DCNO 74

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Files from J. Hayden

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Susitna Joint Venture

ACRES AMERICAN INCORPORATED
Engineers, Architects, and Planners
Suite 1000 Liberty Building, 424 Main Street
Buffalo, New York 14202-3592
Telephone 716-853-7525 Telex 91-6423 ACRES BUF

[redacted]

ACRES

Copies of J. Hayden's Files

ACRES AMERICAN INCORPORATED
Engineers, Architects, and Planners
Suite 1000 Liberty Building, 424 Main Street
Buffalo, New York 14202-3592
Telephone 716-853-7525 Telex 91-6423 ACRES BUF

March 22, 1983
P5700.11.51
T.1865

Leslie Griffiths
Peratrovich, Nottingham and Drage
1506 West 36th Avenue
Suite 101
Anchorage, AK 99503

Dear Leslie:

Susitna Hydroelectric Project
Reservoir Temperature/Sediment Studies

I have enclosed a very brief description of what I did in obtaining the velocity scales you used in the Susitna suspended sediment study. I realize it is of very little use to you now and I apologize for not being able to send you more details when you needed it. Hopefully, it will provide a clue of the origin of the numbers whenever the archeologists take over.

Sincerely,

David Crawford
Lead Hydraulic Engineer

DC:md

Enclosure

0000074

Mixing Velocity Scales in the Epilimnion and Hypolimnion

This appendix provides a brief description of the derivation of the velocity scales used to estimate turbulence in the epilimnion and hypolimnion. These velocities aid in maintaining fine sediment in suspension. Detailed theory and derivation of the turbulent kenetic energy budget equations is not included here but can be found in References 1 and 2.

The velocity scales are determined through use of DYRESM (1); a one-dimensional numerical model for the prediction of temperature in reservoirs or lakes.

1. Velocity Scale in the Epilimnion

The general velocity and density distributions in the upper surface layer as modelled by DYRESM can be idealised as in Figure 1. A wind stress (u^{*2}) applied to the surface generally produces a strong surface shear region near the surface, with a thickness increasing with increasing wind stress. Below this shear zone, the velocity is relatively constant throughout the mixed layer. The mixed layer is usually defined as that water slab over which the water density is constant. The momentum (as well as heat and mass) introduced at the surface are continually mixed or stirred into the surface mixed layer.

The rate of change of depth integrated turbulent kinetic energy (TKE) is given by the summation of the sources and sinks of TKE in the mixed layer. In DYRESM the integrated TKE budget, including integrated equations for heat and mass transfer, are parameterised into a finite difference form (equation 27, reference 1). Solution of this equation is achieved simultaneously with an equation for the velocity shear and billow thickness.

The turbulent velocity scale in the epilimnion is given by (Imberger and Patterson (1)) :

$$q^{*3} = w^{*3} + \eta^3 u^{*3}$$

where: q^* = turbulent velocity scale

w^* = convective turbulent velocity scale, M/S

u^* = surface velocity shear, M/S

η = coefficient measuring wind shear efficiency

The value of q^* can be obtained from DYRESM. This parameter is determined and printed for each of the time steps as shown in Attachment A. Variable ABQ represents q^*. Variables UG, WS and USTAR represent average daily windspeed, six-hourly resultant windspeed and u^* respectively. The mixing depth, h, is also given in Attachment A as well as the energy (UFO) released by cooling.

More specifically, DYRESM computes the convective and wind shear components of the velocity scale (q^*) as follows:

•Convective Component

$$w^* = \frac{g}{\rho_f \Delta t} \left[\sum_{i=k}^{NS} \rho_i \frac{(d_i - d_{i-1})}{2} - \frac{(d_{NS} + d_{K-1})}{2} \sum_{i=K}^{NS} \rho_i (d_i - d_{i-1}) \right]$$

where:

w^* = convective turbulent velocity scale, M/S

g = gravitational acceleration = 9.8 M/S^2

ρ_f = density of the mixed layer, kg/M^3

Δt = time step, S

ρ_i = density of layer i, kg/M^3

d_i = height of the top of the ith layer, M

NS = top layer number

•Wind Shear Component

The wind shear component is a function of the resultant six-hourly windspeed during the time step, the scale average daily windspeed and , a coefficient wind shear efficiency in stirring. The wind shear velocity, u* is g ven by:

$$u^* = C \quad * U6 * WS$$

where:

u* = shear velocity

C = a coefficient which is a function of the drag coefficient, densities of air and water and the height of wind speed measurement.

= 1.612×10^{-6}

U6 = resultant wind speed measured at 6m, M/S

WS = average daily wind speed, M/S

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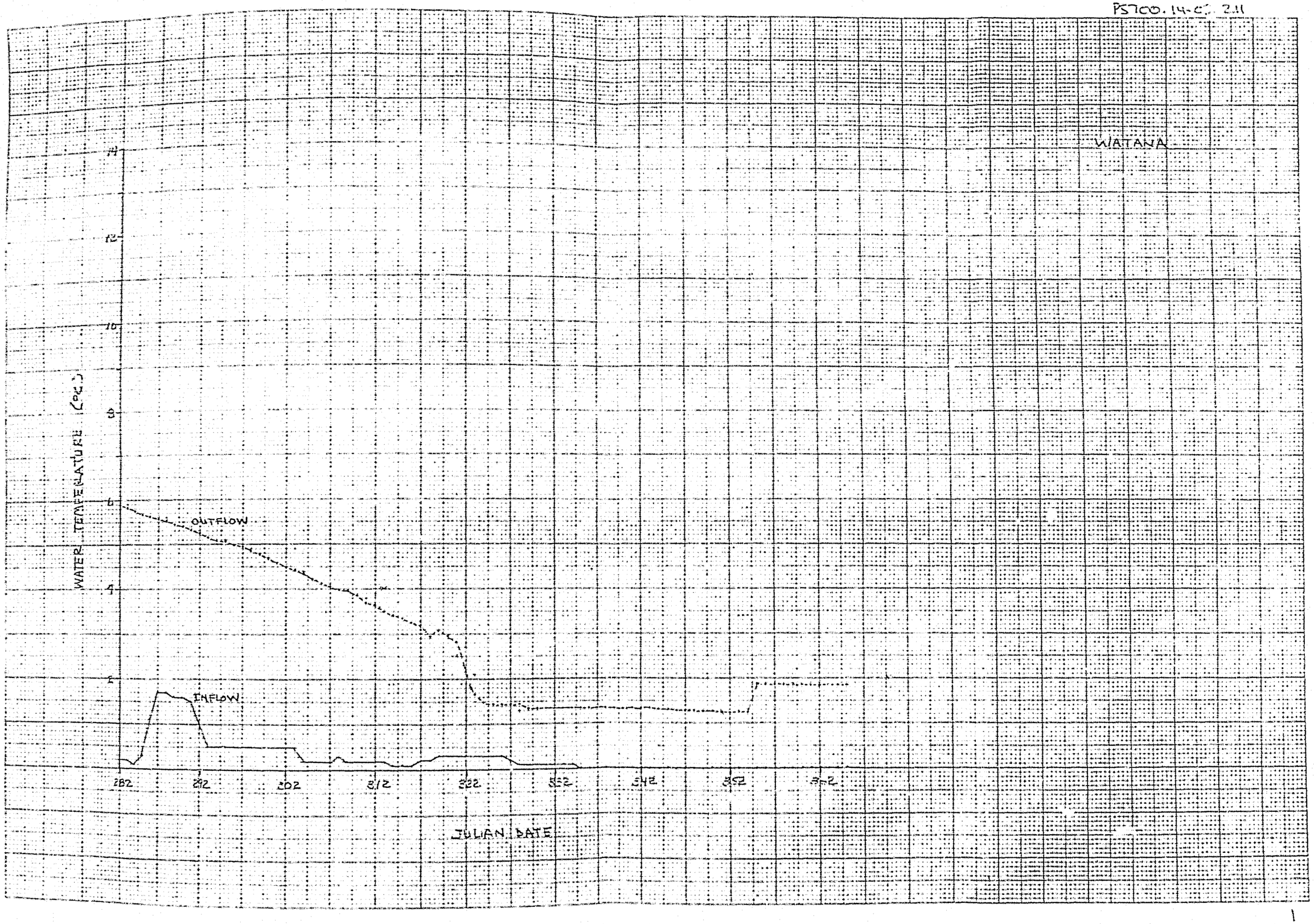
References:

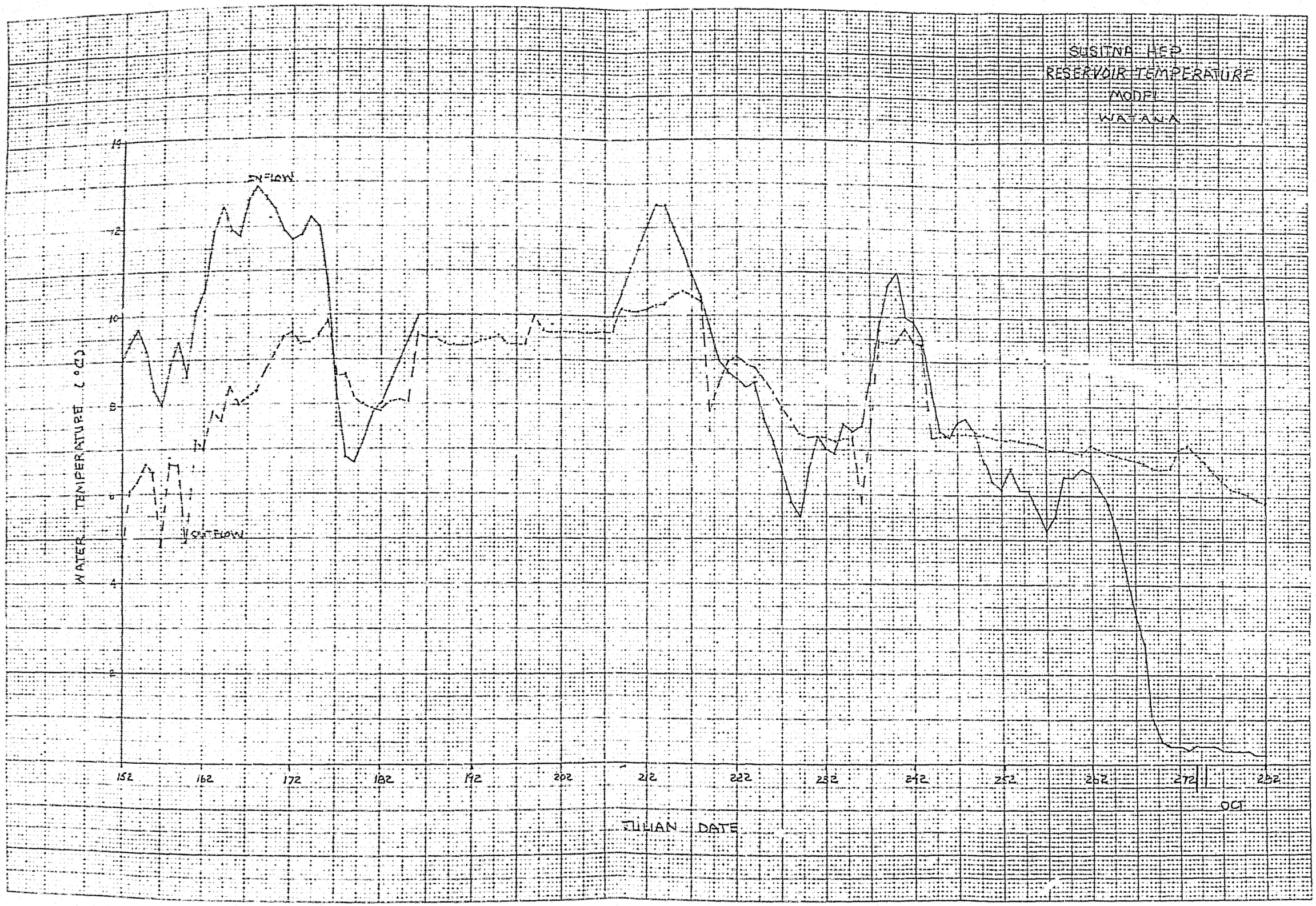
1. Fischer, H.B. et al., "Mixing in Inland and Coastal Waters", Academic Press, 1979.

2. Imberger, J. and J.C. Patterson, "A Dynamic Reservoir Simulation Model - DYRESM:5", Proceedings of a Symposium on Predictive Ability, Marriott Inn, Berkeley, California, August, 1980.



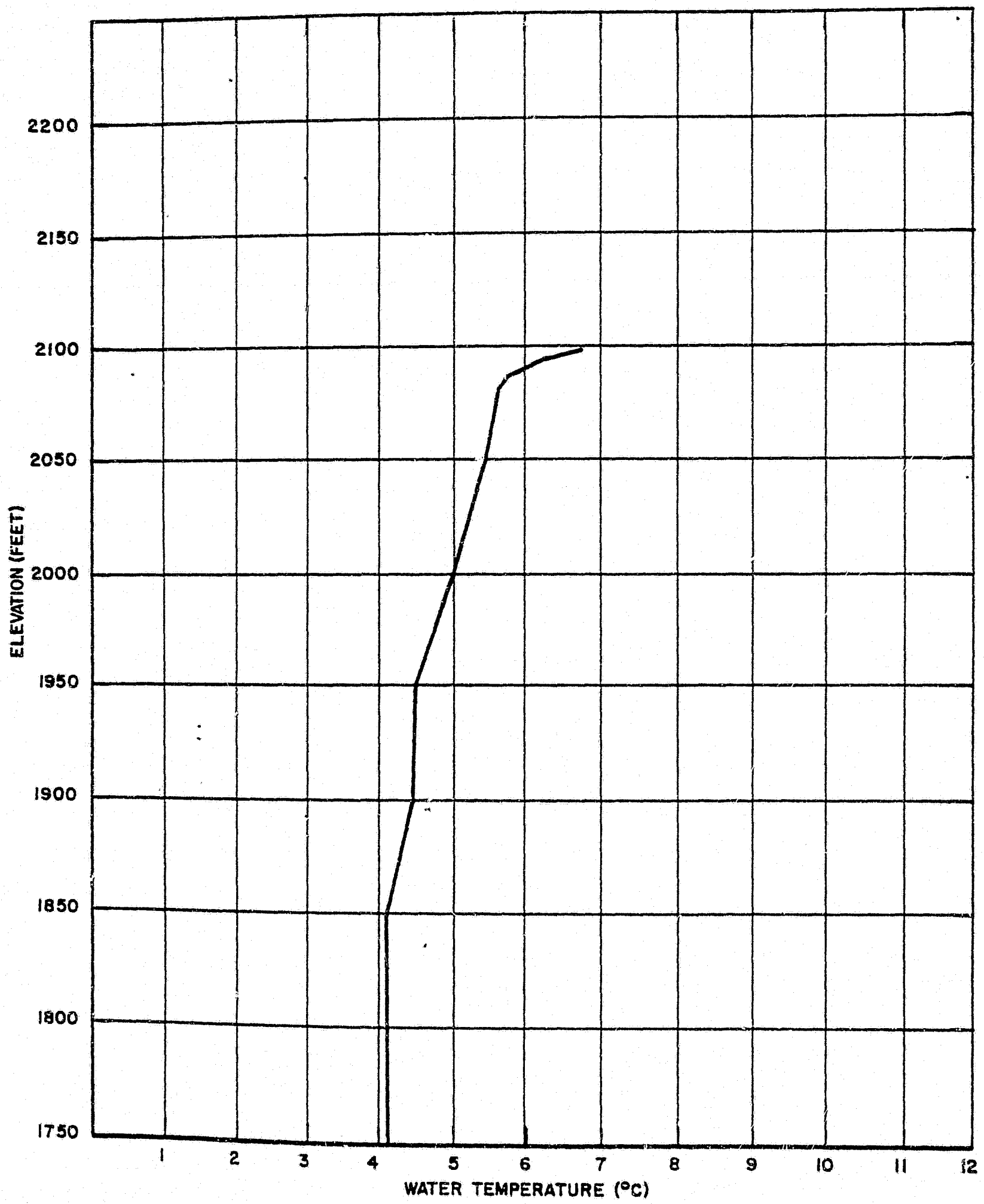
47 1320
K+E 10 X 10 TO ½ IN. KEUFFEL & ESSER CO. 10 X 15 INCHES MADE IN U.S.A.
FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED
0 0 0 0 7 4

SUSITNA HEP
RESERVOIR TEMPERATURE
MODEL
WATANA



47 1320
K&E 10 X 10 TO ½ IN. • 10 X 15 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

0000074



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JUNE 1, 1981

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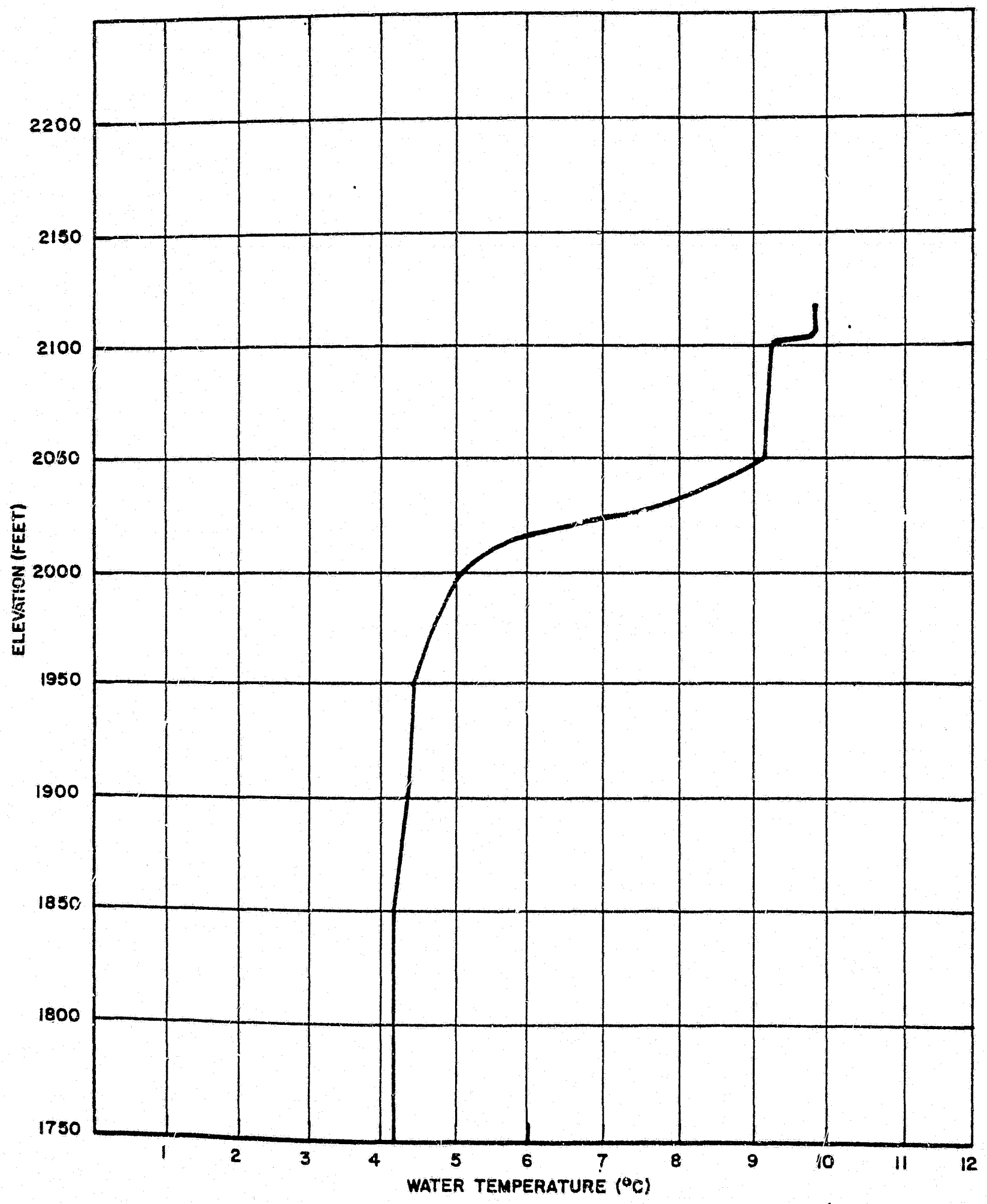

SIMULATED PROFILE IN WATANA
JULY 1, 1981

E 2 — —
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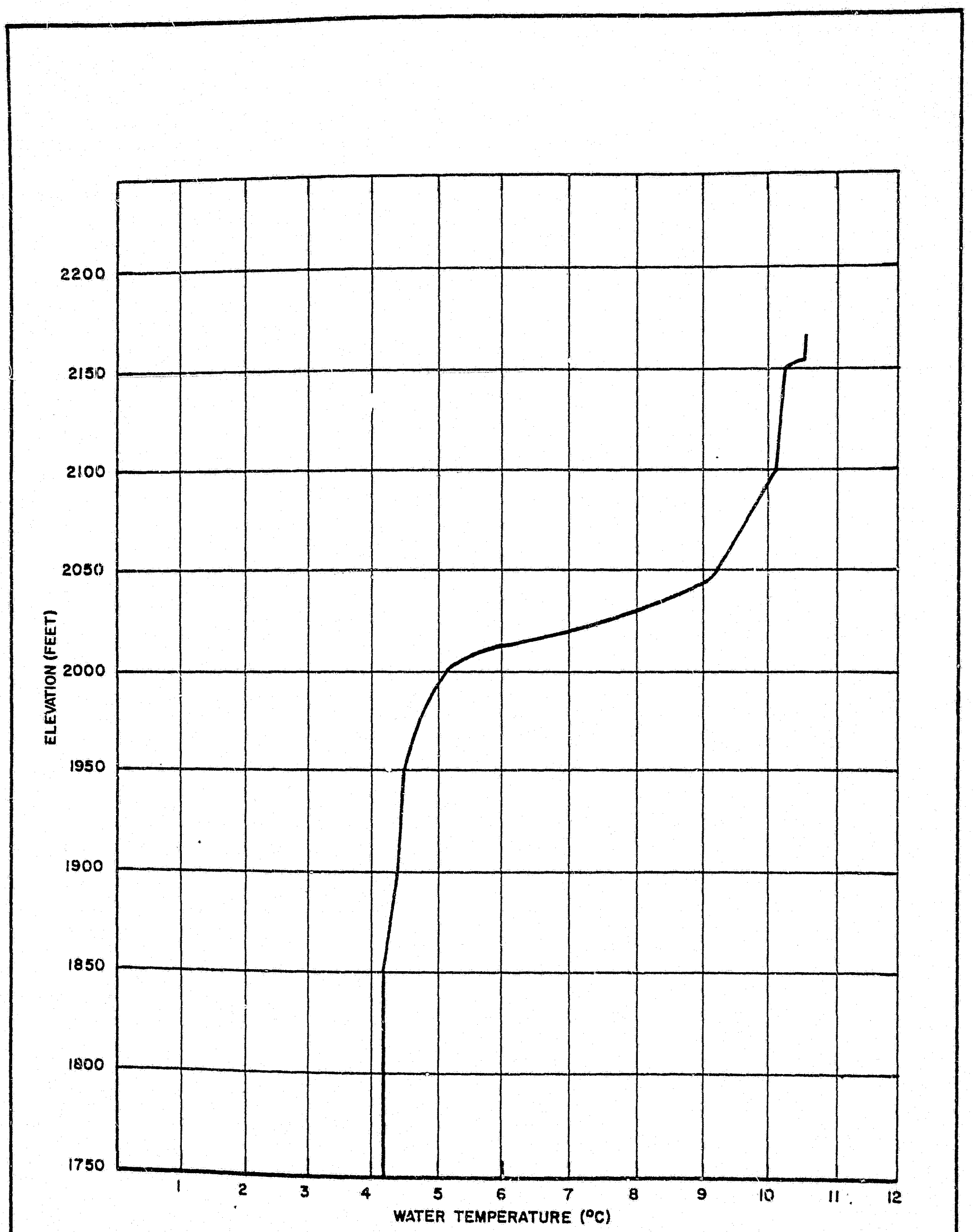
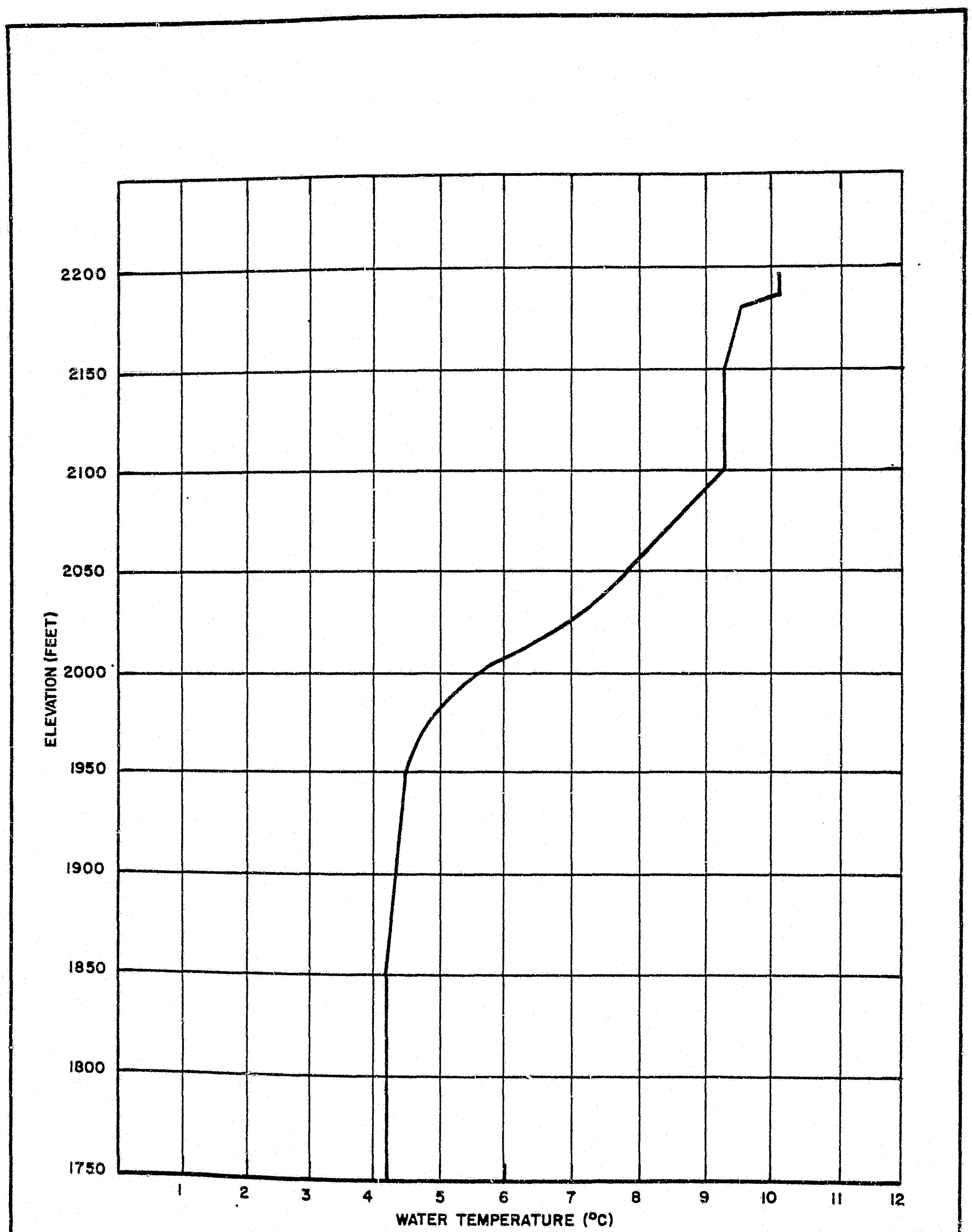


SIMULATED PROFILE IN WATANA
AUGUST 1, 1981

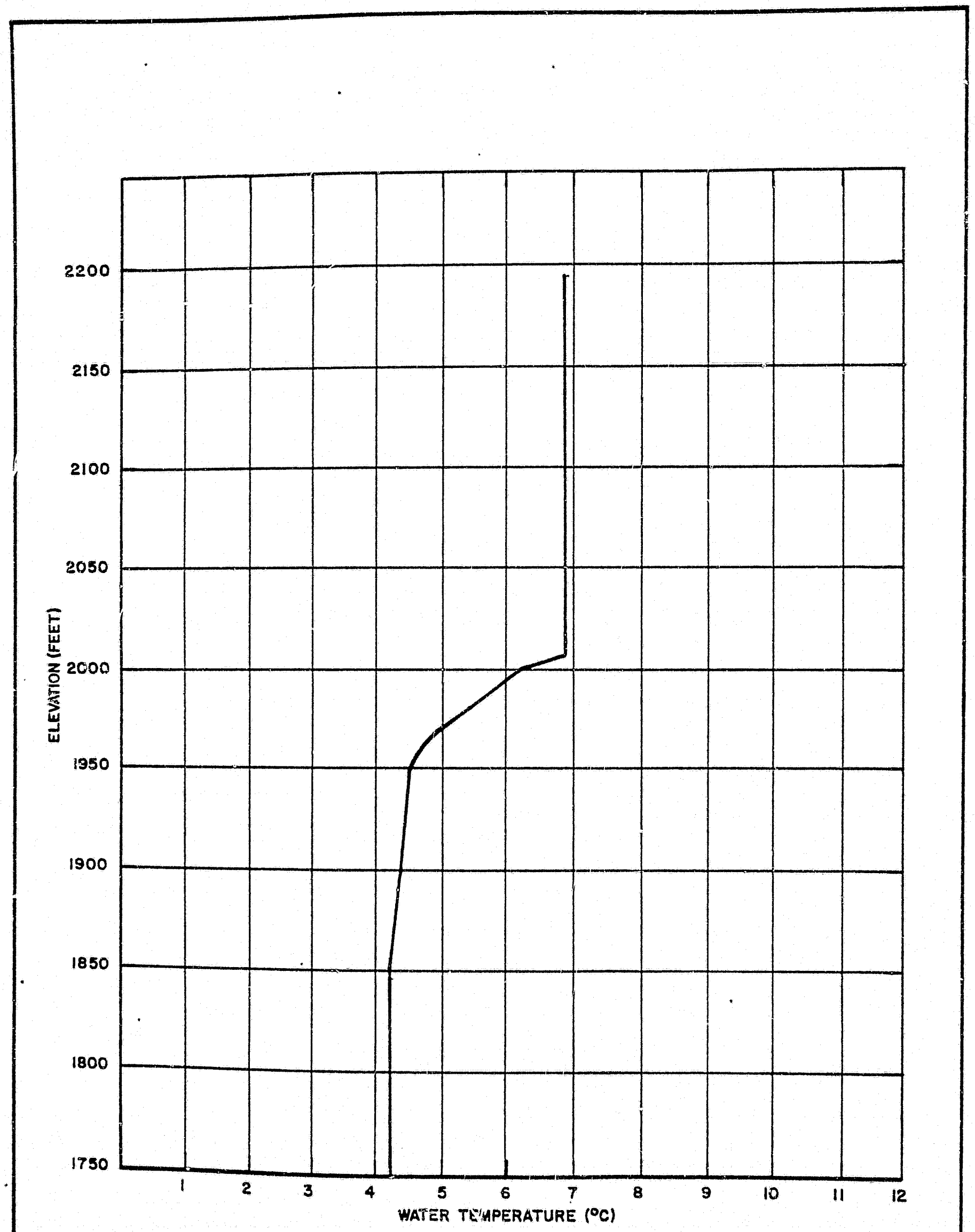
E.2. — 3

0000074



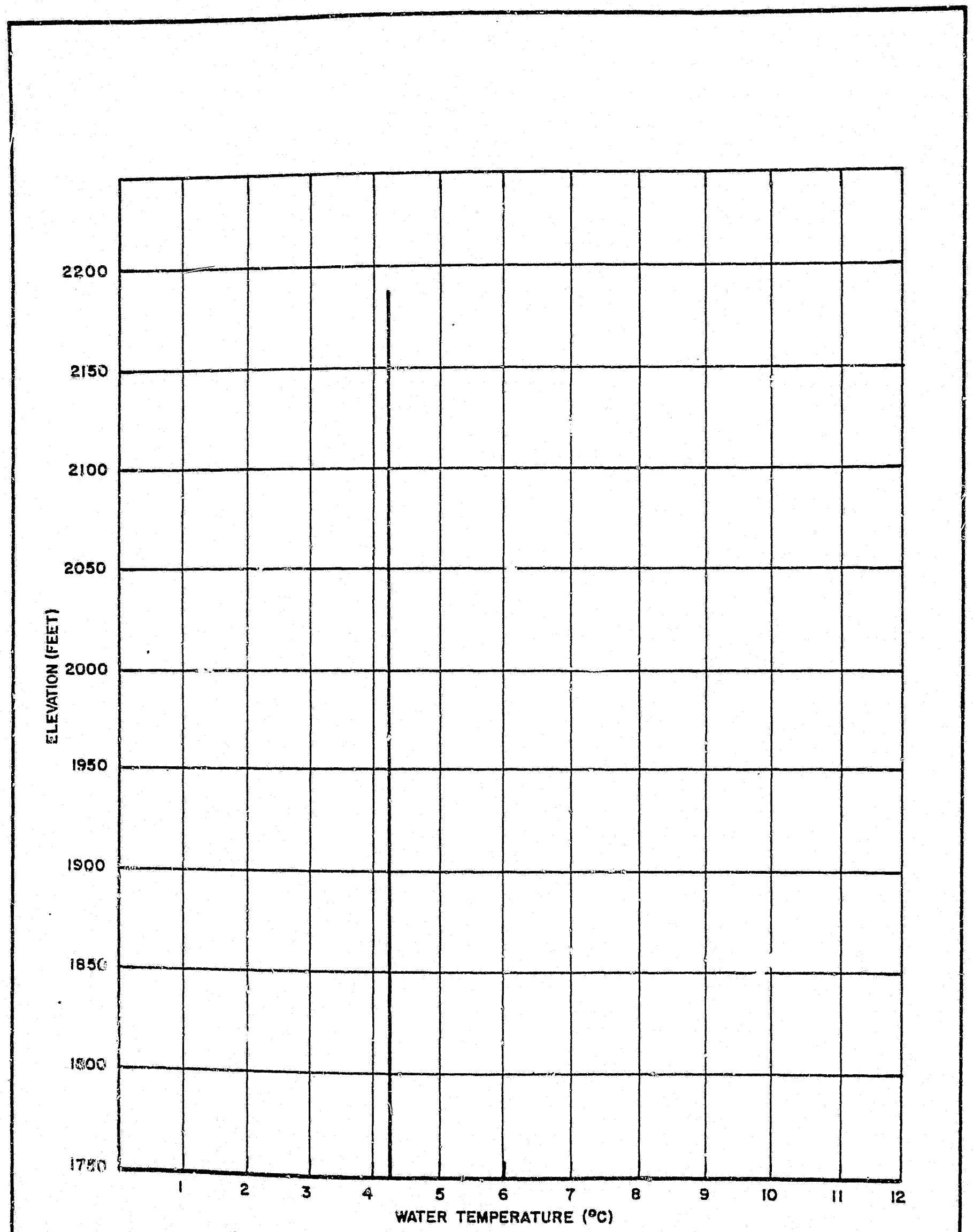
SIMULATED PROFILE IN WATANA
SEPTEMBER 1, 1981

E.2. — 4



SIMULATED PROFILE IN WATANA
OCTOBER 1, 1981

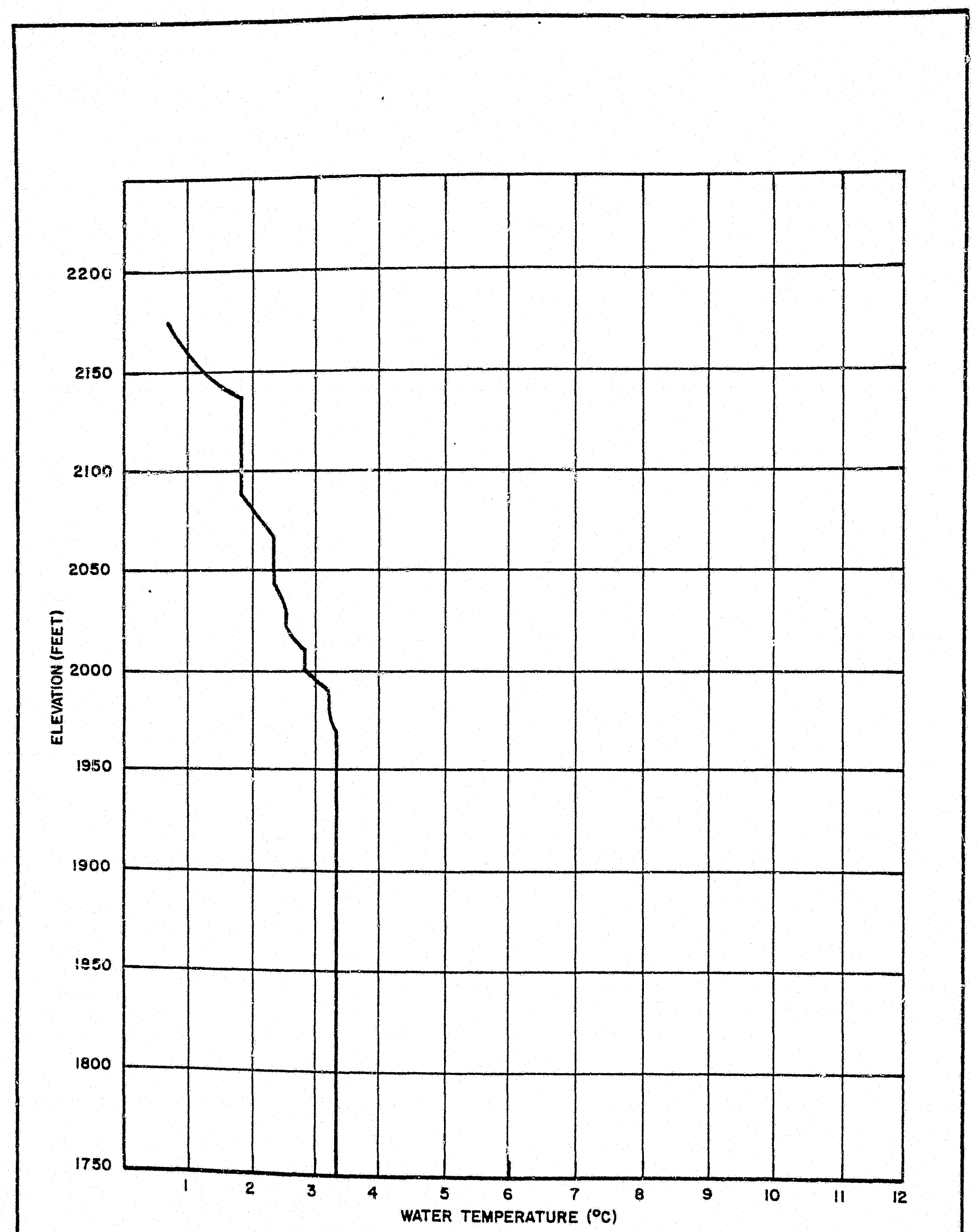
E-5



SIMULATED PROFILE IN WATANA
NOVEMBER 1, 1981

E 2.—

6



SIMULATED PROFILE IN WATANA
DECEMBER 1, 1981

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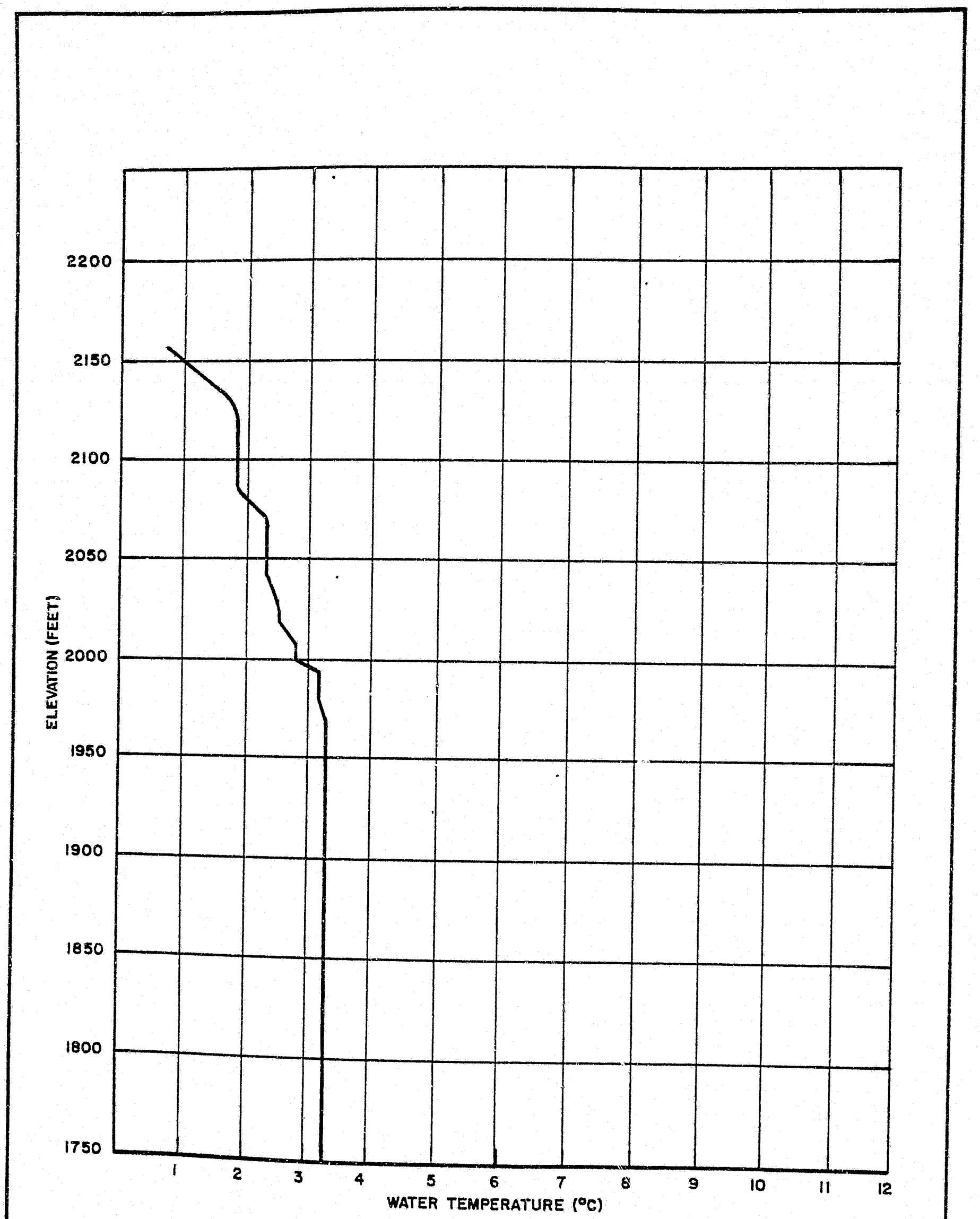
0000074



SIMULATED PROFILE IN WATANA
DECEMBER 31, 1981

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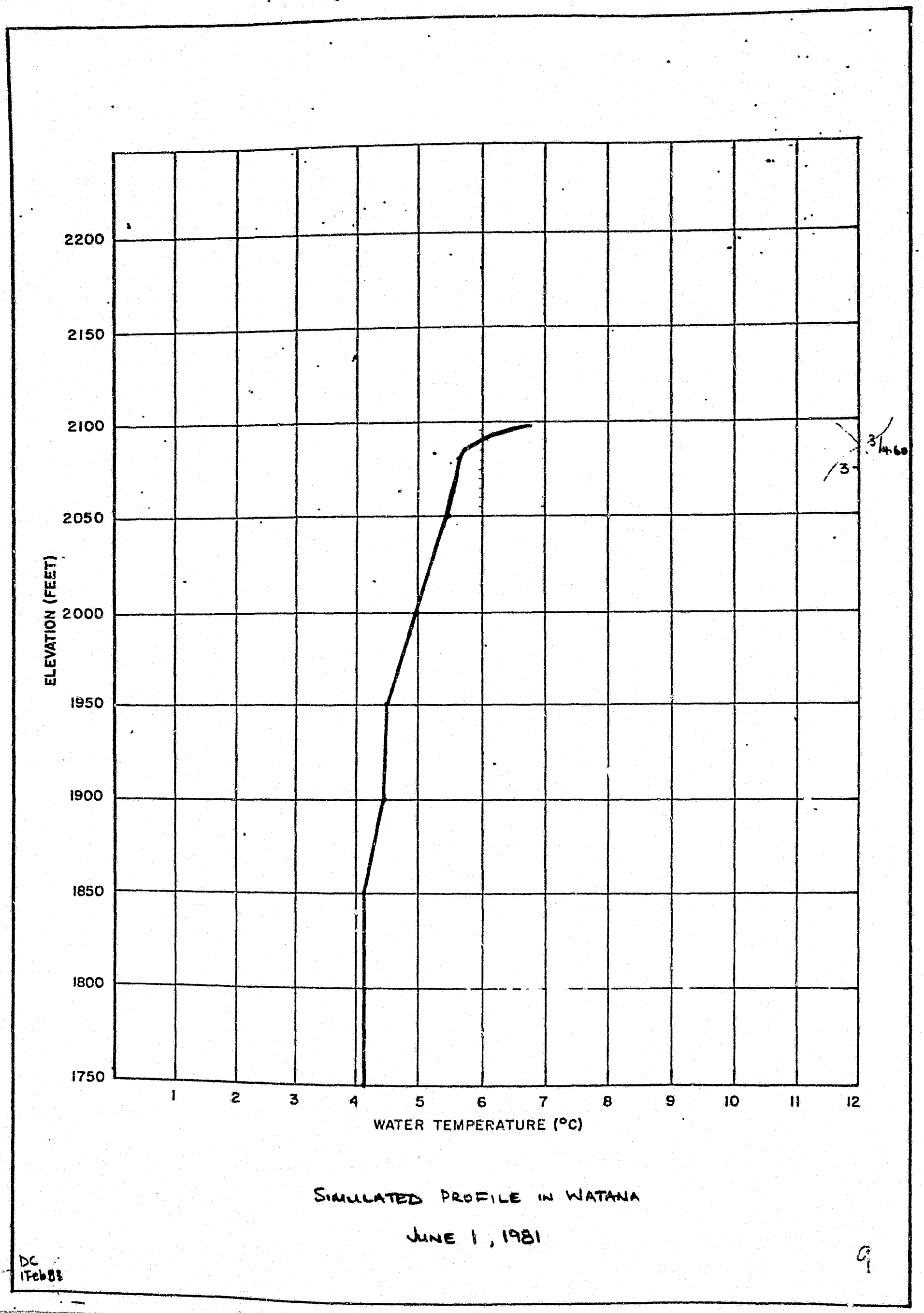
0000074

W4010



SIMULATED PROFILE IN WATANA

JUNE 1, 1981

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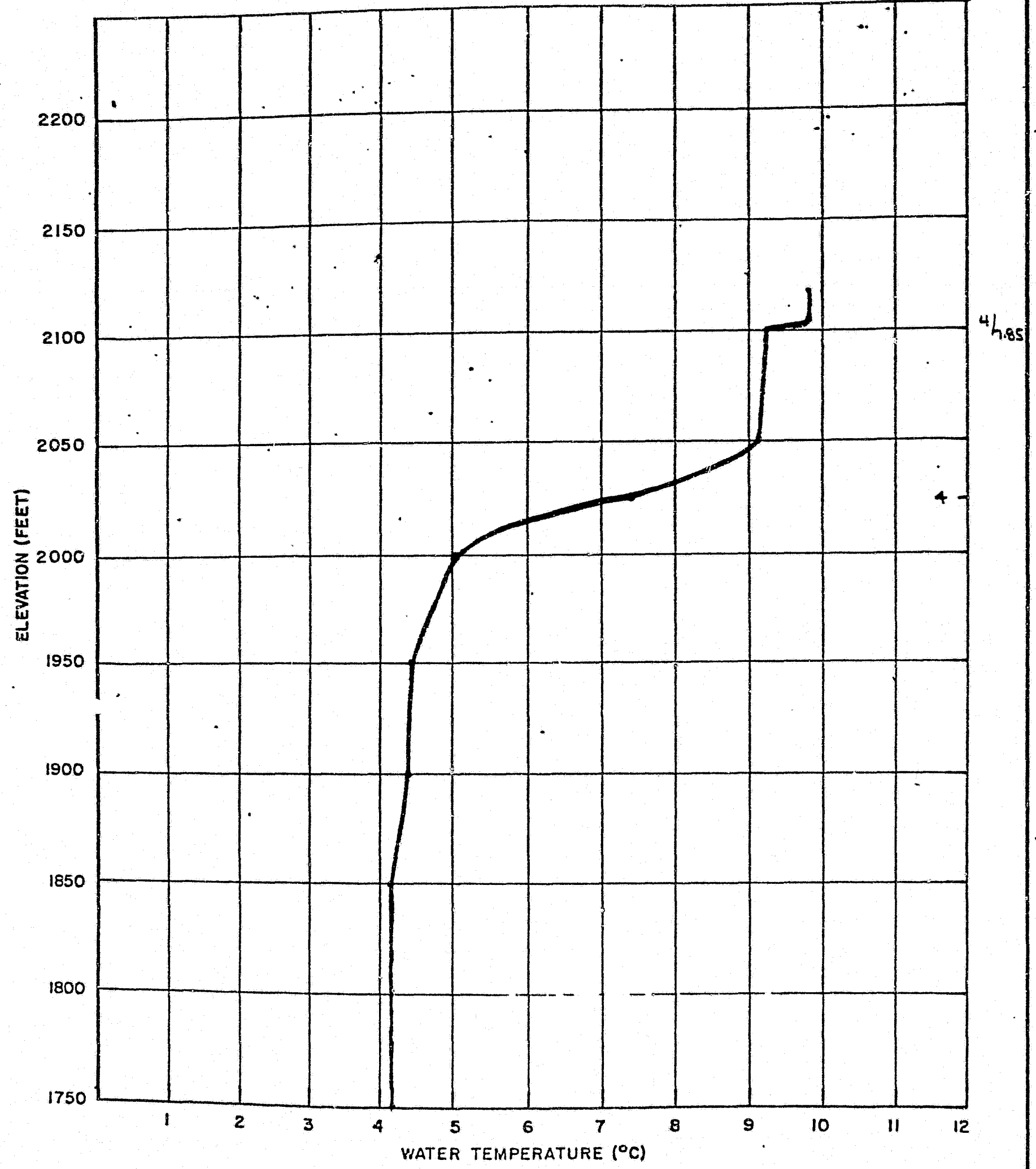
1Feb83

9

W1010.



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July 1, 1981

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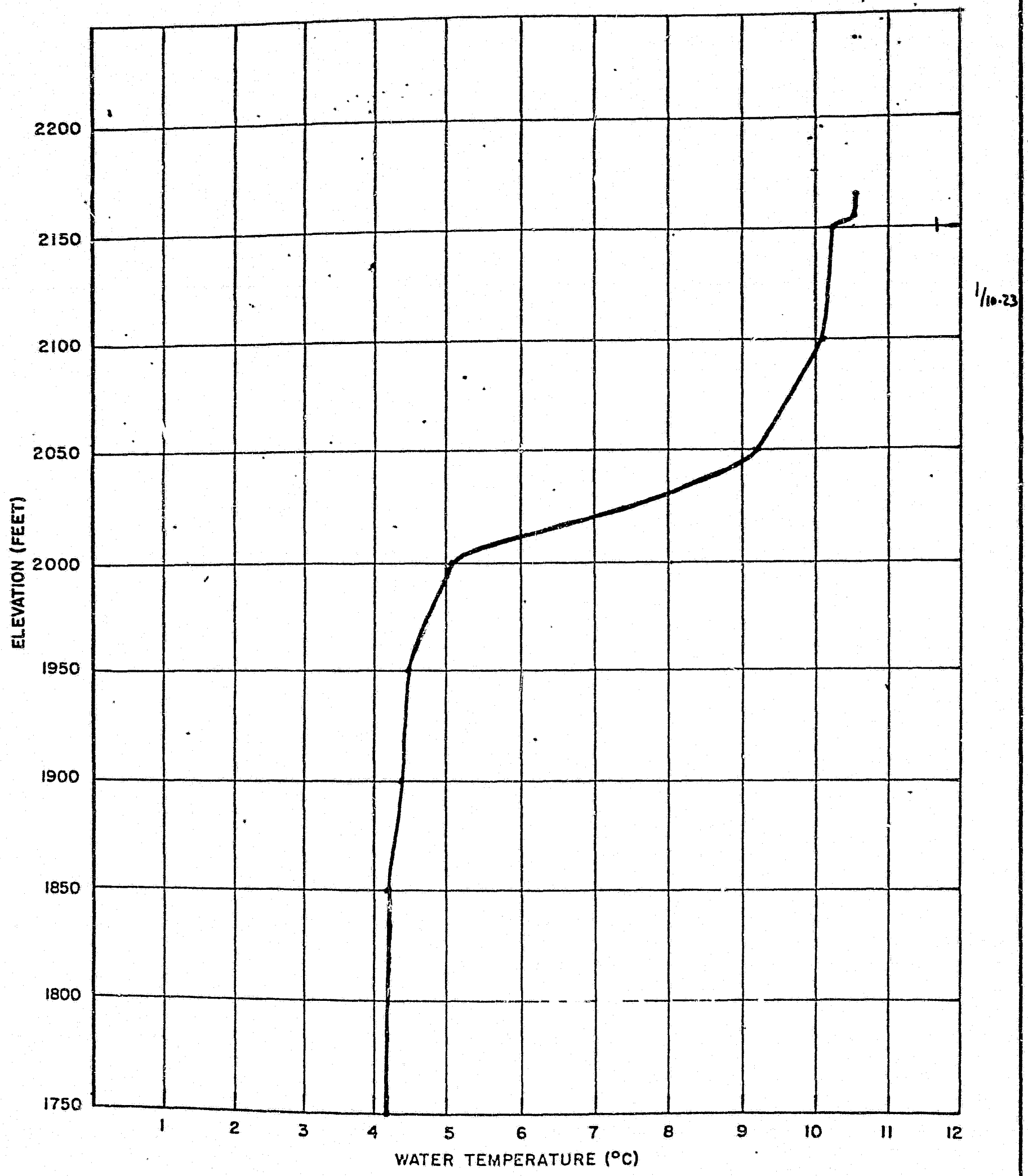

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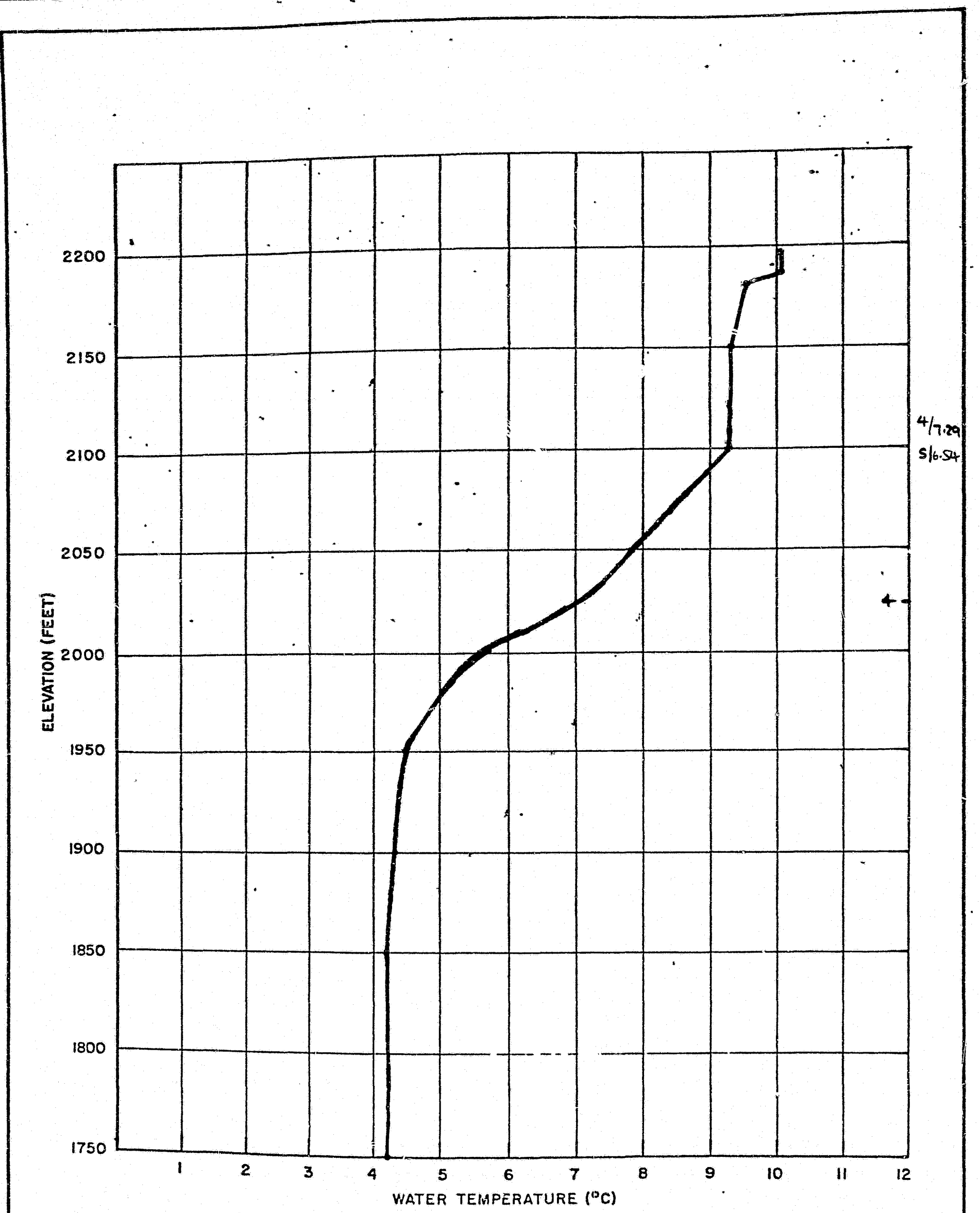

SIMULATED PROFILE IN WATANA

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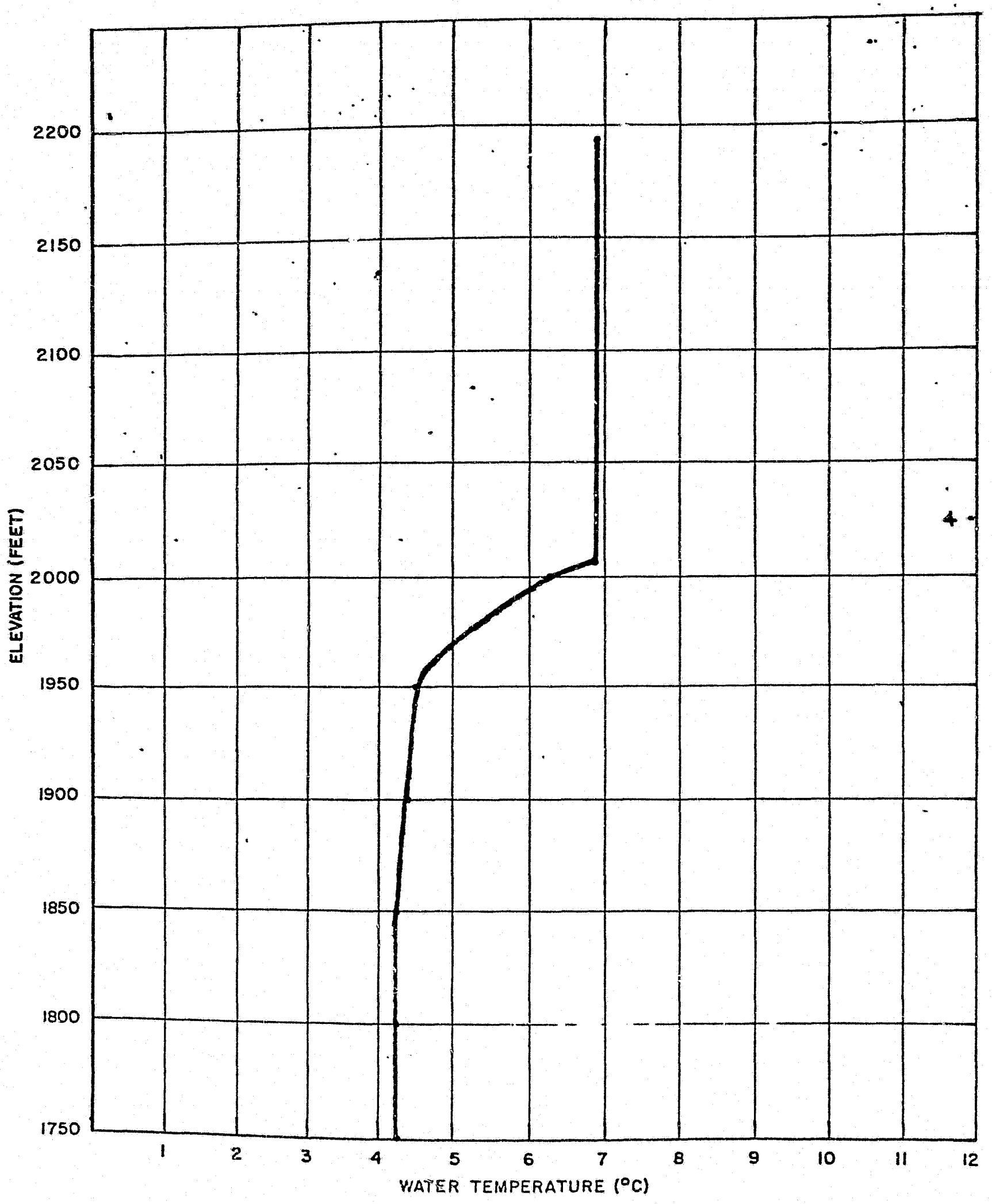

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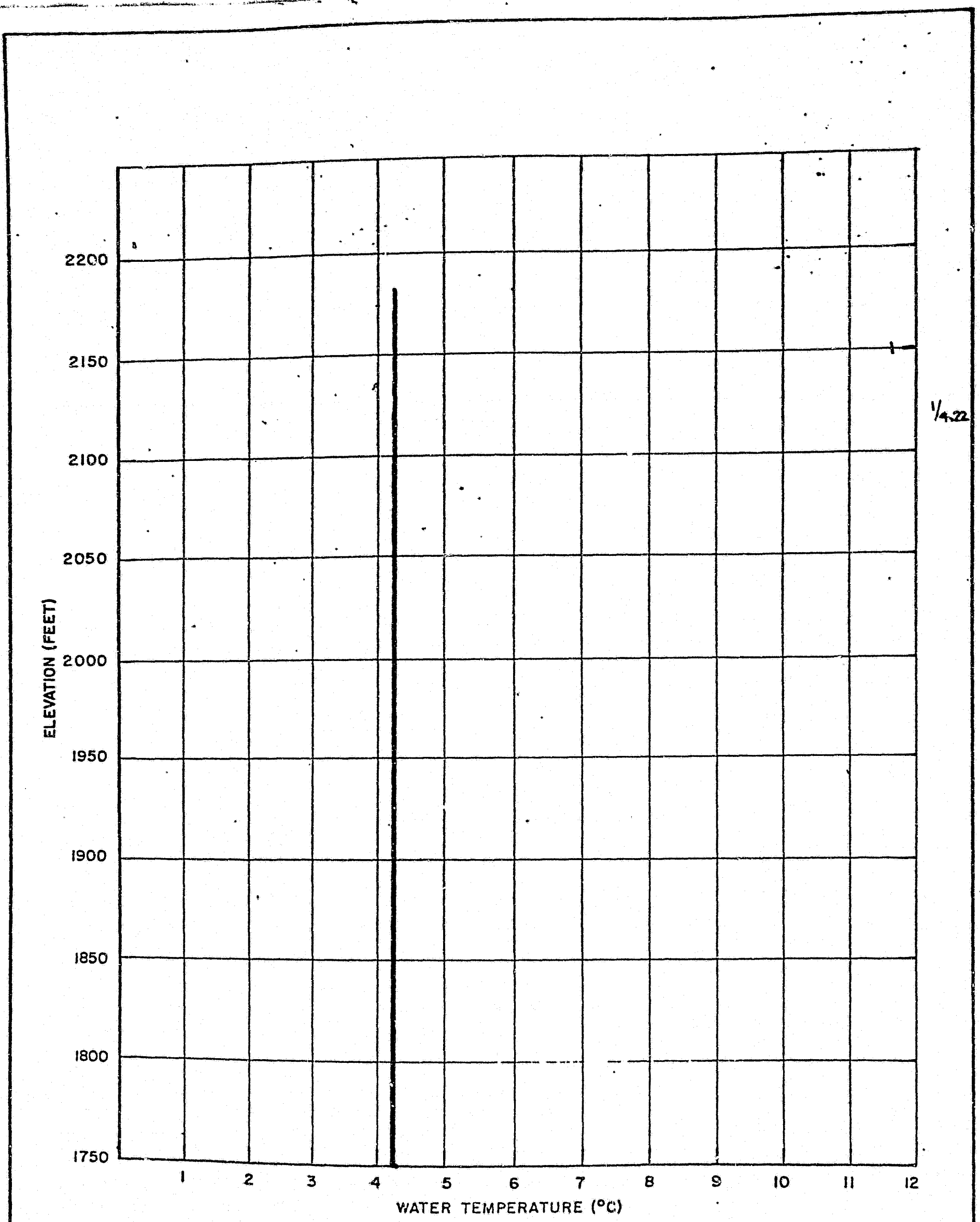

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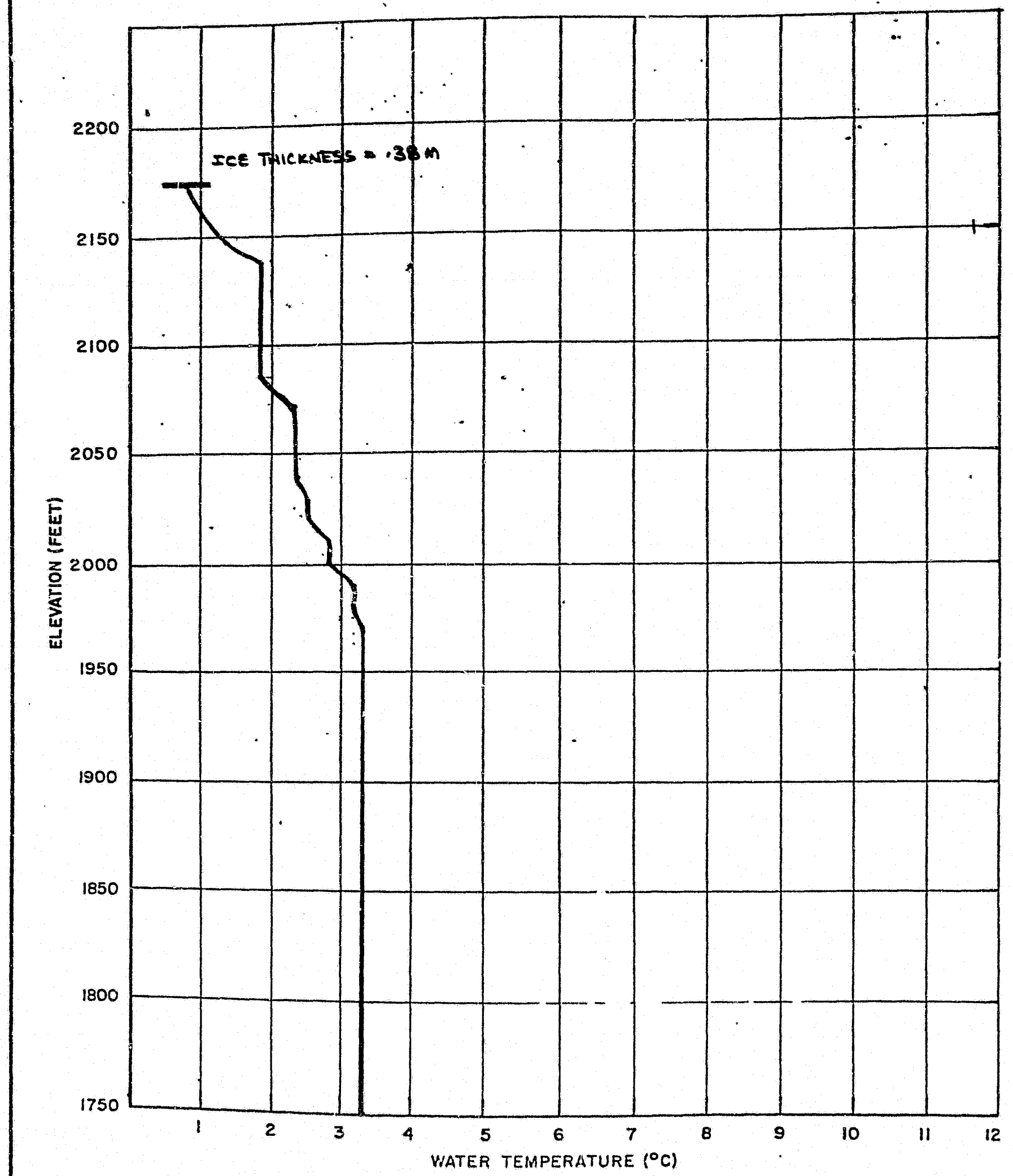

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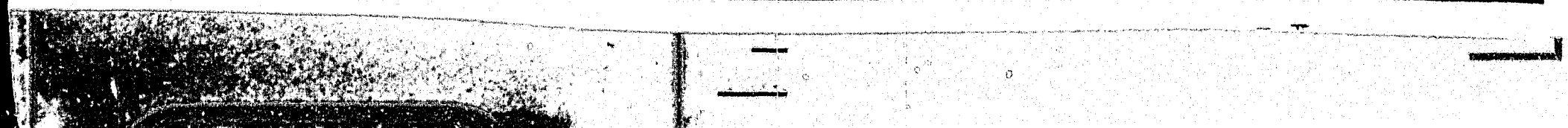

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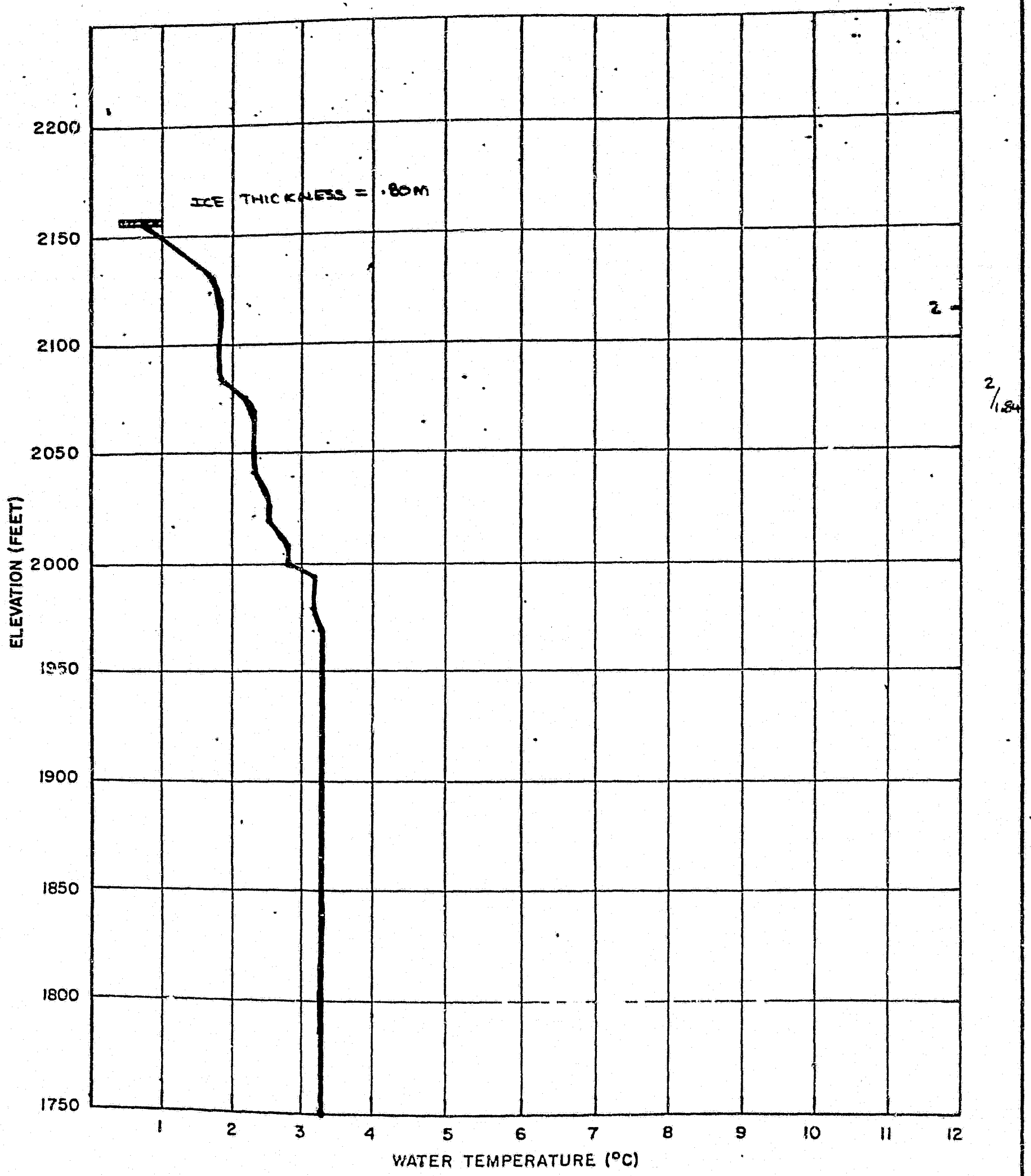
EA010



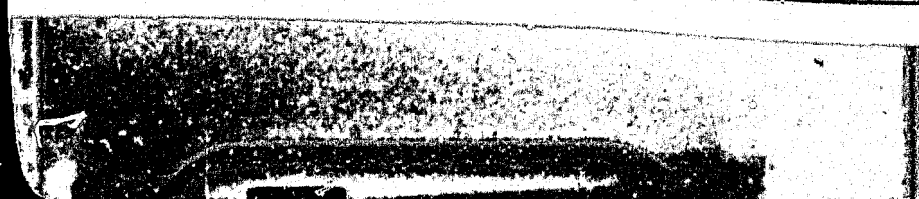
SIMULATED PROFILE IN WATANA

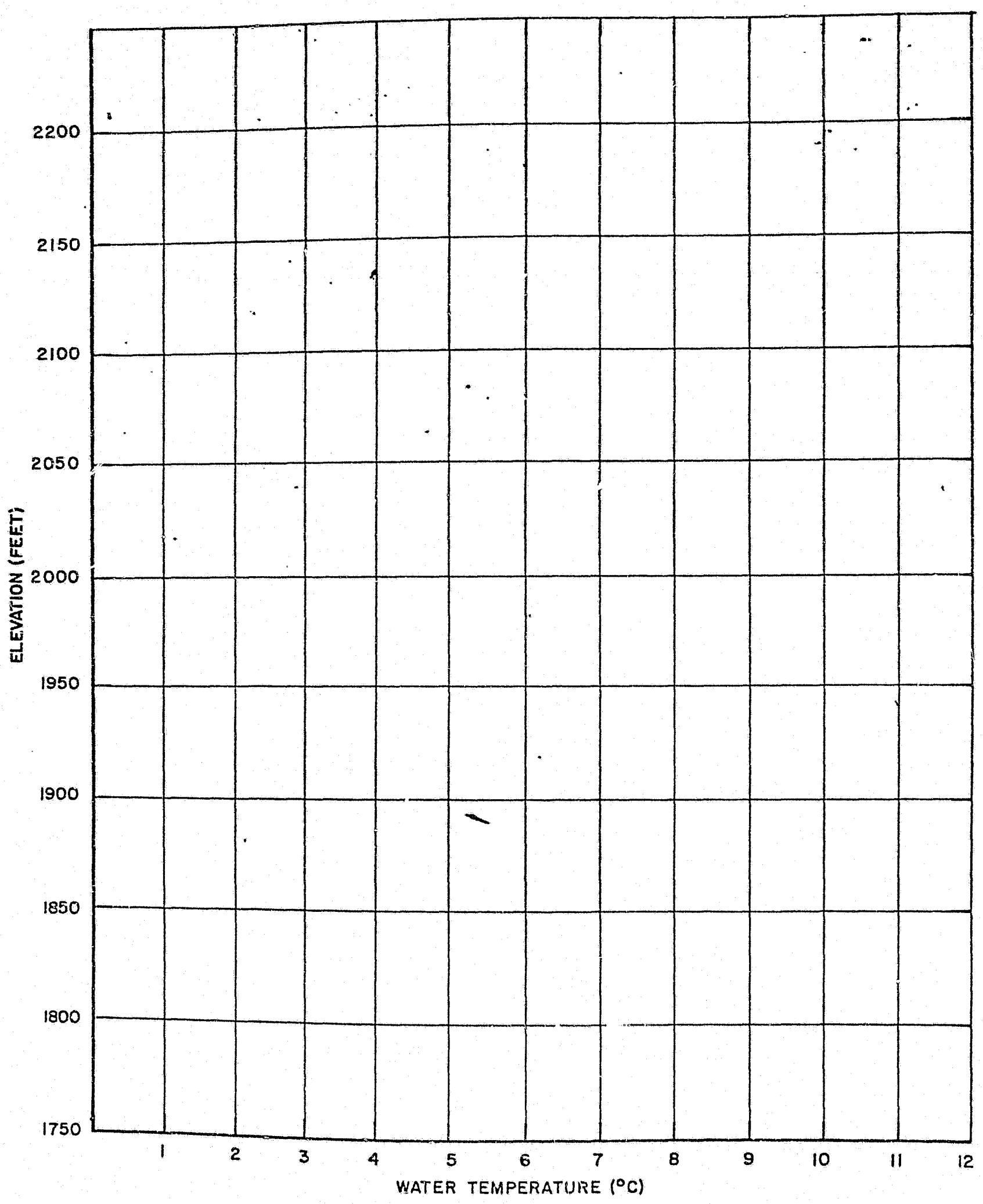
DEC 31, 1981

DC

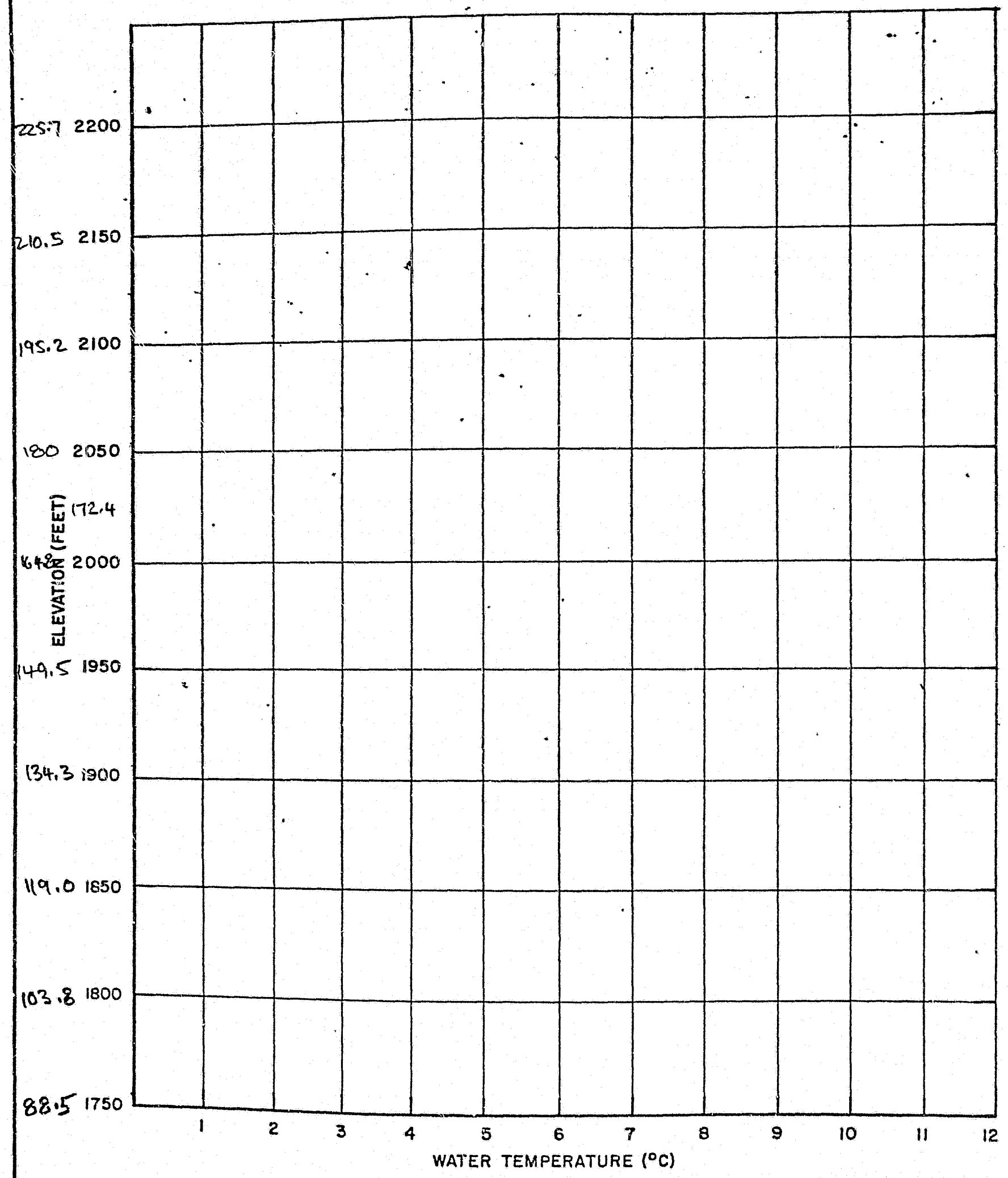
2FEB83

16




2200
2150
2100
2050
2000
1950
1900
1850
1800
1750
ELEVATION (FEET)
1
2
3
4
5
6
7
8
9
10
11
12
WATER TEMPERATURE (°C)

17



BASE = 445 m.

