

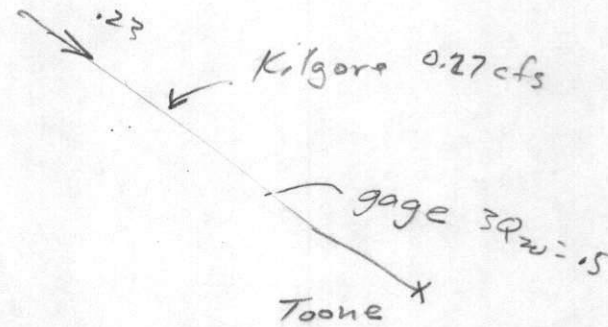
Field Office
 Jim Greenfield, EPA
 Cover Sheet to Computer
 Original to

12,14,87
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J.B.O.

***** WLA FILE DATA *****

FACILITY : *TOONE*
 ALTRIVE : *EXISTING*
 PLANT FLOW : *.05 c.f.s. 0.03MGD*
 FAST FLOW/LIMITS: *lagoon 10/2,5/6*
 COUNTY : *Hardeman*
 BASIN : *Hatchie*
 STREAM : *Pugh Creek*
 STREAM FLOW: *0.5 cfs - Kilgore = .23 c.f.s.*
 DATE REQ : *12/3/87*
 REQUESTOR : *J.B.O.*
 INIT : *FTM*
 RUNS : *5*
 RUNDATE : *12/10/87*
 LIMITS : *Lagoon*
 FIELDINFO :



COMPLETE :
 COMMENTS : *The paper study indicates a possible toxic ammonia problem if the lagoon does not remove any NH₃. However, EPA says that lagoons are excellent nitrifiers, especially during warm, dry weather. (FTM 12/10/87)*

RMS ok 12/14/87

Pat Patrick says max. pH in Pugh Creek would be 6.8-7.0.

Mass balance for toxicity =
$$\frac{(.27 \times 2) + (.23 \times 1) + (.05 \times X)}{(.27 + .23 + .05 \times 1.5)} \quad X = \frac{3.41 - 0.563}{.05} = 13.8$$

@ pH = 7.6
∴ No ammonia limit is needed. Remodded w/ correct V and D.O.

Section	Q	Q ^{0.4}	S	S ^{.2}	V	K _z
1	.5	.63	15.5	1.73	.137	
2	.55	.787	15.5	1.73	.176	4.9
3	.55		12.6	1.65	.168	3.8
4	2.36	1.41	12.6	1.67	.319	7.2
5	2.36	1.41	9.4	1.57	.298	5.0

Planning Standards For A Proposed Discharge

Toone lagoon
 Pugh Creek at mile 0.8
 Design capacity = 0.03 MGD

Effluent Characteristics	Effluent Limitations						Monitoring Requirements		
	Monthly Avg. Conc. mg/l	Monthly Avg. Amount lb/day	Weekly Avg. Conc. mg/l	Weekly Avg. Amount lb/day	Daily Max. Conc. mg/l	Daily Max. Amount lb/day	Measurement Frequency	Sample Type	Sample Point
BOD (5-day)	45	11 report	65	16	70	18 report	1/week 1/week	grab grab	effluent influent
Suspended sls.	100	25 report	110	28	120	30 report	1/week 1/week	grab grab	effluent influent
Fecal coliform	200/100 ml				1000/100 ml		1/week	grab	effluent
D.O.	1.0 mg/l daily minimum						5/week	grab	effluent
Chlorine residual, T					0.1 mg/l		5/week	grab	effluent
Settleable sls.					1.0 ml/l		5/week	grab	effluent
pH	6.0 - 9.0 standard units						5/week	grab	effluent
Flow	report				report		7/week	continuous effluent	

3-Q-20 low flow for this segment = 0.23 cfs

For BOD and suspended solids, the arithmetic mean of the effluent sample results collected in a 30 day period shall not exceed 35 percent of the arithmetic mean of the influent samples collected in the same 30 day period as specified above. (65% removal)

The total chlorine residual effluent limit is determined by mass balance calculation utilizing the EPA acute toxicity value of 0.019 mg/l for protection of fish and aquatic life.

Limitations and conditions contained herein are for planning and design purposes only and as such should not be construed as an indication that a permit will be issued for this project. Application for an NPDES permit should be filed as soon as a selected alternative is determined and project details are formulated.

TOONE INSTREAM AMMONIA MUST NOT EXCEED 1.5 MG/L

Temp., °C	pH										
	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	
5	39.8	31.6	25.1	20.0	15.8	12.6	10.0	7.9	6.3	5.0	5
6	37.2	29.5	23.4	18.6	14.8	11.7	9.3	7.4	5.9	4.7	6
7	33.9	26.9	21.4	17.0	13.5	10.7	8.5	6.8	5.4	4.3	7
8	31.6	25.1	20.0	15.8	12.6	10.0	7.9	6.3	5.0	4.0	8
9	28.8	22.9	18.2	14.5	11.5	9.1	7.2	5.8	4.6	3.6	9
10	26.9	21.4	17.0	13.5	10.7	8.5	6.8	5.4	4.3	3.4	10
11	25.1	20.0	15.8	12.6	10.0	7.9	6.3	5.0	4.0	3.2	11
12	22.9	18.2	14.5	11.5	9.1	7.2	5.8	4.6	3.6	2.9	12
13	21.4	17.0	13.5	10.7	8.5	6.8	5.4	4.3	3.4	2.7	13
14	20.0	15.8	12.6	10.0	7.9	6.3	5.0	4.0	3.2	2.5	14
15	18.2	14.4	11.5	9.1	7.2	5.8	4.6	3.6	2.9	2.3	15
16	17.0	13.5	10.7	8.5	6.8	5.4	4.3	3.4	2.7	2.1	16
17	15.8	12.6	10.0	7.9	6.3	5.0	4.0	3.2	2.5	2.0	17
18	14.5	11.5	9.1	7.2	5.8	4.6	3.6	2.9	2.3	1.8	18
19	13.5	10.7	8.5	6.8	5.4	4.3	3.4	2.7	2.1	1.7	19
20	12.6	10.0	7.9	6.3	5.0	4.0	3.2	2.5	2.0	1.6	20
21	11.7	9.3	7.4	5.9	4.7	3.7	3.0	2.3	1.9	1.5	21
22	11.0	8.7	6.9	5.5	4.4	3.5	2.8	2.2	1.7	1.4	22
23	10.2	8.1	6.5	5.1	4.1	3.2	2.6	2.0	1.6	1.3	23
24	9.5	7.6	6.0	4.8	3.8	3.0	2.4	1.9	1.5	1.2	24
25	8.7	6.9	5.5	4.4	3.5	2.8	2.2	1.7	1.4	1.1	25
26	8.1	6.5	5.1	4.1	3.2	2.6	2.0	1.6	1.3	1.0	26
27	7.6	6.0	4.8	3.8	3.0	2.4	1.9	1.5	1.2	1.00	27
28	7.1	5.6	4.5	3.5	2.8	2.2	1.8	1.4	1.1	0.95	28
29	6.6	5.2	4.2	3.3	2.6	2.1	1.7	1.3	1.0	0.88	29
30	6.2	4.9	3.9	3.1	2.5	1.9	1.5	1.2	0.98	0.83	30

toxic pH

ALG MAX SPEC GROWTH RATE(1/DAY)=	2.0000	ALGAL RESPIRATION RATE (1/DAY) =	.0500
N HALF SATURATION CONST (MG/L) =	.3000	P HALF SATURATION CONST (MG/L)=	.0400
LIN ALG SHADE CO (1/FT-UGCHA/L)=	.0000	NLIN SHADE(1/FT-(UGCHA/L)**2/3)=	.0300
LIGHT FUNCTION OPTION (LFOPT) =	2.0000	LIGHT SAT'N COEF (BTU/FT2-MIN) =	1.0000
DAILY AVERAGING OPTION (LAVOPT)=	2.0000	LIGHT AVERAGING FACTOR (AFACT) =	1.0000
NUMBER OF DAYLIGHT HOURS (DLH) =	12.0000	TOTAL DAILY SOLR RAD (BTU/FT-2)=	400.0000
ALGY GROWTH CALC OPTION(LGROPT)=	2.0000	ALGAL PREF FOR NH3-N (PREFN) =	.5000
ALG/TEMP SOLR RAD FACTOR(TFACT)=	.4500	NITRIFICATION INHIBITION COEF =	10.0000
ENDATA1A	.0000		.0000

