

AR0020036



STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

June 22, 1984

Ms. Anna Dunbar
U.S. Environmental Protection Agency
Region VI
1201 Elm Street
InterFirst Two Building
Dallas, Texas 75270

Dear Anna:

Please find enclosed an additional computer run for the City of Melbourne's proposed discharge to Mill Creek. This shows that a discharge of 30/30/12/6, BOD₅/TSS/NH₃-N/D.O. is sufficient to maintain a D.O. of 6 mg/l during a seasonal period of less than or equal to 20°C in the receiving stream.

If you have any questions on this matter, please call.

Sincerely,

A handwritten signature in cursive script, appearing to read "Niall O'Shaughnessy".

Niall O'Shaughnessy, P.E.
Engineer Supervisor
Water Division

NO'S/kw

Enclosure

cc: Mr. Gary Bondy, EPA, Region VI, w/enclosure

MELBOURNE SEASONAL LIMITS 30-30-12

STREAM TEMPERATURE = 20.00
STREAM FLOW, cfs = 0.30
STREAM D.O. = 7.40
STREAM UOD, mg/l = 3.00

WASTE TEMPERATURE = 20.00
WASTE FLOW, mgd = 0.41
WASTE FLOW, cfs = 0.63
WASTE D.O., mg/l = 6.00
WASTE UOD, mg/l = 69.00

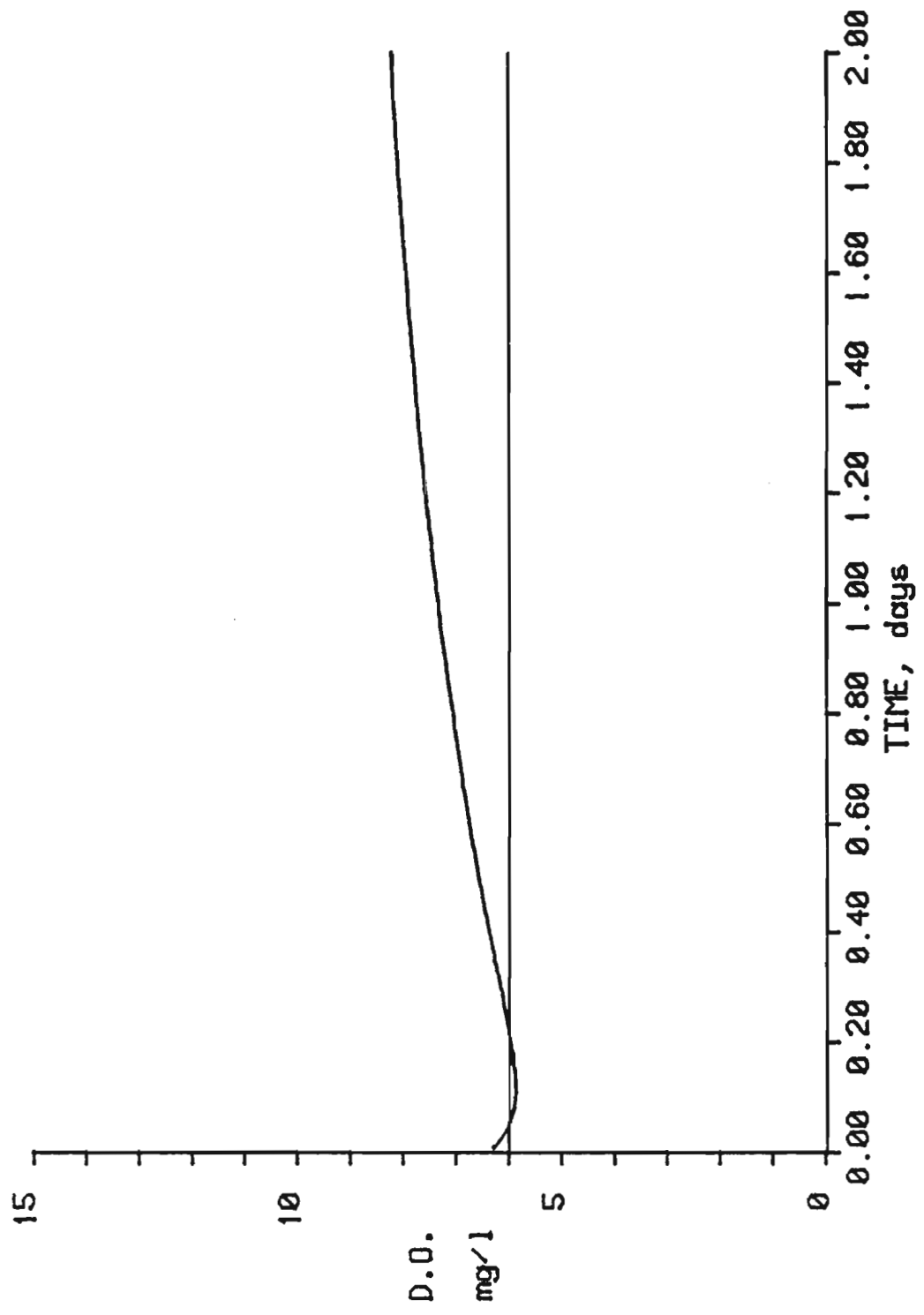
BENTHAL DEMAND, $g/m^2/day$ = 0.30
MEAN DEPTH, ft. = 0.50

AMMONIA NITROGEN, mg/l = 12.00
NUOD, mg/l = 54.84
TOTAL UOD of waste, mg/l = 123.84

RATE CONSTANTS, per day, (base e)
Kd = 0.90 Kd CORRECTED = 0.90
Ka = 16.60 Ka CORRECTED = 16.60
KN = 0.40 KN CORRECTED = 0.40
S = 1.97 S CORRECTED = 1.97

TEMPERATURE OF MIX = 20.00
D.O. SATURATION, mg/l = 9.20
INITIAL DEFICIT, mg/l = 2.75
CRITICAL DEFICIT, mg/l = 3.32
MINIMUM D.O., mg/l = 5.88
CRITICAL TIME, days = 0.11

MELBOURNE SEASONAL LIMITS 30-30-12



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A>dir
Bdos Err On A: Bad Sector

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WASTE TEMPERATURE = 20.00
WASTE FLOW, mgd = 0.41
WASTE FLOW, cfs = 0.63
WASTE D.O., mg/l = 7.40
WASTE UOD, mg/l = 69.00

BENTHAL DEMAND, $g/m^2/day$ = 0.30
MEAN DEPTH, ft. = 0.50

AMMONIA NITROGEN, mg/l = 12.00
NUOD, mg/l = 54.84
TOTAL UOD of waste, mg/l = 123.84

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KN = 0.40 KN CORRECTED = 0.40
S = 1.97 S CORRECTED = 1.97

TEMPERATURE OF MIX = 20.00
D.O. SATURATION, mg/l = 9.20
INITIAL DEFICIT, mg/l = 1.80
CRITICAL DEFICIT, mg/l = 3.22
MINIMUM D.O., mg/l = 5.98
CRITICAL TIME, days = 0.16

MELBOURNE SEASONAL LIMITS 30-30-12