1m = 3.28 ft.

ACRES

Calculations

SUBJECT SUSITNA HEP

WATANA RES. TEMP (WATANA ALONE)

By DC Date 14 FEB 83 Project No. PS700.73

Checked ____ Date ____ Calculation No. ____

Page ___ of ____

Rev	By	Checked

ENERGY RUN "V" WA4020

2000 yr. load.

Wk		DAY	P.H Flow CFS	SPILL CFS	
35	152	June 1 — 7	11386.8		
	159	8	4527.2		
	166	15	4413.7		
	173	22	4310.7		
	180	29	4206.2		
	187	36	4167.5		ACTUAL
	194	43	4133.0		SIMULATION
	201	50	4047.5		
	208	57	3967.8		
	215	64	5522.7		
	222	71	6247.4		
	229	78	9689.2		
	236	85	9684.8	17943.2	
	243	92	9874.8	11123.7	
	250	99	10073.6	5050.5	
	257	106	10272.5	1920.5	
	264	113	10174.9	-	
52	271	120	9464.9	-	
1	278	127	6021.5		
	285	134	6109.5		
	292	141	6028.4		AVE ASSUMED
4	299	148	5824.5		
	306	155	6713.8		
	313	162	6579.6		
	320	169	8894.4		
	327	176	9411.5		
9	334	183	10065.3		

CONT'S

ACRES **Calculations**
SUBJECT

By _____ Date _____ Project No. _____
Checked _____ Date _____ Calculation No. _____
Page ___ of ___

Rev	By	Checked

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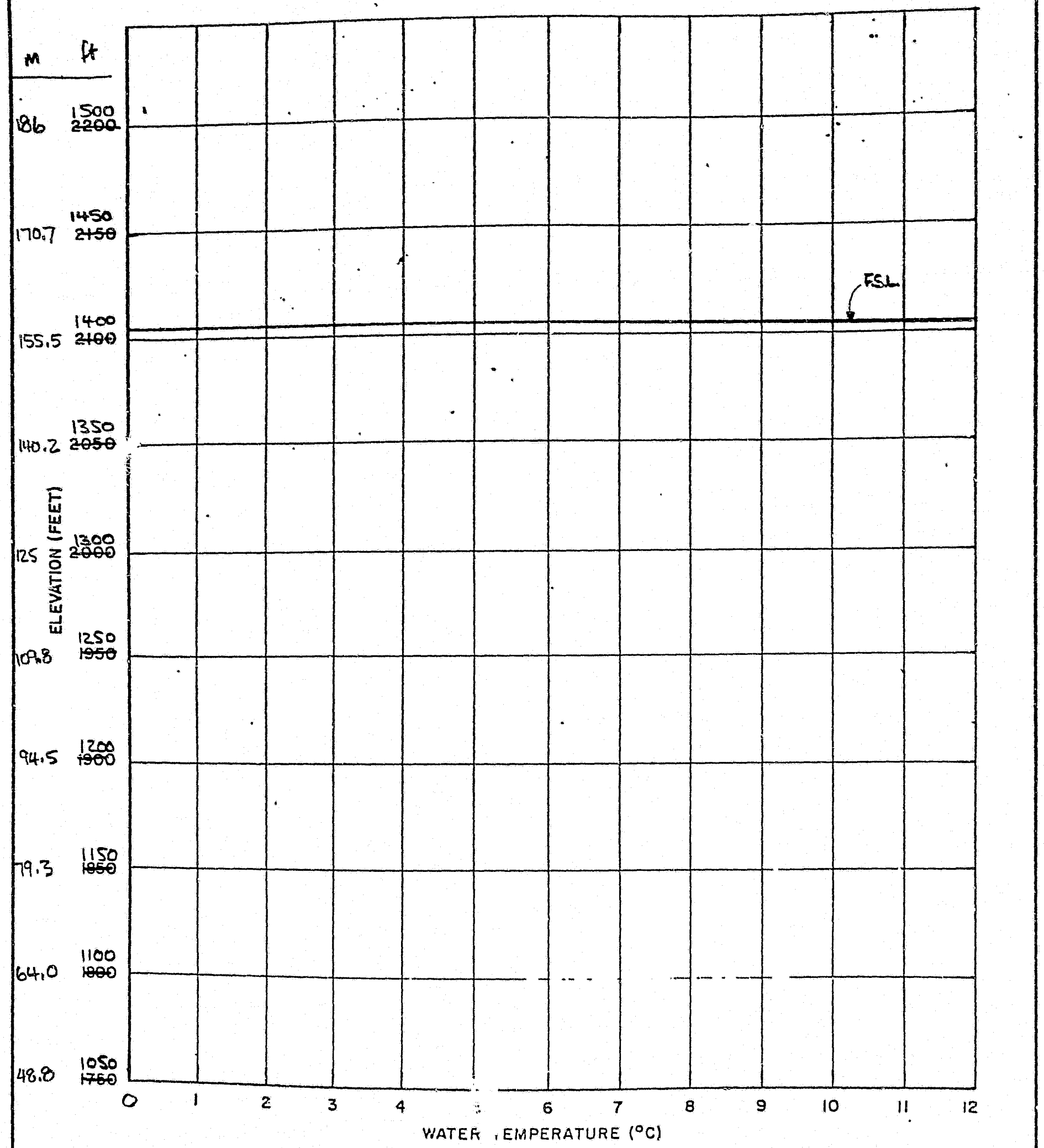
	348	199	10539.5	Ave
	355	206	10600.9	
13	362	213	12448.0	↓



DEVIL CANYON

BASE = 271 m

CONV = 3.28

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$ TYPE SYS$INPUT

HYDR SYRESM -
-------------------------------
June, 1982

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$ ASSIGN/USER WATMYR.OUT     FOR003
$ ASSIGN/USER WASEDTH.OUT FOR047
$ ASSIGN/USER WAWEAT.DAT     FOR020
$ ASSIGN/USER WAPHYS.DAT   FOR021
$ ASSIGN/USER WATNEL.DAT     FOR022
$ ASSIGN/USER WAOUTEL.DAT   FOR023
$ ASSIGN/USER WAWTND.DAT FOR024
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$!
$EXIT
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        0.175        1.23  0.2    .01   0.3
WATANA (WA000)
SUSITNA
81172  312
   11
 637.7 4.4 0.0
 634.5 6.4 0.0
 630.0 5.9 0.0
 632.0 5.7 0.0
 628.0 5.0 0.0
 605.0 4.5 0.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.0
 445.0 4.0 0.0
  0
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	81153	25774.	0.50	7.5	3.63	3.1	0.6
	81154	18440.	0.80	9.0	3.79	3.4	4.2
	81155	24334.	0.40	8.4	4.20	3.0	6.8
1	81156	15012.	0.90	7.4	3.64	3.2	13.6
	81157	24334.	0.90	8.9	3.38	2.7	1.0
3	81158	29774.	0.70	8.4	3.20	4.1	0
4	81159	11423.	1.00	5.9	3.77	3.8	11.2
5	81160	20178.	0.90	5.9	2.85	2.1	0.8
6	81161	32922.	0.00	7.4	2.17	2.4	0
7	81162	20278.	0.80	9.1	3.2	2.3	5.2
8	81163	31313.	0.30	9.0	2.50	2.4	0
9	81164	27425.	0.40	13.2	2.10	2.9	0
10	81165	27911.	0.40	11.5	1.88	3.7	0
11	81166	23734.	0.80	12.0	4.14	3.6	1.8
12	81167	27047.	0.40	13.7	3.54	2.4	0
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14	81169	23310.	0.70	13.1	2.70	2.4	0.4
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17	81172	9450.	1.00	9.0	5.33	2.9	10.4
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19	81174	23501.	0.80	11.4	2.44	2.1	1.6
	81175	21994.	0.90	11.9	3.47	4.2	8.4
21	81176	21870.	1.00	11.8	3.83	4.2	0.2
22	81177	4430.	1.00	8.1	4.49	3.3	4.2
23	81178	4403.	1.00	4.5	3.74	3.2	29.4
24	81179	13593.	1.00	4.8	3.47	2.0	10.8
25	81180	9495.	1.00	4.1	3.57	1.5	8.8
26	81181	18441.	0.90	5.0	3.46	2.4	7.6
	81182	22804.	0.60	7.0	2.68	2.4	0
28	81183	19890.	0.80	7.4	1.45	2.9	0
29	81184	27821.	0.80	8.2	2.47	2.4	0
30	81185	22241	0.60	9.2	1.48	2.8	0.
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33	81188	7769	1.00	7.9	3.90	4.0	14.4
34	81189	2495	1.00	7.1	4.99	1.8	15.2
35	81190	5573	1.00	8.9	5.41	1.4	30.4
36	81191	6599	1.00	9.1	6.06	2.2	25.4
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38	81193	10278.0	1.0	10.3	5.3	2.5	6.8
39	81194	11322.0	1.0	9.8	4.9	2.3	1.4
40	81195	11189.0	1.0	10.0	5.6	2.1	1.6
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42	81197	14837.0	0.8	12.6	4.3	2.3	5.8
43	81198	17877.0	0.8	13.2	5.8	2.7	2.8
44	81199	14416.0	1.0	11.3	5.3	3.3	1.4
45	81200	11734.0	1.0	10.4	5.5	2.2	1.8
46	81201	11394.0	1.0	10.5	4.0	2.2	6.8
47	81202	21490.0	0.4	8.2	3.8	3.0	0.0
48	81203	13455.0	1.0	11.4	5.1	2.5	3.8
49	81204	11502.0	1.0	11.8	4.8	1.5	8.4
50	81205	13032.0	1.0	12.8	6.9	2.8	5.6
51	81206	12647.0	0.8	10.6	5.4	2.8	11.2
	81207	15379.0	0.6	6.9	3.3	2.6	0.0
	81208	24804.0	0.2	5.0	1.8	2.7	0.0
54	81209	9821.0	1.0	8.8	4.3	2.4	2.8
55	81210	16085.0	0.8	8.0	3.1	2.5	5.2
56	81211	14085.0	0.8	7.9	3.2	3.1	4.6
57	81212	13984.0	1.0	8.8	3.0	2.2	3.6
	81213	9158.0	1.0	10.0	1.2	2.3	35.6
	81214	12940.0	1.0	10.8	6.9	2.7	7.4

	81215	22328.0	0.2	9.0	1.1	2.3	0.0
	81216	25668.0	0.0	9.6	4.0	3.5	0.0
	81217	20045.0	0.0	11.6	4.4	4.8	0.0
	81218	14086.0	0.9	9.9	3.4	4.7	0.8
1	81219	4817.0	1.0	9.6	4.0	6.0	4.2
2	81220	11081.0	1.0	10.5	4.0	4.0	8.4
3	81221	12791.0	1.0	10.2	4.0	1.9	2.2
4	81222	10566.0	1.0	9.9	4.0	1.9	7.2
5	81223	12161.0	1.0	9.4	0.8	1.3	7.2
6	81224	4905.0	1.0	5.0	2.9	1.8	22.6
7	81225	10577.0	1.0	6.7	4.0	3.2	8.2
8	81226	8147.0	1.0	6.9	4.0	2.0	1.6
9	81227	4480.0	0.9	3.0	4.0	2.5	19.4
10	81228	14148.0	0.5	2.2	1.6	2.1	6.2
11	81229	17964.0	0.4	2.4	4.0	2.8	0.0
12	81230	9844.0	1.0	6.8	4.0	3.2	1.6
13	81231	10339.0	1.0	7.3	2.8	2.4	13.8
14	81232	4259.0	1.0	8.5	0.7	3.0	4.8
15	81233	15689.0	0.9	8.9	2.8	3.1	12.0
16	81234	4923.0	1.0	5.2	4.0	2.2	2.4
17	81235	14202.0	0.6	8.1	4.0	1.5	0.0
	81236	19242.0	0.4	8.7	4.0	1.9	0.0
	81237	16031.0	0.3	12.7	4.0	1.7	0.0
20	81238	19458.0	0.0	14.9	4.0	2.6	0.0
21	81239	19908.0	0.1	15.7	4.0	1.8	0.0
22	81240	14884.0	0.4	14.9	4.0	1.6	0.0
23	81241	5591.0	1.0	10.5	2.0	2.6	0.0
24	81242	10944.0	1.0	10.5	0.8	4.0	0.6
25	81243	18227.0	1.0	8.8	4.0	2.6	0.2
26	81244	18839.0	0.9	7.9	4.0	1.9	0.0
	81245	7013.0	1.0	8.2	5.9	1.9	1.8
	81246	10739.0	1.0	9.4	3.4	1.2	0.4
29	81247	11153.0	1.0	8.7	3.6	3.6	0.2
30	81248	3423.0	0.9	10.5	4.1	3.2	2.4
31	81249	8723.0	0.9	8.3	3.8	3.2	4.4
32	81250	9918.0	0.7	5.0	3.0	2.2	0.2
33	81251	16308.0	0.3	7.6	2.6	2.0	0.0
34	81252	7139.0	1.0	6.0	3.0	1.6	10.0
	81253	9414.0	0.9	6.1	3.5	1.3	2.6
36	81254	7992.0	0.9	5.3	3.2	1.4	2.4
37	81255	13564.0	0.8	6.6	2.5	2.8	0.0
38	81256	10404.0	0.9	5.2	2.4	2.4	1.0
39	81257	10163.0	0.9	5.7	2.1	3.0	0.0
40	81258	8494.0	1.0	7.1	2.7	3.1	0.8
41	81259	9702.0	0.9	6.8	2.0	3.5	0.2
42	81260	13050.0	0.6	8.1	1.4	4.1	0.0
43	81261	5663.0	0.9	7.2	1.7	3.7	0.0
44	81262	2952	1.00	5.4	3.38	2.8	12.2
45	81263	8444	0.70	4.0	3.39	2.0	3.4
46	81264	7920	1.00	3.3	2.61	1.8	0.
47	81265	11304	0.40	3.0	1.13	1.5	0.
48	81266	4167	0.90	0.4	2.31	1.1	3.0
49	81267	2492	1.00	-1.4	2.36	0.8	30.6
50	81268	5519	0.70	-3.9	1.29	1.9	0.6
51	81269	12168	0.10	-4.5	1.14	1.8	0.2
52	81270	13421	1.00	-7.6	1.04	1.5	0.8
	81271	10114	0.40	-3.8	1.75	4.4	0
54	81272	5500	0.70	-5.7	1.29	2.3	0.0
55	81273	10100	0.40	-3.1	1.75	2.3	0.0
56	81274	7200	0.60	-4.0	0.0	2.5	2.50 0.0
57	81275	7200	0.10	-4.0	2.5	2.50	0.0
	81276	7211	1.00	-4.0	2.5	2.50	0.0
	81277	5465	1.00	-1.9	2.5	2.50	0.0

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	81278	4779	0.80	-0.1	2.5	2.50	0.0
	81279	5385	0.70	-2.0	2.5	2.50	0.6
	81280	8777	0.00	-4.6	2.5	2.50	0.0
	81281	5778	1.00	-1.8	2.5	2.50	0.0
1	81282	7488	0.90	-0.4	2.5	2.50	0.2
	81283	7488	0.50	-1.5	2.5	2.50	0.0
3	81284	3413	1.00	-1.5	2.5	2.50	0.6
4	81285	4752	1.00	1.1	3.70	2.50	4.4
5	81286	5008	1.00	2.1	3.39	2.50	4.0
6	81287	4788	1.00	2.2	3.34	2.50	0.0
7	81288	5753	0.80	0.6	2.03	2.50	0.0
8	81289	4770	0.90	-0.3	2.00	2.50	0.0
9	81290	4943	0.70	0.8	1.67	2.50	0.0
10	81291	2862	1.00	-3.5	2.00	2.50	1.0
11	81292	4780	1.00	-7.6	2.00	2.50	0.0
12	81293	3544	1.00	-5.9	2.00	2.50	0.0
13	81294	3035	1.00	1.7	2.06	2.50	6.6
14	81295	3179	1.00	1.4	2.22	2.50	2.0
15	81296	2538	1.00	1.9	1.95	2.50	4.8
16	81297	3287	0.90	0.2	1.54	2.50	0.8
17	81298	2439	0.60	-1.7	1.54	2.50	0.0
18	81299	2780	1.00	-2.7	1.0	2.50	0.0
19	81300	5868	0.70	-4.1	1.0	2.50	0.0
20	81301	3125	0.90	-4.3	1.0	2.50	0.0
21	81302	3454	0.90	-7.9	1.0	2.50	0.0
22	81303	3340	0.40	-7.6	1.0	2.50	0.0
23	81304	3870	0.50	-10.2	1.0	2.50	0.0
24	81305	4708	.7	-11.3	0.3	4.0	0.0
25	81306	2592	.5	-7.2	0.5	4.8	0.0
26	81307	3096	.2	-12.0	0.4	1.4	0.0
	81308	1584	.10	-10.8	0.5	2.1	1.2
28	81309	2484	.4	-14.4	0.3	1.1	0.0
29	81310	2304	.7	-16.7	0.3	2.8	0.0
30	81311	1397	1.0	-8.8	0.4	5.6	0.2
31	81312	1944	.7	-7.7	0.6	3.5	0.0
32	81313	1710	.9	-6.2	0.7	5.6	0.0
33	81314	1577	1.0	0.7	0.9	6.6	0.0
34	81315	2232	.5	-0.5	0.5	4.8	0.0
35	81316	1905	.7	-4.5	0.4	4.1	0.0
36	81317	2297	.3	-8.7	0.4	2.4	0.0
37	81318	2400	.1	-16.2	0.3	2.0	0.0
38	81319	2740	.0	-11.1	0.9	4.0	0.0
39	81320	1771	.6	-12.3	0.5	6.7	0.0
40	81321	2000	.2	-12.3	0.5	6.4	0.0
41	81322	2200	.2	-14.0	0.5	4.5	0.0
42	81323	2500	.0	-16.0	0.5	2.2	0.0
43	81324	2730	.0	-21.6	0.5	2.4	0.0
44	81325	2182	.1	-18.4	0.5	4.5	0.0
45	81326	907	.7	-15.4	0.5	7.2	0.0
46	81327	853	.8	-3.0	0.5	3.4	0.0
47	81328	940	.8	-10.3	0.5	2.6	0.8
48	81329	1779	.2	-9.8	0.5	1.2	0.0
49	81330	537	1.0	-6.7	0.3	2.7	2.8
50	81331	693	1.0	-5.6	1.0	2.0	0.0
51	81332	693	1.0	-8.2	0.8	1.0	0.0
52	81333	1350	.9	-10.5	0.5	4.9	0.0
53	81334	898	.9	-7.3	0.4	5.6	0.0
54	81335	844	1.0	-7.6	1.8	6.4	0.0
55	81336	1404	.2	-10.9	1.2	2.7	1.4
56	81337	1116	1.0	-9.5	1.5	1.5	3.0
57	81338	300	.7	-12.8	1.2	2.5	2.4
	81339	594	1.0	-13.1	0.7	2.6	0.0
	81340	713	.5	-14.3	1.0	2.9	0.0

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81341 1404 .4 -20.4 0.5 1.8 0.0
81342 1353 .4 -21.1 0.5 2.8 0.0
81343 450 1.0 -21.3 0.6 2.1 0.0
81344 443 1.0 -17.1 0.7 5.1 0.0
81345 497 1.0 -13.7 1.1 6.2 0.0
81346 353 1.0 -8.1 1.7 6.1 0.0
81347 407 .4 -9.9 1.3 3.8 0.0
81348 533 .9 -13.2 1.0 2.9 0.0
81349 425 .9 -9.1 1.4 5.9 0.0
81350 441 1.0 -6.4 1.6 7.6 0.0
81351 918 .9 -1.2 2.3 6.6 0.0
81352 990 .8 -1.2 2.6 5.0 0.0
81353 1152 .3 -7.5 1.7 1.5 0.2
81354 720 .8 -8.6 1.5 2.5 0.0
81355 1127 1.0 -12.5 1.5 1.0 0.0
81356 1055 .7 -15.3 1.0 4.7 0.0
81357 792 1.0 -8.8 1.5 5.9 0.0
81358 1204 1.0 -9.3 1.6 1.8 0.0
81359 1062 1.0 -11.5 1.2 2.2 0.0
81360 448 .3 -14.5 0.7 2.8 0.0
81361 497 0.0 -22.0 0.3 3.3 0.0
81362 587 .3 -23.6 0.2 3.5 0.0
81363 551 0.0 -28.6 0.2 2.4 0.0
81364 558 .9 -26.8 0.2 3.7 0.0
81365 394 .7 -23.8 0.3 2.2 0.0
```

```
$ TYPE SYS$INPUT
$ ASSIGN/USER DFLOW.DAT FOR002
$ ASSIGN/USER INFLOW.DAT FOR004
$ ASSIGN/USER DFLOW.OUT FOR004
$ RUN DFLOW
```

```
8 12334800. 2.4466 965.4
1900. 255. 1950. 333. 2000. 437. 2050. 534.
2100. 665. 2150. 819. 2200. 1002. 2250. 1291.
638.4 21152
1 5051 June 4 152
 8 4533
15 4051
22 4189
29 4119
36 4816
43 4027
50 4986
57 4957
63 4853
70 4572
77 3874
84 4139
91 3526
98 4418
107 3502
114 3587
121 4153
128 7553
135 7598
142 9344
149 8872
156 10419
163 10901
170 10071
177 10030
184 10336
191 10687
198 10922
205 11272
212 11111
-1 100
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```
      DIMENSION STOR(25,2),QFLOW(300),YST(25),XST(25),MON(12)
     &  , QTEMP(300)
      EQUIVALENCE (YST(1),STOR(1,1)),(XST(1),STOR(1,2))
      DATA MON/31,28,31,30,31,30,31,31,30,31,30,31/
C
      READ(2,*)NPST,CONV,AK,STMAX
      READ(2,*)((STOR(J,I),I=1,2),J=1,NPST)
      STMAX=STMAX*CONV
      DO 50 I=1,NPST
      STOR(I,2)=STOR(I,2)*CONV
   50 STOR(I,1)=STOR(I,1)*0.3048
C
      ID=0
      READ(2,*)WSS,TSTART
      CALL WATSER(WSS,YST,XST,SST)
      IST=TSTART-1
  100 CONTINUE
      READ(2,*)TSD,FLOW
      IF(ISD.GE.1)THEN
       IED=ISD+6
       DO 200 I=ISD,IED
       ID=ID+1
       QFLOW(ID)=FLOW*AK
  200  CONTINUE
      ELSE
       GO TO 999
      END IF
      GO TO 100
  999 CONTINUE
      DO 300 I=1,ID
      READ(4,*)ISED,SUSFLOW,TEMP
      QTEMP(1)=TEMP
      WSEL=SST+(SUSFLOW-QFLOW(1))*1000.0
      IF(WSEL.GE.STMAX)THEN
       SPILL=(WSEL-STMAX)/1000.0
       WSEL=STMAX
      ELSE
       SPILL=0.0
      END IF
      CALL WATSER(WSEL,YST,YST,FLEV)
      IST=IST+1
      WRITE(4,400)IST,QFLOW(I),QTEMP(I),SPILL,FLEV
  400 FORMAT(1X,I6,4F10.1)
      SST=WSEL
  300 CONTINUE
      STOP
      END
      SUBROUTINE WATSER(XIN,X,Y,YOUT)
      DIMENSION X(1),Y(1)
      KK=1
   35 IF(XIN-X(KK+1))50,36,40
   36 YOUT=Y(KK+1)
      RETURN
   40 KK=KK+1
      GOTO35
   50 YOUT=Y(KK)+((Y(KK+1)-Y(KK))/(X(KK+1)-X(KK)))*(XIN-X(KK))
      RETURN
      END
```

	21341	26146.8	0.0	0.0	661.5
	21342	26146.8	0.0	0.0	661.3
	21343	26146.8	0.0	0.0	661.2
	21344-10	26146.8	0.0	0.0	661.0
1	21345	26146.8	0.0	0.0	660.9
2	21346	26146.8	0.0	0.0	660.8
3	21347	26146.8	0.0	0.0	660.6
4	21348	26721.8	0.0	0.0	660.5
5	21349	26721.8	0.0	0.0	660.3
6	21350	26721.8	0.0	0.0	660.2
7	21351	26721.8	0.0	0.0	660.0
8	21352	26721.8	0.0	0.0	659.9
9	21353	26721.8	0.0	0.0	659.7
10	21354-56	26721.8	0.0	0.0	659.6
11	21355	27578.1	0.0	0.0	659.4
12	21356	27578.1	0.0	0.0	659.3
13	21357	27578.1	0.0	0.0	659.1
14	21358	27578.1	0.0	0.0	659.0
15	21359	27578.1	0.0	0.0	658.8
16	21360	27578.1	0.0	0.0	658.7
17	21361	27578.1	0.0	0.0	658.5
18	21362	27184.2	0.0	0.0	658.3
19	21363	27184.2	0.0	0.0	658.2
20	21364	27184.2	0.0	0.0	658.0
21	DEC 21365-31	27184.2 ✓	0.0	0.0	657.9
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	21278	18479.2	0.3	0.0	667.5
	21279	18479.2	0.3	0.0	667.4
	21280	18479.2	0.3	0.0	667.4
	21281	18479.2 7353	0.2	0.0	667.4
1	21282	18479.2	0.2	0.0	667.3
	21283	18479.2	0.2	0.0	667.3
	21284	18479.2	0.1	0.0	667.3
4	21285	18589.3	0.3	0.0	667.2
5	21286	18589.3	1.1	0.0	667.2
6	21287	18589.3	1.7	0.0	667.2
7	21288	18589.3	1.7	0.0	667.2
8	21289	18589.3	1.6	0.0	667.1
9	21290	18589.3	1.4	0.0	667.1
10	21291	18589.3	1.5	0.0	667.1
11	21292	22910.0	1.0	0.0	667.0
12	21293-30	22910.0	0.5	0.0	666.9
13	21294	22910.0	0.5	0.0	666.8
14	21295	22910.0	0.5	0.0	666.8
15	21296	22910.0	0.5	0.0	666.7
16	21297	22910.0	0.5	0.0	666.7
17	21298	22910.0	0.5	0.0	666.7
8	21299	21706.2	0.5	0.0	666.6
19	21300	21706.2	0.5	0.0	666.5
20	21301	21706.2	0.5	0.0	666.5
21	21302	21706.2	0.5	0.0	666.4
22	21303-30	21706.2	0.5	0.0	666.3
23	21304	21706.2	0.5	0.0	666.2
24	Not 21305	21706.2	0.2	0.0	666.1
25	21306	25491.1	0.2	0.0	666.0
26	21307	25491.1	0.2	0.0	665.8
27	21308	25491.1	0.3	0.0	665.7
	21309	25491.1	0.2	0.0	665.6
29	21310	25491.1	0.2	0.0	665.4
30	21311	25491.1	0.2	0.0	665.3
31	21312	25491.1	0.2	0.0	665.2
32	21313	24670.4	0.2	0.0	665.0
33	21314	24670.4	0.1	0.0	664.9
34	21315	24670.4	0.1	0.0	664.8
35	21316	24670.4	0.1	0.0	664.7
36	21317	24670.4	0.2	0.0	664.5
37	21318	24670.4	0.2	0.0	664.4
38	21319	24670.4	0.3	0.0	664.2
39	21320	24639.7	0.3	0.0	664.1
40	21321	24639.7	0.3	0.0	664.0
41	21322	24639.7	0.3	0.0	663.9
42	21323	24639.7	0.3	0.0	663.7
43	21324-30	24639.7	0.3	0.0	663.6
44	21325	24639.7	0.3	0.0	663.5
45	21326	24639.7	0.3	0.0	663.4
46	21327	24539.4	0.2	0.0	663.3
47	21328	24539.4	0.1	0.0	663.1
48	21329	24539.4	0.1	0.0	663.0
49	21330	24539.4	0.1	0.0	662.9
50	21331	24539.4	0.1	0.0	662.8
51	21332	24539.4	0.1	0.0	662.6
52	21333	24539.4	0.1	0.0	662.5
	21334-30	25288.1	0.1	0.0	662.4
54	Not 21335	25288.1	0.0	0.0	662.3
55	21336	25288.1	0.0	0.0	662.1
56	21337	25288.1	0.0	0.0	662.0
57	21338	25288.1	0.0	0.0	661.9
	21339	25288.1	0.0	0.0	661.7
	21340	25288.1	0.0	0.0	661.6

54	21215	9424.3		12.0	0.0	661.3		
	21216	9424.3		11.5	0.0	661.8		
	21217	9424.3	3852	10.9	0.0	662.1		
	21218	9424.3		10.4	0.0	662.5		
1	21219	9424.3		9.7	0.0	662.8		
	21220	9424.3		9.0	0.0	663.2		
3	21221	9424.3		8.7	0.0	663.8		
4 71	21222-16	8739.3		8.6	0.0	664.4		
5	21223	8739.3		8.4	0.0	665.0		
6	21224	8739.3	3572	8.5	0.0	665.5		
7	21225	8739.3		7.7	0.0	666.2		
8 PLUG	21226	8739.3		7.2	0.0	666.8	SALL	PH
9	21227	8739.3		6.5	0.0	667.5		
10	21228-16	8739.3	3572.1	5.8	84401.1	667.5	34,498 cfs.	
11 78	21229	7036.4		5.5	74743.3	667.5	30,558 cfs.	2876
12	21230	7036.4		6.6	68363.9	667.5		
13	21231	7036.4	2876	7.3	53963.8	667.5		
14	21232-20	7036.4		7.0	63463.4	667.5		
15	21233	7036.4		6.9	87263.2	667.5		
16	21234	7036.4		7.6	82063.4	667.5		
17	21235	7036.4		7.4	74263.6	667.5		
18	21236	7655.4		7.5	63544.3	667.5		
19	21237	7655.4		8.5	54044.7	667.5		
0	21238	7655.4		9.7	48144.4	667.5		
21	21239	7655.4	3129	10.7	47145.0	667.5		
22	21240-	7655.4		11.0	48444.1	667.5		
23	21241	7655.4		10.0	48444.1	667.5		
24	21242-30	7655.4		9.9	48444.1	667.5		
25	21243-	8626.7		9.5	44973.1	667.5		
26 SEP 1	21244	8626.7		8.3	43573.2	667.5		
	21245	8626.7		7.4	39573.5	667.5		
28	21246	8626.7		7.3	34673.7	667.5		
29	21247	8626.7		7.6	30573.6	667.5		
30	21248	8626.7		7.7	29573.1	667.5		
31	21249	8626.7		7.4	28573.7	667.5		
32	21250	16191.6		6.7	21008.4	667.5		
33	21251	16191.6		6.3	21308.4	667.5		
34	21252	16191.6		6.1	20007.9	667.5		
35	21253-10	16191.6		6.6	18708.5	667.5		
36	21254	16191.6		6.1	17408.0	667.5		
37	21255	16191.6		6.1	16208.9	667.5		
38	21256	16191.6		5.7	14908.4	667.5		
39	21257	8568.0		5.2	21231.6	667.5		
40	21258	8568.0		5.5	19932.2	667.5		
41	21259	8568.0		6.4	18631.7	667.5		
42	21260	8568.0		6.4	18631.7	667.5		
43	21261	8568.0		6.6	16931.8	667.5		
44	21262	8568.0		6.5	16132.1	667.5		
45	21263-20	8568.0		6.1	18132.0	667.5		
46	21264	8774.0		5.8	19823.6	667.5		
47	21265	8774.0		5.1	17924.1	667.5		
48	21266	8774.0		4.3	15923.8	667.5		
49	21267	8774.0		3.3	14023.7	667.5		
50	21268	8774.0		2.7	13524.0	667.5		
51	21269	8774.0		1.0	11524.1	667.5		
	21270	8774.0		0.5	9623.6	667.5		
53 12a	21271	10160.7	4153	0.4	7439.4	667.5		
54	21272	10160.7		0.4	6339.2	667.5		
55	21273-30	10160.7		0.3	5739.5	667.5		
56 OCT 1	21274	10160.7		0.4	5039.1	667.5	2189.96	4153 - 2060
57	21275	10160.7		0.3	3839.0	667.5		
	21276	10160.7	4153	0.4	3339.3	667.5		
	21277	10160.7		0.3	3839.0	667.5		

	June	21152	12357.8 ✓	9.0	0.0	638.9 — 1
		21153	12357.8	9.4	0.0	639.3
		21154	12357.8	9.7	0.0	639.6
		21155	12357.8	9.2	0.0	639.8
1		21156	12357.8	8.3	0.0	640.0
2		21157	12357.8	8.0	0.0	640.3
		21158	12357.8	8.9	0.0	640.5
4	8	21159	11090.4	9.4	0.0	640.7 - 8
5		21160	11090.4	8.6	0.0	640.9
6	10	21161	11090.4 ✓	10.1	0.0	641.2
7		21162	11090.4	10.6	0.0	641.4
8		21163	11090.4	11.9	0.0	641.6
9		21164	11090.4	12.4	0.0	641.7
10		21165	11090.4	11.9	0.0	641.9
11	15	21166	9911.2	11.8	0.0	642.1-15
12		21167	9911.2	12.6	0.0	642.4
13		21168	9911.2	12.9	0.0	642.6
14		21169	9911.2	12.7	0.0	642.9
15		21170	9911.2	12.4	0.0	643.2
16	20	21171	9911.2	11.9	0.0	643.4
17		21172	9911.2	11.7	0.0	643.6
18	22	21173	10248.8	11.8	0.0	643.9
19		21174	10248.8	12.2	0.0	644.1
20		21175	10248.8	12.0	0.0	644.3
21		21176	10248.8	10.7	0.0	644.6
22		21177	10248.8	8.3	0.0	644.8
23		21178	10248.8	6.8	0.0	645.1
24		21179	10248.8	6.7	0.0	645.4
25	29	21180	10077.5	7.2	0.0	645.8
26		21181 30	10077.5	7.8	0.0	646.0
27	July 1	21182	10077.5	8.0	0.0	646.3
28		21183	10077.5	8.5	0.0	646.6
29		21184	10077.5	9.0	0.0	646.8
30		21185	10077.5	9.5	0.0	646.9
31		21186	10077.5	10.0	0.0	647.1
32	36	21187	9336.2	10.0	0.0	647.3
33		21188	9336.2	10.0	0.0	647.5
34		21189	9336.2	10.0	0.0	647.8
5		21190	9336.2	10.0	0.0	648.1
36		21191-10	9336.2	10.0	0.0	648.6
37		21192	9336.2	10.0	0.0	649.3
38		21193	9336.2	10.0	0.0	650.1
39	43	21194	9852.5	10.0	0.0	650.8
40		21195	9852.5	10.0	0.0	651.3
41		21196	9852.5	10.0	0.0	651.8
42		21197	9852.5	10.0	0.0	652.3
43		21198	9852.5	10.0	0.0	652.9
44		21199	9852.5	10.0	0.0	653.6
45		21200	9852.5	10.0	0.0	654.3
46	50	21201-20	9752.1	10.0	0.0	655.0
47		21202	9752.1	10.0	0.0	655.6
48		21203	9752.1	10.0	0.0	656.0
49		21204	9752.1	10.0	0.0	656.5
50		21205	9752.1	10.0	0.0	656.9
51		21206	9752.1	10.0	0.0	657.4
52		21207	9752.1	10.0	0.0	657.9
53	57	21208	9481.2	10.0	0.0	658.4
54		21209	9481.2	10.5	0.0	658.8
55		21210	9481.2	11.0	0.0	659.1
56		21211-30	9481.2	11.5	0.0	659.5
57		21212-	9481.2	12.0	0.0	659.8
	1 Aug	21213	9481.2	12.5	0.0	660.1
		21214	9481.2	12.5	0.0	660.6

14

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VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
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                    DDDD     CCCC  RRRR     AAA    W     W  FFFFF   DDD    RRRR
                    D   D   C      R   R   A   A   W     W  F       D  D   R   R
                    D   D   C      R   R   A   A   W     W  F       D  D   R   R
                    D   D   C      RRRR    A   A   W     W  FFFF    D  D   RRRR
                    D   D   C      R R     AAAAA   W W W  F       D  D   R R
                    D   D   C      R  R    A   A   WW WW  F       D  D   R  R
                    DDDD     CCCC  R   R   A   A   W     W  F      DDD    R   R

      OOOOOO      FFFFFFFFFF  II          OOOOOO     WW      WW
      OOOOOO      FFFFFFFFFF  LL          OOOOOO     WW      WW
   OO      OO     FF          II       OO      OO    WW      WW
   OO      OO     FF          LL       OO      OO    WW      WW
   OO      OO     FF          II       OO      OO    WW      WW
   OO      OO     FF          LL       OO      OO    WW      WW
   OO      OO     FFFFFFFF    II       OO      OO    WW      WW
   OO      OO     FFFFFFFF    LL       OO      OO    WW      WW
   OO      OO     FF          II       OO      OO    WW WW   WW
   OO      OO     FF          LL       OO      OO    WW WW   WW
   OO      OO     FF          II       OO      OO    WWWWWW  WWWWW
   OO      OO     FF          LL       OO      OO    WWWWW   WWWWW
      OOOOOO      FF          IIIIIIIIII    OOOOOO     WW      WW
      OOOOOO      FF          IIIIIIIIII    OOOOOO     WW      WW

      OOOOOO      UU      UU  TTTTTTTTTT      $$$$        11
      OOOOOO      UU      UU  TTTTTTTTTT      $$$$        11
   OO      OO     UU      UU      TT          $$$$      1111
   OO      OO     UU      UU      TT          $$$$      1111
   OO      OO     UU      UU      TT                      11
   OO      OO     UU      UU      TT                      11
   OO      OO     UU      UU      TT          $$$$        11
   OO      OO     UU      UU      TT          $$$$        11
   OO      OO     UU      UU      TT          $$$$        11
   OO      OO     UU      UU      TT            $$        11
   OO      OO     UU      UU      TT            $$        11
      OOOOOO      UUUUUUUUUUUUUU  TT          $$      111111
      OOOOOO      UUUUUUUUUUUUUU  TT          $$      111111

                    DDDD     CCCC  RRRR     AAA    W     W  FFFFF   DDD    RRRR
                    D   D   C      R   R   A   A   W     W  F       D  D   R   R
                    D   D   C      R   R   A   A   W     W  F       D  D   R   R
                    D   D   C      RRRR    A   A   W     W  FFFF    D  D   RRRR
                    D   D   C      R R     AAAAA   W W W  F       D  D   R R
                    D   D   C      R  R    A   A   WW WW  F       D  D   R  R
                    DDDD     CCCC  R   R   A   A   W     W  F      DDD    R   R

VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
VAX/VMS   DCRAWFORD   DFLOW 11-JAN-1983 13:39    TTD7: 11-JAN-1983 14:05    DISK
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15

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670.6 12354600.0 140.777
655.3 10100406.0 135.312
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624.8  6588290.5  96.605
609.6  5240010.9  78.662
594.4  4107436.5  68.297
579.1  3140137.6  58.445
563.9  2314987.6  49.443
548.6  1625934.3  40.877
533.4  1072840.5  31.807
518.2   637337.5  22.742
502.9   360869.9  16.151
487.7   156901.4  10.617
472.4    42111.1   4.447
457.2     3453.6   0.599
445.0        0.    .0
667.5 80500.0 1357.0 995.0
4  3.7
650.6 80500.0 1140.0
644.3 80000.0 1100.0
633.1 72500.0 1020.0
617.8 72000.0  920.0
3.0 0.0 0.0 0.0 80.0 0.0 0.0 0.0
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1

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81162	36200.0	10.6	0.0
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81165	33100.0	11.9	0.0
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81167	43600.0	12.6	0.0
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81169	41900.0	12.7	0.0
81170	41600.0	12.4	0.0
81171	39900.0	11.9	0.0
81172	39200.0	11.7	0.0
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81192	97400.0	10.0	0.0
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81194	97000.0	10.0	0.0
81195	73700.0	10.0	0.0
81196	63900.0	10.0	0.0
81197	70800.0	10.0	0.0
81198	87200.0	10.0	0.0
81199	99700.0	10.0	0.0
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81201	95200.0	10.0	0.0
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81343 1.7 1.3 2.3 2.8
81344 2.7 4.4 5.9 6.7
81345 5.3 6.0 6.4 6.6
81346 6.5 6.0 5.9 5.7
81347 5.4 5.7 1.9 2.0
81348 2.6 2.3 3.6 2.7
81349 4.7 6.0 5.7 6.9
81350 7.9 5.4 7.2 9.3
81351 7.2 6.9 6.4 5.1
81352 8.3 4.3 5.1 1.7
81353 0.0 0.0 1.4 1.9
81354 3.0 3.1 1.0 1.0
81355 0.5 -0.5 -0.9 0.9
81356 1.6 3.3 6.9 6.8
81357 6.8 5.9 5.8 4.4
81358 1.7 -1.5 -1.6 -2.1
81359 1.5 1.0 1.7 3.6
81360 5.0 -3.1 0.3 1.1
81361 1.7 3.0 3.6 4.4
81362 3.9 2.9 4.0 2.9
81363 1.9 2.5 2.3 2.5
81364 2.7 2.1 3.3 6.6
81365 3.1 1.7 1.6 2.0

	81278	4.1	1.8	-1.4	3.2
	81279	2.3	3.3	3.3	4.0
	81280	3.3	5.1	6.5	3.5
	81281	4.4	4.3	3.4	3.9
1	81282	3.6	4.3	2.0	-0.6
	81283	1.2	-1.7	2.8	5.3
3	81284	8.0	5.8	2.4	4.0
4	81285	3.8	4.2	4.6	5.4
5	81286	0.2	1.2	-2.0	-0.8
6	81287	1.1	0.3	-1.4	1.4
7	81288	1.4	1.4	-2.0	1.7
8	81289	1.2	4.0	3.8	3.2
9	81290	2.5	-1.4	-5.0	-1.0
10	81291	-0.8	-1.2	-1.1	1.3
11	81292	1.6	1.9	4.0	4.3
12	81293	4.2	5.2	6.4	7.4
13	81294	7.5	5.4	-2.6	-1.4
14	81295	0.8	-0.9	2.2	5.2
15	81297	2.1	3.1	1.8	2.1
16	81297	-2.1	-3.4	-2.6	-1.1
17	81298	-1.3	1.5	3.2	3.0
18	81299	2.8	2.5	4.8	3.6
19	81300	4.3	4.2	4.4	7.0
	81301	6.5	6.0	5.4	4.8
21	81302	5.5	4.5	5.9	2.0
22	81303	3.4	3.3	2.3	1.2
23	81304	3.4	3.3	2.3	2.3
24	8130:	1.94	3.8	4.35	5.5
25	81306	5.4	4.4	2.1	-3.1
26	81307	-0.9	1.0	4.1	3.5
	81308	2.0	1.5	-1.2	-1.2
28	81309	1.2	-0.3	-0.7	-1.6
29	81310	-1.8	1.0	2.5	5.4
30	81311	6.4	6.1	5.6	4.0
31	81312	2.4	4.6	4.8	1.9
32	81313	4.9	6.8	5.1	4.1
33	81314	5.9	8.8	7.8	3.3
34	81315	2.6	3.3	5.2	6.1
35	81316	4.0	4.5	3.9	3.6
	81317	2.2	1.7	2.6	2.7
37	81318	2.1	1.8	3.7	3.7
38	81319	3.4	3.6	4.2	3.7
39	81320	6.1	7.0	6.9	7.2
40	81321	3.4	6.4	3.7	3.7
41	81322	3.4	3.6	3.7	3.7
42	81323	3.4	3.6	3.7	3.7
43	81324	2.2	2.4	2.5	2.1
44	81325	2.7	3.6	4.9	6.4
45	81326	7.2	7.4	6.2	8.0
46	81327	5.4	2.2	0.8	3.8
47	81328	5.4	2.8	0.9	-0.2
48	81329	1.1	0.4	0.4	1.9
49	91330	5.8	5.5	5.9	1.6
50	81331	1.0	-0.4	-2.4	-3.2
51	81332	-1.0	-1.0	0.7	0.6
	81333	1.7	3.8	6.9	6.6
54	81334	5.3	5.4	5.7	5.3
54	81335	8.5	7.5	6.5	2.8
55	81336	-2.0	-2.2	2.1	3.4
56	81337	-0.9	-0.6	-0.3	-2.4
57	81338	-0.9	1.9	3.4	1.9
	81339	2.3	2.5	2.0	3.1
	81340	3.6	-2.7	2.9	2.1

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81215 1.3 3.2 3.4 3.6
81216 3.7 5.1 -5.4 -3.0
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81221 -1.9 -2.7 -2.5 -1.4
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81223 -0.9 -1.7 -1.6 -2.0
81224 -3.0 -3.6 -3.0 -1.7
81225 -1.6 -3.8 -3.7 -1.6
81226 -3.4 -3.4 -2.3 -1.1
81227 -4.3 -1.7 -3.2 -0.8
81228 -3.0 -3.5 -3.1 3.3
81229 3.6 -3.5 -3.1 -3.4
81230 -3.6 -4.7 -3.3 -1.7
81231 -2.7 -4.1 -2.2 -2.1
81232 3.2 4.2 2.3 3.1
81233 5.7 -4.2 -3.0 -1.8
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81236 -1.8 -3.7 -3.3 -1.5
81237 -1.3 -3.0 -3.1 -1.2
81238 -1.8 -3.3 -4.0 -3.4
81239 -1.4 -1.9 -3.3 -1.8
81240 0.7 1.8 -3.8 -3.0
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81242 -3.9 -5.4 -5.3 -4.2
81243 -3.9 -5.4 -5.3 -4.2
81244 1.8 -3.0 -1.8 -1.7
81245 -1.7 -4.9 -1.8 -1.2
81246 -1.2 -1.3 -1.3 -0.7
81247 3.3 5.3 3.8 3.8
81248 3.7 4.7 -1.3 3.3
81249 3.7 4.0 0.8 -1.0
81250 1.3 3.6 3.0 0.9
81251 1.1 3.5 3.0 1.3
81252 1.5 3.3 1.1 1.1
81253 -0.9 -1.8 -1.3 -1.8
81254 1.4 -1.4 -3.0 1.2
81255 1.6 3.9 3.5 1.4
81256 1.4 3.2 3.3 3.9
81257 3.0 3.1 4.0 3.6
81258 6.1 3.8 -1.1 1.9
81259 3.3 3.2 5.6 5.3
81260 4.2 3.8 4.0 3.4
81261 4.7 4.3 3.3 5.8
81262 4.8 3.2 1.2 -0.8
81263 3.1 3.9 -1.8 -1.5
81264 -0.4 1.7 3.3 1.4
81265 1.8 -1.9 -1.5 0.9
81266 1.2 -1.7 0.7 0.4
81267 0.1 0.1 1.9 3.7
81268 1.7 3.3 3.2 1.8
81269 1.9 -1.3 3.3 1.9
81270 3.1 0.5 1.4 3.0
81271 4.3 4.3 4.4 4.4
81272 4.3 4.3 4.4 4.4
81273 4.3 4.3 4.4 4.4
81274 3.3 3.0 3.7 3.7
81275 3.3 3.0 3.7 3.7
81276 3.3 3.0 3.7 3.7
81277 4.9 5.4 6.3 7.8
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	81152	3.2	4.7	-3.5	-0.2
	81153	-3.0	-4.9	-3.3	-0.9
	81154	2.2	-3.3	-2.3	1.5
	81155	-3.7	-3.0	-4.8	-2.1
1	81156	-3.4	-3.3	-3.0	-2.1
	81157	-2.2	2.1	-3.8	-3.0
3	81158	-3.5	-4.3	-5.2	-3.0
4	81159	-2.8	4.1	-2.3	0.2
5	81160	1.0	2.8	-3.7	-1.4
6	81161	-1.2	2.0	-4.6	-2.0
7	81162	1.3	-3.1	3.5	-1.8
8	81163	1.2	-2.1	-3.9	-2.5
9	81164	-1.2	3.1	-4.8	-2.9
10	81165	-3.5	-5.3	-5.9	-2.4
11	81166	-2.7	-4.3	-5.4	-2.6
12	81167	-1.9	-2.0	-4.5	-1.9
13	81168	-1.9	2.4	-3.3	-1.4
14	81169	-3.4	-3.2	-4.5	-2.2
15	81170	-2.0	3.2	3.2	-2.5
16	81171	1.3	-3.2	-4.7	-2.0
17	81172	-3.0	-2.9	-4.2	-2.4
18	81173	-3.9	-5.3	-4.2	-2.0
19	81174	1.8	3.1	-2.7	-2.2
	81175	-3.4	-5.3	2.7	-3.3
21	81176	-3.9	-5.2	-4.1	-3.4
22	81177	-2.8	-3.2	-2.0	-3.8
23	81178	-3.5	-3.6	2.0	-1.7
24	81179	1.0	-2.0	-2.7	-0.9
25	81180	1.2	-1.4	-1.5	-3.0
26	81181	-2.8	-4.9	2.1	-2.0
	81182	-1.9	4.3	2.0	-1.3
28	81183	-4.5	-4.2	-3.1	-1.2
29	81184	-2.9	-3.2	-3.0	1.6
30	81185	1.9	-4.9	-3.7	-2.6
31	81186	-3.0	-5.4	1.5	1.4
32	81187	0.8	-2.0	-3.5	-1.3
33	81188	-1.9	-8.0	4.0	1.8
34	81189	1.6	2.2	1.8	-3.1
35	81190	-0.7	1.6	0.6	0.5
	81191	4.3	2.1	-1.0	-1.4
37	81192	-3.9	-4.8	-4.0	-1.0
38	81193	1.5	-4.2	-3.8	-0.8
39	81194	-2.2	-3.5	-3.2	0.8
40	81195	-1.8	-3.7	-1.7	-0.7
41	81196	3.0	1.4	-1.3	-0.6
42	81197	1.5	-3.9	-2.4	-1.3
43	81198	-2.5	-3.8	-3.7	-1.9
44	81199	-2.2	-5.0	-3.4	-1.0
45	81200	1.1	-3.5	-3.2	-0.6
46	81201	-0.8	-3.4	-3.8	-1.9
47	81202	-2.7	-4.4	-3.8	-1.4
48	81203	-2.0	-3.4	-2.0	0.4
49	81204	1.8	-2.3	-1.6	-0.7
50	81205	3.5	4.5	-2.0	1.3
51	81206	2.5	-3.0	-2.9	-1.3
52	81207	-1.7	-3.7	-3.5	-1.8
53	81208	-2.5	-4.7	-3.2	-1.2
54	81209	-2.0	-4.3	-3.2	-0.9
55	81210	-3.4	-3.9	-2.1	1.2
56	81211	-2.0	-4.1	-2.8	-1.3
57	81212	-2.0	-4.1	-2.8	-1.3
	81213	2.4	3.8	-1.3	4.7
	81214	3.2	3.3	2.6	1.2

	21341	26144.8	0.0	0.0	661.5
	21342	26144.8	0.0	0.0	661.3
	21343	26144.8	0.0	0.0	661.2
	21344	26144.8	0.0	0.0	661.0
1	21345	26144.8	0.0	0.0	660.9
	21346	26144.8	0.0	0.0	660.8
	21347	26144.8	0.0	0.0	660.6
4	21348	26721.8	0.0	0.0	660.5
5	21349	26721.8	0.0	0.0	660.3
6	21350	26721.8	0.0	0.0	660.2
7	21351	26721.8	0.0	0.0	660.0
8	21352	26721.8	0.0	0.0	659.9
9	21353	26721.8	0.0	0.0	659.7
10	21354	26721.8	0.0	0.0	659.6
11	21355	27578.1	0.0	0.0	659.4
12	21356	27578.1	0.0	0.0	659.3
13	21357	27578.1	0.0	0.0	659.1
14	21358	27578.1	0.0	0.0	659.0
15	21359	27578.1	0.0	0.0	658.8
16	21360	27578.1	0.0	0.0	658.7
17	21361	27578.1	0.0	0.0	658.5
	21362	27184.2	0.0	0.0	658.3
	21363	27184.2	0.0	0.0	658.2
20	21364	27184.2	0.0	0.0	658.0
21	21365	27184.2	0.0	0.0	657.9
22					
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	21278	18479.2	0.3	0.0	667.5
	21279	18479.2	0.3	0.0	667.4
	21280	18479.2	0.3	0.0	667.4
	21281	18479.2	0.2	0.0	667.4
1	21282	18479.2	0.2	0.0	667.3
	21283	18479.2	0.2	0.0	667.3
3	21284	18479.2	0.1	0.0	667.3
4	21285	18589.3	0.3	0.0	667.2
5	21286	18589.3	1.1	0.0	667.2
6	21287	18589.3	1.7	0.0	667.2
7	21288	18589.3	1.7	0.0	667.2
8	21289	18589.3	1.6	0.0	667.1
9	21290	18589.3	1.6	0.0	667.1
10	21291	18589.3	1.5	0.0	667.1
11	21292	22910.0	1.0	0.0	667.0
12	21293	22910.0	0.5	0.0	666.9
13	21294	22910.0	0.5	0.0	666.8
14	21295	22910.0	0.5	0.0	666.8
15	21296	22910.0	0.5	0.0	666.7
16	21297	22910.0	0.5	0.0	666.7
17	21298	22910.0	0.5	0.0	666.7
18	21299	21704.2	0.5	0.0	666.6
19	21300	21706.2	0.5	0.0	666.5
	21301	21706.2	0.5	0.0	666.5
21	21302	21706.2	0.5	0.0	666.4
22	21303	21706.2	0.5	0.0	666.3
23	21304	21706.2	0.5	0.0	666.2
24	21305	21706.2	0.2	0.0	666.1
25	21306	25491.1	0.2	0.0	666.0
26	21307	25491.1	0.2	0.0	665.8
	21308	25491.1	0.3	0.0	665.7
	21309	25491.1	0.2	0.0	665.6
29	21310	25491.1	0.2	0.0	665.4
30	21311	25491.1	0.2	0.0	665.3
31	21312	25491.1	0.2	0.0	665.2
32	21313	26670.4	0.2	0.0	665.0
33	21314	26670.4	0.1	0.0	664.9
34	21315	26670.4	0.1	0.0	664.8
35	21316	26670.4	0.1	0.0	664.7
	21317	26670.4	0.2	0.0	664.5
37	21318	26670.4	0.2	0.0	664.4
38	21319	26670.4	0.3	0.0	664.2
39	21320	24639.7	0.3	0.0	664.1
40	21321	24639.7	0.3	0.0	664.0
41	21322	24639.7	0.3	0.0	663.9
42	21323	24639.7	0.3	0.0	663.7
43	21324	24639.7	0.3	0.0	663.6
44	21325	24639.7	0.3	0.0	663.5
45	21326	24639.7	0.3	0.0	663.4
46	21327	24539.4	0.2	0.0	663.3
47	21328	24539.4	0.1	0.0	663.1
48	21329	24539.4	0.1	0.0	663.0
49	21330	24539.4	0.1	0.0	662.9
50	21331	24539.4	0.1	0.0	662.8
51	21332	24539.4	0.1	0.0	662.6
	21333	24539.4	0.1	0.0	662.5
53	21334	25288.1	0.1	0.0	662.4
54	21335	25288.1	0.0	0.0	662.3
55	21336	25288.1	0.0	0.0	662.1
56	21337	25288.1	0.0	0.0	662.0
57	21338	25288.1	0.0	0.0	661.9
	21339	25288.1	0.0	0.0	661.7
	21340	25288.1	0.0	0.0	661.6

27

	21215	9424.3	12.0	0.0	661.3
	21216	9424.3	11.5	0.0	661.8
	21217	9424.3	10.9	0.0	662.1
	21218	9424.3	10.3	0.0	662.5
1	21219	9424.3	9.7	0.0	662.8
	21220	9424.3	9.0	0.0	663.2
	21221	9424.3	8.7	0.0	663.8
4	21222	8739.3	8.6	0.0	664.4
5	21223	8739.3	8.4	0.0	665.0
6	21224	8739.3	8.5	0.0	665.5
7	21225	8739.3	7.7	0.0	666.2
8	21226	8739.3	7.2	0.0	666.8
9	21227	8739.3	6.5	0.0	667.5
10	21228	8739.3	5.8	84401.1	667.5
11	21229	7036.4	5.5	74743.3	667.5
12	21230	7036.4	6.6	58343.9	667.5
13	21231	7036.4	7.3	53943.8	667.5
14	21232	7036.4	7.0	43463.4	667.5
15	21233	7036.4	6.9	87263.2	667.5
16	21234	7036.4	7.6	82063.4	667.5
17	21235	7036.4	7.4	74263.6	667.5
	21236	7655.4	7.5	63544.3	667.5
	21237	7655.4	8.5	54044.7	667.5
20	21238	7655.4	9.7	48144.4	667.5
21	21239	7655.4	10.7	47145.0	667.5
22	21240	7655.4	11.0	48644.1	667.5
23	21241	7655.4	10.0	48641.1	667.5
24	21242	7655.4	9.9	48644.1	667.5
25	21243	8626.7	9.5	44973.1	667.5
26	21244	8626.7	8.7	43573.2	667.5
7	21245	8626.7	7.4	39573.5	667.5
	21246	8626.7	7.3	34673.7	667.5
29	21247	8626.7	7.6	30573.6	667.5
30	21248	8626.7	7.7	29573.1	667.5
31	21249	8626.7	7.4	28573.7	667.5
32	21250	16191.6	6.7	21008.4	667.5
33	21251	16191.6	6.3	21308.4	667.5
34	21252	16191.6	6.1	20007.9	667.5
	21253	16191.6	6.6	18708.5	667.5
36	21254	16191.6	6.1	17408.0	667.5
37	21255	16191.6	6.1	16208.9	667.5
38	21256	16191.6	5.7	14908.4	667.5
39	21257	8568.0	5.2	21231.6	667.5
40	21258	8568.0	5.5	19932.2	667.5
41	21259	8568.0	6.4	18631.7	667.5
42	21260	8568.0	6.4	18631.7	667.5
43	21261	8568.0	6.6	16931.8	667.5
44	21262	8568.0	6.5	16132.1	667.5
45	21263	8568.0	6.1	18132.0	667.5
46	21264	8776.0	5.8	19823.6	667.5
47	21265	8776.0	5.1	17924.1	667.5
48	21266	8776.0	4.3	15223.8	667.5
49	21267	8776.0	3.3	14023.7	667.5
50	21268	8776.0	2.7	13524.0	667.5
51	21269	8776.0	1.0	11524.1	667.5
52	21270	8776.0	0.5	9423.6	667.5
	21271	10140.7	0.4	7439.4	667.5
54	21272	10140.7	0.4	6239.2	667.5
55	21273	10140.7	0.3	5739.5	667.5
56	21274	10140.7	0.4	5039.1	667.5
57	21275	10140.7	0.4	3839.0	667.5
	21276	10140.7	0.4	3339.3	667.5
	21277	10140.7	0.3	3839.0	667.5

	21152	12357.8	9.0	0.0	638.9
	21153	12357.8	9.4	0.0	639.3
	21154	12357.8	9.7	0.0	639.6
	21155	12357.8	9.2	0.0	639.8
1	21156	12357.8	8.3	0.0	640.0
	21157	12357.8	8.0	0.0	640.3
3	21158	12357.8	8.9	0.0	640.5
4	21159	11090.4	9.4	0.0	640.7
5	21160	11090.4	8.6	0.0	640.9
6	21161	11090.4	10.1	0.0	641.2
7	21162	11090.4	10.6	0.0	641.4
8	21163	11090.4	11.9	0.0	641.6
9	21164	11090.4	12.4	0.0	641.7
10	21165	11090.4	11.9	0.0	641.9
11	21166	9911.2	11.8	0.0	642.1
12	21167	9911.2	12.6	0.0	642.4
13	21168	9911.2	12.9	0.0	642.6
14	21169	9911.2	12.7	0.0	642.9
15	21170	9911.2	12.4	0.0	643.2
16	21171	9911.2	11.9	0.0	643.4
17	21172	9911.2	11.7	0.0	643.6
18	21173	10248.8	11.8	0.0	643.9
19	21174	10248.8	12.2	0.0	644.1
	21175	10248.8	12.0	0.0	644.3
21	21176	10248.8	10.7	0.0	644.6
22	21177	10248.8	8.3	0.0	644.8
23	21178	10248.8	6.8	0.0	645.1
24	21179	10248.8	6.7	0.0	645.4
25	21180	10077.5	7.2	0.0	645.8
26	21181	10077.5	7.8	0.0	646.0
	21182	10077.5	8.0	0.0	646.3
	21183	10077.5	8.5	0.0	646.6
29	21184	10077.5	9.0	0.0	646.8
30	21185	10077.5	9.5	0.0	646.9
31	21186	10077.5	10.0	0.0	647.1
32	21187	9336.2	10.0	0.0	647.3
33	21188	9336.2	10.0	0.0	647.5
34	21189	9336.2	10.0	0.0	647.8
35	21190	9336.2	10.0	0.0	648.1
	21191	9336.2	10.0	0.0	648.6
	21192	9336.2	10.0	0.0	649.3
38	21193	9336.2	10.0	0.0	650.1
39	21194	9852.5	10.0	0.0	650.8
40	21195	9852.5	10.0	0.0	651.3
41	21196	9852.5	10.0	0.0	651.8
42	21197	9852.5	10.0	0.0	652.3
43	21198	9852.5	10.0	0.0	652.9
44	21199	9852.5	10.0	0.0	653.6
45	21200	9852.5	10.0	0.0	654.3
46	21201	9752.1	10.0	0.0	655.0
47	21202	9752.1	10.0	0.0	655.6
48	21203	9752.1	10.0	0.0	656.0
49	21204	9752.1	10.0	0.0	656.5
50	21205	9752.1	10.0	0.0	656.9
51	21206	9752.1	10.0	0.0	657.4
	21207	9752.1	10.0	0.0	657.9
53	21208	9481.2	10.0	0.0	658.4
54	21209	9481.2	10.5	0.0	658.8
55	21210	9481.2	11.0	0.0	659.1
56	21211	9481.2	11.5	0 0	659.5
57	21212	9481.2	12.0	0.0	659.8
	21213	9481.2	12.5	0.0	660.1
	21214	9481.2	12.5	0.0	660.4

P5700.14.03.209

ACRES

Calculations

SUBJECT: SUSITNA HEP – RESERVOIR TEMP

By DC Date 11 Jan 83 Project No. P570073

Checked ____ Date ____ Calculation No. ____

Page 1 of ____

Rev	By	Checked

BASED ON ENERGY SIMULATION

WATANA / DEVIL CANYON

WEEKLY RUN H. (2010 demand)

SIMULATION WK #	DAM	P.H FLOW CFS	SPILL CFS
35	JUNE 1.		
35	1 7	5051	-
36	8	4533	-
	15	4051	-
	22	4189	-
	29	4119	-
	36	3816	-
	43	4027	-
	50	3986	-
	57	3957	-
	63 64	3852	-
	70 71	3572	-
	77 78	2876	-
	84 85	3129	-
	91 92	3526	-
	98 99	6618	1113
	107 106	3502	36308
	114 113	3587	30302
52	121 120	4153	20882
1	128 127	7553	-
	135 134	7598	-
	142 141	9364	-
	149 148	8872	-
	156 155	10419	-
	163 162	10901	-
	170 169	10071	-
	177 176	10030	-
9	184 183	10336	-

CONT'D

REVISE TO 'P' RUN

YR 32 (1981)

AVE P.H FLOWS ASSUMMED

60.04.03 Form 148B

ACRES

Calculations

SUBJECT

By DC Date 11 Jan 83 Project No. _____

Checked _____ Date _____ Calculation No. _____

Page 2 of ____

Rev	By	Checked

WK #	DAY	P.H. FLOW	SPILL
10	191	10687	-
11	198	10922	-
12	205	11272	-
13	212	11111.1	-

ANY P.H. FLOWS ASSUMED

RUN OFLOW.COM TO GENERATE OUTFLOW FILE WITH TEMP & SALINITIES

[OUTFLOW TEMP TARGET ASSUME EQUAL TO INFLOW TEMP]

STARTING WSEL = 2094.4 ft. (638.4 m)

STARTING DAY = 21152

FILES

OFLOW.DAT

TESTINFL.DAT

OFLOW.OUT

CONVERSIONS CFS days — M3/d. x1000. =0 2.4466

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VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS
VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS
VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS

                  DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000    RRRR    DDDD
                  D   D   C      R   R   A   A   W    W  F      0   0   R   R   D   D
                  D   D   C      R   R   A   A   W    W  F      0   0   R   R   D   D
                  D   D   C      RRRR    A   A   W    W  FFFF   0   0   RRRR    D   D
                  D   D   C      R R     AAAAA   W W W  F      0   0   R R     D   D
                  D   D   C      R  R    A   A   WW WW  F      0   0   R  R    D   D
                  DDDD     CCCC  R   R   A   A   W    W  F       000    R   R   DDDD

    000000     FFFFFFFFFF  II              000000     WW        WW
    000000     FFFFFFFFFF  II              000000     WW        WW
  00     00   FF          II            00     00   WW        WW
  00     00   FF          LL            00     00   WW        WW
  00     00   FF          LL            00     00   WW        WW
  00     00   FF          LL            00     00   WW        WW
  00     00   FFFFFFFF    II            00     00   WW        WW
  00     00   FFFFFFFF    LL            00     00   WW        WW
  00     00   FF          LL            00     00   WW  WW    WW
  00     00   FF          LL            00     00   WW  WW    WW
  00     00   FF          II            00     00   WWWW  WWWW
  00     00   FF          LL            00     00   WWWW  WWWW
    000000     FF          IIIIIIIIII      000000     WW      WW
    000000     FF          IIIIIIIIII      000000     WW      WW

    000000     UU     UU   TTTTTTTTTT      ;;;;        11
    000000     UU     UU   TTTTTTTTTT      ;;;;        11
  00     00   UU     UU      TT           ;;;;       1111
  00     00   UU     UU      TT           ;;;;       1111
  00     00   UU     UU      TT                        11
  00     00   UU     UU      TT                        11
  00     00   UU     UU      TT           ;;;;         11
  00     00   UU     UU      TT           ;;;;         11
  00     00   UU     UU      TT           ;;;;         11
  00     00   UU     UU      TT           ;;;;         11
  00     00   UU     UU      TT             ;;         11
  00     00   UU     UU      TT             ;;         11
    000000     UUUUUUUUUUUUU  TT           ;;       111111
    000000     UUUUUUUUUUUUU  TT           ;;       111111

                  DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000    RRRR    DDDD
                  D   D   C      R   R   A   A   W    W  F      0   0   R   R   D   D
                  D   D   C      R   R   A   A   W    W  F      0   0   R   R   D   D
                  D   D   C      RRRR    A   A   W    W  FFFF   0   0   RRRR    D   D
                  D   D   C      R R     AAAAA   W W W  F      0   0   R R     D   D
                  D   D   C      R  R    A   A   WW WW  F      0   0   R  R    D   D
                  DDDD     CCCC  R   R   A   A   W    W  F       000    R   R   DDDD

VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS
VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS
VAX/VMS  DCRAWFORD     DFLOW 20-JAN-1983 11:18    TTD7: 20-JAN-1983 11:18    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DFLOW.OUT;1      VAX/VMS
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21152	17490.7	9.0	0.0	638.9
21153	17490.7	9.4	0.0	639.2
21154	17490.7	9.7	0.0	639.4
21155	17490.7	9.2	0.0	639.6
21156	17490.7	8.3	0.0	639.8
21157	17490.7	8.0	0.0	640.0
21158	17490.7	8.9	0.0	640.2
21159	17723.2	9.4	0.0	640.4
21160	17723.2	8.6	0.0	640.5
21161	17723.2	10.1	0.0	640.7
21162	17723.2	10.6	0.0	640.9
21163	17723.2	11.9	0.0	641.0
21164	17723.2	12.4	0.0	641.1
21165	17723.2	11.9	0.0	641.2
21166	15159.1	11.8	0.0	641.4
21167	15159.1	12.6	0.0	641.6
21168	15159.1	12.9	0.0	641.9
21169	15159.1	12.7	0.0	642.1
21170	15159.1	12.4	0.0	642.3
21171	15159.1	11.9	0.0	642.5
21172	15159.1	11.7	0.0	642.7
21173	9336.2	11.8	0.0	642.9
21174	9336.2	12.2	0.0	643.2
21175	9336.2	12.0	0.0	643.4
21176	9336.2	10.7	0.0	643.7
21177	9336.2	8.3	0.0	643.9
21178	9336.2	6.8	0.0	644.2
21179	9336.2	6.7	0.0	644.5
21180	8741.7	7.2	0.0	644.9
21181	8741.7	7.8	0.0	645.2
21182	8741.7	8.0	0.0	645.5
21183	8741.7	8.5	0.0	645.7
21184	8741.7	9.0	0.0	645.9
21185	8741.7	9.5	0.0	646.1
21186	8741.7	10.0	0.0	646.2
21187	9106.2	10.0	0.0	646.4
21188	9106.2	10.0	0.0	646.7
21189	9106.2	10.0	0.0	647.0
21190	9106.2	10.0	0.0	647.3
21191	9106.2	10.0	0.0	647.8
21192	9106.2	10.0	0.0	648.5
21193	9106.2	10.0	0.0	649.3
21194	6189.9	10.0	0.0	650.0
21195	6189.9	10.0	0.0	650.6
21196	6189.9	10.0	0.0	651.0
21197	6189.9	10.0	0.0	651.6
21198	6189.9	10.0	0.0	652.2
21199	6189.9	10.0	0.0	653.0
21200	6189.9	10.0	0.0	653.7
21201	6231.5	10.0	0.0	654.4
21202	6231.5	10.0	0.0	655.1
21203	6231.5	10.0	0.0	655.6
21204	6231.5	10.0	0.0	656.1
21205	6231.5	10.0	0.0	656.5
21206	6231.5	10.0	0.0	657.0
21207	6231.5	10.0	0.0	657.5
21208	6681.7	10.0	0.0	658.0
21209	6681.7	10.5	0.0	658.5
21210	6681.7	11.0	0.0	658.8
21211	6681.7	11.5	0.0	659.2
21212	6681.7	12.0	0.0	659.5
21213	6681.7	12.5	0.0	659.9
21214	6681.7	12.5	0.0	660.4

21215	6593.6	12.0	0.0	661.1
21216	6593.6	11.5	0.0	661.6
21217	6593.6	10.9	0.0	662.0
21218	6593.6	10.4	0.0	662.4
21219	6593.6	9.7	0.0	662.7
21220	6593.6	9.0	0.0	663.1
21221	6593.6	8.7	0.0	663.7
21222	13179.8	8.6	0.0	664.3
21223	13179.8	8.4	0.0	664.9
21224	13179.8	8.5	0.0	665.4
21225	13179.8	7.7	0.0	666.0
21226	13179.8	7.2	0.0	666.6
21227	13179.8	6.5	0.0	667.2
21228	13179.8	5.8	42663.9	667.5
21229	5695.7	5.5	76104.7	667.5
21230	5695.7	6.6	59704.3	667.5
21231	5695.7	7.3	55304.2	667.5
21232	5695.7	7.0	64803.8	667.5
21233	5695.7	6.9	88604.7	667.5
21234	5695.7	7.6	83404.8	667.5
21235	5695.7	7.4	75604.0	667.5
21236	6004.0	7.5	65196.0	667.5
21237	6004.0	8.5	55696.4	667.5
21238	6004.0	9.7	49796.1	667.5
21239	6004.0	10.7	48795.6	667.5
21240	6004.0	11.0	50295.8	667.5
21241	6004.0	10.0	50295.8	667.5
21242	6004.0	9.9	50295.8	667.5
21243	6696.3	9.5	46903.3	667.5
21244	6696.3	8.3	45503.5	667.5
21245	6696.3	7.4	41503.7	667.5
21246	6696.3	7.3	36603.9	667.5
21247	6696.3	7.6	32503.8	667.5
21248	6696.3	7.7	31503.4	667.5
21249	6696.3	7.4	30503.9	667.5
21250	7388.7	6.7	29811.7	667.5
21251	7388.7	6.3	30111.7	667.5
21252	7388.7	6.1	28811.3	667.5
21253	7388.7	6.6	27510.8	667.5
21254	7388.7	6.1	26211.3	667.5
21255	7388.7	6.1	25011.2	667.5
21256	7388.7	5.7	23711.7	667.5
21257	8257.3	5.2	21542.9	667.5
21258	8257.3	5.5	20242.4	667.5
21259	8257.3	6.4	18943.0	667.5
21260	8257.3	6.4	18943.0	667.5
21261	8257.3	6.6	17243.1	667.5
21262	8257.3	6.5	16442.4	667.5
21263	8257.3	6.1	18442.2	667.5
21264	13507.7	5.8	15092.7	667.5
21265	13507.7	5.1	13192.2	667.5
21266	13507.7	4.3	10491.9	667.5
21267	13507.7	3.3	9292.8	667.5
21268	13507.7	2.7	8792.1	667.5
21269	13507.7	1.0	6792.2	667.5
21270	13507.7	0.5	4892.7	667.5
21271	16499.9	0.4	1099.8	667.5
21272	16499.9	0.4	0.0	667.5
21273	16499.9	0.3	0.0	667.5
21274	16499.9	0.4	0.0	667.5
21275	16499.9	0.4	0.0	667.5
21276	16499.9	0.4	0.0	667.5
21277	16499.9	0.3	0.0	667.4

21278	18317.7	0.3	0.0	667.4
21279	18317.7	0.3	0.0	667.4
21280	18317.7	0.3	0.0	667.3
21281	18317.7	0.2	0.0	667.3
21282	18317.7	0.2	0.0	667.3
21283	18317.7	0.2	0.0	667.2
21284	18317.7	0.1	0.0	667.2
21285	18765.4	0.3	0.0	667.2
21286	18765.4	1.1	0.0	667.1
21287	18765.4	1.7	0.0	667.1
21288	18765.4	1.7	0.0	667.1
21289	18765.4	1.6	0.0	667.1
21290	18765.4	1.6	0.0	667.0
21291	18765.4	1.5	0.0	667.0
21292	22200.4	1.0	0.0	666.9
21293	22200.4	0.5	0.0	666.9
21294	22200.4	0.5	0.0	666.8
21295	22200.4	0.5	0.0	666.7
21296	22200.4	0.5	0.0	666.7
21297	22200.4	0.5	0.0	666.7
21298	22200.4	0.5	0.0	666.6
21299	19597.3	0.5	0.0	666.6
21300	19597.3	0.5	0.0	666.5
21301	19597.3	0.5	0.0	666.5
21302	19597.3	0.5	0.0	666.4
21303	19597.3	0.5	0.0	666.3
21304	19597.3	0.5	0.0	666.2
21305	19597.3	0.2	0.0	666.1
21306	23597.5	0.2	0.0	666.0
21307	23597.5	0.2	0.0	665.9
21308	23597.5	0.3	0.0	665.8
21309	23597.5	0.2	0.0	665.7
21310	23597.5	0.2	0.0	665.6
21311	23597.5	0.2	0.0	665.4
21312	23597.5	0.2	0.0	665.3
21313	24008.5	0.2	0.0	665.2
21314	24008.5	0.1	0.0	665.1
21315	24008.5	0.1	0.0	665.0
21316	24008.5	0.1	0.0	664.9
21317	24008.5	0.2	0.0	664.8
21318	24008.5	0.2	0.0	664.6
21319	24008.5	0.3	0.0	664.5
21320	24629.9	0.3	0.0	664.4
21321	24629.9	0.3	0.0	664.3
21322	24629.9	0.3	0.0	664.1
21323	24629.9	0.3	0.0	664.0
21324	24629.9	0.3	0.0	663.9
21325	24629.9	0.3	0.0	663.8
21326	24629.9	0.3	0.0	663.7
21327	24422.0	0.2	0.0	663.5
21328	24422.0	0.1	0.0	663.4
21329	24422.0	0.1	0.0	663.3
21330	24422.0	0.1	0.0	663.2
21331	24422.0	0.1	0.0	663.0
21332	24422.0	0.1	0.0	662.9
21333	24422.0	0.1	0.0	662.8
21334	25050.7	0.1	0.0	662.7
21335	25050.7	0.0	0.0	662.5
21336	25050.7	0.0	0.0	662.4
21337	25050.7	0.0	0.0	662.3
21338	25050.7	0.0	0.0	662.2
21339	25050.7	0.0	0.0	662.0
21340	25050.7	0.0	0.0	661.9

21341	25647.7	0.0	0.0	661.8
21342	25647.7	0.0	0.0	661.6
21343	25647.7	0.0	0.0	661.5
21344	25647.7	0.0	0.0	661.3
21345	25647.7	0.0	0.0	661.2
21346	25647.7	0.0	0.0	661.1
21347	25647.7	0.0	0.0	660.9
21348	26217.8	0.0	0.0	660.8
21349	26217.8	0.0	0.0	660.7
21350	26217.8	0.0	0.0	660.5
21351	26217.8	0.0	0.0	660.4
21352	26217.8	0.0	0.0	660.2
21353	26217.8	0.0	0.0	660.1
21354	26217.8	0.0	0.0	659.9
21355	26846.5	0.0	0.0	659.8
21356	26846.5	0.0	0.0	659.6
21357	26846.5	0.0	0.0	659.5
21358	26846.5	0.0	0.0	659.3
21359	26846.5	0.0	0.0	659.2
21360	26846.5	0.0	0.0	659.0
21361	26846.5	0.0	0.0	658.9
21362	26685.1	0.0	0.0	658.7
21363	26685.1	0.0	0.0	658.6
21364	26685.1	0.0	0.0	658.4
21365	26685.1	0.0	0.0	658.3

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VAX/VMS  RCRAWFORD     DFLOW 20-JAN-1983 11:17    TTM7: 20-JAN-1983 11:17    DISK$TECHNICAL:[RCRAWFORD.RESTEMPJOFLOW.DAT;12    VAX/VMS
VAX/VMS  RCRAWFORD     DFLOW 20-JAN-1983 11:17    TTM7: 20-JAN-1983 11:17    DISK$TECHNICAL:[RCRAWFORD.RESTEMPJOFLOW.DAT;12    VAX/VMS
VAX/VMS  RCRAWFORD     DFLOW 20-JAN-1983 11:17    TTM7: 20-JAN-1983 11:17    DISK$TECHNICAL:[RCRAWFORD.RESTEMPJOFLOW.DAT;12    VAX/VMS
```