0 *** DATA TYPE 1B (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) ***

CARD TYPE	RATE CODE	THETA VALUE	
THETA(1)	BOD DECA	1.056	USER
THETA(2)	BOD SETT	1.024	DFLT
THETA(3)	OXY TRAN	1.024	DFLT
THETA(4)	SOD RATE	1.060	DFLT
THETA(5)	ORGN DEC	1.047	DFLT
THETA(6)	ORGN SET	1.024	DFLT
THETA(7)	NH3 DECA	1.056	USER
THETA(8)	NH3 SRCE	1.074	DFLT
THETA(9)	NO2 DECA	1.056	USER
THETA(10)	PORG DEC	1.047	DFLT
THETA(11)	PORG SET	1.024	DFLT
THETA(12)	DISP SRC	1.074	DFLT
THETA(13)	ALG GROW	1.047	DFLT
THETA(14)	ALG RESP	1.047	DFLT
THETA(15)	ALG SETT	1.024	DFLT
THETA(16)	COLI DEC	1.047	DFLT
THETA(17)	ANC DECA	1.000	DFLT
THETA(18)	ANC SETT	1.024	DFLT
THETA(19)	ANC SRCE	1.000	DFLT

0 *** DATA TYPE 2 (REACH IDENTIFICATION) ***

CARD TYPE	REACH ORDER AND IDENT		R. MI/KM		R. MI/KM
STREAM REACH	1.0 RCH=PUGH CREEK	FROM	1.7	TO	1.1
STREAM REACH	2.0 RCH=PUGH CREEK	FROM	1.1	TO	.8
STREAM REACH	3.0 RCH=PUGH CREEK	FROM	.8	TO	.3
STREAM REACH	4.0 RCH=PUGH CREEK	FROM	.3	TO	.0
STREAM REACH	5.0 RCH=MILL CREEK	FROM	2.3	TO	1.3
STREAM REACH	6.0 RCH=MILL CREEK	FROM	1.3	TO	.0
ENDATA2	.0		.0		.0

0 *** DATA TYPE 3 (TARGET LEVEL DO AND FLOW AUGMENTATION SOURCES) ***

CARD TYPE	REACH	AVAIL	HDWS	TARGET	ORDER OF AVAIL	SOURCES
ENDATA3	0.	0.	.0	0.	0.	0. 0. 0. 0.

0 *** DATA TYPE 4 (COMPUTATIONAL REACH FLAG FIELD) ***

CARD TYPE	REACH ELEMENTS/REACH	COMPUTATIONAL FLAGS
FLAG FIELD	1. 6.	1.6.2.2.2.2.0.0.0.0.0.0.0.0.0.0.0.0.
FLAG FIELD	2. 3.	2.2.2.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.
FLAG FIELD	3. 5.	6.2.2.2.2.0.0.0.0.0.0.0.0.0.0.0.0.0.
FLAG FIELD	4. 3.	2.2.2.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.
FLAG FIELD	5. 10.	6.2.2.2.2.2.2.2.2.0.0.0.0.0.0.0.0.0.
FLAG FIELD	6. 13.	2.2.2.2.2.2.2.2.2.2.2.5.0.0.0.0.0.0.
ENDATA4	0. 0.	0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.

0 *** DATA TYPE 5 (HYDRAULIC DATA FOR DETERMINING VELOCITY AND DEPTH) ***

CARD TYPE	REACH	COEF-DSPN	COEFQV	EXPOQV	COEFQH	EXPOQH	CMANN
HYDRAULICS	1.	250.00	.236	.400	.500	.600	.020
HYDRAULICS	2.	250.00	.224	.400	.500	.600	.020
HYDRAULICS	3.	250.00	.224	.400	.500	.600	.020
HYDRAULICS	4.	250.00	.213	.400	.500	.600	.020
HYDRAULICS	5.	250.00	.227	.400	.500	.600	.020
HYDRAULICS	6.	250.00	.213	.400	.500	.600	.020

CARD TYPE	REACH	K1	K3	SDD RATE	K2OPT	K2	COEQK2 TSIV COEF FOR OPT 8	OR OR	EXPQK2 SLOPE FOR OPT 8
REACT COEF	1.	.30	.00	.000	1.	3.60	.000		.00000
REACT COEF	2.	.30	.00	.000	1.	4.90	.000		.00000
REACT COEF	3.	.40	.00	.000	1.	4.90	.000		.00000
REACT COEF	4.	.40	.00	.000	1.	3.80	.000		.00000
REACT COEF	5.	.30	.00	.000	1.	7.20	.000		.00000
REACT COEF	6.	.30	.00	.000	1.	5.10	.000		.00000
ENDATA6	0.	.00	.00	.000	0.	.00	.000		.00000

0 *** DATA TYPE 6A (NITROGEN AND PHOSPHORUS CONSTANTS) ***

CARD TYPE	REACH	CKNH2	SETNH2	CKNH3	SNH3	CKNO2	CKPORG	SETPORG	SP04
N AND P COEF	1.	.00	.00	.50	.00	6.00	.00	.00	.00
N AND P COEF	2.	.00	.00	.30	.00	6.00	.00	.00	.00
N AND P COEF	3.	.00	.00	.30	.00	6.00	.00	.00	.00
N AND P COEF	4.	.00	.00	.30	.00	6.00	.00	.00	.00
N AND P COEF	5.	.00	.00	.30	.00	6.00	.00	.00	.00
N AND P COEF	6.	.00	.00	.30	.00	6.00	.00	.00	.00
ENDATA6A	0.	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 6B (ALGAE/OTHER COEFFICIENTS) ***

CARD TYPE	REACH	ALPHA0	ALGSET	EXCDEF	CK5 CKCOLI	CKANC	SETANC	SRCANC
ALG/OTHER COEF	1.	50.00	3.00	3.80	1.50	.00	.00	.00
ALG/OTHER COEF	2.	50.00	3.00	3.80	1.50	.00	.00	.00
ALG/OTHER COEF	3.	50.00	3.00	3.80	1.50	.00	.00	.00
ALG/OTHER COEF	4.	50.00	3.00	3.80	1.50	.00	.00	.00
ALG/OTHER COEF	5.	50.00	3.00	3.80	1.50	.00	.00	.00
ALG/OTHER COEF	6.	50.00	3.00	3.80	1.50	.00	.00	.00
ENDATA6B	0.	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 7 (INITIAL CONDITIONS) ***

CARD TYPE	REACH	TEMP	D.O.	BOD	CM-1	CM-2	CM-3	ANC	COLI
INITIAL COND-1	1.	85.70	.00	.00	.00	.00	.00	.00	.00
INITIAL COND-1	2.	85.70	.00	.00	.00	.00	.00	.00	.00
INITIAL COND-1	3.	85.70	.00	.00	.00	.00	.00	.00	.00
INITIAL COND-1	4.	85.70	.00	.00	.00	.00	.00	.00	.00
INITIAL COND-1	5.	85.70	.00	.00	.00	.00	.00	.00	.00
INITIAL COND-1	6.	85.70	.00	.00	.00	.00	.00	.00	.00
ENDATA7	0.	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 7A (INITIAL CONDITIONS FOR CHLOROPHYLL A, NITROGEN, AND PHOSPHORUS) ***

CARD TYPE	REACH	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
INITIAL COND-2	1.	.00	.00	.10	.00	.00	.00	.00
INITIAL COND-2	2.	.00	.00	.10	.00	.00	.00	.00
INITIAL COND-2	3.	.00	.00	.10	.00	.00	.00	.00
INITIAL COND-2	4.	.00	.00	.10	.00	.00	.00	.00
INITIAL COND-2	5.	.00	.00	.10	.00	.00	.00	.00
INITIAL COND-2	6.	.00	.00	.10	.00	.00	.00	.00
ENDATA7A	0.	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 8 (INCREMENTAL INFLOW CONDITIONS) ***

CARD TYPE	REACH	FLOW	TEMP	D.O.	BOD	CM-1	CM-2	CM-3	ANC	COLI
INCR INFLOW-1	1.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	2.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	3.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	4.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	5.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	6.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
ENDATAB	0.	.000	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 8A (INCREMENTAL INFLOW CONDITIONS FOR CHLOROPHYLL A, NITROGEN, AND PHOSPHORUS) ***

INCR INFLOW-2	1.	.00	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	2.	.00	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	3.	.00	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	4.	.00	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	5.	.00	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	6.	.00	.00	.00	.00	.00	.00	.00	.00
ENDATA8A	0.	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 9 (STREAM JUNCTIONS) ***

CARD TYPE	JUNCTION ORDER AND IDENT	UPSTRM	JUNCTION	TRIB
ENDATA9	0.	0.	0.	0.

