2_NH3_cal_tot*100
       wstld2_NH3_cal_tot=anint(wstld2_NH3_cal_tot)
       wstld2_NH3_cal_tot=wstld2_NH3_cal_tot/100

       wstld2_NO3_cal_tot=wstld2_NO3_cal_tot*100
       wstld2_NO3_cal_tot=anint(wstld2_NO3_cal_tot)
       wstld2_NO3_cal_tot=wstld2_NO3_cal_tot/100
198    continue

       cir=num_hdwt

       DO 199 cirr=1,cir

       HDWT_BOD_cal(cirr)=HDWT1_Flow(cirr)*HDWT2_BOD_con(cirr)*con3
       HDWT_Org_cal(cirr)=HDWT1_FLow(cirr)*HDWT2_Org_con(cirr)*con3
       HDWT_NH3_cal(cirr)=HDWT1_FLow(cirr)*HDWT2_NH3_con(cirr)*con3
       HDWT_NO3_cal(cirr)=HDWT1_Flow(cirr)*HDWT2_NO3_con(cirr)*con3

       HDWT_BOD_cal_tot=HDWT_BOD_cal_tot+HDWT_BOD_cal(cirr)
```

```
      HDWT_Org_cal_tot=HDWT_Org_cal_tot+HDWT_Org_cal(cirr)
      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot+HDWT_NH3_cal(cirr)
      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot+HDWT_NO3_cal(cirr)

      HDWT_bod_cal_tot=HDWT_bod_cal_tot*100
      HDWT_bod_cal_tot=anint(HDWT_bod_cal_tot)
      HDWT_bod_cal_tot=wstld2_bod_cal_tot/100

      HDWT_org_cal_tot=HDWT_org_cal_tot*100
      HDWT_org_cal_tot=anint(HDWT_org_cal_tot)
      HDWT_org_cal_tot=HDWT_org_cal_tot/100

      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot*100
      HDWT_NH3_cal_tot=anint(HDWT_NH3_cal_tot)
      HDWT_NH3_cal_tot=HDWT_NH3_cal_tot/100

      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot*100
      HDWT_NO3_cal_tot=anint(HDWT_NO3_cal_tot)
      HDWT_NO3_cal_tot=HDWT_NO3_cal_tot/100



199   Continue


C*************** total up NPS values from incremetnal flow, tribs and headwaters
      nps_BOD_tot=incr_CBODu_tot+nps_WSTLD2_BOD_cal_tot+
     &HDWT_BOD_cal_tot
      nps_Org_N_tot=incr_Org_N_tot+nps_WSTLD2_Org_cal_tot+
     &HDWT_Org_cal_tot
      nps_NH3_N_tot=incr_Amm_N_tot+nps_WSTLD2_NH3_cal_tot+HDWT_NH3
     &_cal_tot
      nps_NO3_tot=incr_Nitrate_tot+nps_WSTLD2_NO3_cal_tot+HDWT_NO3_cal_t
     &ot

C************* total up oxygen demand for NPS
      oxy_dem_nps_org_N_tot=ammoxy_rat*nps_org_N_tot
      oxy_dem_nps_nh3_tot=ammoxy_rat*nps_nh3_N_tot
      oxy_dem_mldt19_tot_org=ammoxy_rat*mldt19_tot_org


C************* create the element and reach column, as well as other columns for
C************* for SOD and benthic ammonia
      DO 201 I=1,num
          DO 200 J=elem_begin(I), elem_end(I)
               elem_benthis(J)= C2_NH3SR (I)
               elem_sod(J)=SOD_temp_cor(I)
               elem_temp(J)=temp(I)
200            continue
201   continue



      do 202 I=1,total_elem
c               sod_temp_cor(I)=elem_sod(I)*1.065**(elem_temp(I)-20)
               sod_load(I)=sod_temp_cor(I)*s_area_int(I)*1.00/1000.00
               benthic(I)=elem_benthis(I)*s_area_int(I)*1.00/1000.00
               nps_sod_load_tot=nps_sod_load_tot+sod_load(I)
               nps_benthic_tot=nps_benthic_tot+benthic(I)
202   continue


C*****************calculate values for PS and NPS summary sections
      oxy_dem_nps_benthic_tot=ammoxy_rat*nps_benthic_tot

      nps_inflows_tot_oxy_demand=nps_BOD_tot+oxy_dem_nps_org_N_tot+oxy_d
     &em_nps_nh3_tot
      mldt19_tot_oxy_dem=mldt19_tot_cbodu+oxy_dem_mldt19_tot_org
      tot_oxy_dem_sod_ben=nps_sod_load_tot+oxy_dem_nps_benthic_tot

      tot_oxy_dem_nps=nps_inflows_tot_oxy_demand+mldt19_tot_oxy_dem+tot_
     &oxy_dem_sod_ben

      oxy_dem_ps_WSTLD2_Org_cal_tot=ps_WSTLD2_Org_cal_tot*ammoxy_rat
```

```
 oxy_dem_ps_WSTLD2_NH3_cal_tot=ps_WSTLD2_NH3_cal_tot*ammoxy_rat

 nps_summary_cbodu=nps_bod_tot+mldt19_tot_cbodu
 nps_summary_org=oxy_dem_nps_org_N_tot+oxy_dem_mldt19_tot_org
 nps_summary_ammon=oxy_dem_nps_nh3_tot+oxy_dem_nps_benthic_tot

 nps_mos_sod_load_tot=nps_sod_load_tot*nps_mos
 nps_mos_sod_load_tot=nps_mos_sod_load_tot*100
 nps_mos_sod_load_tot=anint(nps_mos_sod_load_tot)/100

 nps_mos_summary_cbodu=nps_summary_cbodu*nps_mos
 nps_mos_summary_cbodu=nps_mos_summary_cbodu*100
 nps_mos_summary_cbodu=anint(nps_mos_summary_cbodu)/100

 nps_mos_summary_org=nps_summary_org*nps_mos
 nps_mos_summary_org=nps_mos_summary_org*100
 nps_mos_summary_org=anint(nps_mos_summary_org)/100

 nps_mos_summary_ammon=nps_summary_ammon*nps_mos
 nps_mos_summary_ammon=nps_mos_summary_ammon*100
 nps_mos_summary_ammon=anint(nps_mos_summary_ammon)/100

 nps_FG_sod_load_tot=nps_sod_load_tot*nps_FG
 nps_FG_sod_load_tot=nps_FG_sod_load_tot*100
 nps_FG_sod_load_tot=anint(nps_FG_sod_load_tot)/100


 nps_FG_summary_cbodu=nps_summary_cbodu*nps_FG
 nps_FG_summary_cbodu=nps_FG_summary_cbodu*100
 nps_FG_summary_cbodu=anint(nps_FG_summary_cbodu)/100

 nps_FG_summary_org=nps_summary_org*nps_FG
 nps_FG_summary_org=nps_FG_summary_org*100
 nps_FG_summary_org=anint(nps_FG_summary_org)/100

 nps_FG_summary_ammon=nps_summary_ammon*nps_FG
 nps_FG_summary_ammon=nps_FG_summary_ammon*100
 nps_FG_summary_ammon=anint(nps_FG_summary_ammon)/100


 nps_mos_tot_oxy_dem=tot_oxy_dem_nps*nps_mos
 nps_mos_tot_oxy_dem=nps_mos_tot_oxy_dem*100
 nps_mos_tot_oxy_dem=anint(nps_mos_tot_oxy_dem)/100


 nps_FG_tot_oxy_dem=tot_oxy_dem_nps*nps_FG
 nps_FG_tot_oxy_dem=nps_FG_tot_oxy_dem*100
 nps_FG_tot_oxy_dem=anint(nps_FG_tot_oxy_dem)/100


 nps_mos_nps_NO3_tot=nps_NO3_tot*nps_mos
 nps_mos_nps_NO3_tot=nps_mos_nps_NO3_tot*100
 nps_mos_nps_NO3_tot=anint(nps_mos_nps_NO3_tot)/100


 nps_FG_nps_NO3_tot=nps_NO3_tot*nps_FG
 nps_FG_nps_NO3_tot=nps_FG_nps_NO3_tot*100
 nps_FG_nps_NO3_tot=anint(nps_FG_nps_NO3_tot)/100


 nps_LA_sod_load_tot=nps_sod_load_tot-nps_MOS_sod_load_tot-nps_FG_s
&od_load_tot
 nps_LA_summary_cbodu=nps_summary_cbodu-nps_MOS_summary_cbodu-nps_F
&G_summary_cbodu
 nps_LA_summary_org=nps_summary_org-nps_MOS_summary_org-nps_FG_summ
&ary_org
 nps_LA_summary_ammon=nps_summary_ammon-nps_MOS_summary_ammon-nps_F
&G_summary_ammon
 nps_LA_nps_NO3_tot=nps_NO3_tot-nps_MOS_nps_NO3_tot-nps_FG_nps_NO3_
&tot

 nps_LA_tot_oxy_dem=tot_oxy_dem_nps-nps_mos_tot_oxy_dem-nps_fg_tot_
&oxy_dem
```

```
c these values are from reading data from La_qual output (and thus ARE NOT minor point sources)
      ps_BOD_tot=ps_WSTLD2_BOD_cal_tot
      ps_Org_N_tot=ps_WSTLD2_Org_cal_tot
      ps_NH3_N_tot=ps_WSTLD2_NH3_cal_tot
      ps_NO3_tot=ps_WSTLD2_NO3_cal_tot

c this produces the "values for tmdl calculations table"
      do 204 I =1, num_pt_sour
               cbodu_tmdl_val(I)=2.30*cbod5_perm(I)
               if (CBOD5_perm(I).EQ.0.OR.CBOD5_perm(I).EQ.-999)then
                  cbodu_tmdl_val(I)=1.00*cod_perm(I)
                  if (cod_perm(I).EQ.0.OR.Cod_perm(I).EQ.-999)then
                  cbodu_tmdl_val(I)=0
               end if
               end if

               ammon_tmdl_val(I)=ammon_perm(I)
               if (ammon_perm(I) .EQ.-999) then
                  ammon_tmdl_val(I)=2*cbod5_perm(I)
                  if (cbod5_perm(I).EQ.-999) then
                     ammon_tmdl_val(I)=0
               end if
               end if

               no3_tmdl_val(I) = 0

               org_N_tmdl_val(I)=ammon_tmdl_val(I)*2.00

               if (cbod5_perm(I).EQ.0.AND.ammon_perm(I).EQ.0) then
               org_N_tmdl_val(I)=0
               ammon_tmdl_val(I)=0
               no3_tmdl_val(I) = 0
               end if