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  8 12334800, 2.4466 945.4
 1900, 255, 1950, 333, 2000, 425, 2050, 534,
 2100, 665, 2150, 819, 2200, 1002, 2250, 1221,
 638.4  21152
  1 7149
  8 7244
 15 6196
 22 3816
 29 3573
 36 3722
 43 2530
 50 2547
 57 2731
 63 2695
 70 5387
 77 3328
 84 2454
 91 2737
 98 3020
107 3375
114 5521
121 6744
128 7487
135 7670
142 9074
149 8010
156 9645
163 9813
170 10047
177 9982
184 10239
191 10483
198 10716
205 10973
212 10907
-1 100
```

```
UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC
UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC
UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    OOO    RRRR    DDDD
                D   D   C      R   R   A   A   W    W  F       O   O   R   R   D   D
                D    D  C      R    R  A   A   W    W  F       O   O   R    R  D    D
                D    D  C      RRRR    A   A   W    W  FFFF    O   O   RRRR    D    D
                D    D  C      R R     AAAAA   W W W  F       O   O   R R     D    D
                D   D   C      R  R    A   A   WW WW  F       O   O   R  R    D   D
                DDDD     CCCC  R   R   A   A   W    W  F        OOO    R   R   DDDD

WW      WW     AAAAAA     DDDDDDDD     YY      YY   RRRRRRRR
WW      WW     AAAAAA     DDDDDDDDD    YY      YY   RRRRRRRR
WW      WW    AA    AA    DD     DD    YY      YY   RR     RR
WW      WW    AA    AA    DD     DD    YY      YY   RR     RR
WW      WW    AA    AA    DD     DD     YY  YY     RR     RR
WW      WW    AA    AA    DD     DD     YY  YY     RR     RR
WW      WW    AA    AA    DD     DD      YY        RRRRRRRRR
WW      WW    AA    AA    DD     DD      YY        RRRRRRRRR
WW  WW  WW    AAAAAAAAAA   DD     DD      YY        RR   RR
WW  WW  WW    AAAAAAAAAA   DD     DD      YY        RR   RR
WWWW  WWWW    AA    AA    DD     DD      YY        RR    RR
WWWW  WWWW    AA    AA    DD     DD      YY        RR    RR
WW      WW    AA    AA    DDDDDDDDD      YY        RR     RR
WW      WW    AA    AA    DDDDDDDDD      YY        RR     RR

DDDDDDDDD       AAAAAA     TTTTTTTTTT      ;;;;      666666
DDDDDDDDD      AAAAAAA     TTTTTTTTTT      ;;;;      666666
DD     DD     AA    AA        TT           ;;;;     66
DD     DD     AA    AA        TT           ;;;;     66
DD     DD     AA    AA        TT                    66
DD     DD     AA    AA        TT                    66
DD     DD     AA    AA        TT           ;;;;     66666666
DD     DD     AA    AA        TT           ;;;;     66666666
DD     DD     AAAAAAAAAA      TT           ;;;;     66    66
DD     DD     AAAAAAAAAA      TT           ;;;;     66    66
DD     DD     AA    AA        TT             ;;     66    66
DD     DD     AA    AA        TT             ;;     66    66
DDDDDDDDD     AA    AA        TT           ;;       666666
DDDDDDDDD     AA    AA        TT           ;;       666666

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    OOO    RRRR    DDDD
                D   D   C      R   R   A   A   W    W  F       O   O   R   R   D   D
                D    D  C      R    R  A   A   W    W  F       O   O   R    R  D    D
                D    D  C      RRRR    A   A   W    W  FFFF    O   O   RRRR    D    D
                D    D  C      R R     AAAAA   W W W  F       O   O   R R     D    D
                D   D   C      R  R    A   A   WW WW  F       O   O   R  R    D   D
                DDDD     CCCC  R   R   A   A   W    W  F        OOO    R   R   DDDD

UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC
UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC
UMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DC
```

```
TF
  0.015 0.015   0.0 0.0 0.048
        0.125          1.23  0.2    .51   0.3
WATANA (W4000)
SUSITNA
81152  214
   11
 192.7 6.4      0.0
 191.5 6.4      0.0
 190.0 5.9      0.0
 187.0 5.7      0.0
 183.0 5.0      0.0
 160.0 4.5      0.0
 125.0 4.1      0.0
  95.0 4.0      0.0
  65.0 4.0      0.0
  35.0 4.0      0.0
   0.0 4.0      0.0
 0
0
```

```
VMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[D
VMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[D
VMS  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[D
```

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA   W W W  F      0   0  R R    D   D
D   D   C      R  R    A   A   WW WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R  DDDD
```

```
W      W     AAAAAA      IIIIII    NN      NN   FFFFFFFFFF  I.I
W      W     AAAAAA      IIIIII    NN      NN   FFFFFFFFFF  LL
W      W    AA    AA       II      NN      NN   FF          I.L
W      W    AA    AA       II      NN      NN   FF          LL
W      W    AA    AA       II      NNNN    NN   FF          I L
W      W    AA    AA       II      NNNN    NN   FF          LL
W      W    AA    AA       II      NN  NN  NN   FFFFFFFF    I.L
W  WW  W    AAAAAAAAAA     II      NN  NN  NN   FFFFFFFF    LL
W  WW  W    AAAAAAAAAA     II      NN    NNNN   FF          I L
WWW  WWW    AA    AA       II      NN    NNNN   FF          LL
WWW  WWWW   AA    AA       II      NN     NN    FF          I L
W      W    AA    AA       II      NN     NN    FF          LL
W      W    AA    AA    IIIIII     NN     NN    FF          LLLLLLLLLL
W      W    AA    AA    IIIIII     NN     NN    FF          LLLLLLLLLL
```

```
DDDDDDD      AAAAAA     TTTTTTTTTT      ;;;;       333333
DDDDDDDD     AAAAAA     TTTTTTTTTT      ;;;;       333333
D      DD   AA    AA       TT          ;;;;     33       33
D      DD   AA    AA       TT          ;;;;     33       33
D      DD   AA    AA       TT                             33
D      DD   AA    AA       TT                             33
D      DD   AA    AA       TT        ;;;;           33
D      DD   AA    AA       TT        ;;;;           33
D      DD   AAAAAAAAAA     TT        ;;;;             33
D      DD   AAAAAAAAAA     TT        ;;;;             33
D      DD   AA    AA       TT          ;;     33       33
D      DD   AA    AA       TT          ;;     33       33
DDDDDDDD    AA    AA       TT      ;;           333333
DDDDDDD     AA    AA       TT      ;;           333333
```

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA   W W W  F      0   0  R R    D   D
D   D   C      R  R    A   A   WW WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R  DDDD
```

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S  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DCRA
S  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DCRA
S  DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:15    DISK$TECHNICAL:[DCRA
```

1

81152	65400.0	9.0	0.0
81153	52900.0	9.4	0.0
81154	42400.0	9.7	0.0
81155	37500.0	9.2	0.0
81156	38200.0	8.3	0.0
81157	43300.0	8.0	0.0
81158	38200.0	8.9	0.0
81159	35000.0	9.4	0.0
81160	38900.0	8.6	0.0
81161	41900.0	10.1	0.0
81162	36200.0	10.6	0.0
81163	33500.0	11.9	0.0
81164	32100.0	12.4	0.0
81165	33100.0	11.9	0.0
81166	36700.0	11.8	0.0
81167	43600.0	12.6	0.0
81168	43300.0	12.9	0.0
81169	41900.0	12.7	0.0
81170	41600.0	12.4	0.0
81171	39900.0	11.9	0.0
81172	39200.0	11.7	0.0
81173	39900.0	11.8	0.0
81174	39400.0	12.2	0.0
81175	39900.0	12.0	0.0
81176	41100.0	10.7	0.0
81177	41400.0	8.3	0.0
81178	42400.0	6.8	0.0
81179	48700.0	4.7	0.0
81180	52600.0	7.2	0.0
81181	47000.0	7.8	0.0
81182	44600.0	8.0	0.0
81183	38400.0	8.5	0.0
81184	35000.0	9.0	0.0
81185	31100.0	9.5	0.0
81186	29900.0	10.0	0.0
81187	32600.0	10.0	0.0
81188	39200.0	10.0	0.0
81189	48200.0	10.0	0.0
81190	50900.0	10.0	0.0
81191	64100.0	10.0	0.0
81192	97400.0	10.0	0.0
81193	113600.0	10.0	0.0
81194	97000.0	10.0	0.0
81195	73700.0	10.0	0.0
81196	63900.0	10.0	0.0
81197	70800.0	10.0	0.0
81198	87200.0	10.0	0.0
81199	99700.0	10.0	0.0
81200	97200.0	10.0	0.0
81201	95200.0	10.0	0.0
81202	88100.0	10.0	0.0
81203	79600.0	10.0	0.0
81204	73200.0	10.0	0.0
81205	75200.0	10.0	0.0
81206	77600.0	10.0	0.0
81207	83200.0	10.0	0.0
81208	81800.0	10.0	0.0
81209	69300.0	10.0	0.0
81210	62400.0	10.5	0.0
81211	60000.0	11.0	0.0
81212	57500.0	[illegible].5	0.0
81213	60000.0	12.0	0.0
		12.5	0.0

81214	87700.0	12.5	0.0
81215	103300.0	12.0	0.0
81216	81300.0	11.5	0.0
81217	66600.0	10.9	0.0
81218	60200.0	10.4	0.0
81219	57000.0	9.7	0.0
81220	67300.0	9.0	0.0
81221	95000.0	8.7	0.0
81222	99400.0	8.6	0.0
81223	97400.0	8.4	0.0
81224	90300.0	8.5	0.0
81225	100600.0	7.7	0.0
81226	103600.0	7.2	0.0
81227	105300.0	6.5	0.0
81228	101400.0	5.8	0.0
81229	81800.0	5.5	0.0
81230	65400.0	6.6	0.0
81231	61000.0	7.3	0.0
81232	70500.0	7.0	0.0
81233	94300.0	6.9	0.0
81234	89100.0	7.6	0.0
81235	91300.0	7.4	0.0
81236	71200.0	7.5	0.0
81237	41700.0	8.5	0.0
81238	55800.0	9.7	0.0
81239	54800.0	10.7	0.0
81240	56300.0	11.0	0.0
81241	56300.0	10.0	0.0
81242	56300.0	9.9	0.0
81243	53600.0	9.5	0.0
81244	52200.0	8.3	0.0
81245	48200.0	7.4	0.0
81246	43300.0	7.3	0.0
81247	39200.0	7.6	0.0
81248	38200.0	7.7	0.0
81249	37200.0	7.4	0.0
81250	37200.0	6.7	0.0
81251	37500.0	6.3	0.0
81252	36200.0	6.1	0.0
81253	34900.0	6.6	0.0
81254	33600.0	6.1	0.0
81255	32400.0	6.1	0.0
81256	31100.0	5.7	0.0
81257	29800.0	5.2	0.0
81258	28500.0	5.5	0.0
81259	27200.0	6.4	0.0
81260	27200.0	6.4	0.0
81261	25500.0	6.6	0.0
81262	24700.0	6.5	0.0
81263	26700.0	6.1	0.0
81264	28600.0	5.8	0.0
81265	26700.0	5.1	0.0
81266	24000.0	4.3	0.0
81267	22800.0	3.3	0.0
81268	22300.0	2.7	0.0
81269	20300.0	1.0	0.0
81270	18400.0	0.5	0.0
81272	17600.0	0.4	0.0
81272	16400.0	0.4	0.0
81273	15900.0	0.3	0.0
81274	15200.0	0.4	0.0
81275	14000.0	0.4	0.0
81276	13500.0	0.4	0.0

81277	14000.0	0.3	0.0
81278	14000.0	0.3	0.0
81279	13500.0	0.3	0.0
81280	13200.0	0.3	0.0
81281	13200.0	0.2	0.0
81282	13000.0	0.2	0.0
81283	12700.0	0.2	0.0
81284	12500.0	0.1	0.0
81285	12500.0	0.3	0.0
81286	13500.0	1.1	0.0
81287	15400.0	1.7	0.0
81288	17100.0	1.7	0.0
81289	15700.0	1.6	0.0
81290	14400.0	1.4	0.0
81291	13700.0	1.3	0.0
81292	11400.0	1.0	0.0
81293	10700.0	0.5	0.0
81294	12000.0	0.5	0.0
81295	13300.0	0.5	0.0
81296	15900.0	0.5	0.0
81297	18200.0	0.5	0.0
81298	16600.0	0.5	0.0
81299	14800.0	0.5	0.0
81300	13200.0	0.5	0.0
81301	11000.0	0.5	0.0
81302	8600.0	0.5	0.0
81303	7200.0	0.5	0.0
81304	6400.0	0.5	0.0
81305	6365.0	0.2	0.0
81306	6365.0	0.2	0.0
81307	5875.0	0.2	0.0
81308	6365.0	0.3	0.0
81309	6854.0	0.2	0.0
81310	6365.0	0.2	0.0
81311	6365.0	0.2	0.0
81312	6242.0	0.2	0.0
81313	6365.0	0.2	0.0
81314	7099.0	0.1	0.0
81315	7956.0	0.1	0.0
81316	7956.0	0.1	0.0
81317	6365.0	0.2	0.0
81318	5875.0	0.2	0.0
81319	5630.0	0.3	0.0
81320	5386.0	0.3	0.0
81321	5630.0	0.3	0.0
81322	6487.0	0.3	0.0
81323	7344.0	0.3	0.0
81324	8078.0	0.3	0.0
81325	6200.0	0.3	0.0
81326	6200.0	0.3	0.0
81327	6200.0	0.2	0.0
81328	6200.0	0.1	0.0
81329	6200.0	0.1	0.0
81330	6200.0	0.1	0.0
81331	6200.0	0.1	0.0
81332	6200.0	0.1	0.0
81333	6200.0	0.1	0.0
81334	6200.0	0.1	0.0
81335	6120.0	0.0	0.0
81336	6020.0	0.0	0.0
81337	5950.0	0.0	0.0
81338	5850.0	0.0	0.0
81339	5760.0	0.0	0.0

81340	5680.0	0.0	0.0
81341	5590.0	0.0	0.0
81342	5520.0	0.0	0.0
81343	5450.0	0.0	0.0
81344	5390.0	0.0	0.0
81345	5330.0	0.0	0.0
81346	5280.0	0.0	0.0
81347	5210.0	0.0	0.0
81348	5150.0	0.0	0.0
81349	5080.0	0.0	0.0
81350	5020.0	0.0	0.0
81351	4960.0	0.0	0.0
81352	4900.0	0.0	0.0
81353	4850.0	0.0	0.0
81354	4800.0	0.0	0.0
81355	4750.0	0.0	0.0
81356	4700.0	0.0	0.0
81357	4650.0	0.0	0.0
81358	4600.0	0.0	0.0
81359	4550.0	0.0	0.0
81360	4500.0	0.0	0.0
81361	4450.0	0.0	0.0
81362	4400.0	0.0	0.0
81363	4350.0	0.0	0.0
81364	4300.0	0.0	0.0
81365	4250.0	0.0	0.0

```
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TECHNICAL:[DCRAWF
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TECHNICAL:[DCRAWF
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TECHNICAL:[DCRAWF
```

```
DDDD      CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D    C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D    C       R R     AAAAA   W W W  F       0   0   R R     D   D
D   D    C       R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD      CCCC   R   R   A   A   W    W  F        000    R   R   DDDD
```

```
WW      AAAAAA        000000     UU      UU  TTTTTTTTTT   FFFFFFFFFF   LL
WW      AAAAAA        000000     UU      UU  TTTTTTTTTT   FFFFFFFFFF   LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
WW     AA    AA      00    00    UU      UU      TT       FF           LL
 WWWW  AA    AA      00    00    UU      UU      TT       FF           LL
 WWWW  AA    AA      00    00    UU      UU      TT       FF           LL
   WW  AA    AA       000000      UUUUUUUUUUUU    TT       FF           LLLLLLLLLL
   WW  AA    AA       000000      UUUUUUUUUUUU    TT       FF           LLLLLLLLLL
```

```
DDDD      AAAAAA     TTTTTTTTTT      ;;;;     5555555555
DDDD      AAAAAA     TTTTTTTTTT      ;;;;     5555555555
   DD    AA    AA       TT          ;;;;     55
   DD    AA    AA       TT          ;;;;     55
   DD    AA    AA       TT                   555555
   DD    AA    AA       TT                   555555
   DD    AA    AA       TT          ;;;;          55
   DD    AA    AA       TT          ;;;;          55
   DD    AAAAAAAAAA     TT          ;;;;            55
   DD    AAAAAAAAAA     TT          ;;;;            55
   DD    AA    AA       TT            ;;     55      55
   DD    AA    AA       TT            ;;     55      55
DDDD     AA    AA       TT          ;;         555555
DDDD     AA    AA       TT          ;;         555555
```

```
DDDD      CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D    C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D    C       R R     AAAAA   W W W  F       0   0   R R     D   D
D   D    C       R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD      CCCC   R   R   A   A   W    W  F        000    R   R   DDDD
```

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DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TECHNICAL:[DCRAWF
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TFCHNICAL:[DCRAWF
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:17    DISK$TECHNICAL:[DCRAWF
```

21152	12357.8	9.0	0.0	638.9
21153	12357.8	9.4	0.0	639.3
21154	12357.8	9.7	0.0	639.6
21155	12357.8	9.2	0.0	639.8
21156	12357.8	8.3	0.0	640.0
21157	12357.8	8.0	0.0	640.3
21158	12357.8	8.9	0.0	640.5
21159	11090.4	9.4	0.0	640.7
21160	11090.4	8.6	0.0	640.9
21161	11090.4	10.1	0.0	641.2
21162	11090.4	10.6	0.0	641.4
21163	11090.4	11.9	0.0	641.6
21164	11090.4	12.4	0.0	641.7
21165	11090.4	11.9	0.0	641.9
21166	9911.2	11.8	0.0	642.1
21167	9911.2	12.6	0.0	642.4
21168	9911.2	12.9	0.0	642.6
21169	9911.2	12.7	0.0	642.9
21170	9911.2	12.4	0.0	643.2
21171	9911.2	11.9	0.0	643.4
21172	9911.2	11.7	0.0	643.6
21173	10248.8	11.8	0.0	643.9
21174	10248.8	12.2	0.0	644.1
21175	10248.8	12.0	0.0	644.3
21176	10248.8	10.7	0.0	644.6
21177	10248.8	~~8.3~~ 10	0.0	644.8
21178	10248.8	~~6.6~~ 10	0.0	645.1
21179	10248.8	~~6.7~~ 10	0.0	645.4
21180	10077.5	~~7.2~~ 10	0.0	645.8
21181	10077.5	~~7.8~~ 10	0.0	646.0
21182	10077.5	~~8.0~~ 10	0.0	646.3
21183	10077.5	~~8.5~~ 10	0.0	646.6
21184	10077.5	~~9.0~~ 10	0.0	646.8
21185	10077.5	~~9.5~~ 10	0.0	646.9
21186	10077.5	10.0	0.0	647.1
21187	9336.2	10.0	0.0	647.3
21188	9336.2	10.0	0.0	647.5
21189	9336.2	10.0	0.0	647.8
21190	9336.2	10.0	0.0	648.1
21191	9336.2	10.0	0.0	648.6
21192	9336.2	10.0	0.0	649.3
21193	9336.2	10.0	0.0	650.1
21194	9852.5	10.0	0.0	650.8
21195	9852.5	10.0	0.0	651.3
21196	9852.5	10.0	0.0	651.8
21197	9852.5	10.0	0.0	652.3
21198	9852.5	10.0	0.0	652.9
21199	9852.5	10.0	0.0	653.6
21200	9852.5	10.0	0.0	654.3
21201	9752.1	10.0	0.0	655.0
21202	9752.1	10.0	0.0	655.6
21203	9752.1	10.0	0.0	656.0
21204	9752.1	10.0	0.0	656.5
21205	9752.1	10.0	0.0	656.9
21206	9752.1	10.0	0.0	657.4
21207	9752.1	10.0	0.0	657.9
21208	9681.2	10.0	0.0	658.4
21209	9681.2	10.5	0.0	658.8
21210	9681.2	11.0	0.0	659.1
21211	9681.2	11.5	0.0	659.5
July 21212	9681.2	12.0	0.0	659.8
Aug 21213	9681.2	12.5	0.0	660.1
21214	9681.2	12.5	0.0	660.6

21215	9424.3		12.0	0.0	661.3
21216	9424.3		11.5	0.0	661.8
21217	9424.3		10.9	0.0	662.1
21218	9424.3		10.4	0.0	662.5
21219	9424.3		9.7	0.0	662.8
21220	9424.3		9.0	0.0	663.2
21221	9424.3		8.7	0.0	663.8
21222	8739.3		8.6	0.0	664.4
21223	8739.3		8.4	0.0	665.0
21224	8739.3		8.5	0.0	665.5
21225	8739.3		7.7	0.0	666.2
21226	8739.3		7.2	0.0	666.8
21227	8739.3		6.5	0.0	667.5
21228	8739.3	10.0	5.8	84401.1	667.5
21229	7036.4		5.5	74763.3	667.5
21230	7036.4		6.6	58363.9	667.5
21231	7036.4		7.3	53967.8	667.5
21232	7036.4		7.0	63463.4	667.5
21233	7036.4		6.9	87263.2	667.5
21234	7036.4		7.6	82063.4	667.5
21235	7036.4		7.4	74263.6	667.5
21236	7655.4		7.5	63544.3	667.5
21237	7655.4		8.5	54044.7	667.5
21238	7655.4		9.7	48144.4	667.5
21239	7655.4		10.7	47145.0	667.5
21240	7655.4		11.0	48644.1	667.5
21241	7655.4		10.0	48644.1	667.5
21242	7655.4		9.9	48644.1	667.5
Aug 21243	8624.7		9.5	44973.1	667.5
Sep 21244	8624.7		8.3	43573.2	667.5
21245	8624.7		7.4	39573.5	667.5
21246	8624.7		7.3	34673.7	667.5
21247	8624.7		7.6	30573.6	667.5
21248	8624.7		7.7	29573.1	667.5
21249	8624.7		7.4	28573.7	667.5
21250	16191.6		6.7	21008.4	667.5
21251	16191.6		6.3	21308.4	667.5
21252	16191.6		6.1	20007.9	667.5
21253	16191.6		6.6	18708.5	667.5
21254	16191.6		6.1	17408.0	667.5
21255	16191.6		6.1	16208.9	667.5
21256	16191.6		5.7	14908.4	667.5
21257	8568.0		5.2	21231.6	667.5
21258	8568.0		5.5	19932.2	667.5
21259	8568.0		6.4	18631.7	667.5
21260	8568.0		6.4	18631.7	667.5
21261	8568.0		6.6	16931.8	667.5
21262	8568.0		6.5	16132.1	667.5
21263	8568.0		6.1	18132.0	667.5
21264	8776.0		5.8	19823.6	667.5
21265	8776.0		5.1	17924.1	667.5
21266	8776.0		4.3	15223.8	667.5
21267	8776.0		3.3	14023.7	667.5
21268	8776.0		2.7	13524.0	667.5
21269	8776.0		1.0	11524.1	667.5
21270	8776.0		0.5	9623.6	667.5
21271	10160.7		0.4	7439.4	667.5
21272	10160.7		0.4	6239.2	667.5
21273	10160.7		0.3	5739.5	667.5
21274	10160.7		0.4	5039.1	667.5
21275	10160.7		0.4	3839.0	667.5
21276	10160.7		0.4	3339.3	667.5
21277	10160.7		0.3	3839.0	667.5

	21278	18479.2	0.3	0.0	667.5
	21279	18479.2	0.3	0.0	667.4
	21280	18479.2	0.3	0.0	667.4
	21281	18479.2	0.2	0.0	667.4
	21282	18479.2	0.2	0.0	667.3
	21283	18479.2	0.2	0.0	667.3
	21284	18479.2	0.1	0.0	667.3
	21285	18589.3	0.3	0.0	667.2
	21286	18589.3	1.1	0.0	667.2
	21287	18589.3	1.7	0.0	667.2
	21288	18589.3	1.7	0.0	667.2
	21289	18589.3	1.6	0.0	667.1
	21290	18589.3	1.6	0.0	667.1
	21291	18589.3	1.5	0.0	667.1
	21292	22910.0	1.0	0.0	667.0
	21293	22910.0	0.5	0.0	666.9
	21294	22910.0	0.5	0.0	666.8
	21295	22910.0	0.5	0.0	666.8
	21296	22910.0	0.5	0.0	666.7
	21297	22910.0	0.5	0.0	666.7
	21298	22910.0	0.5	0.0	666.7
	21299	21706.2	0.5	0.0	666.6
	21300	21706.2	0.5	0.0	666.5
	21301	21706.2	0.5	0.0	666.5
	21302	21706.2	0.5	0.0	666.4
	21303	21706.2	0.5	0.0	666.3
OCT	21304	21706.2	0.5	0.0	666.2
	21305	21706.2	0.2	0.0	666.1
NOV	21306	25491.1	0.2	0.0	666.0
	21307	25491.1	0.2	0.0	665.8
	21308	25491.1	0.3	0.0	665.7
	21309	25491.1	0.2	0.0	665.6
	21310	25491.1	0.2	0.0	665.4
	21311	25491.1	0.2	0.0	665.3
	21312	25491.1	0.2	0.0	665.2
	21313	26670.4	0.2	0.0	665.0
	21314	26670.4	0.1	0.0	664.9
	21315	26670.4	0.1	0.0	664.8
	21316	26670.4	0.1	0.0	664.7
	21317	26670.4	0.2	0.0	664.5
	21318	26670.4	0.2	0.0	664.4
	21319	26670.4	0.3	0.0	664.2
	21320	24639.7	0.3	0.0	664.1
	21321	24639.7	0.3	0.0	664.0
	21322	24639.7	0.3	0.0	663.9
	21323	24639.7	0.3	0.0	663.7
	21324	24639.7	0.3	0.0	663.6
	21325	24639.7	0.3	0.0	663.5
	21326	24639.7	0.3	0.0	663.4
	21327	24539.4	0.2	0.0	663.3
	21328	24539.4	0.1	0.0	663.1
	21329	24539.4	0.1	0.0	663.0
	21330	24539.4	0.1	0.0	662.9
	21331	24539.4	0.1	0.0	662.8
	21332	24539.4	0.1	0.0	662.6
	21333	24539.4	0.1	0.0	662.5
NOV	21334	25288.1	0.1	0.0	662.4
DEC	21335	25288.1	0.0	0.0	662.3
	21336	25288.1	0.0	0.0	662.1
	21337	25288.1	0.0	0.0	662.0
	21338	25288.1	0.0	0.0	661.9
	21339	25288.1	0.0	0.0	661.7
	21340	25288.1	0.0	0.0	661.6

21341	26146.8	0.0	0.0	661.5
21342	26146.8	0.0	0.0	661.3
21343	26146.8	0.0	0.0	661.2
21344	26146.8	0.0	0.0	661.0
21345	26146.8	0.0	0.0	660.9
21346	26146.8	0.0	0.0	660.8
21347	26146.8	0.0	0.0	660.6
21348	26721.8	0.0	0.0	660.5
21349	26721.8	0.0	0.0	660.3
21350	26721.8	0.0	0.0	660.2
21351	26721.8	0.0	0.0	660.0
21352	26721.8	0.0	0.0	659.9
21353	26721.8	0.0	0.0	659.7
21354	26721.8	0.0	0.0	659.6
21355	27578.1	0.0	0.0	659.4
21356	27578.1	0.0	0.0	659.3
21357	27578.1	0.0	0.0	659.1
21358	27578.1	0.0	0.0	659.0
21359	27578.1	0.0	0.0	658.8
21360	27578.1	0.0	0.0	658.7
21361	27578.1	0.0	0.0	658.5
21362	27184.2	0.0	0.0	658.3
21363	27184.2	0.0	0.0	658.2
21364	27184.2	0.0	0.0	658.0
21365	27184.2	0.0	0.0	657.9

DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW

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DDDD     CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C       R   R   A   A   W    W  F       0   0   R   R   D   D
D    D  C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D   C       R R     AAAAA   W W W  F       0   0   R R     D   D
D   D   C       R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD     CCCC   R   R   A   A   W    W  F        000    R   R   DDDD

WW     AAAAAA     PPPPPPPP     HH      HH   YY      YY    SSSSSSSS
WW     AAAAAA     PPPPPPPP     HH      HH   YY      YY    SSSSSSSS
WW   AA     AA   PP      PP   HH      HH   YY      YY   SS
WW   AA     AA   PP      PP   HH      HH   YY      YY   SS
WW   AA     AA   PP      PP   HH      HH     YY  YY     SS
WW   AA     AA   PP      PP   HH      HH     YY  YY     SS
  WW WW    AAAAAAAAAA   PP      HH      HH     YY         SSSSSS
  WW WW    AAAAAAAAAA   PP      HH      HH     YY         SSSSSS
WW  WWWW   AA     AA   PP      HH      HH     YY             SS
WW  WWWW   AA     AA   PP      HH      HH     YY             SS
   WW      AA     AA   PP      HH      HH     YY      SSSSSSSS
   WW      AA     AA   PP      HH      HH     YY      SSSSSSSS

TTTTTTTTTT      AAAAAA     TTTTTTTTTT      ;;;;      666666
TTTTTTTTTT      AAAAAA     TTTTTTTTTT      ;;;;      666666
     TT    AA     AA        TT           ;;;;    66
     TT    AA     AA        TT           ;;;;    66
     TT    AA     AA        TT                   66
     TT    AA     AA        TT                   66
     TT    AA     AA        TT           ;;;;    66666666
     TT    AA     AA        TT           ;;;;    66666666
     TT    AAAAAAAAAA       TT           ;;;;    66      66
     TT    AAAAAAAAAA       TT           ;;;;    66      66
     TT    AA     AA        TT             ;;    66      66
     TT    AA     AA        TT             ;;    66      66
     TT    AA     AA        TT          ;;       666666
     TT    AA     AA        TT          ;;       666666

DDDD     CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C       R   R   A   A   W    W  F       0   0   R   R   D   D
D    D  C       R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D   C       R R     AAAAA   W W W  F       0   0   R R     D   D
D   D   C       R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD     CCCC   R   R   A   A   W    W  F        000    R   R   DDDD
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DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:18 DISK$TECHNICAL:[DCRAW

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17 ,00000114 ,00000014  1,00
685,6 15062942,2 194,384
670,6 12356600,0 160,777
655,3 10100406,0 135,312
640,1  8196875,3 114,495
624,8  6588290,5  96,605
609,6  5240010,9  78,662
594,4  4107436,5  68,297
579,1  3140137,6  58,645
563,9  2314987,6  49,643
548,6  1625936,3  40,877
533,4  1072840,5  31,807
518,2   637227,5  22,742
502,9   360869,9  16,151
487,7   156901,4  10,617
472,4    42111,1   4,447
457,2     3653,6   0,599
445,0          0;   ,0
667,5 80500,0 1257,0 445,0
4  3,7
655,6 80500,0 1140,0
644,3 80000,0 1100,0
633,1 72500,0 1020,0
617,8 72000,0  920,0
3,0 0,0 0,0 0,0 80,0 0,0 0,0 0,0
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DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:19 DISK$TECHNICAL:[DCRAWF
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:19 DISK$TECHNICAL:[DCRAWF
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:19 DISK$TECHNICAL:[DCRAWF

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DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D    D  C      R    R  A    A  W    W  F       0   0   R    R  D    D
D    D  C      RRRR    A    A  W    W  FFFF    0   0   RRRR    D    D
D    D  C      R R     AAAAAA W W W W  F       0   0   R R     D    D
D    D  C      R  R    A    A  WW  WW  F       0   0   R  R    D    D
DDDD     CCCC  R   R   A    A  W    W  F        000    R   R   DDDD
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WW     AAAAAA     WW        WW  EEEEEEEEEE     AAAAAA     TTTTTTTTTT
WW     AAAAAA     WW        WW  EEEEEEEEEE     AAAAAA     TTTTTTTTTT
WW   AA     AA   WW        WW  EE             AA     AA      TT
WW   AA     AA   WW        WW  EE             AA     AA      TT
WW   AA     AA   WW        WW  EE             AA     AA      TT
WW   AA     AA   WW        WW  EE             AA     AA      TT
WW   AA     AA   WW        WW  EEEEEEEE       AA     AA      TT
WW   AA     AA   WW        WW  EEEEEEEE       AA     AA      TT
WW WW AAAAAAAAAA WW  WW  WW  EE               AAAAAAAAAA      TT
WW WW AAAAAAAAAA WW  WW  WW  EE               AAAAAAAAAA      TT
WWWWW AA     AA  WWWW  WWWW  EE               AA     AA      TT      + + + +
WWWWW AA     AA  WWWW  WWWW  EE               AA     AA      TT      + + + +
  WW  AA     AA  WW      WW  EEEEEEEEE        AA     AA      TT      + + + +
  WW  AA     AA  WW      WW  EEEEEEEEEE       AA     AA      TT      + + + +
```

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DDDDD      AAAAAA    TTTTTTTTTT      ;;;;       11
DDDDDD     AAAAAA    TTTTTTTTTT      ;;;;       11
DD   DD   AA    AA      TT          ;;;;     1111
DD   DD   AA    AA      TT          ;;;;     1111
DD   DD   AA    AA      TT                     11
DD   DD   AA    AA      TT                     11
DD   DD   AA    AA      TT          ;;;;       11
DD   DD   AA    AA      TT          ;;;;       11
DD   DD   AAAAAAAAAA    TT          ;;;;       11
DD   DD   AAAAAAAAAA    TT          ;;;;       11
DD   DD   AA    AA      TT            ;;       11
DD   DD   AA    AA      TT            ;;       11
DDDDD     AA    AA      TT          ;;       111111
DDDDD     AA    AA      TT          ;;       111111
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DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D    D  C      R    R  A    A  W    W  F       0   0   R    R  D    D
D    D  C      RRRR    A    A  W    W  FFFF    0   0   RRRR    D    D
D    D  C      R R     AAAAAA W W W W  F       0   0   R R     D    D
D    D  C      R  R    A    A  WW  WW  F       0   0   R  R    D    D
DDDD     CCCC  R   R   A    A  W    W  F        000    R   R   DDDD
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DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:19 DISK$TECHNICAL:[DCRAWF
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19-JAN-1983 16:19 DISK$TECHNICAL:[DCRAWF
DCRAWFORD WADYR 19-JAN-1983 16:15 TTD7: 19 AN-1983 16:19 DISK$TECHNICAL:[DCRAWF

81152	26057.	0.30	9.5	2.35	3.7	0
81153	25776.	0.50	7.5	3.62	3.1	0.6
81154	18640.	0.80	9.0	3.79	2.4	4.2
81155	24336.	0.60	8.6	4.20	3.0	6.8
81156	15012.	0.90	5.4	3.64	3.2	13.6
81157	24336.	0.90	8.9	3.38	2.7	1.0
81158	29574.	0.70	8.6	3.20	4.1	0
81159	11423.	1.00	5.9	3.77	2.8	11.2
81160	20178.	0.90	5.9	2.85	2.1	0.8
81161	32922.	0.00	7.6	2.17	2.4	0
81162	20278.	0.80	9.1	3.2	2.3	5.2
81163	31313.	0.30	9.0	2.50	2.4	0
81164	27425.	0.40	13.2	2.10	2.9	0
81165	27911.	0.60	11.5	1.88	3.7	0
81166	22536.	0.80	12.0	4.16	3.6	1.8
81167	27047.	0.60	13.7	3.56	2.4	0
81168	31421.	0.00	13.9	2.20	2.1	0
81169	23310.	0.70	13.1	2.70	2.4	0.4
81170	31889.	0.40	12.2	2.39	2.4	0
81171	23544.	0.90	11.8	2.05	2.9	0.6
81172	9450.	1.00	9.0	5.33	2.9	10.6
81173	24390.	0.80	11.5	4.02	3.9	0
81174	23501.	0.80	11.4	2.66	2.1	1.6
81175	21996.	0.90	11.9	3.47	4.2	8.4
81176	21870.	1.00	11.8	3.83	4.2	0.2
81177	3930.	1.00	8.1	4.49	3.3	6.2
81178	4403.	1.00	4.5	3.76	3.2	29.4
81179	12593.	1.00	4.8	3.67	2.0	10.8
81180	9695.	1.00	4.1	3.57	1.5	8.8
81181	18641.	0.90	5.0	3.46	2.6	7.6
81182	22806.	0.60	7.0	2.68	2.4	0
81183	19890.	0.80	7.6	1.65	2.9	0
81184	27821.	0.80	8.2	2.47	2.6	0
81185	22241	0.60	9.2	1.38	2.8	0.
81186	10487	1.00	9.8	3.11	2.9	1.4
81187	14015	1.00	9.8	4.67	1.9	8.2
81188	7769	1.00	7.9	3.90	4.0	14.4
81189	2495	1.00	7.1	4.99	1.8	15.2
81190	5573	1.00	8.9	5.41	1.4	20.4
81191	6599	1.00	9.1	6.06	2.2	25.4
81192	11610.0	1.0	9.4	5.3	3.5	5.8
81193	10278.0	1.0	10.3	5.3	2.5	6.8
81194	11322.0	1.0	9.8	4.9	2.3	1.4
81195	11189.0	1.0	10.0	5.6	2.1	1.6
81196	14112.0	0.9	11.2	6.3	1.8	6.2
81197	14825.0	0.8	12.6	6.3	2.3	5.8
81198	17877.0	0.8	13.2	5.8	2.7	2.8
81199	14616.0	1.0	11.3	5.3	3.3	1.4
81200	11736.0	1.0	10.4	5.5	2.2	1.8
81201	11394.0	1.0	10.5	6.0	2.2	6.8
81202	21690.0	0.4	8.2	3.8	3.0	0.0
81203	13655.0	1.0	11.4	5.1	2.5	3.8
81204	11502.0	1.0	11.8	6.8	1.5	8.4
81205	13032.0	1.0	12.8	6.9	2.8	5.6
81206	12647.0	0.8	10.6	5.4	2.8	11.2
81207	15372.0	0.6	6.9	3.3	2.6	0.0
81208	24804.0	0.2	5.0	1.8	2.7	0.0
81209	9821.0	1.0	8.8	4.3	2.4	2.8
81210	16085.0	0.8	8.0	3.1	2.5	5.2
81211	16085.0	0.8	7.9	3.2	2.1	4.6
81212	13986.0	1.0	8.8	3.0	2.2	3.6
81213	5158.0	1.0	10.0	1.2	2.3	35.6
81214	12960.0	1.0	10.8	0.9	2.7	7.4

81215	22528.0	0.2	9.0	1.1	2.3	0.0
81216	25668.0	0.0	9.6	4.0	3.5	0.0
81217	20045.0	0.0	11.6	4.4	4.8	0.0
81218	14086.0	0.9	9.9	3.4	4.7	0.8
81219	4817.0	1.0	9.6	4.0	6.0	4.2
81220	11081.0	1.0	10.5	4.0	4.0	8.6
81221	13791.0	1.0	10.2	4.0	1.9	2.2
81222	10566.0	1.0	9.9	4.0	1.9	7.2
81223	12161.0	1.0	9.4	0.8	1.3	7.2
81224	6905.0	1.0	5.0	2.9	1.8	22.6
81225	10577.0	1.0	6.7	4.0	2.2	8.2
81226	8147.0	1.0	6.9	4.0	2.0	1.6
81227	4680.0	0.9	3.0	4.0	2.5	19.4
1228	14148.0	0.5	2.2	1.6	2.1	6.2
81229	17964.0	0.4	2.4	4.0	2.8	0.0
81230	9846.0	1.0	6.8	4.0	3.2	1.6
81231	10235.0	1.0	7.3	2.8	2.4	12.8
81232	4259.0	1.0	8.5	0.7	3.0	4.8
81233	15689.0	0.9	8.9	2.8	3.1	12.0
81234	6923.0	1.0	5.2	4.0	2.2	2.4
81235	14202.0	0.6	8.1	4.0	1.5	0.0
81236	19242.0	0.4	8.7	4.0	1.9	0.0
81237	16031.0	0.3	12.7	4.0	1.7	0.0
81238	19458.0	0.0	14.9	4.0	2.6	0.0
81239	19908.0	0.1	15.7	4.0	1.8	0.0
81240	16884.0	0.4	14.9	4.0	1.6	0.0
81241	5591.0	1.0	10.5	2.0	2.6	0.0
81242	10944.0	1.0	10.5	0.8	4.0	0.6
81243	13227.0	1.0	8.8	4.0	2.6	0.2
81244	18839.0	0.9	7.9	4.0	1.9	0.0
81245	7013.0	1.0	8.2	5.9	1.9	1.8
81246	10739.0	1.0	9.4	3.4	1.2	0.4
81247	11153.0	1.0	8.7	3.6	3.6	0.2
81248	2423.0	0.9	10.5	4.1	3.2	2.4
81249	8723.0	0.9	8.3	3.8	3.2	4.4
81250	9918.0	0.7	5.0	3.0	2.2	0.2
81251	16308.0	0.3	7.6	2.6	2.0	0.0
81252	7139.0	1.0	6.0	3.0	1.6	10.0
81253	9414.0	0.9	6.1	3.5	1.3	2.6
81254	7992.0	0.9	5.3	3.2	1.4	2.4
81255	13564.0	0.8	6.6	2.5	2.8	0.0
81256	10404.0	0.9	5.2	2.4	2.4	1.0
81257	10163.0	0.9	5.7	2.1	3.0	0.0
81258	8694.0	1.0	7.1	2.7	3.1	0.8
81259	9702.0	0.9	6.8	2.0	3.5	0.2
81260	13050.0	0.6	8.1	1.4	4.1	0.0
81261	5663.0	0.9	7.2	1.7	3.7	0.0
81262	2952	1.00	5.4	3.38	2.8	12.2
81263	8644	0.70	4.0	3.39	2.0	3.4
81264	7920	1.00	3.3	2.61	1.8	0.
81265	11304	0.40	3.0	1.13	1.5	0.
81266	6167	0.90	0.4	2.31	1.1	3.0
81267	2692	1.00	-1.4	2.36	0.8	30.6
81268	5519	0.70	-3.9	1.29	1.9	0.6
81269	12168	0.10	-4.5	1.14	1.8	0.2
81270	13421	1.00	-5.6	1.04	1.5	0.8
81271	10116	0.40	-3.8	1.75	4.4	0
81272	5500	0.70	-5.7	1.29	2.3	0.0
81273	10100	0.40	-2.1	1.75	2.3	0.0
81274	7200	0.00	-6.0	0.0	2.5	2.50 0.0
81275	7200	0.10	-6.0	2.5	2.50	0.0
81276	7211	1.00	-6.0	2.5	2.50	0.0
81277	5465	1.00	-1.9	2.5	2.50	0.0

81278	6779	0,80	-0,1	2,5	2,50	0,0
81279	5285	0,70	-2,0	2,5	2,50	0,6
81280	8777	0,00	-4,6	2,5	2,50	0,0
81281	5778	1,00	-1,8	2,5	2,50	0,0
81282	7488	0,90	-0,4	2,5	2,50	0,2
81283	7488	0,50	-1,5	2,5	2,50	0,0
81284	3413	1,00	-1,5	2,5	2,50	0,6
81285	4752	1,00	1,1	2,70	2,50	4,4
81286	5058	1,00	2,1	3,39	2,50	4,0
81287	4788	1,00	2,2	3,34	2,50	0,0
81288	5753	0,80	0,6	2,03	2,50	0,0
81289	4770	0,90	-0,2	2,00	2,50	0,0
81290	4943	0,70	0,8	1,67	2,50	0,0
81291	2862	1,00	-3,5	2,00	2,50	1,0
81292	4780	1,00	-7,6	2,00	2,50	0,0
81293	3546	1,00	-2,8	2,00	2,50	0,0
81294	3035	1,00	1	2,06	2,50	6,6
81295	3179	1,00	1,4	2,22	2,50	2,0
81296	2538	1,00	1,9	1,95	2,50	4,8
81297	3287	0,90	0,2	1,54	2,50	0,8
81298	2639	0,60	-1,7	1,54	2,50	0,0
81299	2780	1,00	-2,7	1,0	2,50	0,0
81300	5868	0,70	-4,1	1,0	2,50	0,0
81301	3125	0,9	-4,3	1,0	2,50	0,0
81302	3454	0,90	-7,9	1,0	2,50	0,0
81303	3340	0,40	-7,6	1,0	2,50	0,0
81304	3870	0,50	-10,2	1,0	2,50	0,0
81305	3708	,7	-11,3	0,3	4,0	0,0
81306	2592	,5	-7,2	0,5	4,8	0,0
81307	3096	,2	-12,0	0,4	1,4	0,0
81308	1584	,10	-10,8	0,5	2,1	1,2
81309	2484	,6	-14,6	0,3	1,1	0,0
81310	2304	,7	-16,7	0,3	2,8	0,0
81311	1397	1,0	-8,8	0,4	5,6	0,2
81312	1944	,7	-7,7	0,6	3,5	0,0
81313	1710	,9	-6,2	0,7	5,6	0,0
81314	1577	1,0	0,7	0,9	6,6	0,0
81315	2232	,5	-0,5	0,5	4,4	0,0
81316	1955	,7	-4,5	0,4	4,1	0,0
81317	2297	,3	-8,7	0,4	2,4	0,0
81318	2400	,1	-16,2	0,3	2,0	0,0
81319	2740	,0	-11,1	0,9	4,0	0,0
81320	1771	,6	-12,3	0,5	6,2	0,0
81321	2000	,2	-12,3	0,5	6,4	0,0
81322	2200	,2	-14,0	0,5	4,5	0,0
81323	2500	,0	-16,0	0,5	2,2	0,0
81324	2730	,0	-21,6	0,5	2,4	0,0
81325	2182	,1	-18,4	0,5	4,5	0,0
81326	907	,7	-15,4	0,5	7,2	0,0
81327	853	,8	-3,0	0,5	3,4	0,0
81328	940	,8	-10,3	0,5	2,6	0,8
81329	1779	,2	-9,8	0,5	1,2	0,0
81330	537	1,0	-6,7	0,3	2,7	2,8
81331	693	1,0	-5,6	1,0	2,0	0,0
81332	693	1,0	-8,2	0,8	1,0	0,0
81333	1350	,9	-10,5	0,5	4,9	0,0
81334	828	,9	-7,3	0,4	5,6	0,0
81335	846	1,0	-7,6	1,8	6,4	0,0
81336	1404	,2	-10,9	1,2	2,7	1,4
81337	1116	1,0	-9,5	1,5	1,5	3,0
81338	300	,7	-12,8	1,2	2,5	2,4
81339	594	1,0	-13,1	0,7	2,6	0,0
81340	713	,5	-14,3	1,0	2,9	0,0

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81341 1404 ,4 -20,4
81342 1253 ,6 -21,1
81343 450 1,0 -21,3
81344 443 1,0 -17,1
81345 497 1,0 -13,7
81346 353 1,0 -8,1 1
81347 407 ,6 -9,9 1,
81348 533 ,9 -13,2 1
81349 425 ,9 -9,1 1,
81350 641 1,0 -6,4 1
81351 918 ,9 -1,2 2,
81352 990 ,8 -1,2 2,
81353 1152 ,3 -7,5 1
81354 720 ,8 -8,6 1,
81355 1127 1,0 -12,5
81356 1055 ,7 -15,3
81357 792 1,0 -8,8 1
81358 1206 1,0 -9,3
81359 1062 1,0 -11,5
81360 468 ,2 -14,5 0
81361 497 0,0 -22,0
81362 587 ,2 -23,6 0
81363 551 0,0 -28,6
81364 558 ,9 -26,8 0
81365 396 ,7 -23,8 0
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81341	1404	.4	-20.4	0.5	1.8	0.0
81342	1253	.6	-21.1	0.5	2.8	0.0
81343	450	1.0	-21.3	0.6	2.1	0.0
81344	443	1.0	-17.1	0.7	5.1	0.0
81345	497	1.0	-13.7	1.1	6.2	0.0
81346	353	1.0	-8.1	1.7	6.1	0.0
81347	407	.6	-9.9	1.3	3.8	0.0
81348	533	.9	-13.2	1.0	2.9	0.0
81349	425	.9	-9.1	1.4	5.9	0.0
81350	641	1.0	-6.4	1.6	7.6	0.0
81351	918	.9	-1.2	2.3	6.6	0.0
81352	990	.8	-1.2	2.6	5.0	0.0
81353	1152	.3	-7.5	1.7	1.5	0.2
81354	720	.8	-8.6	1.5	2.5	0.0
81355	1127	1.0	-12.5	1.5	1.0	0.0
81356	1055	.7	-15.3	1.0	4.7	0.0
81357	792	1.0	-8.8	1.5	5.9	0.0
81358	1206	1.0	-9.3	1.6	1.8	0.0
81359	1062	1.0	-11.5	1.2	2.2	0.0
81360	468	.2	-14.5	0.7	2.8	0.0
81361	497	0.0	-22.0	0.3	3.3	0.0
81362	587	.2	-23.6	0.2	3.5	0.0
81363	551	0.0	-28.6	0.2	2.4	0.0
81364	558	.9	-26.8	0.2	3.7	0.0
81365	396	.7	-23.8	0.3	2.2	0.0

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DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
                D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
                D    D  C      R    R  A    A  W    W  F       0   0   R    R  D    D
                D    D  C      RRRR    A    A  W    W  FFFF    0   0   RRRR    D    D
                D    D  C      R R     AAAAAA  W W W  F       0   0   R R     D    D
                D   D   C      R  R    A   A   WW WW  F       0   0   R  R    D   D
                DDDD     CCCC  R   R   A   A   W    W  F        000    R   R   DDDD

WW     AAAAAA     WW        WW     IIIIII     NN       NN  DDDDDDDDD
WW     AAAAAA     WW        WW     IIIIII     NN       NN  DDDDDDDDD
WW   AA     AA   WW        WW       II       NN       NN  DD      DD
WW   AA     AA   WW        WW       II       NN       NN  DD      DD
WW   AA     AA   WW        WW       II       NNNN     NN  DD      DD
WW   AA     AA   WW        WW       II       NNNN     NN  DD      DD
WW   AA     AA   WW        WW       II       NN  NN   NN  DD      DD
WW   AA     AA   WW        WW       II       NN  NN   NN  DD      DD
WW WW AAAAAAAAAA WW  WW  WW       II       NN    NNNN  DD      DD
WW WW AAAAAAAAAA WW  WW  WW       II       NN    NNNN  DD      DD
  WWWW AA     AA   WWWW   WWWW     II       NN      NN  DD      DD      . . . .
  WWWW AA     AA   WWWW   WWWW     II       NN      NN  DD      DD      . . . .
    WW AA     AA   WW        WW     IIIIII   NN      NN  DDDDDDDDD      . . . .
    WW AA     AA   WW        WW     IIIIII   NN      NN  DDDDDDDDD      . . . .

DDDD       AAAAAA    TTTTTTTTTT      ;;;;       333333
DDDD       AAAAAA    TTTTTTTTTT      ;;;;       333333
    DD   AA     AA       TT          ;;;;     33       33
    DD   AA     AA       TT          ;;;;     33       33
    DD   AA     AA       TT                            33
    DD   AA     AA       TT                            33
    DD   AA     AA       TT          ;;;;           33
    DD   AA     AA       TT          ;;;;           33
    DD   AAAAAAAAAA      TT          ;;;;             33
    DD   AAAAAAAAAA      TT          ;;;;             33
    DD   AA     AA       TT            ;;     33       33
    DD   AA     AA       TT            ;;     33       33
DDDD     AA     AA       TT          ;;         333333
DDDD     AA     AA       TT          ;;         333333

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
                D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
                D    D  C      R    R  A    A  W    W  F       0   0   R    R  D    D
                D    D  C      RRRR    A    A  W    W  FFFF    0   0   RRRR    D    D
                D    D  C      R R     AAAAAA  W W W  F       0   0   R R     D    D
                D   D   C      R  R    A   A   WW WW  F       0   0   R  R    D   D
                DDDD     CCCC  R   R   A   A   W    W  F        000    R   R   DDDD

DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO
DCRAWFORD     WADYR 19-JAN-1983 16:15    TTD7: 19-JAN-1983 16:20    DISK$TECHNICAL:[DCRAWFO
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81153	-3.0	-4.9	-3.3	-0.9
81154	2.2	-3.3	-2.3	1.5
81155	-3.7	-3.0	-4.8	-2.1
81156	-3.4	-3.3	-3.0	-2.1
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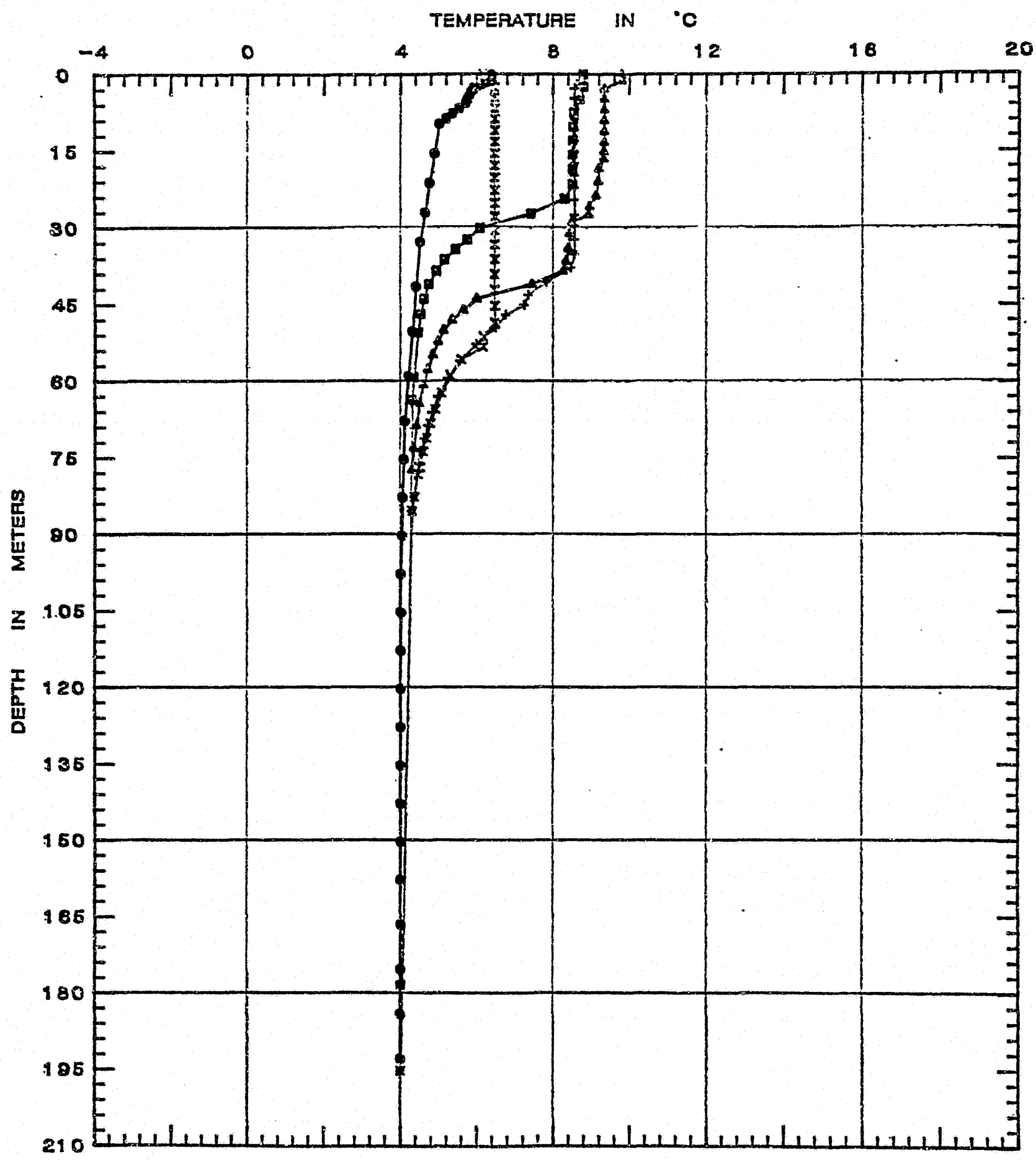
81158	-3.5	-4.3	-5.2	-3.0
81159	-2.8	4.1	-2.3	0.2
81160	1.0	2.8	-3.7	-1.4
81161	-1.2	2.0	-4.6	-2.0
81162	1.3	-3.1	3.5	-1.8
81163	1.2	-2.1	-3.9	-2.5
81164	-1.2	3.1	-4.8	-2.9
81165	-3.5	-5.3	-3.9	-2.4
81166	-2.7	-4.3	-5.4	-2.6
81167	-1.9	-2.0	-4.5	-1.9
81168	-1.9	2.4	-3.3	-1.4
81169	-3.4	-3.2	-4.5	-2.2
81170	-2.0	3.2	3.2	-2.5
81171	1.3	-3.2	-4.7	-2.0
81172	-3.0	-2.9	-4.2	-2.4
81173	-3.9	-5.3	-4.2	-2.0
81174	1.8	3.1	-2.7	-2.2
81175	-3.4	-5.3	2.7	-3.3
81176	-3.9	-5.2	-4.1	-3.4
81177	-2.8	-3.2	-2.0	-3.8
81178	-3.5	-3.6	2.0	-1.7
81179	1.0	-2.0	-2.7	-0.9
81180	1.2	-1.4	-1.5	-3.0
81181	-2.8	-4.9	2.1	-2.0
81182	-1.9	4.3	2.0	-1.3
81183	-4.5	-4.2	-3.1	-1.2
81184	-2.9	-3.2	-3.0	1.6
81185	1.9	-4.9	-3.7	-2.6
81186	-3.0	-5.4	1.5	1.4
81187	0.8	-2.0	-3.5	-1.3
81188	-1.9	-8.0	4.0	1.8
81189	1.6	2.2	1.8	-3.1
81190	-0.7	1.6	0.6	0.5
81191	4.3	2.1	-1.0	-1.4
81192	-3.9	-4.8	-4.0	-1.0
81193	1.5	-4.2	-3.8	-0.8
81194	-2.2	-3.5	-3.2	0.8
81195	-1.8	-3.7	-1.7	-0.7
81196	3.0	1.4	-1.3	-0.6
81197	1.5	-3.9	-2.4	-1.3
81198	-2.5	-3.8	-3.7	-1.9
81199	-2.2	-5.0	-3.6	-1.0
81200	1.1	-3.5	-3.2	-0.6
81201	-0.8	-3.6	-3.8	-1.9
81202	-2.7	-4.4	-3.8	-1.4
81203	-2.0	-3.4	-2.0	0.6
81204	1.8	-2.3	-1.6	-0.7
81205	3.5	4.5	-2.0	1.3
81206	2.5	-3.0	-2.9	-1.3
81207	-1.7	-3.7	-3.5	-1.8
81208	-2.5	-4.7	-3.2	-1.2
81209	-2.0	-4.3	-3.2	-0.9
81210	-3.4	-3.9	-2.1	1.2
81211	-2.0	-4.1	-2.8	-1.3
81212	-2.0	-4.1	-2.8	-1.3
81213	2.4	3.8	-1.3	4.7
81214	3.2	3.3	2.6	1.2

81215 1.3 2.2 3.4 2.6
81216 2.7 5.1 -5.4 -2.0
81217 -4.2 -5.2 4.7 5.3
81218 -5.5 -5.5 -1.4 -6.7
81219 -6.1 -6.8 -6.1 -5.7
81220 -6.0 -4.2 -2.1 -1.8
81221 -1.9 -2.7 -2.8 -1.4
81222 -2.4 -3.3 -1.4 1.0
81223 -0.9 -1.7 -1.6 -2.0
81224 -2.0 -3.6 -2.0 -1.7
81225 -1.6 -3.8 -3.7 -1.6
81226 -2.6 -3.4 -2.3 -1.1
81227 -4.2 -1.7 -2.2 -0.8
81228 -2.0 -3.5 -2.1 2.3
81229 3.6 -3.5 -2.1 -3.4
81230 -3.6 -4.7 -3.2 -1.7
81231 -2.7 -4.1 -2.2 -2.1
81232 3.2 4.2 2.3 3.1
81233 5.7 -4.2 -2.0 -1.8
81234 -2.6 -2.8 -2.0 -1.0
81235 -1.4 -2.0 -2.0 -0.9
81236 -1.8 -2.7 -2.2 -1.5
81237 -1.5 -2.0 -2.1 -1.2
81238 -1.8 -2.3 -6.0 -2.4
81239 -1.4 -1.9 -3.3 -1.8
81240 0.7 1.8 -2.8 -2.0
81241 -0.9 -3.8 -3.4 -2.2
81242 -2.9 -5.4 -5.2 -4.2
81243 -2.9 -5.4 -5.2 -4.2
81244 1.8 -2.0 -1.8 -1.7
81245 -1.7 -4.9 -1.8 -1.2
81246 -1.2 -1.3 -1.3 -0.7
81247 2.3 5.3 3.8 2.8
81248 2.7 4.7 -1.3 3.3
81249 3.7 4.0 0.8 -1.0
81250 1.3 3.6 2.0 0.9
81251 1.1 3.5 2.0 1.3
81252 1.5 2.2 1.1 1.1
81253 -0.9 -1.8 -1.3 -1.8
81254 1.4 -1.6 -2.0 1.2
81255 1.6 3.9 3.5 1.4
81256 1.4 3.2 2.3 2.9
81257 2.0 3.1 4.0 2.6
81258 6.1 3.8 -1.1 1.9
81259 2.2 3.2 5.6 5.3
81260 4.2 3.8 4.0 3.6
81261 4.7 4.3 3.3 5.8
81262 4.8 3.2 1.2 -0.8
81263 2.1 2.9 -1.8 -1.5
81264 -0.6 1.7 3.3 1.6
81265 1.8 -1.9 -1.5 0.9
81266 1.2 -1.7 0.7 0.4
81267 0.1 0.1 1.9 2.7
81268 1.7 2.3 2.2 1.8
81269 1.9 -1.3 2.3 1.9
81270 2.1 0.5 1.6 3.0
81271 4.2 4.2 4.6 4.4
81272 4.2 4.2 4.6 4.4
81273 4.2 4.2 4.6 4.4
81274 2.2 2.0 2.7 3.7
81275 2.2 2.0 2.7 3.7
81276 2.2 2.0 2.7 3.7
81277 4.9 5.4 6.2 5.8

0 0 0 0 7 4

81278 4.1 1.8 -1.4 3.2
81279 2.3 3.3 3.3 4.0
81280 3.3 5.1 6.5 3.5
81281 4.4 4.3 3.4 3.9
81282 3.6 4.3 2.0 -0.6
81283 1.2 -1.7 2.8 5.3
81284 8.0 5.8 2.4 4.0
81285 3.8 4.2 4.6 5.4
81286 0.2 1.2 -2.0 -0.8
81287 1.1 0.3 -1.4 1.4
81288 1.4 1.4 -2.0 1.7
81289 1.2 4.0 3.8 3.2
81290 2.5 -1.4 -5.0 -1.0
81291 -0.8 -1.2 -1.1 1.3
81292 1.6 1.9 4.0 4.3
81293 4.2 5.2 6.4 7.4
81294 7.5 5.4 -2.6 -1.4
81295 0.8 -0.9 2.2 5.2
81297 2.1 3.1 1.8 2.1
81297 -2.1 -3.4 -2.6 -1.1
81298 -1.3 1.5 3.2 3.0
81299 2.8 2.5 3.8 3.6
81300 4.3 6.2 4.4 7.0
81301 6.5 6.0 5.4 4.8
81302 5.5 6.5 5.9 2.0
81303 3.4 3.3 2.3 1.2
81304 3.4 3.3 2.3 2.3
81305 1.94 3.8 4.35 5.5
81306 5.4 4.4 2.1 -3.1
81307 -0.9 1.0 3.1 3.5
81308 2.0 1.5 -1.2 -1.2
81309 1.2 -0.3 -0.7 -1.6
81310 -1.8 1.0 2.5 5.4
81311 6.4 6.1 5.6 4.0
81312 2.4 4.6 4.8 1.9
81313 4.9 6.8 5.1 4.1
81314 5.9 8.8 7.8 3.3
81315 2.6 3.3 5.2 6.1
81316 4.0 4.5 3.9 3.6
81317 2.2 1.7 2.6 2.7
81318 2.1 1.8 3.7 3.7
81319 3.4 3.6 4.2 3.7
81320 6.1 7.0 6.9 7.2
81321 3.4 6.4 3.7 3.7
81322 3.4 3.6 3.7 3.7
81323 3.4 3.6 3.7 3.7
81324 2.2 2.4 2.5 2.1
81325 2.7 3.6 4.9 6.4
81326 7.2 7.4 6.2 8.0
81327 5.4 2.2 0.8 3.8
81328 5.4 2.8 0.9 -0.2
81329 1.1 0.4 0.4 1.9
91330 5.8 5.5 5.9 1.6
81331 1.0 -0.4 -2.4 -3.2
81332 -1.0 -1.0 0.7 0.6
81333 1.7 3.8 6.9 6.6
81334 5.3 5.4 5.7 5.3
81335 8.5 7.5 6.5 2.8
81336 -2.0 -2.2 2.1 3.4
81337 -0.9 -0.6 -0.3 -2.4
81338 -0.9 1.9 3.4 1.9
81339 2.2 2.5 2.0 3.1
81340 3.6 -2.7 2.9 2.1

81341	2,0	1,5	1,4	2,1
81342	4,2	2,1	2,5	2,2
81343	1,7	1,3	2,3	2,8
81344	2,7	4,6	5,9	6,7
81345	5,3	6,0	6,6	6,6
81346	6,5	6,0	5,9	5,7
81347	5,4	5,7	1,9	2,0
81348	2,6	2,3	3,6	2,7
81349	4,7	6,0	5,7	6,9
81350	7,9	5,4	7,2	9,3
81351	7,2	6,9	6,6	5,1
81352	8,3	4,3	5,1	1,7
81353	0,0	0,0	1,4	1,9
81354	3,0	3,1	1,0	1,0
81355	0,5	-0,5	-0,9	0,9
81356	1,6	3,3	6,9	6,8
81357	6,8	5,9	5,8	4,4
81358	1,7	-1,5	-1,6	-2,1
81359	1,3	1,0	1,7	3,6
81360	5,0	-3,1	0,3	1,1
81361	1,7	3,0	3,6	4,4
81362	3,9	2,9	4,0	2,9
81363	1,9	2,5	2,3	2,5
81364	2,7	2,1	3,3	6,6
81365	3,1	1,7	1,6	2,0



DATA	STATION	DATE
o	Sta. 999	June 1
□	Sta. 999	June 29
▲	Sta. 999	July 31
+	Sta. 999	Aug. 31
×	Sta. 999	Sept. 30

PREPARED BY:

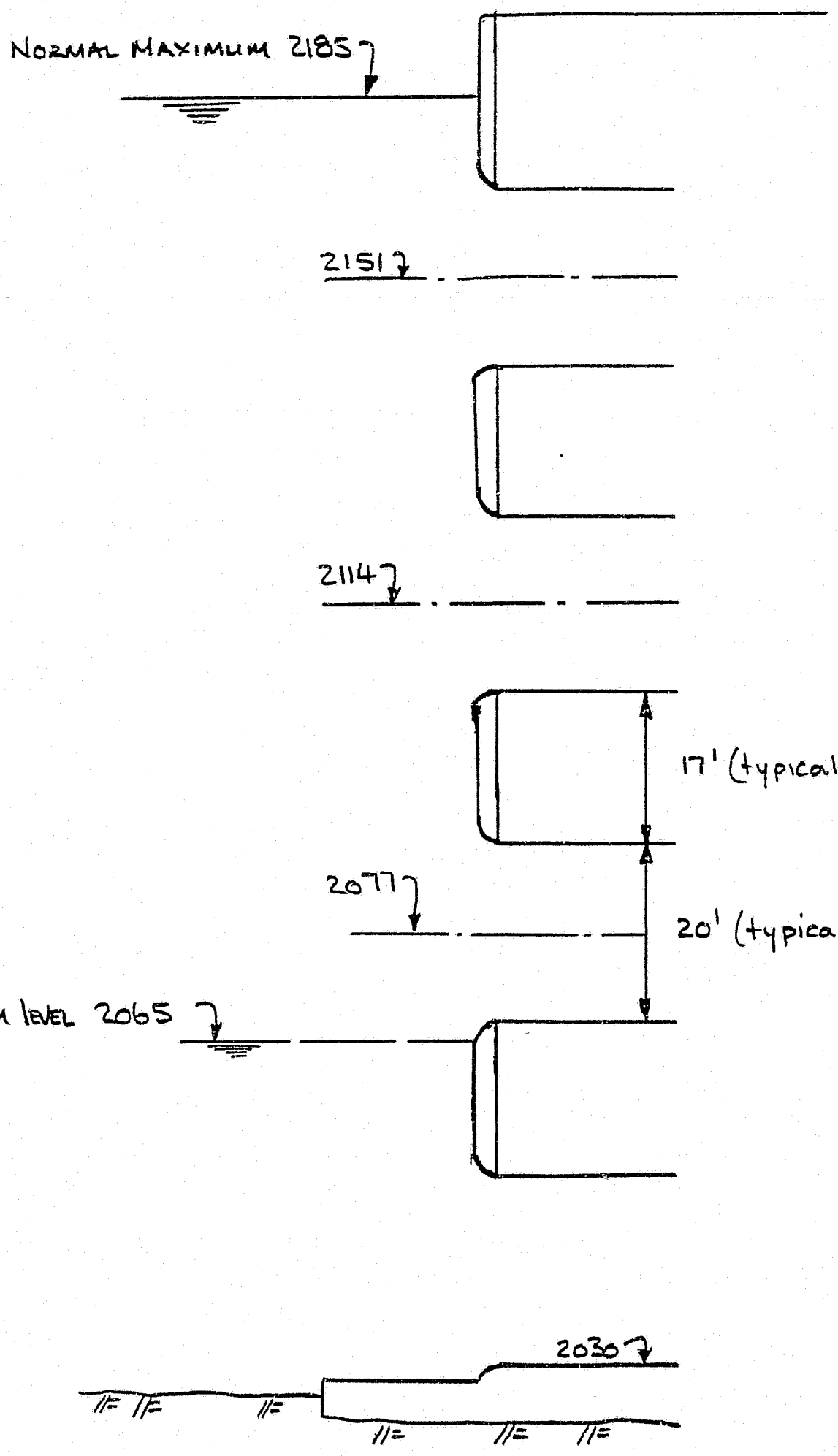
R&M CONSULTANTS, INC.