0 *** DATA TYPE 10 (HEADWATER SOURCES) ***

CARD TYPE	HDWTR ORDER	NAME	FLOW	TEMP	D.O.	BOD	CM-1	CM-2	CM-3
HEADWTR-1	1.	FUGH CREEK	.23	85.70	6.00	1.50	.00	.00	.00
ENDATA10	0.		.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 10A (HEADWATER CONDITIONS FOR CHLOROPHYLL, NITROGEN, PHOSPHORUS, COLIFORM AND SELECTED NON-CONSERVATIVE CONSTITUENT) ***

CARD TYPE	HDWTR ORDER	ANC	COLI	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
HEADWTR-2	1.	.00	200.00	.00	.00	.10	.00	.00	.00	.00
ENDATA10A	0.	.00	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 11 (POINT SOURCE / POINT SOURCE CHARACTERISTICS) ***

CARD TYPE	POINT LOAD ORDER	NAME	EFF	FLOW	TEMP	D.O.	BOD	CM-1	CM-2	CM-3
POINTLD-1	1.	KILGORE CORP	.00	.27	85.70	6.00	10.00	.00	.00	.00
POINTLD-1	2.	TOONE STP	.00	.05	85.70	1.00	40.00	.00	.00	.00
POINTLD-1	3.	MILL CREEK	.00	1.81	85.70	6.00	1.50	.00	.00	.00
ENDATA11	0.		.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 11A (POINT SOURCE CHARACTERISTICS - CHLOROPHYLL A, NITROGEN, PHOSPHORUS, COLIFORMS AND SELECTED NON-CONSERVATIVE CONSTITUENT) ***

CARD TYPE	POINT LOAD ORDER	ANC	COLI	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
POINTLD-2	1.	.00	200.00	.00	.00	2.00	.00	.00	.00	.00
POINTLD-2	2.	.00	200.00	.00	.00	15.00	.00	.00	.00	.00
POINTLD-2	3.	.00	200.00	.00	.00	.10	.00	.00	.00	.00
ENDATA11A	0.	.00	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 12 (DAM CHARACTERISTICS) ***

	DAM	RCH	ELE	ADAM	BDAM	FDAM	HDAM
ENDATA12	0.	0.	0.	.00	.00	.00	.00

0 *** DATA TYPE 13 (DOWNSTREAM BOUNDARY CONDITIONS-1) ***

CARD TYPE	TEMP	D.O.	BOD	CM-1	CM-2	CM-3	ANC	COLI
ENDATA13	DOWNSTREAM BOUNDARY CONCENTRATIONS ARE UNCONSTRAINED							

0 *** DATA TYPE 13A (DOWNSTREAM BOUNDARY CONDITIONS-2) ***

CARD TYPE	CHL-A	ORG-N	NH3-N	NO2-N	NH3-N	ORG-P	DIS-P
ENDATA13A	DOWNSTREAM BOUNDARY CONCENTRATIONS ARE UNCONSTRAINED						

1

ELE ORD	RCH NUM	ELE NUM	BEGIN LOC MILE	END LOC MILE	FLOW CFS	POINT SRCE CFS	INCR FLOW CFS	VEL FPS	TRV TIME DAY	DEPTH FT	WIDTH FT	VOLUME FT-3	BOTTOM AREA FT-2	X-SECT AREA FT-2	DSPRSN COEF FT-2/S
1	1	1	1.70	1.60	.23	.00	.00	.130	.047	.205	8.482	917.4	4694.7	1.74	.66
2	1	2	1.60	1.50	.50	.27	.00	.179	.034	.330	8.482	1477.3	4826.7	2.80	1.36
3	1	3	1.50	1.40	.50	.00	.00	.179	.034	.330	8.482	1477.3	4826.7	2.80	1.36
4	1	4	1.40	1.30	.50	.00	.00	.179	.034	.330	8.482	1477.3	4826.7	2.80	1.36
5	1	5	1.30	1.20	.50	.00	.00	.179	.034	.330	8.482	1477.3	4826.7	2.80	1.36
6	1	6	1.20	1.10	.50	.00	.00	.179	.034	.330	8.482	1477.3	4826.7	2.80	1.36
7	2	1	1.10	1.00	.50	.00	.00	.170	.036	.330	8.941	1557.2	5069.0	2.95	1.29
8	2	2	1.00	.90	.50	.00	.00	.170	.036	.330	8.941	1557.2	5069.0	2.95	1.29
9	2	3	.90	.80	.50	.00	.00	.170	.036	.330	8.941	1557.2	5069.0	2.95	1.29
10	3	1	.80	.70	.55	.05	.00	.176	.035	.348	8.941	1641.7	5087.8	3.11	1.39
11	3	2	.70	.60	.55	.00	.00	.176	.035	.348	8.941	1641.7	5087.8	3.11	1.39
12	3	3	.60	.50	.55	.00	.00	.176	.035	.348	8.941	1641.7	5087.8	3.11	1.39
13	3	4	.50	.40	.55	.00	.00	.176	.035	.348	8.941	1641.7	5087.8	3.11	1.39
14	3	5	.40	.30	.55	.00	.00	.176	.035	.348	8.941	1641.7	5087.8	3.11	1.39
15	4	1	.30	.20	.55	.00	.00	.168	.036	.348	9.368	1720.1	5313.4	3.26	1.33
16	4	2	.20	.10	.55	.00	.00	.168	.036	.348	9.368	1720.1	5313.4	3.26	1.33
17	4	3	.10	.00	.55	.00	.00	.168	.036	.348	9.368	1720.1	5313.4	3.26	1.33
18	5	1	2.30	2.20	2.36	1.81	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
19	5	2	2.20	2.10	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
20	5	3	2.10	2.00	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
21	5	4	2.00	1.90	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
22	5	5	1.90	1.80	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
23	5	6	1.80	1.70	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
24	5	7	1.70	1.60	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
25	5	8	1.60	1.50	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
26	5	9	1.50	1.40	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
27	5	10	1.40	1.30	2.36	.00	.00	.319	.019	.836	8.822	3894.8	5541.1	7.38	5.26
28	6	1	1.30	1.20	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
29	6	2	1.20	1.10	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
30	6	3	1.10	1.00	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
31	6	4	1.00	.90	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
32	6	5	.90	.80	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
33	6	6	.80	.70	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
34	6	7	.70	.60	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
35	6	8	.60	.50	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
36	6	9	.50	.40	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
37	6	10	.40	.30	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
38	6	11	.30	.20	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
39	6	12	.20	.10	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94
40	6	13	.10	.00	2.36	.00	.00	.300	.020	.836	9.381	4141.4	5836.1	7.84	4.94

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 STREAM QUALITY SIMULATION
 QUAL-2E STREAM QUALITY ROUTING MODEL

OUTPUT PAGE NUMBER 2
 EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** REACTION COEFFICIENT SUMMARY **

RCH ELE DO K2 OXYGN BOD BOD SOD ORGN ORGN NH3 NH3 NO2 ORGP ORGP DISP COLI ANC ANC ANC

	NO/L	1/2BT	1/2BT	1/2BT	0/2L	1/2BT	1/2BT	1/2BT	NO/2L	1/2BT	1/2BT	1/2BT	NO/2L	1/2BT	1/2BT	1/2BT	NO/2L	
1	1	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
1	2	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
1	3	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
1	4	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
1	5	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
1	6	7.58	1	4.55	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00
2	1	7.58	1	5.37	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
2	2	7.58	1	6.19	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
2	3	7.58	1	6.19	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
3	1	7.58	1	6.19	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
3	2	7.58	1	6.19	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
3	3	7.58	1	6.19	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
3	4	7.58	1	6.19	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
3	5	7.58	1	6.19	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
4	1	7.58	1	5.49	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
4	2	7.58	1	4.80	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
4	3	7.58	1	4.80	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	1	7.58	1	6.95	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	2	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	3	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	4	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	5	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	6	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	7	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	8	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	9	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
5	10	7.58	1	9.09	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	1	7.58	1	7.77	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	2	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	3	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	4	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	5	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	6	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	7	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	8	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	9	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	10	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	11	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	12	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00
6	13	7.58	1	6.44	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00