204   continue

C *** caluculate tmdl vlues for tmdl load chart
      do 206 I=1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_mos_FG
         cbodu_tmdl_cal(I) = tmdl_cal_flow(I)*cbodu_tmdl_val(I)*con4
         org_N_tmdl_cal(I) = tmdl_cal_flow(I)*org_N_tmdl_val(I)*con4
         ammon_tmdl_cal(I) = tmdl_cal_flow(I)*ammon_tmdl_val(I)*con4
         no3_tmdl_cal(I) = tmdl_cal_flow(I)*no3_tmdl_val(I) *con4

         cbodu_tmdl_tot=cbodu_tmdl_tot+cbodu_tmdl_cal(I)
         org_N_tmdl_tot=org_N_tmdl_tot+org_N_tmdl_cal(I)
         ammon_tmdl_tot=ammon_tmdl_tot+ammon_tmdl_cal(I)
         no3_tmdl_tot=no3_tmdl_tot+no3_tmdl_cal(I)

         oxy_dem_org_N_tmdl= org_N_tmdl_tot*ammoxy_rat
         oxy_dem_ammon_tmdl= ammon_tmdl_tot*ammoxy_rat


206   continue
c*********calculate tmdl values for summary chart (using ammox multiplier



c first term is read in from La-qual second is from User supplied data
c more summary calculations
      ps_summary_cbodu=ps_bod_tot+cbodu_tmdl_tot
      ps_summary_org= oxy_dem_ps_wstld2_org_cal_tot+ oxy_dem_org_N_tmdl

      ps_summary_nh3_n=oxy_dem_ps_WSTLD2_NH3_cal_tot+oxy_dem_ammon_tmdl

      tot_oxy_dem_summary=ps_summary_cbodu+ps_summary_org+ps_summary_nh3
     &_n

      mos_ps_summary_cbodu=ps_summary_cbodu*ps_mos
      mos_ps_summary_org=ps_summary_org*ps_mos
      mos_ps_summary_nh3_n= ps_summary_nh3_n*ps_mos

      FG_ps_summary_cbodu=ps_summary_cbodu*ps_FG
      FG_ps_summary_org=ps_summary_org*ps_FG
```

```
      FG_ps_summary_nh3_n= ps_summary_nh3_n*ps_FG


      min_ps_summary_tot=cbodu_tmdl_tot+oxy_dem_org_N_tmdl+oxy_dem_ammon
     &_tmdl

      mos_tot_oxy_dem_summary=tot_oxy_dem_summary*ps_mos
      FG_tot_oxy_dem_summary=tot_oxy_dem_summary*ps_FG

c WLA for minor point sources
      wla_ps_cbodu_tmdl_tot=cbodu_tmdl_tot*(1-ps_mos-ps_FG)
      wla_ps_org_N_tmdl_tot=oxy_dem_org_N_tmdl*(1-ps_mos-ps_FG)
      wla_ps_ammon_tmdl_tot=oxy_dem_ammon_tmdl*(1-ps_mos-ps_FG)
      wla_min_ps_summary_tot=min_ps_summary_tot*(1-ps_mos-ps_FG)


C********** Nutrient TMDL calucaltions (a lot of the NPS calcualatiosn are done above
C********* in lines 677-684
C just need to take nps_org_N_tot from
C the first equtaion (which has org_N from heads, tribs and increments)
C and add mass loads data type 19
C (seen in last term),


C******** the loop below should be with the section "calcualtions for point sources explicitly modeled
C*since the loop below is all PS stuff but oh well I do not want to risk moving it

      if (ps_num_wstld .EQ.0) then
      go to 207
      end if



      do 208 cir=1,ps_num_wstld
             ps_total_nitrogen_load(cir)=ps_WSTLD2_ORG_cal(cir)+ps_WSTLD
     &2_Nh3_cal(cir)+ps_WSTLd2_NO3_cal(cir)
             ps_total_P(cir)=ps_total_nitrogen_load(cir)/nat_rat

             ps_tot_sum_total_nitrogen_load=ps_tot_sum_total_nitrogen_lo
     &ad+ps_total_nitrogen_load(cir)
             ps_tot_sum_total_P=ps_tot_sum_total_P+ps_total_P(cir)

             wla_ps_total_nitrogen_load(cir)=ps_total_nitrogen_load(cir)
     &*(1-ps_mos-ps_FG)
             wla_ps_total_P(cir)=ps_total_P(cir)*(1-ps_mos-ps_FG)

208   continue



207   nut_tmdl_nps_Org_N_tot=nps_org_N_tot+mldt19_tot_org
      nps_tot_nitrogen_load= nut_tmdl_nps_org_N_tot+nps_nh3_n_tot+
     &nps_NO3_tot

      nps_total_P=nps_tot_nitrogen_load/nat_rat

      nps_mos_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*nps_mos
      nps_mos_nps_nh3_n_tot=nps_nh3_n_tot*nps_mos
      nps_mos_nps_NO3_tot=nps_NO3_tot*nps_mos
      nps_mos_tot_nitrogen_load=nps_tot_nitrogen_load*nps_mos
      nps_mos_total_p=NPS_total_p*nps_mos

      nps_FG_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*nps_FG
      nps_FG_nps_nh3_n_tot=nps_nh3_n_tot*nps_FG
      nps_FG_nps_NO3_tot=nps_NO3_tot*nps_FG
      nps_FG_tot_nitrogen_load=nps_tot_nitrogen_load*nps_FG
      nps_FG_total_p=NPS_total_p*nps_FG

      nps_la_nut_tmdl_nps_Org_N_tot=nut_tmdl_nps_Org_N_tot*(1-nps_mos-np
     &s_FG)
      nps_la_nps_nh3_n_tot=nps_nh3_n_tot*(1-nps_mos)
      nps_la_nps_NO3_tot=nps_NO3_tot*(1-nps_mos)
      nps_la_tot_nitrogen_load=nps_tot_nitrogen_load*(1-nps_mos)
```

```
      nps_la_total_p=npS_total_p*(1-nps_mos)

      min_ps_total_nitrogen_load=org_N_tmdl_tot+ammon_tmdl_tot+no3_tmdl_
     &tot
      min_ps_total_P=min_ps_total_nitrogen_load/nat_rat

      ps_nut_tmdl_summary_org_N_tot=ps_WSTLD2_Org_cal_tot+org_N_tmdl_tot
      ps_nut_tmdl_summary_nh3_N_tot=ps_WSTLD2_NH3_cal_tot+ammon_tmdl_tot
      ps_nut_tmdl_summary_no3_N_tot=ps_WSTLD2_NO3_cal_tot+no3_tmdl_tot

      ps_tot_nitrogen_final_load=min_ps_total_nitrogen_load+ps_tot_sum_t
     &otal_nitrogen_load
      ps_tot_P_final=min_ps_total_P+ps_tot_sum_total_P

      mos_ps_nut_tmdl_sum_org_N_tot=ps_nut_tmdl_summary_org_N_tot*ps_mos
      mos_ps_nut_tmdl_sum_nh3_N_tot=ps_nut_tmdl_summary_nh3_N_tot*ps_mos
      mos_ps_nut_tmdl_sum_no3_N_tot=ps_nut_tmdl_summary_no3_N_tot*ps_mos

      FG_ps_nut_tmdl_sum_org_N_tot=ps_nut_tmdl_summary_org_N_tot*ps_FG
      FG_ps_nut_tmdl_sum_nh3_N_tot=ps_nut_tmdl_summary_nh3_N_tot*ps_FG
      FG_ps_nut_tmdl_sum_no3_N_tot=ps_nut_tmdl_summary_no3_N_tot*ps_FG

      mos_ps_tot_nitrogen_final_load=ps_tot_nitrogen_final_load*ps_mos
      mos_ps_tot_P_final=ps_tot_P_final*ps_mos

      FG_ps_tot_nitrogen_final_load=ps_tot_nitrogen_final_load*ps_FG
      FG_ps_tot_P_final=ps_tot_P_final*ps_FG

      wla_min_ps_nut_tmdl_sum_org=org_N_tmdl_tot*(1-ps_mos-ps_FG)
      wla_min_ps_nut_tmdl_sum_nh3=ammon_tmdl_tot*(1-ps_mos-ps_FG)
      wla_min_ps_nut_tmdl_sum_no3=no3_tmdl_tot*(1-ps_mos-ps_FG)

      wla_min_ps_nitrogen_final_load=min_ps_total_nitrogen_load*(1-p
     &s_mos-ps_FG)
      wla_min_ps_P_final=min_ps_total_P*(1-ps_mos-ps_FG)

c590   write(11,6090)'Calculated load for minor point sources   ',org_N_t
c     &mdl_tot,ammon_tmdl_tot,no3_tmdl_tot,min_ps_total_nitrogen_load,min
c     &_ps_total_P



c      write(11,6090)'Total for all point source loads             ',ps_n
c     &ut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,ps_nut_tmd
c     &l_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_final




C***********Output File Write Statements

C*****SECTION: "TMDL CALCULATIONS FOR SUBSEGMENT:"