WATANA
TEMPERATURE COMPARISON
PROFILE PLOT

PREPARED FOR:

ACRES

000007



SUSITNA HEP

INTAKE LEVELS

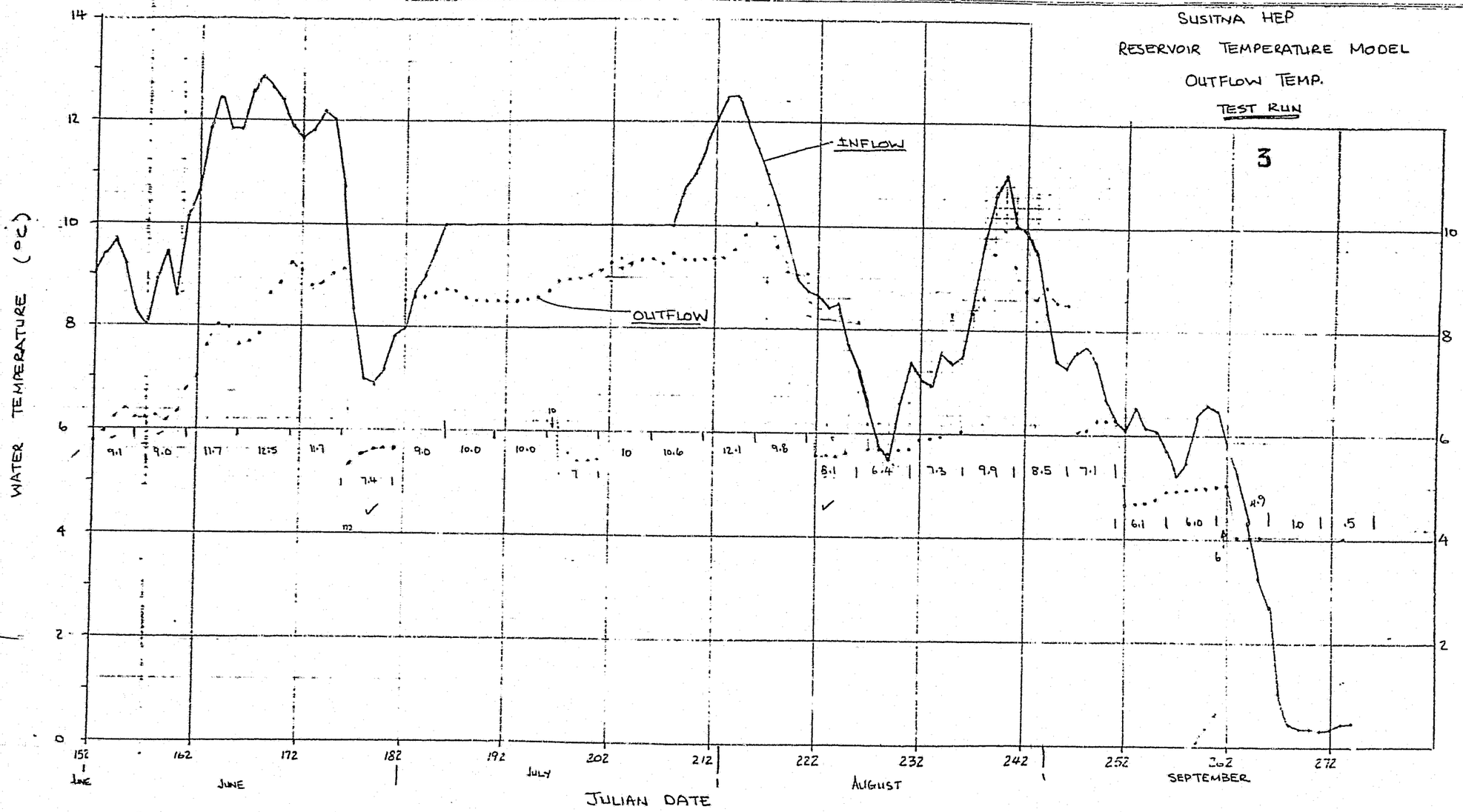
DC 14 OCT 82

FIGURE 2 ACRES

BY DC DATE 26SEP82 SUBJECT SUSITNA HEP SHEET NO. OF
CHKD. BY DATE RESERVOIR TEMP. MODELLING JOB NO.

PRELIMINARY

SUSITNA HEP
RESERVOIR TEMPERATURE MODEL
OUTFLOW TEMP.
TEST RUN 3



DC 26SEP 82

FIGURE 1

ACRES

PS700.14.03.206

ACRES

Calculations

SUBJECT:

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY DC DATE 27SEP82
APP DATE

WATANA RESERVOIR TEMPERATURE MODELING

RUN ID	DATE	SIMULATION DATES FROM	TO	COMMENTS
W5212.4	27SEP 82	1-6-81	31-7-81	• with start @ day 81212 of W5212.2 • warmest possible outflow required.
W1373.4	28 SEP 82	1-8-81	30-9-81	• Continuation of W5212.4.
W5212.5	29SEP 82	1-6-81	31-7-81	• with start @ day 81212 of W5212.2 • warmest possible • with 4 intake openings.
W1373.5	30 SEP 82	1-8-81	30-9-81	• Continuation of W5212.5

FORM NO. 152 REV. 1

0000074

ACRES

Calculations

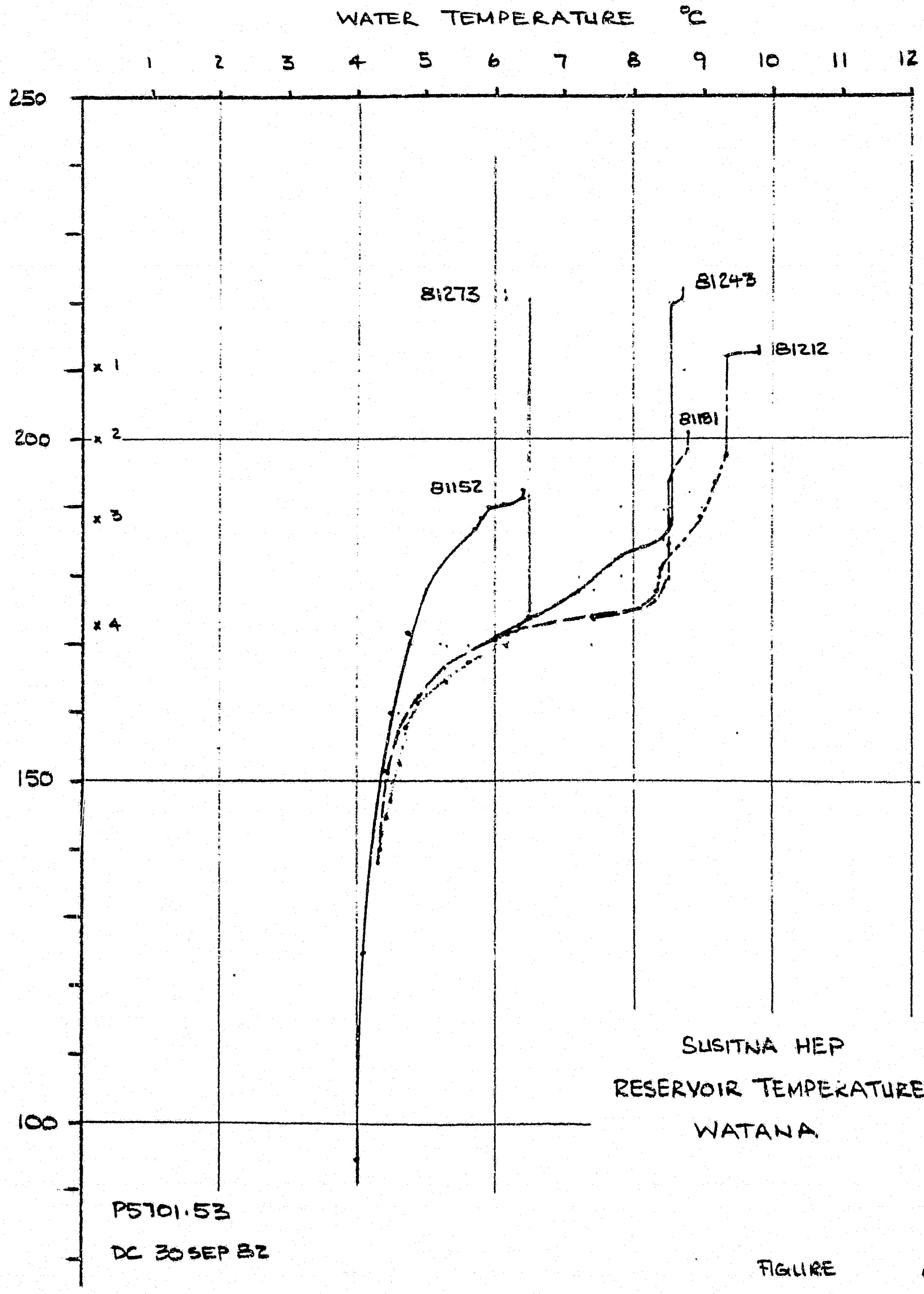
SUBJECT: SUSITNA HEP

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY DC DATE 23 SEP 82
APP DATE

WATANA RESERVOIR TEMPERATURE MODELLING

RUN ID	DATE	SIMULATION DATES FROM	TO	COMMENTS
W5281.1	23 SEP 82	1-6-81	30-6-81	Basic isothermal (@ 3.9°c) assumed for June 1.
W5281.2	24 SEP 82	1-6-81	30-6-8	Assumed initial profile to be that of DAY 81162 OF RUN W5281.1
W8110.2	24 SEP 82	30-6-81	29-7-81	ASSUMED W5281.2 PROFILE ACCEPTABLE. OUTPUT PROBLEM WITH INFLOWS ≥ 100,000.
W5212.2	25 SEP 82	1-6-81	31-7-81	• CORRECTED STARTING LEVEL IN PROFILE. • MODIFIED SUBMERGENCE CRITERIA FROM 10M TO 1 M. • DAYS = 61 • Check on CPU
W1243.2	25-SEP-82	31-7-81	31-8-81	• ASSUMED START @ DAY 81212 OF W 5212.2.
W4472.2	26-SEP-82	1-9-81	30-9-81	• ASSUMED START @ DAY 81243 OF W1243.2 • CPU Check
W5212.3	26 SEP 82	1-6-81	31-7-81	• Assumed start at day 81162 of Run W5281.1 • Outflow temps @ 5 DAM Ab. Inflow.
WB733	62 SEP 82	1-8-81	30-9-81	• Start at 81212.

FORM NO. 152 REV. 1



P5701.53

DC 30 SEP 82

SUSITNA HEP

RESERVOIR TEMPERATURE MODEL

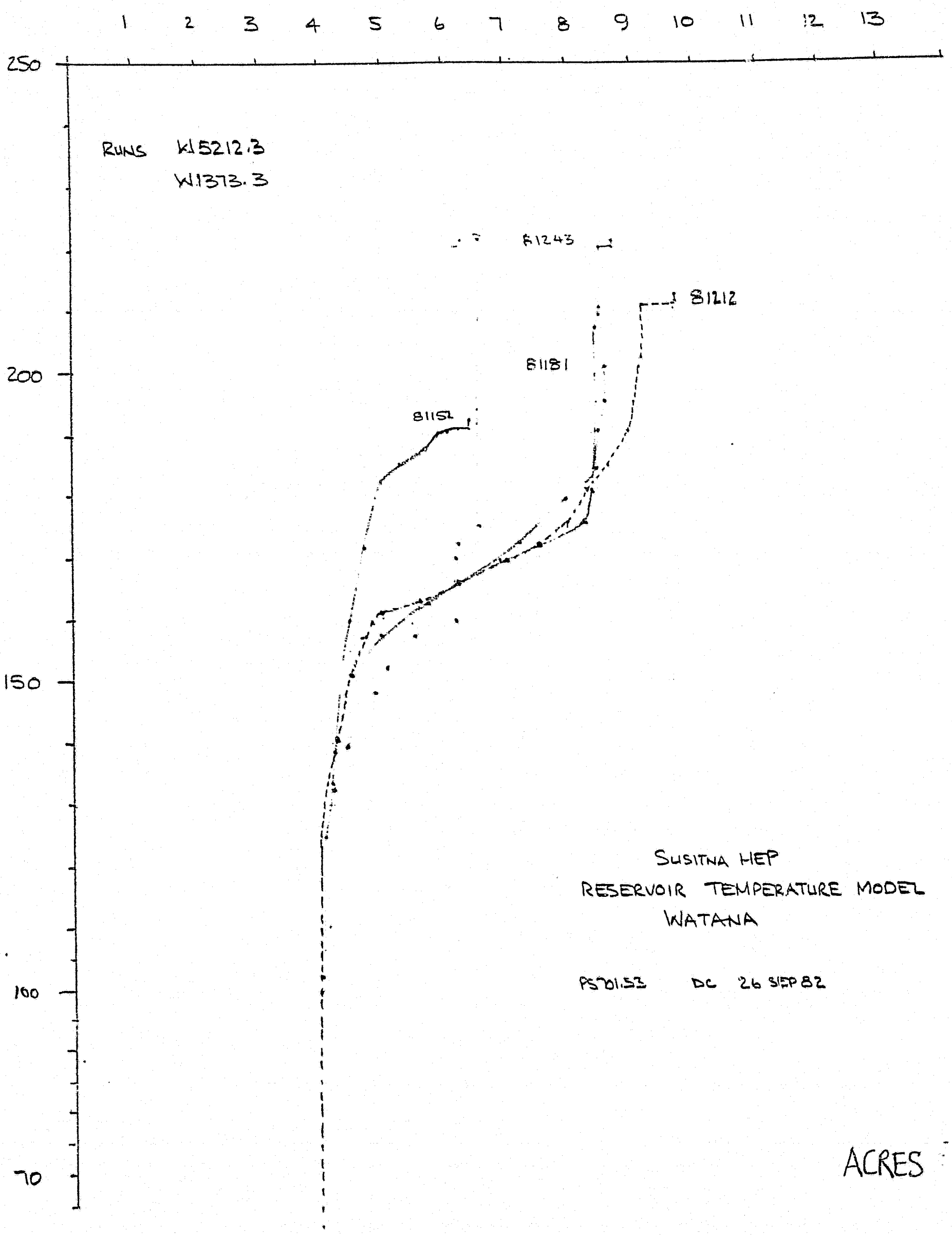
WATANA.

FIGURE 1

ACRES

3

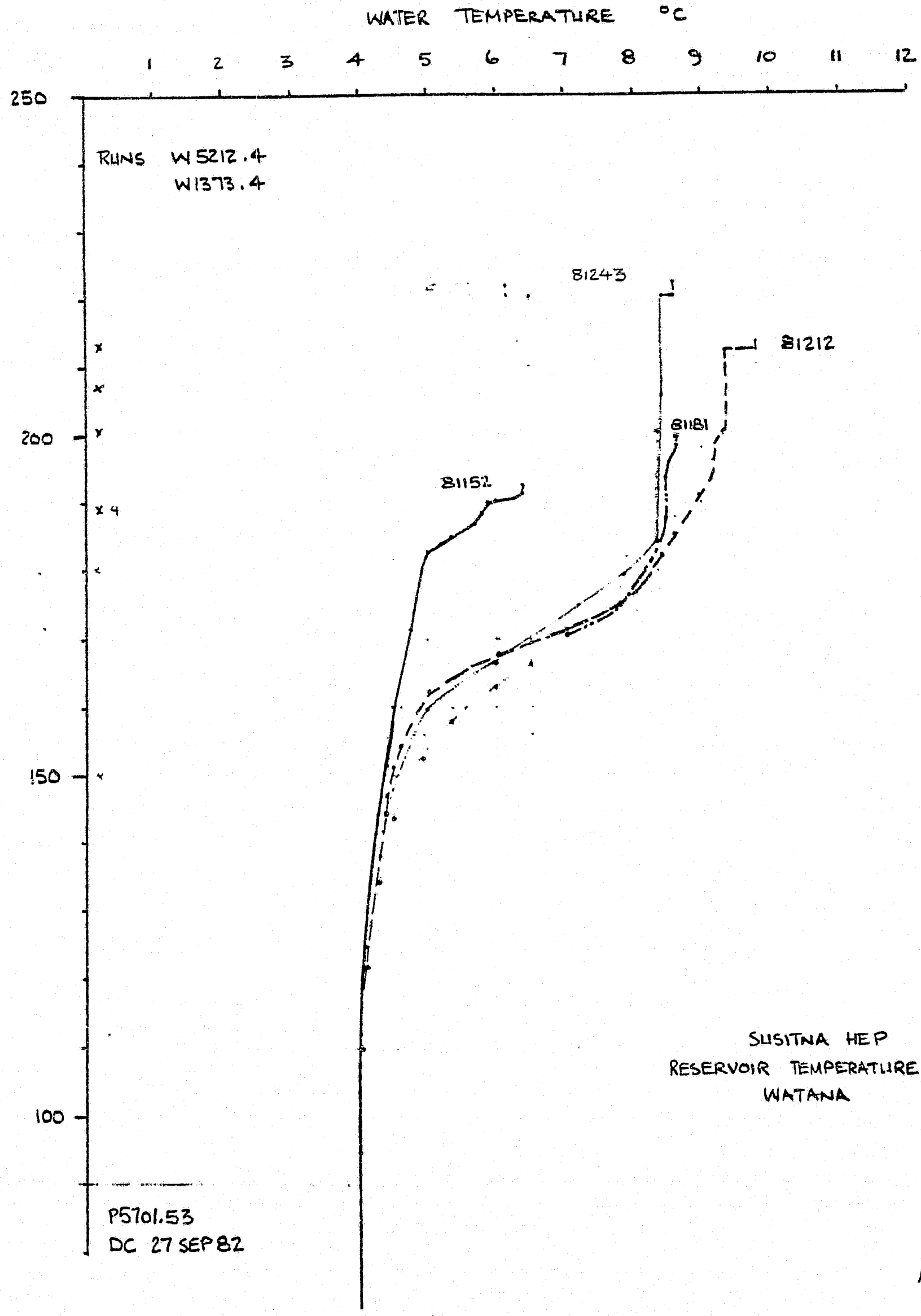
WATER TEMPERATURE °C



SUSITNA HEP
RESERVOIR TEMPERATURE MODEL
WATANA

PS701.53 DC 26 SEP 82

ACRES



SUSITNA HEP
RESERVOIR TEMPERATURE MODEL
WATANA

ACRES

BY DC DATE 26SEP82 SUBJECT SUSITNA

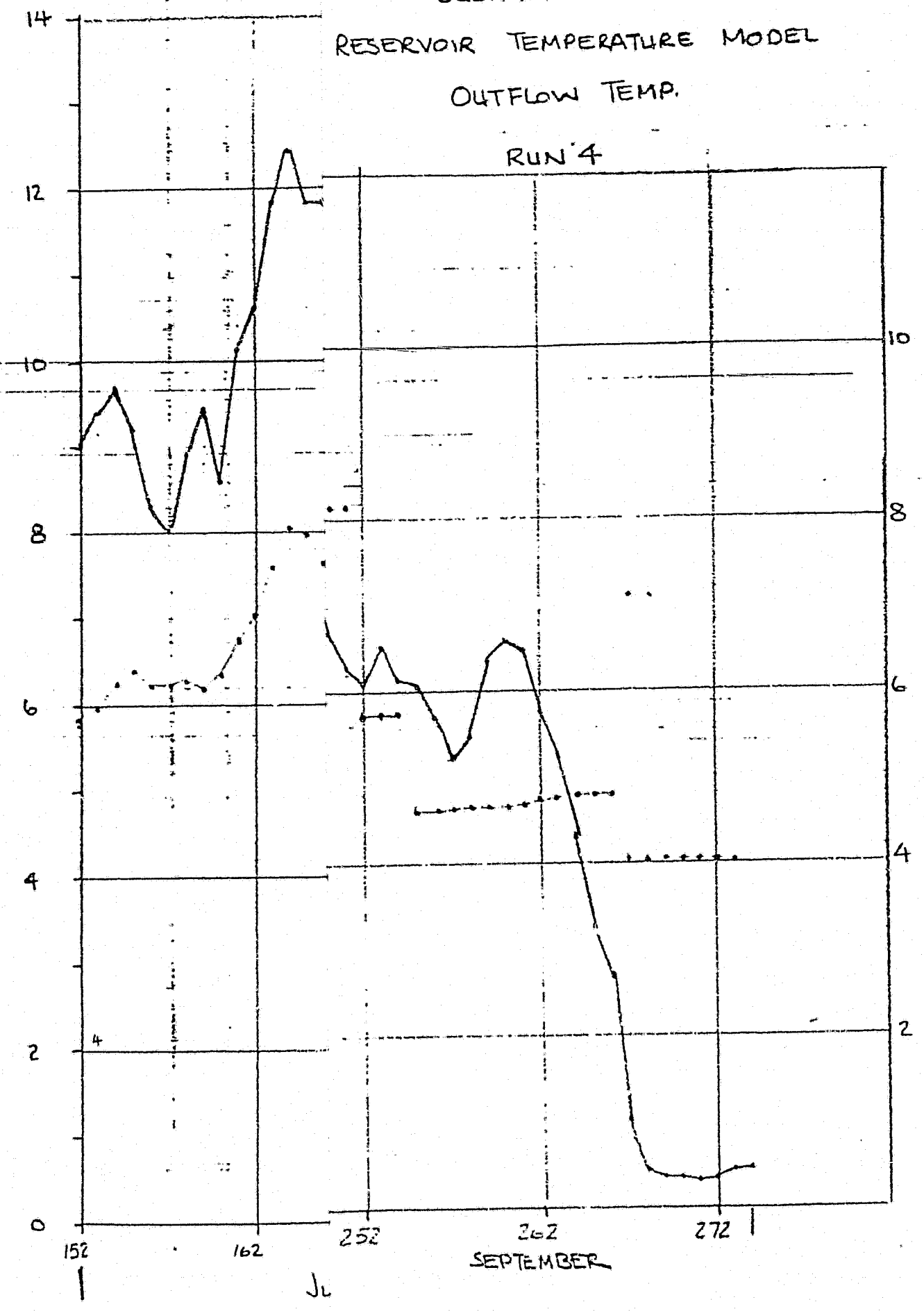
CHKD. BY ..... DATE ..... RESERVOIR TEMP

SUSITNA HEP

RESERVOIR TEMPERATURE MODEL

OUTFLOW TEMP.

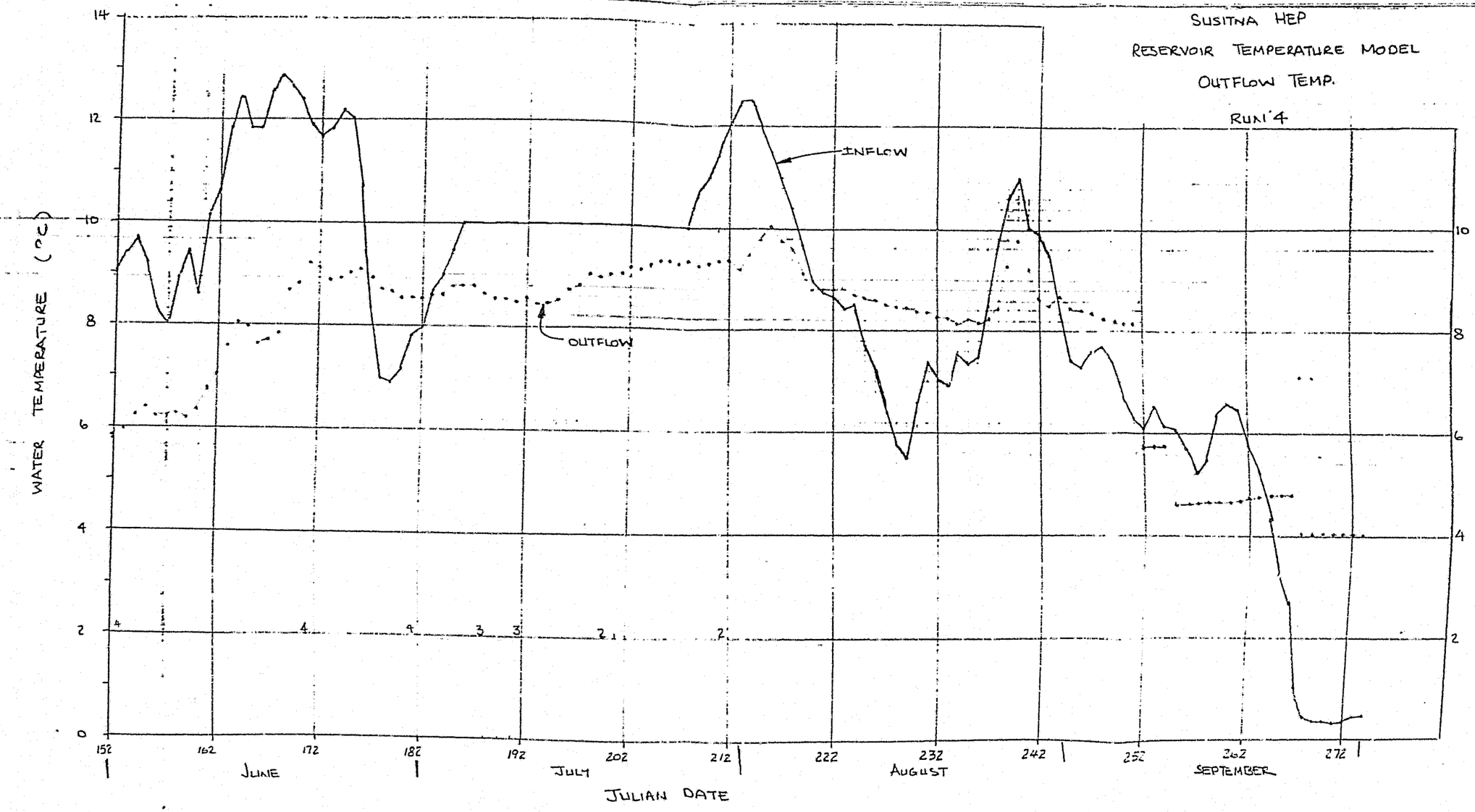
RUN 4



DC 26SEP 82

ACRES

BY DC DATE 26SEP82 SUBJECT SUSITNA HEP SHEET NO. ____ OF ____
CHKD. BY ____ DATE ____ RESERVOIR TEMP. MODELING JOB NO. ____



DC 26SEP82

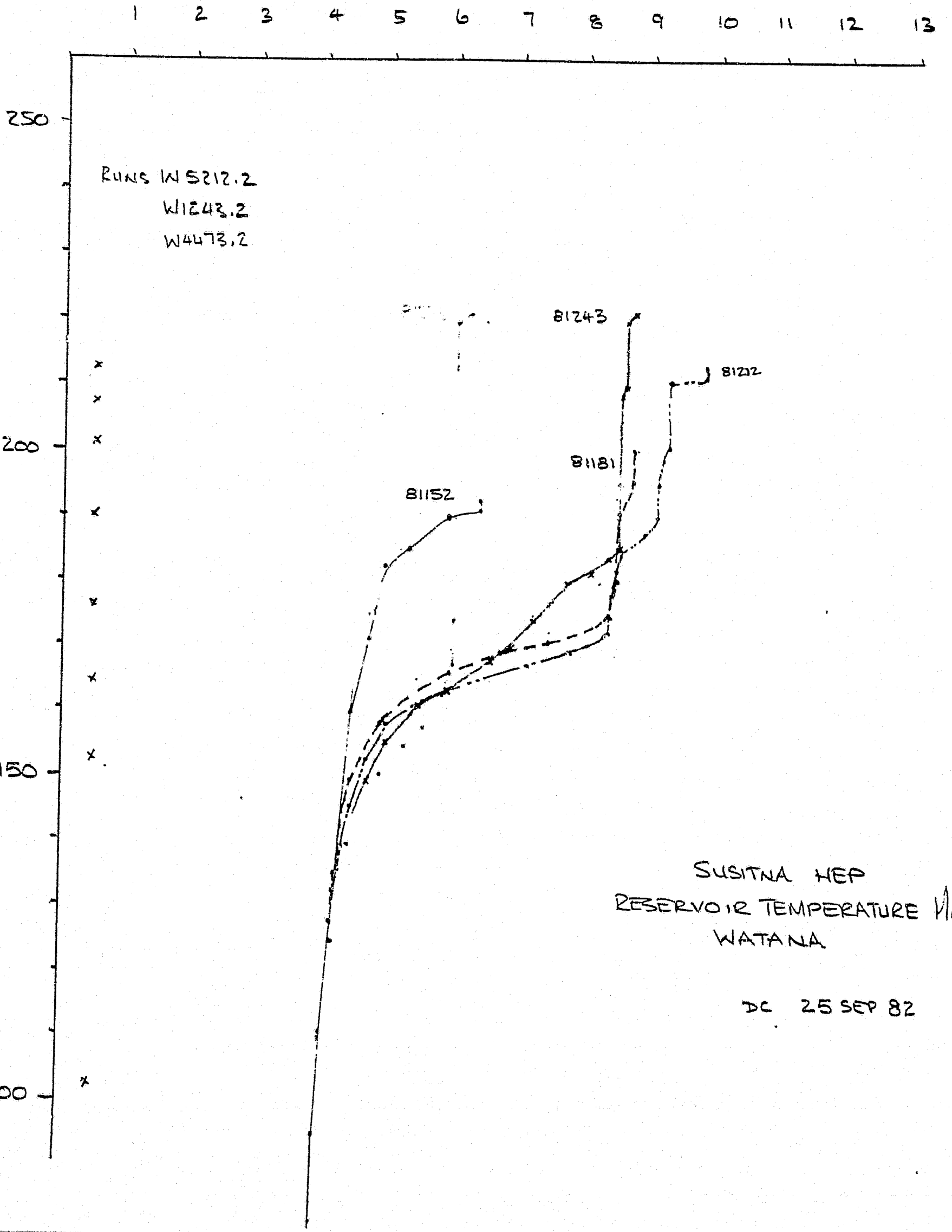
ACRES

FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED

0 0 0 0 7 4

2

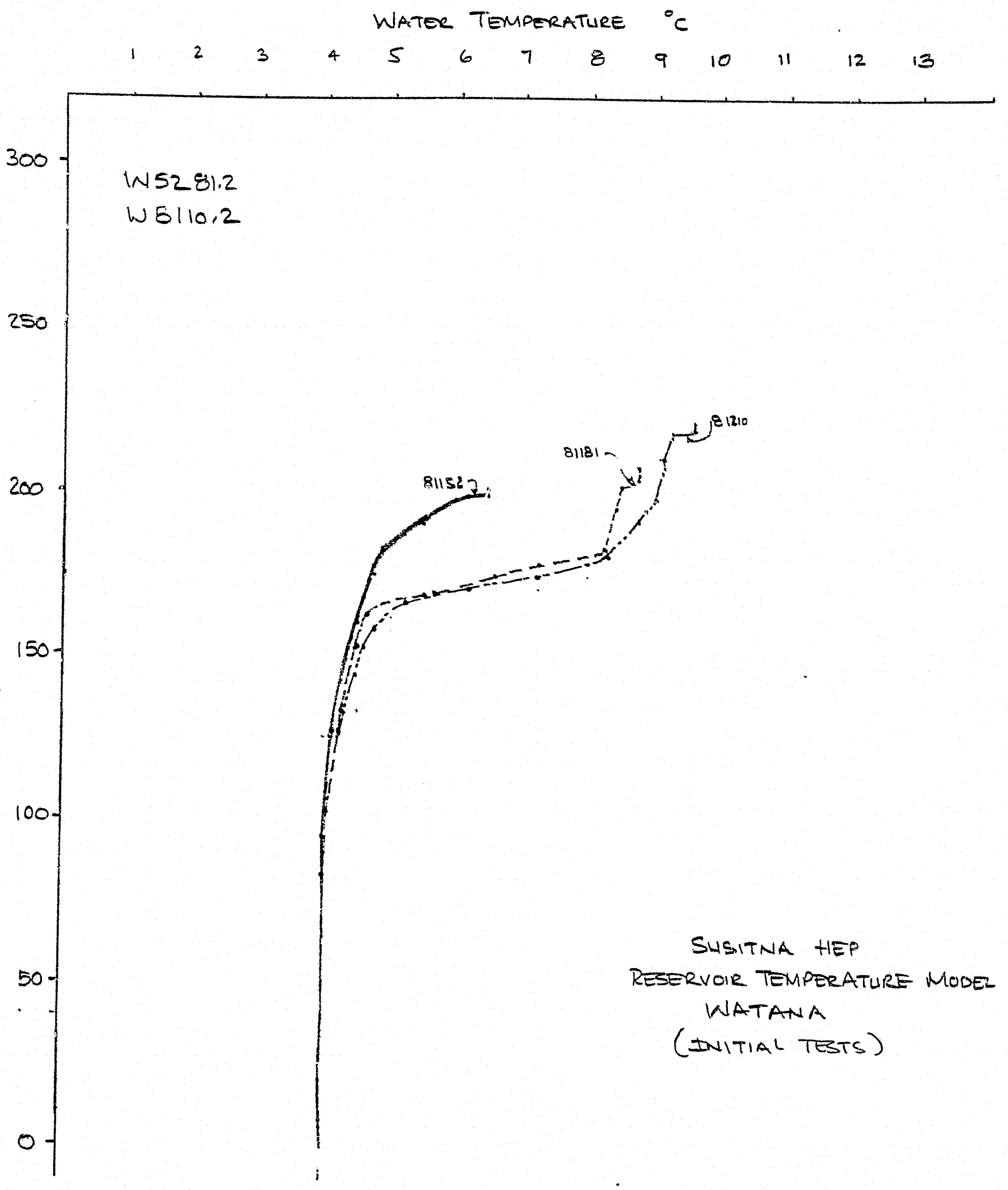
WATER TEMPERATURE °C



SUSITNA HEP
RESERVOIR TEMPERATURE MODEL
WATANA

DC 25 SEP 82

P5700. 14.03.207



DC 23 SEPT 82.

SUSITNA HEP
RESERVOIR TEMPERATURE MODEL
WATANA
(INITIAL TESTS)

17

PS700.14.03.206

W1373.4

```
SH PROC/ACC


29-SEP-1982 00:17:05.80          _TTD2:          User : DCRAWFORD

Accounting information:

  Buffered I/O count :          183          Peak working set size :          78
  Direct I/O count :             44          Peak virtual size :             441
  Page faults :                1209          Mounted volumes :                 0
  Elapsed CPU time :      0 00:00:03.34
  Connect time :          0 00:02:38.64
$

@TEST

HYDR DYRESH -
-----------------------------
June, 1982

%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD,RESTEMP]TESTDYR.OUT;14
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC    absolute PC

                                          00021A77       00021A77
                                          00021984       00021984
                                          00020790       00020790
                  TESTMAIN$MAIN     222   00001197       0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD,RESTEMP]TESTDYR.OUT;14
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC    absolute PC

                                          00021A77       00021A77
                                          00021984       00021984
                                          00020790       00020790
                  TESTMAIN$MAIN     222   00001197       0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD,RESTEMP]TESTDYR.OUT;14
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC    absolute PC

                                          00021A77       00021A77
                                          00021984       00021984
                                          00020790       00020790
                  TESTMAIN$MAIN     222   00001197       0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD,RESTEMP]TESTDYR.OUT;14
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows
```

```
module name     routine name      line    relative PC   absolute PC

                                          00021A77      00021A77
                                          00021984      00021984
                                          00020790      00020790
                  TESTMAIN$MAIN     222   00001197      0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;14
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC   absolute PC

                                          00021A77      00021A77
                                          00021984      00021984
                                          00020790      00020790
                  TESTMAIN$MAIN     222   00001197      0000BD97
$

  SH PROC/ACC

  29-SEP-1982 00:21:52.71          _TTD2:       User : DCRAWFORD

  Accounting information:

    Buffered I/O count :          306        Peak working set size :       200
    Direct I/O count :            516        Peak virtual size :           441
    Page faults :               14936        Mounted volumes :               0
    Elapsed CPU time :      0 00:03:42.15
    Connect time :          0 00:07:25.56
$


  @WRLD
```

Page faults: 15105
*Elapsed CPU time: 0 00:04:06.94
Mounted volumes: 0
Elapsed time: 0 02:40:33.35

0000074

```
$ SH PROC/ACC


27-SEP-1982 00:27:21.73          _TTD2:        User : DCRAWFORD

Accountins information:

  Buffered I/O count :          125        Peak workins set size :          75
  Direct I/O count :             34        Peak virtual size :             210
  Pase faults :                 828        Mounted volumes :                 0
  Elapsed CPU time :       0 00:00:02.51
  Connect time :           0 00:00:53.12
$ @TEST

HYDR DYRESM -
------------------------------
June, 1982

%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC  absolute PC

                                          00021A77     00021A77
                                          00021984     00021984
                                          00020790     00020790
                  TESTMAIN$MAIN     222   00001197     0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC  absolute PC

                                          00021A77     00021A77
                                          00021984     00021984
                                          00020790     00020790
                  TESTMAIN$MAIN     222   00001197     0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC  absolute PC

                                          00021A77     00021A77
                                          00021984     00021984
                                          00020790     00020790
                  TESTMAIN$MAIN     222   00001197     0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC  absolute PC

                                          00021A77     00021A77
                                          00021984     00021984
                                          00020790     00020790
                  TESTMAIN$MAIN     222   00001197     0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC  absolute PC
```

```
                                                    00021A77        00021A77
                                                    000219B4        000219B4
                                                    00020790        00020790
                     TESTMAIN$MAIN        222       00001197        0000BD97
%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[CRAWFORD.RESTEMP]TESTDYR.OUT;11
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name      routine name      line    relative PC  absolute PC

                                             00021A77     00021A77
                                             000219B4     000219B4
                                             00020790     00020790
                     TESTMAIN$MAIN        222       00001197        0000BD97
$
```

```
$

SH PROC/ACC



27-SEP-1982 00:31:51.60          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :          247        Peak working set size :          200
  Direct I/O count :            482        Peak virtual size :              368
  Page faults :               14587        Mounted volumes :                  0
  Elapsed CPU time :      0 00:03:26.99
  Connect time :          0 00:05:22.99

$


TY TESTDYR.OUT;10
```

0 0 0 0 7

LC

DCRAWFORD logged out at 27-SEP-1982 02:51:07.58

Accounting information:

Buffered I/O count:	7552	Peak working set size:	200
Direct I/O count:	788	Peak virtual size:	368
Page faults:	14747	Mounted volumes:	0
Elapsed CPU time:	0 00:03:50.97	Elapsed time:	0 02:24:39.43

0000074

```
$ SH PROC/ACC

  26-SEP-1982 20:24:11.78          _TTA7:       User : DCRAWFORD

  Accounting information:

    Buffered I/O count :          278          Peak working set size :          117
    Direct I/O count :             49          Peak virtual size :              291
    Page faults :                1319          Mounted volumes :                  0
    Elapsed CPU time :      0 00:00:04.34
    Connect time :          0 00:04:09.79
$ @TEST

HYDR DYRESM -
-------------------------------
June, 1982

%FOR-E-OUTCONERR, output conversion error
   unit 3  file _DREC:[DCRAWFORD.RESTEMP]TESTDYR.OUT;10
   user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC    absolute PC

                                          00021A77       00021A77
                                          00021954       00021954
                                          00020790       00020790
                TESTMAIN$MAIN      222    00001197       0000BD97
$

  SH PROC/ACC

  26-SEP-1982 20:29:22.77          _TTA7:       User : DCRAWFORD

  Accounting information:

    Buffered I/O count :          370          Peak working set size :          300
    Direct I/O count :            441          Peak virtual size :              348
    Page faults :               14703          Mounted volumes :                  0
    Elapsed CPU time :      0 00:03:35.41
    Connect time :          0 00:09:20.78
$

  TY TESTDYR.OUTTUO.RYDTSET YT
```

$

$ SH PROC/ACC

26-SEP-1982 23:44:06.93 _TTA7: User : DCRAWFORD

Accounting information:

Buffered I/O count :	6940	Peak working set size :	300
Direct I/O count :	706	Peak virtual size :	368
Page faults :	14932	Mounted volumes :	0
Elapsed CPU time :	0 00:03:36.86		
Connect time :	0 03:24:04.94		

$

WS212.3

```
$H PROC/ACC
```

RUNNING W 4473.2

```
26-SEP-1982 16:25:52.83          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :          1430          Peak working set size :          96
  Direct I/O count :              81          Peak virtual size :             411
  Page faults :                 2074          Mounted volumes :                 0
  Elapsed CPU time :       0 00:00:08.89
  Connect time :           0 00:23:17.87
```

```
  @TEST

HYDR DYRESM -
------------------------------
June 1982

$ SH PROC/ACC


  26-SEP-1982 16:28:55.35          _TTD2:        User : DCRAWFORD

  Accounting information:

    Buffered I/O count :          1495          Peak working set size :          200
    Direct I/O count :             311          Peak virtual size :              441
    Page faults :                 9047          Mounted volumes :                  0
    Elapsed CPU time :       0 00:01:47.38
    Connect time :           0 00:26:20.39
```

```
TY TESTDYR.OUT
```

CPU : 98.99 secs / 30 days = 3.3 s/d

= $1.32 / day.

OUTPUT

W 4473.2

```
 PROC../ACC

-SEP-1982 17:39:02.26          _TTD2:          User : DCRAWFORD

ccounting information:

 Buffered I/O count :          5134          Peak working set size :          200
 Direct I/O count :             460          Peak virtual size :              441
 Page faults :                 9200          Mounted volumes :                  0
 Elapsed CPU time :       0 00:02:00.00
 Connect time :           0 01:36:27.30
```

26 : 20.39.

PRINT TIME : 1.167 hrs/30 days = 0.039 hrs/day

≡ ¢ 0.39/day.

CPU : 12.12 secs/30days = 0.40 secs/day

= ¢ 0.1¢ /day

Total cost.

Program Running: ¢ 1.32 day

program output : ¢ 0.56 / day

Total : ¢ 1.88 /day

```
SHOW PROC/ACC

25-SEP-1982 19:00:56.81          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :          527        Peak working set size :          75
  Direct I/O count :             49        Peak virtual size :             210
  Page faults :                 828        Mounted volumes :                 0
  Elapsed CPU time :        0 00:00:03.79
  Connect time :            0 00:17:43.09
$


@TEST

HYDR DYRESM -
------------------------------
June, 1982

%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;0
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name      routine name      line    relative PC   absolute PC

                                           00021A77      00021A77
                                           00021FB4      00021FB4
                                           00020790      00020790
                TESTMAIN#MAIN      222     00001197      0000BD97
# SH PROC/ACC

25-SEP-1982 19:11:57.89          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :          622        Peak working set size :         200
  Direct I/O count :            500        Peak virtual size :             368
  Page faults :               14422        Mounted volumes :                 0
  Elapsed CPU time :        0 00:03:41.12
  Connect time :            0 00:28:44.17
# TY TESTDYR.OUT
```

W5212.2

61 days

CPU. 3 min 41.12 secs — 3.79 secs.

217.33 secs x 0.40 => $86.93

$ 1.43/day

COST PER DAY:

CPU/ 1.43

OUTPUT/ .50

$2.00/day

3

```
SH PROC/ACC

25-SEP-1982 21:42:44.33          _TTA7:          User : DCRAWFORD

Accounting information:

  Buffered I/O count :          1928          Peak working set size :          75
  Direct I/O count :             104          Peak virtual size :             210
  Page faults :                  826          Mounted volumes :                 0
  Elapsed CPU time :       0 00:00:07.75
  Connect time :           0 00:39:44.01
$
```

TIME & CPU TO PRINT 197-212 (16 days)

per day/. connect : 2.47 mins/day. $0.41/day connect time.

CPU : $0.19/day CPU

ACRES

Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET _____ OF _____

BY _____ DATE _____

APP _____ DATE _____

TESTLHR.DAT 81152 TO +30

TESTHEAT.DAT 81152 TO 81273

TESTINFL.DAT 81152 TO 81304

WAOUTFL 81152 TO 81300

TESTWIND 81152 TO 81303

81152 = 1 JUNE

81273 = 30 SEPT

FORM NO. 152 REV. 1

00007

PS700.14.03.206

```
SH PROC/ACC


28-SEP-1982 02:18:11.02          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :       7149          Peak working set size :       200
  Direct I/O count :          739          Peak virtual size :           441
  Page faults :             15583          Mounted volumes :               0
  Elapsed CPU time :    0 00:04:09.76
  Connect time :        0 02:33:17.85
$
```

```
   SH PROC/ACC


   28-SEP-1982 00:06:01.98          _TTD2:        User : DCRAWFORD

   Accounting information:

     Buffered I/O count :          401          Peak working set size :       82
     Direct I/O count :             40          Peak virtual size :          210
     Page faults :                 903          Mounted volumes :              0
     Elapsed CPU time :      0 00:00:03.41
     Connect time :          0 00:21:08.81
$ @TEST


HYDR DYRESM -
------------------------------
June, 1982

^Y

.$ EDT TESTDYR.DAT;14

     1              TT
*T4

     4              WATANA (W5212.3)
*5'3'4'

     4              WATANA (W5212.4)
1 substitution
*


     5              SUSITNA
*
     6              61152    61
```

```
*EX

_DRB3:[DCRAWFORD.RESTEMP]TESTDYR.DAT;16 19 lines
$



  SH PROC/ACC

  28-SEP-1982 00:08:41.05          _TTD2:          User : DCRAWFORD

  Accounting information:

    Buffered I/O count :          480          Peak working set size :          154
    Direct I/O count :             76          Peak virtual size :              441
    Page faults :                2028          Mounted volumes :                  0
    Elapsed CPU time :      0 00:00:09.15
    Connect time :          0 00:23:47.88
$ @TEST


HYDR DYRESM -
-----------------------------
June, 1982

%FOR-E-OUTCONERR, output conversion error
  unit 3  file _DRB3:[DCRAWFORD.RESTEMP]TESTDYR.OUT;13
  user PC 0000BD97
%TRACE-E-TRACEBACK, symbolic stack dump follows

module name     routine name      line    relative PC    absolute PC

                                          00021A77       00021A77
                                          000219B4       000219B4
                                          00020790       00020790
                TESTMAIN$MAIN     222     00001197       0000BD97
$
```

```
SH PROC/ACC


28-SEP-1982 00:15:06.64          _TTD2:        User : DCRAWFORD

Accounting information:

  Buffered I/O count :          572        Peak working set size :          200
  Direct I/O count :            473        Peak virtual size :              441
  Page faults :               15425        Mounted volumes :                  0
  Elapsed CPU time :      0 00:03:47.93
  Connect time :          0 00:30:13.47
$


TY_TESTDYR.OUT
```

LETTER OF TRANSMITTAL

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

ANCHORAGE OFFICE
☐ P. O. BOX 5087, ANCHORAGE, ALASKA 99502 TEL. (907) 279-0483

FAIRBANKS OFFICE
☐ P. O. BOX 2630, FAIRBANKS, ALASKA 99701 TEL. (907) 452-1655

JUNEAU OFFICE
☐ P. O. BOX 1786, JUNEAU, ALASKA 99801 TEL. (907) 789-0880

WASILLA OFFICE
☐ P. O. BOX 1240, WASILLA, ALASKA 99607 TEL. (907) 376-5288

DATE: FEB 4, 1983

PROJECT NO.: 253313

RE: GLACIAL LAKE STUDIES
DYRESM INPUT

TO: ACRES AMERICAN
MAIN @ COURT
BUFFALO NEW YORK

ATTENTION: DAVID CRAWFORD

WE ARE SENDING YOU:
☒ Attached
☐ Under separate cover via _____

the following items:
☐ Shop drawings ☐ Prints
☐ Plans ☐ Samples
☐ Specifications ☐ Copy of letter
☐ Change order
☐ Other _____

COPIES	DATE	NO.	DESCRIPTION
1	NOV. 82		WATANA WEATHER

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☒ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment ☐ _____
☐ FOR BIDS DUE _____ 19___ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS: ENCLOSED FIND A COPY OF THE NOV. 1982 CLIMATE DATA FROM WATANA

COPY TO: FILE

SIGNED: Carol M. Larson

If enclosures are not as noted, kindly notify us at once.

002650

WATANA RESERVOIR
DYREESM WEATHER DATA
NOVEMBER 1982

IF	ISEQ	SW	S. T	T4	SVPO	SVPD	U6	RAIN	LWRAD
	YR/JULIAN	KJM^{-2}		°C	MBAR	MBAR	MS^{-1}	MM	KJM^{-}
11/1/82	82305	3636	–	-9.0	0.0	–	6.4	0.0	–
2	82306	2106	–	-6.2		–	2.0	0.0	–
3	82307	2117	–	-8.9		–	2.9	0.0	–
4	82308	2927	–	-6.8		–	4.1	0.0	–
5	82309	3474	–	-12.1		–	2.4	0.0	–
6	82310	5501	–	-15.9		–	1.4	0.0	–
7	82311	5454	–	-17.3		–	3.7	0.0	–
8	82312	1883	–	-13.9		–	4.8	0.0	–
9	82313	1782	–	-13.4		–	1.2	0.0	–
	82314	2063	–	-12.5		–	4.0	0.2	22500
11	82315	2304	–	-7.5		1.73	2.0	0.0	23100
12	82316	2700	–	-4.4		2.79	6.0	0.0	21900
13	82317	2315	–	-3.8		2.41	3.6	0.0	21300
14	82318	2873	–	-7.2		1.88	1.3	0.0	22100
	82319	3312	–	-11.7		1.56	1.7	0.0	18900
16	82320	3611	–	-14.8		1.17	1.8	0.0	16800
17	82321	3564	–	-19.5		0.84	2.3	0.0	15700
18	82322	3611	–	-19.5		0.63	3.0	0.0	14000
19	82323	2826	–	-20.8		0.56	5.8	0.0	14500
20	82324	1818	–	-15.6		0.95	2.5	0.0	22000
	82325	1872	–	-10.9		1.54	3.8	0.0	21200
22	82326	1649	–	-8.2		2.03	2.0	0.0	22000
23	82327	1566	–	-4.1		2.81	4.4	0.0	24200
24	82328	2232	–	-2.9		1.84	4.5	0.0	23000
25	82329	1854	–	-7.1		1.64	4.6	0.0	18600
26	82330	2009	–	-8.7		2.08	5.7	0.0	18800
27	82331	1865	–	-9.2		1.57	2.4	0.0	19200
28	82332	2007	–	-11.9		1.05	1.7	0.0	19400
29	82333	1386	–	-8.2		1.28	3.5	0.0	22800
30	82334	1368	–	-11.1		1.59	4.1	0.0	22500

COMPUTED BY SUBROUTINE SATVAP FOR SUBTALL H_2O TEMP

BY ..... DATE ..... SUBJECT .....

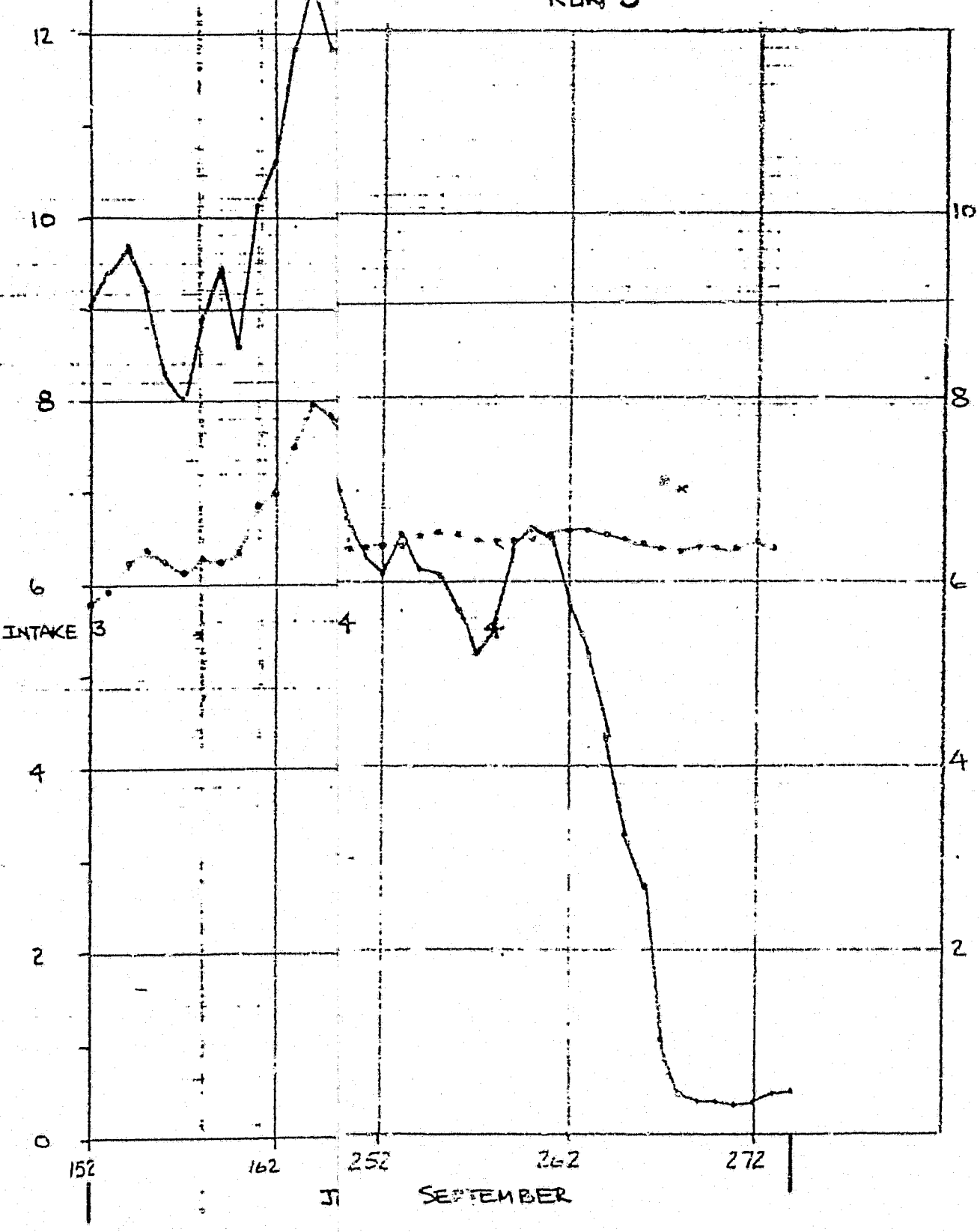
CHKD. BY ..... DATE ..... RESERVOIR TE

SUSITNA HEP

RESERVOIR TEMPERATURE MODEL

OUTFLOW TEMP.

RUN 5

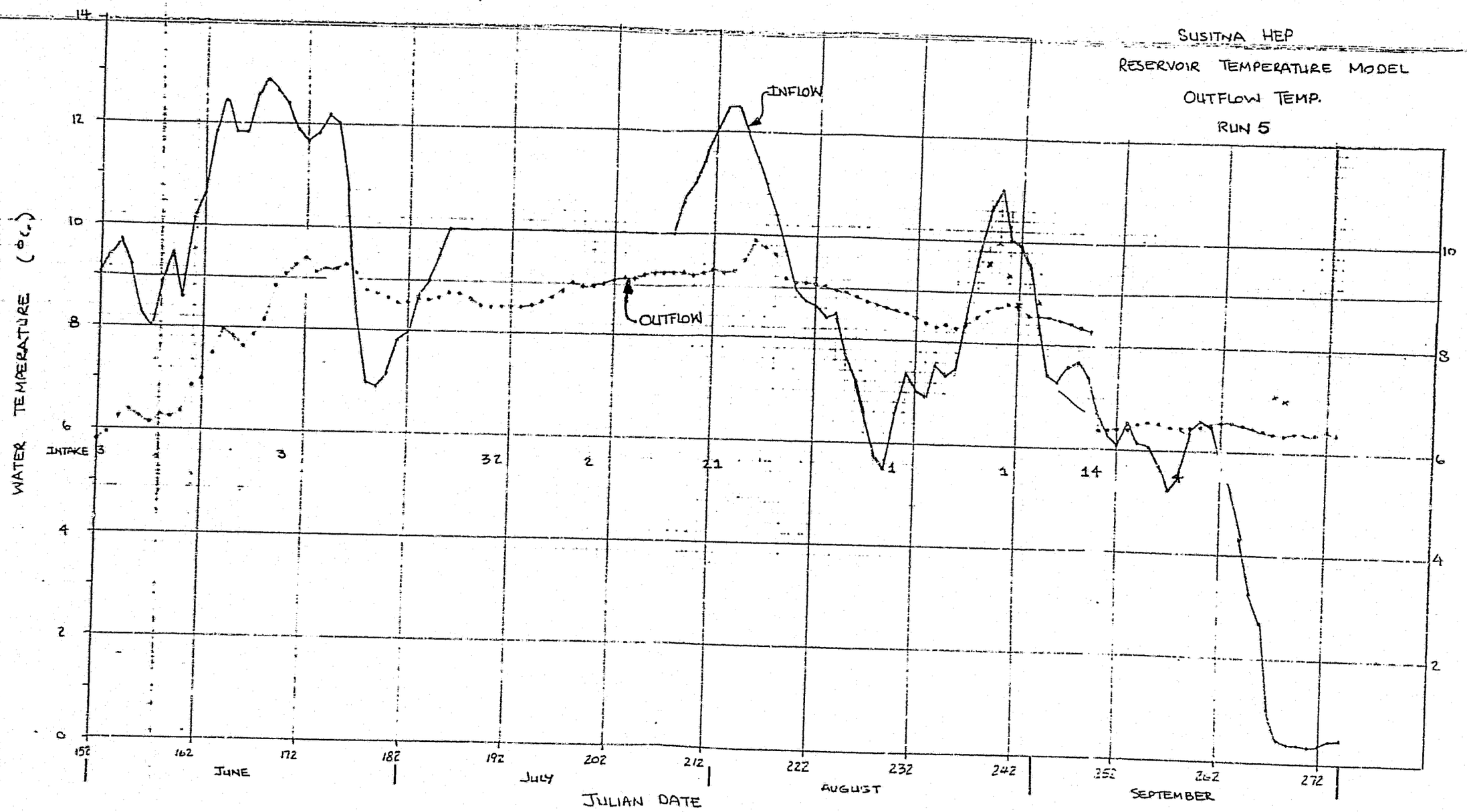


DC 26SEP 82

DC 30SEP82

FIGURE 4 ACRES

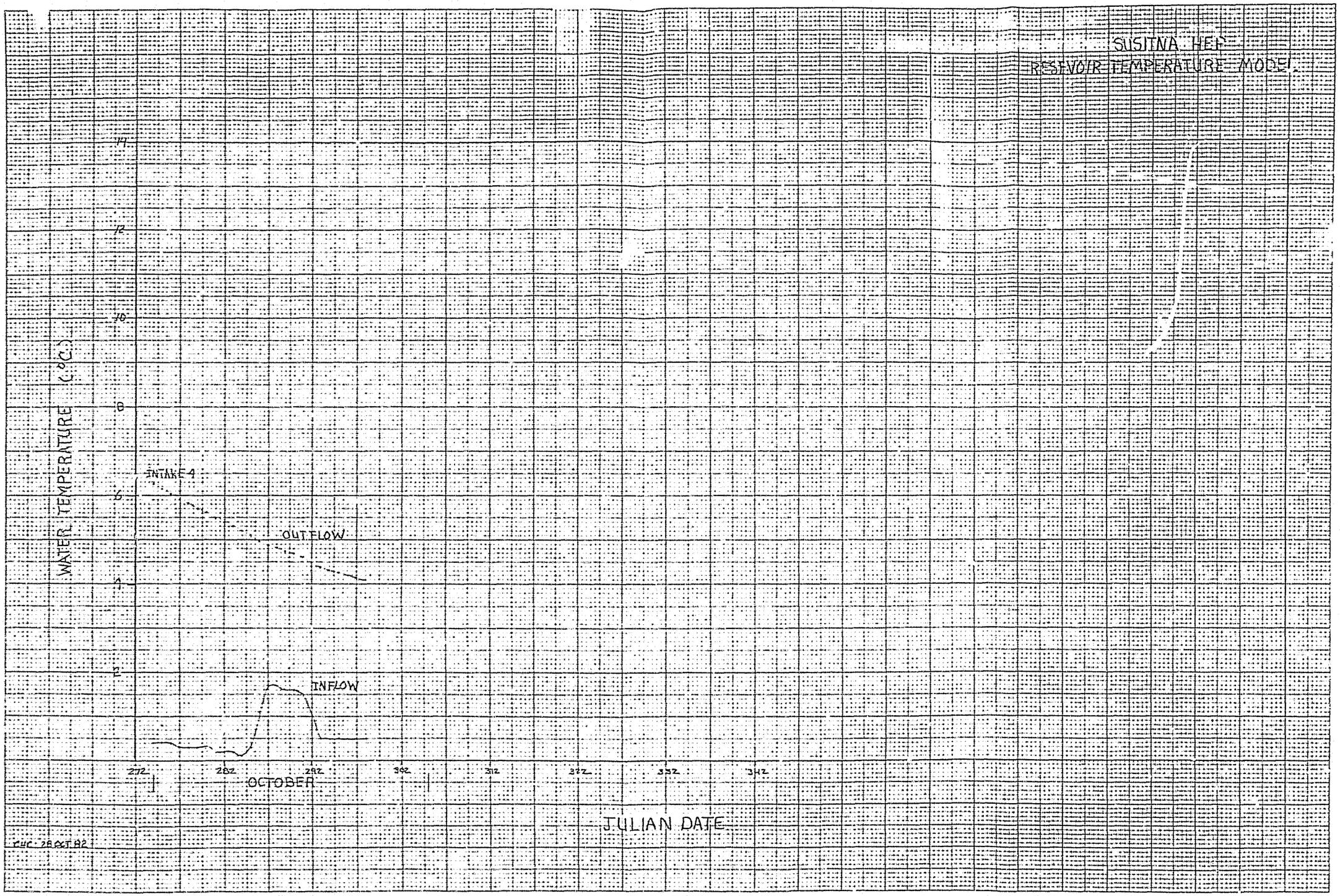
BY ..... DATE ..... SUBJECT ..... SHEET NO. ..... OF .....
CHKD. BY ..... DATE ..... RESERVOIR TEMP. MODELLING JOB NO. .....



DC 26SEP 82
DC 30SEP82

FIGURE 4 ACRES

FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED



47 1320
K+E 10 X 10 TO ½ INCH KEUFFEL & ESSER CO. MADE IN U.S.A.
FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED

DYRESM COMMAND FILE

```
$ TY TEST.COM


$ TYPE SYS$INPUT

$DYDR DYRESM -
-------------------------------
JUN$: 1982

$ ASSIGN/USER TESTDYR.DAT     FOR005
$ ASSIGN/USER TESTDYR.OUT     FOR003
$ ASSIGN/USER SEDIM.OUT FOR067
$ ASSIGN/USER TESTWEAT.DAT    FOR020
$ ASSIGN/URER WAPHYS.DAT   FOR021
$ ASSIGN/USER TESTINFL.DAT    FOR022
$ ASSIGN/USER WAOUTFL.DAT   FOR023
$ ASSIGN/USER TESTWIND.DAT FOR024
$!
$ RUN TECHNICAL:LDCRAWFORD.RESTEMP3TESTMAIN
$!
$EXIT
$
```

```
TT
  0.015 0.015   0.0 0.0 0.048
        0.125        1.23  0.2    .51   0.3
WATANA (W/404.5)
SUSITNA
81274    61
    14
  667.4 6.2 0.0
  664.4 6.2 0.0
  665.3 6.5 0.0
  620.0 6.5 0.0
  616.7 6.2 0.0
  614.7 6.2 0.0
  612.6 5.6 0.0
  606.6 5.1 0.0
  600.2 4.8 0.0
  589.8 4.5 0.0
  585.4 4.4 0.0
  583.2 4.3 0.0
  580.0 4.0 0.0
  445.0 4.0 0.0
    0
```

ACRES

Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY _____ DATE _____
APP _____ DATE _____

1 OCT PROFILE

14	
667.4	6.16
666.4	6.16
665.3	6.47
620.0	6.47
616.7	6.16
614.7	6.16
612.6	5.59
606.6	5.07
600.2	4.77
589.8	4.45
585.4	4.35
583.2	4.29
580.0	4.00
445.0	4.00
0	

FORM NO. 152 REV. 1

TY TESTDYR.DAT#19

```
TT
  0.015 0.015  0.0 0.0 0.048
        0.125        1.23  0.2    .51  0.3
WATANA (W~~5212.5~~)
SUSITNA                 7404.5
~~81152~~   61
81274  11
 637.7 6.4 0.0
 636.5 6.1 0.0
 635.0 5.9 0.0
 632.0 5.7 0.0
 628.0 5.0 0.0
 605.0 4.5 0.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.
 445.0 4.0 0.0
   0
$
```

3

```
  TY TESSSTDYR.DAT

TT
  0.015 0.015   0.0 0.0 0.048
        0.125          1.23  0.2    .51   0.3
WATANA (W1373.4)
SUSITNA
81213    61
   14
 658.9 9.79 0.0
 657.7 9.79 0.0
 656.5 9.33 0.0
 646.1 9.33 0.0
 643.8 9.20 0.0
 635.7 8.94 0.0
 621.8 8.04 0.0
 613.0 6.05 0.0
 607.4 5.02 0.0
 602.2 4.73 0.0
 596.3 4.50 0.0
 583.2 4.29 0.0
 570.0 4.00 0.0
 445.0 4.00 0.0
   0
$
```

W1373.4

```
  TY TESTDYR.DAT#16

TT
   0.015 0.015   0.0 0.0 0.048
         0.125          1.33  0.2    .51   0.3
WATANA (W5212.4)
SUSITNA
81152    61
    11
 437.7 6.4 0.0
 436.5 6.4 0.0
 435.0 5.9 0.0
 432.0 5.7 0.0
 428.0 5.0 0.0
 405.0 4.5 0.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.
 445.0 4.0 0.0
   0
$
```

```
[illegible]TESTBYR.DAT[illegible]

  0.010 0.013  0.0 0.0 0.048
        0.125        1.23  0.2    .51  0.2
MATANA (#1373.3)
SUBSTRA
81213    81
   14
 655.9 9.79 0.0
 657.9 9.79 0.0
 656.5 9.33 0.0
 648.0 9.33 0.0
 643.3 9.28 0.0
 633.3 8.99 0.0
 620.8 8.41 0.0
 617.4 7.55 0.0
 612.0 5.79 0.0
 605.0 4.87 0.0
 596.3 4.51 0.0
 583.2 4.29 0.0
 580.0 4.00 0.0
 445.0 4.00 0.0
   0
```

W1373.3

TY TESTDYR.DAT;14

```
TT
   0.015 0.015   0.0 0.0 0.04E
         0.125          1.22  0.2    .51  0.3
WATANA (W5212.3)
SUSITNA
S1152    41
    11
 637.7 6.4 0.0
 636.5 6.4 0.0
 635.0 5.9 0.0
 633.0 5.7 0.0
 629.0 5.0 0.0
 605.0 4.5 0.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.
 445.0 4.0 0.0
   0
#
```

W5212.3

TY TESTDYR.OUT

```
_DRB3:[DCRAWFORD,RESTEMP]TESTDYR.DAT;13 22 lines
$ DEL TESTDYR.DAT;13

$


  TY TESTDYR.DAT;13


TT
  0.015 0.015  0.0 0.0 0.048
        0.125        1.23  0.2    .51  0.3
WATANA (W4473.2)
SUBITNA
81244    30
   14
 667.0 8.79 0.0
 666.4 8.79 0.0
 665.3 8.66 0.0
 655.9 8.66 0.0
 653.9 8.59 0.0
 631.7 8.58 0.0
 628.9 8.47 0.0
 623.0 7.56 0.0
 616.5 7.09 0.0
 608.7 5.91 0.0
 597.6 4.85 0.0
 581.4 4.29 0.0
 570.0 4.00 0.0
 445.0 4.00 0.0
   0
$
```

W4473.2

```
TY TESTDYR.DAT ; !!


TT
  0.015 0.015  0.0 0.0 0.048
        0.125          1.23  0.2    .51   0.3
WATANA (W1243.2)
SUSITNA
81212    32
   13
 658.8 9.81  0.0
 657.7 9.81  0.0
 656.5 9.36  0.0
 645.6 9.36  0.0
 635.0 9.18  0.0
 629.4 8.60  0.0
 614.9 7.89  0.0
 602.8 6.92  0.0
 593.5 5.04  0.0
 591.7 4.50  0.0
 578.0 4.29  0.0
 575.0 4.00  0.0
 445.0 4.00  0.0
   0
#
```

W1243.2

TY TESTDYR.DAT

```
TT
  0.015 0.015  0.0 0.0 0.048
        0.125          1.23  0.2    .51  0.3
WATANA (W5212.2)
SUSITNA
81152    61
   11
 637.7 6.4 0.0
 636.5 6.4 0.0
 635.0 5.9 0.0
 632.0 5.7 0.0
 628.0 5.0 0.0
 605.0 4.5 0.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.
 445.0 4.0 0.0
   0
$
```

10

Calculations

SUBJECT:

JOB NUMBER D5701,53.
FILE NUMBER
SHEET OF
BY DC DATE 25 Sept 82
APP DATE

	Item	Level	Storage	
	crest	222.5	11,899,463	
1	starting	201.2	8,960,792	
2	1st day	201.64	9,391,591.	Computed by DYRESM.
3	638.2-445	193.2	7,958,934.	Give in data file.

DIFFERENCES

1-2 -430,799

1-3	1,001,858	11.2%	in DYRESM.
2-3	1,432,657	15.3%	

1. STARTING CONDITIONS OFF

CASE C June 1 starting WSEL 2092.2 => 637.7.

-455 => 192.7

FORM NO. 152 REV. 1

TT TESTDYR.DAT

```
TT
  0.015 0.015  0.0 0.0 0.048
        0.125        1.23  0.2   .51  0.3
WATANA (WS110.2)
SUSITNA
81181    30
   12
 653.6 8.73 0.0
 649.2 8.73 0.0
 639.9 8.46 0.0
 629.3 8.45 0.0
 626.5 8.26 0.0
 623.9 7.29 0.0
 616.1 5.26 0.0
 605.7 4.75 0.0
 576.0 4.28 0.0
 535.0 4.01 0.0
 478.0 4.00 0.0
 445.0 4.00 0.0
   0
$
```

— incorrect starting conditions.

ACRES

Calculations

SUBJECT: SUSITNA HEP

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY PC DATE 24SEP82
APP DATE

CONTINUATION OF RUNS.