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 STREAM QUALITY SIMULATION
 QUAL-2E STREAM QUALITY ROUTING MODEL

OUTPUT PAGE NUMBER 3
 EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** WATER QUALITY VARIABLES **

RCH ELE	CM-1	CM-2	CM-3	ANC	CHLA
NUM NUM	TEMP				
	DEG-F				UG/L
		DO	BOD	ORGN	NH3N
		MG/L	MG/L	MG/L	MG/L
			NO2N	NO3N	SUM-N
			MG/L	MG/L	MG/L
				ORGP	DIS-P
				MG/L	MG/L
					SUM-P
					MG/L
					COLI
					#/100ML

1	3	85.70	.00	.00	.00	6.04	5.94	.00	1.08	.04	.02	1.14	.00	.00	.00	.00	.00
1	4	85.70	.00	.00	.00	6.01	5.84	.00	1.05	.05	.04	1.14	.00	.00	.00	.00	.00
1	5	85.70	.00	.00	.00	5.99	5.74	.00	1.02	.06	.06	1.14	.00	.00	.00	.00	.00
1	6	85.70	.00	.00	.00	5.98	5.64	.00	.99	.07	.08	1.14	.00	.00	.00	.00	.00
2	1	85.70	.00	.00	.00	6.04	5.54	.00	.97	.06	.11	1.14	.00	.00	.00	.00	.00
2	2	85.70	.00	.00	.00	6.14	5.44	.00	.96	.06	.13	1.14	.00	.00	.00	.00	.00
2	3	85.70	.00	.00	.00	6.21	5.38	.00	.95	.06	.15	1.16	.00	.00	.00	.00	.00
3	1	85.70	.00	.00	.00	5.74	8.07	.00	2.09	.06	.16	2.31	.00	.00	.00	.00	.00
3	2	85.70	.00	.00	.00	5.72	7.88	.00	2.05	.07	.18	2.31	.00	.00	.00	.00	.00
3	3	85.70	.00	.00	.00	5.71	7.70	.00	2.01	.08	.21	2.31	.00	.00	.00	.00	.00
3	4	85.70	.00	.00	.00	5.70	7.52	.00	1.98	.09	.24	2.31	.00	.00	.00	.00	.00
3	5	85.70	.00	.00	.00	5.70	7.35	.00	1.94	.09	.28	2.31	.00	.00	.00	.00	.00
4	1	85.70	.00	.00	.00	5.67	7.17	.00	1.91	.09	.31	2.31	.00	.00	.00	.00	.00
4	2	85.70	.00	.00	.00	5.61	7.00	.00	1.87	.09	.34	2.31	.00	.00	.00	.00	.00
4	3	85.70	.00	.00	.00	5.57	6.77	.00	1.82	.09	.37	2.28	.00	.00	.00	.00	.00
5	1	85.70	.00	.00	.00	6.01	2.72	.00	.50	.02	.09	.62	.00	.00	.00	.00	.00
5	2	85.70	.00	.00	.00	6.19	2.70	.00	.50	.02	.10	.62	.00	.00	.00	.00	.00
5	3	85.70	.00	.00	.00	6.35	2.67	.00	.49	.02	.10	.62	.00	.00	.00	.00	.00
5	4	85.70	.00	.00	.00	6.48	2.65	.00	.49	.02	.10	.62	.00	.00	.00	.00	.00
5	5	85.70	.00	.00	.00	6.59	2.62	.00	.48	.02	.11	.62	.00	.00	.00	.00	.00
5	6	85.70	.00	.00	.00	6.69	2.60	.00	.48	.02	.11	.62	.00	.00	.00	.00	.00
5	7	85.70	.00	.00	.00	6.77	2.57	.00	.47	.02	.12	.62	.00	.00	.00	.00	.00
5	8	85.70	.00	.00	.00	6.84	2.54	.00	.47	.02	.12	.62	.00	.00	.00	.00	.00
5	9	85.70	.00	.00	.00	6.91	2.52	.00	.46	.02	.13	.62	.00	.00	.00	.00	.00
5	10	85.70	.00	.00	.00	6.96	2.50	.00	.46	.02	.13	.62	.00	.00	.00	.00	.00
6	1	85.70	.00	.00	.00	6.99	2.47	.00	.46	.02	.14	.62	.00	.00	.00	.00	.00
6	2	85.70	.00	.00	.00	7.01	2.45	.00	.45	.02	.14	.62	.00	.00	.00	.00	.00
6	3	85.70	.00	.00	.00	7.02	2.42	.00	.45	.02	.15	.62	.00	.00	.00	.00	.00
6	4	85.70	.00	.00	.00	7.04	2.39	.00	.44	.02	.15	.62	.00	.00	.00	.00	.00
6	5	85.70	.00	.00	.00	7.05	2.37	.00	.44	.02	.16	.62	.00	.00	.00	.00	.00
6	6	85.70	.00	.00	.00	7.06	2.35	.00	.43	.02	.16	.62	.00	.00	.00	.00	.00
6	7	85.70	.00	.00	.00	7.07	2.32	.00	.43	.02	.16	.62	.00	.00	.00	.00	.00
6	8	85.70	.00	.00	.00	7.09	2.30	.00	.42	.02	.17	.62	.00	.00	.00	.00	.00
6	9	85.70	.00	.00	.00	7.09	2.27	.00	.42	.02	.17	.62	.00	.00	.00	.00	.00
6	10	85.70	.00	.00	.00	7.10	2.25	.00	.41	.02	.18	.62	.00	.00	.00	.00	.00
6	11	85.70	.00	.00	.00	7.11	2.23	.00	.41	.02	.18	.62	.00	.00	.00	.00	.00
6	12	85.70	.00	.00	.00	7.12	2.20	.00	.41	.02	.19	.62	.00	.00	.00	.00	.00
6	13	85.70	.00	.00	.00	7.13	2.18	.00	.40	.02	.19	.62	.00	.00	.00	.00	.00

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STREAM QUALITY SIMULATION
QUAL-2E STREAM QUALITY ROUTING MODEL

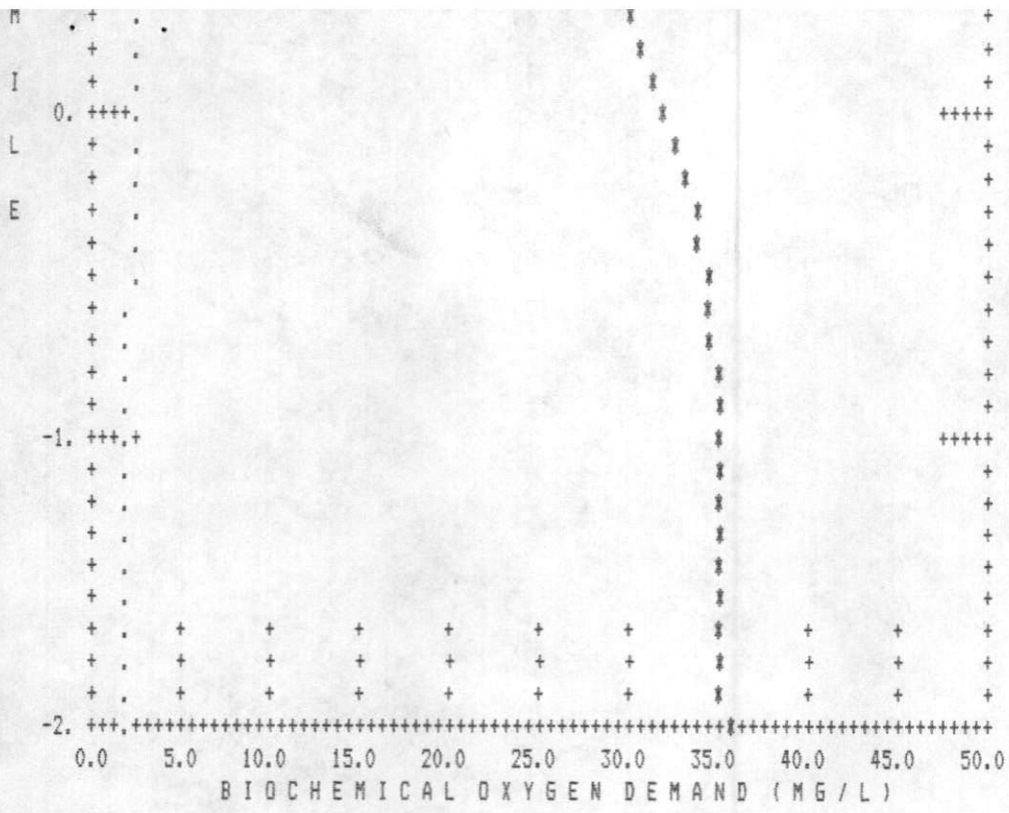
OUTPUT PAGE NUMBER 4
EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** DISSOLVED OXYGEN DATA **