990   format(A33,2x,A10,2x,A20)
      Write (11,990)'TMDL CALCULATIONS FOR SUBSEGMENT:',subsegnumber,sub
     &segname
      Write(11,*)'FTN ASSOCIATES, LTD.'
      Write(11,*)'Program:Pr20m6f'
      Write(11,*)' '
      Write(11,*)'INFO FOR INPUT FILE WITH USER SPECIFIED DATA AND OPTIO
     &NS:'
      Write(11,*)'File name:',userfilename
      write(11,*)' '
      write(11,*)'INFO FOR LA-QUAL OUTPUT FILE:'
      Write(11,*)'File name:',laqualfilename
      Write(11,*)'Date/Time:',pertime
      write(11,*)LAQUAL_version
      write(11,*)'  '
      Write(11,*)'LIST OF ALL REACHES IN LA-QUAL OUTPUT FILE:'
      DO 209 numm=1, num
1000      Format(A7,1x,I3,1x,A10,1x,I3,1x,A1,1x,I3,A18,2x,A6,1x,A15)
209       WRITE(11,1000)'Reach',np_Reach(numm),'(Elements',Elem_begin(nu
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```
     &mm),'-',elem_end(numm),') is in subsegment',reach_subseg_num(numm)
     &,reach_name(numm)
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, TRIBUTARIES, AND INCREMENTAL INFLOW):"

      Write(11,3030)
      write(11,*)' '
3030  FORmat(102('='))
      Write(11,*)'CALCULATIONS FOR LOADS FROM NPS INFLOWS (HEADWATERS, T
     &RIBUTARIES, AND INCREMENTAL INFLOW):'
      Write(11,*)' '
      write(11,*)'Equation used: (Load, kg/day) = (Inflow rate, m3/sec)
     &* (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 *'
      write(11,*)'
     &                           86400 sec/day'
      write(11,*)' '
      Write(11,*)'Values from LA-QUAL output:'
      write(11,*)' '
      Write(11,*)'Reach or   Inflow      CBODu     Organic N   Ammonia N
     &        NO2+NO3 N'
      write(11,*)'Element     rate        conc.       conc.       conc.
     &          conc.'
      write(11,*)'number    (m3/sec)     (mg/L)      (mg/L)      (mg/L)
     &          (mg/L)     Name of inflow'
      write(11,*)'------    --------    --------    --------    --------
     &        --------     --------------------'
3050  Format(I3,5x,f10.5,4x,f8.2,4x,f8.2,4x,f8.2,8x,f8.2,5x,A25)
      do 210 cir=1,num_hdwt
210      write(11,3050) HDWT1_elem(cir), HDWT1_Flow(cir), HDWT2_BOD_con(
     &cir),HDWT2_ORG_con(cir),HDWT2_NH3_con(cir), HDWT2_NO3_con(cir),
     &hdwt1_name(cir)
      do 220 cir=1,nps_num_wstld
220   write(11,3050)nps_elem_wstld(cir),nps_WSTLD_Flow(cir), nps_WSTL
     &D2_BOD_con(cir),nps_WSTLD2_ORG_con(cir), nps_WSTLD2_NH3_con(cir),
     &nps_WSTLD2_NO3_con(cir),NPS_wstld_name(cir)
      do 222 cir=1,num_incr
222   write(11,3050)incr_reach(cir),incr_inFlow(cir), incr2_CBODu_con(ci
     &r),incr2_ORG_N_con(cir),incr2_Amm_N_con(cir),incr2_Nitrate_con(cir
     &),'Incremental Reach flow   '
      write(11,*)'  '
c      write(11,*)'------    --------    --------    --------    --------
c     &        --------     --------------------'
      write(11,*)'  '
      write(11,*)'Calculated values:'
      write(11,*)' '
      write(11,*)'                          CBODu     Organic N   Ammonia
     &N   NO2+NO3 N'
      write(11,*)'             Element     load        load        load
     &     load'
      write(11,*)'             number    (kg/day)    (kg/day)    (kg/day
     &)    (kg/day)'
      write(11,*)'             ------    --------    --------    --------
     &    --------'
3060  Format(13x,I3,5x,f10.2,2x,f10.2,1x,f10.2,2x,f10.2)
      cir=num_hdwt
      do 224 cirr=1,cir
224      write(11,3060) HDWT1_elem(cirr), HDWT_BOD_cal(cirr),
     &HDWT_ORG_cal(cirr),HDWT_NH3_cal(cirr), HDWT_NO3_
     &cal(cirr)
      cir=nps_num_wstld
      do 226 cirr=1,cir
226      write(11,3060)nps_elem_wstld(cirr),nps_WSTLD2_BOD_cal(cirr)
     &, nps_WSTLD2_ORG_cal(cirr), nps_WSTLD2_NH3_cal(cirr), nps_WSTLD2_N
     &O3_cal(cirr)
      do 228 cirr=1,num_incr
228      write(11,3060)incr_reach(cirr),incr_CBODu(cirr)
     &, incr_Org_N(cirr), incr_Amm_N(cirr),incr_NITrate(cirr)
      write(11,*)'             ------    --------    --------    --------
     &    --------'
3070  Format(A19,f12.2,2x,f10.2,1x,f10.2,2x,f10.2)
      write(11,3070)'Subsegment totals:',nps_BOD_tot,nps_Org_N_tot,nps_
     &NH3_N_tot,nps_NO3_tot
```

```
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TYPE 19:"

      Write(11,3030)
      write(11,*)' '
      write(11,*)'CALCULATIONS FOR NONPOINT SOURCE MASS LOADS IN DATA TY
     &PE 19:'
      write(11,*)' '
      write(11,*)'Values from LA-QUAL output:'
      write(11,*)' '
      write(11,*)'                                        CBODu       Orga
     &nic N'
      write(11,*)'                         Reach      mass load     mass
     & load'
      write(11,*)'                         number      (kg/day)      (kg
     &/day)'
      write(11,*)'                         ------      --------    -----
     &------'
      DO 230 numm=1,num
3080  Format(26X,I3,6x,F10.2,5x,F10.2)
230      Write(11,3080)NP_reach(numm),NP_BOD(numm), NP_Org(numm)
      write(11,*)'                         ------      --------    -----
     &------'
3090  format(A33,F12.2,3x,F12.2)
      write(11,3090)'Subsegment totals               ',MLDT19_tot_CBODu
     &,MLDT19_tot_org
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:"

      ctr=1
      write(11,3030)
      write(11,*)'  '
      write(11,*)'CALCULATIONS FOR LOADS FROM SOD AND BENTHIC AMMONIA:'
      write(11,*)'  '
      write(11,*)'SOD temperature correction factor used in LA-QUAL mode
     &l: 1.065 (default)'
      write(11,*)' '
      write(11,*)'Equations used: SOD temp. corrected = (SOD at 20 C) *
     &1.065^(Water temp - 20 C)'
      write(11,*)'                SOD load = (SOD temp. corrected, g/m2/
     &day) * (Surface area, m2) * 1.0E-3 kg/g'
      write(11,*)'                Benthic NH3-N load = (Benthic ammonia
     &N, g/m2/day) * (Surface area, m2) * 1.0E-3 kg/g'
      write(11,*)' '
      write(11,*)' '
      write(11,*)'                              Values from LA-QUAL output
     &:                  Calculated values:'
      write(11,*)'                     ----------------------------------
     &---------    --------------------------------'
      write(11,*)'                      Water     Surface      SOD at
     &Benthic      SOD temp.     SOD       Benthic'
      write(11,*)'Reach    Element     temp.       area        20 C
     &ammonia N    corrected     load     NH3-N load'
      write(11,*)'number   number     (deg C)      (m2)     (g/m2/day)
     &(g/m2/day)  (g/m2/day)   (kg/day)    (kg/day)'
      write(11,*)'------   ------    --------    --------    --------
     &--------     --------    --------    ---------'
      DO 300 cir=1, total_elem
4000  format(I3,7x,I3,4x,f10.2,1x,f10,3x,f10.3,1x,f10.2,5x,f6.3,3x,f10.2
     &,6x,f6.2)
4001  if (cir.LT.elem_begin(ctr)) then

      ctr=ctr-1
      go to 4001
      end if

4002  if (cir.GT.elem_end(ctr)) then
      ctr=ctr+1
      go to 4002
      end if
```

```
4009  FORMAT(I3,2x,I3,2x,I3,2x,F6.2,2x,I3,2x,I3,2x,F8.4)
C      write(13,4009)cir,elem_begin(ctr),elem_end(ctr),elem_col(cir),ctr,
C     &np_reach(ctr),elem_sod(cir)

      write (11,4000)np_reach(ctr),cir,elem_temp(cir),
     &s_area_int(cir),elem_sod(cir), elem_benthis(cir),sod_temp_cor(cir)
     &,sod_load(cir),benthic(cir)

300   continue
      write(11,*)'
     &                        --------    ---------'
4010  format(A60,16x,F10.2,2x,f10.2)
      write(11,4010)'Subsegment totals:',nps_sod_load_tot,nps_benthic_to
     &t
      write(11,*)' '