INITIAL PROFILE:

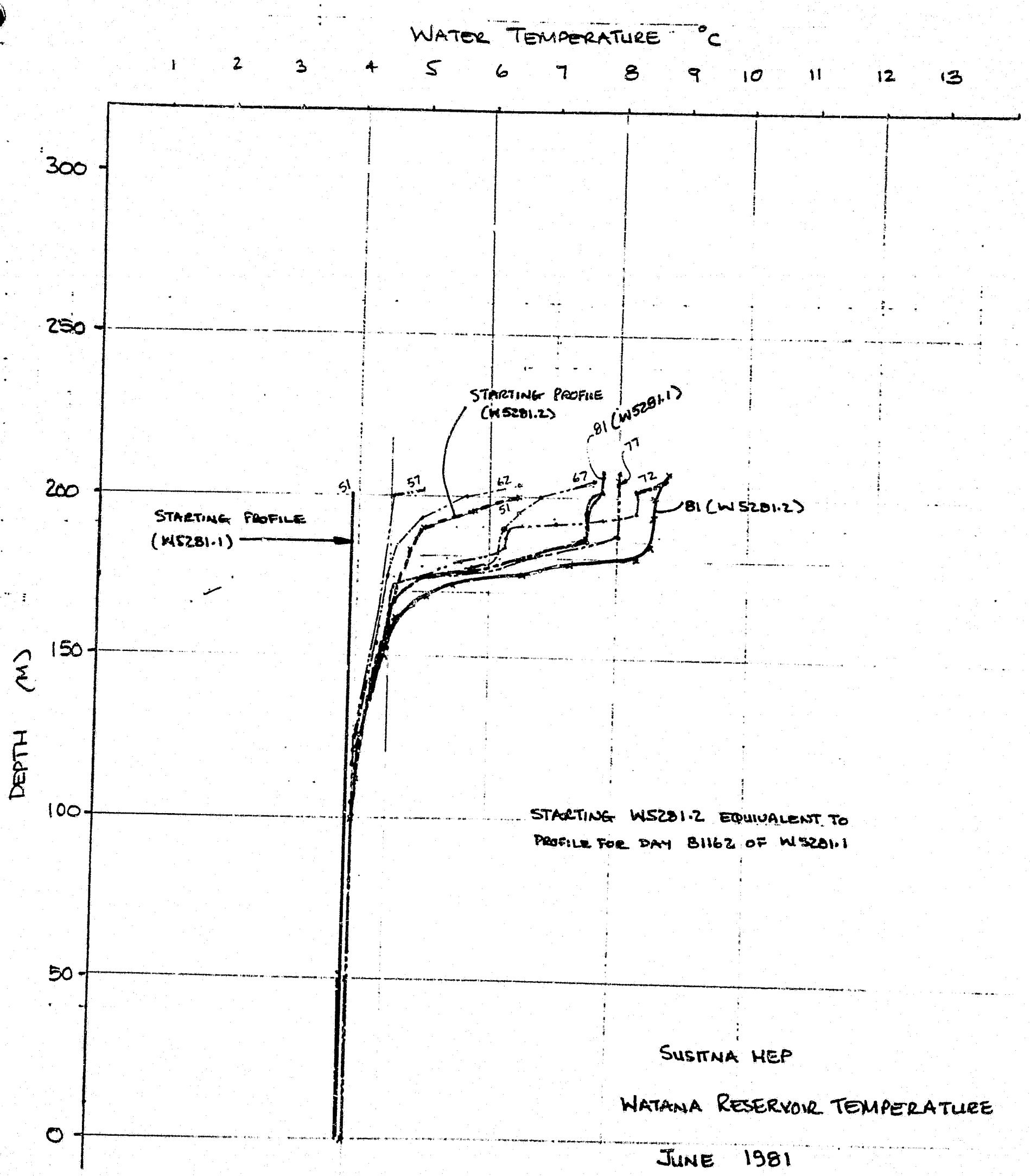
ASSUME EQUAL TO DAY 81181 OF W5281.2

12	
653.6	8.73
649.2	8.73
639.9	8.46
629.3	8.45
626.5	8.26
623.9	7.29
616.1	5.26
608.7	4.75
578.0	4.28
535.0	4.01
478.0	4.00
445.0	4.00
0	

Change '81152.' 81181

FORM NO. 152 REV. 1

0 0 0 0 7



SUSITNA HEP

WATANA RESERVOIR TEMPERATURE

JUNE 1981

DC 25SEP82

PS101.53

γ

ACRES

Calculations

SUBJECT: SUSITNA HEP

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY DC DATE 24 SEP 82
APP DATE

WEATHER COMPARISON:

LAST 10 DAYS MAY VS FIRST 10 DAYS JUNE

WATANA STATION:

	MAY	JUNE	LW	COND
MEAN TEMP	9.62	7.69	500	/50
AVE. W.S.	2.82	2.95		
MEAN R.H.	30.1	31.4		
PPT (TOTAL)	21.2	38.2		
SOLAR RAD	55991	62,094		

FORM NO. 152 REV. 1

```
TY TESTDYR.DAT

TT
  0.015 0.015  0.0 0.0 0.048
        0.125        1.23  0.2    .51  0.3
WATANA (W5281.2)
SWOITNA                                  5212.2
81152   30 — 61.
   11
 646.2 6.4 0.0                           637.7
 644.0 6.4 0.0
 642.5 5.9 0.0                           636.5
 639.0 5.7 0.0                           625.0
 635.0 5.0 0.0                           632.0
 605.0 4.5 0.0                           628.0
 570.0 4.1 0.0
 540.0 4.0 0.0
 510.0 4.0 0.0
 480.0 4.0 0.
 445.0 4.0 0.0
   0
$
```

4

~~TESTBYR.DAT~~ BASIC DATA

- COEFFICIENTS
- RUN TIME / START DAY
- INITIAL PROFILE

```
* TY TESTBYR.DAT
TT
   0.015 0.015   0.0 0.0 0.048
         0.125         1.23  0.2    .51  0.3
WATANA RESERVOIR
SUSITNA
61152    30
   13
  644.2 3.9 0.0
  634.0 3.9 0.0
  621.8 3.9 0.0
  609.8 3.9 0.0
  597.4 3.9 0.0
  548.6 3.9 0.0
  533.4 3.9 0.0
  518.2 3.9 0.0
  502.9 3.9 0.0
  487.7 3.9 0.0
  472.4 3.9 0.0
  457.2 3.9 0.0
  445.0 3.9 0.0
    0
```

637.7

I/O UNIT = 05

WS281.1

WATANA
DYREEM WEATHER DATA
DECEMBER, 1981

DAY	ISEQ YR/JULIAN	SW KJM^{-2}	SRAT (T)	T4 °C	SVPO MBAR	SVPD (R) MBAR	U6 MS^{-1}	RAIN MM	LWRAD KJM^{-2}
1	81335	846	1.0	-7.6	0.0	1.75	6.4	0	
2	81336	1404	.2	-10.9		1.23	2.7	1.4	
3	81337	1116	1.0	-9.5		1.52	1.5	3.0	
4	81338	330	.7	-12.8		1.15	2.5	2.4	
5	81339	594	1.0	-13.1		0.72	2.6	0	
6	81340	713	.5	-14.3		0.96	2.9	0	
7	81341	1404	.4	-20.4		0.54	1.8	0	
8	81342	1253	.6	-21.1		0.54	2.8	0	
9	81343	450	1.0	-21.3		0.63	2.1	0	
10	81344	443	1.0	-17.1		0.74	5.1	0	
11	81345	497	1.0	-13.7		1.10	6.2	0	
12	81346	353	1.0	-8.1		1.74	6.1	0	
13	81347	407	.6	-9.9		1.25	3.8	0	
	81348	533	.9	-13.2		0.95	2.9	0	
15	81349	425	.9	-9.1		1.39	5.9	0	
16	81350	641	1.0	-6.4		1.57	7.6	0	
17	81351	918	.9	-1.2		2.30	6.6	0	
18	81352	990	.8.9	-1.2		2.60	5.0	0	
19	81353	1152	.3	-7.5		1.70	1.5	0.2	
20	81354	720	.8	-8.6		1.53	2.5	0	
21	81355	1127	1.0	-12.5		1.50	1.0	0	
22	81356	1055	.7	-15.3		0.97	4.7	0	
23	81357	792	1.0	-8.8		1.47	5.9	0	
24	81358	1206	1.0	-9.3		1.59	1.6	0	
25	81359	1062	1.0	-11.5		1.15	2.2	0	
26	81360	469	.2	-14.5		0.70	2.8	0	
27	81361	447	.0	-22.0		0.32	3.2	0	
28	81362	597	.2	-23.6		0.23	3.5	0	
29	81363	551	.0	-28.6		0.17	2.4	0	
30	81364	550	.9	-26.8		0.20	3.7	0	
31	81365	396	.7	-23.2		0.30	2.2	0	

CONTINUED

SUBROUTINE SNOWPK (SNOW PACK SUBROUTINE)

(R): VAPOR PRESSURES ARE TAKEN FROM DEVIL CANYON LIMITED STATION. USING A CORRELATION BETWEEN SEVEREN STATIONS DEVELOPED USING DECEMBER 1981 DATA. (R^2 = .97, .02 - .08 r^2 = .74)

(T) DIFF FROM ALTERNATIVE REPORT

81152	26057.	0.30	9.5	2.35	3.7	0
81153	25776.	0.50	7.5	3.62	3.1	0.6
81154	18640.	0.80	9.0	3.79	2.4	4.2
81155	24336.	0.60	8.6	4.20	3.0	6.8
81156	15012.	0.90	5.4	3.64	3.2	13.6
81157	24336.	0.90	8.9	3.38	2.7	1.0
81158	29574.	0.70	8.6	3.20	4.1	0
81159	11423.	1.00	5.9	3.77	2.8	11.2
81160	20178.	0.90	5.9	2.85	2.1	0.8
81161	32922.	0.00	7.6	2.17	2.4	0
81162	20278.	0.80	9.1	3.2	2.3	5.2
81163	31313.	0.30	9.0	2.50	2.4	0
81164	27425.	0.40	13.2	2.10	2.9	0
81165	27911.	0.60	11.5	1.88	3.7	0
81166	22536.	0.80	12.0	4.16	3.6	1.8
81167	27047.	0.60	13.7	3.56	2.4	0
81168	31421.	0.00	13.9	2.20	2.1	0
81169	23310.	0.70	13.1	2.70	2.4	0.4
81170	31889.	0.40	12.2	2.39	2.4	0
81171	23544.	0.90	11.8	2.05	2.9	0.6
81172	9450.	1.00	9.0	5.33	2.9	10.6
81173	24390.	0.80	11.5	4.02	3.9	0
81174	23501.	0.80	11.4	2.66	2.1	1.6
81175	21996.	0.90	11.9	3.47	4.2	8.4
81176	21870.	1.00	11.8	3.83	4.2	0.2
81177	3430.	1.00	8.1	4.49	3.3	6.2
81178	4403.	1.00	4.5	3.76	3.2	29.4
81179	12593.	1.00	4.8	3.67	2.0	10.8
81180	9695.	1.00	4.1	3.57	1.5	8.8
81181	18641.	0.90	5.0	3.46	2.6	7.6
81182	22806.	0.60	7.0	2.68	2.4	0
81183	19890.	0.80	7.6	1.65	2.9	0
81184	27821.	0.80	8.2	2.47	2.6	0
81185	22241	0.60	9.2	1.38	2.8	0.
81186	10487	1.00	9.8	3.11	2.9	1.4
81187	14015	1.00	9.8	4.67	1.9	8.2
81188	7769	1.00	7.9	3.90	4.0	14.4
81189	2495	1.00	7.1	4.99	1.8	15.2
81190	5573	1.00	8.9	5.41	1.4	20.4
81191	6599	1.00	9.1	6.06	2.2	25.4
81192	11610.0	1.0	9.4	5.3	3.5	5.8
81193	10278.0	1.0	10.3	5.3	2.5	6.8
81194	11322.0	1.0	9.8	4.9	2.3	1.4
81195	11189.0	1.0	10.0	5.6	2.1	1.6
81196	14112.0	0.9	11.2	6.3	1.8	6.2
81197	14825.0	0.8	12.6	6.3	2.3	5.8
81198	17877.0	0.8	13.2	5.8	2.7	2.8
81199	14616.0	1.0	11.3	5.3	3.3	1.4
81200	11736.0	1.0	10.4	5.5	2.2	1.8
81201	11394.0	1.0	10.5	6.0	2.2	6.8
81202	21690.0	0.4	8.2	3.8	3.0	0.0
81203	13655.0	1.0	11.4	5.1	2.5	3.8
81204	11502.0	1.0	11.8	6.8	1.5	8.4
81205	13032.0	1.0	12.8	6.9	2.8	5.6
81206	12647.0	0.8	10.6	5.4	2.8	11.2
81207	15372.0	0.6	6.9	3.3	2.6	0.0
81208	24804.0	0.2	5.0	1.8	2.7	0.0
81209	9821.0	1.0	6.8	4.3	2.4	2.8
81210	16085.0	0.8	8.0	3.1	2.5	5.2
81211	16085.0	0.8	7.9	3.2	2.1	4.6
81212	13986.0	1.0	8.8	3.0	2.2	3.6
81213	5158.0	1.0	10.0	1.2	2.3	35.6
81214	12960.0	1.0	10.8	0.9	2.7	7.4

81215	22528.0	0.2	9.0	1.1	2.3	0.0
81216	25668.0	0.0	9.6	4.0	3.5	0.0
81217	20045.0	0.0	11.6	4.4	4.8	0.0
81218	14086.0	0.9	9.9	3.4	4.7	0.8
81219	4817.0	1.0	9.6	4.0	6.0	4.2
81220	11081.0	1.0	10.5	4.0	4.0	8.6
81221	12791.0	1.0	10.2	4.0	1.9	2.2
81222	10566.0	1.0	9.9	4.0	1.9	7.2
81223	12161.0	1.0	9.4	0.8	1.3	7.2
81224	6905.0	1.0	5.0	2.9	1.8	22.6
81225	10577.0	1.0	6.7	4.0	2.2	8.2
81226	8147.0	1.0	6.9	4.0	2.0	1.6
81227	4680.0	0.9	3.0	4.0	2.5	19.4
81228	14148.0	0.5	2.2	1.6	2.1	6.2
81229	17964.0	0.4	2.4	4.0	2.8	0.0
81230	9846.0	1.0	6.8	4.0	3.2	1.6
81231	10235.0	1.0	7.3	2.8	2.4	12.8
81232	4259.0	1.0	8.5	0.7	3.0	4.8
81233	15689.0	0.9	8.9	2.8	3.1	12.0
81234	6923.0	1.0	5.2	4.0	2.2	2.4
81235	14202.0	0.6	8.1	4.0	1.5	0.0
81236	19242.0	0.4	8.7	4.0	1.9	0.0
81237	16031.0	0.3	12.7	4.0	1.7	0.0
81238	19458.0	0.0	14.9	4.0	2.6	0.0
81239	19908.0	0.1	15.7	4.0	1.8	0.0
81240	16884.0	0.4	14.9	4.0	1.6	0.0
81241	5591.0	1.0	10.5	2.0	2.6	0.0
81242	10944.0	1.0	10.5	0.8	4.0	0.6
81243	18227.0	1.0	8.8	4.0	2.6	0.2
81244	18839.0	0.9	7.9	4.0	1.9	0.0
81245	7013.0	1.0	8.2	5.9	1.9	1.8
81246	10739.0	1.0	9.4	3.4	1.2	0.4
81247	11153.0	1.0	8.7	3.6	3.6	0.2
81248	2423.0	0.9	10.5	4.1	3.2	2.4
81249	8723.0	0.9	8.3	3.8	3.2	4.4
81250	9918.0	0.7	5.0	3.0	2.2	0.2
81251	16308.0	0.3	7.6	2.6	2.0	0.0
81252	7139.0	1.0	6.0	3.0	1.6	10.0
81253	9414.0	0.9	6.1	3.5	1.3	2.6
81254	7992.0	0.9	5.3	3.2	1.4	2.4
81255	13564.0	0.8	6.6	2.5	2.8	0.0
81256	10404.0	0.9	5.2	2.4	2.4	1.0
81257	10163.0	0.9	5.7	2.1	3.0	0.0
81258	8694.0	1.0	7.1	2.7	3.1	0.8
81259	9702.0	0.9	6.8	2.0	3.5	0.2
81260	13050.0	0.6	8.1	1.4	4.1	0.0
81261	5663.0	0.9	7.2	1.7	3.7	0.0
81262	2952	1.00	5.4	3.38	2.8	12.2
81263	8644	0.70	4.0	3.39	2.0	3.4
81264	7920	1.00	3.3	2.61	1.8	0.
81265	11304	0.40	3.0	1.13	1.5	0.
81266	6167	0.90	0.4	2.31	1.1	3.0
81267	2692	1.00	-1.4	2.36	0.8	30.6
81268	5519	0.70	-3.9	1.29	1.9	0.6
81269	12168	0.10	-4.5	1.14	1.8	0.2
81270	13421	1.00	-5.6	1.04	1.5	0.8
81271	10116	0.40	-3.8	1.75	4.4	0
81272	5500	0.70	-5.7	1.29	2.3	0.0
81273	10100	0.40	-2.1	1.75	2.3	0.0
81274	7200	0.00	-6.0	0.0	2.5	2.50 0.0
81275	7200	0.10	-6.0	0.0	2.5	2.50 0.0
81276	7211	1.00	-6.0	0.0	2.5	2.50 0.0
81277	5465	1.00	-1.9	0.0	2.5	2.50 0.0

```
81278 6779 0.80 -0.1 0.0 2.5  2.50 0.0
81279 5285 0.70 -2.0 0.0 2.5  2.50 0.6
81280 8777 0.00 -4.6 0.0 2.5  2.50 0.0
81281 5778 1.00 -1.8 0.0 2.5  2.50 0.0
81282 7488 0.90 -0.4 0.0 2.5  2.50 0.2
81283 7488 0.50 -1.5 0.0 2.5  2.50 0.0
81284 3413 1.00 -1.5 0.0 2.5  2.50 0.6
81285 4752 1.00  1.1 0.0 2.70 2.50 4.4
81286 5058 1.00  2.1 0.0 3.39 2.50 4.0
81287 4788 1.00  2.2 0.0 3.34 2.50 0.0
81288 5753 0.80  0.6 0.0 2.03 2.50 0.0
81289 4770 0.90 -0.2 0.0 2.00 2.50 0.0
81290 4943 0.70  0.8 0.0 1.67 2.50 0.0
81291 2862 1.00 -3.5 0.0 2.00 2.50 1.0
81292 4780 1.00 -7.6 0.0 2.04 2.50 0.0
81293 3546 1.00 -2.8 0.0 2.00 2.50 0.0
81294 3035 1.00  1.7 0.0 2.06 2.50 6.6
81295 3179 1.00  1.4 0.0 2.22 2.50 2.0
81296 2538 1.00  1.9 0.0 1.95 2.50 4.8
81297 3287 0.90  0.2 0.0 1.54 2.50 0.8
81298 2639 0.60 -1.7 0.0 1.54 2.50 0.0
81299 2780 1.00 -2.7 0.0 1.0  2.50 0.0
81300 5868 0.70 -4.1 0.0 1.0  2.50 0.0
81301 3125 0.90 -4.3 0.0 1.0  2.50 0.0
81302 3456 0.90 -7.9 0.0 1.0  2.50 0.0
81303 3340 0.40 -7.6 0.0 1.0  2.50 0.0
81304 3870 0.50 -10.2 0.0 1.0  2.50 0.0
81305 3708 .7 -11.3 0.0 0.3 4.0 0.0
81306 2592 .5 -7.2 0.0 0.5 4.8 0.0
81307 3096 .2 -12.0 0.0 0.4 1.4 0.0
81308 1564 .10 -10.8 0.0 0.5 2.1 1.2
81309 2484 .6 -14.6 0.0 0.3 1.1 0.0
81310 2304 .7 -16.7 0.0 0.3 2.8 0.0
81311 1397 1.0 -8.8 0.0 0.4 5.6 0.2
81312 1944 .7 -7.7 0.0 0.6 3.5 0.0
81313 1710 .9 -6.2 0.0 0.7 5.6 0.0
81314 1577 1.0 0.7 0.0 0.9 6.6 0.0
81315 2232 .5 -0.5 0.0 0.5 4.4 0.0
81316 1955 .7 -4.5 0.0 0.4 4.1 0.0
81317 2297 .3 -8.7 0.0 0.4 2.4 0.0
81318 2400 .1 -16.2 0.0 0.3 2.0 0.0
81319 2740 .0 -11.1 0.0 0.9 4.0 0.0
81320 1771 .6 -12.3 0.0 0.5 6.7 0.0
81321 2000 .2 -12.3 0.0 0.5 6.4 0.0
81322 2200 .2 -14.0 0.0 0.5 4.5 0.0
81323 2500 .0 -16.0 0.0 0.5 2.2 0.0
81324 2730 .0 -21.6 0.0 0.5 2.4 0.0
81325 2182 .1 -18.4 0.0 0.5 4.5 0.0
81326 907 .7 -15.4 0.0 0.5 7.2 0.0
81327 853 .8 -3.0 0.0 0.5 3.4 0.0
81328 940 .8 -10.3 0.0 0.5 2.6 0.8
81329 1779 .2 -9.8 0.0 0.5 1.2 0.0
81330 537 1.0 -6.7 0.0 0.3 2.7 2.8
81331 693 1.0 -5.6 0.0 1.0 2.0 0.0
81332 693 1.0 -8.2 0.0 0.8 1.0 0.0
81333 1350 .9 -10.5 0.0 0.5 4.9 0.0
81334 828 .9 -7.3 0.0 0.4 5.6 0.0
```

TESTWEAT.DAT

```
81274 7200 0.00 -6.0 0.0 2.5  9.99 ##  0.0
81275 7200 0.10 -6.0 0.0      9.99 ##  0.0
81276 7211 1.00 -6.0 0.0      9.99 0.0
81277 5465 1.00 -1.9 0.0      9.99 0.0
81278 6779 0.80 -0.1 0.0      9.99 0.0
81279 5285 0.70 -2.0 0.0      9.99 0.6
81280 8777 0.00 -4.6 0.0      9.99 0.0
81281 5778 1.00 -1.8 0.0      9.99 0.0
81282 7488 0.90 -0.4 0.0      9.99 0.2
81283 7488 0.50 -1.5 0.0      9.99 0.0
81284 3413 1.00 -1.5 0.0 2.50 9.99 0.6
81285 4752 1.00 1.1 0.0 2.70  9.99 4.4
81286 5058 1.00 2.1 0.0 3.39  9.99 4.0
81287 4788 1.00 2.2 0.0 3.34  9.99 0.0
81288 5753 0.80 0.6 0.0 2.03  9.99 0.0
81289 4770 0.90 -0.2 0.0 2.00 9.99 0.0
81290 4943 0.70 0.8 0.0 1.67  9.99 0.0
81291 2862 1.00 -3.5 0.0 2.00 9.99 1.0
81292 4780 1.00 -7.6 0.0 2.00 9.99 0.0
81293 3546 1.00 -2.8 0.0 2.00 9.99 0.0
81294 3035 1.00 1.7 0.0 2.06  9.99 6.6
81295 3179 1.00 1.4 0.0 2.22  9.99 2.0
81296 2538 1.00 1.9 0.0 1.95  9.99 4.8
81297 3287 0.90 0.2 0.0 1.54  9.99 0.8
81298 2639 0.60 -1.7 0.0 1.54 9.99 0.0
81299 2780 1.00 -2.7 0.0 1.0   9.99 0.0
81300 5868 0.70 -4.1 0.0 1.0   9.99 0.0
81301 3125 0.90 -4.3 0.0 1.0   9.99 0.0
81302 3456 0.90 -7.9 0.0 1.0   9.99 0.0
81303 3340 0.40 -7.6 0.0 1.0   9.99 0.0
81304 3870 0.50 -10.2 0.0 1.0  9.99 0.0
81305 3708 .7 -11.3 0.0 0.3 4.0 0.0
81306 2592 .5 -7.2 0.0 0.5 4.8 0.0
81307 3096 .2 -12.0 0.0 0.4 1.4 0.0
81308 1584 .10 -10.8 0.0 0.5 2.1 1.2
81309 2484 .6 -14.6 0.0 0.3 1.1 0.0
81310 2304 .7 -16.7 0.0 0.3 2.8 0.0
81311 1397 1.0 -8.8 0.0 0.4 5.6 0.2
81312 1944 .7 -7.7 0.0 0.6 3.5 0.0
81313 1710 .9 -6.2 0.0 0.7 5.6 0.0
81314 1577 1.0 0.7 0.0 0.9 6.6 0.0
81315 2232 .5 -0.5 0.0 0.5 4.4 0.0
81316 1955 .7 -4.5 0.0 0.4 4.1 0.0
81317 2297 .3 -8.7 0.0 0.4 2.4 0.0
81318 2400 .1 -16.2 0.0 0.3 2.0 0.0
81319 2740 .0 -11.1 0.0 0.9 4.0 0.0
81320 1771 .6 -12.3 0.0 0.5 6.7 0.0
81321 2000 .2 -12.3 0.0 0.5 6.4 0.0
81322 2200 .2 -14.0 0.0 0.5 4.5 0.0
81323 2500 .0 -16.0 0.0 0.5 2.2 0.0
81324 2730 .0 -21.6 0.0 0.5 2.4 0.0
81325 2182 .1 -18.4 0.0 0.5 4.5 0.0
81326 907 .7 -15.4 0.0 0.5 7.2 0.0
81327 853 .8 -3.0 9.0 0.5 3.4 0.0
81328 940 .8 -10.3 0.0 0.5 2.6 0.8
81329 1779 .2 -9.8 0.0 0.5 1.2 0.0
81330 537 1.0 -6.7 0.0 0.3 2.7 2.8
81331 693 1.0 -5.6 0.0 1.0 2.0 0.0
81332 693 1.0 -8.2 0.0 0.8 1.0 0.0
81333 1350 .9 -10.5 0.0 0.5 4.9 0.0
81334 828 .9 -7.3 0.0 0.4 5.6 0.0
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OCT.

5'9.99'2.50'

NOV.

TY TESTWEAT.DAT

81152	26057.	0.30	9.5	2.35	3.7	0
81153	25776.	0.50	7.5	3.62	3.1	0.6
81154	18640.	0.80	9.0	3.79	2.4	4.2
81155	24336.	0.60	8.6	4.20	3.0	6.8
81156	15012.	0.90	5.4	3.64	3.2	13.6
81157	24336.	0.90	8.9	3.38	2.7	1.0
81158	29574.	0.70	8.6	3.20	4.1	0
81159	11423.	1.00	5.9	3.77	2.8	11.2
81160	20178.	0.90	5.9	2.85	2.1	0.8
81161	32922.	0.00	7.6	2.17	2.4	0
81162	20278.	0.80	9.1	3.2	2.3	5.2
81163	24313.	0.30	9.0	2.50	2.4	0
81164	27425.	0.40	13.2	2.10	2.9	0
81165	27911.	0.60	11.5	1.88	3.7	0
81166	22536.	0.80	12.0	4.16	3.6	1.8
81167	27047.	0.60	13.7	3.56	2.4	0
81168	31421.	0.00	13.9	2.20	2.1	0
81169	23310.	0.70	13.1	2.70	2.4	0.4
81170	31889.	0.40	12.2	2.39	2.4	0
81171	23544.	0.90	11.8	2.05	2.9	0.6
81172	9450.	1.00	9.0	5.33	2.9	10.6
81173	24390.	0.80	11.5	4.02	3.9	0
81174	23501.	0.80	11.4	2.66	2.1	1.6
81175	21996.	0.90	11.9	3.47	4.2	8.4
81176	21870.	1.00	11.8	3.83	4.2	0.2
81177	3430.	1.00	8.1	4.49	3.3	6.2
81178	4403.	1.00	4.5	3.76	3.2	29.4
81179	12593.	1.00	4.8	3.67	2.0	10.8
81180	9695.	1.00	4.1	3.57	1.5	8.8
81181	18641.	0.90	5.0	3.46	2.6	7.6
81182	22806.	0.60	7.0	2.68	2.4	0
81183	19890.	0.80	7.6	1.65	2.9	0
81184	27821.	0.80	8.2	2.47	2.6	0
81185	22241	0.60	9.2	1.38	2.8	0.
81186	10487	1.00	9.8	3.11	2.9	1.4
81187	14015	1.00	9.8	4.67	1.9	8.2
81188	7769	1.00	7.9	3.90	4.0	14.4
81189	2495	1.00	7.1	4.99	1.8	15.2
81190	5573	1.00	8.9	5.41	1.4	20.4
81191	6599	1.00	9.1	6.06	2.2	25.4
81192	11610.0	1.0	9.4	5.3	3.5	5.8
81193	10278.0	1.0	10.3	5.3	2.5	6.8
81194	11322.0	1.0	9.8	4.9	2.3	1.4
81195	11189.0	1.0	10.0	5.6	2.1	1.6
81196	14112.0	0.9	11.2	6.3	1.8	6.2
81197	14825.0	0.8	12.6	6.3	2.3	5.8
81198	17877.0	0.8	13.2	5.8	2.7	2.8
81199	14616.0	1.0	11.3	5.3	3.3	1.4
81200	11736.0	1.0	10.4	5.5	2.2	1.8
81201	11394.0	1.0	10.5	6.0	2.2	6.8
81202	21690.0	0.4	8.2	3.8	3.0	0.0
81203	13655.0	1.0	11.4	5.1	2.5	3.8
81204	11502.0	1.0	11.8	6.8	1.5	8.4
81205	13032.0	1.0	12.8	6.9	2.8	5.6
81206	12647.0	0.8	10.6	5.4	2.8	11.2
81207	15372.0	0.6	6.9	3.3	2.6	0.0

81208	24804.0	0.2	5.0	1.8	2.7	0.0
81209	9821.0	1.0	8.8	4.3	2.4	2.8
81210	16085.0	0.8	8.0	3.1	2.5	5.2
81211	16085.0	0.8	7.9	3.2	2.1	4.6
81212	13986.0	1.0	8.8	3.0	2.2	3.6
81213	5158.0	1.0	10.0	1.2	2.3	35.6
81214	12960.0	1.0	10.8	0.9	2.7	7.4
81215	22528.0	0.2	9.0	1.1	2.3	0.0
81216	25668.0	0.0	9.6	4.0	3.5	0.0
81217	20045.0	0.0	11.6	4.4	4.8	0.0
81218	14086.0	0.9	9.9	3.4	4.7	0.8
81219	4817.0	1.0	9.6	4.0	6.0	4.2
81220	11081.0	1.0	10.5	4.0	4.0	8.6
81221	12791.0	1.0	10.2	4.0	1.9	2.2
81222	10566.0	1.0	9.9	4.0	1.9	7.2
81223	12161.0	1.0	9.4	0.8	1.3	7.2
81224	6905.0	1.0	5.0	2.9	1.8	22.6
81225	10577.0	1.0	6.7	4.0	2.2	8.2
81226	8147.0	1.0	6.9	4.0	2.0	1.6
81227	4680.0	0.9	3.0	4.0	2.5	19.4
81228	14148.0	0.5	2.2	1.6	2.1	6.2
81229	17964.0	0.4	2.4	4.0	2.8	0.0
81230	9846.0	1.0	6.8	4.0	3.2	1.6
81231	10235.0	1.0	7.3	2.8	2.4	12.8
81232	4259.0	1.0	8.5	0.7	3.0	4.8
81233	15689.0	0.9	8.9	2.8	3.1	12.0
81234	6923.0	1.0	5.2	4.0	2.2	2.4
81235	14202.0	0.6	8.1	4.0	1.5	0.0
81236	19242.0	0.4	8.7	4.0	1.9	0.0
81237	16031.0	0.3	12.7	4.0	1.7	0.0
81238	19458.0	0.0	14.9	4.0	2.6	0.0
81239	19908.0	0.1	15.7	4.0	1.8	0.0
81240	16884.0	0.4	14.9	4.0	1.6	0.0
81241	5591.0	1.0	10.5	2.0	2.6	0.0
81242	10944.0	1.0	10.5	0.8	4.0	0.6
81243	18227.0	1.0	8.8	4.0	2.6	0.2
81244	18839.0	0.9	7.9	4.0	1.9	0.0
81245	7013.0	1.0	8.2	5.9	1.9	1.8
81246	10739.0	1.0	9.4	3.4	1.2	0.4
81247	11153.0	1.0	8.7	3.6	3.6	0.2
81248	2423.0	0.9	10.5	4.1	3.2	2.4
81249	8723.0	0.9	8.3	3.8	3.2	4.4
81250	9918.0	0.7	5.0	3.0	2.2	0.2
81251	16308.0	0.3	7.6	2.6	2.0	0.0
81252	7139.0	1.0	6.0	3.0	1.6	10.0
81253	9414.0	0.9	6.1	3.5	1.3	2.6
81254	7992.0	0.9	5.3	3.2	1.4	2.4
81255	13564.0	0.8	6.6	2.5	2.8	0.0
81256	10404.0	0.9	5.2	2.4	2.4	1.0
81257	10163.0	0.9	5.7	2.1	3.0	0.0
81258	8694.0	1.0	7.1	2.7	3.1	0.8
81259	9702.0	0.9	6.8	2.0	3.5	0.2
81260	13050.0	0.6	8.1	1.4	4.1	0.0
81261	5663.0	0.9	7.2	1.7	3.7	0.0
81262	2952	1.00	5.4	3.38	2.8	12.2
81263	8644	0.70	4.0	3.39	2.0	3.4
81264	7920	1.00	3.3	2.61	1.8	0.
81265	11304	0.40	3.0	1.13	1.5	0.
81266	6167	0.90	0.4	2.31	1.1	3.0
81267	2692	1.00	-1.4	2.36	0.8	30.6
81268	5519	0.70	-3.9	1.29	1.9	0.6
81269	12168	0.10	-4.5	1.14	1.8	0.2
81270	13421	1.00	-5.6	1.04	1.5	0.8
81271	10116	0.40	-3.8	1.75	4.4	0
81272	5500	0.70	-5.7	1.29	2.3	0.0
81273	10100	0.40	-2.1	1.75	2.3	0.0

WAWEATHER.DAT

WATANA RESERVOIR
DYRESM WEATHER DATA

TALKEETN.

3.6, W/M²

SVPD = SATVAP T4 × RH

WIN... SSW ... NNE J.6 ...

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD		RAIN	SKY COVER LWRAD
	YR/JULIAN	KJ M⁻²	'C'	°C	MBAR	MBAR	M S⁻¹	MM	KJM⁻²
MAY 1 '82	81121	11250	1.00 ~~0.10~~	2.0	0.0	5.5		3.2	10
2	81122	24617	0.80	2.8		1.26		0	8
3	81123	14742	1.00	3.0		2.2		0	10
4	81124	21222	0.40	5.1		1.57	SEE	0	4 *
5	81125	18396	0.50	4.4		1.66		0	5 *
6	81126	26813	0.00	6.8		1.86		0	0 *
7	81127	26939	0.00	8.7		1.67		0	0 *
8	81128	27486	0.00	10.0		1.46	6 HR	0	0
9	81129	15275	1.00	8.0		1.27		0	10
10	81130	11548	1.00	6.1		2.98		0	10
11	81131	20124	0.60	6.1		1.68		0	6 *
12	81132	18918	0.80	8.4		1.42		0	8 *
13	81133	20081	0.70	8.6		2.32	AVERAGES	1.0	7 *
14	81134	17046	0.90	8.0		3.61		.6	9 *
15	81135	17723	0.90	8.4		3.71		6.8	9
16	81136	22637	0.50	8.9		2.82		0	5
17	81137	18792	0.70	8.8		2.91		0	7 *
18	81138	18540	0.80	7.4		3.77		3.6	8 *
19	81139	13464	1.00	6.4		2.85		0	10 *
START 20	81140	17003	1.00	6.9		3.05		7.6	10 *
21	81141	23220	0.30	4.6	0.0	2.52		0	3
22	81142	20351	0.50	4.6	0.0	2.10		0	5
23	81143	23987	0.70	8.5	0.0	2.52		0	7
24	81144	20351	0.90	9.0		2.72		1.2	9
25	81145	24797	0.20	10.3		2.72		0.2	2 *
26	81146	21575	0.50	11.6		2.29		0	5 *
27	81147	9377	1.00	10.3		5.70		0.8	10 *
28	81148	7750	1.00	5.9		5.52		6.6	10 *
29	81149	31025	0.30	12.8		3.21		0.2	3
30	81150	27810	0.60	13.8		2.49		0.4	6
31	81151	14544	1.00	9.4	0.0	5.36		11.48	10
				7.6		2.62		44.0	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

WATANA RESERVOIR
DYRESM WEATHER DATA

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD	U6	RAIN	SKY COVER LWRAD	
	YR/JULIAN	KJM^{-2}		°C	MBAR	MBAR	MS^{-1}	MM	KJM^{-2}	
JUNE 1	8/152	26057	0.30	9.5	0.0	2.35		0	3	*
2	8/153	25776	0.50	7.5	0.0	3.62		0.6	5	*
3	8/154	18640	0.80	9.0		3.79		4.2	8	*
4	8/155	24336	0.60	8.6		4.20	SEE	6.8	6	*
5	8/156	15012	0.90	5.4		3.64		13.6	9	
6	8/157	24336	0.90	8.9	0.0	3.38		1.0	9	
7	8/158	29574	0.70	8.6	COMPUTED	3.20	ON	0	7	
8	8/159	11423	1.00	5.9		3.77		11.2	10	*
9	8/160	20178	0.90	5.9		2.85	HOUR	0.8	9	*
10	8/161	32922	0.00	7.6		2.17		0	0	*
11	8/162	20278	0.80	9.1		3.21		5.2	8	*
12	8/163	31313	0.30	9.0	BY	2.50		0	3	
13	8/164	27425	0.40	13.2		2.10	AVAIL	0	4	
14	8/165	27911	0.60	11.5		1.88		0	6	
15	8/166	22536	0.80	12.0	SUBROUTINE	4.16		1.8	8	*
16	8/167	27047	0.60	13.7		3.56		0	6	*
17	8/168	31421	0.00	13.9		2.20		0	0	*
18	8/169	23310	0.70	12.4		2.70		0.4	7	*
19	8/170	31889	0.40	12.2		2.39		0	4	
20	8/171	23544	0.90	11.8	0.0	2.05		0.6	9	
21	8/172	9450	1.00	9.0	SATVAP	5.33		10.6	10	
22	8/173	24390	0.80	11.5		4.02		0	8	*
23	8/174	23501	0.80	11.4		2.66		1.6	8	*
24	8/175	21996	0.90	11.9	FOR	4.27		8.4	9	*
25	8/176	21870	1.00	11.8		3.83		0.2	10	*
26	8/177	3430	1.00	8.1		4.49		6.2	10	
27	8/178	4403	1.00	4.5	0.0	3.76		29.4	10	
28	8/179	12593	1.00	4.8	SURFACE	3.67		10.8	10	
29	8/180	9695	1.00	4.1		3.57		3.8	10	*
30	8/181	18641	0.90	5.0		3.46		7.6	9	*
	8/181				0.0					
					H_2O TEMP					
				9.3		3.29		129.8		

WATANA RESERVOIR
DYRESM WEATHER DATA

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD	U6	RAIN	LWRAD
	YR/JULIAN	KJM^{-2}		°C	MBAR	MBAR	MS^{-1}	MM	KJM^{-2}
	●	●	●	●		●		●	
JULY 1	81183	22806	0.60	7.0	0.0	2.68		0	6 *
2	81184	19890	0.80	7.6		1.65		0	8 *
3	81185	27821	0.80	8.2		2.47		0	8
4	81186	22291	0.60	9.2		1.38		0	6
5	81187	10487	1.00	9.8		3.11		1.4	10
6	81188	14015	1.00	9.8		4.67		8.2	10 *
7	81189	7769	1.00	7.9		3.90		14.4	10 *
8	81190	2495	1.00	7.1		4.99		15.2	10 *
9	81191	5573	1.00	8.9		5.41		20.4	10 *
10	81192	6599	1.00	9.1		6.06		25.4	10
11	81193	11610	1.00	9.4		5.25		5.8	10
12	81194	10278	1.00	10.3		5.32		6.8	10
13	81195	1,322	1.00	9.8		4.91		1.4	10 *
14	81196	11189	1.00	10.0		5.58		1.6	10 *
15	81197	14112	0.90	11.2		6.31		6.2	9 *
16	81198	14825	0.80	12.6		6.34		5.8	8 *
17	81199	17877	0.80	13.2		5.85		2.8	8
18	81200	14616	1.00	11.3		5.29		1.4	10
19	81201	11736	1.00	10.4		5.48		1.8	10
20	81202	11394	1.00	10.5		6.02		6.8	10 *
21	81203	21690	0.40	8.2		3.76		0	4 *
22	81204	13655	1.00	11.4		5.06		3.8	10 *
23	81205	11502	1.00	11.8		6.84		8.4	10 *
24	81206	13032	1.00	12.8 *		6.87		5.6	10
25	81207	12647	0.80	10.6 *		5.43		11.2	8
26	81208	15372	0.60	6.9		3.25		0	6
27	81209	24804	0.20	5.0		1.82		0	2 *
28	81210	9821	1.00	8.8		4.26		2.8	10 *
29	81211	16085	0.80	8.0		3.08		5.2	8 *
30	81212	16085	0.80	7.9		3.16		4.6	8 *
31	81213	13986	1.00	8.8		3.02		3.6	10
			9.3			4.83		170.6	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

SEE 6 HOUR DATA

* FROM 3 HR READINGS LESS T4 < 0 PTS

Watana Reservoir
DYEESM Weather Data

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD	U6	RAIN	SKY COVER LWRAD
	YR/JULIAN	KJ M^{-2}		°C	MBAR	MBAR	M S^{-1}	MM	KJ M^{-2}
AUGUST 1	81214	5158	1.00	10,0	0.0	1.21		35.6	10
2	81215	12960	1.00	10.8		0.90		7.4	10
3	81216	22528	0.20	9.0		1.14		.0	2 *
4	81217	25668	0.00	9.6 *		4.0		0	0 *
5	81218	20045	0.30	11 6		4.45		0	3 *
6	81219	14086	0.90	9.9		3.38	SEE	0.8	9 *
7	81220	4817	1.00	9.6 *	COMPUTED	4.0		4.2	10
8	81221	11081	1.00	10.5 *		4.0		8.6	10
9	81222	12791	1.00	10.2 *		4.0	6	2.2	10
10	81223	10566	1.00	9.9 *		4.0	HOUR	7.2	10 *
11	81224	12161	1.00	9,4		0.82		7.2	10 *
12	81225	6905	1.00	5.0	BY	2.94		22.6	10 *
13	81226	10577	1.00	6.7 *		4.0	DATA	8.2	10 *
14	81227	8147	1.00	6.9 *		4.0		1.6	10
15	81228	4680	0.90	3.0 *	SUBROUTINE	4.0		19.4	9
16	81229	14148	0.50	2.2		1.63		6.2	5
17	81230	17964	0.40	2.4 *		4.0		0	4 *
18	81231	9846	1.00	6.8 *		4.0		1.6	10 *
19	81232	10235	1.00	7.3		2.83		12.8	10 *
20	81233	4259	1.00	8.5		0.66		4.8	10 *
21	81234	15689	0.90	8.9	SAT VAP	2.82		12.0	9
22	81235	6923	1.00	5.2 *		4.0		2.4	10
23	81236	14202	0.60	8.1 *		4.0		0	6
24	81237	19241	0.40	8.7 *	FOR	4.0		0	4 *
25	81238	16031	0.30	12.7 *		4.0		0	3 *
26	81239	19458	0.00	14.9 *		4.0		0	0 *
27	81240	19906	0.10	15 7 *		4.0		0	1 *
28	81241	16884	0.40	14.9 *	SURFACE	4.0		0	4
29	81242	5591	1.00	10.5		2.01		0	10
30	81243	10444	1.00	10.5		0,75		0.6	10
31	81244	18227	1.00	8.8 *	H_2O TEMP	4.0		0.2	*
				8.07				66	

WATANA RESERVOIR
DYRESM WEATHER DATA

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD	U6	RAIN	LWRAD
	YR/JULIAN	$KJ\,M^{-2}$		°C	MBAR	MBAR	$M\,S^{-1}$	MM	$KJ\,M^{-2}$
SEP 1	81214	18839	0.90	7.9 *	0.0	4.0		0	9 *
2	81215	7013	1.00	8.2		5.92		1.8	10 *
3	81216	10739	1.00	9.4		3.38		0.4	10 *
4	81217	11153	1.00	8.7		3.56		0.2	10
5	81218	2423	0.90	10.5		4.14		2.4	9
6	81219	8723	0.90	8.3		3.79		4.4	9
7	81220	9918	0.70	5.0		3.03		0.2	7
8	81221	16308	0.30	7.6		2.58		0	3
9	81222	7139	1.00	6.0		2.96		10.0	10
10	81223	9414	0.90	6.1		3.45		2.6	9
11	81224	7992	0.90	5.3		3.18		2.4	9
12	81225	13564	0.80	6.6		2.51		0	8
13	81226	10404	0.90	5.2		2.37		1.0	9
14	81227	10163	0.90	5.7		2.09		0	9
15	81228	8694	1.00	7.1		2.70		0.8	10
16	81229	9702	0.90	6.8		1.96		0.2	9
17	81230	13050	0.60	8.1		1.39		0	6
18	81231	5663	0.90	7.2		1.71		0	9
19	81232	2952	1.00	5.4		3.38		12.2	10
20	81233	8334	0.70	4.0		3.39		3.4	7
21	81234	7920	1.00	3.3		2.61		0	10
22	81235	11304	0.40	3.0		1.13		0	4
23	81236	6167	0.90	0.4		2.31		3.0	9
24	81237	2692	1.00	-1.4		2.36		30.6	10
25	81238	5519	0.70	-3.9		1.29		0.6	7
26	81239	12168	0.10	-4.5		1.14		0.2	1
27	81240	13421	1.00	-5.6		1.04		0.8	10
28	81241	10116	0.40	-3.8		1.75		0	4
29	81242	5500 *	0.70	-5.74 *		1.29	2.3	0 *	7
30	81243	10100 *	0.40	-2.1 *		1.75	2.3	0 *	4
	81274								

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

SEE 6 HOUR DATA

STOP

done

TEST WEAT. DAT

WATANA RESERVOIR
DYNESM WEATHER DATA

DATE OCT.	ISEQ YR/JULIAN @	SW KJ M^{-2} @	SRAT	T4 °C	SVPD MBAR ENTER	SVPD MBAR	U6 M S^{-1} ENTER	RAIN MM	SKY COVER LWRAD KJ M^{-2}
1	81 274	7200 *	0.00	-6.9 ND	0.0		9.99	ND	0
2	81 275	7200 *	0.10	-6.0 AD				ND	1
3	81 276	7211	1.00	-6.0		*		0.0	4
4	81 277	5465	1.00	-1.9				0.0	10
5	81 278	6779	0.80	-0.1				0.0	* ND
6	81 279	5285	0.70	-2.0				0.6	7
7	81 280	8777	0.00	-4.6				0.0	0
8	81 281	5778	1.00	-1.8				0.0	10
9	81 282	7488	0.90	-0.4				0.2	9
10	81 283	7488	0.50	-1.5				0.0	5
11	81 284	3413	1.00	-1.5	0.0			0.6	10
12	81 285	4752	1.00	1.1		2.70		4.4	* ND
13	81 286	5058	1.00	2.1	*	3.39		4.0	0
14	81 287	4788	1.00	2.2		3.34		0.0	10
15	81 288	5753	0.80	0.6		2.03		0.0	8
16	81 289	4770	0.90	-0.2		/		0.0	9
17	81 290	4943	0.70	0.8		1.67		0.0	7
18	81 291	2862	1.00	-3.5		?		1.0	10
19	81 292	4780	1.00	-7.6				0.0	* ND
20	81 293	3546	1.00	-2.8	0.0			0.0	10
21	81 294	3035	1.00	1.7		2.06		6.6	10
22	81 295	3179	1.00	1.4		2.22		2.0	10
23	81 296	2538	1.00	1.9		1.95		4.8	10
24	81 297	3287	0.90	0.2		1.54		0.8	9
25	81 298	2639	0.60	-1.7				0.0	6
26	81 299	3780	1.00	-2.7				0.0	10
27	81 300	5868	0.70	-4.1				0.0	7
28	81 301	3125	0.90	-4.3				0.0	9
29	81 302	3456	0.90	-7.9				0.0	9
30	81 303	3340	0.40	-7.6				0.0	4
31	81 304	3870	0.50	-10.2	0.0		9.99	0.0	5

enter 9.99 if no wind

Start H2O THIS year

1

WATANA — NOV. 1981 TESTWEAT.DAT

DYRESM WEATHER DATA

enter minus signs

ITR	ISEQ YR/JULIAN	SW KJM^{-2}	SRAT	T4 °C	SVPO MBAR	SVPD MBAR (SVP/SVPD)	DAILY AVERAGE U6 MS^{-1}	RAIN MM	LWRAD KJM^{-}
1	81305	3708	.7	-11.3	0.10	2.6 / 0.3	4.0	0.0	
2	81306	2592	.5	-7.2	0.0	3.6 / 0.5	4.6	0.0	
3	81307	3096	.2	-12.0		2.5 / 0.4	2.4	0.0	
4	81308	1584	.10	-10.8		2.7 / 0.5	2.1	1.2	
5	81309	2484	.6	-14.6		2.1 / 0.3	1.1	0.0	
6	81310	2304	.7	-16.7		1.8 / 0.3	2.8	0.0	
7	81311	1397	.10	-8.8	0.0	3.3 / 0.4	5.6	0.2	
8	81312	1944	.7	-7.7		3.4 / 0.6	3.5	0.0	
9	81313	1710	.4	-6.3		3.8 / 0.7	5.6	0.0	
10	81314	1577	1.0	-0.7		6.4 / 0.9	6.6	0.0	
11	81315	2222	.5	-0.5		5.9 / 0.5	4.4	0.0	
12	81316	1955	.7	-1.5		4.1 / 0.4	4.1	0.0	
13	81317	2297	.3	-3.7		3.2 / 0.4	2.4	0.0	
14	81318	2400 *	.1	-6.2		1.9 / 0.3	2.0	0.0	
15	81319	2740 *	.0	-11.1 *		2.7 / 0.9 *	4.0	0.0	
16	81320	1771 *	.6	-12.3 *		0.5 *	6.7	0.0	
17	81321	2000	.2	-12.2 *		0.5 *	6.4	0.0 *	
18	81322	2200	.2	-14. *		0.5 *	6.0	0.0 *	
19	81323	2500	.0	-13.9 *		0.5 *	2.2	0.0	
20	81324	2730 *	.0	-12.6 *		0.5 *	2.4	0.0	
21	81325	2182 *	.1	-18.4 *	0.10	0.5 *	4.5	0.0	
22	81326	907 *	.7	-15.4 *		0.5 *	7.2	0.0	
23	81327	853 *	.8	-3.0 *		0.5 *	3.4	0.0	
24	81328	940 **	.5	-10.3 *		0.5 *	2.6	0.8	
25	81329	1777 **	.4	-9.8 *		0.5 *	1.2	0.0	
26	81330	537 **	1.0	-6.7		0.5 *	4.7	2.8	
27	81331	693 **	1.0	-5.6		4.0 / 1.0	2.0	0.0	
28	81332	693 **	1.0	-8.2	0.10	3.3 / 0.8	1.0	0.0	
29	81333	1350 **	.9	-10.5		2.8 / 0.5	4.0	0.0	
30	81334	828 **	.9	-7.3		3.5 / 0.4	1.0	0.0	

COMPUTED

SUBROUTINE

SAT VAP

FOR

SURFACE

H2O

TEMP

* VALUE ESTIMATED; INCOMPLETE DATA

** VALUE ADJ FOR ZERO POINT DRIFT

ALL SRAT, LWR OVER WATER USE 1.0

ALL SW, LWR, T4, SVP, SVPD, U6, RAIN ESTIMATED FROM TALKEETNA AND OTHER SOURCES

2

DYRESM WEATHER DATA - JUNE
WATANA RESERVOIR 1982

I	TE	ISEQ YR/JULIAN	SW KJ M^{-2}	SRAT	T4 °C	SVPO MBAR	SVPD MBAR	U6 M S^{-1}	RAIN MM	~~LWRAD~~ KJM^{-}
		82152	27090	1	8.9	0.0	0.05	2.9	0.0	
		82153	5886	1	4.2		2.37	1.4	20.0	
		82154	23850	1	6.0		0.86	2.2	0.0	
		82155	26128	10 "CLOUDY"	6.2		0.30	2.7	0.0	
		82156	14681	9	7.0		0.85	2.1	0.0	
		82157	13374	10	7.8		1.4	3.1	4.4	
		82158	8568		5.5		2.78	2.3	6.4	
		82159	25480	1	8.2		1.22	2.1	0.0	
		82160	14724	6	8.1		1.29	2.6	1.0	
		82161	14501	5	10.6		1.52	4.1	0.0	
		82162	14274	8	7.6		0.96	2.0	0.0	
		82163	19631	6	6.9		1.18	2.2	2.2	
		82164	19721	6	5.6		0.96	1.6	0.0	
		82165	24185	2	8.1		0.8	3.7	0.0	
		82166	7552	2	2.5		2.35	4.5	15.4	
		82167	9749	3	5.1		2.53	4.1	4.4	
		82168	25985	1	9.4		1.43	2.4	0.2	
		82169	13464	10	7.6		2.22	2.9	4.2	
		82170	24354	2	9.3		2.10	2.4	0.6	
		82171	9947	10	4.0		2.12	2.9	23.2	
		82172	21449	5	8.1		1.87	2.5	0.0	
		82173	20765	4	9.3		1.08	1.8	0.0	
		82174	32213	2	11.8		0.53	2.1	0.0	
		82175	34121	0	11.1		1.57	2.2	0.0	
		82176	27918		15.3			2.1	0.0	
		82177	29178		16.0		2.16	2.2	0.0	
		82178	26298	2	14.6		1.66	3.3	0.0	
		82179	22817	5	13.2		2.40	3.8	0.0	
		82180	20084	5	10.5		1.59	1.5	1.4	
		82181	14310	6	10.4		1.67	4.0	4.6	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

DYRESM WEATHER DATA - JULY
WATANA RESERVOIR - 1982

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD[K]	U6	RAIN	~~LWRAD~~
	YR/JULIAN	$KJ\,M^{-2}$		°C	MBAR	MBAR	$M\,S^{-1}$	MM	~~KJM^{-2}~~
7/1/82	82182	14285	10	7.2	0.0	2.30	1.9	14.4	
2	82183	23699	6	8.9		1.28	1.7	0.0	
3	82184	33779	1	10.2		0.39	3.0	0.0	
4	82185	24336	5	12.3		0.45	2.9	0.0	
5	82186	23447	5	9.7		0.79	2.6	0.0	
6	82187	28512	1	12.2		0.64	2.0	0.0	
7	82188	31979	1	15.3		0.20	2.2	0.0	
8	82189	16967	1*	13.7		1.02	4.0	0.0	
9	82190	16499	10*	12.4		2.10	2.9	0.0	
10	82191	12438	10*	11.2		2.37	4.2	0.4	
11	82192	16085	10*	10.9		2.51	3.5	0.8	
12	82193	10037	10*	9.6		2.95	3.5	9.2	
13	82194	20430	8	11.7		2.46	1.9	2.6	
14	82195	17172	10	12.7		2.63	1.6	7.2	
15	82196	16625	10	9.5		2.69	2.6	0.0	
16	82197	14202	10	8.7		2.55	2.6	5.6	
17	82198	13514	10	7.5		2.00	2.8	0.8	
18	82199	15390 K	10	10.5 K		2.50	2.0 u	5.0 r	
19	82200	27731 K	1	14.6 K		0.20	2.0 u	0	
20	82201	24473 K	1	13.4 K		0.30	2.0 u	0	
21	82202	13750 K	10*	11.5 K		2.60	2.0 u	5.0 r	
22	82203	13770 K	10*	9.1 K		2.70	2.0 u	5.0 r	
23	82204	6671	10	10.4		4.55	2.8	10.8 r	
24	82205	12053	10*	10.4		3.96	2.0	8.2	
25	82206	8233	10	9.6		2.37	2.2	13.6	
26	82207	21791	1	10.7		1.57	2.0	0.0	
27	82208	14062	10*	12.4		2.19	1.8	0.0	
28	82209	21316	6*	13.6		1.43	2.8	0.0	
29	82210	10429	10*	10.3		3.59	1.7	5.4	
30	82211	11833	10*	9.6		2.71	2.7	14.8	
31	82212	20272	10*	11.3		1.14	1.7	0.4	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

K Values estimated [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] ?

u [illegible] [illegible] [illegible] [illegible] [illegible]

r Recip distributed [illegible] 23 July 82

DYRESM WEATHER DATA AUGUST
WATANA RESERVOIR 1982

DATE	ISEQ YR/JULIAN	SW KJM^{-2}	SRAT	T.A. °C	SVPO MBAR	SVPD[K] MBAR	U6 MS^{-1}	RAIN MM	~~LWRAD~~ ~~KJM^{-2}~~
8/1/82	82213	26525	1*	10.3	0.0	1.36	2.2	0.0	
2	82214	23789	1*	11.8		0.43	1.7	0.0	
3	82215	25776	1*	12.3		0.45	2.0	0.0	
4	82216	26060	1*	12.7		0.26	2.2	0.0	
5	82217	20000 K	1*	8.6		0.43	2.1	0.0	
6	82218	21665 K	1 (1*)	11.3 K		0.24	2.0 u	1.0	
7	82219	13000 K	3	9.9 K		1.12	2.0 u	2.5 r	
8	82220	10818 K	8	8.5 K		1.32	2.0 u	2.4 r	
9	82221	12500 K	10	6.0 K		1.81	2.0 u	2.4 r	
10	82222	10807	10	8.3		1.74	2.2	2.5 r	
11	82223	20891	1*	10.4		1.24	1.7	0.0	
12	82224	24671	1*	10.8		0.58	1.7	0.0	
13	82225	24030	1*	12.6		0.75	2.2	0.0	
14	82226	10962	6*	11.1		1.66	2.1	7.0	
15	82227	15419	9*	9.4		1.72	2.4	1.0	
16	82228	22932	4*	9.1		1.30	3.0	0.0	
17	82229	10296	10*	7.5		1.93	1.8	4.6	
18	82230	17460	8*	9.1		0.99	1.7	0.0	
19	82231	22709	3*	9.4		0.85	2.1	0.0	
20	82232	21791	1*	12.7		0.26	1.6	0.0	
21	82233	16391	1*	12.6		0.36	1.7	0.0	
22	82234	20934	1*	11.5		0.34	1.9	0.0	
23	82235	10253	10*	10.8		2.67	1.7	2.8	
24	82236	12359	9*	10.7		2.05	1.7	0.8	
25	82237	14598	6*	10.4		2.09	2.2	1.6	
26	82238	14285	6*	10.4		1.41	1.8	0.0	
27	82239	20952	1*	9.6		0.13	2.7	0.0	
28	82240	16463	10*	7.7		0.12	2.2	0.0	
29	82241	8442	10	7.3		1.56	1.4	6.2	
30	82242	6797	10	6.8		2.44	2.5	18.4	
31	82243	13673	3	6.2		2.09	1.4	6.0	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

3

x : Approximated from Kosina Weather Station

r : Precip distributed from record at 10 August

u : Approximated [illegible] wind

DYRESM WEATHER DATA SEPTEMBER
WATANA RESERVOIR 1982

DATE	ISEQ YR/JULIAN	SW KJ M^{-2}	SRAT	T4 °C	SVPO MBAR	SVPD MBAR	U6 M S^{-1}	RAIN MM	LWRAD KJM^{-2}
9/1/82	82244	12542	4*	6.9	0.0	1.18	1.4	0.2	
2	82245	14177	7*	6.3		1.52	1.9	2.2	
3	82246	7553	10	4.6		1.98	1.1	8.2	
4	82247	16146	5*	5.6		0.90	1.6	0	
5	82248	7524	10*	8.3		0.49	5.8	0.6	
6	82249	10548	4*	10.2		0.22	3.5	1.2	
7	82250	10314	6*	7.5		1.30	2.9	4.4	
8	82251	5364	10*	6.2		2.02	1.8	2.2	
9	82252	8154	7	6.7		1.89	2.1	4.6	
10	82253	7992	9	6.0		1.36	1.5	0	
11	82254	6102	7	3.6		1.69	1.9	12.0	
12	82255	13475	4	3.5		0.94	2.8	2.6	
13	82256	7902	9	6.8		1.71	3.1	12.6	
14	82257	4266	10	6.5		2.32	2.0	12.6	
15	82258	1951	10	7.4		0.77	3.6	7.6	
16	82259	—	9	4.7*		1.02	—	—	
17	82260	3269	10	7.0		4.02	1.5	0	
18	82261	8298	10	3.7		4.51	3.2	0	
19	82262	5076	10	5.4		4.39	1.5	4.8	
20	82263	7722	9	4.9		4.13	1.3	0.6	
21	82264	5087	9	6.9		4.26	3.9	1.6	
22	82265	9792	6	2.7		3.40	1.9	1.0	
23	82266	14246	1	1.3		2.75	1.7	0	
24	82267	10656	1	1.2		2.64	2.3	0	
25	82268	7982	1	4.6		2.95	1.9	0	
26	82269	6473	9	3.1		3.02	1.5	2.8	
27	82270	9918	8	2.2		3.37	2.2	0.6	
28	82271	5724	9	−0.6		3.44	4.4	2.0	
29	82272	6228	9	2.4		3.71	2.0	5.8	
30	82273	5645	10	0.9		3.25	1.0	4.4	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

WATANA — NOV. 1981

DYRESM WEATHER DATA

DATE	ISEQ	SW	SRAT	T4	SVPO	SVPD	DAILY AVERAGE U6	RAIN	LWRAD
	YR/JULIAN	KJ M^{-2}		°C	MBAR	MBAR	M S^{-1}	MM	KJ M^{-2}
1	81305	3708	7	-11.3		SVP / SVPD 2.6 / 0.3	4.0	0.0	
2	81306	2592	5	-7.2	0.0	3.6 / 0.5	4.6	0.0	
3	81307	3096	2	-12.0		2.5 / 0.4	2.4	0.0	
4	81308	1584	10	-10.8		2.7 / 0.5	2.1	1.2	
5	81309	2484	6	-14.6		2.1 / 0.3	1.1	0.0	
6	81310	2304	7	-16.7		1.8 / 0.3	2.8	0.0	
7	81311	1397	10	-8.8		3.2 / 0.4	5.6	0.2	
8	81312	1944	7	-7.7		3.4 / 0.6	3.5	0.0	
9	81313	1710	4	-6.2		3.8 / 0.7	5.6	0.0	
10	81314	1577	10	+0.7		6.4 / 0.9	6.6	0.0	
11	81315	2232	5	-0.5		5.9 / 0.5	4.4	0.0	
12	81316	1955	7	-4.5		4.4 / 0.4	4.1	0.0	
13	81317	2297	3	-8.7		3.2 / 0.4	2.4	0.0	
14	81318	2400 *	1	-16.2		1.9 / 0.3	2.0	0.0	
15	81319	2740 *	0	-11.1 *		2.7 / 0.9 *	4.0	0.0	
16	81320	1771 *	6	-12.3 *		0.5 *	6.7	0.0	
17	81321	2000	2	-12.2 *		0.5 *	6.4	0.0 *	
18	81322	2200	2	-14. *		0.5 *	6.0	0.0 *	
19	81323	2500	0	-16.0 *		0.5 *	2.2	0.0	
20	81324	2730 *	0	-21.6 *		0.5 *	2.4	0.0	
21	81325	2182 *	1	-18.4 *		0.5 *	4.5	0.0	
22	81326	907 *	7	-15.4 *		0.5 *	7.2	0.0	
23	81327	853 *	8	-3.0 *		0.5 *	3.4	0.0	
24	81328	940 **	8	-10.3 *		0.5 *	2.6	0.8	
25	81329	1779 **	4	-9.8 *		0.5 *	1.2	0.0	
26	81330	537 **	10	-6.7		0.5 *	4.7	2.8	
27	81331	693 **	10	-5.6		4.0 / 1.0	2.0	0.0	
28	81332	693 **	10	-8.2		3.3 / 0.8	1.0	0.0	
29	81333	1350 **	9	-10.5		2.8 / 0.5	4.9	0.0	
30	81334	828 **	9	-7.3		3.5 / 0.4	5.6	0.0	

COMPUTED BY SUBROUTINE SATVAP FOR SURFACE H_2O TEMP

VALUE ESTIMATED; INCOMPLETE DATA SET

* VALUE ADJ FOR ZERO POINT DRIFT

ALL SRAT CLOUD COVER DATA ARE ESTIMATED FROM OBSERVATIONS AT TALKEETNA AND OTHER SOURCES

5/

00007

Check on vapour pressure

RC 26 Sept 82
PS701.53

$$e_s \approx 33.8639\left[(0.00738T + 0.8072)^8 - 0.000019\{1.8T+48\} + 0.001316\right]$$

$$e = \underline{f.e_s} \approx \underline{e_s} \cdot \left(\frac{112 - 0.1T + T_d}{112 + 0.9T}\right)^8$$

T = air temperature

Td = dewpoint temperature.

June 1 st

mean T = 9.5 °c

mean T_d = −12.5 °c

e_s = 11.8867

f = 0.1995

2.37 mb

In worksheets 2.35 given.

[redacted] WEATHER DATA.

I/O UNIT = 20

[redacted]

[redacted]

\# TY TESTWEAT.DAT

ISEQ	SW	STRAT	TEMP	VP	WS	PPT
81152	26057.	0.30	9.5	2.35	3.7	0
81153	25776.	0.50	7.5	3.62	3.1	0.6
81154	18640.	0.80	9.0	3.79	2.4	4.2
81155	24336.	0.60	8.6	4.20	3.0	6.8
81156	15012.	0.90	5.4	3.64	3.2	13.6
81157	24336.	0.90	8.9	3.38	2.7	1.0
81158	29374.	0.70	8.6	3.20	4.1	0
81159	11423.	1.00	5.9	3.77	2.8	11.2
81160	20178.	0.90	5.9	2.85	2.1	0.8
81161	32922.	0.00	7.6	2.17	2.4	0
81162	20278.	0.80	9.1	3.2	2.3	5.2
81163	31313.	0.30	9.0	2.50	2.4	0
81164	27425.	0.40	13.2	2.10	2.9	0
81165	27911.	0.60	11.5	1.88	3.7	0
81166	22536.	0.80	12.0	4.16	3.6	1.8
81167	27047.	0.60	13.7	3.56	2.4	0
81168	31421.	0.00	13.9	2.20	2.1	0
81169	23310.	0.70	13.1	2.70	2.4	0.4
31170	31389.	0.40	12.2	2.39	2.4	0
81171	23544.	0.90	11.8	2.05	2.9	0.6
81172	9450.	1.00	9.0	5.33	2.9	10.6
81173	24390.	0.80	11.5	4.02	3.9	0
81174	23501.	0.80	11.4	2.66	2.1	1.6
81175	21996.	0.90	11.9	3.47	4.2	8.4
81176	21870.	1.00	11.8	3.83	4.2	0.2
81177	3430.	1.00	8.1	4.49	3.3	6.2
81178	4403.	1.00	4.5	3.76	3.2	29.4
81179	12593.	1.00	4.8	3.67	2.0	10.8
81180	9695.	1.00	4.1	3.57	1.5	8.8
81181	18641.	0.90	5.0	3.46	2.6	7.6
81182	22806.	0.60	7.0	2.68	2.4	0
81183	19890.	0.80	7.6	1.65	2.9	0
81184	27821.	0.80	8.2	2.47	2.6	0
81185	22241	0.60	9.2	1.38	2.8	0.
81186	10487	1.00	9.8	3.11	2.9	1.4
81187	14015	1.00	9.8	4.67	1.9	8.2
81188	7769	1.00	7.9	3.90	4.0	14.4
81189	2495	1.00	7.1	4.99	1.8	15.2
81190	5573	1.00	8.9	5.41	1.4	20.4
81191	6599	1.00	9.1	6.06	2.2	25.4
81192	11610.0	1.0	9.4	5.3	3.5	5.8
81193	10278.0	1.0	10.3	5.3	2.5	6.8
81194	11322.0	1.0	9.8	4.9	2.3	1.4
81195	11189.0	1.0	10.0	5.6	2.1	1.6
81196	14112.0	0.9	11.2	6.3	1.8	6.2
81197	14825.0	0.8	12.6	6.3	2.3	5.8
81198	17877.0	0.8	13.2	5.8	2.7	2.8
81199	14616.0	1.0	11.3	5.3	3.3	1.4
81200	11736.0	1.0	10.4	5.5	2.2	1.8
81201	11394.0	1.0	10.5	6.0	2.2	6.8
81202	21690.0	0.4	8.2	7.6	3.0	0.0

81204	11502.0	1.0	11.8	6.8	1.5	8.4	
81205	13032.0	1.0	12.8	6.9	3.8	8.6	
81206	12647.0	0.8	10.6	5.4	2.8	11.2	
81207	15372.0	0.6	6.9	3.3	2.6	0.0	
81208	24804.0	0.2	5.0	1.9	2.7	0.0	
81209	9821.0	1.0	8.8	4.3	2.4	2.8	
81210	16085.0	0.8	9.0	3.1	2.5	5.2	
81211	16085.0	0.8	7.9	3.2	2.1	4.6	
81212	13966.0	1.0	8.8	3.0	2.2	3.6	
81213	5158.0	1.0	10.0	1.2	2.3	35.6	
81214	12960.0	1.0	10.8	0.9	2.7	7.4	
81215	22528.0	0.2	9.0	1.1	2.3	0.0	
81216	25668.0	0.0	9.6	4.0	3.5	0.0	
81217	20045.0	0.0	11.6	4.4	4.8	0.0	
81218	14086.0	0.9	9.9	3.4	4.7	0.8	
81219	4817.0	1.0	9.6	4.0	6.0	4.2	
81220	11081.0	1.0	10.5	4.0	4.0	8.6	
81221	12791.0	1.0	10.2	4.0	1.9	2.2	
81222	10566.0	1.0	9.9	4.0	1.9	7.2	
81223	12161.0	1.0	9.4	0.8	1.3	7.2	
81224	6905.0	1.0	5.0	2.9	1.8	22.6	
81225	10577.0	1.0	6.7	4.0	2.2	8.2	
81226	6147.0	1.0	6.9	4.0	2.0	1.6	
81227	4680.0	0.9	3.0	4.0	2.5	19.4	
81228	14148.0	0.5	2.2	1.6	2.1	6.2	
81229	17964.0	0.4	2.4	4.0	2.8	0.0	
81230	9346.0	1.0	6.8	4.0	3.2	1.6	
81231	10235.0	1.0	7.3	2.8	2.4	12.8	
81232	4259.0	1.0	8.5	0.7	3.0	4.8	
81233	15689.0	0.9	8.9	2.8	3.1	12.0	
81234	6923.0	1.0	5.2	4.0	2.2	2.4	
81235	14202.0	0.6	8.1	4.0	1.5	0.0	
81236	19242.0	0.4	8.7	4.0	1.9	0.0	
81237	16031.0	0.3	12.7	4.0	1.7	0.0	
81238	19458.0	0.0	14.9	4.0	2.6	0.0	
81239	19908.0	0.1	15.7	4.0	1.8	0.0	
81240	16884.0	0.4	14.9	4.0	1.6	0.0	
81241	5591.0	1.0	10.5	2.0	2.6	0.0	
81242	10944.0	1.0	10.5	0.6	4.0	0.6	
81243	18227.0	1.0	8.8	4.0	2.6	0.2	
81244	18839.0	0.9	7.9	4.0	1.9	0.0	
81245	7013.0	1.0	8.2	5.9	1.9	1.8	
81246	10739.0	1.0	9.4	3.4	1.2	0.4	
81247	11153.0	1.0	8.7	3.6	3.6	0.2	
81248	2423.0	0.9	10.5	4.1	3.2	2.4	
81249	8723.0	0.9	8.3	3.8	3.2	4.4	
81250	9918.0	0.7	5.0	3.0	2.2	0.2	
81251	16308.0	0.3	7.6	2.6	2.0	0.0	
81252	7139.0	1.0	6.0	3.0	1.6	10.0	
81253	9414.0	0.9	6.1	3.5	1.3	2.6	
81254	7992.0	0.9	5.3	3.2	1.4	2.4	
81255	13564.0	0.8	6.6	2.5	2.8	0.0	
81256	10404.0	0.9	5.2	2.4	2.4	1.0	
81257	10163.0	0.9	5.7	2.1	3.0	0.0	
81258	8694.0	1.0	7.1	2.7	3.1	0.8	
81259	9702.0	0.9	6.8	2.0	3.5	0.2	
81260	13050.0	0.6	8.1	1.4	4.1	0.0	
81261	5663.0	0.9	7.2	1.7	3.7	0.0	
81262	2952	1.00	5.4	3.38	2.8	12.2	
81263	8644	0.70	4.0	3.39	2.0	3.4	
81264	7920	1.00	3.3	2.61	1.5	0.	
81265	11304	0.40	3.0	1.13	1.5	0.	
81266	6167	0.90	0.4	2.31	1.1	3.0	
81267	2692	1.00	-1.4	2.36	0.8	30.6	
81268	5519	0.70	-3.5	1.25	1.9	0.	

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ACRES **Calculations**
SUBJECT

By DC Date 24 AUG 82 Project No. _____
Checked _____ Date _____ Calculation No. _____
Page ___ of ___

Rev	By	Checked

WATANA
STORAGE - AREA ELEVATION

ELEVATION		STORAGE		AREA	
FT	M	AC-FT	M^3	FT^2	M^2
1460	445.0	0	0	0	0
1500	457.2	2962	3653,573	6,452,317.	599,440
1550	472.4	34140	42,111,070	47,872,404	4,447,492
1600	487.7	127,202	156,901,357	114,279,016	10,616,868
1650	502.9	292,562	360,869,913	173,843,272	16,150,568
1700	518.2	532,823	657,227,493	244,787,914	22,741,541
1750	533.4	869,766	1,072,840,563	342,301,751	31,800,873
1800	548.6	1,318,168	1,625,936,286	439,994,252	40,876,804
1850	563.9	1,876,791	2,314,987,610	534,350,121	49,642,751
1900	579.1	2,545,751	3,140,137,620	631,245,753	58,644,649
1950	594.4	3,329,953	4,107,436,544	735,147,493	68,297,437
2000	609.6	4,248,146	5,240,010,932	846,711,838	78,662,104
2050	624.8	5,341,214	6,588,290,457	1,039,850,114	96,605,237
2100	640.1	6,645,315	8,196,875,354	1,232,415,851	114,495,179
2150	655.3	8,188,533	10,100,406,000	1,456,487,399	135,312,107
2200	670.6	10,017,666	12,356,600,000	1,730,592,507	160,777,305
2250	685.6	12,211,726	15,062,942,220	2,092,337,128	194,384,480

Relationships from RE M letter to GK, 7 May 81. from MRM Holstraud.

CONVERSIONS/ 1 ft = 0.3048 m

1 Ac-FT = 1233.48 m^3

1 FT^2 = 0.0929 m^2

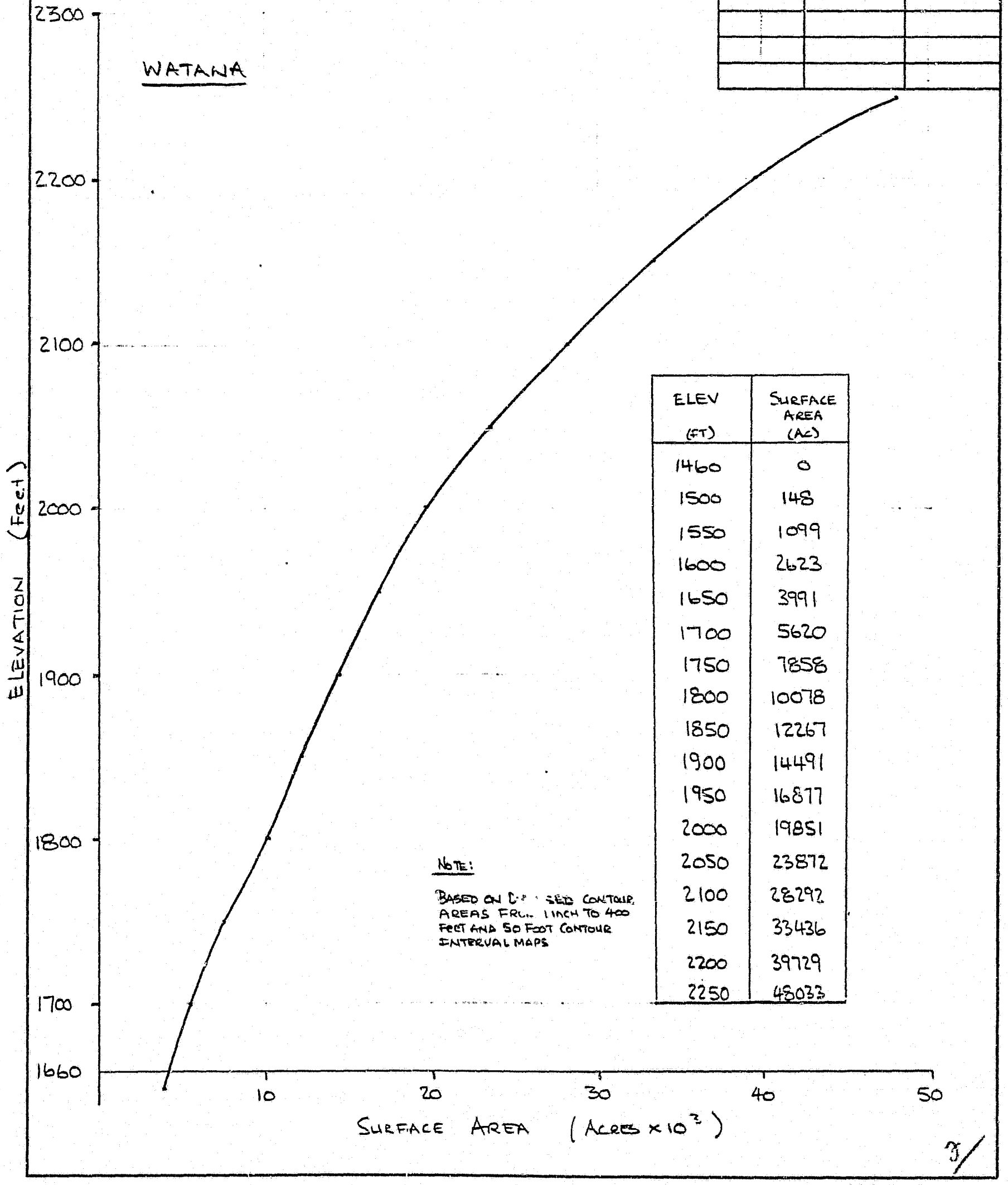
60.04.03 Form 148B

Calculations
SUBJECT

By DC Date 24 AUG 82 Project No. PS101.57
Checked ____ Date ____ Calculation No. ____
Page ___ of ____

Rev	By	Checked

WATANA



ELEV (FT)	SURFACE AREA (AC)
1460	0
1500	148
1550	1099
1600	2623
1650	3991
1700	5620
1750	7858
1800	10078
1850	12267
1900	14491
1950	16877
2000	19851
2050	23872
2100	28292
2150	33436
2200	39729
2250	48033

NOTE:

BASED ON DIGITIZED CONTOUR AREAS FROM 1 INCH TO 400 FEET AND 50 FOOT CONTOUR INTERVAL MAPS

3/

60.04.03 Form 148B

ACRES

Calculations

SUBJECT

By _____ Date _____ Project No. _____

Checked _____ Date _____ Calculation No. _____

Page ___ of ____

Rev	By	Checked

SPILL & INTAKE LEVELS.

	LEVEL FT	LEVEL M	Width FT	Width M	Length FT	Length M
SPILL	2190	667.5	165 4125	1257		80 500
INTAKE						
1	2160	658.4	154 3850	1173	264,000	80,500
2	2140	652.3	150 3750	1143		
3	2120	646.2	146 3650	1113		
4	2080	634.0	135 3375	1029	238,000	72,500
5	2040	621.8	128 3200	975		
6	2000	609.8	120 3000	914		
7	1960	597.4	76 1900	579	211,200	64,400
8	1800	548.6	50 1250	381		

1

R&M CONSULTANTS, INC. 5024 CORDOVA • BOX 6087 • ANCHORAGE, ALASKA 99502 • PH. 907-279-0483 • TLX. 090-25280

ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

April 27, 1981 R&M No. 052208

Project Manager
Susitna Hydroelectric Project
Acres American Incorporated
Liberty Bank Building
Main @ Court
Buffalo, New York 14202

Attention: Mr. G. Krishnan

Re: Devil Canyon Reservoir Volume Curve

Dear Mr. Krishnan:

This letter and the accompanying diagrams present the dat· R&M Consultants and Air Photo Tech has assembled to assist in estimating reservoir volumes at the Devil Canyon Damsite.

Air Photo Tech compiled volume estimations at 50-foot contour intervals. These volumes, listed below, were computed by the average-end-area method. Contour areas were found by digitizing the 50-foot contour intervals on the 1 inch equals 400 feet topographic maps of Devil Canyon.

Air Photo Tech digitized data:

Elevation (Feet)	Volume (Acre Feet)
900	6
950	2,063
1,000	7,507
1,050	25,020
1,100	49,490
1,150	84,526
1,200	132,236
1,250	195,207
1,300	291,949
1,350	455,862
1,400	707,345
1,450	1,048,168
1,500	1,484,104

R&M has found two equations that can be used to interpolate projected reservoir volumes. The equations are listed on the accompanying diagrams.

The fourth degree equation can be used for estimating along the entire volume curve with a standard error of ± 6,665 acre feet.

The second degree equation can be used for estimating volumes more closely with the 1,300 to 1,500-foot elevation range. The standard deviation of this equation is ± 1,216 acre feet. Please bear in mind that this equation can not be used for estimations below 1,300 feet.

If you have any questions or require further information, please do not hesitate to contact me.

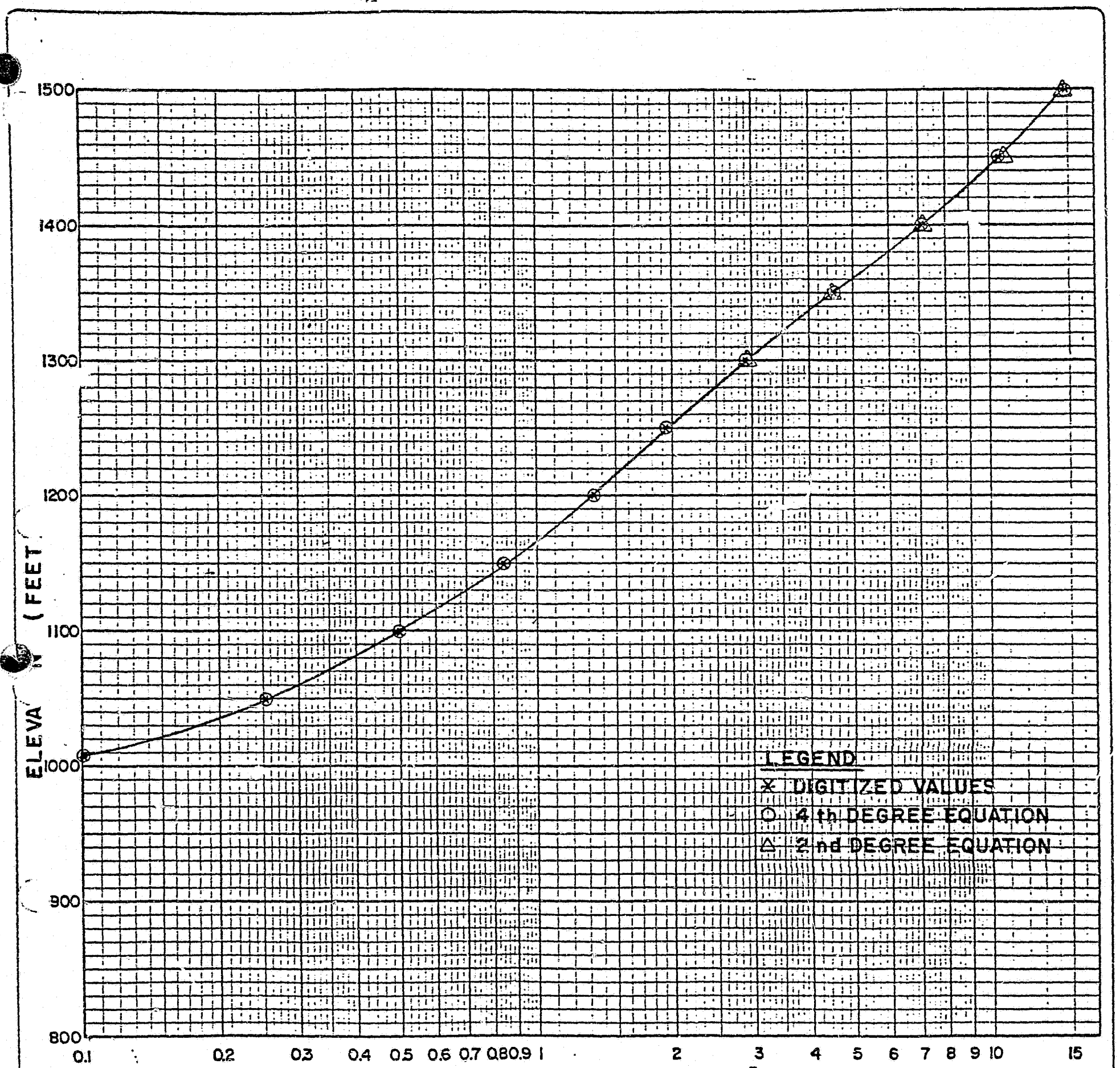
Very truly yours,

R&M CONSULTANTS, INC.

Mark R.M. Holmstrand
Survey Office Coordinator

MRMH/kau

Enclosures



4th DEGREE EQUATION:

$$X = 24453570 - 94517.2(Y) + 137.081(Y)^2 - .0886502(Y)^3 + .00002164448(Y)^4$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION (FEET)
RANGE = {900 ≤ ELEVATION ≤ 1500}
STD.DEV. = ±6665 (ACRE FEET)

2nd DEGREE EQUATION:

$$X = 27842105 - 44717.664(Y) + 18.0967486(Y)^2$$

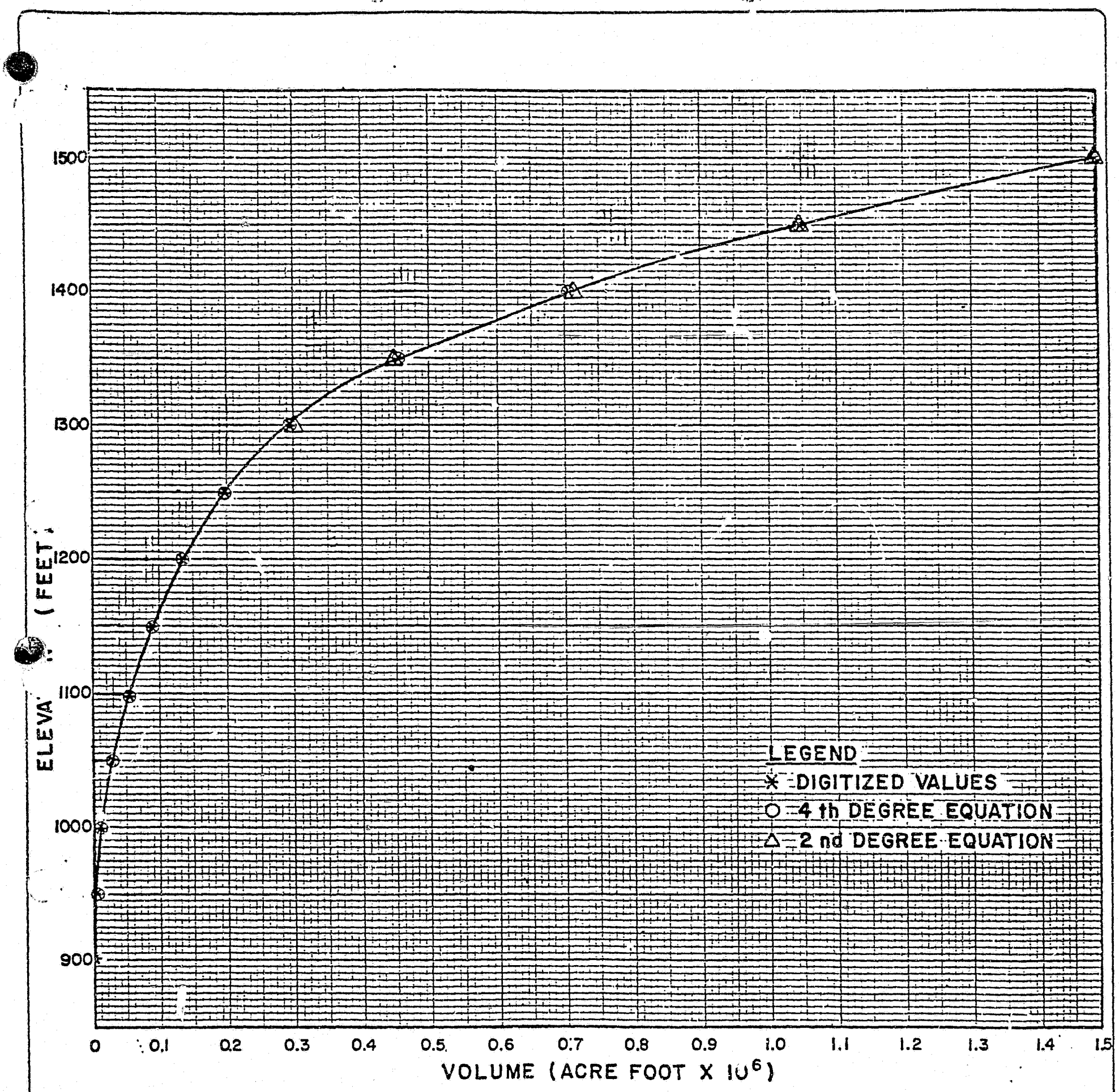
WHERE: X = VOLUME (ACRE FEET)
Y = ELEVATION (FEET)
RANGE = {1300 ≤ ELEVATION ≤ 1500}
STD.DEV. = ±1216 (ACRE FEET)

DWN.	OEP
CKD.	MH
DATE.	4-27-81
SCALE.	AS SHOWN

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

DEVIL CANYON
RESERVOIR VOLUME CURVE

F.B.	N.A.
GRID.	N.A.
PROJ.NO.	052208
DWG.NO.	2 of 2



4th DEGREE EQUATION:

$$X = 24453570 - 94517.2(Y) + 137.081(Y)^2 - .0886502(Y)^3 + .00002164448(Y)^4$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION (FEET)
RANGE = {900 ≤ ELEVATION ≤ 1500}
STD.DEV. = ± 6665 (ACRE FEET)

2nd DEGREE EQUATION:

$$X = 27842105 - 44717.664(Y) + 18.0967486(Y)^2$$

WHERE: X = VOLUME (ACRE FEET)
Y = ELEVATION (FEET)
RANGE = {1300 ≤ ELEVATION ≤ 1500}
STD.DEV. = ± 1216 (ACRE FEET)

DWN.	OEP
CKD.	MH
DATE.	4-27-81
SCALE.	AS SHOWN

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

DEVIL CANYON RESERVOIR VOLUME CURVE

EB.	N.A.
GRID.	N.A.
PROJ.NO.	052208
DWG.NO.	1 of 2

EQUATIONS VERSUS TRUE DATA COMPARISON

'TRUE DATA' DIGITIZED FROM 1 inch = 400 feet TOPOGRAPHY

POLYNOMIAL EQUATION TO 4TH DEGREE (POL4)

Y=24453570-94517.2*X+137.081*X^2-.0886502*X^3+.00002164448*X^4
WHERE, X=ELEVATION
AND, Y=VOLUME

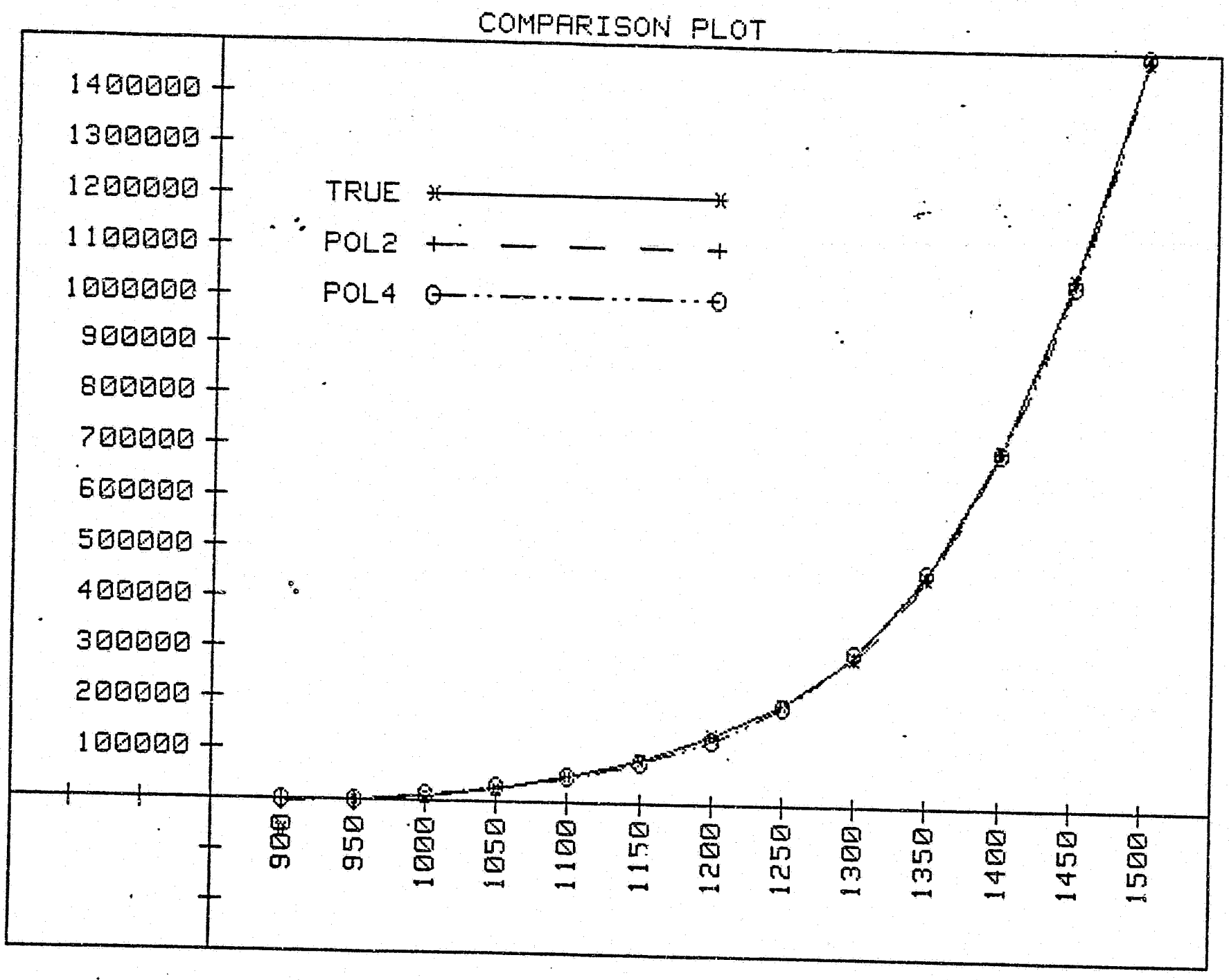
POLYNOMIAL EQUATION TO 2ND DEGREE (POL2)

Y=27842105-44717.664*X+18.0967486*X^2
WHERE, X=ELEVATION FOR (1300<X<1500)
AND, Y=VOLUME

ELEV	TRUE VOLUME	POL4 VOLUME	POL2 VOLUME	TRUE - POL4	TRUE - POL2
900	6	-1352	N/A	1358	N/A
950	2063	932	N/A	1131	N/A
1000	7507	11650	N/A	-4143	N/A
1050	25020	27625	N/A	-2605	N/A
1100	49490	48927	N/A	563	N/A
1150	84526	78870	N/A	5656	N/A
1200	132236	124018	N/A	8218	N/A
1250	195207	194179	N/A	1028	N/A
1300	291949	302410	292647	-10461	-698
1350	455862	465012	454583	-9150	1279
1400	707345	701536	707003	5809	342
1450	1048168	1034776	1049906	13392	-1738
1500	1484104	1490775	1483293	-6671	811
		MEAN =		317	-0
		STANDARD DEVIATION =		6665	1216

5

COMPUTER DATA



COMPUTER DATA

R&M CONSULTANTS, INC. 5024 CORDOVA • BOX 6087 • ANCHORAGE, ALASKA 99502 • PH 907-279-0483 • TLX 090-25280

ENGINEERS
GEOLOGISTS
PLANNERS
SURVEYORS

May 7, 1981 R&M No. 052208

Project Manager
Susitna Hydroelectric Project
Acres American Incorporated
Liberty Bank Building
Main @ Court
Buffalo, New York 14202

Attention: Mr. G. Krishnan

Re: Watana Reservoir Volume Curve

Dear Mr. Krishnan:

This letter and the accompanying diagrams present the data R&M Consultants and North Pacific Aerial Surveys (N.P.A.S.) has assembled to assist in estimating reservoir volumes at the Watana damsite. This data is formated similar to the data we sent you on April 27 concerning the Devil Canyon damsite.

N.P.A.S. digitized contour areas on the 1 inch equals 400 feet topographic maps at 50-foot intervals between 1,500 feet and 2,250 feet. R&M computed volumes by the average-end-area method. The following list summarizes this data:

Elevation (Feet)	(Ac) Surface Area (Square Feet)	Volume (Acre Feet)	
1,460	0	0	
1,500	148	6,452,317	2,962
1,550	1099	47,872,404	34,140
1,600	2623	114,279,016	127,202
1,650	3991	173,843,272	292,562
1,700	5620	244,787,914	532,823
1,750	7858	342,301,751	869,766
1,800	10078	438,994,252	1,318,168
1,850	12267	534,350,121	1,876,791
1,900	14491	631,245,753	2,545,751
1,950	16877	735,147,493	3,329,953
2,000	19851	864,711,838	4,248,146
2,050	23872	1,039,850,114	5,341,214
2,100	28292	1,232,415,851	6,645,315
2,150	33436	1,456,487,399	8,188,533
2,200	39729	1,730,592,507	10,017,666
2,250	48,033	2,092,337,128	12,211,726

27,162

As with the Devil Canyon volume curves, R&M has found two equations that can be used to estimate reservoir volumes. The equations are listed on the accompanying diagrams.

The fourth degree equation can be used for estimating along the entire volume curve with a standard error of ± 24,013 acre feet.

The second degree equation is less cumbersome, but it is no more precise. It offers a standard deviation of ± 19,985 acre feet between the 2,050 and 2,250-foot contours.

If you have any questions concerning this data, please let me know.

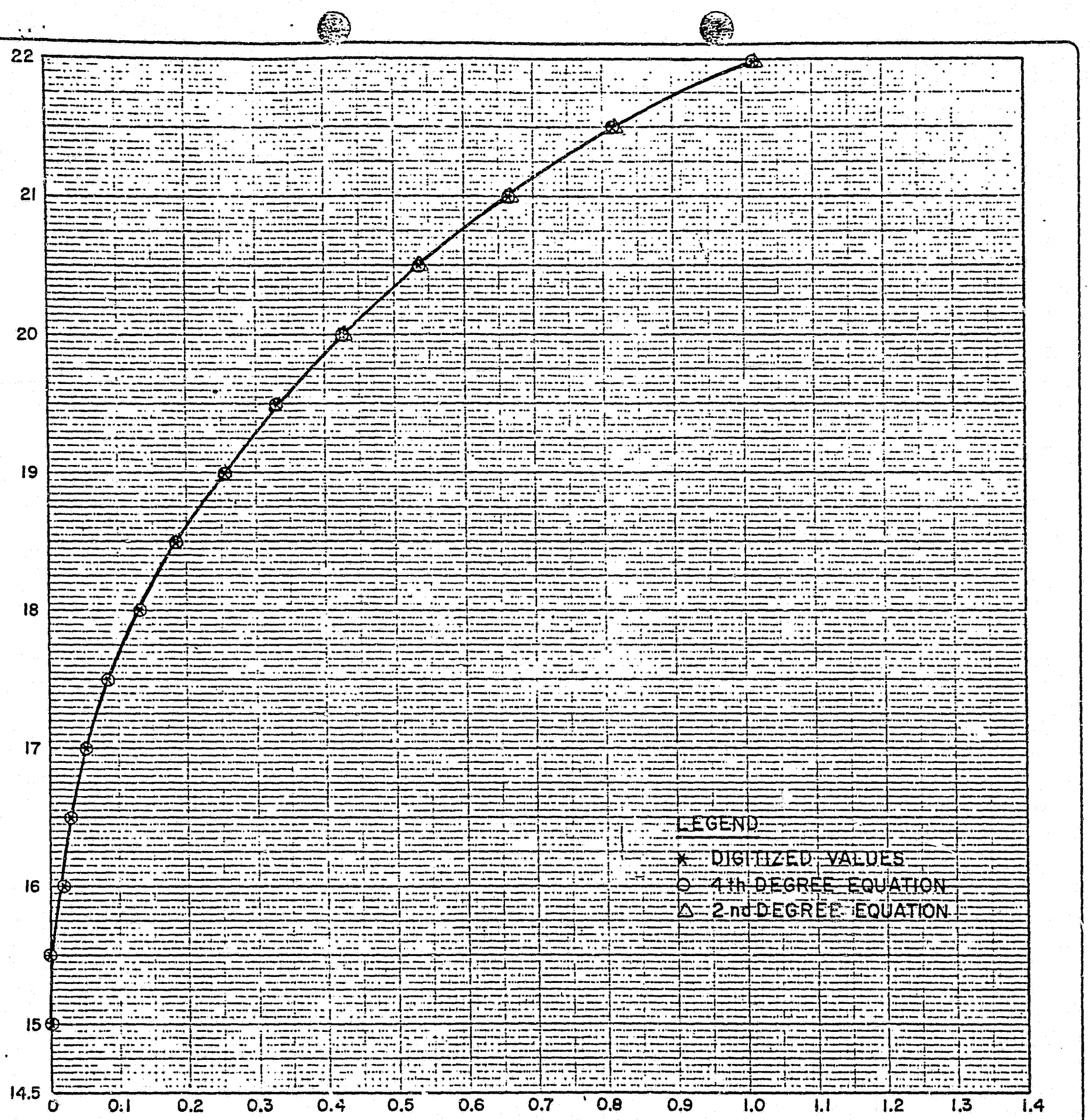
Very truly yours,

R&M CONSULTANTS, INC.

Mark R.M. Holmstrand
Survey Coordinator

MRMH/kck

Enclosure



4th DEGREE EQUATION:

$$X = 210615000 - 475742(Y) + 409.049(Y)^2 - .160513(Y)^3 + .000024562(Y)^4$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION IN FEET
RANGE = {1500 ≤ Y ≤ 2250}
STD.DEV. = ± 24013 ACRE FEET

2nd DEGREE EQUATION:

$$X = 207433800 - 219573.74(Y) + 59.02338(Y)^2$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION IN FEET
RANGE = {2050 ≤ Y ≤ 2250}
STD.DEV. = ± 19985 ACRE FEET

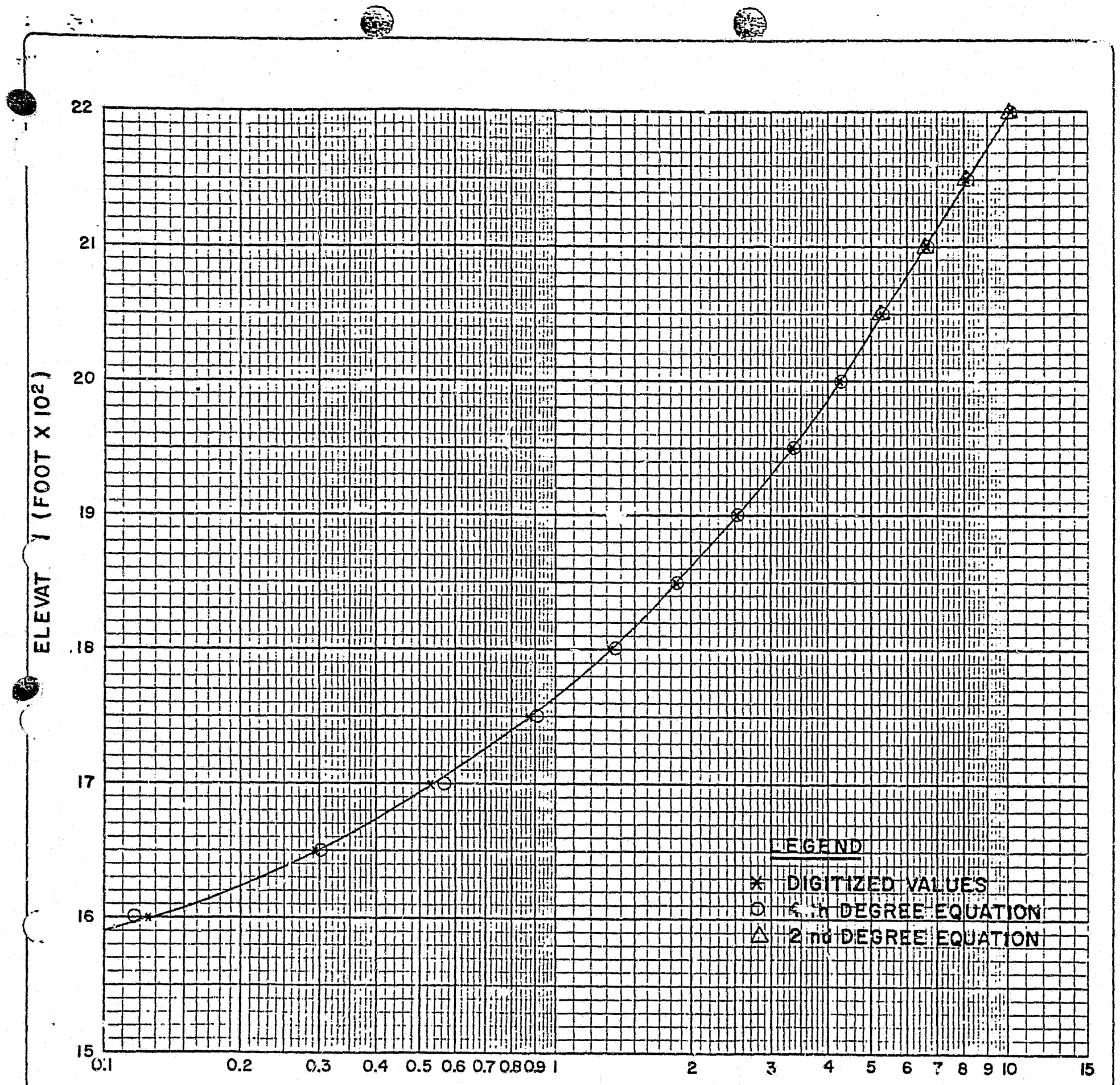
DWN.	OEP
CKD.	MH
DATE.	5-7-81
SCALE.	AS SHOWN

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

WATANA RESERVOIR VOLUME CURVE

FB.	N.A.
GRID.	N.A.
PROJ.NO.	052208
DWG.NO.	1 of 2

9



4th DEGREE EQUATION:

$$X = 210615000 - 475742(Y) + 409.049(Y)^2 - .160513(Y)^3 + .000024562(Y)^4$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION IN FEET
RANGE = {1500 ≤ Y ≤ 2250}
STD.DEV. = ± 24013 ACRE FEET

2nd DEGREE EQUATION:

$$X = 207433800 - 219573.74(Y) + 59.02338(Y)^2$$

WHERE: X = VOLUME IN ACRE FEET
Y = ELEVATION IN FEET
RANGE = {2050 ≤ Y ≤ 2250}
STD.DEV. = ±19985 ACRE FEET

DWN.	OEP
CKD.	MH
DATE.	5-7-81
SCALE.	AS SHOWN

R&M CONSULTANTS, INC.
ENGINEERS GEOLOGISTS PLANNERS SURVEYORS

WATANA RESERVOIR VOLUME CURVE

FB.	N.A.
GRID.	N.A.
PROJ.NO.	052208
DWG.NO.	2 of 2

EQUATIONS VERSUS TRUE DATA COMPARISON

'TRUE DATA' DIGITIZED FROM 1 inch = 400 feet TOPOGRAPHY

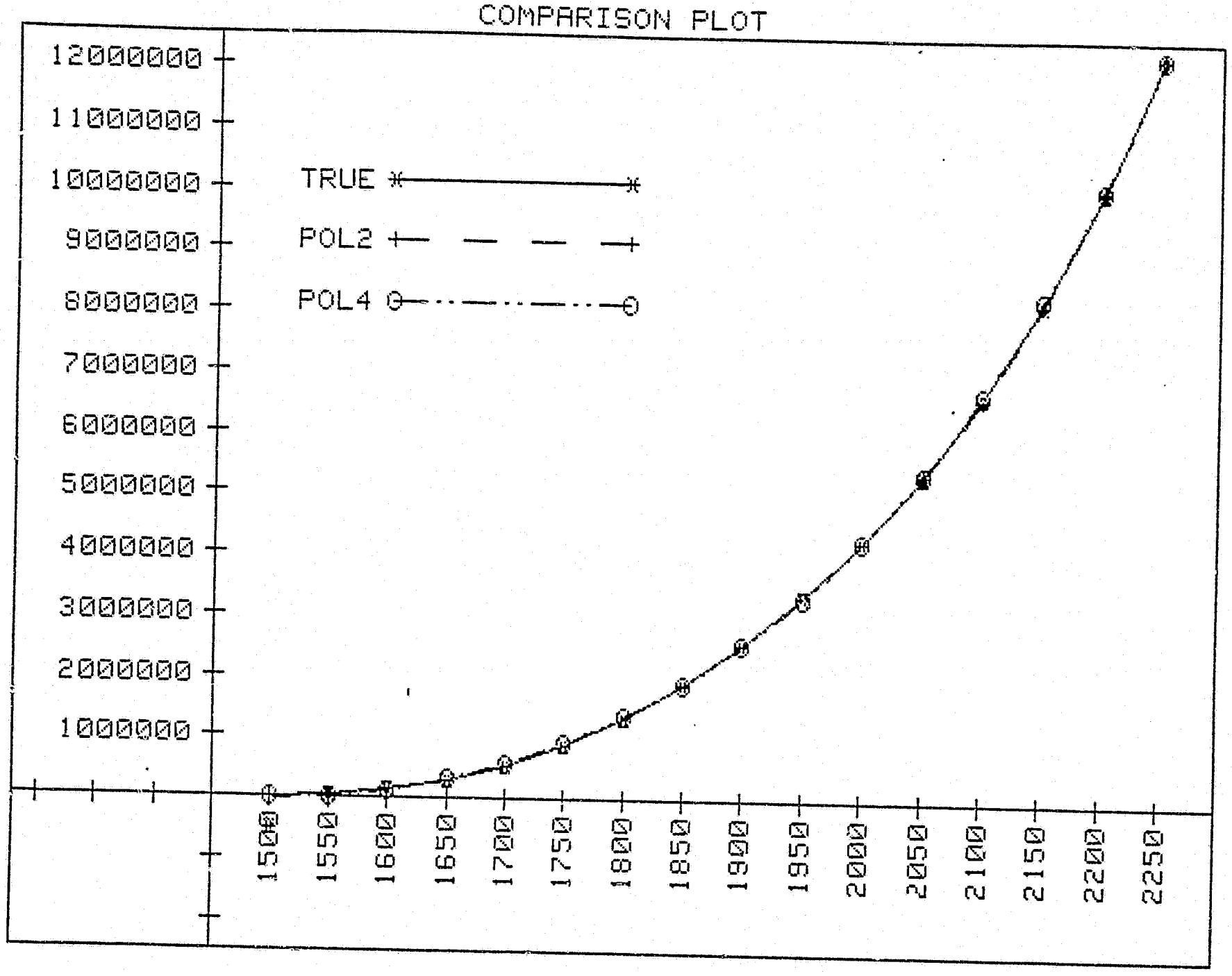
POLYNOMIAL EQUATION TO 4TH DEGREE (POL4)

Y=210615000-475742*X+409.049*X^2-.160513*X^3+.0000245642*X^4
WHERE, X=ELEVATION
AND, Y=VOLUME

POLYNOMIAL EQUATION TO 2ND DEGREE (POL2)

Y=207433800-219573.74*X+59.02338*X^2
WHERE, X=ELEVATION FOR (2050<X<2250)
AND, Y=VOLUME

ELEV	TRUE VOLUME	POL4 VOLUME	POL2 VOLUME	TRUE - POL4	TRUE - POL2
1500	2962	-12863	N/A	15825	N/A
1550	34140	9491	N/A	24649	N/A
1600	127202	115933	N/A	11269	N/A
1650	292562	302146	N/A	-9584	N/A
1700	532823	567496	N/A	-34673	N/A
1750	869766	915032	N/A	-45266	N/A
1800	1318168	1351490	N/A	-33322	N/A
1850	1876791	1887289	N/A	-10498	N/A
1900	2545751	2536534	N/A	9217	N/A
1950	3329953	3317013	N/A	12940	N/A
2000	4248146	4250200	N/A	-2054	N/A
2050	5341214	5361253	5353387	-20039	-12173
2100	6645315	6679015	6622052	-33700	23263
2150	8188533	8236013	8185833	-47480	2700
2200	10017666	10068460	10044731	-50794	-27065
2250	12211726	12216251	12198746	-4525	12980
		MEAN =		-13627	-59
		STANDARD DEVIATION =		24013	19985


COMPARISON PLOT
12000000
11000000
10000000
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
TRUE
POL2
POL4
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100
2150
2200
2250

17