COMPONENTS OF DISSOLVED OXYGEN MASS BALANCE (MG/L-DAY)

ELE	RCH	ELE	DO	DO	DAM	NIT	F-FUNCTN	OXYGN	NET								
ORD	NUM	NUM	TEMP	SAT	DO	DEF	INPUT	INHIB	FACT	INPUT	REAIR	C-BOD	SOD	P-R	NH3-N	NO2-N	
			DEG-F	MG/L	MG/L	MG/L	MG/L										
1	1	1	85.70	7.58	6.22	1.36	.00	1.00		127.71	6.19	-.77	.00	.00	-.30	-.03	
2	1	2	85.70	7.58	6.07	1.51	.00	1.00		96.15	6.87	-3.10	.00	.00	-3.16	-.22	



DISSOLVED OXYGEN = * * * *
 BIOCHEMICAL OXYGEN DEMAND =

0

\$\$\$ (PROBLEM TITLES) \$\$\$

CARD TYPE	QUAL-2E PROGRAM TITLES
TITLE01	TOONE PLANNING LIMITS
TITLE02	SJH 12-8-87 SUMMER LIMITS 40/5/1 WITH KILGORE @ 10/2/6
TITLE03 NO	CONSERVATIVE MINERAL I
TITLE04 NO	CONSERVATIVE MINERAL II
TITLE05 NO	CONSERVATIVE MINERAL III
TITLE06 NO	TEMPERATURE
TITLE07 YES	5-DAY BIOCHEMICAL DEMAND
TITLE08 NO	ALGAE AS CHL-A IN UG/L
TITLE09 NO	PHOSPHORUS CYCLE AS P IN MG/L
TITLE10	(ORGANIC-P; DISSOLVED-P)
TITLE11 YES	NITROGEN CYCLE AS N IN MG/L
TITLE12	(ORGANIC-N; AMMONIA-N; NITRITE-N; NITRITE-N)
TITLE13 YES	DISSOLVED OXYGEN IN MG/L
TITLE14 NO	FECAL COLIFORMS IN NO./100 ML
TITLE15 NO	ARBITRARY NON-CONSERVATIVE

2-2-88

SAG 4.64

@ PUGH CREEK

mile 0.1

model with corrections
~~model~~ Greenfield eqn.

\$\$\$ DATA TYPE 1 (CONTROL DATA) \$\$\$

CARD TYPE		CARD TYPE	
LIST DATA INPUT	.00000	5D-ULT BOD CONV K COEF =	.23000
NO OPTIONAL SUMMARY	.00000	OUTPUT METRIC (YES=1) =	.00000
NO FLOW AUGMENTATION	.00000	NUMBER OF JUNCTIONS =	.00000
STEADY STATE	.00000	NUMBER OF POINT LOADS =	3.00000
NO TRAPEZOIDAL X-SECTIONS	.00000	LNTH COMP ELEMENT (DX)=	.10000
NO SOLAR/LCD DATA	.00000	TIME INC. FOR RPT2 (HRS)=	.00000
PLOT DO AND BOD	.00000	LONGITUDE OF BASIN (DEG)=	85.05000
FIXED DNSTM CONC (YES=1)=	.00000	DAY OF YEAR START TIME =	180.00000
INPUT METRIC (YES=1) =	.00000	EVAP. COEFF. (BE) =	.00020
NUMBER OF REACHES =	6.00000	DUST ATTENUATION COEF. =	.06000
NUM OF HEADWATERS =	1.00000		
TIME STEP (HOURS) =	.00000		
MAXIMUM ITERATIONS =	250.00000		
LATITUDE OF BASIN (DEG) =	35.96000		
STANDARD MERIDIAN (DEG) =	90.00000		
EVAP. COEFF. (AE) =	.00060		
ELEV. OF BASIN (ELEV) =	400.00000		
ENDATA1	.00000		

\$\$\$ DATA TYPE 1A (ALGAE PRODUCTION AND NITROGEN OXIDATION CONSTANTS) \$\$\$

CARD TYPE		CARD TYPE	
O UPTAKE BY NH3 OXID(MG O/MG N)=	3.3300	O UPTAKE BY NO2 OXID(MG O/MG N)=	1.0000
O PROD BY ALGAE (MG O/MG A) =	1.6000	O UPTAKE BY ALGAE (MG O/MG A) =	2.0000
N CONTENT OF ALGAE (MG N/MG A) =	.0850	P CONTENT OF ALGAE (MG P/MG A) =	.0140
ALG MAX SPEC GROWTH RATE(1/DAY)=	2.5000	ALGAE RESPIRATION RATE (1/DAY) =	.0500
N HALF SATURATION CONST (MG/L) =	.3000	P HALF SATURATION CONST (MG/L)=	.0400
LN ALG SHADE CO (1/FT-UGCHA/L)=	.0000	NLIN SHADE(1/FT-(UGCHA/L)**2/3)=	.0300
LIGHT FUNCTION OPTION (LFNDPT) =	2.0000	LIGHT SAT'N COEF (BTU/FT2-MIN) =	1.0000
DAILY AVERAGING OPTION (LAVOPT)=	2.0000	LIGHT AVERAGING FACTOR (AFACT) =	1.0000
NUMBER OF DAYLIGHT HOURS (DLH) =	12.0000	TOTAL DAILY SOLR RAD (BTU/FT-2)=	400.0000
ALGY GROWTH CALC OPTION(LGROPT)=	2.0000	ALGAL PREF FOR NH3-N (PREFN) =	.5000
ALG/TEMP SOLR RAD FACTOR(IFACT)=	.4500	NITRIFICATION INHIBITION COEF =	10.0000
ENDATA1A	.0000		.0000

\$\$\$ DATA TYPE 1B (TEMPERATURE CORRECTION CONSTANTS FOR RATE COEFFICIENTS) \$\$\$

CARD TYPE	RATE CODE	THETA VALUE	
THETA(1)	BOD DECA	1.056	USER
THETA(2)	BOD SETT	1.024	DFLT
THETA(3)	OXY TRAN	1.024	DFLT
THETA(4)	SOD RATE	1.060	DFLT
THETA(5)	ORGN DEC	1.047	DFLT
THETA(6)	ORGN SET	1.024	DFLT
THETA(7)	NH3 DECA	1.056	USER
THETA(8)	NH3 SRCE	1.074	DFLT
THETA(9)	NO2 DECA	1.056	USER
THETA(10)	PORG DEC	1.047	DFLT
THETA(11)	PORG SET	1.024	DFLT
THETA(12)	DISP SRC	1.074	DFLT
THETA(13)	ALG GROW	1.047	DFLT
THETA(14)	ALG RESP	1.047	DFLT
THETA(15)	ALG SETT	1.024	DFLT
THETA(16)	COLI DEC	1.047	DFLT
THETA(17)	ANC DECA	1.000	DFLT
THETA(18)	ANC SETT	1.024	DFLT
THETA(19)	ANC SRCE	1.000	DFLT

\$\$\$ DATA TYPE 2 (REACH IDENTIFICATION) \$\$\$

CARD TYPE	REACH ORDER AND IDENT	R. MI/KM	R. MI/KM
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INCR INFLOW-1	4.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	5.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
INCR INFLOW-1	6.	.000	85.70	6.00	1.50	.00	.00	.00	.00	200.00
ENDATAB	0.	.000	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 8A (INCREMENTAL INFLOW CONDITIONS FOR CHLOROPHYLL A, NITROGEN, AND PHOSPHORUS) ***

CARD TYPE	REACH	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
INCR INFLOW-2	1.	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	2.	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	3.	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	4.	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	5.	.00	.00	.00	.00	.00	.00	.00
INCR INFLOW-2	6.	.00	.00	.00	.00	.00	.00	.00
ENDATABA	0.	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 9 (STREAM JUNCTIONS) ***

CARD TYPE	JUNCTION ORDER AND IDENT	UPSTRM	JUNCTION	TRIB
ENDATA9	0.	0.	0.	0.