C***** SECTION:"CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EXPLICITLY MODELED:"

      write(11,3030)
      write(11,*)' '
      write(11,*)'CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES EX
     &PLICITLY MODELED:'
      write(11,*)' '
      if (ps_num_wstld.EQ.0) then
      WRITE(11,*)'For this subsegment, there are no point source dischar
     &ges explicitly modeled.'
      go to 335
      end if
      write(11,*)'Equation used: (Load, kg/day) = (Inflow rate, m3/sec)
     &* (Conc., mg/L) * 1.0E-6 kg/mg * 1.0E3 L/m3 *'
      write(11,*)'
     &                               86400 sec/day'
      write(11,*)'  '
      write(11,*)'Values from LA-QUAL output:'
      write(11,*)'  '
      write(11,*)'          Inflow      CBODu     Organic N   Ammonia N
     &   NO2+NO3 N'
      write(11,*)'Element     rate        conc.       conc.       conc.
     &     conc.'
      write(11,*)'number    (m3/sec)     (mg/L)      (mg/L)      (mg/L)
     &      (mg/L)     Name of discharge'
      write(11,*)'------    --------    --------    --------    --------
     &    --------    --------------------'
      DO 330 cir=1,ps_num_wstld
4020  Format(I3,5x,f10.5,5x,f7.3,5x,f7.3,5x,f7.3,5x,f7.3,6x,A20)
        write(11,4020)ps_elem_wstld(cir),ps_WSTLD_Flow(cir), ps_WSTL
     &D2_BOD_con(cir),ps_WSTLD2_ORG_con(cir), ps_WSTLD2_NH3_con(cir),
     &ps_WSTLD2_NO3_con(cir),PS_wstld_name(cir)
330   continue
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Calculated values:'
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'                        CBODu     Organic N   Ammonia N
     & NO2+NO3 N'
      write(11,*)'            Element     load        load        load
     &       load'
      write(11,*)'            number    (kg/day)    (kg/day)    (kg/day)
     &    (kg/day)'
      write(11,*)'            ------    --------    --------    --------
     &    --------'
      cir=ps_num_wstld
      if (ps_num_wstld .EQ.0) then
      write(11,*)'             NONE         0.00        0.00        0.00
     &        0.00'
      go to 342
      end if
      do 340 cirr=1,cir
4030  Format(13x,I3,4x,f10.2,4x,f8.2,4x,f8.2,4x,f8.2)
340      write(11,4030)ps_elem_wstld(cirr),ps_WSTLD2_BOD_cal(cirr)
```

```
     &, ps_WSTLD2_ORG_cal(cirr), ps_WSTLD2_NH3_cal(cirr), ps_WSTLD2_N
     &O3_cal(cirr)
342   write(11,*)'            ------    --------    --------    --------
     &    --------'
4040  Format(A16,4x,f10.2,2x,f10.2,2x,f10.2,2x, f10.2)
      write(11,4040)'Subsegment totals:',ps_BOD_tot,ps_Org_N_tot,ps_
     &NH3_N_tot,ps_NO3_tot
      write(11,*)'  '
      write(11,*)'  '


C*****SECTION:"CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NOT EXPLICITLY MODELED:"

335   write(11,3030)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'CALCULATIONS FOR LOADS FROM POINT SOURCE DISCHARGES NO
     &T EXPLICITLY MODELED:'
      write(11,*)'  '
      if (num_pt_sour.EQ.0) THEN
         WRITE(11,*)'For this subsegment, there are no point source disc
     &harges not explicitly modeled.'
         write(11,*)' '
         GO TO 431
         END IF
4045  format (A62,f6.3,A33)
      write(11,4045)'Equations used: Flow rate from TMDL calcs = Permit
     &flow rate * ',fac_mos_FG,' (to incorporate MOS and FG) '
      write(11,*)'                (Load, kg/day) = (Flow rate, MGD) * (C
     &onc., mg/L) * 3.785 L/gal * 1.0E6 gal/MG * 1.0E-6 kg/mg'
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Assumptions: Ratio of CBODu to CBOD5 for point source
     & dissharges = 2.3 (guidance from LTP).'
      write(11,*)'             For permits with BOD or ammonia limits, N
     &O2+NO3 = 10 mg/L (drinking water criteria).'
      write(11,*)'             For permits with COD limits, assume that
     &CBODu is about the same magnitude as COD and'
      write(11,*)'                          that discharges of nitrogen (o
     &rganic, ammonia, and NO2+NO3) are negligible.'
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'                          Permit    Factor to      Flow
     &'
      write(11,*)'NPDES                     flow    incorporate   rate fo
     &r'
      write(11,*)'permit      Outfall       rate     MOS and FG   TMDL ca
     &lcs            '
      write(11,*)'number      number        (MGD)     into flow       (MG)
     &D      Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    ----------------------------------------'
      do 400 I= 1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_mos_FG
4050     Format(A10,4x,A3,5x,F10.3,3x,F6.3,4x,f10.3,5x,A40)
         write (11,4050)permit_number(I), outfall_num(I),perm_flow(I),fa
     &c_mos_FG,tmdl_cal_flow(I), comment(I)
400    continue
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                           User specified permit limits
     &:'
      write(11,*)' NPDES                   ------------------------------
     &-'
      write(11,*)' permit      Outfall     CBOD5        COD       Ammoni
     &a'
      write(11,*)' number      number      (mg/L)      (mg/L)      (mg/L
     &)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    ----------------------------------------'
      do 410 I= 1,num_pt_sour
4060     Format(A10,4x,A3,5x,F10.1,2x,F10.1,2x,F10.1,4x,A40)
410      write (11,4060)permit_number(I), outfall_num(I),CBOD5_perm(I),
```

```
     &COD_perm(I), ammon_perm(I),comment_con(I)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                                Values for TMDL calcul
     &ations:'
      write(11,*)' NPDES                  ------------------------------
     &-------------'
      write(11,*)' permit      Outfall     CBODu     Organic N   Ammonia
     & N   NO2+NO3 N'
      write(11,*)'  number      number      (mg/L)      (mg/L)      (mg/
     &L)      (mg/L)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    --------    ----------------------------'
      do 420 I= 1,num_pt_sour
         tmdl_cal_flow(I)=perm_flow(I)*fac_MOS_fg
4070     Format(A10,4x,A3,5x,F10.2,2x,F10.2,2x,F10.2,2x,F10.2)
420      write (11,4070)permit_number(I), outfall_num(I),CBODu_tmdl_val(
     &I),org_N_tmdl_val(I),ammon_tmdl_val(I), no3_tmdl_val(I)
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'                                        Calculated loads
     &:'
      write(11,*)' NPDES                  ------------------------------
     &-------------'
      write(11,*)' permit      Outfall     CBODu     Organic N   Ammonia
     &N   NO2+NO3 N'
      write(11,*)' number      number     (kg/day)    (kg/day)    (kg.da
     &y)   (kg.day)     Comments'
      write(11,*)'--------    --------    --------    --------    ------
     &--    --------    ----------------------------'
      DO 430 I= 1,num_pt_sour
4080     Format(A10,4x,A3,5x,F10.2,2x,F10.2,2x,F10.2,2x,F10.2)
         write(11,4080)permit_number(I), outfall_num(I),cbodu_tmdl_cal(I
     &), org_n_tmdl_cal(I),ammon_tmdl_cal(I),no3_tmdl_cal(I)
430   continue
      write(11,*)'                            --------    --------    ------
     &--    --------'
4090  format(A20,2x,f10.2,2x,f10.2,2x,f10.2,2x, f10.2)
      write(11,4090)'Subsegment total',cbodu_tmdl_tot,org_N_tmdl_tot,amm
     &on_tmdl_tot,no3_tmdl_tot


C*****SECTION:"SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT:"

431   write(11,3030)
      write(11,*)' '
      write(11,*)'SUMMARY OF NONPOINT SOURCE OXYGEN DEMAND FOR THIS SUBS
     &EGEMENT:'
      write(11,*)' '
      write(11,*)' '
4093  format(A52,f6.4,A30)
      write(11,4093)'Equations used:  Organic N oxygen demand, kg/day =
     &',ammoxy_rat,' * Organic N load, kg/day of N'
4094  format(A52,F6.4,A30)
      write(11,4094)'                 Ammonia N oxygen demand, kg/day =
     &',ammoxy_rat,' * Ammonia N load, kg/day of N'
4095  format(A37,f4.1,A24)
      write(11,4095)'                 Margin of safety = ',nps_mos_per,'
     &% * nonpoint source load'
4097  format(A34,f4.1,A24)
      write(11,4097)'                 Future Growth = ',nps_FG_per,'% *
     &nonpoint source load'
4099  format(A36,f4.1,A24)
      write(11,4099)'                 Load Allocation = ',100-nps_mos_pe
     &r-ps_FG_per,'% * nonpoint source load'
      write(11,*)' '
      write(11,*)'Values from calculations above'
      write(11,*)' '
      write(11,*)'
     &    Nitrogen loads (kg/day of N):'
      write(11,*)'
     &---------------------------------'
```

```
      write(11,*)'                                    SOD       CBODu
     &Organic      Ammonia     NO2+NO3 N'
      write(11,*)'                                 (kg/day)    (kg/day)   (
     &kg/day)     (kg/day)     (kg/day)'
      write(11,*)'                                 --------    --------   -
     &-------     --------     ---------'
5000  format(A36,4x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5000)'NPS inflows                      N/A ',nps_bod_tot,n
     &ps_org_N_tot,nps_nh3_n_tot,nps_NO3_tot
5010  format(A36,4x,f10.2,1x,f10.2,4x,A20)
      write(11,5010)'Mass LOads (data type 19)       N/A ',mldt19_tot_cb
     &odu,mldt19_tot_org,'N/A          N/A'
5020  format(A15,13x,f10.2,1x,A20,5x,f10.2,7x,A4)
      write(11,5020)'SOD and Benthic ammonia',nps_sod_load_tot,'N/A
     &   N/A',nps_benthic_tot,'N/A'
c      write(11,*)'                                --------    --------   -
c     &-------     --------     ---------'
      write(11,*)'  '
      write(11,*)'Calculated loads of oxygen demand:'
      write(11,*)'
     & Oygen demand loads:     Total'
      write(11,*)'
     & -------------------     Oxygen'
      write(11,*)'                                    SOD       CBODu
     &Organic      Ammonia     demand'
      write(11,*)'                                 (kg/day)    (kg/day)   (
     &kg/day)     (kg/day)     (kg/day)'
      write(11,*)'                                 --------    --------   -
     &-------     --------     ---------'
c5000  format(A36,4x,f10.5,2x,f10.5,2x,f10.5,3x,f10.5)