```
TY WAPHYS.DAT


 17 .00000114 .00000014  1.00
685.6 15062942.2 194.384
670.6 12356600.0 160.777
655.3 10100406.0 135.312
640.1  8196875.3 114.495
624.8  6588290.5  96.605
609.6  5240010.9  78.662
594.4  4107436.5  68.297
579.1  3140137.6  58.645
563.9  2314987.6  49.643
548.6  1625936.3  40.877
533.4  1072840.5  31.807
518.2   637227.5  22.742
502.9   340869.9  16.151
487.7   176901.4  10.617
472.4    42111.1   4.447
457.2     3633.6    0.599
445.0        0.   .0
667.5 80500.0 1257.0 445.0
4  3.7
650.6 80500.0 1140.0
644.3 80000.0 1100.0
638.1 72500.0 1020.0
617.8 72000.0  920.0
3.0 0.0 0.0 0.0 80.0 0.0 0.0 0.0
$
```

ACRES

Calculations

SUBJECT:

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY DC DATE 29 SEP 82
APP DATE

Reservoir Temperature model.

Intake structure alternatives

(1) As per JWH sketch.

#	℄ Intake (ft)	(M)	l	W.
1	2151	655.6	80500	1140
2	2114	644.3	80000	1100
3	2077	633.1	72500	1020
4	2027	617.8	72000	920

submergence

$\frac{20}{2} + 2 = 12 \approx 3.7$ m

20' ≈ 6.1 m.

(2) as per JWH sketch.

#	℄ Intake (ft)	(m)	l m	W m
1	2166	660.2	80500	1180
2	2135	650.7	80500	1140
3	2104	641.3	78000	1100
4	2073	631.9	72500	990
5	2042	622.4	72000	980.

submergence

$\frac{16}{2} + 2 = 10 \approx 3.1$ m

16' ≈ 4.9 m.

FORM NO. 152 REV. 1

ACRES

Calculations

SUBJECT:

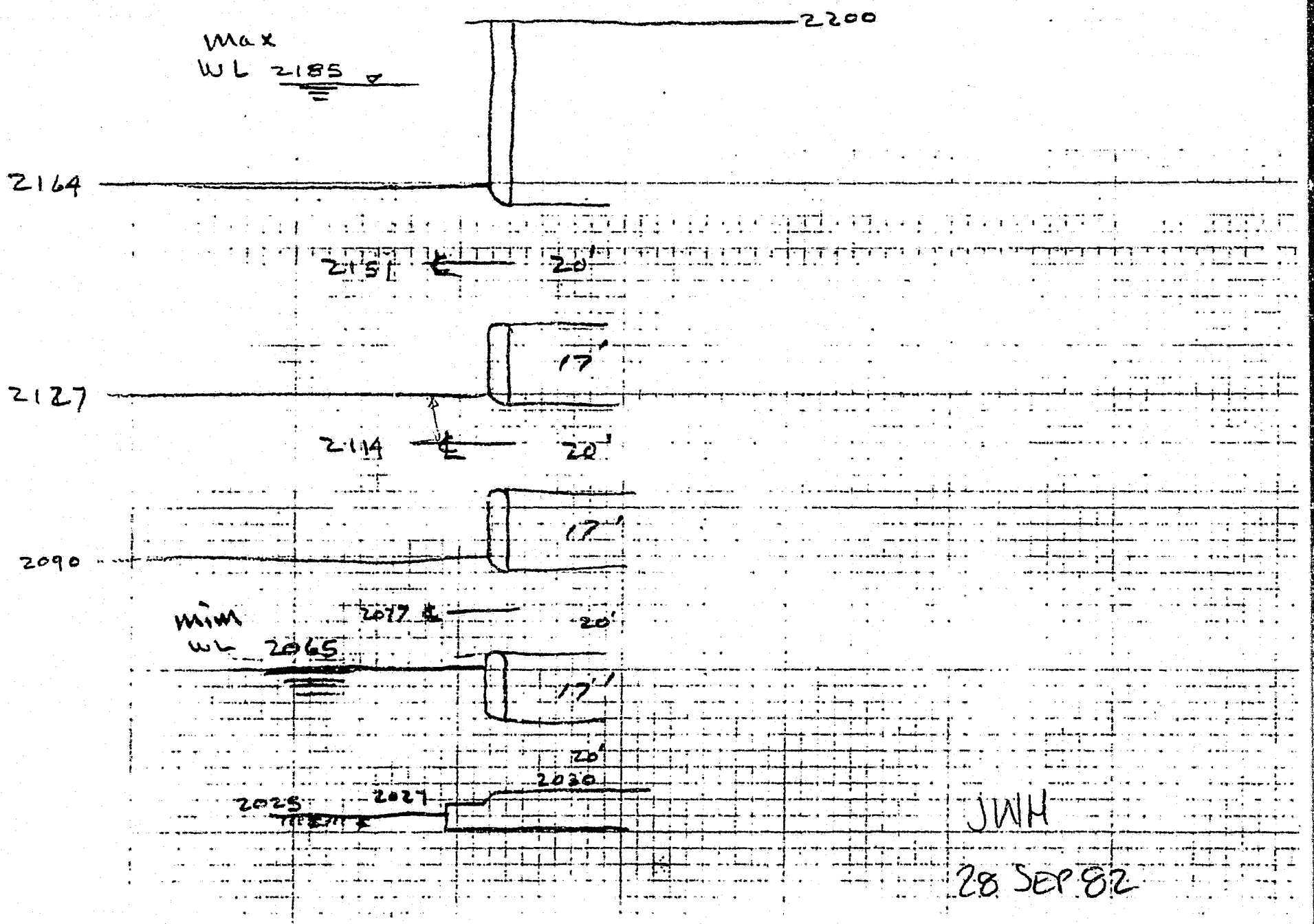
JOB NUMBER P5701.53
FILE NUMBER
SHEET OF
BY DC DATE 29 SEP 82
APP DATE

Intake	Level	Width	Length
1	658.4	1173	80500
2	652.3	1143	80500
3	646.2	1113	80500
4	634.0	1029	72500
5	621.8	975	72500
6	609.8	914	72500
7	597.4	579	64400
8	548.6	381	64400

FORM NO. 152 REV. 1

BY..... DATE..... SUBJECT..... SHEET NO.....OF...

CHKD. BY..... DATE..... JOB NO.....



JWH

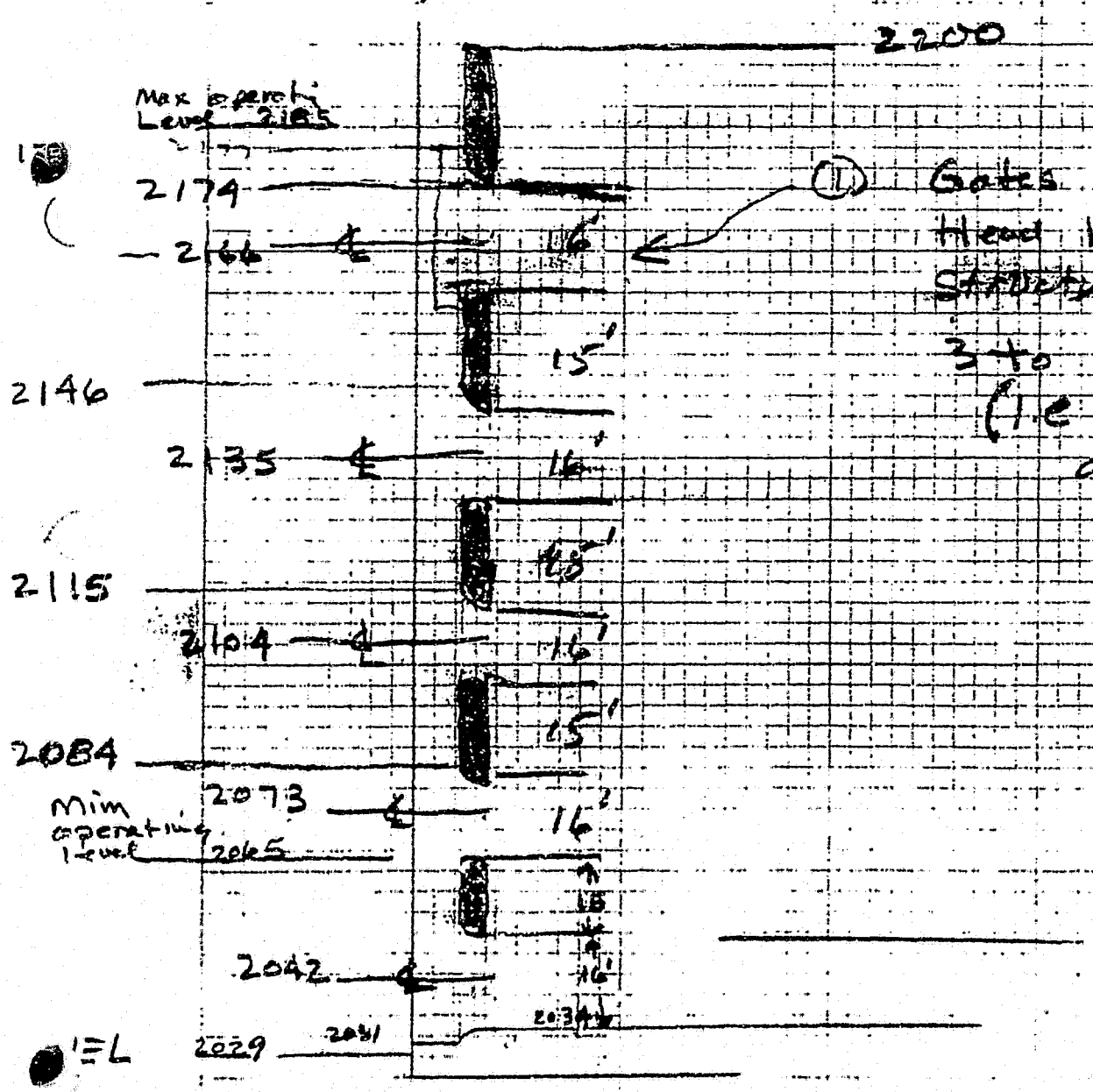
28 SEP 82

BY ..... DATE ..... SUBJECT ..... SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... JOB NO. .....

Watana

Shutter Gates 16'x32'



(1) Gates should discharge to comm Head bay area so that all structures could be operated to 3 to 6 turbines that are (i.e do not have a set of sh directly to intake tunnel)

JWH

28 Sep 82

Not to Scale

4

```
TY WAPHYS.DAT

17 .00000114 .00000014  1.00
685.6 15062942.2 194.364
670.6 12356800.0 160.777
655.3 10100406.0 135.312
640.1  8196875.3 114.495
624.8  6588290.5  96.605
609.6  5240010.9  78.662
594.4  4107436.5  68.297
579.1  3140137.6  58.645
563.9  2314987.6  49.643
548.6  1625936.3  40.877
533.4  1072840.5  31.807
518.2   637227.5  22.742
502.9   360869.9  16.151
487.7   156901.4  10.617
472.4    42111.1   4.447
457.2     3853.6   0.599
445.0        0.   .0
667.5 80500.0 1257.0 445.0
8  1.0
658.4 80500.0 1173.0
652.3 80500.0 1143.0
646.2 80500.0 1113.0
634.0 72500.0 1029.0
621.9 72500.0  975.0
609.8 72500.0  914.0
597.4 64400.0  579.0
548.6 64400.0  381.0
3.0 0.0 0.0 0.0 80.0 0.0 0.0 0.0
$
```

WATANA PHYSICAL DATA

- ELEV - STOR - AREA
- INTAKE ARRANGEMENT

TY WAFRYS.DAT

```
17 .00000114 .00000014  1.00
685.6 15062942.2 194.384
670.6 13356600.0 160.777
655.3 10100406.0 135.312
640.1  8196875.3 114.495
624.8  6588290.5  96.605
609.6  5240010.9  78.662
594.4  4107436.5  68.297
579.1  3140137.6  58.645
563.9  2314987.6  49.643
548.6  1625936.3  40.877
533.4  1072840.5  31.807
518.2   637227.5  22.742
502.9   360869.9  16.151
487.7   156901.4  10.617
472.4    42111.1   4.447
457.2     3653.6   0.599
445.0         0.   .0
667.5 80500.0 1257.0 445.0
8 10.0 1.0
1 658.4 80500.0 1173.0
2 652.3 80500.0 1143.0
3 646.2 80500.0 1113.0
4 634.0 72500.0 1029.0
  621.8 72500.0  975.0
  609.8 72500.0  914.0
7 597.4 64400.0  579.0
8 548.6 64400.0  381.0
  3.0 0.0 0.0 0.0 80.0 0.0 0.0 0.0
$
```

I/O UNIT = 21

INTAKES SUBMERGENCE DEG'D

WATANA RESERVOIR
DYPSEM INFLOW DATA
DECEMBER, 1981

DATE	I1502	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
1	81335		6120	0°C	0				0
2	81336		6020						
3	81337		5950						
4	81338		5850						
5	81339		5760						
6	81340		5680						
7	81341		5590						
8	81342		5520						
9	81343		5450						
10	81344		5390						
11	81345		5330						
12	81346		5280						
13	81347		5210						
14	81348		5150						
15	81349		5090						
16	81350		5020						
17	81351		4960						
18	81352		4900						
19	81353		4850						
20	81354		4800						
21	81355		4750						
22	81356		4700						
23	81357		4650						
24	81358		4600						
25	81359		4550						
26	81360		4500						
27	81361		4450						
28	81362		4400						
29	81363		4350						
30	81364		4300						
31	81365		4250						

1		
81152	65400.	9.01
81153	52900.	9.41
81154	42400.	9.70
81155	37500.	9.19
81156	38200.	8.33
81157	43300.	8.02
81158	38200.	8.93
81159	35000.	9.44
81160	38900.	8.61
81161	41900.	10.15
81162	36200.	10.62
81163	35500.	11.85
81164	32100.	12.45
81165	33100.	11.85
81166	36700.	11.53
81167	43600.	12.56
81168	43300.	12.86
81169	41900.	12.66
81170	41600.	12.4
81171	39900.	11.88
81172	39200.	11.66
81173	39900.	11.81
81174	39400.	12.19
81175	39900.	12.03
81176	41100.	10.69
81177	41400.	8.34
81178	42400.	6.78
81179	48700.	6.72
81180	52600.	7.19
81181	47000.	7.82
81182	44600.	8.00
81183	38400.	8.5
81184	35000.	9.0
81185	31100.	9.5
81186	29900.	10.0
81187	32600.	10.0
81188	39200.	10.0
81189	48200.	10.0
81190	50900.	10.0
81191	64100.	10.0
81192	97400.	10.0
81193	113600.	10.0
81194	97000.	10.0
81195	73700.	10.0
81196	63900.	10.0
81197	70800.	10.0
81198	87200.	10.0
81199	97700.	10.0
81200	97200.	10.0
81201	95200.	10.0
81202	88100.	10.0
81203	79600.	10.0
81204	73200.	10.0
81205	75200.	10.0
81206	77600.	10.0
81207	83200.	10.0
81208	81800.	10.0
81209	69300.	10.5
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81211	60000.	11.5
81212	57500.	12.0
81213	60000.	12.5

81214 87700. 12.5
81215 103300. 12.0
81216 81300. 11.5
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81223 97400. 8.41
81224 90300. 8.52
81225 100600. 7.70
81226 103600. 7.22
81227 105300. 6.53
81228 101400. 5.77
81229 81800. 5.52
81230 65400. 6.60
81231 61000. 7.35
81232 70500. 7.02
81233 94300. 6.94
81234 89100. 7.56
81235 61300. 7.38
81236 71200. 7.48
81237 61700. 8.50
81238 55800. 9.68
81239 54800. 10.66
81240 56300. 11.0
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81242 56300. 9.93
81243 53600. 9.47
81244 52200. 8.34
81245 48200. 7.41
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81248 38200. 7.70
81249 37200. 7.39
81250 37200. 6.69
81251 37500. 6.28
81252 36200. 6.10
81253 34900. 6.57
81254 33600. 6.14
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81256 31100. 5.72
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81258 28500. 5.48
81259 27200. 6.36
81260 27200. 6.36
81261 25500. 6.60
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81267 22800. 3.26
81268 22500. 2.72
81269 20300. 1.02
81270 18400. 0.46
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81272 16400. 0.3
81273 15900. 0.32
81274 15200. 0.38
81275 14000. 0.43
81276 13500. 0.45

```
81277 14000. 0.32
81278 14000. 0.30
81279 13500. 0.28
81280 13200. 0.26
81281 13200. 0.24
81282 13000. 0.22
81283 12700. 0.23
81284 12500. 0.08
81285 12500. 0.33
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81288 17100. 1.69
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81292 11400. 1.09
81293 10700. 0.50
81294 12000. 0.50
81295 13300. 0.50
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81297 18200. 0.50
81298 16600. 0.50
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81308 6365 0.3
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81312 6242 0.2
81313 6365 0.2
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81330 6200 0.1
81331 6200 0.1
81332 6200 0.1
81333 6200 0.1
81334 6200 0.1
```

WATANA RESERVOIR

DYNISH INFLOW DATA - NOVEMBER, 1981

DATE	JLEG	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
1 NOV	81305		6365	0.2	0				0
2	81306		6365	0.2	↓				↓
3	81307		5875	0.2					
4	81308		6365	0.3					
5	81309		6854	0.2					
6	81310		6365	0.2					
7	81311		6365	0.2					
8	81312		6242	0.2					
9	81313		6365	0.2					
10	81314		7099	0.1					
11	81315		7956	0.1					
12	81316		7956	0.1					
13	81317		6365	0.2					
14	81318		5875	0.2					
15	81319		5630	0.3					
16	81320		5386	0.3					
17	81321		5630	0.3					
18	81322		6497	0.3					
19	81323		7344	0.3					
20	81324		8076*	0.3					
21	81325		8000	0.3					
22	81326		7800	0.3					
23	81327		7600	0.2					
24	81328		7400	0.1					
25	81329		7200	0.1					
26	81330		7000	0.1					
27	81331		6900	0.1					
28	81332		6600	0.1					
29	81333		6400	0.1					
30	81334		6200	0.1					

* FREEZEUP. FLOWS MAY ESTIMATED AFTER THIS DATE

WATANA INFLOW DATA
JUNE 1982

DATE	I.EQ	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
			1000 m³/day						
6/1/82	82152	38.70	53600	6.9 e	0				0
2	82153	39.11	59700	6.9 e	↓				↓
3	82154	39.57	66800	6.9 e					
4	82155	38.80	55100	6.9					
5	82156	38.05	44600	7.5					
6	82157	38.08	45100	7.5					
7	82158	39.08	59300	7.0					
8	82159	40.00	73900	6.2					
9	82160	39.61	67600	6.5					
10	82161	38.98	57800	6.[illegible]					
11	82162	38.72	54100	7.0					
12	82163	38.56	51700	6.6					
13	82164	38.20	46500	7.1					
14	82165	37.66	39400	7.8					—
15	82166	37.60	38700	7.3					
16	82167	38.05	44600	6.5					
17	82168	38.21	46800	7.5					
18	82169	38.41	49500	8.0					
19	82170	38.93	57100	7.0					
20	82171	39.60	67300	7.3					
21	82172	40.40	80800	7.4					
22	82173	39.48	65400	8.9					
23	82174	38.93	57100	10.0					
24	82175	38.68	53100	11.8					
25	82176	38.89	56300	12.5					
26	82177	39.27	62200	12.1					
27	82178	39.23	61500	12.0					
28	82179	39.60	67300	11.6					
29	82180	39.51	65900	10.0					
30	82181	38.81	55100	7.6					

e = estimated

WATANA INFLOW DATA
JULY 1982

DATE	ILEQ	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
			1000 m³/day						
7/1/82	82182	38.39	49200	9.1	0				0
2	82183	38.25	47300	9.0	↓				↓
3	82184	37.71	40200	10.2					
4	82185	37.45	37000	11.2					
5	82186	37.45	37000	10.[illegible]					
6	82187	37.40	36200	11.4					
7	82188	37.31	35300	12.1					
8	82189	37.62	38900	12.6					
9	82190	38.30	48000	10.6					
10	82191	38.67	53100	9.[illegible]					
11	82192	38.[illegible]	55300	8.[illegible]					
12	82193	37.30	62700	8.[illegible]					
13	82194	39.46	65100	8.4					
14	82195	39.34	63200	8.6					—
15	82196	39.02	58300	8.2					
16	82197	39.10	59500	7.5					
17	82198	38.[illegible]	57300	8.0					
18	82199	38.96	56600	8.9					
19	82200	38.85	55800	[illegible]					
20	82201	38.56	51700	[illegible]					
21	82202	38.41	49500	11.2					
22	82203	38.45	49900	9.6					
23	82204	38.40	49500	9.[illegible]					
24	82205	38.48	50400	8.1					
25	82206	38.97	57500	7.9					
26	82207	39.19	61000	7.5					
27	82208	39.12	59700	8.7					
28	82209	38.[illegible]	53400	10.2					
29	82210	38.[illegible]	50200	9.9					
30	82211	38.74	54100	8.2					
31	82212	39.22	61500	7.6					

WHTANA INFLOW DATA
AUGUST 1982

DATE	JLSQ	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
			$1000 m^3/day$						
8/1/82	82213	38.84	55600	8.6	0				0
2	82214	38.26	47500	8.5	↓				↓
3	82215	37.85	41900	9.5					
4	82216	37.71	40200	9.8	↓				
5	82217	37.68	39700	10.0					
6	82218	37.56	38200	9.6					
7	82219	37.50	37500	8.9					
8	82220	37.52	37700	8.5					
9	82221	37.56	38200	7.8					
10	82222	37.48	37200	8.1					
11	82223	37.18	33500	8.4					
12	82224	37.03	31800	9.2					
13	82225	37.00	31600	10.0					
14	82226	37.06	32300	10.6					
15	82227	37.31	35300	9.4					
16	82228	37.47	37200	8.0					
17	82229	37.26	34500	8.3					
18	82230	37.10	32800	8.0					
19	82231	36.92	30600	9.1					
20	82232	36.74	28600	9.9					
21	82233		25100 e	9.7					
22	82234		25100 e	9.6					
23	82235		25300 e	10.2					
24	82236		25700 e	9.3					
25	82237		27000 e	9.6					
26	82238		25000 e	8.3					
27	82239		26100 e	9.2					
28	82240		25500 e	9.3					
29	82241		25100 e	8.1					
30	82242		27000 e	7.3					
31	82243		33000 e	7.0					

e = estimated from Rating Curve Discharge Factors

WATANA INFLOW DATA
SEPTEMBER 1982

DATE	ILEQ	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
			1000 m^3/day						
9/1/82	82244		36800 e	7.3	0				0
2	82245	37.16	33300	7.6	↓				↓
3	82246	36.82	29600	7.7					
4	82247	36.80	29400	7.0	↓				
5	82248	36.66	27700	7.1					
6	82249	36.38	24700	7.6					
7	82250	36.29	23700	7.8					
8	82251	36.44	25500	7.1					
9	82252	36.91	30600	6.6					
10	82253	37.00	31600	6.2					
11	82254	36.80	29400	6.0					
12	82255	36.68	27900	5.1					
13	82256	36.94	30900	5.5					
14	82257	37.60	38700	6.0					
15	82258	38.70	53600	7.2					
16	82259	39.47	65400	7.9					
17	82260	39.48	65400	6.4					
18	82261	38.57	51700	5.4					
19	82262	37.99	43800	5.9					
20	82263	38.00	43800	5.8					
21	82264	38.26	47500	5.5					
22	82265	37.88	42400	5.4					
23	82266	37.48	37200	5.3					
24	82267	37.09	32600						
25	82268	36.74	28600						
26	82269	36.58	26900						
27	82270	36.45	25500						
28	82271	36.28	23800						
29	82272	36.18	22800						
30	82273	36.20	23700						

e = estimated from GOLD CREEK DISCHARGE RECORDS

TESTINFL.DAT ; 9

did not purge

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81273 15900. 0.32
81274 15200. 0.36
81275 14000. 0.43
81276 13500. 0.45
81277 14000. 0.32
81278 14000. 0.30
81279 13500. 0.28
81280 13200. 0.26
81281 13200. 0.24
81282 13000. 0.22
81283 12700. 0.23
81284 12500. 0.08
81285 12500. 0.33
81286 13500. 1.06
81287 15400. 1.68
81288 17100. 1.69
81289 15700. 1.62
81290 14400. 1.57
81291 13700. 1.51
81292 11400. 1.00
81293 10700. 0.50
81294 12000. 0.50
81295 13300. 0.50
81296 15900. 0.50
81297 18200. 0.50
81298 16600. 0.50
81299 14800. 0.50
81300 13200. 0.50
81301 11000. 0.50
81302 8600. 0.50
81303 7200. 0.50
81304 6400. 0.50
81305 6365 0.2 Ø
81306 6365 0.2
81307 5875 0.2
81308 6365 0.3
81309 6854 0.2
81310 6365 0.2
81311 6365 0.2
81312 6242 0.2
81313 6365 0.2
81314 7099 0.1
81315 7956 0.1
81316 7956 0.1
81317 6365 0.2
81318 5875 0.2
81319 5630 0.3
81320 5386 0.3
81321 5630 0.3
81322 6487 0.3
81323 7344 0.3
81324 8078 0.3
81325 6200 0.3
81326 6200 0.3
81327 6200 0.2
81328 6200 0.1
81329 6200 0.1
81330 6200 0.1
81331 6200 0.1
81332 6200 0.1
81333 6200 0.1
81334 6200 0.1
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TY TESTINFL.DAT

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    1
81152 65400.  9.01
81153 52900.  9.41
81154 42400.  9.70
81155 37500.  9.19
81156 38200.  8.33
81157 43300.  8.02
81158 38200.  8.93
81159 35000.  9.44
81160 38900.  8.61
81161 41900. 10.15
81162 36200. 10.62
81163 33500. 11.85
81164 32100. 12.45
81165 33100. 11.85
81166 36700. 11.83
81167 43600. 12.56
81168 43300. 12.86
81169 41900. 12.66
81170 41600. 12.4
81171 39900. 11.88
81172 39200. 11.66
81173 39900. 11.81
81174 39400. 12.19
81175 39900. 12.03
81176 41100. 10.68
81177 41400.  8.34
81178 42400.  6.78
81179 48700.  6.72
81180 52600.  7.19
81181 47000.  7.82
81182 44600.  8.00
81183 38400.  8.5
81184 35000.  9.0
81185 31100.  9.5
81186 29900. 10.0
81187 32600. 10.0
81188 39200. 10.0
81189 48200. 10.0
81190 50900. 10.0
81191 64100. 10.0
81192 97400. 10.0
81193 113600.-10.0
81194 97000. 10.0
81195 73700. 10.0
81196 63900. 10.0
81197 70800. 10.0
81198 87200. 10.0
81199 99700. 10.0
81200 97200. 10.0
81201 95200. 10.0
81202 88100. 10.0
81203 79600. 10.0
81204 73200. 10.0
81205 75200. 10.0
81206 77600. 10.0
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81207	83200.	10.0
81208	81800.	10.0
81209	69300.	10.5
81210	62400.	11.0
81211	60000.	11.5
81212	57500.	12.0
81213	60000.	12.5
81214	87700.	12.5
81215	103300.	12.0
81216	81300.	11.5
81217	66600.	10.94
81218	60200.	10.42
81219	57000.	9.70
81220	67300.	8.97
81221	95000.	8.73
81222	99400.	8.65
81223	97400.	8.41
81224	90300.	8.52
81225	100600.	7.70
81226	103600.	7.22
81227	105300.	6.53
81228	101400.	5.77
81229	81800.	5.52
81230	65400.	6.60
81231	61000.	7.35
81232	70500.	7.02
81233	94300.	6.94
81234	89100.	7.56
81235	81300.	7.38
81236	71200.	7.48
81237	61700.	8.50
81238	55800.	9.68
81239	54800.	10.66
81240	56300.	11.0
81241	56300.	10.04
81242	56300.	9.93
81243	53600.	9.47
81244	52200.	8.34
81245	48200.	7.41
81246	43300.	7.29
81247	39200.	7.60
81248	38200.	7.70
81249	37200.	7.39
81250	37200.	6.69
81251	37500.	6.28
81252	36200.	6.10
81253	34900.	6.57
81254	33600.	6.14
81255	32400.	6.08
81256	31100.	5.72
81257	29800.	5.21
81258	28500.	5.48
81259	27200.	6.36
81260	27200.	6.36
81261	25500.	6.60
81262	24700.	6.51
81263	26700.	6.14
81264	28600.	5.77
81265	26700.	5.06
81266	24000.	4.30
81267	22800.	3.26
81268	22300.	2.72
81269	20300.	1.02
81270	18400.	0.46
81272	17600.	0.36
81272	16400.	0.37

3/

WAINFL.DAT

WATANA RESERVOIR
DYRESM INFLOW DATA

DATE	ISEQ	FLOINF(I) 1000 M³/DAY	TEMINF °C	
MAY 1, 81	81	121	*	
2	81	122		
3	81	123		
4	81	124		
5	81	125		
6	81	126		
7	81	127		
8	81	128		
9	81	129		
10	81	130		
11	81	131		
12	81	132		
13	81	133		
14	81	134		
15	81	135		
16	81	136		
17	81	137		
18	81	138		
19	81	139		
20	81	140 START		6.5° @ VEE
21	81	141	31800	7.49
22	81	142	27700	6.99
23	81	143	24200	7.76
24	81	144	23500	8.52
25	81	145	26400	10.02
26	81	146	30400	9.79
27	81	147	33300	9.41 10.5 @ GOLD CREEK
28	81	148	37700	8.02
29	81	149	47000	8.26
30	81	150	47000	10.37
31	81	151	55600	9.99
1	81	152	65400	9.01
2	81	153	52900	9.41
3	81	154	42400	9.70 7.3° @ GOLD CREEK
4	81	155	37500	9.19
5	81	156	38200	8.33
6	81	157	43300	8.02

WAINFL.DAT

WATANA RESERVOIR
DYRESM INFLOW DATA

DATE	ISEQ	FLOINF(I) 1000 M³/DAY	TEMINF °C	
MAY 1, 81	81 121		*	
2	81 122			
3	81 123			
4	81 124			
5	81 125			
6	81 126			
7	81 127			
8	81 128			
9	81 129			
10	81 130			
11	81 131			
12	81 132			
13	81 133			
14	81 134			
15	81 135			
16	81 136			
17	81 137			
18	81 138			
19	81 139			
20	81 140	START ↓		6.5° @ VEE
21	81 141	31800	7.49	
22	81 142	27700	6.99	
23	81 143	24200	7.76	
24	81 144	23500	8.52	
25	81 145	26400	10.02	
26	81 146	30400	9.79	
27	81 147	33300	9.41	10.5 @ GOLD CREEK
28	81 148	37700	8.02	
29	81 149	47000	8.26	
30	81 150	47000	10.37	
31	81 151	55600	9.99	
1	81 152	65400	9.01	
2	81 153	52900	9.41	
3	81 154	42400	9.70	7.3° @ GOLD CREEK
4	81 155	37500	9.19	
5	81 156	38200	8.33	
6	81 157	43300	8.02	

DATE	ISEQ	FLOINF (1)	TEMINF	
JUNE 7	81 158	38200	8.93	
8	81 159	35000	9.44	
9	81 160	38900	8.61	
10	81 161	41900	10.15	
11	81 162	36200	10.62	
12	81 163	33500	11.85	
13	81 164	32100	12.45	
14	81 165	33100	11.85	
15	81 166	36700	11.83	
16	81 167	43600	12.56	
17	81 168	43300	12.86	(12.8° @ Gold Creek)
18	81 169	41900	12.66	(11.9° @ Vee)
19	81 170	41600	12.40	
20	81 171	39900	11.88	
21	81 172	39200	11.66	
22	81 173	39900	11.81	
23	81 174	39400	12.19	
24	81 175	39900	12.03	
25	81 176	41100	10.68	
26	81 177	41400	8.34	
27	81 178	42400	6.78	
28	81 179	48700	6.72	
29	81 180	52600	7.19	
30	81 181	47000	7.82	(7.9° @ Vee)
JULY 1	81 182	44600	8.0	(8.6° Gold Creek TEMP)
2	81 183	38400	8.5	
3	81 184	35000	9.0	
4	81 185	31100	9.5	
5	81 186	29900	10.0	
6	81 187	32600		
7	81 188	39200		
8	81 189	48200		
9	81 190	50900		
10	81 191	64100		
11	81 192	97400		
12	81 193	113600		
13	81 194	97000		
14	81 195	73700		

10.0

DATE	ISEQ	FLOINF (1)	TEMINF
		1000 M./DAY	°C
JULY 15	81196	63900	
16	81197	70800	
17	81198	87200	10.0
18	81199	99700	
19	81200	97200	
20	81201	95200	
21	81202	88100	
22	81203	79600	
23	81204	73200	
24	81205	75200	
25	81206	77600	
26	81207	83200	
27	81208	81800	10.0
28	81209	69300	10.5
29	81210	62400	11.0
30	81211	60000	11.5
31	81212	57500	12.0
AUG 1	81213	60000	12.5 (9.2 * GOLD CREEK)
2	81214	87700	12.5 8.1° @ VEE 8.1 → 9.8° @ VEE
3	81215	103300	12.0 9.2 @ GOLD CREEK
4	81216	81300	11.5
5	81217	66600	10.94
6	81218	60200	10.42
7	81219	57000	9.70
8	81220	67300	8.97
9	81221	95000	8.73

DATE	ISEQ	FLOINF.(1)	TEMINF
		1000 M^3/DAY	°C
AUG 10	81 222	99400	8.65
11	81.223	97400	8.41
12	81 224	90300	8.52
13	81 225	100600	7.70
14	81 226	103600	7.22
15	81 227	105300	6.53
16	81228	101400	5.77
17	81 229	81800	5.52
18	81 230	65400	6.60
19	81 231	61000	7.35
20	81 232	70500	7.02
21	81 233	94300	6.94
22	81 234	89100	7.56
23	81 235	81300	7.38
24	81236	71200	7.48
25	81237	61700	8.50 x
26	81238	55800	9.68
27	81239	54800	10.66
28	81240	56300	11.01 x
29	81241	56300	10.04
30	81242	56300	9.93
31	81243	53600	9.47
SEPT 1	81244	52200	8.34
2	81245	48200	7.41
3	81246	43300	7.29
4	81247	39200	7.60

ATE	ISEQ	FLOINF.(1) 1000 M³/DAY	TEMINF °C	
EPT 5	81 248	38200	7.70	
6	81 249	37200	7.39	
7	81 250	37200	6.69	
8	81 251	37500	6.28	
9	81 252	— 36,200	6.10	
10	81 253	— 34,900	6.57	
11	81 254	— 33,600	6.14	
12	81 255	— 32,400	6.08	
13	81 256	— 31,100	5.72	
14	81 257	— 29800	5.21	(6.8° @ Gain
15	81 258	— 28,500	5.48	(5.9° @ Vee
16	81 259	27200	6.36	
17	81 260	27200	6.67	
18	81 261	25500	6.60	
19	81 262	24700	6.51	
20	81 263	26700	6.14	
21	81 264	28600	5.77	
22	81 265	26700	5.06	
23	81 266	24000	4.30	
24	81 267	22800	3.26	
25	81 268	22300	2.72	
26	81 269	20300	1.02	
27	81 270	18400	0.46	
28	81 271	17600	0.36	
29	81 272	16400	0.37	
30	81 273	15900	0.32	

DATE	ISEQ	FLOINF (I) 1000 M^3/DAY	TEMINF °C
Oct 1	81 274	15200	0.36
2	81 275	14000	0.43
3	81 276	13500	0.45
4	81 277	14000	0.32
5	81 278	14000	~~-0.23~~ .30
6	81 279	13500	~~-0.18~~ .28
7	81 280	13200	~~-0.15~~ .26
8	81 281	13200	~~-0.09~~ .24
9	81 282	13000	0.22 .22
10	81 283	12700	0.23
11	81 284	12500	0.08
12	81 285	12500	0.33
13	81 286	13500	1.06
14	81 287	15400	1.68
15	81 288	17100	1.69
16	81 289	15700	1.62
17	81 290	14400	1.57
18	81 291	13700	1.51
19	81 292	11400	1.00
20	81 293	10700	.50
21	81 294	12000	.50
22	81 295	13300	
23	81 296	15900	
24	81 297	18200	
25	81 298	16600	0.50
26	81 299	14800	

DATE	ISEQ	FLOINF (1)	TEMINF
		1000 M^3/DAY	°C
OCT 27	81 300	13200	0.50
28	81 301	11000	
29	81 302	8600	
30	81 303	7200	
31	81 304	6400	0.50

SET DEF [.RESTEMP]

None

TESTINFL.DAT ~~WATANA RESERVOIR DATA~~

WATANA RESERVOIR
DYRESM INFLOW DATA - NOVEMBER, 1981

	TYPE								
DATE	JLEQ	GH	Q_1	T_1	S_1	GH	Q_2	T_2	S_2
1 NOV	81305		6365	0.2	0				0
2	81306		6365	0.2	↓				↓
3	81307		5875	0.2					
4	81308		6365	0.3	↓				
5	81309		6854	0.2					
6	81310		6365	0.2					
7	81311		6365	0.2					
8	81312		6242	0.2					
9	81313		6365	0.2					
10	81314		7099	0.1					
11	81315		7956	0.1					
12	81316		7956	0.1					
13	81317		6365	0.2					
14	81318		5875	0.2					
15	81319		5630	0.3					
16	81320		5386	0.3					
17	81321	2300	5630	0.3					
18	81322	2650	6487	0.3	34.05				
19	81323		7344	0.3					
20	81324	3300	8078 *	0.3	34				
21	81325	6200	~~8309~~	0.3					
22	81326	"	7800	0.3					
23	81327	"	7600	0.2					
24	81328	"	7400	0.1					
25	81329	"	7200	0.1					
26	81330	"	7000	0.1					
27	81331	"	6800	0.1					
28	81332	"	6600	0.1					
29	81333	"	6400	0.1					
30	81334	6200	6200	0.1					1/

* FREEZEUP FLOWS ARE ESTIMATED AFTER THIS DATE

TY TESTINFL.DAT;2

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    1
81152 65400. 9.01
81153 52900. 9.41
81154 42400. 9.70
81155 37500. 9.19
81156 38200. 8.33
81157 43300. 8.02
81158 38200. 8.93
81159 35000. 9.44
81160 38900. 8.61
81161 41900. 10.15
81162 36200. 10.62
81163 33500. 11.85
81164 32100. 12.45
81165 33100. 11.85
81166 36700. 11.83
81167 43600. 12.56
81168 43300. 12.86
81169 41900. 12.66
81170 41600. 12.4
81171 39900. 11.88
81172 39200. 11.66
81173 39900. 11.81
81174 39400. 12.19
81175 39900. 12.03
81176 41100. 10.68
81177 41400. 8.34
81178 42400. 6.78
81179 48700. 6.72
81180 52600. 7.19
81181 47000. 7.82
81182 44600. 8.00
81183 38400. 8.5
81184 35000. 9.0
81185 31100. 9.5
81186 29900. 10.0
81187 32600. 10.0
81188 39200. 10.0
81189 48200. 10.0
81190 50900. 10.0
81191 64100. 10.0
81192 97400. 10.0
81193 113600. 10.0
81194 97000. 10.0
81195 73700. 10.0
81196 63900. 10.0
81197 70800. 10.0
81198 87200. 10.0
81199 99700. 10.0
81200 97200. 10.0
81201 95200. 10.0
81202 88100. 10.0
81203 79600. 10.0
81204 73200. 10.0
81205 75200. 10.0
81206 77600. 10.0
81207 83200. 10.0
```

81209	69300.	10.5
81210	62400.	11.0
81211	60000.	11.5
81212	57500.	12.0
81213	60000.	12.5
81214	87700.	12.5
81215	103300.	12.0
81216	81300.	11.5
81217	66600.	10.94
81218	60200.	10.42
81219	57000.	9.70
81220	67300.	8.97
81221	95000.	8.73
81222	99400.	8.65
81223	97400.	8.41
81224	90300.	8.52
81225	100600.	7.70
81226	103600.	7.22
81227	105300.	6.53
81228	101400.	5.77
81229	81800.	5.52
81230	65400.	6.60
81231	61000.	7.35
81232	70500.	7.02
81233	94300.	6.94
81234	89100.	7.56
81235	81300.	7.38
81236	71200.	7.48
81237	61700.	8.50
81238	55800.	9.68
81239	54800.	10.66
81240	56300.	11.0
81241	56300.	10.04
81242	56300.	9.93
81243	53600.	9.47
81244	52200.	8.34
81245	48200.	7.41
81246	43300.	7.29
81247	39200.	7.60
81248	38200.	7.70
81249	37200.	7.39
81250	37200.	6.69
81251	37500.	6.28
81252	36200.	6.10
81253	34900.	6.57
81254	33600.	6.14
81255	32400.	6.08
81256	31100.	5.72
81257	29800.	5.21
81258	28500.	5.48
81259	27200.	6.36
81260	27200.	6.36
81261	25500.	6.60
81262	24700.	6.51
81263	26700.	6.14
81264	28600.	5.77
81265	26700.	5.06
81266	24000.	4.30
81267	22800.	3.26
81268	22300.	2.72
81269	20300.	1.02
81270	18400.	0.46
81272	17600.	0.36
81272	16400.	0.37
81273	15900.	0.32

81275	14000.	0.43
81276	13500.	0.45
81277	14000.	0.32
81278	14000.	0.30
81279	13500.	0.28
81280	13200.	0.26
81281	13200.	0.24
81282	13000.	0.22
81283	12700.	0.23
81284	12500.	0.08
81285	12500.	0.33
81286	13500.	1.06
81287	15400.	1.68
81288	17100.	1.6[illegible]
81289	15700.	1.62
81290	14400.	1.57
81291	13700.	1.5[illegible]
81292	11400.	1.00
81293	10700.	0.50
81294	12000.	0.50
81295	13300.	0.50
81296	15900.	0.50
81297	18200.	0.50
81298	16600.	0.50
81299	14800.	0.50
81300	13200.	0.50
81301	11000.	0.50
81302	8600.	0.50
81303	7200.	0.50
81304	6400.	0.50

$

W (S212.3)

W1373.3

AVE 5-DAY INFLOW TEMPERATURE

```
TT AVGTEMP.OUT

LAST DAY 81110  AVE TEMP (C)   9.13
LAST DAY 81115  AVE TEMP (C)   9.08
LAST DAY 81120  AVE TEMP (C)  11.72
LAST DAY 81125  AVE TEMP (C)  12.47
LAST DAY 81130  AVE TEMP (C)  11.57
LAST DAY 81135  AVE TEMP (C)   7.35
LAST DAY 81140  AVE TEMP (C)   9.00
LAST DAY 81145  AVE TEMP (C)  10.01
LAST DAY 81150  AVE TEMP (C)  10.00
LAST DAY 81201  AVE TEMP (C)  10.00
LAST DAY 81206  AVE TEMP (C)  10.00
LAST DAY 81211  AVE TEMP (C)  10.80
LAST DAY 81216  AVE TEMP (C)  11.15
LAST DAY 81221  AVE TEMP (C)   9.78
LAST DAY 81226  AVE TEMP (C)   8.10
LAST DAY 81231  AVE TEMP (C)   6.33
LAST DAY 81236  AVE TEMP (C)   7.28
LAST DAY 81241  AVE TEMP (C)   9.99
LAST DAY 81246  AVE TEMP (C)   8.41
LAST DAY 81251  AVE TEMP (C)   7.11
LAST DAY 81256  AVE TEMP (C)   6.12
LAST DAY 81261  AVE TEMP (C)   6.15
LAST DAY 81267  AVE TEMP (C)   4.21
LAST DAY 81272  AVE TEMP (C)   6.99
LAST DAY 81277  AVE TEMP (C)   0.36
LAST DAY 81282  AVE TEMP (C)   0.26
LAST DAY 81287  AVE TEMP (C)   0.65
LAST DAY 81292  AVE TEMP (C)   1.45
LAST DAY 81297  AVE TEMP (C)   0.50
LAST DAY 81302  AVE TEMP (C)   0.50
$
```

INFLOW

TI TESTINFL.DAT

INFLOWS

	FLOW	TEMP
81152	65400.	9.01
81152	52900.	9.41
81154	42400.	9.70
81155	37500.	9.19
81156	36200.	8.83
81157	43300.	8.03
81158	36200.	8.93
81159	35000.	9.44
81160	38900.	8.61
81161	41900.	10.15
81162	36200.	10.62
81163	33500.	11.85
81164	32100.	12.45
81165	33100.	11.85
81166	36700.	11.63
81167	43600.	12.56
81168	43300.	12.86
81169	41900.	12.66
81170	41600.	12.4
81171	39900.	11.88
81172	39200.	11.66
81173	39900.	11.81
81174	39400.	12.19
81175	39900.	12.03
81176	41100.	10.68
81177	41400.	8.34
81178	42400.	6.78
81179	48700.	6.72
81180	52600.	7.19
81181	47000.	7.82
81182	44600.	8.00
81183	38400.	8.5
81184	35000.	9.0
81185	31100.	9.5
81186	29900.	10.0
81187	32600.	10.0
81188	39200.	10.0
81189	48200.	10.0
81190	50900.	10.0
81191	64100.	10.0
81192	97400.	10.0
81193	113600.	10.0
81194	97000.	10.0
81195	73700.	10.0
81196	63900.	10.0
81197	70800.	10.0
81198	87200.	10.0
81199	99700.	10.0
81200	97200.	10.0
81201	95200.	10.0
81202	88100.	10.0
81203	79600.	10.0
81204	73200.	10.0
81205	75200.	10.0
81206	77600.	10.0
81207	83300.	10.0
81208	81500.	10.0

L/O LIMIT = 22

11.85 ✓

reads ok.