0 *** DATA TYPE 10 (HEADWATER SOURCES) ***

CARD TYPE	HDWTR ORDER	NAME	FLOW	TEMP	D.O.	BOD	CM-1	CM-2	CM-3
HEADWTR-1	1.	PUGH CREEK	.23	85.70	6.00	1.50	.00	.00	.00
ENDATA10	0.		.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 10A (HEADWATER CONDITIONS FOR CHLOROPHYLL, NITROGEN, PHOSPHORUS, COLIFORM AND SELECTED NON-CONSERVATIVE CONSTITUENT) ***

CARD TYPE	HDWTR ORDER	ANC	COLI	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
HEADWTR-2	1.	.00	200.00	.00	.00	.10	.00	.00	.00	.00
ENDATA10A	0.	.00	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 11 (POINT SOURCE / POINT SOURCE CHARACTERISTICS) ***

CARD TYPE	POINT LOAD ORDER	NAME	EFF	FLOW	TEMP	D.O.	BOD	CM-1	CM-2	CM-3
POINTLD-1	1.	KILGORE CORP	.00	.27	85.70	6.00	10.00	.00	.00	.00
POINTLD-1	2.	TOONE STP	.00	.05	85.70	1.00	40.00	.00	.00	.00
POINTLD-1	3.	MILL CREEK	.00	1.81	85.70	6.00	1.50	.00	.00	.00
ENDATA11	0.		.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 11A (POINT SOURCE CHARACTERISTICS - CHLOROPHYLL A, NITROGEN, PHOSPHORUS, COLIFORMS AND SELECTED NON-CONSERVATIVE CONSTITUENT) ***

CARD TYPE	POINT LOAD ORDER	ANC	COLI	CHL-A	ORG-N	NH3-N	NO2-N	NO3-N	ORG-P	DIS-P
POINTLD-2	1.	.00	200.00	.00	.00	2.00	.00	.00	.00	.00
POINTLD-2	2.	.00	200.00	.00	.00	15.00	.00	.00	.00	.00
POINTLD-2	3.	.00	200.00	.00	.00	.10	.00	.00	.00	.00
ENDATA11A	0.	.00	.00	.00	.00	.00	.00	.00	.00	.00

0 *** DATA TYPE 12 (DAM CHARACTERISTICS) ***

CARD TYPE	DAM	RCH	ELE	ADAM	BDAM	FDAM	HDAM
ENDATA12	0.	0.	0.	.00	.00	.00	.00

0 *** DATA TYPE 13 (DOWNSTREAM BOUNDARY CONDITIONS-1) ***

CARD TYPE	TEMP	D.O.	BOD	CM-1	CM-2	CM-3	ANC	COLI
ENDATA13								

0 *** DATA TYPE 13A (DOWNSTREAM BOUNDARY CONDITIONS-2) ***

CARD TYPE	CHL-A	ORG-N	NH3-N	NO2-N	NH3-N	ORG-P	DIS-P
ENDATA13A							

0 *** DATA TYPE 13A (DOWNSTREAM BOUNDARY CONDITIONS-2) ***

1 STREAM QUALITY SIMULATION OUTPUT PAGE NUMBER 1
 QUAL-2E STREAM QUALITY ROUTING MODEL EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** HYDRAULICS SUMMARY **

ELE ORD	RCH NUM	ELE NUM	BEGIN LOC MILE	END LOC MILE	POINT SRCE CFS	INCR FLOW CFS	TRVL VEL FPS	TRVL TIME DAY	DEPTH FT	WIDTH FT	VOLUME FT-3	BOTTOM AREA FT-2	X-SECT AREA FT-2	DSPRSN COEF FT-2/S
1	1	1	1.70	1.60	.23	.00	.088	.070	.205	12.602	1363.1	6870.4	2.58	.45
2	1	2	1.60	1.50	.50	.27	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91
3	1	3	1.50	1.40	.50	.00	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91
4	1	4	1.40	1.30	.50	.00	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91
5	1	5	1.30	1.20	.50	.00	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91
6	1	6	1.20	1.10	.50	.00	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91

9	2	3	.90	.80	.50	.00	.00	.120	.051	.330	12.602	2195.0	7002.4	4.16	.91
10	3	1	.80	.70	.55	.05	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
11	3	2	.70	.60	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
12	3	3	.60	.50	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
13	3	4	.50	.40	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
14	3	5	.40	.30	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
15	4	1	.30	.20	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
16	4	2	.20	.10	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
17	4	3	.10	.00	.55	.00	.00	.100	.061	.348	15.736	2889.4	8675.7	5.47	.79
18	5	1	2.30	2.20	2.36	1.81	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
19	5	2	2.20	2.10	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
20	5	3	2.10	2.00	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
21	5	4	2.00	1.90	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
22	5	5	1.90	1.80	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
23	5	6	1.80	1.70	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
24	5	7	1.70	1.60	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
25	5	8	1.60	1.50	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
26	5	9	1.50	1.40	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
27	5	10	1.40	1.30	2.36	.00	.00	.139	.044	.836	20.284	8954.9	11592.9	16.96	2.29
28	6	1	1.30	1.20	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
29	6	2	1.20	1.10	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
30	6	3	1.10	1.00	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
31	6	4	1.00	.90	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
32	6	5	.90	.80	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
33	6	6	.80	.70	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
34	6	7	.70	.60	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
35	6	8	.60	.50	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
36	6	9	.50	.40	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
37	6	10	.40	.30	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
38	6	11	.30	.20	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
39	6	12	.20	.10	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95
40	6	13	.10	.00	2.36	.00	.00	.119	.052	.836	23.753	10486.4	13424.5	19.86	1.95

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STREAM QUALITY SIMULATION
QUAL-2E STREAM QUALITY ROUTING MODEL

OUTPUT PAGE NUMBER 2
EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** REACTION COEFFICIENT SUMMARY **

RCH NUM	ELE NUM	DO SAT	K2 OPT	OXYGEN REAIR	BOD DECAY	BOD SETT	SOD RATE	DRGN DECAY	DRGN SETT	NH3 DECAY	NH3 SRCE	NO2 DECAY	DRGP DECAY	DRGP SETT	DISP SRCE	COLI DECAY	ANC DECAY	ANC SETT	ANC SRCE
		MG/L		1/DAY	1/DAY	1/DAY	6/F2D	1/DAY	1/DAY	1/DAY	MG/F2D	1/DAY	1/DAY	1/DAY	MG/F2D	1/DAY	1/DAY	1/DAY	MG/F2D
1	1	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
1	2	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
1	3	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
1	4	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
1	5	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
1	6	7.58	1	3.52	.51	.00	.00	.00	.00	.85	.00	10.26	.00	.00	.00	.00	.00	.00	.00
2	1	7.58	1	3.52	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
2	2	7.58	1	3.52	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
2	3	7.58	1	3.52	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
3	1	7.58	1	3.52	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
3	2	7.58	1	3.52	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
3	3	7.58	1	3.52	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
3	4	7.58	1	3.52	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
3	5	7.58	1	3.52	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
4	1	7.58	1	3.20	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
4	2	7.58	1	2.87	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
4	3	7.58	1	2.87	.68	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	1	7.58	1	3.42	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	2	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	3	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	4	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	5	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	6	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	7	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
5	8	7.58	1	3.98	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00