      write(11,5000)'NPS inflows                      N/A ',nps_bod_tot,
     &oxy_dem_nps_org_N_tot,oxy_dem_nps_nh3_tot,nps_inflows_tot_oxy_dema
     &nd
5011  format(A36,4x,f10.2,1x,f10.2,8x,A3,6x,f10.2)
      write(11,5011)'Mass LOads (data type 19)       N/A ',mldt19_tot_cb
     &odu,oxy_dem_mldt19_tot_org,'N/A',mldt19_tot_oxy_dem
5021  format(A15,13x,f10.2,1x,A20,5x,f10.2,4x,f10.2)
      write(11,5021)'SOD and Benthic ammonia',nps_sod_load_tot,'N/A
     &   N/A',oxy_dem_nps_benthic_tot,tot_oxy_dem_sod_ben
      write(11,*)' '
5030  format(A23,5x,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5030)'Total for all NPS loads',nps_sod_load_tot,nps_summa
     &ry_cbodu,nps_summary_org,nps_summary_ammon, tot_oxy_dem_nps
      write(11,*)' '
5035  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5035)'NPS future growth    (',nps_FG_per,'%)    ',nps_FG_
     &sod_load_tot,nps_FG_summary_cbodu,nps_FG_summary_org,nps_FG_s
     &ummary_ammon,nps_FG_tot_oxy_dem
5040  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5040)'NPS margin of safety (',nps_mos_per,'%)    ',nps_mo
     &s_sod_load_tot,nps_mos_summary_cbodu,nps_mos_summary_org,nps_mos_s
     &ummary_ammon,nps_mos_tot_oxy_dem
5050  format(A22,f4.1,A2,f10.2,2x,f10.2,1x,f10.2,3x,f10.2,4x,f10.2)
      write(11,5050)'NPS load allocation  (',100-nps_MOS_PER-nps_FG_PER
     &,'%)    ',npS_LA_sod_load_tot,nps_LA _summary_cbodu,nps_LA_summary
     &_org,nps_La_summary_ammon,nps_LA_tot_oxy_dem
      write(11,*)' '
      write(11,*)'  '


C*****SECTION:"SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGEMENT"

      write(11,3030)
      write(11,*)' '
      Write(11,*)'SUMMARY OF POINT SOURCE OXYGEN DEMAND FOR THIS SUBSEGE
     &MENT'
      write(11,*)' '
      if (num_pt_sour+ps_num_wstld.EQ.0) THEN
         WRITE(11,*)'For this subsegment, there are no point source disc
     &harges either modeled or unmodeled in this subsegment.'
         write(11,*)' '
         GO TO 561
         end if
```

```
      write(11,*)'  '
      write(11,4093)' Equations used: Organic N oxygen demand, kg/day =
     & ',ammoxy_rat,' * Organic N load, kg/day of N'
      write(11,4093)'                 Ammonia N oxygen demand, kg/day =
     & ',ammoxy_rat,' * Ammonia N load, kg/day of N'
5052  format(A36,f4.1,A21)
      write(11,5052)'                 Margin of Safety = ',ps_mos_per,'%
     & * point source load'
5053  format(A33,F4.1,A24)
      write(11,5053)'                 Future Growth = ',nps_FG_per,'% *
     &nonpoint source load'
5054  format(A71,f4.1,A16)
      write(11,5054)'                 Wasteload Allocation (WLA) for mod
     &eled point source = ',100-ps_mos_per-ps_FG_per,'% * modeled load'
5056  format(A70,f4.1,A19)
      write(11,5056)'                 Wasteload Allocation (WLA) for min
     &or point sources = ',100-ps_mos_per-ps_FG_per,'% * calculated load
     &'
      write(11,*)' '
      write(11,*)'Values from calculations above'
      write(11,*)'
     & Nitrogen loads (kg/day of N):'
      write(11,*)'                                                      -
     &--------------------------------'
      write(11,*)'                                                       CBODu    O
     &rganic N   Ammonia N    NO3+NO2'
      write(11,*)'                                                      (kg/day)
     &(kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                                      -------   -
     &--------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 470
      end if
      DO 450 cir=1,ps_num_wstld
5060  Format(A17,1x,A20,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5060)'Modeled load for:' ,ps_wstld_name(cir),
     &ps_WSTLD2_Bod_cal(cir),ps_WSTLD2_ORG_cal(cir), ps_WSTLD2_N
     &h3_cal(cir),ps_WSTLd2_NO3_cal(cir)
450   continue
5080  format(A38,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
470   write(11,5080)'Calculated load for minor point sources   ',cbodu_t
     &mdl_tot,org_N_tmdl_tot,ammon_tmdl_tot,no3_tmdl_tot
      write(11,*)'  '
      write(11,*)'  '
      write(11,*)'Calculated loads of oxygen demand'
      write(11,*)' '
      write(11,*)'
     & Oygen demand loads:     Total'
      write(11,*)'
     & -------------------     Oxygen'
      write(11,*)'                                                       CBODu    O
     &rganic N   Ammonia N     demand'
      write(11,*)'                                                      (kg/day)
     &(kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                                      -------   -
     &--------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 540
      end if
      DO 490 cir=1,ps_num_wstld
      write(11,5060)'Modeled load for:',ps_wstld_name(cir),
     &oxy_dem_ps_WSTLD2_Bod_cal(cir),oxy_dem_ps_WSTLD2_ORG_cal(cir),oxy_
     &dem_ps_WSTLD2_Nh3_cal(cir),mod_tot_oxy_dem_ps(cir)
490   continue
540   write(11,5080)'Calculated load for minor point sources   ',cbodu_t
     &mdl_tot,oxy_dem_org_N_tmdl, oxy_dem_ammon_tmdl,min_ps_summary_tot
      write(11,5080)'Total for all point source loads             ',ps_s
     &ummary_cbodu, ps_summary_org,ps_summary_nh3_n,tot_oxy_dem_summary
      write(11,*)' '
5090  Format(A31,f4.1,A3,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5090)'MOS for all point Sources     (',ps_mos_per,'%)  ',
     &mos_ps_summary_cbodu, mos_ps_summary_org,mos_ps_summary_nh3_n,mos_
     &tot_oxy_dem_summary
5092  Format(A31,f4.1,A3,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
```

```
      write(11,5092)'FG for all point Sources      (',ps_FG_per,'%)  ',
     &FG_ps_summary_cbodu,FG_ps_summary_org,FG_ps_summary_nh3_n,FG_
     &tot_oxy_dem_summary

      if (ps_num_wstld .EQ.0) then
      go to 560
      end if
      DO 550 cir=1,ps_num_wstld
5095  Format(A8,1x,A21,A1,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,5095)'WLA for:',ps_wstld_name(cir),'(',100-ps_mos_per-ps_
     &FG_per,'%)',wla_ps_WSTLD2_BOD_cal(cir),wla_ps_WSTLD2_ORG_cal(cir),
     &wla_ps_WSTLd2_nH3_cal(cir),wla_mod_tot_oxy_dem_ps(cir)
550   continue
6000  format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
560   write(11,6000)'WLA for minor point sources   (',100-ps_mos_per-ps_
     &FG_per,'%)   ',wla_ps_cbodu_tmdl_tot,wla_ps_org_N_tmdl_tot, wla_ps
     &_ammon_tmdl_tot,wla_min_ps_summary_tot


      if (nut_tmdl_need .EQ. 'YES') then
         goto 561
      else
         go to 605
      end if


C*****SECTION:"NUTRIENT TMDL CALCULATIONS:"

561   write(11,3030)
      write(11,*)' '
      write(11,*)' '
      write(11,*)'NUTRIENT TMDL CALCULATIONS:'
      write(11,*)'  '
      if(nut_tmdl_need.EQ.'NO') then
      write(11,*)'No nutrient TMDL is needed for this subsegment'
      go to 605
      end if
      write(11,*)'Assumptions: Naturally occurring ratio of total N to t
     &otal P = ',nat_rat
      write(11,*)' '
      write(11,*)'Equations used: Total N = (Organic N) + (Ammonia N) +
     &(NO2+NO3 N)'
      write(11,*)'                Total P = (Total N) / (Naturally occur
     &ring ratio of total N to total P)'
6010  format(A39,f4.1,A24)
      write(11,6010)'              NPS margin of safety = ',nps_mos_per,
     &'% * nonpoint source load'
6015  format(A36,f4.1,A24)
      write(11,6015)'              NPS Future Growth = ',nps_FG_per,
     &'% * nonpoint source load'
6020  format(A38,f4.1,A24)
      write(11,6020)'                NPS load allocation = ',100-nps_mos
     &_per-nps_FG_per,'% * nonpoint source load'
6030  format(A57,f4.1,A27)
      write(11,6030)'                Margin of safety for all point sour
     &ces = ',ps_mos_per,'% * total point source load'
6035  format(A53,F4.1,A24)
      write(11,6035)'                Future Growth for all point soures
     &= ',nps_FG_per,'% * nonpoint source load'
6040  format(A70,f4.1,A16)
      write(11,6040)'                Wasteload allocation (WLA) for mode
     &led point source = ',100-ps_mos_per-ps_FG_per,'% * modeled load'
6050  format(A69,f4.1,A19)
      write(11,6050)'                Wasteload allocation (WLA) for mino
     &r point sources = ',100-ps_mos_per-ps_FG_per,'% * calculated load'
      write(11,*)'  '
      write(11,*)' '
      write(11,*)'Nonpoint sources:'
      write(11,*)'                                                 Organic N
     &Ammonia N   NO2+NO3 N    Total N     Total P'
      write(11,*)'                                                  (kg/day)
     & (kg/day)    (kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                                  --------
     & --------    --------    --------    --------'
```