81210	62400.	11.0
81211	60000.	11.5
81212	57500.	12.0
81213	60000.	12.5
81214	57700.	12.5
81215	103300.	12.0
81216	81300.	11.5
81217	86600.	10.94
81218	60200.	10.42
81219	57000.	9.70
81220	67300.	8.97
81221	95000.	8.73
81222	99400.	8.65
81223	97400.	8.41
81224	90300.	8.52
81225	100600.	7.70
81226	103600.	7.22
81227	105300.	6.53
81228	101400.	5.77
81229	81800.	5.52
81230	65400.	6.60
81231	61000.	7.35
81232	70500.	7.02
81233	94300.	6.94
81234	89100.	7.56
81235	81300.	7.38
81236	71200.	7.48
81237	61700.	8.50 ✓
81238	55800.	9.68
81239	54800.	10.66
81240	56300.	11.0
81241	56300.	10.04
81242	56300.	9.93
81243	53600.	9.47
81244	52200.	8.34
81245	48200.	7.41
81246	43300.	7.29
81247	39200.	7.60
81248	38200.	7 70
81249	37200.	7.39
81250	37200.	6.69
81251	37500.	6.28
81252	36200.	6.10
81253	34900.	6.57
81254	33600.	6.14
81255	32400.	6.08
81256	31100.	5.72
81257	29800.	5.21
81258	28500.	5.48
81259	27200.	6.36
81260	25500.	6.60
81262	24700.	6.51
81263	26700.	6.14
81264	28600.	5.77
81265	26700.	5.06
81266	24000.	4.30
81267	22800.	3.26
81268	22300.	2.72
81269	20300.	1.02
81270	18400.	0.46
81271	17600.	0.34
81272	16400.	0.37
81273	15900.	0.32
81274	15200.	0.36
81275	14000.	0.43

Records as 261

8126

260 27200

61 25500

62 24700

81276	13300.	0.50
81277	14000.	0.33
81278	14000.	0.33
81279	13500.	0.25
81280	13300.	0.25
81281	13200.	0.24
81282	13000.	0.22
81283	12700.	0.33
81284	12500.	0.06
81285	12500.	0.33
81286	13500.	1.06
81287	15400.	1.68
81288	17100.	1.69
81289	15700.	1.62
81290	14400.	1.57
81291	13700.	1.51
81292	11400.	1.00
81293	10700.	0.50
81294	12000.	0.50
81295	13300.	0.50
81296	15900.	0.50
81297	18200.	0.50
81298	16600.	0.50
81299	14800.	0.50
81300	13200.	0.50
81301	11000.	0.50
81302	8600.	0.50
81303	7200.	0.50
81304	6400.	0.50

$

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET OF
BY DATE
APP DATE

CASE C

	P.H FLOW (AJE)		
JUNE	4262.5		
JULY	5268.0		
AUG	14195	——	15 @ 8654 , 16 @ 19390
SEP	12026	—	10 @ 19390 , 20 @ 8344

$30 \times 12026 = 10 \times 19390 + 20 \times Y \qquad \underline{Y = 8344}.$

FORM NO. 152 REV. 1

		T	S	W/C
21152	10428.6	4.0	0.0	638.2
21153	10428.6	4.0	0.0	638.6
21154	10428.6	4.0	0.0	638.9
21155	10428.6	4.0	0.0	639.2
21156	10428.6	4.0	0.0	639.4
21157	10428.6	4.0	0.0	639.7
21158	10428.6	4.0	0.0	640.0
21159	10428.6	4.0	0.0	640.2
21160	10428.6	4.0	0.0	640.4
21161	10428.6	4.0	0.0	640.7
21162	10428.6	4.0	0.0	640.9
21163	10428.6	4.0	0.0	641.1
21164	10428.6	4.0	0.0	641.3
21165	10428.6	4.0	0.0	641.4
21166	10428.6	4.0	0.0	641.7
21167	10428.6	4.0	0.0	641.9
21168	10428.6	4.0	0.0	642.2
21169	10428.6	4.0	0.0	642.4
21170	10428.6	4.0	0.0	642.7
21171	10428.6	4.0	0.0	642.9
21172	10428.6	4.0	0.0	643.2
21173	10428.6	4.0	0.0	643.4
21174	10428.6	4.0	0.0	643.6
21175	10428.6	4.0	0.0	643.9
21176	10428.6	4.0	0.0	644.1
21177	10428.6	4.0	0.0	644.4
21178	10428.6	4.0	0.0	644.6
21179	10428.6	4.0	0.0	644.9
21180	10428.6	4.0	0.0	645.3
21181	10428.6	4.0	0.0	645.6
21182	12888.7	7.0	0.0	645.8
21183	12888.7	7.0	0.0	646.0
21184	12888.7	7.0	0.0	646.2
21185	12888.7	7.0	0.0	646.3
21186	12888.7	7.0	0.0	646.5
21187	12888.7	7.0	0.0	646.6
21188	12888.7	7.0	0.0	646.8
21189	12888.7	7.0	0.0	647.1
21190	12888.7	7.0	0.0	647.4
21191	12888.7	7.0	0.0	647.8
21192	12888.7	7.0	0.0	648.5
21193	12888.7	7.0	0.0	649.3
21194	12888.7	7.0	0.0	650.0
21195	12888.7	7.0	0.0	650.5
21196	12888.7	7.0	0.0	650.9
21197	12888.7	7.0	0.0	651.4
21198	12888.7	7.0	0.0	652.0
21199	12888.7	7.0	0.0	652.7
21200	12888.7	7.0	0.0	653.3
21201	12888.7	7.0	0.0	654.0
21202	12888.7	7.0	0.0	654.6
21203	12888.7	7.0	0.0	655.1
21204	12888.7	7.0	0.0	655.6
21205	12888.7	7.0	0.0	656.0
21206	12888.7	7.0	0.0	656.4
21207	12888.7	7.0	0.0	656.9
21208	12888.7	7.0	0.0	657.4
21209	12888.7	7.0	0.0	657.7
21210	12888.7	7.0	0.0	658.1
21211	12888.7	7.0	0.0	658.4
21212	12888.7	7.0	0.0	658.7
21213	12888.7	7.0	0.0	659.0
21214	21172.9	9.0	0.0	659.5

21215	21172.9	9.0	0.0	660.0
21216	21172.9	9.0	0.0	660.4
21217	21172.9	9.0	0.0	660.7
21218	21172.9	9.0	0.0	661.0
21219	21172.9	9.0	0.0	661.2
21220	21172.9	9.0	0.0	661.6
21221	21172.9	9.0	0.0	662.0
21222	21172.9	9.0	0.0	662.6
21223	21172.9	9.0	0.0	663.1
21224	21172.9	9.0	0.0	663.6
21225	21172.9	9.0	0.0	664.1
21226	21172.9	9.0	0.0	664.7
21227	21172.9	9.0	0.0	665.2
21228	21172.9	9.0	0.0	665.8
21229	47439.6	9.0	0.0	666.0
21230	47439.6	9.0	0.0	666.1
21231	47439.6	9.0	0.0	666.2
21232	47439.6	9.0	0.0	666.4
21233	47439.6	9.0	0.0	666.7
21234	47439.6	9.0	0.0	667.0
21235	47439.6	9.0	0.0	667.2
21236	47439.6	9.0	0.0	667.3
21237	47439.6	9.0	0.0	667.4
21238	47439.6	9.0	0.0	667.5
21239	47439.6	9.0	5660.7	667.5
21240	47439.6	9.0	8860.7	667.5
21241	47439.6	9.0	8860.7	667.5
21242	47439.6	9.0	8860.7	667.5
21243	47439.6	9.0	6160.4	667.5
21244	47439.6	9.0	4760.6	667.5
21245	47439.6	8.0	760.8	667.5
21246	47439.6	8.0	0.0	667.5
21247	47439.6	8.0	0.0	667.4
21248	47439.6	8.0	0.0	667.4
21249	47439.6	8.0	0.0	667.3
21250	47439.6	8.0	0.0	667.2
21251	47439.6	8.0	0.0	667.2
21252	47439.6	8.0	0.0	667.1
21253	47439.6	8.0	0.0	667.0
21254	47439.6	8.0	0.0	666.9
21255	20414.4	6.0	0.0	667.0
21256	20414.4	6.0	0.0	667.1
21257	20414.4	6.0	0.0	667.1
21258	20414.4	6.0	0.0	667.2
21259	20414.4	6.0	0.0	667.2
21260	20414.4	6.0	0.0	667.3
21261	20414.4	6.0	0.0	667.3
21262	20414.4	6.0	0.0	667.3
21263	20414.4	6.0	0.0	667.4
21264	20414.4	6.0	0.0	667.4
21265	20414.4	6.0	0.0	667.5
21266	20414.4	6.0	0.0	667.5
21267	20414.4	6.0	157.7	667.5
21268	20414.4	6.0	1885.2	667.5
21269	20414.4	6.0	0.0	667.5
21270	20414.4	6.0	0.0	667.5
21271	20414.4	6.0	0.0	667.5
21272	20414.4	6.0	0.0	667.5
21273	20414.4	6.0	0.0	667.4
21274	20414.4	6.0	0.0	667.4
21275	20414.4	6.0	0.0	667.3
21276	20414.4	6.0	0.0	667.3
21277	23888.6	0.5	0.0	667.2

21278	23888.6	0.5	0.0	667.2
21279	23888.6	0.5	0.0	667.1
21280	23888.6	0.5	0.0	667.0
21281	23888.6	0.5	0.0	666.9
21282	23888.6	0.5	0.0	666.9
21283	23888.6	0.5	0.0	666.8
21284	23888.6	0.5	0.0	666.7
21285	23888.6	0.5	0.0	666.6
21286	23888.6	0.5	0.0	666.6
21287	23888.6	0.5	0.0	666.5
21288	23888.6	0.5	0.0	666.5
21289	23888.6	0.5	0.0	666.4
21290	23888.6	0.5	0.0	666.4
21291	23888.6	0.5	0.0	666.3
21292	23888.6	0.5	0.0	666.2
21293	23888.6	0.5	0.0	666.1
21294	23888.6	0.5	0.0	666.0
21295	23888.6	0.5	0.0	666.0
21296	23888.6	0.5	0.0	665.9
21297	23888.6	0.5	0.0	665.9
21298	23888.6	0.5	0.0	665.8
21299	23888.6	0.5	0.0	665.8
21300	23888.6	0.5	0.0	665.7
21301	23888.6	0.5	0.0	665.6
21302	23888.6	0.5	0.0	665.5
21303	23888.6	0.5	0.0	665.4
21304	23888.6	0.5	0.0	665.3
21305	23888.6	0.5	0.0	665.1
21306	23888.6	0.5	0.0	665.0
21307	23888.6	0.5	0.0	664.9
21308	22295.9	0.5	0.0	664.8
21309	22295.9	0.5	0.0	664.7
21310	22295.9	0.5	0.0	664.6
21311	22295.9	0.5	0.0	664.5
21312	22295.9	0.5	0.0	664.4
21313	22295.9	0.5	0.0	664.3
21314	22295.9	0.5	0.0	664.2
21315	22295.9	0.5	0.0	664.1
21316	22295.9	0.5	0.0	664.0
21317	22295.9	0.5	0.0	663.9
21318	22295.9	0.5	0.0	663.7
21319	22295.9	0.5	0.0	663.6
21320	22295.9	0.5	0.0	663.5
21321	22295.9	0.5	0.0	663.4
21322	22295.9	0.5	0.0	663.3
21323	22295.9	0.5	0.0	663.2
21324	22295.9	0.5	0.0	663.1
21325	22295.9	0.5	0.0	663.0
21326	22295.9	0.5	0.0	662.9
21327	22295.9	0.5	0.0	662.8
21328	22295.9	0.5	0.0	662.7
21329	22295.9	0.5	0.0	662.6
21330	22295.9	0.5	0.0	662.5
21331	22295.9	0.5	0.0	662.3
21332	22295.9	0.5	0.0	662.2
21333	22295.9	0.5	0.0	662.1
21334	22295.9	0.5	0.0	662.0

ACRES

Calculations

SUBJECT: SUSITNA HEP.
RES. TEMP.

JOB NUMBER P5701.53
FILE NUMBER
SHEET OF
BY DC DATE 26 OCT 82
APP DATE

OCT / NOV OUTFLOWS.

CASE C 120' D/DOWN. W/DC

AVE P.H flow 9764.4 CFS in OCT.

= 276.5 m^3/s = 23,888.4 ($m^3/d \times 1000$)

AVE P.H. flow in Nov = 9112.6

= 258.0 m^3/s = 22,294.7 ($m^3/d \times 1000$)

OCT elevation end : 2174 = 662.6

NOV elevation end : 2162.3 = 659.1

OUTFLOW TEMP REQ'D = 0.5 °C.

211.52
1.55
213.07

TYWAOUTFL.DATTAD.LFTUOAWYT

TY WAOUTFL.DAT

21152	10428.6	12.1	0.0	638.2
21153	10428.6	12.1	0.0	638.6
21154	10428.6	12.1	0.0	638.9
21155	10428.6	12.1	0.0	639.2
21156	10428.6	12.1	0.0	639.4
21157	10428.6	12.0	0.0	639.7
21158	10428.6	12.0	0.0	640.0
21159	10428.6	12.0	0.0	640.2
21160	10428.6	12.0	0.0	640.4
21161	10428.6	12.0	0.0	640.7
21162	10428.6	11.7	0.0	640.9
21163	10428.6	11.7	0.0	641.1
21164	10428.6	11.7	0.0	641.3
21165	10428.6	11.7	0.0	641.4
21166	10428.6	11.7	0.0	641.7
21167	10428.6	12.5	0.0	641.9
21168	10428.6	12.5	0.0	642.2
21169	10428.6	12.5	0.0	642.4
21170	10428.6	12.5	0.0	642.7
21171	10428.6	12.5	0.0	642.9
21172	10428.6	11.7	0.0	643.2
21173	10428.6	11.7	0.0	643.4
21174	10428.6	11.7	0.0	643.6
21175	10428.6	11.7	0.0	643.9
21176	10428.6	11.7	0.0	644.1
21177	10428.6	12.4	0.0	644.4
21178	10428.6	12.4	0.0	644.6
21179	10428.6	12.4	0.0	644.9
21180	10428.6	12.4	0.0	645.3
21181	10428.6	12.4	0.0	645.6
21182	12888.7	12.0	0.0	645.8
21183	12888.7	12.0	0.0	646.0
21184	12888.7	12.0	0.0	646.2
21185	12888.7	12.0	0.0	646.3
21186	12888.7	12.0	0.0	646.5
21187	12888.7	10.0	0.0	646.6
21188	12888.7	10.0	0.0	646.8
21189	12888.7	10.0	0.0	647.1
21190	12888.7	10.0	0.0	647.4
21191	12888.7	10.0	0.0	647.8
21192	12888.7	10.0	0.0	648.5
21193	12888.7	10.0	0.0	649.3
21194	12888.7	10.0	0.0	650.0
21195	12888.7	10.0	0.0	650.5
21196	12888.7	10.0	0.0	650.9
21197	12888.7	10.0	0.0	651.4
21198	12888.7	12.0	0.0	652.0
21199	12888.7	12.0	0.0	652.7
21200	12888.7	12.0	0.0	653.3
21201	12888.7	12.0	0.0	654.0
21202	12888.7	10.0	0.0	654.6
21203	12888.7	10.0	0.0	655.1
21204	12888.7	10.0	0.0	655.6

21205	12888.7	10.0	0.0	656.0
21206	12888.7	10.0	0.0	656.4
21207	12888.7	10.6	0.0	656.9
21208	12888.7	10.6	0.0	657.4
21209	12888.7	10.6	0.0	657.7
21210	12888.7	10.6	0.0	658.1
21211	12888.7	10.6	0.0	658.4
21212	12888.7	12.1	0.0	658.7
21213	12888.7	12.1	0.0	659.0
21214	21172.9	12.1	0.0	659.5
21215	21172.9	12.1	0.0	660.0
21216	21172.9	12.1	0.0	660.4
21217	21172.9	12.8	0.0	660.7
21218	21172.9	12.8	0.0	661.0
21219	21172.9	12.8	0.0	661.2
21220	21172.9	12.8	0.0	661.4
21221	21172.9	12.8	0.0	662.0
21222	21172.9	12.1	0.0	662.6
21223	21172.9	12.1	0.0	663.1
21224	21172.9	12.1	0.0	663.6
21225	21172.9	12.1	0.0	664.1
21226	21172.9	12.1	0.0	664.7
21227	21172.9	12.4	0.0	665.2
21228	21172.9	12.4	0.0	665.8
21229	47439.6	12.4	0.0	666.0
21230	47439.6	12.4	0.0	666.1
21231	47439.6	12.4	0.0	666.2
21232	47439.6	12.3	0.0	666.4
21233	47439.6	12.3	0.0	666.7
21234	47439.6	12.3	0.0	667.0
21235	47439.6	12.3	0.0	667.2
21236	47439.6	12.3	0.0	667.3
21237	47439.6	12.9	0.0	667.4
21238	47439.6	12.9	0.0	667.5
21239	47439.6	12.9	5660.7	667.5
21240	47439.6	12.9	8860.7	667.5
21241	47439.6	12.9	8860.7	667.5
21242	47439.6	12.5	8860.7	667.5
21243	47439.6	12.5	6160.4	667.5
21244	47439.6	12.5	4760.6	667.5
21245	47439.6	12.5	760.8	667.5
21246	47439.6	11.0	0.0	667.5
21247	47439.6	9.5	0.0	667.4
21248	47439.6	9.0	0.0	667.4
21249	47439.6	8.5	0.0	667.3
21250	47439.6	8.0	0.0	667.2
21251	47439.6	7.5	0.0	667.2
21252	47439.6	7.1	0.0	667.1
21253	47439.6	7.1	0.0	667.0
21254	47439.6	7.1	0.0	667.9
21255	20414.4	7.1	0.0	667.0
21256	20414.4	7.1	0.0	667.1
21257	20414.4	7.0	0.0	667.1
21258	20414.4	7.0	0.0	667.2
21259	20414.4	7.0	0.0	667.2
21260	20414.4	7.0	0.0	667.3
21261	20414.4	7.0	0.0	667.3
21262	20414.4	7.0	0.0	667.3
21263	20414.4	6.0	0.0	667.4
21264	20414.4	6.0	0.0	667.4
21265	20414.4	6.0	0.0	667.5
21266	20414.4	6.0	0.0	667.5
21267	20414.4	6.0	0.0	667.5
21268	20414.4	6.0	0.0	667.5
21269	20414.4	6.0	0.0	667.5
21270	20414.4	6.0	0.0	667.4

21272	20414.4	4.0	0.0	667.4
21273	20414.4	4.0	0.0	667.4
21274	20414.4	4.0	0.0	667.3
21275	20414.4	4.0	0.0	667.3
21276	20414.4	4.0	0.0	667.2
21277	20130.6	4.0	0.0	667.2
21278	20130.6	4.0	0.0	667.1
21279	20130.6	4.0	0.0	667.1
21280	20130.6	4.0	0.0	667.0
21281	20130.6	4.0	0.0	667.0
21282	20130.6	4.0	0.0	666.9
21283	20130.6	4.0	0.0	666.9
21284	20130.6	4.0	0.0	666.8
21285	20130.6	4.0	0.0	666.8
21286	20130.6	4.0	0.0	666.8
21287	20130.6	4.0	0.0	666.7
21288	20130.6	4.0	0.0	666.7
21289	20130.6	4.0	0.0	666.7
21290	20130.6	4.0	0.0	666.6
21291	20130.6	4.0	0.0	666.6
21292	20130.6	4.0	0.0	666.5
21293	20130.6	4.0	0.0	666.5
21294	20130.6	4.0	0.0	666.4
21295	20130.6	4.0	0.0	666.4
21296	20130.6	4.0	0.0	666.4
21297	20130.6	4.0	0.0	666.3
21298	20130.6	4.0	0.0	666.3
21299	20130.6	4.0	0.0	666.3
21300	20130.6	4.0	0.0	666.2

OCT 1st.

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1000 m3/d.

TY WAOUTFL.DAT

21152	10428.6	12.1	0.0	638.2
21153	10428.6	12.1	0.0	638.6
21154	10428.6	12.1	0.0	638.9
21155	10428.6	12.1	0.0	639.2
21156	10428.6	12.1	0.0	639.4
21157	10428.6	12.0	0.0	639.7
21158	10428.6	12.0	0.0	640.0
21159	10428.6	12.0	0.0	640.2
21160	10428.6	12.0	0.0	640.4
21161	10428.6	12.0	0.0	640.7
21162	10428.6	11.7	0.0	640.9
21163	10428.6	11.7	0.0	641.1
21164	10428.6	11.7	0.0	641.3
21165	10428.6	11.7	0.0	641.4
21166	10428.6	11.7	0.0	641.7
21167	10428.6	12.5	0.0	641.9
21168	10428.6	12.5	0.0	642.2
21169	10428.6	12.5	0.0	642.4
21170	10428.6	12.5	0.0	642.7
21171	10428.6	12.5	0.0	642.9
21172	10428.6	11.7	0.0	643.2
21173	10428.6	11.7	0.0	643.4
21174	10428.6	11.7	0.0	643.6
21175	10428.6	11.7	0.0	643.9
21176	10428.6	11.7	0.0	644.1
21177	10428.6	12.4	0.0	644.4
21178	10428.6	12.4	0.0	644.6
21179	10428.6	12.4	0.0	644.9
21180	10428.6	12.4	0.0	645.3
21181	10428.6	12.4	0.0	645.6
21182	12888.7	12.0	0.0	645.8
21183	12888.7	12.0	0.0	646.0
21184	12888.7	12.0	0.0	646.2
21185	12888.7	12.0	0.0	646.3
21186	12888.7	12.0	0.0	646.5
21187	12888.7	10.0	0.0	646.6
21188	12888.7	10.0	0.0	646.8
21189	12888.7	10.0	0.0	647.1
21190	12888.7	10.0	0.0	647.4
21191	12888.7	10.0	0.0	647.8
21192	12888.7	10.0	0.0	648.5
21193	12888.7	10.0	0.0	649.3
21194	12888.7	10.0	0.0	650.0
21195	12888.7	10.0	0.0	650.5
21196	12888.7	10.0	0.0	650.9
21197	12888.7	10.0	0.0	651.4
21198	12888.7	12.0	0.0	652.0
21199	12888.7	12.0	0.0	652.7
21200	12888.7	12.0	0.0	653.3
21201	12888.7	12.0	0.0	654.0
21202	12888.7	10.0	0.0	654.6
21203	12888.7	10.0	0.0	655.1
21204	12888.7	10.0	0.0	655.6
21205	12888.7	10.0	0.0	656.0
21206	12888.7	10.0	0.0	656.4
21207	12888.7	10.6	0.0	656.9
21208	12888.7	10.6	0.0	657.4

21209	12888.7	10.6		0.0	657.7
21210	12888.7	10.6		0.0	658.1
21211	12888.7	10.6		0.0	658.4
21212	12888.7	12.1		0.0	658.7
21213	12888.7	12.1		0.0	659.0
21214	21172.9	12.1		0.0	659.5
21215	21172.9	12.1		0.0	660.0
21216	21172.9	12.1		0.0	660.4
21217	21172.9	12.8		0.0	660.7
21218	21172.9	12.8		0.0	661.0
21219	21172.9	12.8		0.0	661.2
21220	21172.9	12.8		0.0	661.6
21221	21172.9	12.8		0.0	662.0
21222	21172.9	12.1		0.0	662.6
21223	21172.9	12.1		0.0	663.1
21224	21172.9	12.1		0.0	663.6
21225	21172.9	12.1		0.0	664.1
21226	21172.9	12.1		0.0	664.7
21227	21172.9	12.4		0.0	665.2
21228	21172.9	12.4		0.0	665.8
21229	47439.6	12.4		0.0	666.0
21230	47439.6	12.4		0.0	666.1
21231	47439.6	12.4		0.0	666.2
21232	47439.6	12.3		0.0	666.4
21233	47439.6	12.3		0.0	666.7
21234	47439.6	12.3		0.0	667.0
21235	47439.6	12.3		0.0	667.2
21236	47439.6	12.3		0.0	667.3
21237	47439.6	12.9		0.0	667.4
21238	47439.6	12.9		0.0	667.5
21239	47439.6	12.9		5660.7	667.5
21240	47439.6	12.9		8860.7	667.5
21241	47439.6	12.9		8860.7	667.5
21242	47439.6	12.5		8860.7	667.5
21243	47439.6	12.5		6160.4	667.5
21244	47439.6	12.5		4760.6	667.5
21245	47439.6	12.5		760.8	667.5
21246	47439.6	12.5	11.0	0.0	667.5
21247	47439.6	12.1	9.5	0.0	667.4
21248	47439.6	12.1	9.0	0.0	667.4
21249	47439.6	12.1	8.5	0.0	667.3
21250	47439.6	12.1	8.0	0.0	667.2
21251	47439.6	12.1	7.5	0.0	667.2
21252	47439.6	~~6.1~~	7.0	0.0	667.1
21253	47439.6	6.1		0.0	667.0
21254	47439.6	6.1		0.0	666.9
21255	20414.4	6.1		0.0	667.0
21256	20414.4	6.1		0.0	667.1
21257	20414.4	6.0		0.0	667.1
21258	20414.4	6.0	7.0	0.0	667.2
21259	20414.4	6.0		0.0	667.2
21260	20414.4	6.0		0.0	667.3
21261	20414.4	6.0		0.0	667.3
21262	20414.4	6.0		0.0	667.3
21263	20414.4	4.9	6.5	0.0	667.4
21264	20414.4	4.9	6.0	0.0	667.4
21265	20414.4	4.9	5.5	0.0	667.5
21266	20414.4	4.9	4.0	0.0	667.5
21267	20414.4	1.0		0.0	667.5
21268	20414.4	1.0		0.0	667.5
21269	20414.4	1.0		0.0	667.5
21270	20414.4	1.0		0.0	667.4
21271	20414.4	1.0		0.0	667.4
21272	20414.4	0.5		0.0	667.4
21273	20414.4	0.5		0.0	667.4
21274	20414.4	0.5		0.0	667.3

21275	20414.4	0.5	0.0	667.3
21276	20414.4	0.5	0.0	667.2
21277	20130.6	0.5	0.0	667.2
21278	20130.6	0.5	0.0	667.1
21279	20130.6	0.5	0.0	667.1
21280	20130.6	0.5	0.0	667.0
21281	20130.6	0.5	0.0	667.0
21282	20130.6	0.7	0.0	666.9
21283	20130.6	0.7	0.0	666.9
21284	20130.6	0.7	0.0	666.8
21285	20130.6	0.7	0.0	666.8
21286	20130.6	0.7	0.0	666.8
21287	20130.6	1.5	0.0	666.7
21288	20130.6	1.5	0.0	666.7
21289	20130.6	1.5	0.0	666.7
21290	20130.6	1.5	0.0	666.6
21291	20130.6	1.5	0.0	666.6
21292	20130.6	0.5	0.0	666.5
21293	20130.6	0.5	0.0	666.5
21294	20130.6	0.5	0.0	666.4
21295	20130.6	0.5	0.0	666.4
21296	20130.6	0.5	0.0	666.4
21297	20130.6	0.5	0.0	666.3
21298	20130.6	0.5	0.0	666.3
21299	20130.6	0.5	0.0	666.3
21300	20130.6	0.5	0.0	666.2

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ACRES

Calculations

SUBJECT:

JOB NUMBER PS701.53
FILE NUMBER
SHEET OF
BY DC DATE 27 Sep 82
APP DATE

Revise outflow temperatures to give maximum possible except in late September give coolest or natural.

FORM NO. 152 REV. 1

TY WAOUTFL.DAT

21152	10428.6	9.1		0.0	638.2
21153	10428.6	9.1		0.0	638.6
21154	10428.6	9.1		0.0	638.9
21155	10428.6	9.1	10.1	0.0	639.2
21156	10428.6	9.1		0.0	639.4
21157	10428.6	9.0		0.0	639.7
21158	10428.6	9.0		0.0	640.0
21159	10428.6	9.0	10.0	0.0	640.2
21160	10428.6	9.0		0.0	640.4
21161	10428.6	9.0		0.0	640.7
21162	10428.6	11.7		0.0	640.9
21163	10428.6	11.7		0.0	641.1
21164	10428.6	11.7		0.0	641.3
21165	10428.6	11.7		0.0	641.4
21166	10428.6	11.7		0.0	641.7
21167	10428.6	12.5		0.0	641.9
21168	10428.6	12.5		0.0	642.2
21169	10428.6	12.5		0.0	642.4
21170	10428.6	12.5		0.0	642.7
21171	10428.6	12.5		0.0	642.9
21172	10428.6	11.7		0.0	643.2
21173	10428.6	11.7		0.0	643.4
21174	10428.6	11.7		0.0	643.6
21175	10428.6	11.7		0.0	643.9
21176	10428.6	11.7		0.0	644.1
21177	10428.6	7.4		0.0	644.4
21178	10428.6	7.4		0.0	644.6
21179	10428.6	7.4	— 12.5	0.0	644.9
21180	10428.6	7.4		0.0	645.1
21181	10428.6	7.4		0.0	645.4
21182	12888.7	9.0		0.0	645.8
21183	12888.7	9.0		0.0	646.0
21184	12888.7	9.0	12.5	0.0	646.2
21185	12888.7	9.0		0.0	646.3
21186	12888.7	9.0		0.0	646.5
21187	12888.7	10.0		0.0	646.6
21188	12888.7	10.0		0.0	646.8
21189	12888.7	10.0		0.0	647.1
21190	12888.7	10.0		0.0	647.4
21191	12888.7	10.0		0.0	647.8
21192	12888.7	10.0		0.0	648.5
21193	12888.7	10.0		0.0	649.3
21194	12888.7	10.0		0.0	650.0
21195	12888.7	10.0		0.0	650.5
21196	12888.7	10.0		0.0	650.9
21197	12888.7	10.0		0.0	651.4
21198	12888.7	7.0		0.0	652.0
21199	12888.7	7.0		0.0	652.7
21200	12888.7	7.0		0.0	653.3
21201	12888.7	7.0		0.0	654.0
21202	12888.7	10.0		0.0	654.6
21203	12888.7	10.0		0.0	655.1
21204	12888.7	10.0		0.0	655.6
21205	12888.7	10.0		0.0	656.0
21206	12888.7	10.0		0.0	656.4
21207	12888.7	10.0		0.0	656.9
21208	12888.7	10.0		0.0	657.4

OUTFLOW ÷ 5-DAY AVERAGE INFLOW TEMP

W15212.3

W13733

Revise to give warmest temps

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b

9.

21210	12888.7	10.4	0.0	658.1
21211	12888.7	10.6	0.0	658.4
21212	12888.7	12.1	0.0	658.7
21213	12888.7	13.1	0.0	658.9
21214	21172.9	12.1	0.0	659.3
21215	21172.9	12.1	0.0	660.0
21216	21172.9	13.1	0.0	660.4
21217	21172.9	9.8	0.0	660.7
21218	21172.9	9.6	0.0	661.0
21219	21172.9	9.8	0.0	661.2
21220	21172.9	9.8	0.0	661.6
21221	21172.9	9.8	0.0	662.0
21222	21172.9	8.1	0.0	662.3
21223	21172.9	8.1	0.0	663.1
21224	21172.9	8.1	0.0	663.6
21225	21172.9	8.1	0.0	664.1
21226	21172.9	8.1	0.0	664.7
21227	21172.9	6.4	0.0	665.2
21228	21172.9	6.4	0.0	665.8
21229	47439.6	6.4	0.0	666.0
21230	47439.6	6.4	0.0	666.1
21231	47439.6	6.4	0.0	666.2
21232	47439.6	7.3	0.0	666.4
21233	47439.6	7.3	0.0	666.7
21234	47439.6	7.3	0.0	667.0
21235	47439.6	7.3	0.0	667.1
21236	47439.6	7.3	0.0	667.3
21237	47439.6	9.9	0.0	667.4
21238	47439.6	9.9	0.0	667.5
21239	47439.6	9.9	5660.7	667.5
21240	47439.6	9.9	8860.7	667.5
21241	47439.6	9.9	8860.7	667.5
21242	47439.6	8.5	8860.7	667.5
21243	47439.6	8.5	6160.4	667.5
21244	47439.6	8.5	4760.6	667.5
21245	47439.6	8.5	760.6	667.5
21246	47439.6	8.5	0.0	667.5
21247	47439.6	7.1	0.0	667.4
21248	47439.6	7.1	0.0	667.4
21249	47439.6	7.1	0.0	667.3
21250	47439.6	7.1	0.0	667.2
21251	47439.6	7.1	0.0	667.2
21252	47439.6	6.1	0.0	667.1
21253	47439.6	6.1	0.0	667.0
21254	47439.6	6.1	0.0	666.9
21255	20414.4	6.1	0.0	667.0
21256	20414.4	6.1	0.0	667.1
21257	20414.4	6.0	0.0	667.1
21258	20414.4	6.0	0.0	667.2
21259	20414.4	6.0	0.0	667.2
21260	20414.4	6.0	0.0	667.3
21261	20414.4	6.0	0.0	667.3
21262	20414.4	6.0	0.0	667.3
21263	20414.4	4.9	0.0	667.4
21264	20414.4	4.9	0.0	667.4
21265	20414.4	4.9	0.0	667.5
21266	20414.4	4.9	0.0	667.5
21267	20414.4	1.0	0.0	667.5
21268	20414.4	1.0	0.0	667.5
21269	20414.4	1.0	0.0	667.5
21270	20414.4	1.0	0.0	667.4
21271	20414.4	1.0	0.0	667.4
21272	20414.4	0.5	0.0	667.4
21273	20414.4	0.5	0.0	667.3
21274	20414.4	0.5	0.0	667.3

21375	20414.4	0.5	0.0	667.2
21376	20414.4	0.5	0.0	667.2
21377	20130.6	0.5	0.0	667.1
21378	20130.6	0.5	0.0	667.1
21379	20130.6	0.5	0.0	667.1
21280	20130.6	0.5	0.0	667.0
21281	20130.6	0.5	0.0	667.0
21282	20130.6	0.7	0.0	666.9
21283	20130.6	0.7	0.0	666.9
21284	20130.6	0.7	0.0	666.8
21285	20130.6	0.7	0.0	666.8
21286	20130.6	0.7	0.0	666.8
21287	20130.6	1.5	0.0	666.7
21288	20130.6	1.5	0.0	666.7
21289	20130.6	1.5	0.0	666.7
21290	20130.6	1.5	0.0	666.6
21291	20130.6	1.5	0.0	666.6
21292	20130.6	0.5	0.0	666.5
21293	20130.6	0.5	0.0	666.5
21294	20130.6	0.5	0.0	666.4
21295	20130.6	0.5	0.0	666.4
21296	20130.6	0.5	0.0	666.4
21297	20130.6	0.5	0.0	666.3
21298	20130.6	0.5	0.0	666.3
21299	20130.6	0.5	0.0	666.3
21300	20130.6	0.5	0.0	666.2

$

TY WAOUTFL.DAT

81152	5831.6	4.0 0.0	639.7
81153	5831.6	15.0 0.0	640.7
81154	5831.6	8.0 0.0	641.4
81155	5831.6	8.0 0.0	642.0
81156	5831.6	5.0 0.0	642.6
81157	5831.6	5.0 0.0	643.4
81158	5831.6	5.0 0.0	644.0
81159	5831.6	5.0 0.0	644.6
81160	5831.6	5.0 0.0	645.2
81161	5831.6	5.0 0.0	645.9
81162	5831.6	6.5 0.0	646.5
81163	5831.6	6.5 0.0	647.1
81164	5831.6	6.5 0.0	647.6
81165	5831.6	6.5 0.0	648.1
81166	5831.6	6.5 0.0	648.7
81167	5831.6	6.5 0.0	649.5
81168	5831.6	6.5 0.0	650.2
81169	5831.6	6.5 0.0	650.9
81170	5831.6	6.5 0.0	651.6
81171	5831.6	6.5 0.0	652.3
81172	5831.6	8.0 0.0	652.9
81173	5831.6	8.0 0.0	653.6
81174			

Y

$ DEL TESTINFL.DAT;*

$ REN INFTMP REMEMT INFLOW.DAT

1 21152 65400. 2.01

*T E=1

452 21304 44400 0.50

*E 0.1

1

1 81152 65400 2.01

*REN TESTINFL.DAT

RENAME/LOG/NOFORCE/RESTRICT.TEST;*.DAT;* 100 lines

$ DEL WAOUTFL.DAT;*

$ REN DELTA OUT WAOUTFL.DAT

$ TY WAOUTFL.DAT

WATANA OUTFLOW.

ISEQ	Flow	REQ'D TEMP	SPILL	RES. ELEV
21152	10428.6	4.0	0.0	638.3
21153	10428.6	4.0	0.0	639.4
21154	10428.6	4.0	0.0	636.9
21155	10428.6	4.0	0.0	639.2
21156	10428.6	4.0	0.0	639.4
21157	10428.6	4.0	0.0	639.7
21158	10428.6	4.0	0.0	640.1
21159	10428.6	4.0	0.0	640.2

I/O UNIT=23

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21160	10428.6	4.0	0.0	640.4
21161	10428.6	4.0	0.0	640.7
21162	10428.6	4.0	0.0	640.9
21163	10428.6	4.0	0.0	641.1
21164	10428.6	4.0	0.0	641.3
21165	10428.6	4.0	0.0	641.4
21166	10428.6	4.0	0.0	641.7
21167	10428.6	4.0	0.0	641.9
21168	10428.6	4.0	0.0	642.2
21169	10428.6	4.0	0.0	642.4
21170	10428.6	4.0	0.0	642.7
21171	10428.6	4.0	0.0	642.9
21172	10428.6	4.0	0.0	643.2
21173	10428.6	4.0	0.0	643.4
21174	10428.6	4.0	0.0	643.7
21175	10428.6	4.0	0.0	643.9
21176	10428.6	4.0	0.0	644.1
21177	10428.6	4.0	0.0	644.4
21178	10428.6	4.0	0.0	644.6
21179	10428.6	4.0	0.0	644.9
21180	10428.6	4.0	0.0	645.3
21181	10428.6	4.0	0.0	645.6 Jul 7
21182	12888.7	7.0	0.0	645.8
21183	12888.7	7.0	0.0	646.0
21184	12888.7	7.0	0.0	646.2
21185	12888.7	7.0	0.0	646.3
21186	12888.7	7.0	0.0	646.5
21187	12888.7	7.0	0.0	646.6
21188	12888.7	7.0	0.0	646.8
21189	12888.7	7.0	0.0	647.1
21190	12888.7	7.0	0.0	647.4
21191	12888.7	7.0	0.0	647.8
21192	12888.7	7.0	0.0	648.5
21193	12888.7	7.0	0.0	649.3
21194	12888.7	7.0	0.0	650.0
21195	12888.7	7.0	0.0	650.5
21196	12888.7	7.0	0.0	650.9
21197	12888.7	7.0	0.0	651.4
21198	12888.7	7.0	0.0	652.0
21199	12888.7	7.0	0.0	652.7
21200	12888.7	7.0	0.0	653.3
21201	12888.7	7.0	0.0	654.0
21202	12888.7	7.0	0.0	654.6
21203	12888.7	7.0	0.0	655.1
21204	12888.7	7.0	0.0	655.6
21205	12888.7	7.0	0.0	656.0
21206	12888.7	7.0	0.0	656.4
21207	12888.7	7.0	0.0	656.9
21208	12888.7	7.0	0.0	657.4
21209	12888.7	7.0	0.0	657.7
21210	12888.7	7.0	0.0	658.1
21211	12888.7	7.0	0.0	658.4
21212	12888.7	7.0	0.0	658.7
21213	12888.7	7.0	0.0	659.0
21214	21172.9	9.0	0.0	659.5
21215	21172.9	9.0	0.0	660.0
21216	21172.9	9.0	0.0	660.4
21217	21172.9	9.0	0.0	660.7
21218	21172.9	9.0	0.0	661.0
21219	21172.9	9.0	0.0	661.2
21220	21172.9	9.0	0.0	661.6
21221	21172.9	9.0	0.0	662.0
21222	21172.9	9.0	0.0	662.6
21223	21172.9	9.0	0.0	663.3
21224	21172.9	9.0	0.0	663.8
21225	21172.9	9.0	0.0	664.1

21226	21172.7	9.0	0.0	664.7
21227	21172.9	9.0	0.0	665.2
21228	21172.9	9.0	0.0	665.2
21229	47439.6	9.0	0.0	666.0
21230	47439.6	9.0	0.0	666.1
21231	47439.6	9.0	0.0	666.2
21232	47439.6	9.0	0.0	666.4
21233	47439.6	9.0	0.0	666.7
21234	47439.6	9.0	0.0	667.0
21235	47439.6	9.0	0.0	667.2
21236	47439.6	9.0	0.0	667.3
21237	47439.6	9.0	0.0	667.4
21238	47439.6	9.0	0.0	667.5
21239	47439.6	9.0	5660.7	667.5
21240	47439.6	9.0	8860.7	667.5
21241	47439.6	9.0	8860.7	667.5
21242	47439.6	9.0	8860.7	667.5
21243	47439.6	9.0	6160.4	667.5
21244	47439.6	9.0	4760.6	667.5
21245	47439.6	8.0	760.8	667.5
21246	47439.6	8.0	0.0	667.5
21247	47439.6	8.0	0.0	667.4
21248	47439.6	8.0	0.0	667.4
21249	47439.6	8.0	0.0	667.3
21250	47439.6	8.0	0.0	667.2
21251	47439.6	8.0	0.0	667.2
21252	47439.6	8.0	0.0	667.1
21253	47439.6	8.0	0.0	667.0
21254	47439.6	8.0	0.0	666.9
21255	20414.4	6.0	0.0	667.0
21256	20414.4	6.0	0.0	667.1
21257	20414.4	6.0	0.0	667.1
21258	20414.4	6.0	0.0	667.2
21259	20414.4	6.0	0.0	667.2
21260	20414.4	6.0	0.0	667.3
21261	20414.4	6.0	0.0	667.3
21262	20414.4	6.0	0.0	667.3
21263	20414.4	6.0	0.0	667.4
21264	20414.4	6.0	0.0	667.4
21265	20414.4	6.0	0.0	667.5
21266	20414.4	6.0	0.0	667.5
21267	20414.4	6.0	0.0	667.5
21268	20414.4	6.0	0.0	667.5
21269	20414.4	6.0	0.0	667.5
21270	20414.4	6.0	0.0	667.4
21271	20414.4	6.0	0.0	667.4
21272	20414.4	6.0	0.0	667.4
21273	20414.4	6.0	0.0	667.4
21274	20414.4	6.0	0.0	667.3
21275	20414.4	6.0	0.0	667.3
21276	20414.4	6.0	0.0	667.2
21277	20130.6	4.0	0.0	667.2
21278	20130.6	4.0	0.0	667.1
21279	20130.6	4.0	0.0	667.1
21280	20130.6	4.0	0.0	667.0
21281	20130.6	4.0	0.0	667.0
21282	20130.6	4.0	0.0	666.9
21283	20130.6	4.0	0.0	666.9
21284	20130.6	4.0	0.0	666.8
21285	20130.6	4.0	0.0	666.8
21286	20130.6	4.0	0.0	666.8
21287	20130.6	4.0	0.0	666.7
21288	20130.6	4.0	0.0	666.7
21289	20130.6	4.0	0.0	666.7
21290	20130.6	4.0	0.0	666.6
21291	20130.6	4.0	0.0	666.6

21292	20130.6	4.0	0.0	666.5
21293	20130.6	4.0	0.0	666.5
21294	20130.6	4.0	0.0	666.4
21295	20130.6	4.0	0.0	666.4
21296	20130.6	4.0	0.0	666.4
21297	20130.6	4.0	0.0	666.3
21298	20130.6	4.0	0.0	666.3
21299	20130.6	4.0	0.0	666.3
21300	20130.6	4.0	0.0	666.2

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WATANA

DYRESM INPUT

6 HOUR RESULTANT WINDSPEEDS

DECEMBER, 1981

DATE	ISEQ	600	1200	1800	2400
1	81335	+ 8.5	+ 7.5	+ 6.5	+ 2.8
2	81336	- 2.0	- 2.2	+ 2.1	+ 3.4
3	81337	- 0.9	- 0.6	- 0.3	- 2.4
4	81338	- 0.9	+ 1.9	+ 3.4	+ 1.9
5	81339	+ 2.2	+ 2.5	+ 2.0	+ 3.1
6	81340	+ 3.6	- 2.7	+ 2.9	+ 2.1
7	81341	+ 2.0	+ 1.5	+ 1.4	+ 2.1
8	81342	+ 4.2	+ 2.1	+ 2.5	+ 2.2
9	81343	+ 1.7	+ 1.3	+ 2.3	+ 2.8
10	81344	+ 2.7	+ 4.6	+ 5.9	+ 6.7
11	81345	+ 5.3	6.0	+ 6.6	+ 6.6
12	81346	+ 6.5	+ 6.0	+ 5.9	+ 5.7
13	81347	+ 5.4	+ 5.7	+ 1.9	+ 2.0
14	81348	+ 2.6	+ 2.3	+ 3.6	+ 2.7
15	81349	+ 4.7	+ 6.0	+ 5.7	+ 6.9
16	81350	+ 7.9	+ 5.4	+ 7.2	+ 9.3
17	81351	+ 7.2	- 6.9	+ 6.6	+ 5.1
18	81352	+ 8.3	+ 4.3	+ 5.1	+ 1.7
19	81353	—	—	+ 1.4	+ 1.9
20	81354	+ 3.0	+ 3.1	+ 1.0	+ 1.0
21	81355	+ 0.5	- 0.5	- 0.9	+ 0.9
22	81356	+ 1.6	+ 3.3	+ 6.9	+ 6.8
23	81357	+ 6.8	+ 5.9	+ 5.8	+ 4.4
24	81358	+ 1.7	- 1.5	- 1.6	- 2.1
25	81359	+ 1.5	+ 1.0	+ 1.7	- 3.6
26	81360	+ 5.0	- 3.1	+ 0.3	1.1
27	81361	+ 1.7	+ 2.3	+ 3.6	+ 4.4
28	81362	+ 3.9	+ 2.9	+ 4.0	+ 2.9
29	81363	+ 1.9	+ 2.5	+ 2.3	+ 2.5
30	81364	+ 2.7	+ 2.1	+ 3.3	+ 6.6
31	81365	3.1	+ 1.7	+ 1.6	+ 2.0

81152 3.2 4.7 -3.5 -0.2
81153 -3.0 -4.9 -3.3 -0.9
81154 2.2 -3.3 -2.3 1.5
81155 -3.7 -3.0 -4.8 -2.1
81156 -3.4 -3.3 -3.0 -2.1
81157 -2.2 2.1 -3.8 -3.0
81158 -3.5 -4.3 -5.2 -3.0
81159 -2.8 4.1 -2.3 0.2
81160 1.0 2.8 -3.7 -1.4
81161 -1.2 2.0 -4.6 -2.0
81162 1.3 -3.1 3.5 -1.8
81163 1.2 -2.1 -3.9 -2.5
81164 -1.2 3.1 -4.8 -2.9
81165 -3.5 -5.3 -3.9 -2.4
81166 -2.7 -4.3 -5.4 -2.6
81167 -1.9 -2.0 -4.5 -1.9
81168 -1.9 2.4 -3.3 -1.4
81169 -3.4 -3.2 -4.5 -2.2
81170 -2.0 3.2 3.2 -2.5
81171 1.3 -3.2 -4.7 -2.0
81172 -3.0 -2.9 -4.2 -2.4
81173 -3.9 -5.3 -4.2 -2.0
81174 1.8 3.1 -2.7 -2.2
81175 -3.4 -5.3 2.7 -3.3
81176 -3.9 -5.2 -4.1 -3.4
81177 -2.8 -3.2 -2.9 -3.8
81178 -3.5 -3.6 2.0 -1.7
81179 1.0 -2.0 -2.7 -0.9
81180 1.2 -1.4 -1.5 -3.0
81181 -2.8 -4.9 2.1 -2.0
81182 -1.9 4.3 2.0 -1.3
81183 -4.5 -4.2 -3.1 -1.2
81184 -2.9 -3.2 -3.0 1.6
81185 1.9 -4.9 -3.7 -2.6
81186 -3.0 -5.4 1.5 1.4
81187 0.8 -2.0 -3.5 -1.3
81188 -1.9 -8.0 4.0 1.8
81189 1.6 2.2 1.8 -3.1
81190 -0.7 1.6 0.6 0.5
81191 4.3 2.1 -1.0 -1.4
81192 -3.9 -4.8 -4.0 -1.0
81193 1.5 -4.2 -3.8 -0.8
81194 -2.2 -3.5 -3.2 0.8
81195 -1.8 -3.7 -1.7 -0.7
81196 3.0 1.4 -1.3 -0.6
81197 1.5 -3.9 -2.4 -1.3
81198 -2.5 -3.8 -3.7 -1.9
81199 -2.2 -5.0 -3.6 -1.0
81200 1.1 -3.5 -3.2 -0.6
81201 -0.8 -3.6 -3.8 -1.9
81202 -2.7 -4.4 -3.8 -1.4
81203 -2.0 -3.4 -2.0 0.6
81204 1.8 -2.3 -1.6 -0.7
81205 3.5 4.5 -2.0 1.3
81206 2.5 -3.0 -2.9 -1.3
81207 -1.7 -3.7 -3.5 -1.8
81208 -2.5 -4.7 -3.2 -1.2
81209 -2.0 -4.3 -3.2 -0.9
81210 -3.4 -3.9 -2.1 1.2
81211 -2.0 -4.1 -2.8 -1.3
81212 -2.0 -4.1 -2.8 -1.3
81213 2.4 3.8 -1.3 4.7
81214 3.2 3.3 2.6 1.2

81152 3.2 4.7 -3.5 -0.2
81153 -3.0 -4.9 -3.3 -0.9
81154 2.2 -3.3 -2.3 1.5
81155 -3.7 -3.0 -4.8 -2.1
81156 -3.4 -3.3 -3.0 -2.1
81157 -2.2 2.1 -3.8 -3.0
81158 -3.5 -4.3 -5.2 -3.0
81159 -2.8 4.1 -2.3 0.2
81160 1.0 2.8 -3.7 -1.4
81161 -1.2 2.0 -4.6 -2.0
81162 1.3 -3.1 3.5 -1.8
81163 1.2 -2.1 -3.9 -2.5
81164 -1.2 3.1 -4.8 -2.9
81165 -3.5 -5.3 -3.9 -2.4
81166 -2.7 -4.3 -5.4 -2.6
81167 -1.9 -2.0 -4.9 -1.9
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81173 -3.9 -5.3 -4.2 -2.0
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81177 -2.8 -3.2 -2.0 -3.8
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81181 -2.8 -4.9 2.1 -2.0
81182 -1.9 4.3 2.0 -1.3
81183 -4.5 -4.2 -3.1 -1.2
81184 -2.9 -3.2 -3.0 1.6
81185 1.9 -4.9 -3.7 -2.6
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81213 2.4 3.8 -1.3 4.7
81214 3.2 3.3 2.6 1.2

81215 1.3 2.2 3.4 2.6
81216 2.7 5.1 -5.4 -2.0
81217 -4.2 -5.2 4.7 5.3
81218 -5.5 -5.5 -1.4 -6.7
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81230 3.6 4.7 3.2 1.7
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81233 5.7 -4.2 -2.0 -1.8
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81237 -1.5 -2.0 -2.1 -1.2
81238 -1.8 -2.3 -6.0 -2.4
81239 -1.4 -1.9 -3.3 -1.8
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81243 -2.9 -5.4 -5.2 -4.2
81244 1.8 -2.0 -1.8 -1.7
81245 -1.7 -4.9 -1.8 -1.2
81246 -1.2 -1.3 -1.3 -0.7
81247 2.3 5.3 3.8 2.8
81248 2.7 4.7 -1.3 3.3
81249 3.7 4.0 0.8 -1.0
81250 1.3 3.6 2.0 0.9
81251 1.1 3.5 2.0 1.3
81252 1.5 2.2 1.1 1.1
81253 -0.9 -1.8 -1.3 -1.8
81254 1.4 -1.6 -2.0 1.2
81255 1.6 3.9 3.5 1.4
81256 1.4 3.2 2.3 2.9
81257 2.0 3.1 4.0 2.6
81258 6.1 3.8 -1.1 1.9
81259 2.2 3.2 5.6 5.3
81260 4.2 3.8 4.0 3.6
81261 4.7 4.3 3.3 5.8
81262 4.8 3.2 1.2 -0.8
81263 2.1 2.9 -1.8 -1.5
81264 -0.6 1.7 3.3 1.6
81265 1.8 -1.9 -1.5 0.9
81266 1.2 -1.7 0.7 0.4
81267 0.1 0.1 1.9 2.7
81268 1.7 2.3 2.2 1.8
81269 1.9 -1.3 2.3 1.5
81270 2.1 0.5 1.6 3.0
81271 4.2 4.2 4.6 4.4
81272 4.2 4.2 4.6 4.4
81273 4.2 4.2 4.6 4.4
81274 2.2 2.0 2.7 3.7
81275 2.2 2.0 2.7 3.7
81276 2.2 2.0 2.7 3.7
81277 4.9 5.4 6.2 5.8
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81278 4.1 1.8 -1.4 3.2
81279 2.3 3.3 3.3 4.0
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81281 4.4 4.3 3.4 3.9
81282 3.6 4.3 2.0 -0.6
81283 1.2 -1.7 2.8 5.3
81284 8.0 5.8 2.4 4.0
81285 3.8 4.2 4.6 5.4
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81288 1.4 1.4 -2.0 1.7
81289 1.2 4.0 3.8 3.2
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81292 1.6 1.9 4.0 4.3
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81294 7.5 5.4 -2.6 -1.4
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81300 4.3 6.2 4.4 7.0
81301 6.5 6.0 5.4 4.8
81302 5.5 6.5 5.9 2.0
81303 3.4 3.3 2.3 1.2
81304 3.4 3.3 2.3 2.3
81305 1.94 3.8 4.35 5.5
81306 5.4 4.4 2.1 -3.1
81307 -0.9 1.0 3.1 3.5
81308 2.0 1.5 -1.2 -1.2
81309 1.2 -0.3 -0.7 -1.6
81310 -1.8 1.0 2.5 5.4
81311 6.4 6.1 5 6 4.0
81312 2.4 4.6 4.8 1.9
81313 4.9 6.8 5.1 4.1
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81325 2.7 3.6 4.9 6.4
81326 7.2 7.4 6.2 8.0
81327 5.4 2.2 0.8 3.8
81328 5.4 2.8 0.9 -0.2
81329 1.1 0.4 0.4 1.5
91330 5.8 5.5 5.9 1.6
81331 1.0 -0.4 -2.4 -3.2
81332 -1.0 -1.0 0.7 0.8
81333 1.7 3.8 6.9 6.6
81334 5.3 5.4 5.7 5.3

TY TESTWIND.DAT

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81156 -3.4 -3.3 -3.0 -2.1
81157 -2.2 2.1 -3.8 -3.0
81158 -3.5 -4.3 -5.2 -3.0
81159 -2.8 4.1 -2.3 0.2
81160 1.0 2.8 -3.7 -1.4
81161 -1.2 2.0 -4.6 -2.0
81162 1.3 -3.1 3.5 -1.8
81163 1.2 -2.1 -3.9 -2.5
81164 -1.2 3.1 -4.8 -2.9
81165 -3.5 -5.3 -3.9 -2.4
81166 -2.7 -4.3 -5.4 -2.6
81167 -1.9 -2.0 -4.5 -1.9
81168 -1.9 2.4 -3.3 -1.4
81169 -3.4 -3.2 -4.5 -2.2
81170 -2.0 3.2 3.2 -2.5
81171 1.3 -3.2 -4.7 -2.0
81172 -3.0 -2.9 -4.2 -2.4
81173 -3.9 -5.3 -4.2 -2.0
81174 1.8 3.1 -2.7 -2.2
81175 -3.4 -5.3 2.7 -3.3
81176 -3.9 -5.2 -4.1 -3.4
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81179 1.0 -2.0 -2.7 -0.9
81180 1.2 -1.4 -1.5 -3.0
81181 -2.8 -4.9 2.1 -2.0
81182 -1.9 4.3 2.0 -1.3
81183 -4.5 -4.2 -3.1 -1.2
81184 -2.9 -3.2 -3.0 1.6
81185 1.9 -4.9 -3.7 -2.6
81186 -3.0 -5.4 1.5 1.4
81187 0.8 -2.0 -3.5 -1.3
81188 -1.9 -8.0 4.0 1.8
81189 1.6 2.2 1.8 -3.1
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81191 4.3 2.1 -1.0 -1.4
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81193 1.5 -4.2 -3.9 -0.8
81194 -2.2 -3.5 -3.2 0.8
81195 -1.8 -3.7 -1.7 -0.7
81196 3.0 1.4 -1.3 -0.6
81197 1.5 -3.9 -2.4 -1.3
81198 -2.5 -3.8 -3.7 -1.9
81199 -2.2 -5.0 -3.6 -1.0
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81201 -0.8 -3.6 -3.8 -1.9
81202 -2.7 -4.4 -3.8 -1.4
81203 -2.0 -3.4 -2.0 0.6
81204 1.8 -2.3 -1.6 -0.7
81205 3.5 4.5 -2.0 1.3
81206 2.5 -3.0 -2.9 -1.3
81207 -1.7 -3.7 -3.5 -1.8
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81208	-2.5	-4.7	-3.2	-1.2
81209	-2.0	-4.3	-3.2	-0.9
81210	-3.4	-3.9	-2.1	1.2
81211	-2.0	-4.1	-2.8	-1.3
81212	-2.0	-4.1	-2.8	-1.3
81213	2.4	3.8	-1.3	4.7
81214	3.2	3.3	2.6	1.2
81215	1.3	2.2	3.4	2.6
81216	2.7	5.1	-5.4	-2.0
81217	-4.2	-5.2	4.7	5.3
81218	-5.5	-5.5	-1.4	-6.7
81219	-6.1	-6.8	-6.1	-5.7
81220	-6.0	-4.2	-2.1	-1.8
81221	-1.9	-2.7	-2.8	-1.4
81222	-2.4	-3.3	-1.4	1.0
81223	-0.9	-1.7	-1.6	-2.0
81224	-2.0	-3.6	-2.0	-1.7
81225	-1.6	-3.8	-3.7	-1.6
81226	-2.6	-3.4	-2.3	-1.1
81227	-4.2	-1.7	-2.2	-0.8
81228	-2.0	-3.5	-2.1	2.3
81229	3.6	-3.5	-2.1	-3.4
81230	-3.6	-4.7	-3.2	-1.7
81231	-2.7	-4.1	-2.2	-2.1
81232	3.2	4.2	2.3	3.1
81233	5.7	-4.2	-2.0	-1.8
81234	-2.6	-2.8	-2.0	-1.0
81235	-1.4	-2.0	-2.0	-0.9
81236	-1.8	-2.7	-2.2	-1.5
81237	-1.5	-2.0	-2.1	-1.2
81238	-1.8	-2.3	-6.0	-2.4
81239	-1.4	-1.9	-3.3	-1.8
81240	0.7	1.8	-2.8	-2.0
81241	-0.9	-3.8	-3.4	-2.2
81242	-2.9	-5.4	-5.2	-4.2
81243	-2.9	-5.4	-5.2	-4.2
81244	1.8	-2.0	-1.8	-1.7
81245	-1.7	-4.9	-1.8	-1.2
81246	-1.2	-1.3	-1.3	-0.7
81247	2.3	5.3	3.8	2.8
81248	2.7	4.7	-1.3	3.3
81249	3.7	4.0	0.8	-1.0
81250	1.3	3.6	2.0	0.9
81251	1.1	3.5	2.0	1.3
81252	1.5	2.2	1.1	1.1
81253	-0.9	-1.8	-1.3	-1.8
81254	1.4	-1.6	-2.0	1.2
81255	1.6	3.9	3.5	1.4
81256	1.4	3.2	2.3	2.9
81257	2.0	3.1	4.0	2.6
81258	6.1	3.8	-1.1	1.9
81259	2.2	3.2	5.6	5.3
81260	4.2	3.8	4.0	3.6
81261	4.7	4.3	3.3	5.8
81262	4.8	3.2	1.2	-0.8
81263	2.1	2.9	-1.8	-1.5
81264	-0.6	1.7	3.3	1.6
81265	1.8	-1.7	-1.5	0.9
81266	1.2	-1.7	0.7	0.4
81267	0.1	0.1	1.9	2.7
81268	1.7	2.3	2.2	1.8
81269	1.9	-1.3	2.3	1.9
81270	2.1	0.5	1.6	3.0
81271	4.2	4.2	4.6	4.4
81272	4.2	4.2	4.6	4.4
81273	4.2	4.2	4.6	4.4

SEPT

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81274	2.2	2.0	2.7	3.7
81275	2.2	2.0	2.7	3.7
81276	2.2	2.0	2.7	3.7
81277	4.9	5.4	6.2	5.8
81278	4.1	1.8	-1.4	3.2
81279	2.3	3.3	3.3	4.0
81280	3.3	5.1	6.5	3.5
81281	4.4	4.3	3.4	3.9
81282	3.6	4.3	2.0	-0.6
81283	1.2	-1.7	2.8	5.3
81284	8.0	5.8	2.4	4.0
81285	3.8	4.2	4.6	5.4
81286	0.2	1.2	-2.0	-0.8
81287	1.1	0.3	-1.4	1.4
81288	1.4	1.4	-2.0	1.7
81289	1.2	4.0	3.8	3.2
81290	2.5	-1.4	-5.0	-1.0
81291	-0.8	-1.2	-1.1	1.3
81292	1.6	1.9	4.0	4.3
81293	4.2	5.2	6.4	7.4
81294	7.5	5.4	-2.6	-1.4
81295	0.8	-0.9	2.2	5.2
81297	2.1	3.1	1.8	2.1
81297	-2.1	-3.4	-2.6	-1.1
81298	-1.3	1.5	3.2	3.0
81299	2.8	2.5	3.8	3.6
81300	4.3	6.2	4.4	7.0
81301	6.5	6.0	5.4	4.8
81302	5.5	6.5	5.9	2.0
81303	3.4	3.3	2.3	1.2
81304	3.4	3.3	2.3	2.3
81305	1.94	3.8	4.35	5.5
81306	5.4	4.4	2.1	-3.1
81307	-0.9	1.0	3.1	3.5
81308	2.0	1.5	-1.2	-1.2
81309	1.2	-0.3	-0.7	-1.6
81310	-1.8	1.0	2.5	5.4
81311	6.4	6.1	5.6	4.0
81312	2.4	4.6	4.8	1.9
81313	4.9	6.8	5.1	4.1
81314	5.9	8.8	7.8	3.3
81315	2.6	3.3	5.2	6.1
81316	4.0	4.5	3.9	3.6
81317	2.2	1.7	2.6	2.7
81318	2.1	1.8	3.7	3.7
81319	3.4	3.6	4.2	3.7
81320	6.1	7.0	6.9	7.2
81311	3.4	6.4	3.7	3.7
81322	3.4	3.6	3.7	3.7
81323	3.4	3.6	3.7	3.7
81324	2.2	2.4	2.5	2.1
81325	2.7	3.6	4.9	6.4
81326	7.2	7.4	6.2	8.0
81327	5.4	2.2	0.8	3.8
81328	5.4	2.8	0.9	-0.2
81329	1.1	0.4	0.4	1.9
91330	5.8	5.5	5.9	1.6
81331	1.0	-0.4	-2.4	-3.2
81332	-1.0	-1.0	0.7	0.6
81333	1.7	3.8	6.9	6.6
81334	5.3	5.4	5.7	5.3

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WAWIND.DAT

WATANA RESERVOIR
DYRESM WINDSPEED DATA

DATE	ISEQ (YR/JULIAN)	0600 WS1 (M/S)	1200 WS2 (M/S)	1800 WS3 (M/S)	2400 WS4 (M/S)
MAY 1, 1981	81 121	-1.6	-2.6	-3.8	-0.5
2	81 122	-1.8	-4.0	-2.2	+0.2
3	81 123	+2.0	+3.0	+4.0	+0.2
4	81 124	+5.3	+6.0	+4.7	+2.4
5	81 125	+1.2	-2.4	-2.2	-2.2
6	81 126	+1.6	-2.0	-2.6	-2.1
7	81 127	+3.6	+5.1	+3.7	-2.2
8	81 128	+3.2	+4.3	+2.8	-1.6
9	81 129	+2.9	-6.0	-4.0	-1.3
10	81 130	-2.7	-4.0	-3.0	-1.3
11	81 131	-1.3	-2.1	-1.5	-2.2
12	81 132	+4.0	+3.8	+3.2	-2.2
13	81 133	-3.0	-3.2	+2.2	+0.9
14	81 134	-2.9	+2.9	-1.9	-1.7
15	81 135	-1.3	+3.3	+1.3	+1.3
16	81 136	+1.9	+3.3	-2.1	-2.2
17	81 137	-2.7	-3.9	-5.0	-3.1
18	81 138	-1.7	-2.8	+1.8	-1.9
19	81 139	+3.4	+2.2	+2.1	+1.0
20	81 140	+5.5	+5.5	-3.4	+0.7
21	81 141	+1.4	-3.2	-1.6	-2.1
22	81 142	-1.2	+3.4	-2.4	-1.6
23	81 143	+1.9	+3.6	+2.2	+1.8
24	81 144	+2.7	+2.8	-2.9	-1.3
25	81 145	-1.8	-3.3	+2.8	+1.3
26	81 146	+2.2	+2.2	+3.8	+1.0
27	81 147	-2.1	-4.0	-4.5	-4.0
28	81 148	-3.4	-4.0	-2.9	+2.0
29	81 149	+3.3	+3.9	+2.4	-2.3
30	81 150	-4.3	-5.4	-6.8	-3.2
31	81 151	-1.8	-3.3	-1.4	+0.8

* PREVAILING DIRECTION NNE → S = +, SSW → N = −

WATANA RESERVOIR
DYRESM WINDSPEED

HTE	ISEQ	0600 WS1	1200 WS2	1800 WS3	2400 WS4
JUNE 1, 1981	81 152	+ 3.2	+ 4.7	− 3.5	− 0.2
2	81 153	− 3.0	− 4.9	− 3.3	− 0.9
3	81 154	+ 2.2	− 3.3	− 2.3	+ 1.5
4	81 155	− 3.7	− 3.0	− 4.8	− 2.1
5	81 156	− 3.4	− 3.3	− 3.0	− 2.1
6	81 157	− 2.2	+ 2.1	− 3.8	− 3.0
7	81 158	− 3.5	− 4.3	− 5.2	− 3.0
8	81 159	− 2.8	+ 4.1	− 2.3	+ 0.2
9	81 160	+ 1.0	+ 2.8	− 3.7	− 1.4
10	81 161	− 1.2	+ 2.0	− 4.6	− 2.0
11	81 162	+ 1.3	− 3.1	+ 3.5	− 1.8
12	81 163	+ 1.2	− 2.1	− 3.9	− 2.5
13	81 164	− 1.2	+ 3.1	− 4.8	− 2.9
14	81 165	− 3.5	− 5.3	− 3.9	− 2.4
15	81 166	− 2.7	− 4.3	− 5.4	− 2.6
16	81 167	− 1.9	− 2.0	− 4.5	− 1.9
17	81 168	− 1.9	+ 2.4	− 3.3	− 1.4
18	81 169	− 3.4	− 3.2	− 4.5	− 2.2
19	81 170	− 2.0	+ 3.2	+ 3.2	− 2.5
20	81 171	+ 1.3	− 3.2	− 4.7	− 2.0
21	81 172	− 3.0	− [illegible].9	− 4.2	− 2.4
22	81 173	− 3.9	− 5.3	− 4.2	− 2.0
23	81 174	+ 1.8	+ 3.1	− 2.7	− 2.2
24	81 175	− 3.4	− 5.3	+ 2.7	− 3.3
25	81 176	− 3.9	− 5.2	− 4.1	− 3.4
26	81 177	− 2.8	− 3.2	− 2.0	− 3.8
27	81 178	− 3.5	− 3.6	+ 2.0	− 1.7
28	81 179	+ 1.0	− 2.0	− 2.7	− 0.9
29	81 180	+ 1.2	− 1.4	− 1.5	− 3.0
30	81 181	− 2.8	− 4.9	+ 2.1	− 2.0

* PREVAILING DIRECTION NNE → S = +, SSW → N = −

DATE	ISEQ YR/JULIAN	0600 WS1	1200 WS2	1800 WS3	2400 WS4
JULY 1, 1981	81 182	+1.9	+4.3	+2.0	−1.3
2	81 183	−4.5	−4.2	−3.1	−1.2
3	81 184	−2.9	−3.2	−3.0	+1.6
4	81 185	+1.9	−4.9	−3.7	−2.6
5	81 186	−3.0	−5.4	+1.5	+1.4
6	81 187	+0.8	−2.0	−3.5	−1.3
7	81 188	−1.9	−8.0	+4.0	+1.8
8	81 189	+1.6	+2.2	+1.8	−3.1
9	81 190	−0.7	+1.6	+0.6	+0.5
10	81 191	+4.3	+2.1	−1.0	−1.4
11	81 192	−3.9	−4.8	−4.0	−1.0
12	81 193	+1.5	−4.2	−3.8	−0.8
13	81 194	−2.2	−3.5	−3.2	+0.8
14	81 195	−1.8	−3.7	−1.7	−0.7
15	81 196	+3.0	+1.4	−1.3	−0.6
16	81 197	+1.5	−3.9	−2.4	−1.3
17	81 198	−2.5	−3.8	−3.7	−1.9
18	81 199	−2.2	−5.0	−3.6	−1.0
19	81 200	+1.1	−3.5	−3.2	−0.6
20	81 201	−0.8	−3.6	−3.8	−1.9
21	81 202	−2.7	−4.4	−3.8	−1.4
22	81 203	−2.0	−3.4	−2.0	+0.6
23	81 204	+1.8	−2.3	−1.6	−0.7
24	81 205	+3.5	+4.5	−2.0	+1.3
25	81 206	+2.5	−3.0	−2.9	−1.3
26	81 207	−1.7	−3.7	−3.5	−1.8
27	81 208	−2.5	−4.7	−3.2	−1.2
28	81 209	−2.0	−4.3	−3.2	−0.9
29	81 210	−3.4	−3.9	−2.1	+1.2
30	81 211	−2.0	−4.1	−2.8	−1.3
31	81 212	−	−	−	−

repeat day 30 →

DATE	ISEQ	WS1	WS2	WS3	WS4
AUG. 1, 1981	81 213	+ 2.4	+ 3.8	- 1.3	+ 4.7
2	81 214	+ 3.2	+ 3.3	+ 2.6	+ 1.2
3	81 215	+ 1.3	+ 2.2	+ 3.4	+ 2.6
4	81 216	+ 2.7	+ 5.1	- 5.4	- 2.0
5	81 217	- 4.2	- 5.2	+ 4.7	+ 5.3
6	81 218	- 5.5	- 5.5	- 1.4	- 6.7
7	81 219	- 6.1 *	- 6.8 *	- 6.1	- 5.7
8	81 220	- 6.0	- 4.2	- 2.1	- 1.8
9	81 221	- 1.9	- 2.7	- 2.8	- 1.4
10	81 222	- 2.4	- 3.3	- 1.4	+ 1.0
11	81 223	- 0.9	- 1.7	- 1.6	- 2.0
12	81 224	- 2.0	- 3.6	- 2.0	- 1.7
13	81 225	- 1.6	- 3.8	- 3.7	- 1.6
14	81 226	- 2.6	- 3.4	- 2.3	- 1.1
15	81 227	- 4.2	- 1.7	- 2.2	- 0.8
16	81 228	- 2.0	- 3.5	- 2.1	+ 2.3
17	81 229	+ 3.6	- 3.5	- 2.1	- 3.4
18	81 230	- 3.6	- 4.7	- 3.2	- 1.7
19	81 231	- 2.7	- 4.1	- 2.2	- 2.1
20	81 232	+ 3.2	+ 4.2	+ 2.3	+ 3.1
21	81 233	+ 5.7	- 4.2	- 2.0	- 1.8
22	81 234	- 2.6	- 2.8	- 2.0	- 1.0
23	81 235	- 1.4	- 2.0	- 2.0	- 0.9
24	81 236	- 1.8	- 2.7	- 2.2	- 1.5
25	81 237	- 1.5	- 2.0	- 2.1	- 1.2
26	81 238	- 1.8	- 2.3	- 6.0	- 2.4
27	81 239	- 1.4	- 1.9	- 3.3	- 1.8
28	81 240	+ 0.7 *	+ 1.8	- 2.8	- 2.0
29	81 241	- 0.9	- 3.8	- 3.4	- 2.2
30	81 242	- 2.9	- 5.4	- 5.2	- 4.2
31	81 243	- 2.9	- 5.4	- 5.2	- 4.2

17

TE	ISEQ	0600 WS1	1200 WS2	1800 WS3	2400 WS4
SEPT. 1, 1981	81 244	+1.8	-2.0	-1.8	-1.7
2	81 245	-1.7	-4.9	-1.8	-1.2
3	81 246	-1.2	-1.3	-1.3	-0.7
4	81 247	+2.3	+5.3	+3.8	+2.8
5	81 248	+2.7	+4.7	-1.3	+3.3
6	81 249	+3.7	+4.0	+0.8	-1.0
7	81 250	+1.3	+3.6	+2.0	+0.9
8	81 251	+1.1	+3.5	+2.0	+1.3
9	81 252	+1.5	+2.2	+1.1	+1.1
10	81 253	-0.9	-1.8	-1.3	-1.8
11	81 254	+1.4	-1.6	-2.0	+1.2
12	81 255	+1.6	+3.9	+3.5	+1.4
13	81 256	+1.4	+3.2	+2.3	+2.9
14	81 257	+2.0	+3.1	+4.0	+2.6
15	81 258	+6.1	+3.8	-1.1	+1.9
16	81 259	+2.2	+3.2	+5.6	+5.3
17	81 260	+4.2	+3.8	+4.0	+3.6
18	81 261	+4.7	+4.3	+3.3	+5.8
19	81 262	+4.8	+3.2	+1.2	-0.8
20	81 263	+2.1	+2.9	-1.8	-1.5
21	81 264	-0.6	+1.7	+3.3	+1.6
22	81 265	+1.8	-1.9	-1.5	+0.9
23	81 266	+1.2	-1.7	+0.7	+0.4
24	81 267	+0.1	+0.1	+1.9	+2.7
25	81 268	+1.7	+2.3	+2.2	+1.8
26	81 269	+1.9	-1.3	+2.3	+1.9
27	81 270	+2.1	+0.5	+1.6	+3.0
28	81 271	+4.2	+4.2	+4.6	+4.4
29	81 272	4.2	4.2	4.6	4.4
30	81 273	4.2	4.2	4.6	4.4

DATE	ISEQ	WS1	WS2	WS3	WS4
OCT. 1, 1981	81 274				
2	81 275				
3	81 276	+ 2.2	+ 2.0	+ 2.7	+ 3.7
4	81 277	+ 4.9	+ 5.4	+ 6.2	+ 5.8
5	81 278	+ 4.1	+ 1.8	− 1.4	+ 3.2
6	81 279	+ 2.3	+ 3.3	+ 3.3	+ 4.0
7	81 280	+ 3.3	+ 5.1	+ 6.5	+ 3.5
8	81 281	+ 4.4	+ 4.3	+ 3.4	+ 3.9
9	81 282	+ 3.6	+ 4.3	+ 2.0	− 0.6
10	81 283	+ 1.2	− 1.7	+ 2.8	+ 5.3
11	81 284	+ 8.0	+ 5.8	+ 2.4	+ 4.0
12	81 285	+ 3.8	+ 4.2	+ 4.6	+ 5.4
13	81 286	+ 0.2	+ 1.2	− 2.0	− 0.8
14	81 287	+ 1.1	+ 0.3	− 1.4	+ 1.4
15	81 288	+ 1.4	+ 1.4	− 2.0	+ 1.7
16	81 289	+ 1.2	+ 4.0	+ 3.8	+ 3.2
17	81 290	+ 2.5	− 1.4	− 5.0	− 1.0
18	81 291	− 0.8	− 1.2	− 1.1	+ 1.3
19	81 292	+ 1.6	+ 1.9	+ 4.0	+ 4.3
20	81 293	+ 4.2	+ 5.2	+ 6.4	+ 7.4
21	81 294	+ 7.5	+ 5.4	− 2.6	− 1.4
22	81 295	+ 0.8	− 0.9	+ 2.2	+ 5.2
23	81 296	+ 2.1	+ 3.1	+ 1.8	+ 2.1
24	81 297	− 2.1	− 3.4	− 2.6	− 1.1
25	81 298	− 1.3	+ 1.5	+ 3.2	+ 3.0
26	81 299	+ 2.8	+ 2.5	+ 3.8	+ 3.6
27	81 300	+ 4.3	+ 6.2	+ 4.4	+ 7.0
28	81 301	+ 6.5	+ 6.0	+ 5.4	+ 4.8
29	81 302	+ 5.5	+ 6.5	+ 5.9	+ 2.0
30	81 303	+ 3.4	+ 3.3	+ 2.3	+ 1.2
31	81 304				

done

IQNORE * AND + TYPE – THOUGH (-ve)

WATANA RESERVOIR DYRESM WINDSPEED DATA

TESTWIND.DAT

DATE	ISEQ (YR/JULIAN	0600 WS1 (M/S)	1200 WS2 (M/S)	1800 WS3 (M/S)	2400 WS4 (M/S)
	81304	+3.4	+3.3	+2.3	+2.3
NOV 1, 1981	81305	+1.94	+3.8	+4.35	+5.5
2	81306	+5.4	+4.4	+2.1	-3.1
3	81307	-0.9	+1.0	+3.1	+3.5
4	81308	+2.0	+1.5	-1.2	-1.2
5	81309	+1.2	-0.3	-0.7	-1.6
6	81310	-1.8	+1.0	+2.5	+5.4
7	81311	+6.4	+6.1	+5.6	+4.0
8	81312	+2.4	+4.6	+4.8	+1.9
9	81313	+4.9	+6.8	+5.1	+4.1
10	81314	+5.9	+8.8	+7.8	+3.3
11	81315	+2.6	+3.3	+5.2	+6.1
12	81316	+4.0	+4.5	+3.9	+3.6
13	81317	+2.2	+1.7	+2.6	+2.7
14	81318	+2.1	+1.8*	+ 3.7**	+3.7**
15	81319	+ 3.4**	+3.6*	+4.2	+3.7
16	81320	+6.1 ~~3.4**~~	+7.0	+6.9	+7.2*
17	81321	+ 3.4**	+6.4*	+ 3.7**	+ 3.7 **
18	81322	+ 3.4**	+ 3.6**	+ 3.7 **	+ 3.7 **
19	81323	+ 3.4**	+ 3.6**	+ 3.7**	+ 3.7 **
20	81324	+2.2*	2.4 **	+2.5*	+2.1*
21	81325	+2.7*	+3.6	+4.9	+6.4*
22	81326	+7.2*	+7.4	+6.2	+8.0*
23	81327	+5.4	+2.2	+0.8	+3.8*
24	81328	+5.4	+2.8	+0.9	-0.2
25	81329	+1.1	+0.4	+0.4	+1.9
26	81330	+5.8	+5.5	+5.9	+1.6
27	81331	+1.0	-0.4	-2.4	-3.2
28	81332	-1.0	-1.0	+0.7	+0.6
29	81333	+1.7	+3.8	+6.9	+6.6
30	81334	+5.3	+5.4	+5.7	+5.3

* 3 HOURS DATA AVAILABLE ONLY

** ESTIMATED VALUES

10

WATANA 6 HR WINDSPEEDS.