6	1	7.58	1	3.26	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	2	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	3	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	4	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	5	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	6	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	7	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	8	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	9	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	10	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	11	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	12	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00
6	13	7.58	1	2.54	.51	.00	.00	.00	.00	.51	.00	10.26	.00	.00	.00	.00	.00	.00	.00

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STREAM QUALITY SIMULATION
QUAL-2E STREAM QUALITY ROUTING MODEL

OUTPUT PAGE NUMBER 3
EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** WATER QUALITY VARIABLES **

RCH NUM	ELE NUM	TEMP DEG-F	CM-1	CM-2	CM-3	DO MG/L	BOD MG/L	ORGN MG/L	NH3N MG/L	NO2N MG/L	NO3N MG/L	SUM-N MG/L	ORGP MG/L	DIS-P MG/L	SUM-P MG/L	COLI #/100ML	ANC	CHLA UG/L
1	1	85.70	.00	.00	.00	6.23	1.49	.00	.10	.00	.00	.11	.00	.00	.00	.00	.00	.00
1	2	85.70	.00	.00	.00	6.01	6.00	.00	1.10	.03	.01	1.14	.00	.00	.00	.00	.00	.00
1	3	85.70	.00	.00	.00	5.90	5.85	.00	1.05	.05	.04	1.14	.00	.00	.00	.00	.00	.00
1	4	85.70	.00	.00	.00	5.82	5.70	.00	1.01	.06	.07	1.14	.00	.00	.00	.00	.00	.00
1	5	85.70	.00	.00	.00	5.76	5.55	.00	.97	.07	.11	1.14	.00	.00	.00	.00	.00	.00
1	6	85.70	.00	.00	.00	5.72	5.41	.00	.93	.07	.14	1.14	.00	.00	.00	.00	.00	.00
2	1	85.70	.00	.00	.00	5.74	5.28	.00	.90	.06	.17	1.14	.00	.00	.00	.00	.00	.00
2	2	85.70	.00	.00	.00	5.76	5.14	.00	.88	.06	.20	1.14	.00	.00	.00	.00	.00	.00
2	3	85.70	.00	.00	.00	5.78	5.05	.00	.87	.05	.23	1.16	.00	.00	.00	.00	.00	.00
3	1	85.70	.00	.00	.00	5.20	7.67	.00	1.99	.07	.25	2.31	.00	.00	.00	.00	.00	.00
3	2	85.70	.00	.00	.00	5.05	7.36	.00	1.93	.08	.30	2.31	.00	.00	.00	.00	.00	.00
3	3	85.70	.00	.00	.00	4.94	7.06	.00	1.87	.08	.35	2.31	.00	.00	.00	.00	.00	.00
3	4	85.70	.00	.00	.00	4.86	6.78	.00	1.81	.09	.40	2.31	.00	.00	.00	.00	.00	.00
3	5	85.70	.00	.00	.00	4.82	6.51	.00	1.76	.09	.46	2.31	.00	.00	.00	.00	.00	.00
4	1	85.70	.00	.00	.00	4.76	6.25	.00	1.71	.09	.51	2.31	.00	.00	.00	.00	.00	.00
4	2	85.70	.00	.00	.00	4.68	5.99	.00	1.65	.08	.57	2.30	.00	.00	.00	.00	.00	.00
4	3	85.70	.00	.00	.00	4.64	5.71	.00	1.59	.08	.61	2.28	.00	.00	.00	.00	.00	.00
5	1	85.70	.00	.00	.00	5.78	2.46	.00	.45	.02	.15	.62	.00	.00	.00	.00	.00	.00
5	2	85.70	.00	.00	.00	5.94	2.41	.00	.44	.02	.16	.62	.00	.00	.00	.00	.00	.00
5	3	85.70	.00	.00	.00	6.08	2.35	.00	.43	.02	.17	.62	.00	.00	.00	.00	.00	.00
5	4	85.70	.00	.00	.00	6.21	2.30	.00	.42	.02	.18	.62	.00	.00	.00	.00	.00	.00
5	5	85.70	.00	.00	.00	6.31	2.25	.00	.41	.02	.19	.62	.00	.00	.00	.00	.00	.00
5	6	85.70	.00	.00	.00	6.41	2.20	.00	.40	.02	.20	.62	.00	.00	.00	.00	.00	.00
5	7	85.70	.00	.00	.00	6.49	2.15	.00	.39	.02	.21	.62	.00	.00	.00	.00	.00	.00
5	8	85.70	.00	.00	.00	6.56	2.11	.00	.38	.02	.22	.62	.00	.00	.00	.00	.00	.00
5	9	85.70	.00	.00	.00	6.62	2.06	.00	.37	.02	.22	.62	.00	.00	.00	.00	.00	.00
5	10	85.70	.00	.00	.00	6.68	2.01	.00	.36	.02	.23	.62	.00	.00	.00	.00	.00	.00
6	1	85.70	.00	.00	.00	6.70	1.97	.00	.36	.02	.24	.62	.00	.00	.00	.00	.00	.00
6	2	85.70	.00	.00	.00	6.70	1.92	.00	.35	.02	.25	.62	.00	.00	.00	.00	.00	.00
6	3	85.70	.00	.00	.00	6.71	1.87	.00	.34	.02	.26	.62	.00	.00	.00	.00	.00	.00
6	4	85.70	.00	.00	.00	6.71	1.82	.00	.33	.02	.27	.62	.00	.00	.00	.00	.00	.00
6	5	85.70	.00	.00	.00	6.72	1.77	.00	.32	.02	.28	.62	.00	.00	.00	.00	.00	.00
6	6	85.70	.00	.00	.00	6.73	1.73	.00	.31	.02	.29	.62	.00	.00	.00	.00	.00	.00
6	7	85.70	.00	.00	.00	6.74	1.68	.00	.30	.02	.30	.62	.00	.00	.00	.00	.00	.00
6	8	85.70	.00	.00	.00	6.75	1.64	.00	.30	.02	.30	.62	.00	.00	.00	.00	.00	.00
6	9	85.70	.00	.00	.00	6.76	1.60	.00	.29	.02	.31	.62	.00	.00	.00	.00	.00	.00
6	10	85.70	.00	.00	.00	6.77	1.55	.00	.28	.01	.32	.62	.00	.00	.00	.00	.00	.00
6	11	85.70	.00	.00	.00	6.79	1.51	.00	.27	.01	.33	.62	.00	.00	.00	.00	.00	.00
6	12	85.70	.00	.00	.00	6.80	1.48	.00	.27	.01	.34	.62	.00	.00	.00	.00	.00	.00
6	13	85.70	.00	.00	.00	6.81	1.44	.00	.26	.01	.34	.62	.00	.00	.00	.00	.00	.00

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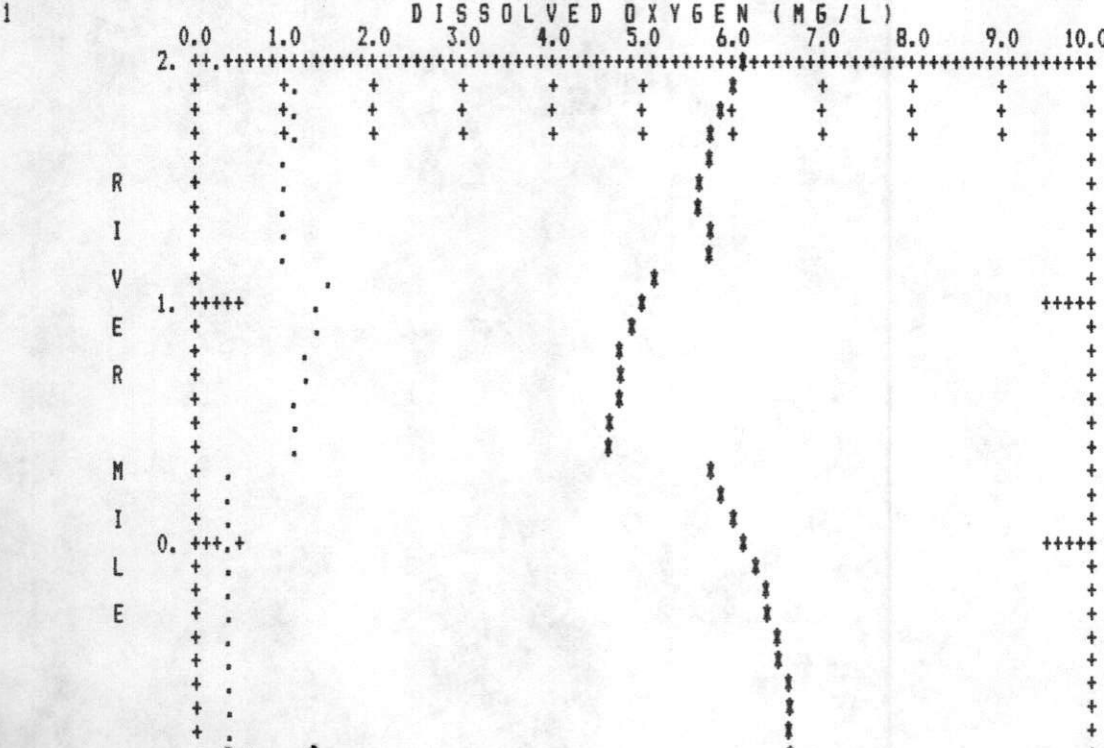
STREAM QUALITY SIMULATION
QUAL-2E STREAM QUALITY ROUTING MODEL