```
6060  format(A25,16x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6060)'Total for all NPS loads                    ',nut_tm
     &dl_nps_org_N_tot,nps_nh3_n_tot,nps_NO3_tot,nps_tot_nitrogen_load,n
     &ps_total_P
      write(11,*)'  '
6070  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6070)'NPS margin of safety (',nps_mos_per,'%)    ',nps_mo
     &s_nut_tmdl_nps_Org_N_tot,nps_mos_nps_nh3_n_tot,nps_mos_nps_NO3_tot
     &,nps_mos_tot_nitrogen_load,nps_mos_total_p
6075  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6075)'NPS Future Growth    (',nps_mos_per,'%)    ',nps_FG
     &_nut_tmdl_nps_Org_N_tot,nps_FG_nps_nh3_n_tot,nps_FG_nps_NO3_tot
     &,nps_FG_tot_nitrogen_load,nps_FG_total_p
6080  format(A22,f4.1,A2,13x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,6080)'NPS load allocation  (',100-nps_mos_per-nps_FG_per,
     &'%)    ',nps_la_nut_tmdl_nps_Org_N_tot,nps_la_nps_nh3_n_tot,nps_la
     &_nps_NO3_tot,nps_la_tot_nitrogen_load,nps_la_total_p
      write(11,*)' '
      write(11,*)'  '
      write(11,*)'Point sources:'
      write(11,*)' '
      write(11,*)'                                              Organic N
     &Ammonia N   NO2+NO3 N    Total N     Total P'
      write(11,*)'                                               (kg/day)
     & (kg/day)    (kg/day)    (kg/day)    (kg/day)'
      write(11,*)'                                               --------
     & --------    --------    --------    --------'
      if (ps_num_wstld .EQ.0) then
      go to 590
      end if
      DO 585 cir=1,ps_num_wstld
6085  Format(A17,1x,A14,8x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
        write(11,6085)'Modeled load for:',ps_wstld_name(cir),
     &ps_WSTLD2_ORG_cal(cir),ps_WSTLD2_Nh3_cal(cir),ps_WSTLd2_NO3_cal(c
     &ir),ps_total_nitrogen_load(cir),ps_total_P(cir)

585   continue
c5080  format(A38,2x,f10.5,2x,f10.5,2x,f10.5,2x,f10.5)
6090  format(A38,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
590   write(11,6090)'Calculated load for minor point sources   ',org_N_t
     &mdl_tot,ammon_tmdl_tot,no3_tmdl_tot,min_ps_total_nitrogen_load,min
     &_ps_total_P
      write(11,*)'                                               --------
     & --------    --------    --------    --------'
      write(11,6090)'Total for all point source loads             ',ps_n
     &ut_tmdl_summary_org_N_tot,ps_nut_tmdl_summary_nh3_N_tot,ps_nut_tmd
     &l_summary_no3_N_tot,ps_tot_nitrogen_final_load,ps_tot_P_final
      write(11,*)' '
7000  Format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,7000)'MOS for all point Sources     (',ps_mos_per,'%)',
     &mos_ps_nut_tmdl_sum_org_N_tot,mos_ps_nut_tmdl_sum_nh3_N_tot,
     &mos_ps_nut_tmdl_sum_no3_N_tot,mos_ps_tot_nitrogen_final_load,
     &mos_ps_tot_P_final
7005  Format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)
      write(11,7005)'FG for all point Sources      (',ps_mos_p
     &er,'%)',FG_ps_nut_tmdl_sum_org_N_tot,FG_ps_nut_tmdl_sum_nh3_N_to
     &t,FG_ps_nut_tmdl_sum_no3_N_tot,FG_ps_tot_nitrogen_final_load,
     &FG_ps_tot_P_final
      if (ps_num_wstld .EQ.0) then
      go to 610
      end if
      DO 600 cir=1,ps_num_wstld
7010  Format(A9,1x,A20,A1,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2
     &x,f10.2)
600   write(11,7010)'WLA for: ',ps_wstld_name(cir),'(',100-ps_mos_per-ps
     &_FG_per,'%)',wla_ps_WSTLD2_ORG_cal_sum(cir),wla_ps_WSTLd2_nH3_cal_
     &sum(cir),wla_ps_wstLD2_NO3_cal_sum(cir),wla_ps_total_nitrogen_load
     &(cir),wla_ps_total_P(cir)
610   continue
7020  format(A31,f4.1,A2,3x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2,2x,f10.2)

      write(11,7020)'WLA for minor point sources   (',100-ps_mos_per-ps_
     &FG_per,'%)   ',wla_min_ps_nut_tmdl_sum_org,wla_min_ps_nut_tmdl_sum
     &_nh3,wla_min_ps_nut_tmdl_sum_no3,wla_min_ps_nitrogen_final_load
```

```
     &,wla_min_ps_P_final

605   Print*,'Program has made the output file!!!'

606   STOP
      END
```

APPENDIX M

Ammonia Toxicity Calculations

AMMONIA TOXICITY CALCULATIONS FOR BOGGY BAYOU (SUBSEGMENT 100602)

Equations from 1999 Update of Ambient Water Quality Criteria for Ammonia, EPA-822-R-99-014, Dec. 1999.

Use chronic criterion when fish early life stages are present (as mentioned on page 88, this is the same as CCC for early life stages absent when temp > 15^{o}C)

CCC, in mg N/L = [0.0577/(1+10$^{7.688-pH}$) + 2.487/(1+10$^{pH-7.688}$)] * MIN [2.85, 1.45*10$^{0.028*(25-T)}$]

Note: CCC is the Chronic Criterion Concentration

CCC calculations below use seasonal average pH from LDEQ ambient monitoring data at station 1207 (Boggy Bayou southwest of Shreveport):

Summer (May-Oct)	
Date	pH (su)
05/07/02	7.16
06/04/02	7.35
07/09/02	7.07
08/06/02	6.98
09/10/02	6.97
05/05/04	6.86
06/29/04	6.71
07/27/04	7.23
08/24/04	6.93
09/14/04	7.39
05/10/05	7.04
05/24/05	7.02
06/07/05	7.16
06/21/05	7.31
07/05/05	6.50
07/19/05	6.97
08/09/05	7.32
08/23/05	7.11
09/27/05	6.04
Average =	7.01

Winter (Nov-Apr)	
Date	pH (su)
01/07/02	7.33
02/05/02	7.00
03/05/02	7.23
04/02/02	6.66
11/06/02	6.66
12/03/02	6.66
01/13/04	6.81
02/03/04	6.81
03/09/04	6.46
04/07/04	6.87
11/16/04	7.16
03/22/05	7.11
04/12/05	5.78
04/26/05	7.03
Average =	6.83

	Summer				Winter			
Model Element	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?
1	32.0	1.91	0.03	No	22.9	3.64	0.05	No
2	32.0	1.91	0.04	No	22.9	3.64	0.05	No
3	32.0	1.91	0.04	No	22.9	3.64	0.05	No
4	32.0	1.91	0.04	No	22.9	3.64	0.05	No
5	32.0	1.91	0.04	No	22.9	3.64	0.06	No
6	32.0	1.91	0.05	No	22.9	3.64	0.06	No
7	32.0	1.91	0.05	No	22.9	3.64	0.06	No
8	32.0	1.91	0.05	No	22.9	3.64	0.06	No
9	32.0	1.91	0.05	No	22.9	3.64	0.06	No
10	32.0	1.91	0.05	No	22.9	3.64	0.06	No
11	32.0	1.91	0.05	No	22.9	3.64	0.06	No
12	32.0	1.91	0.05	No	22.9	3.64	0.06	No

Model Element	Summer				Winter			
	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?
13	32.0	1.91	0.05	No	22.9	3.64	0.07	No
14	32.0	1.91	0.05	No	22.9	3.64	0.07	No
15	32.0	1.91	0.05	No	22.9	3.64	0.07	No
16	32.0	1.91	0.05	No	22.9	3.64	0.07	No
17	32.0	1.91	0.05	No	22.9	3.64	0.07	No
18	32.0	1.91	0.05	No	22.9	3.64	0.07	No
19	32.0	1.91	0.05	No	22.9	3.64	0.07	No
20	32.0	1.91	0.05	No	22.9	3.64	0.07	No
21	32.0	1.91	0.05	No	22.9	3.64	0.07	No
22	32.0	1.91	0.05	No	22.9	3.64	0.07	No
23	32.0	1.91	0.05	No	22.9	3.64	0.08	No
24	32.0	1.91	0.05	No	22.9	3.64	0.08	No
25	32.0	1.91	0.05	No	22.9	3.64	0.08	No
26	32.0	1.91	0.05	No	22.9	3.64	0.08	No
27	32.0	1.91	0.05	No	22.9	3.64	0.08	No
28	32.0	1.91	0.05	No	22.9	3.64	0.08	No
29	32.0	1.91	0.05	No	22.9	3.64	0.08	No
30	32.0	1.91	0.05	No	22.9	3.64	0.08	No
31	32.0	1.91	0.05	No	22.9	3.64	0.08	No
32	32.0	1.91	0.05	No	22.9	3.64	0.08	No
33	32.0	1.91	0.05	No	22.9	3.64	0.08	No
34	32.0	1.91	0.05	No	22.9	3.64	0.09	No
35	32.0	1.91	0.05	No	22.9	3.64	0.09	No
36	32.0	1.91	0.05	No	22.9	3.64	0.09	No
37	32.0	1.91	0.05	No	22.9	3.64	0.09	No
38	32.0	1.91	0.05	No	22.9	3.64	0.09	No
39	32.0	1.91	0.05	No	22.9	3.64	0.09	No
40	32.0	1.91	0.05	No	22.9	3.64	0.09	No
41	32.0	1.91	0.05	No	22.9	3.64	0.09	No
42	32.0	1.91	0.05	No	22.9	3.64	0.09	No
43	32.0	1.91	0.05	No	22.9	3.64	0.09	No
44	32.0	1.91	0.05	No	22.9	3.64	0.09	No
45	32.0	1.91	0.05	No	22.9	3.64	0.09	No
46	32.0	1.91	0.05	No	22.9	3.64	0.10	No
47	32.0	1.91	0.05	No	22.9	3.64	0.10	No
48	32.0	1.91	0.05	No	22.9	3.64	0.10	No
49	32.0	1.91	0.04	No	22.9	3.64	0.07	No
50	32.0	1.91	0.04	No	22.9	3.64	0.07	No
51	32.0	1.91	0.04	No	22.9	3.64	0.07	No
52	32.0	1.91	0.04	No	22.9	3.64	0.08	No
53	32.0	1.91	0.04	No	22.9	3.64	0.08	No
54	32.0	1.91	0.05	No	22.9	3.64	0.08	No
55	32.0	1.91	0.05	No	22.9	3.64	0.08	No
56	32.0	1.91	0.05	No	22.9	3.64	0.08	No
57	32.0	1.91	0.05	No	22.9	3.64	0.08	No
58	32.0	1.91	0.05	No	22.9	3.64	0.08	No
59	32.0	1.91	0.05	No	22.9	3.64	0.08	No
60	32.0	1.91	0.05	No	22.9	3.64	0.08	No
61	32.0	1.91	0.05	No	22.9	3.64	0.08	No
62	32.0	1.91	0.05	No	22.9	3.64	0.08	No
63	32.0	1.91	0.05	No	22.9	3.64	0.08	No

Model Element	Summer				Winter			
	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?
64	32.0	1.91	0.05	No	22.9	3.64	0.08	No
65	32.0	1.91	0.05	No	22.9	3.64	0.08	No
66	32.0	1.91	0.05	No	22.9	3.64	0.08	No
67	32.0	1.91	0.05	No	22.9	3.64	0.08	No
68	32.0	1.91	0.05	No	22.9	3.64	0.08	No
69	32.0	1.91	0.05	No	22.9	3.64	0.08	No
70	32.0	1.91	0.05	No	22.9	3.64	0.08	No
71	32.0	1.91	0.05	No	22.9	3.64	0.08	No
72	32.0	1.91	0.05	No	22.9	3.64	0.08	No
73	32.0	1.91	0.05	No	22.9	3.64	0.08	No
74	32.0	1.91	0.05	No	22.9	3.64	0.09	No
75	32.0	1.91	0.05	No	22.9	3.64	0.09	No
76	32.0	1.91	0.05	No	22.9	3.64	0.09	No
77	32.0	1.91	0.05	No	22.9	3.64	0.09	No
78	32.0	1.91	0.05	No	22.9	3.64	0.09	No
79	32.0	1.91	0.05	No	22.9	3.64	0.09	No
80	32.0	1.91	0.05	No	22.9	3.64	0.09	No
81	32.0	1.91	0.05	No	22.9	3.64	0.09	No
82	32.0	1.91	0.05	No	22.9	3.64	0.09	No
83	32.0	1.91	0.05	No	22.9	3.64	0.09	No
84	32.0	1.91	0.05	No	22.9	3.64	0.09	No
85	32.0	1.91	0.05	No	22.9	3.64	0.09	No
86	32.0	1.91	0.05	No	22.9	3.64	0.09	No
87	32.0	1.91	0.05	No	22.9	3.64	0.09	No
88	32.0	1.91	0.05	No	22.9	3.64	0.09	No
89	32.0	1.91	0.05	No	22.9	3.64	0.09	No
90	32.0	1.91	0.05	No	22.9	3.64	0.09	No
91	32.0	1.91	0.05	No	22.9	3.64	0.09	No
92	32.0	1.91	0.05	No	22.9	3.64	0.09	No
93	32.0	1.91	0.05	No	22.9	3.64	0.09	No
94	32.0	1.91	0.05	No	22.9	3.64	0.09	No
95	32.0	1.91	0.05	No	22.9	3.64	0.09	No
96	32.0	1.91	0.05	No	22.9	3.64	0.09	No
97	32.0	1.91	0.05	No	22.9	3.64	0.09	No
98	32.0	1.91	0.05	No	22.9	3.64	0.09	No
99	32.0	1.91	0.05	No	22.9	3.64	0.10	No
100	32.0	1.91	0.05	No	22.9	3.64	0.10	No
101	32.0	1.91	0.05	No	22.9	3.64	0.10	No
102	32.0	1.91	0.05	No	22.9	3.64	0.10	No
103	32.0	1.91	0.05	No	22.9	3.64	0.10	No
104	32.0	1.91	0.05	No	22.9	3.64	0.10	No
105	32.0	1.91	0.05	No	22.9	3.64	0.10	No
106	32.0	1.91	0.05	No	22.9	3.64	0.10	No
107	32.0	1.91	0.05	No	22.9	3.64	0.10	No
108	32.0	1.91	0.05	No	22.9	3.64	0.10	No
109	32.0	1.91	0.05	No	22.9	3.64	0.10	No
110	32.0	1.91	0.05	No	22.9	3.64	0.10	No
111	32.0	1.91	0.05	No	22.9	3.64	0.10	No
112	32.0	1.91	0.05	No	22.9	3.64	0.10	No
113	32.0	1.91	0.05	No	22.9	3.64	0.10	No
114	32.0	1.91	0.05	No	22.9	3.64	0.10	No

Model Element	Summer				Winter			
	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?
115	32.0	1.91	0.05	No	22.9	3.64	0.10	No
116	32.0	1.91	0.05	No	22.9	3.64	0.10	No
117	32.0	1.91	0.05	No	22.9	3.64	0.10	No
118	32.0	1.91	0.05	No	22.9	3.64	0.10	No
119	32.0	1.91	0.05	No	22.9	3.64	0.10	No
120	32.0	1.91	0.05	No	22.9	3.64	0.10	No
121	32.0	1.91	0.05	No	22.9	3.64	0.10	No
122	32.0	1.91	0.05	No	22.9	3.64	0.10	No
123	32.0	1.91	0.05	No	22.9	3.64	0.10	No
124	32.0	1.91	0.05	No	22.9	3.64	0.10	No
125	32.0	1.91	0.05	No	22.9	3.64	0.10	No
126	32.0	1.91	0.49	No	22.9	3.64	0.15	No
127	32.0	1.91	0.47	No	22.9	3.64	0.15	No
128	32.0	1.91	0.45	No	22.9	3.64	0.15	No
129	32.0	1.91	0.43	No	22.9	3.64	0.15	No
130	32.0	1.91	0.42	No	22.9	3.64	0.15	No
131	32.0	1.91	0.40	No	22.9	3.64	0.15	No
132	32.0	1.91	0.39	No	22.9	3.64	0.15	No
133	32.0	1.91	0.37	No	22.9	3.64	0.15	No
134	32.0	1.91	0.36	No	22.9	3.64	0.15	No
135	32.0	1.91	0.35	No	22.9	3.64	0.15	No
136	32.0	1.91	0.34	No	22.9	3.64	0.15	No
137	32.0	1.91	0.33	No	22.9	3.64	0.15	No
138	32.0	1.91	0.31	No	22.9	3.64	0.15	No
139	32.0	1.91	0.30	No	22.9	3.64	0.15	No
140	32.0	1.91	0.29	No	22.9	3.64	0.15	No
141	32.0	1.91	0.28	No	22.9	3.64	0.15	No
142	32.0	1.91	0.28	No	22.9	3.64	0.15	No
143	32.0	1.91	0.27	No	22.9	3.64	0.15	No
144	32.0	1.91	0.26	No	22.9	3.64	0.15	No
145	32.0	1.91	0.25	No	22.9	3.64	0.15	No
146	32.0	1.91	0.24	No	22.9	3.64	0.15	No
147	32.0	1.91	0.24	No	22.9	3.64	0.15	No
148	32.0	1.91	0.23	No	22.9	3.64	0.15	No
149	32.0	1.91	0.22	No	22.9	3.64	0.15	No
150	32.0	1.91	0.22	No	22.9	3.64	0.15	No
151	32.0	1.91	0.21	No	22.9	3.64	0.15	No
152	32.0	1.91	0.20	No	22.9	3.64	0.15	No
153	32.0	1.91	0.20	No	22.9	3.64	0.15	No
154	32.0	1.91	0.19	No	22.9	3.64	0.15	No
155	32.0	1.91	0.19	No	22.9	3.64	0.15	No
156	32.0	1.91	0.18	No	22.9	3.64	0.15	No
157	32.0	1.91	0.18	No	22.9	3.64	0.15	No
158	32.0	1.91	0.43	No	22.9	3.64	0.19	No
159	32.0	1.91	0.42	No	22.9	3.64	0.19	No
160	32.0	1.91	0.40	No	22.9	3.64	0.19	No
161	32.0	1.91	0.39	No	22.9	3.64	0.19	No
162	32.0	1.91	0.37	No	22.9	3.64	0.19	No
163	32.0	1.91	0.36	No	22.9	3.64	0.19	No
164	32.0	1.91	0.35	No	22.9	3.64	0.19	No
165	32.0	1.91	0.34	No	22.9	3.64	0.19	No

Model Element	Summer				Winter			
	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?	Temp. in projection run (ºC)	Calculated CCC (mg N/L)	Predicted NH3-N conc. in projection (mg N/L)	Toxic ?