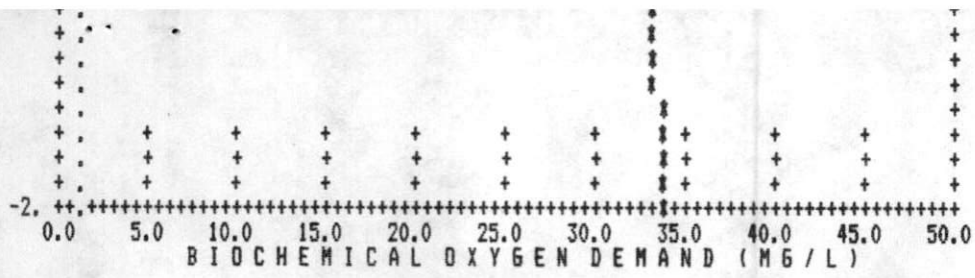
OUTPUT PAGE NUMBER 4
EPA/NCASI VERSION

***** STEADY STATE SIMULATION *****

** DISSOLVED OXYGEN DATA **

ELE ORD	RCH NUM	ELE NUM	TEMP DEG-F	DO SAT MG/L	DO MG/L	DO DEF MG/L	DAM INPUT MG/L	NIT INHIB FACT	F-FUNCTN INPUT	OXYGN REAIR	C-BOD	SOD	NET P-R	NH3-N	NO2-N
1	1	1	85.70	7.58	6.23	1.35	.00	1.00	85.95	4.77	-7.76	.00	.00	-2.29	-.04
2	1	2	85.70	7.58	6.01	1.58	.00	1.00	64.71	5.55	-3.08	.00	.00	-3.13	-.29
3	1	3	85.70	7.58	5.90	1.68	.00	1.00	.00	5.90	-3.00	.00	.00	-3.00	-.50
4	1	4	85.70	7.58	5.82	1.76	.00	1.00	.00	6.19	-2.92	.00	.00	-2.87	-.62
5	1	5	85.70	7.58	5.76	1.82	.00	1.00	.00	6.40	-2.85	.00	.00	-2.75	-.69
6	1	6	85.70	7.58	5.72	1.86	.00	1.00	.00	6.55	-2.78	.00	.00	-2.64	-.73
7	2	1	85.70	7.58	5.74	1.84	.00	1.00	.00	6.49	-2.71	.00	.00	-1.54	-.64
8	2	2	85.70	7.58	5.76	1.82	.00	1.00	.00	6.41	-2.64	.00	.00	-1.50	-.57
9	2	3	85.70	7.58	5.78	1.80	.00	1.00	.00	6.34	-2.59	.00	.00	-1.49	-.53
10	3	1	85.70	7.58	5.20	2.38	.00	1.00	1.38	8.38	-5.24	.00	.00	-3.40	-.68
11	3	2	85.70	7.58	5.05	2.53	.00	1.00	.00	8.92	-5.03	.00	.00	-3.30	-.80
12	3	3	85.70	7.58	4.94	2.64	.00	1.00	.00	9.31	-4.83	.00	.00	-3.20	-.86
13	3	4	85.70	7.58	4.86	2.72	.00	1.00	.00	9.57	-4.64	.00	.00	-3.10	-.89
14	3	5	85.70	7.58	4.82	2.76	.00	1.00	.00	9.72	-4.45	.00	.00	-3.00	-.89
15	4	1	85.70	7.58	4.76	2.82	.00	1.00	.00	9.02	-4.27	.00	.00	-2.91	-.89
16	4	2	85.70	7.58	4.68	2.90	.00	1.00	.00	8.33	-4.10	.00	.00	-2.82	-.87
17	4	3	85.70	7.58	4.64	2.94	.00	1.00	.00	8.43	-3.91	.00	.00	-2.71	-.84
18	5	1	85.70	7.58	5.78	1.80	.00	1.00	104.78	6.17	-1.26	.00	.00	-.76	-.21
19	5	2	85.70	7.58	5.94	1.64	.00	1.00	.00	6.52	-1.23	.00	.00	-.74	-.21
20	5	3	85.70	7.58	6.08	1.50	.00	1.00	.00	5.95	-1.21	.00	.00	-.73	-.21
21	5	4	85.70	7.58	6.21	1.37	.00	1.00	.00	5.46	-1.18	.00	.00	-.71	-.21
22	5	5	85.70	7.58	6.31	1.27	.00	1.00	.00	5.04	-1.15	.00	.00	-.70	-.21
23	5	6	85.70	7.58	6.41	1.17	.00	1.00	.00	4.67	-1.13	.00	.00	-.68	-.21
24	5	7	85.70	7.58	6.49	1.09	.00	1.00	.00	4.34	-1.10	.00	.00	-.67	-.21
25	5	8	85.70	7.58	6.56	1.02	.00	1.00	.00	4.06	-1.08	.00	.00	-.65	-.20
26	5	9	85.70	7.58	6.62	.96	.00	1.00	.00	3.81	-1.06	.00	.00	-.64	-.20
27	5	10	85.70	7.58	6.68	.90	.00	1.00	.00	3.59	-1.03	.00	.00	-.62	-.20
28	6	1	85.70	7.58	6.70	.88	.00	1.00	.00	2.86	-1.01	.00	.00	-.61	-.19
29	6	2	85.70	7.58	6.70	.88	.00	1.00	.00	2.22	-.98	.00	.00	-.59	-.19
30	6	3	85.70	7.58	6.71	.87	.00	1.00	.00	2.22	-.96	.00	.00	-.58	-.18
31	6	4	85.70	7.58	6.71	.87	.00	1.00	.00	2.20	-.93	.00	.00	-.56	-.18
32	6	5	85.70	7.58	6.72	.86	.00	1.00	.00	2.19	-.91	.00	.00	-.55	-.17
33	6	6	85.70	7.58	6.73	.85	.00	1.00	.00	2.16	-.88	.00	.00	-.53	-.17
34	6	7	85.70	7.58	6.74	.84	.00	1.00	.00	2.14	-.86	.00	.00	-.52	-.16
35	6	8	85.70	7.58	6.75	.83	.00	1.00	.00	2.11	-.84	.00	.00	-.51	-.16
36	6	9	85.70	7.58	6.76	.82	.00	1.00	.00	2.08	-.82	.00	.00	-.49	-.16
37	6	10	85.70	7.58	6.77	.81	.00	1.00	.00	2.05	-.80	.00	.00	-.48	-.15
38	6	11	85.70	7.58	6.79	.79	.00	1.00	.00	2.01	-.78	.00	.00	-.47	-.15
39	6	12	85.70	7.58	6.80	.78	.00	1.00	.00	1.98	-.76	.00	.00	-.46	-.14
40	6	13	85.70	7.58	6.81	.77	.00	1.00	.00	1.94	-.74	.00	.00	-.45	-.14





DISSOLVED OXYGEN = * * * * *

BIOCHEMICAL OXYGEN DEMAND =

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