166	32.0	1.91	0.33	No	22.9	3.64	0.19	No
167	32.0	1.91	0.32	No	22.9	3.64	0.19	No
168	32.0	1.91	0.31	No	22.9	3.64	0.19	No
169	32.0	1.91	0.30	No	22.9	3.64	0.19	No
170	32.0	1.91	0.29	No	22.9	3.64	0.19	No
171	32.0	1.91	0.28	No	22.9	3.64	0.19	No
172	32.0	1.91	0.27	No	22.9	3.64	0.19	No
173	32.0	1.91	0.26	No	22.9	3.64	0.19	No
174	32.0	1.91	0.25	No	22.9	3.64	0.19	No
175	32.0	1.91	0.25	No	22.9	3.64	0.19	No
176	32.0	1.91	0.24	No	22.9	3.64	0.19	No
177	32.0	1.91	0.23	No	22.9	3.64	0.19	No
178	32.0	1.91	0.23	No	22.9	3.64	0.19	No
179	32.0	1.91	0.22	No	22.9	3.64	0.19	No
180	32.0	1.91	0.21	No	22.9	3.64	0.19	No
181	32.0	1.91	0.21	No	22.9	3.64	0.19	No
182	32.0	1.91	0.20	No	22.9	3.64	0.19	No
183	32.0	1.91	0.20	No	22.9	3.64	0.19	No
184	32.0	1.91	0.19	No	22.9	3.64	0.19	No
185	32.0	1.91	0.19	No	22.9	3.64	0.18	No
186	32.0	1.91	0.18	No	22.9	3.64	0.18	No
187	32.0	1.91	0.18	No	22.9	3.64	0.18	No
188	32.0	1.91	0.18	No	22.9	3.64	0.18	No
189	32.0	1.91	0.17	No	22.9	3.64	0.18	No
190	32.0	1.91	0.17	No	22.9	3.64	0.18	No
191	32.0	1.91	0.16	No	22.9	3.64	0.18	No
192	32.0	1.91	0.16	No	22.9	3.64	0.18	No
193	32.0	1.91	0.16	No	22.9	3.64	0.18	No
194	32.0	1.91	0.15	No	22.9	3.64	0.18	No
195	32.0	1.91	0.15	No	22.9	3.64	0.18	No
196	32.0	1.91	0.15	No	22.9	3.64	0.18	No
197	32.0	1.91	0.15	No	22.9	3.64	0.18	No
198	32.0	1.91	0.14	No	22.9	3.64	0.18	No
199	32.0	1.91	0.14	No	22.9	3.64	0.18	No
200	32.0	1.91	0.14	No	22.9	3.64	0.18	No
201	32.0	1.91	0.14	No	22.9	3.64	0.18	No
202	32.0	1.91	0.13	No	22.9	3.64	0.18	No
203	32.0	1.91	0.11	No	22.9	3.64	0.15	No
204	32.0	1.91	0.11	No	22.9	3.64	0.15	No
205	32.0	1.91	0.11	No	22.9	3.64	0.15	No
206	32.0	1.91	0.12	No	22.9	3.64	0.15	No
207	32.0	1.91	0.12	No	22.9	3.64	0.15	No
208	32.0	1.91	0.12	No	22.9	3.64	0.15	No
209	32.0	1.91	0.12	No	22.9	3.64	0.15	No

Number of elements with toxicity = 0

Number of elements with toxicity = 0

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APPENDIX N

Nutrient TMDL Calculations

SUMMER NUTRIENT TMDL CALCULATIONS FOR BOGGY BAYOU (SUBSEGMENT 100602)

Naturally occurring ratio of total nitrogen to total phosphorus = 10.0 (from LDEQ reference stream data for South Central Plain Ecoregion)
Percentage for explicit margin of safety = 10%
Percentage for explicit future growth = 10%

	Allowable loads from TMDL program (Appendix O)		Flow in model	Assumed conc. of NO2+NO3	NO2+NO3 load	Allowable loads of total N	Allowable loads of total P	Allowable loads of total N	Allowable loads of total P	Equivalent conc. of total N	Equivalent conc. of total P
	Organic N (kg/day)	Ammonia (kg/day)	(m3/sec)	(mg/L)	(kg/day)	(kg/day)	(kg/day)	(lbs/day)	(lbs/day)	(mg/L)	(mg/L)
Nonpoint Sources:											
Upstream & tributary inflows	0.88	0.04	0.01132	0.07	0.07	0.99	0.099	2.18	0.218	1.01	0.10
Mass loads (Data Type 19)	0.43	--	--	--	--	0.43	0.043	0.95	0.095	--	--
Benthic loads (Data Type 13)	--	0.00	--	--	--	0.00	0.000	0.00	0.000	--	--
Point Sources (w/ MOS and FG)											
LAG480011	0.17	0.09	0.0000876	10.00	0.08	0.34	0.034	0.75	0.075	44.92	4.49
LAG480284	0.25	0.12	0.0001314	10.00	0.11	0.48	0.048	1.06	0.106	42.28	4.23
LAG530693	0.06	0.03	0.0000438	10.00	0.04	0.13	0.013	0.29	0.029	34.35	3.44
LAG560089	2.09	1.05	0.0017958	10.00	1.55	4.69	0.469	10.34	1.034	30.23	3.02
LAG750459	0.47	0.24	0.0002628	10.00	0.23	0.94	0.094	2.07	0.207	41.40	4.14
LAG750449	0.47	0.24	0.0002628	10.00	0.23	0.94	0.094	2.07	0.207	41.40	4.14
LAG570220	0.94	0.48	0.00329	10.00	2.84	4.26	0.426	9.39	0.939	14.99	1.50
LAG541012	0.14	0.29	0.00033	10.00	0.29	0.72	0.072	1.59	0.159	25.25	2.53
Total Nonpoint Source Loading						1.42	0.142	3.13	0.313	--	--
Total Point Source Loading (w/o MOS and FG)						10	1	22.05	2.205	--	--
Explicit Margin of Safety						1.43	0.143	3.15	0.315	--	--
Explicit Future Growth						1.43	0.143	3.15	0.315	--	--
Total maximum daily loads:						14.28	1.428	31.48	3.148		

Notes:

1. First two columns of numbers were taken directly from TMDL program output.
2. Flow for upstream and tributaries was sum of four flows in the model (all 0.00283).
3. Flow for point sources was design flow times 1.25 (to incorporate 20% MOS+FG).
4. NO2+NO3 conc. for upstream and tributaries was average of LDEQ data for Boggy Bayou at Station 1207 during summer, assuming 0.025 for less than detection (see Table B.1).
5. NO2+NO3 conc. for point sources was an assumed value based on maximum allowable value for drinking water with no dilution.
6. NO2+NO3 loads were calculated as flow in model times assumed NO2+NO3 conc. times conversion factor of 86.4.
7. Allowable loads of total N were calculated as allowable loads of organic N and ammonia, plus the NO2+NO3 load.
8. Allowable loads of total P were calculated as allowable loads of total N divided by naturally occurring ratio of total N to total P.
9. Explicit MOS loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (MOS).
10. Explicit FG loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (FG).
11. Equivalent conc's of total N and total P were calculated as the allowable loads divided by the flow in the model divided by 86.4 (conversion factor).

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WINTER NUTRIENT TMDL CALCULATIONS FOR BOGGY BAYOU (SUBSEGMENT 100602)

Naturally occurring ratio of total nitrogen to total phosphorus = 10.0 (from LDEQ reference stream data for South Central Plain Ecoregion)
Percentage for explicit margin of safety = 10%
Percentage for explicit future growth = 10%

	Allowable loads from TMDL program (Appendix O)										
	Organic N (kg/day)	Ammonia (kg/day)	Flow in model (m3/sec)	Assumed conc. of NO2+NO3 (mg/L)	NO2+NO3 load (kg/day)	Allowable loads of total N (kg/day)	Allowable loads of total P (kg/day)	Allowable loads of total N (lbs/day)	Allowable loads of total P (lbs/day)	Equivalent conc. of total N (mg/L)	Equivalent conc. of total P (mg/L)
Nonpoint Sources:											
Upstream & tributary inflows	16.39	0.48	0.1132	0.34	3.33	20.2	2.02	44.53	4.453	2.07	0.21
Mass loads (Data Type 19)	0.8	--	--	--	--	0.8	0.08	1.76	0.176	--	--
Benthic loads (Data Type 13)	--	0.00	--	--	--	0.00	0.000	0.00	0.000	--	--
Point Sources (w/ MOS and FG)											
LAG480011	0.17	0.09	0.0000876	10.00	0.08	0.34	0.034	0.75	0.075	44.92	4.49
LAG480284	0.25	0.12	0.0001314	10.00	0.11	0.48	0.048	1.06	0.106	42.28	4.23
LAG530693	0.06	0.03	0.0000438	10.00	0.04	0.13	0.013	0.29	0.029	34.35	3.44
LAG560089	2.09	1.05	0.0017958	10.00	1.55	4.69	0.469	10.34	1.034	30.23	3.02
LAG750459	0.47	0.24	0.0002628	10.00	0.23	0.94	0.094	2.07	0.207	41.40	4.14
LAG750449	0.47	0.24	0.0002628	10.00	0.23	0.94	0.094	2.07	0.207	41.40	4.14
LAG570220	0.94	0.48	0.00329	10.00	2.84	4.26	0.426	9.39	0.939	14.99	1.50
LAG541012	0.14	0.29	0.00033	10.00	0.29	0.72	0.072	1.59	0.159	25.25	2.53
Total Nonpoint Source Loading						21.00	2.100	46.29	4.629	--	--
Total Point Source Loading (w/o MOS and FG)						10	1	22.05	2.205	--	--
Explicit Margin of Safety						3.88	0.388	8.54	0.854	--	--
Explicit Future Growth						3.88	0.388	8.54	0.854	--	--
Total maximum daily loads:						38.76	3.876	85.42	8.542		

Notes:

1. First two columns of numbers were taken directly from TMDL program output.
2. Flow for upstream and tributaries was sum of four flows in the model (all 0.00283).
3. Flow for point sources was design flow times 1.25 (to incorporate 20% MOS+FG).
4. NO2+NO3 conc. for upstream and tributaries was average of LDEQ data for Boggy Bayou at Station 1207 during summer, assuming 0.025 for less than detection (see Table B.1).
5. NO2+NO3 conc. for point sources was an assumed value based on maximum allowable value for drinking water with no dilution.
6. NO2+NO3 loads were calculated as flow in model times assumed NO2+NO3 conc. times conversion factor of 86.4.
7. Allowable loads of total N were calculated as allowable loads of organic N and ammonia, plus the NO2+NO3 load.
8. Allowable loads of total P were calculated as allowable loads of total N divided by naturally occurring ratio of total N to total P.
9. Explicit MOS loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (MOS).
10. Explicit FG loads were calculated as total NPS and point source loads divided by 80% (1 minus MOS minus FG), then multiplied by 10% (FG).
11. Equivalent conc's of total N and total P were calculated as the allowable loads divided by the flow in the model divided by 86.4 (conversion factor).

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