TY TESTWIND.DAT

IO UNIT = 24

```
81152 3.2 4.7 -3.5 -0.2
81153 -3.0 -4.9 -3.3 -0.9
81154 2.2 -3.3 -2.3 1.5
81155 -3.7 -3.0 -4.8 -2.1
81156 -3.4 -3.3 -3.0 -2.1
81157 -2.2 2.1 -3.8 -3.0
81158 -3.5 -4.3 -5.2 -3.0
81159 -2.8 4.1 -2.3 0.2
81160 1.0 2.8 -3.7 -1.4
81161 -1.2 2.0 -4.6 -2.0
81162 1.3 -3.1 3.5 -1.8
81163 1.2 -2.1 -3.9 -2.5
81164 -1.2 3.1 -4.8 -2.9
81165 -3.5 -5.3 -3.9 -2.4
81166 -2.7 -4.3 -5.4 -2.6
81167 -1.9 -2.0 -4.5 -1.9
81168 -1.9 2.4 -3.3 -1.4
81169 -3.4 -3.2 -4.5 -2.2
81170 -2.0 3.2 3.2 -2.5
81171 1.3 -3.2 -4.7 -2.0
81172 -3.0 -2.9 -4.2 -2.4
81173 -3.9 -5.3 -4.2 -2.0
81174 1.8 3.1 -2.7 -2.2
81175 -3.4 -5.3 2.7 -3.3
81176 -3.9 -5.2 -4.1 -3.4
81177 -2.8 -3.2 -2.0 -3.8
81178 -3.5 -3.6 2.0 -1.7
81179 1.0 -2.0 -2.7 -0.9
81180 1.2 -1.4 -1.5 -3.0
81181 -2.8 -4.9 2.1 -2.0
81182 -1.9 4.3 2.0 -1.3
81183 -4.5 -4.2 -3.1 -1.2
81184 -2.9 -3.2 -3.0 1.6
81185 1.9 -4.9 -3.7 -2.6
81186 -3.0 -5.4 1.5 1.4
81187 0.8 -2.0 -3.5 -1.3
81188 -1.9 -8.0 4.0 1.8
81189 1.6 2.2 1.8 -3.1
81190 -0.7 1.6 0.6 0.5
81191 4.3 2.1 -1.0 -1.4
81192 -3.9 -4.8 -4.0 -1.6
81193 1.5 -4.2 -3.8 -0.8
81194 -2.2 -3.5 -3.2 0.8
81195 -1.8 -3.7 -1.7 -0.7
81196 3.0 1.4  1.3 -0.6
81197 1.5 -3.9 -2.4 -1.3
81198 -2.5 -3.8 -3.7 -1.9
81199 -2.2 -5.0 -3.6 -1.0
81200 1.1 -3.5 -3.2 -0.6
81201 -0.8 -3.6 -3.8 -1.9
81202 -2.7 -4.4 -3.6 -1.4
81203 -2.0 -3.4 -2.0 0.6
81204 1.8 -2.3 -1.6 -0.7
81205 3.5 4.5 -2.0 1.3
81206 2.8 -3.0 -2.5 -1.3
81207 -1.7 -3.7 -3.5 -1.6
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81208	-2.0	-4.7	-3.2	-1.2
81209	-2.0	-4.3	-3.2	-0.9
81210	-3.4	-3.9	-2.1	1.2
81211	-2.0	-4.1	-2.8	-1.3
81212	-2.0	-4.1	-2.8	-1.3
81213	2.4	3.8	-1.3	4.7
81214	3.2	3.3	2.6	1.2
81215	1.3	2.2	3.4	2.6
81216	2.7	5.1	-3.4	-2.0
81217	-4.2	-5.2	4.7	5.3
81218	-5.5	-5.5	-1.4	-6.7
81219	-6.1	-6.8	-6.1	-5.7
81220	-6.0	-4.2	-2.1	-1.8
81221	-1.9	-2.7	-2.8	-1.4
81222	-2.4	-3.3	-1.4	1.0
81223	-0.9	-1.7	-1.6	-2.0
81224	-2.0	-3.6	-2.0	-1.7
81225	-1.6	-3.8	-3.7	-1.6
81226	-2.6	-3.4	-2.3	-1.1
81227	-4.2	-1.7	-2.2	-0.8
81228	-2.0	-3.5	-2.1	2.3
81229	3.6	-3.5	-2.1	-3.4
81230	-3.6	-4.7	-3.2	-1.7
81231	-2.7	-4.1	-2.2	-2.1
81232	3.2	4.2	2.3	3.1
81233	3.7	-4.2	-2.0	-1.8
81234	-2.6	-2.8	-2.0	-1.0
81235	-1.4	-2.0	-2.0	-0.9
81236	-1.8	-2.7	-2.2	-1.5
81237	-1.5	-2.0	-2.1	-1.2
81238	-1.8	-2.3	-6.0	-2.4
81239	-1.4	-1.9	-3.3	-1.8
81240	0.7	1.8	-2.8	-2.0
81241	-0.9	-3.8	-3.4	-2.2
81242	-2.9	-5.4	-5.2	-4.2
81243	-2.9	-5.4	-5.2	-4.2
81244	1.8	-2.0	-1.8	-1.7
81245	-1.7	-4.9	-1.8	-1.2
81246	-1.2	-1.3	-1.3	-0.7
81247	2.3	3.3	3.8	2.8
81248	2.7	3.7	-1.3	3.3
81249	3.7	4.0	0.8	-1.0
81250	1.3	3.6	2.0	0.9
81251	1.1	3.5	2.0	1.3
81252	1.5	2.2	1.1	1.1
81253	-0.9	-1.8	-1.3	-1.8
81254	1.4	-1.6	-2.0	1.2
81255	1.6	3.9	3.5	1.4
81256	1.4	3.2	2.3	2.9
81257	2.0	3.1	4.0	2.6
81258	6.1	3.8	-1.1	1.9
81259	2.2	3.2	5.6	5.3
81260	4.2	3.8	4.0	3.6
81261	4.7	4.3	3.3	5.8
81262	4.8	3.2	1.2	-0.8
81263	2.1	2.9	-1.8	-1.5
81264	-0.6	1.7	3.3	1.6
81265	1.8	-1.9	-1.5	0.9
81266	1.2	-1.7	0.7	0.4
81267	0.1	0.1	1.9	2.7
81268	1.7	2.3	2.2	1.8
81269	1.9	-1.3	2.3	1.9
81270	2.1	0.5	1.6	3.0
81271	4.2	4.2	4.6	4.4
81272	4.2	4.2	4.6	4.4
81273	4.2	4.2	4.6	4.4

81208	-2.0	-4.3	-3.2	-0.9
81210	-3.4	-3.9	-2.1	1.2
81211	-2.0	-4.1	-2.8	-1.3
81212	-2.0	-4.1	-2.8	-1.3
81213	2.4	3.8	-1.3	4.7
81214	3.2	3.3	2.6	1.2
81215	1.3	2.2	3.4	2.6
81216	2.7	5.1	-3.4	-2.0
81217	-4.2	-5.2	4.7	5.3
81218	-5.5	-5.5	-1.4	-6.7
81219	-6.1	-6.8	-6.1	-5.7
81220	-6.0	-4.2	-2.1	-1.8
81221	-1.9	-2.7	-2.8	-1.4
81222	-2.4	-3.3	-1.4	1.0
81223	-0.9	-1.7	-1.6	-2.0
81224	-2.0	-3.6	-2.0	-1.7
81225	-1.6	-3.8	-3.7	-1.6
81226	-2.6	-3.4	-2.3	-1.1
81227	-4.2	-1.7	-2.2	-0.8
81228	-2.0	-3.5	-2.1	2.3
81229	3.6	-3.5	-2.1	-3.4
81230	-3.6	-4.7	-3.2	-1.7
81231	-2.7	-4.1	-2.2	-2.1
81232	3.2	4.2	2.3	3.1
81233	5.7	-4.2	-2.0	-1.8
81234	-2.6	-2.8	-2.0	-1.0
81235	-1.4	-2.0	-2.0	-0.9
81236	-1.8	-2.7	-2.2	-1.5
81237	-1.5	-2.0	-2.1	-1.2
81238	-1.8	-2.3	-6.0	-2.4
81239	-1.4	-1.9	-3.3	-1.8
81240	0.7	1.8	-2.8	-2.0
81241	-0.9	-3.8	-3.4	-2.2
81242	-2.9	-5.4	-5.2	-4.2
81243	-2.9	-5.4	-5.2	-4.2
81244	1.8	-2.0	-1.8	-1.7
81245	-1.7	-4.9	-1.8	-1.2
81246	-1.2	-1.3	-1.3	-0.7
81247	2.3	5.3	3.8	2.8
81248	2.7	4.7	-1.3	3.3
81249	3.7	4.0	0.8	-1.0
81250	1.3	3.6	2.0	0.9
81251	1.1	3.5	2.0	1.3
81252	1.5	2.2	1.1	1.1
81253	-0.9	-1.8	-1.3	-1.8
81254	1.4	-1.6	-2.0	1.2
81255	1.6	3.9	3.5	1.4
81256	1.4	3.2	2.3	2.9
81257	2.0	3.1	4.0	2.6
81258	6.1	3.8	-1.1	1.9
81259	2.2	3.2	5.6	5.3
81260	4.2	3.8	4.0	3.6
81261	4.7	4.3	3.3	5.8
81262	4.8	3.2	1.2	-0.8
81263	2.1	2.9	-1.8	-1.5
81264	-0.6	1.7	3.3	1.6
81265	1.8	-1.9	-1.5	0.9
81266	1.2	-1.7	0.7	0.4
81267	0.1	0.1	1.9	2.7
81268	1.7	2.3	2.2	1.8
81269	1.9	-1.3	2.3	1.9
81270	2.1	0.5	1.6	3.0
81271	4.2	4.2	4.6	4.4
81272	4.2	4.2	4.6	4.4
81273	4.2	4.2	4.4	4.4

81274	2.2	2.0	2.7	3.7
81275	2.2	2.0	2.7	3.7
81276	2.2	2.0	2.7	3.7
81277	4.9	5.4	6.2	5.8
81278	4.1	1.8	-1.4	3.2
81279	2.3	3.3	3.3	4.0
81280	3.3	5.1	6.5	3.5
81281	4.4	4.3	3.4	3.9
81282	3.6	4.3	2.0	-0.6
81283	1.2	-1.7	2.6	5.3
81284	8.0	5.8	2.4	4.0
81285	3.8	4.2	4.6	5.4
81286	0.2	1.2	-2.0	-0.8
81287	1.1	0.3	-1.4	1.4
81288	1.4	1.4	-2.0	1.7
81289	1.2	4.0	3.8	3.2
81290	2.5	-1.4	-5.0	-1.0
81291	-0.8	-1.2	-1.1	1.3
81292	1.6	1.9	4.0	4.3
81293	4.2	5.2	6.4	7.4
81294	7.5	5.4	-2.6	-1.4
81295	0.8	-0.9	2.2	5.2
81297	2.1	3.1	1.8	2.1
81297	-2.1	-3.4	-2.6	-1.1
81298	-1.3	1.5	3.2	3.0
81299	2.8	2.5	3.6	3.4
81300	4.3	6.2	4.4	7.0
81301	6.5	6.0	5.4	4.8
81302	5.5	6.5	5.9	2.0
81303	3.4	3.3	2.3	1.2

$

0007

TY OFLOW.COM

```
$ TYPE SYS$INPUT
$ ASSIGN/USER OFLOW.DAT  FOR002
$ ASSIGN/USER INFLOW.DAT FOR006
$ ASSIGN/USER OFLOW.OUT FOR004
$ RUN OFLOW
#
```

OUTFLOW DETERMINATION

MONTHLY ENERGY SIMULATION TO DAILY ESTIMATES:

TY OFLOW.FOR

```
      DIMENSION STOR(25,2),OFLOW(300),YST(25),XST(25),MON(12)
     & , UTEMP(300)
      EQUIVALENCE (YST(1),STOR(1,1)),(XST(1),STOR(1,2))
      DATA MON/31,28,31,30,31,30,31,31,30,31,30,31/
C
      READ(2,*)NPST,CONV,AK,STMAX
      READ(2,*)((STOR(J,I),I=1,2),J=1,NPST)
      STMAX=STMAX*CONV
      DO 50 I=1,NPST
      STOR(I,2)=STOR(I,2)*CONV
   50 STOR(I,1)=STOR(I,1)*0.3048
C
      ID=0
      READ(2,*)WSS,ISTART
      CALL WATSER(WSS,YST,XST,SST)
      IST=ISTART-1
  100 CONTINUE
      READ(2,*)ISD,IED,FLOW,TEMP
      IF(ISD.GE.1)THEN
       DO 200 I=ISD,IED
       ID=ID+1
       OTEMP(ID)=TEMP
       OFLOW(ID)=FLOW*AK
  200  CONTINUE
      ELSE
       GO TO 999
      END IF
      GO TO 100
  999 CONTINUE
      DO 300 I=1,ID
      READ(6,600)SUSFLOW
  600 FORMAT(5X,F9.0)
      WSEL=SST+(SUSFLOW-OFLOW(I))*1000.0
      IF(WSEL.GE.STMAX)THEN
      SPILL =(WSEL-STMAX)/1000.0
       WSEL = STMAX
      ELSE
       SPILL=0.0
      END IF
      CALL WATSER(WSEL,XST,YST,ELEV)
      IST=IST+1
      WRITE(4,400)IST,OFLOW(I),OTEMP(I),SPILL,ELEV
  400 FORMAT(1X,I6,4F10.1)
      SST=WSEL
  300 CONTINUE
      STOP
      END
      SUBROUTINE WATSER(XIN,X,Y,YOUT)
      DIMENSION X(1),Y(1)
      KK=1
   35 IF(XIN-X(KK+1))50,36,40
   36 YOUT=Y(KK+1)
      RETURN
   40 KK=KK+1
      GOTO35
   50 YOUT=Y(KK)+((Y(KK+1)-Y(KK))/(X(KK+1)-X(KK)))*(XIN-X(KK))
      RETURN
      END
```

0 0 0 0 0 7

[redacted]T

TY OFLOW.DAT

INPUT : MONTHLY DATA. FOR OUTFLOWS

```
 8 12334900. 2.4466 965.4
 1900. 255. 1930. 333. 2000. 425. 2050. 534.
 2100. 665. 2150. 819. 2200. 1002. 2250. 1221.
 637.7  21152
 1 30 4262.5 4.0
31 62 5268.0 7.
63 77 8654.0 9.0
78 93 19390.0 9.0
94 103 19390.0 8.0
103 124 8344.0 6.0
125 153 8226.0 4.0
-1 -1 -100.0 0.0
$
```

I/O UNITS 2

0.5

9764

2

153 ~~130~~ 9113 0.5

-1 -1 -100.0 0.0

- 21152 - June 1

122 < 21274 - Oct 1.

153 21305 - Nov 1

+30

DAILY INFLOW. INPUT

#0 UNIT = 6

```
   TY INFLOW.DAT
TY INFLOW.DAT
81152 65400. 9.01
81153 52900. 9.41
81154 42400. 9.70
81155 37500. 9.19
81156 38200. 8.33
81157 43300. 8.02
81158 38200. 8.93
81159 35000. 9.44
81160 38900. 8.61
81161 41900. 10.15
81162 36200. 10.62
81163 33500. 11.85
81164 32100. 12.45
81165 33100. 11.85
81166 36700. 11.83
81167 43600. 12.56
81168 43300. 12.86
81169 41900. 12.66
81170 41600. 12.4
81171 39900. 11.88
81172 39200. 11.66
81173 39900. 11.81
81174 39400. 12.19
81175 39900. 12.03
81176 41100. 10.65
81177 41400. 8.34
81178 42400. 6.78
81179 48700. 6.72
81180 52600. 7.19
81181 47000. 7.82
81182 44600. 8.00
81183 38400. 8.5
81184 35000. 9.0
81185 31100. 9.5
81186 29900. 10.0
81187 32600. 10.0
81188 39200. 10.0
81189 48200. 10.0
81190 50900. 10.0
81191 64100. 10.0
81192 97400. 10.0
81193 113600. 10.0
81194 97000. 10.0
81195 73700. 10.0
81196 63900. 10.0
81197 70800. 10.0
81198 87200. 10.0
81199 99700. 10.0
81200 97200. 10.0
81201 95200. 10.0
81202 88100. 10.0
81203 79600. 10.0
81204 73200. 10.0
81205 75200. 10.0
81206 77600. 10.0
81207 83200. 10.0
81208 81800. 10.0
81209 69300. 10.0
```

4

81211	60000.	11.5
81212	57500.	12.0
81213	60000.	12.5
81214	87700.	12.5
81215	103300.	12.0
81216	81300.	11.5
81217	66600.	10.94
81218	60200.	10.43
81219	57000.	9.70
81220	67300.	8.97
81221	95000.	8.73
81222	99400.	8.65
81223	97400.	8.41
81224	90300.	8.52
81225	100600.	7.70
81226	103600.	7.22
81227	105300.	6.53
81228	101400.	5.77
81229	81800.	5.52
81230	65400.	6.60
81231	61000.	7.35
81232	70500.	7.02
81233	94300.	6.94
81234	89100.	7.56
81235	81300.	7.38
81236	71200.	7.48
81237	61700.	8.50
81238	55800.	9.68
81239	54800.	10.66
81240	56300.	11.0
81241	56300.	10.04
81242	56300.	9.93
81243	53600.	9.47
81244	52200.	8.34
81245	48200.	7.41
81246	43300.	7.29
81247	39200.	7.60
81248	38200.	7.70
81249	37200.	7.39
81250	37200.	6.69
81251	37500.	6.28
81252	36200.	6.10
81253	34900.	6.57
81254	33600.	6.14
81255	32400.	6.08
81256	31100.	5.72
81257	29800.	5.21
81258	28500.	5.48
81259	27200.	6.36
81260	25500.	6.60
81262	24700.	6.51
81263	26700.	6.14
81264	28600.	5.77
81265	26700.	5.06
81266	24000.	4.30
81267	22800.	3.26
81268	22300.	2.72
81269	20300.	1.02
81270	18400.	0.46
81272	17600.	0.36
81272	16400.	0.07
81273	15900.	0.32
81274	15200.	0.36
81275	14000.	0.45
81276	13500.	0.43

81277	14000.	0.32
81278	14000.	0.30
81279	13500.	0.28
81280	13200.	0.26
81281	13200.	0.24
81282	13000.	0.22
81283	12700.	0.23
81284	12500.	0.08
81285	12500.	0.33
81286	13500.	1.06
81287	15400.	1.68
81288	17100.	1.69
81289	15700.	1.62
81290	14400.	1.57
81291	13700.	1.51
81292	11400.	1.00
81293	10700.	0.50
81294	12000.	0.50
81295	13300.	0.50
81296	15900.	0.50
81297	18200.	0.50
81298	16600.	0.50
81299	14800.	0.50
81300	13200.	0.50
81301	11000.	0.50
81302	8600.	0.50
81303	7200.	0.50
81304	6400.	0.50

DAILY OUTFLOW : OUTPUT

TY OFLOW.OUT

I/O UNIT = 4

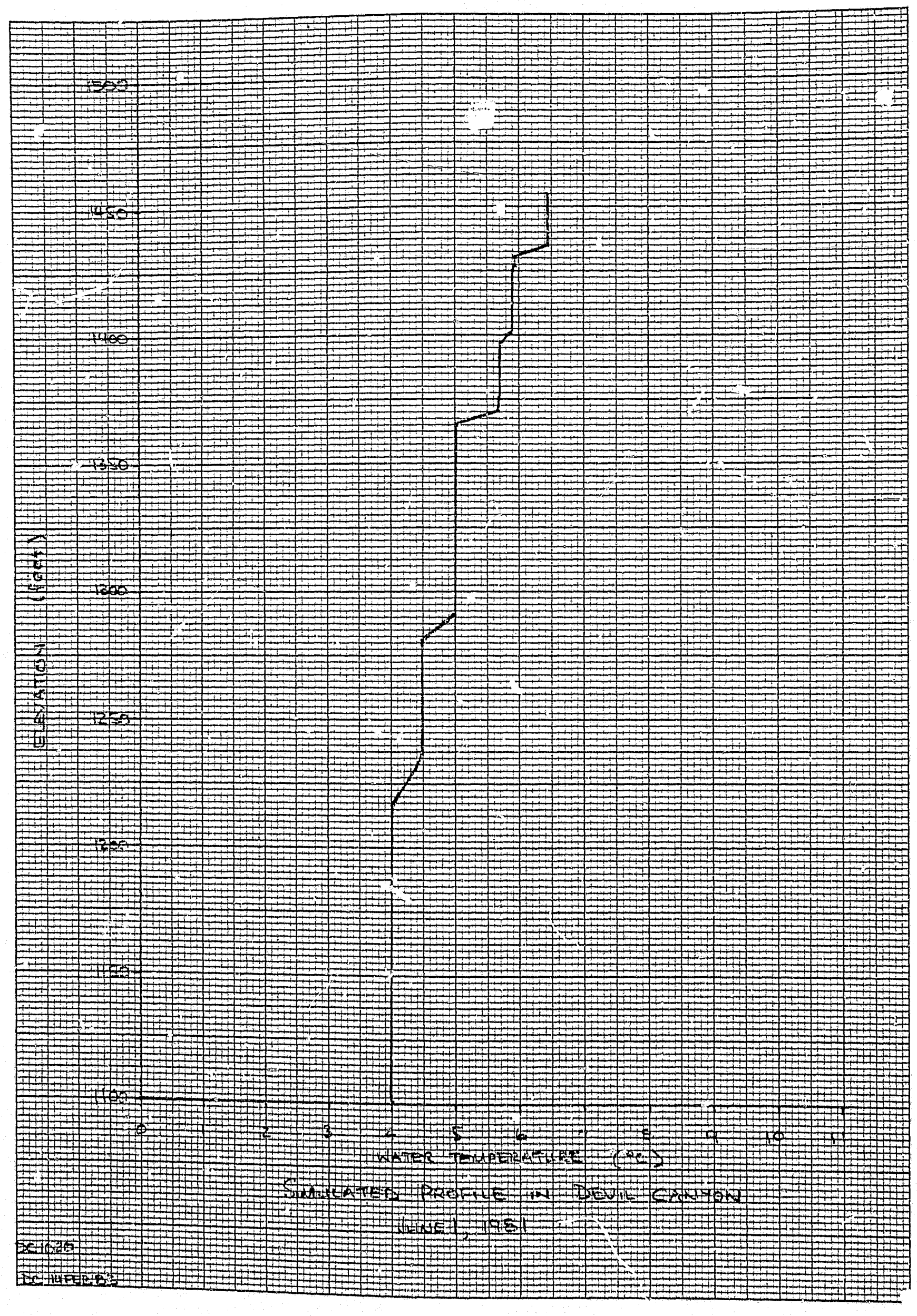
21152	10428.6	4.0	0.0	638.2
21153	10428.6	4.0	0.0	638.6
21154	10428.6	4.0	0.0	638.9
21155	10428.6	4.0	0.0	639.2
21156	10428.6	4.0	0.0	639.4
21157	10428.6	4.0	0.0	639.7
21158	10428.6	4.0	0.0	640.0
21159	10428.6	4.0	0.0	640.2
21160	10428.6	4.0	0.0	640.4
21161	10428.6	4.0	0.0	640.7
21162	10428.6	4.0	0.0	640.9
21163	10428.6	4.0	0.0	641.1
21164	10428.6	4.0	0.0	641.3
21165	10428.6	4.0	0.0	641.4
21166	10428.6	4.0	0.0	641.7
21167	10428.6	4.0	0.0	641.9
21168	10428.6	4.0	0.0	642.2
21169	10428.6	4.0	0.0	642.4
21170	10428.6	4.0	0.0	642.7
21171	10428.6	4.0	0.0	642.9
21172	10428.6	4.0	0.0	643.2
21173	10428.6	4.0	0.0	643.4
21174	10428.6	4.0	0.0	643.6
21175	10428.6	4.0	0.0	643.9
21176	10428.6	4.0	0.0	644.1
21177	10428.6	4.0	0.0	644.4
21178	10428.6	4.0	0.0	644.6
21179	10428.6	4.0	0.0	644.9
21180	10428.6	4.0	0.0	645.3
21181	10428.6	4.0	0.0	645.6
21182	12888.7	7.0	0.0	645.8
21183	12888.7	7.0	0.0	646.0
21184	12888.7	7.0	0.0	646.2
21185	12888.7	7.0	0.0	646.3
21186	12888.7	7.0	0.0	646.5
21187	12888.7	7.0	0.0	646.6
21188	12888.7	7.0	0.0	646.8
21189	12888.7	7.0	0.0	647.1
21190	12888.7	7.0	0.0	647.4
21191	12888.7	7.0	0.0	647.8
21192	12888.7	7.0	0.0	648.5
21193	12888.7	7.0	0.0	649.3
21194	12888.7	7.0	0.0	650.0
21195	12888.7	7.0	0.0	650.5
21196	12888.7	7.0	0.0	650.9
21197	12888.7	7.0	0.0	651.4
21198	12888.7	7.0	0.0	652.0
21199	12888.7	7.0	0.0	652.7
21200	12888.7	7.0	0.0	653.3
21201	12888.7	7.0	0.0	654.0
21202	12888.7	7.0	0.0	654.6
21203	12888.7	7.0	0.0	655.1
21204	12888.7	7.0	0.0	655.6
21205	12888.7	7.0	0.0	656.0
21206	12888.7	7.0	0.0	656.4
21207	12888.7	7.0	0.0	656.8

21209	12888.7	7.0	0.0	657.7
21210	12888.7	7.0	0.0	658.1
21211	12888.7	7.0	0.0	658.4
21212	12888.7	7.0	0.0	658.7
21213	12888.7	7.0	0.0	659.0
21214	21172.9	9.0	0.0	659.5
21215	21172.9	9.0	0.0	660.0
21216	21172.9	9.0	0.0	660.4
21217	21172.9	9.0	0.0	660.7
21218	21172.9	9.0	0.0	661.0
21219	21172.9	9.0	0.0	661.2
21220	21172.9	9.0	0.0	661.6
21221	21172.9	9.0	0.0	662.0
21222	21172.9	9.0	0.0	662.6
21223	21172.9	9.0	0.0	663.1
21224	21172.9	9.0	0.0	663.6
21225	21172.9	9.0	0.0	664.1
21226	21172.9	9.0	0.0	664.7
21227	21172.9	9.0	0.0	665.2
21228	21172.9	9.0	0.0	665.8
21229	47439.6	9.0	0.0	666.0
21230	47439.6	9.0	0.0	666.1
21231	47439.6	9.0	0.0	666.2
21232	47439.6	9.0	0.0	666.4
21233	47439.6	9.0	0.0	666.7
21234	47439.6	9.0	0.0	667.0
21235	47439.6	9.0	0.0	667.2
21236	47439.6	9.0	0.0	667.3
21237	47439.6	9.0	0.0	667.4
21238	47439.6	9.0	0.0	667.5
21239	47439.6	9.0	5660.7	667.5
21240	47439.6	9.0	8860.7	667.5
21241	47439.6	9.0	8860.7	667.5
21242	47439.6	9.0	8860.7	667.5
21243	47439.6	9.0	6160.4	667.5
21244	47439.6	9.0	4760.6	667.5
21245	47439.6	8.0	760.8	667.5
21246	47439.6	8.0	0.0	667.5
21247	47439.6	8.0	0.0	667.4
21248	47439.6	8.0	0.0	667.4
21249	47439.6	8.0	0.0	667.3
21250	47439.6	8.0	0.0	667.2
21251	47439.6	8.0	0.0	667.2
21252	47439.6	8.0	0.0	667.1
21253	47439.6	8.0	0.0	667.0
21254	47439.6	8.0	0.0	666.9
21255	20414.4	6.0	0.0	667.0
21256	20414.4	6.0	0.0	667.1
21257	20414.4	6.0	0.0	667.1
21258	20414.4	6.0	0.0	667.2
21259	20414.4	6.0	0.0	667.2
21260	20414.4	6.0	0.0	667.3
21261	20414.4	6.0	0.0	667.3
21262	20414.4	6.0	0.0	667.3
21263	20414.4	6.0	0.0	667.4
21264	20414.4	6.0	0.0	667.4
21265	20414.4	6.0	0.0	667.5
21266	20414.4	6.0	0.0	667.5
21267	20414.4	6.0	0.0	667.5
21268	20414.4	6.0	0.0	667.5
21269	20414.4	6.0	0.0	667.5
21270	20414.4	6.0	0.0	667.4
21271	20414.4	6.0	0.0	667.4
21272	20414.4	6.0	0.0	667.4
21273	20414.4	6.0	0.0	667.4

21276	20414.4	5.0	0.0	667.3
21277	20130.6	4.0	0.0	667.2
21278	20130.6	4.0	0.0	667.2
21279	20130.6	4.0	0.0	667.1
21280	20130.6	4.0	0.0	667.1
21281	20130.6	4.0	0.0	667.0
21282	20130.6	4.0	0.0	667.0
21283	20130.6	4.0	0.0	666.9
21284	20130.6	4.0	0.0	666.9
21285	20130.6	4.0	0.0	666.8
21286	20130.6	4.0	0.0	666.8
21287	20130.6	4.0	0.0	666.8
21288	20130.6	4.0	0.0	666.7
21289	20130.6	4.0	0.0	666.7
21290	20130.6	4.0	0.0	666.7
21291	20130.6	4.0	0.0	666.6
21292	20130.6	4.0	0.0	666.6
21293	20130.6	4.0	0.0	666.5
21294	20130.6	4.0	0.0	666.5
21295	20130.6	4.0	0.0	666.4
21296	20130.6	4.0	0.0	666.4
21297	20130.6	4.0	0.0	666.4
21298	20130.6	4.0	0.0	666.3
21299	20130.6	4.0	0.0	666.3
21300	20130.6	4.0	0.0	666.3
				666.2

Return originals to D. Crawford

PS700.14.03.220



SIMULATED PROFILE IN DEVIL CANYON

JUNE 1, 1981

DC 10 20

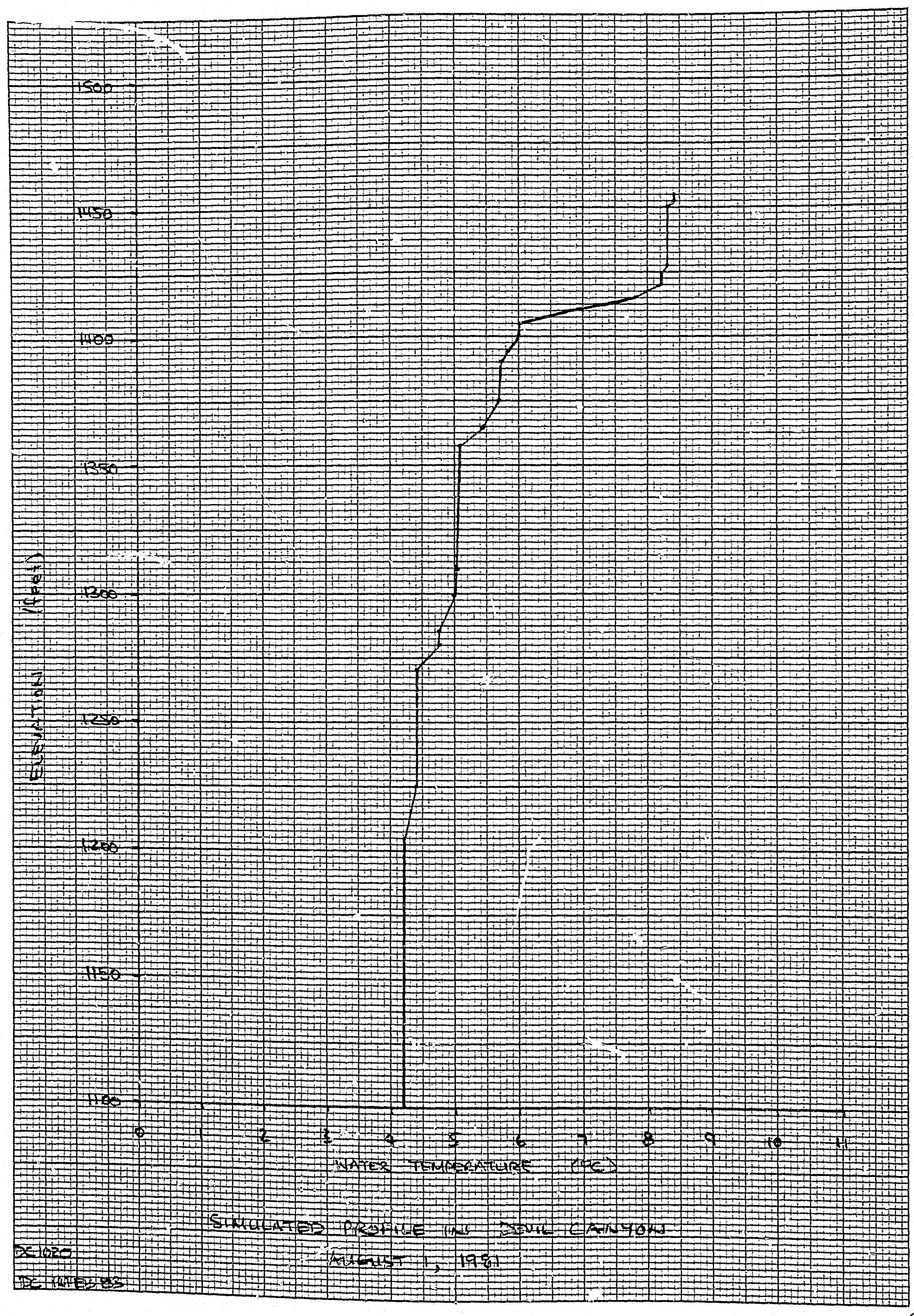
DC 14 FEB 83

Plot all four on one sheet

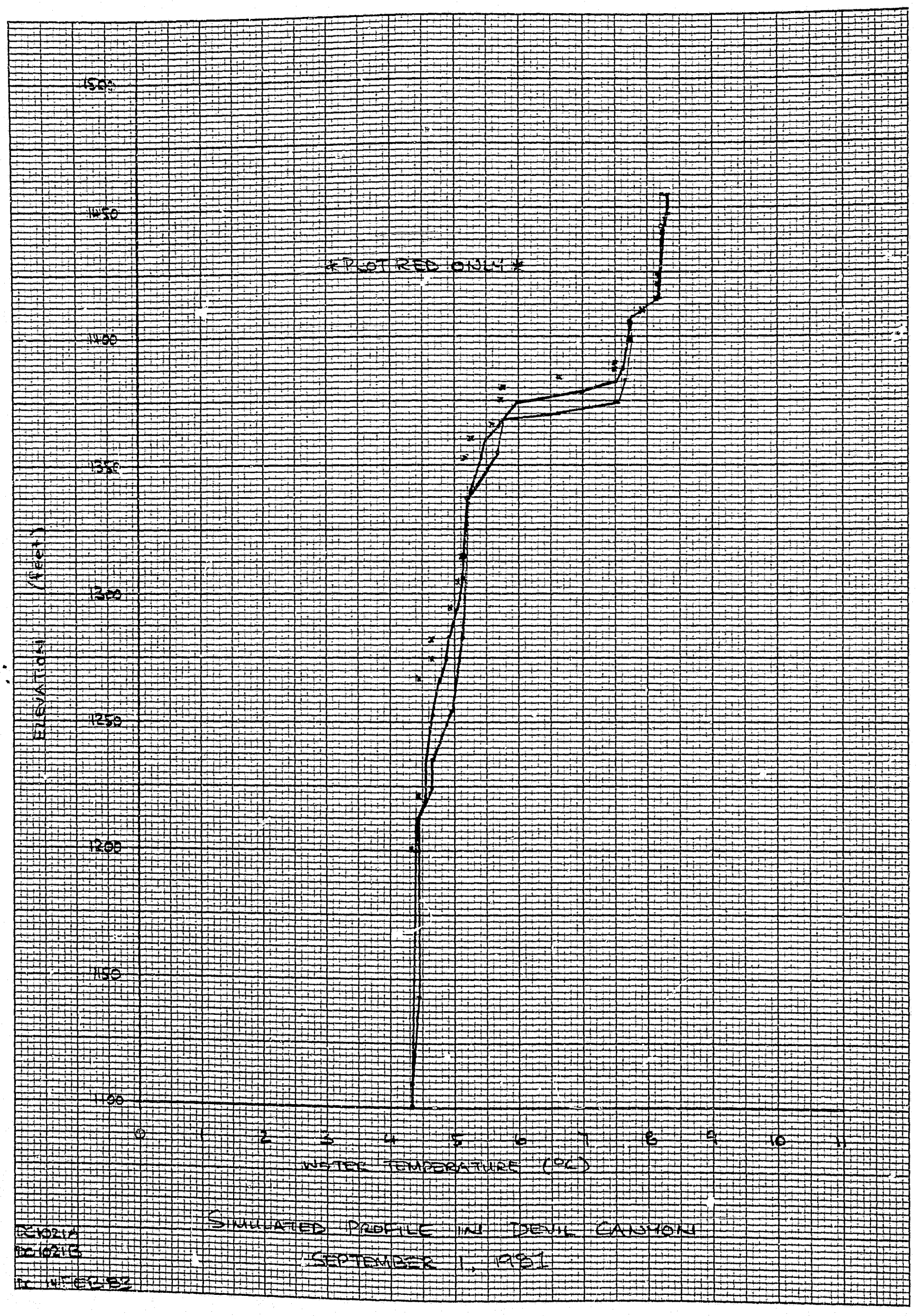
K+E 10 X 10 TO ½ INCH 7 X 10 INCHES KEUFFEL & ESSER CO. MADE IN U.S.A.
46 1320
8.5

K+E 10 X 10 TO ½ IN 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.
46 1320





46 1320
8.5
10 X 10 TO ½ IN
KEUFFEL & ESSE
7 X 10 INCHES
MADE IN U.S.A.

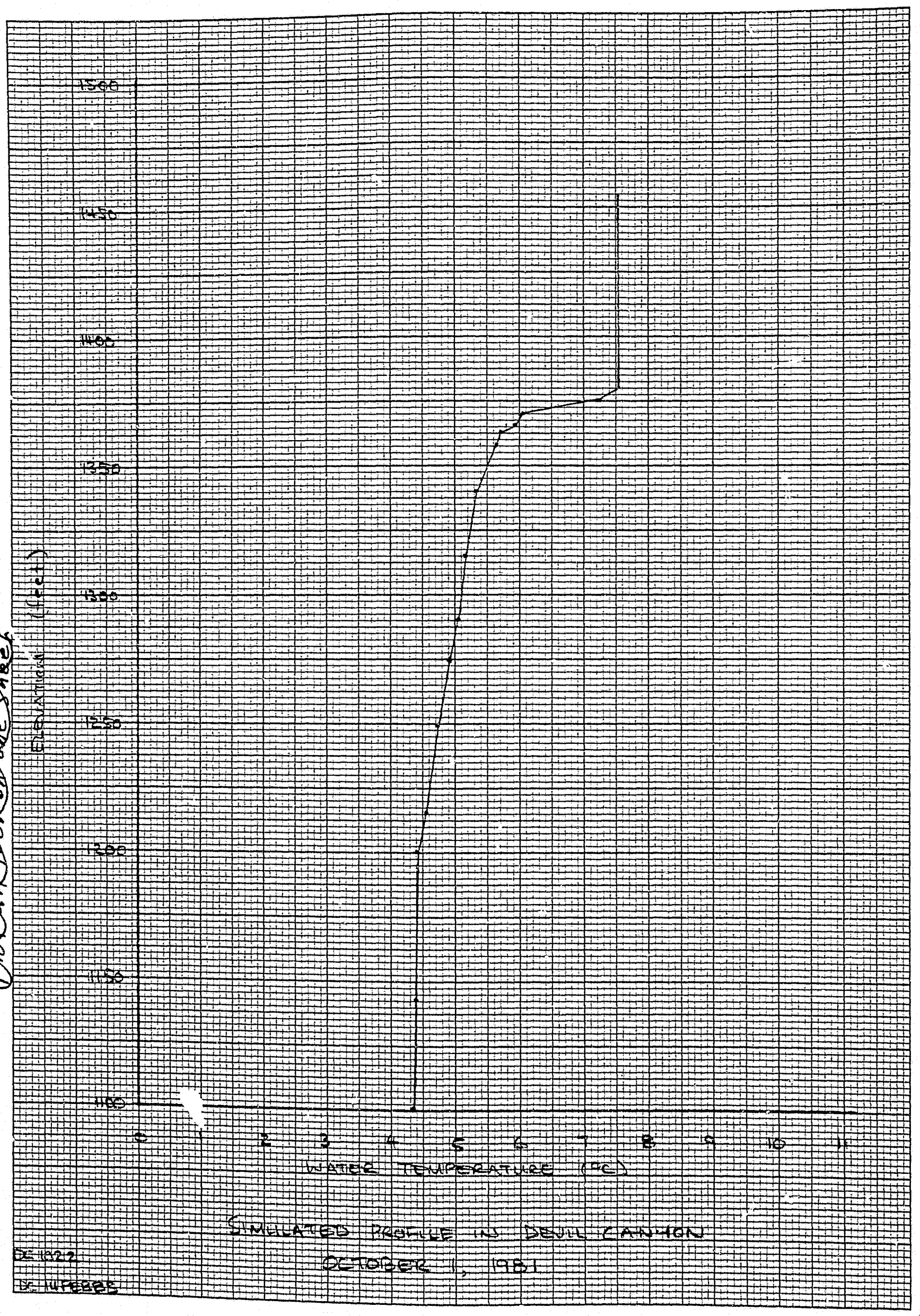


SIMULATED PROFILE IN DEVIL CANYON

SEPTEMBER 1, 1991

KE 10 X 10 TO ½ IN KEUFFEL & ESSER 7 X 10 INCHES MADE IN U.S.A.
46 1320
8.5

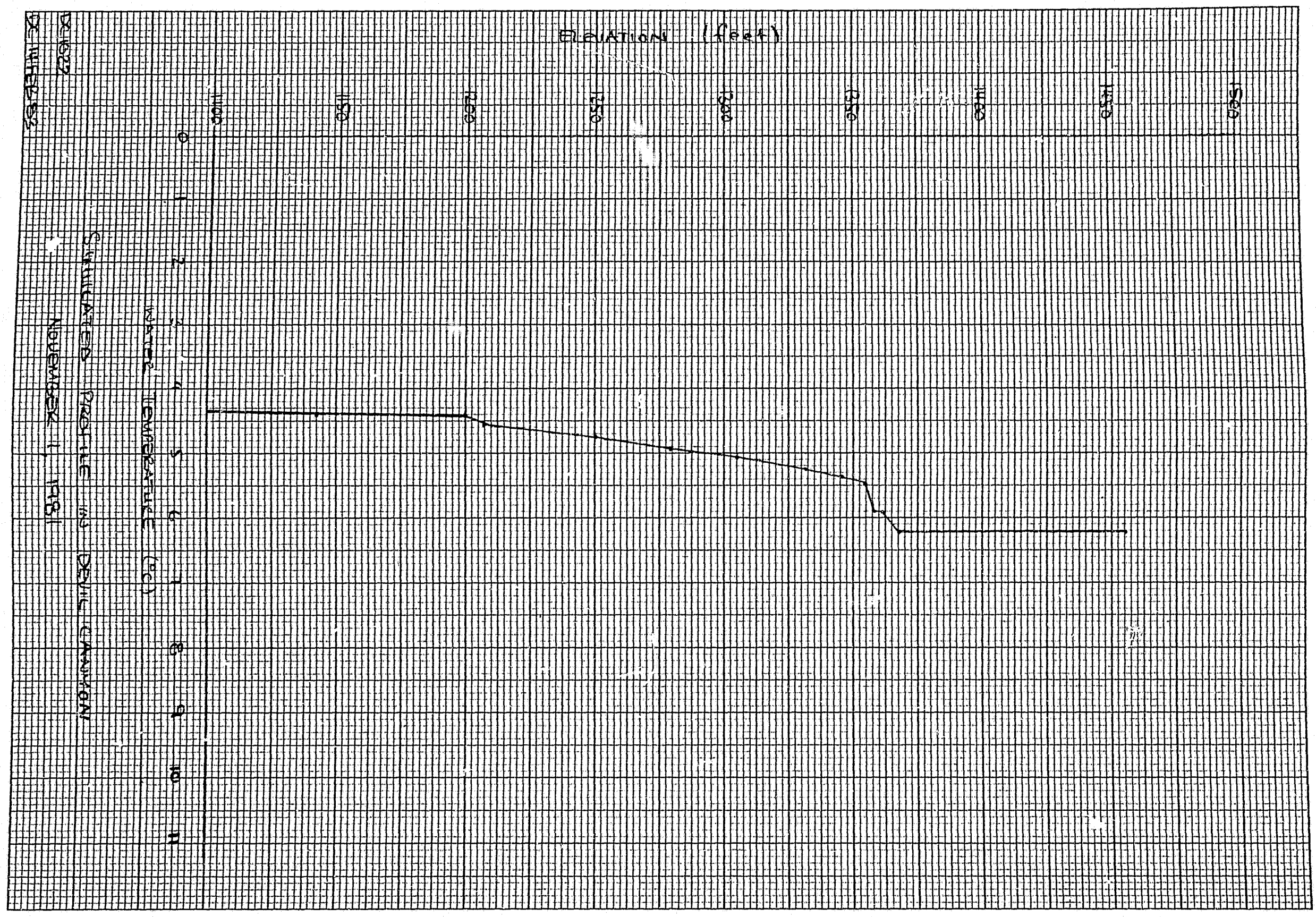
Return originals to D. Crawford

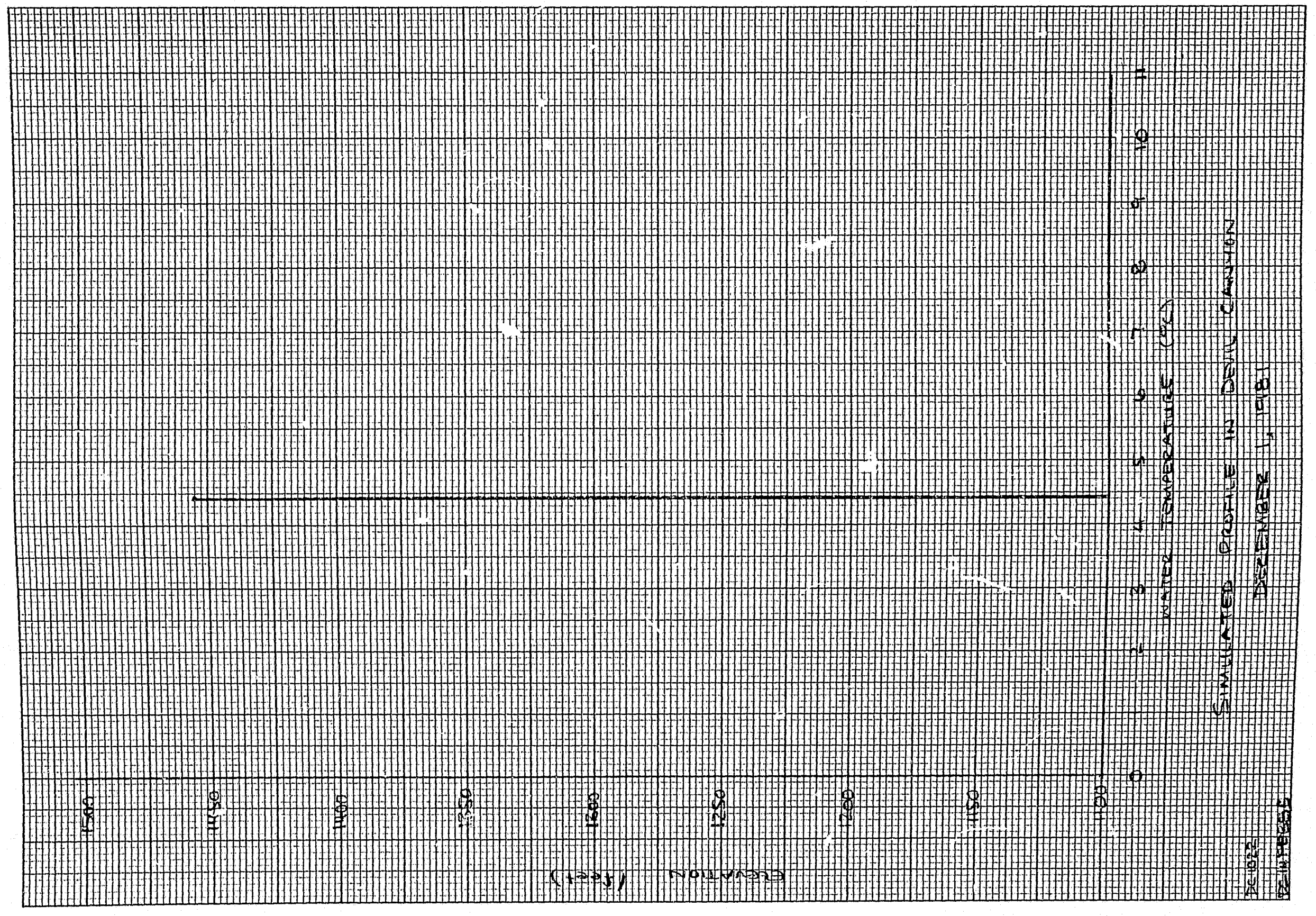


Plot taken on one sheet

46 1320
10 X 10 TO ½ IN
KEUFFEL & ESSER
7 × 10 INCHES
MADE IN U.S.A.
8.5

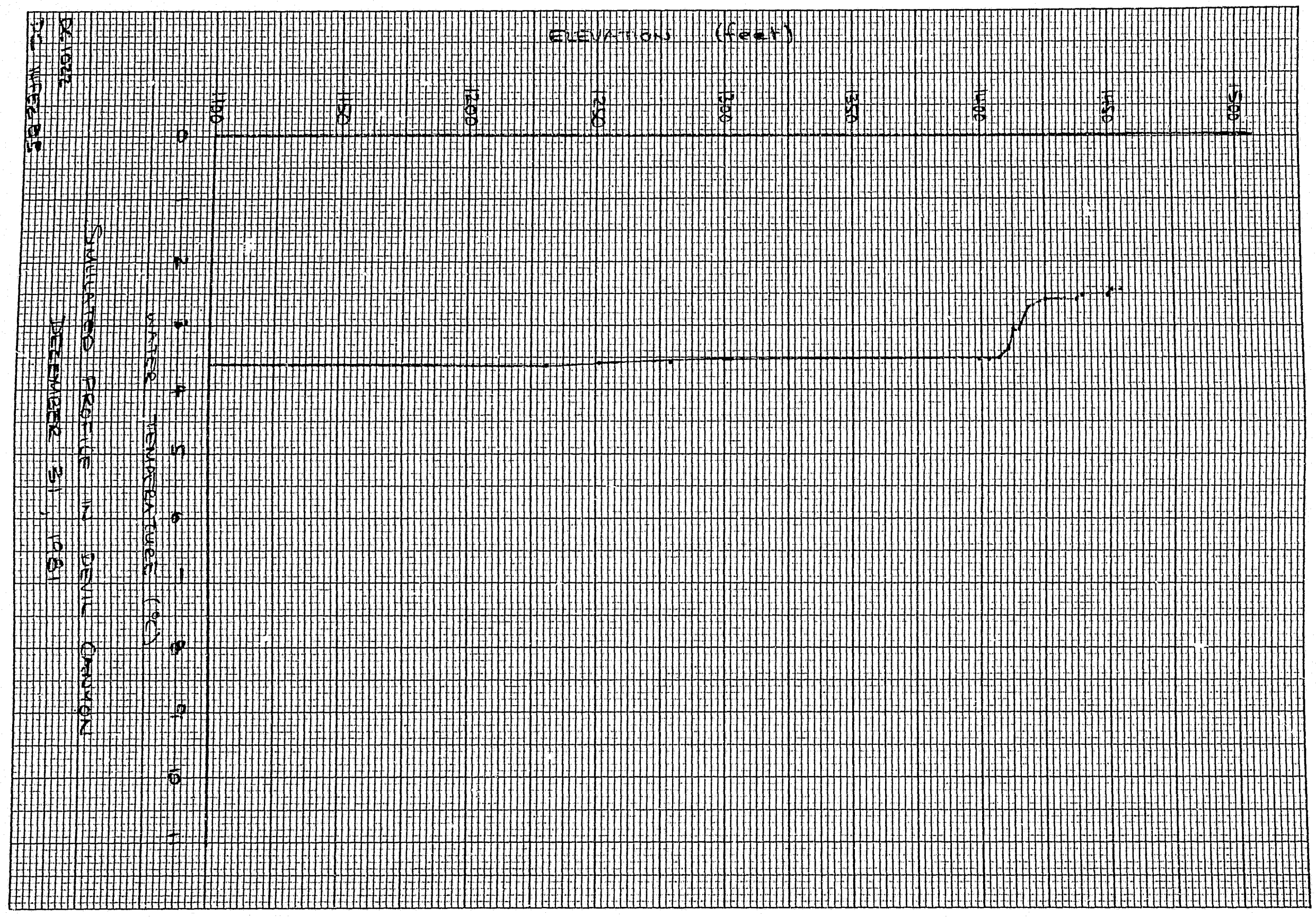
K+E 10 X 10 TO ½ IN KEUFFEL & ESSER 7 X 10 INCHES MADE IN U.S.A. 46 1320

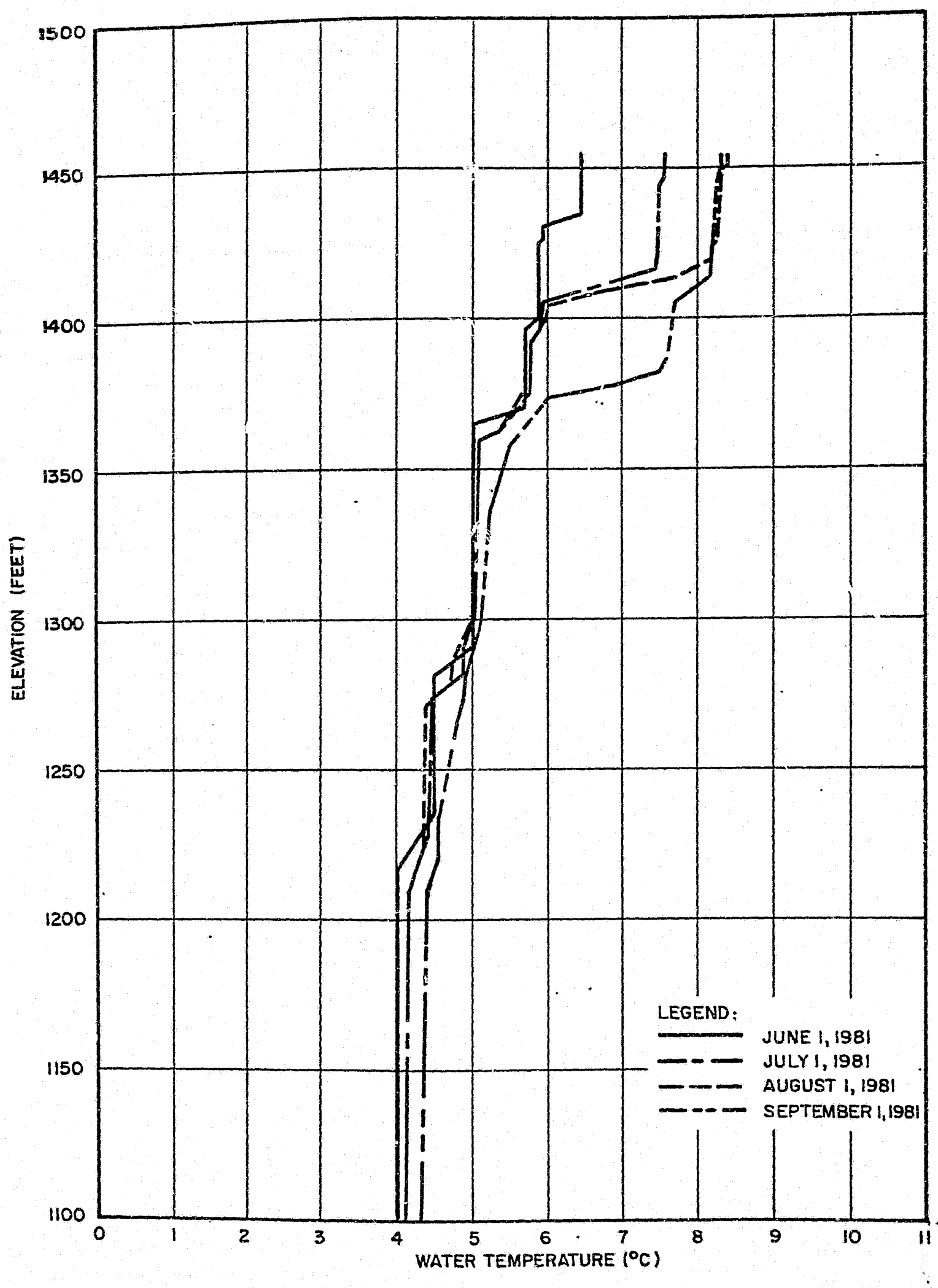




K&E 10 X 10 TO ½ INCH 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.
46 1320

K+E 10 X 10 TO ½ 7 X 10 INCHES KEUFFEL & ESS D. MADE IN U.S.A. 46 1320





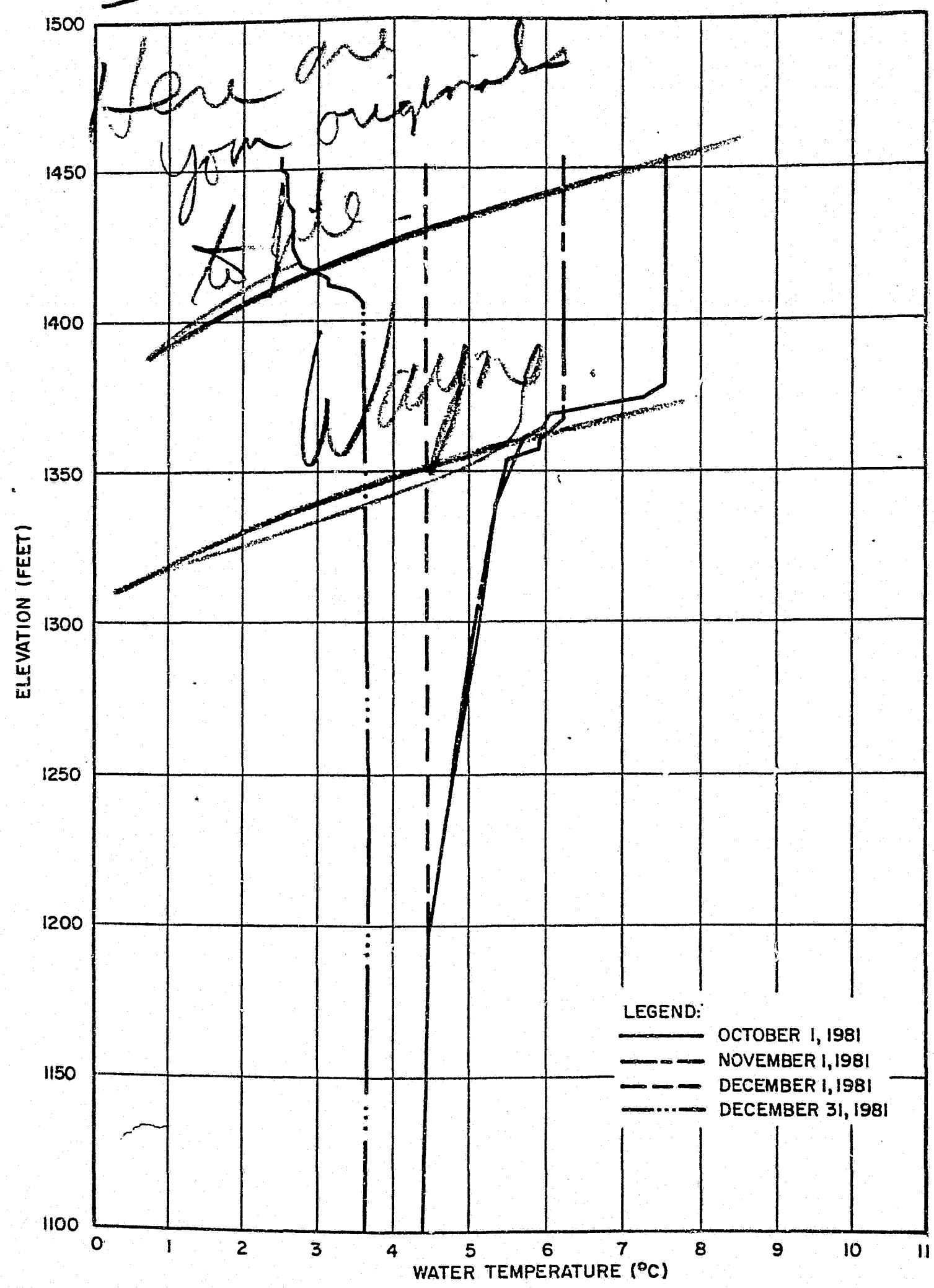
DEVIL CANYON RESERVOIR TEMPERATURE PROFILES

JUNE TO SEPTEMBER

Dam

Here are your originals

to file -



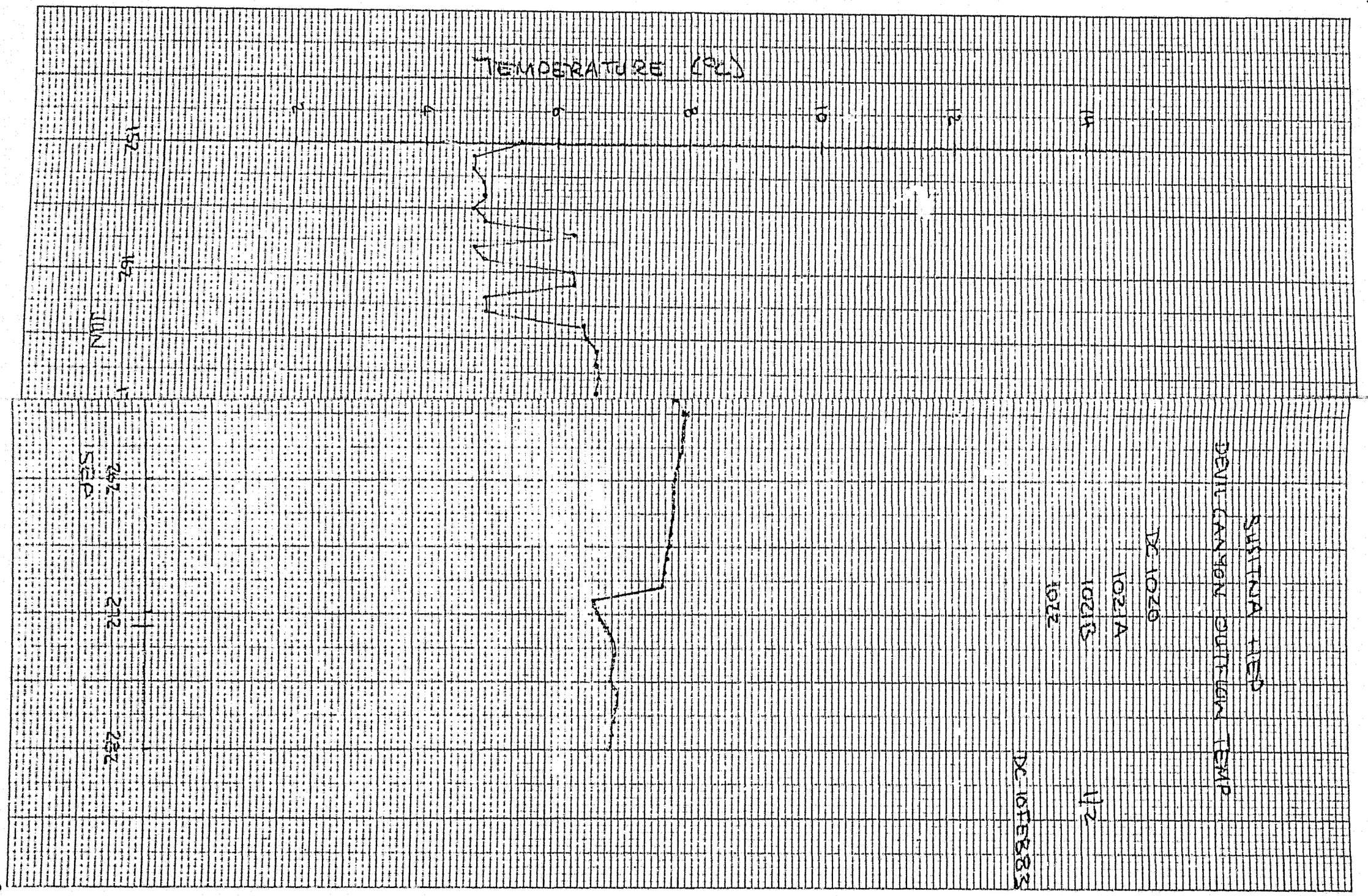
DEVIL CANYON RESERVOIR TEMPERATURE PROFILES

OCTOBER TO DECEMBER

8.5

K+E 10 X 10 TO ½ IN' KEUFFEL & ESSER 10 X 15 INCHES MADE IN U.S.A.

47 1320



SUSITNA HEP

DEVIL CANYON OUTFLOW TEMP

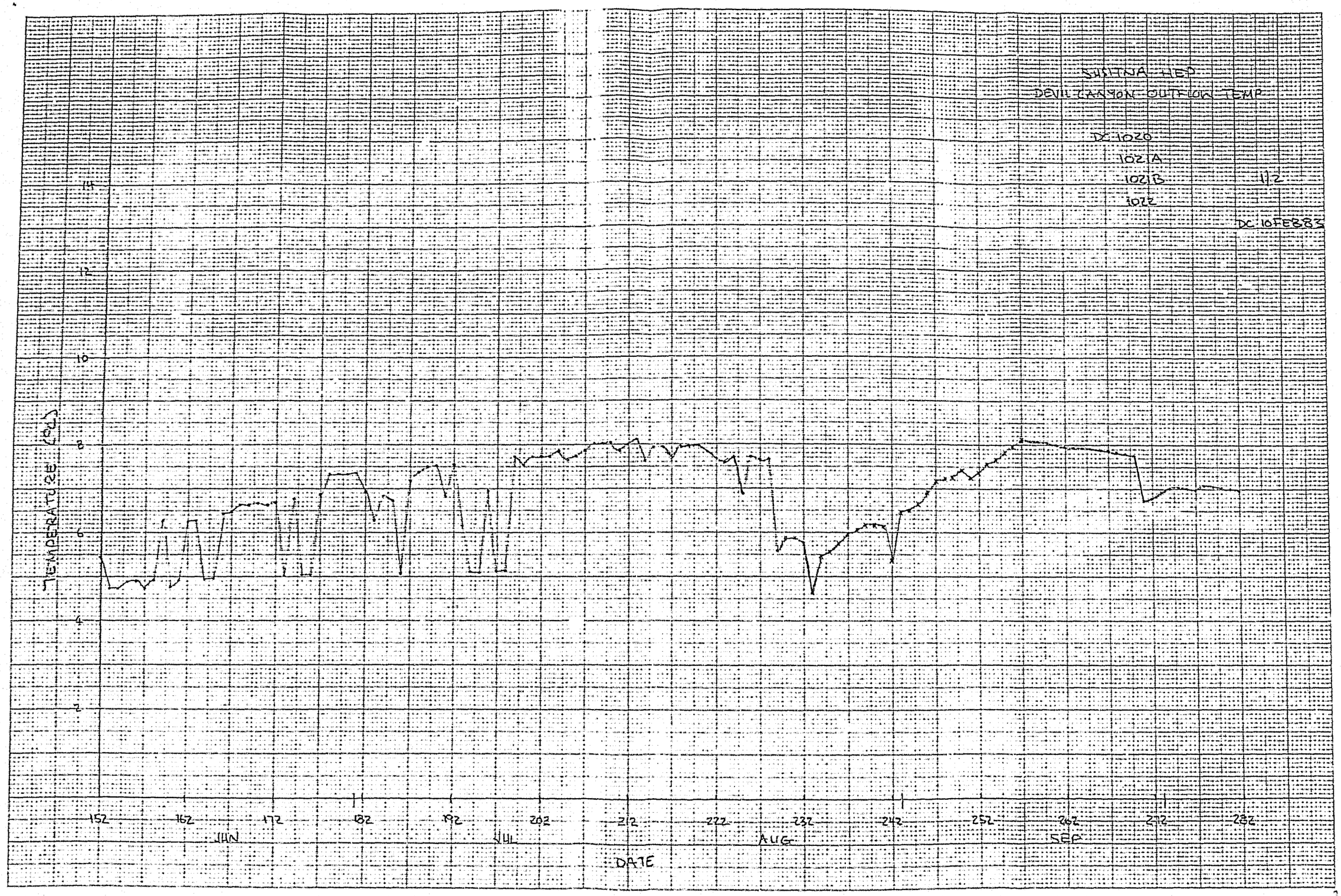
DC 1020

102A

102B

1022

DC 10FEB83

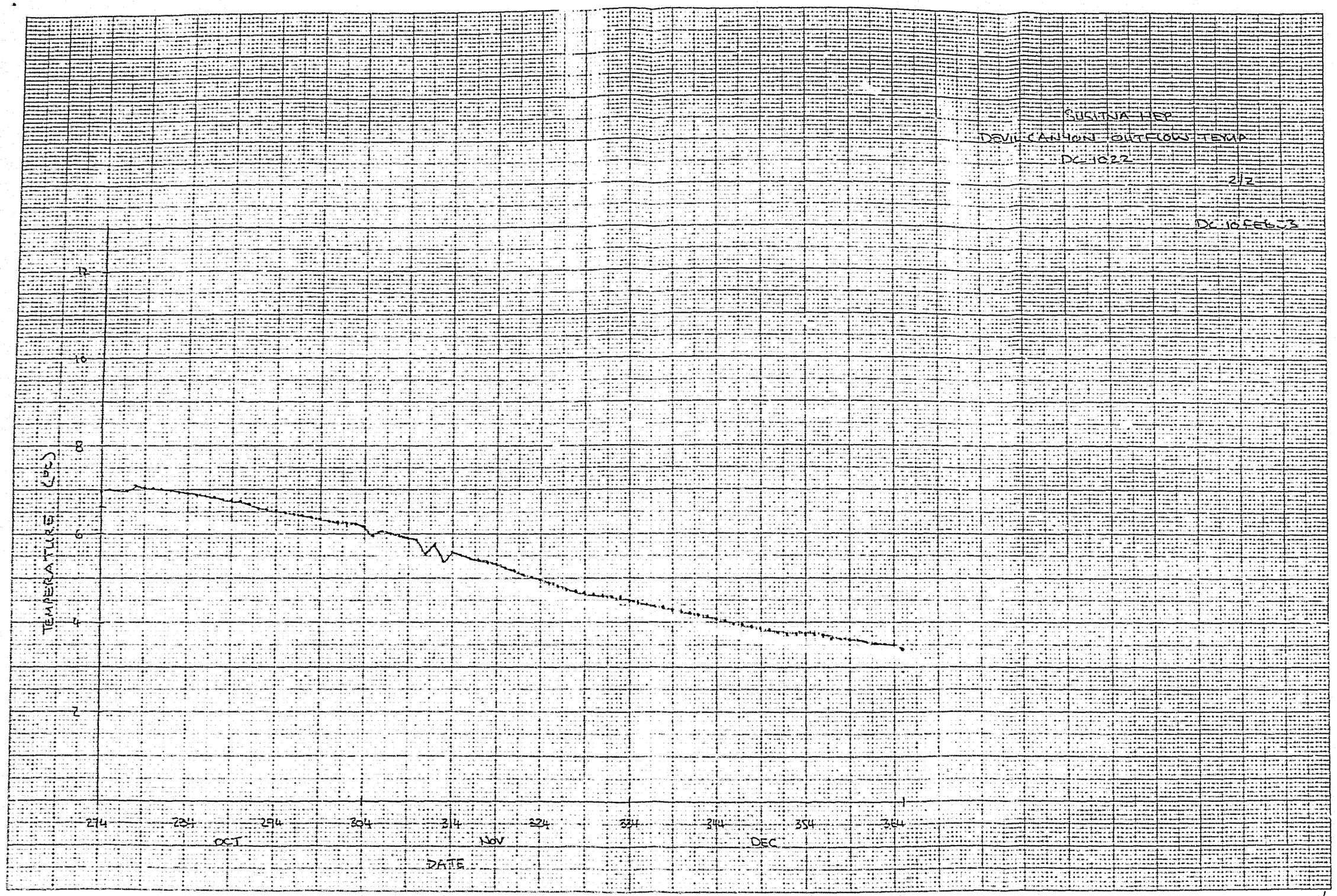


47 1320

10 X 10 TO ½ IN
KEUFFEL & ESSER

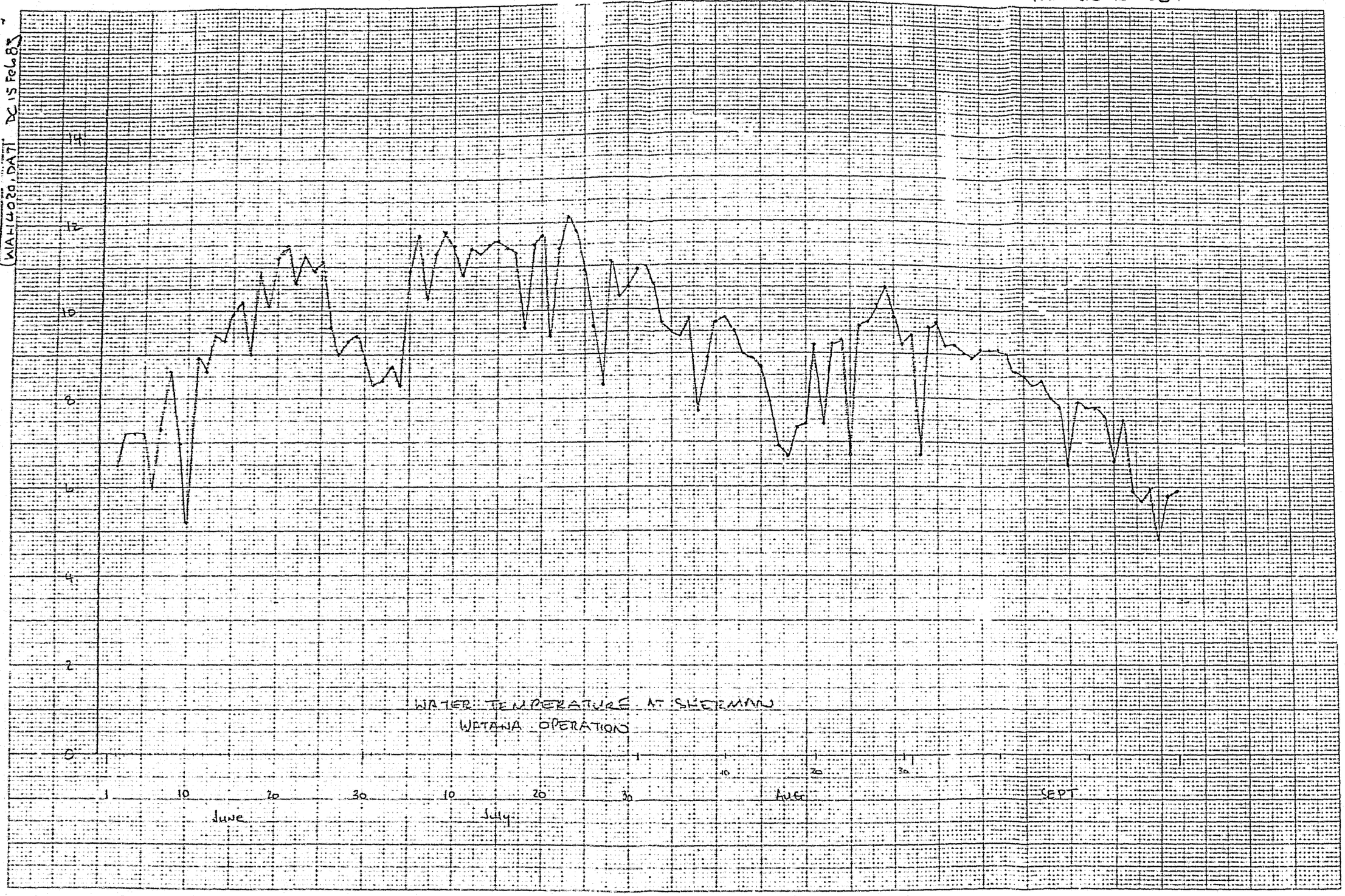
10 X 15 INCHES
MADE IN U.S.A.

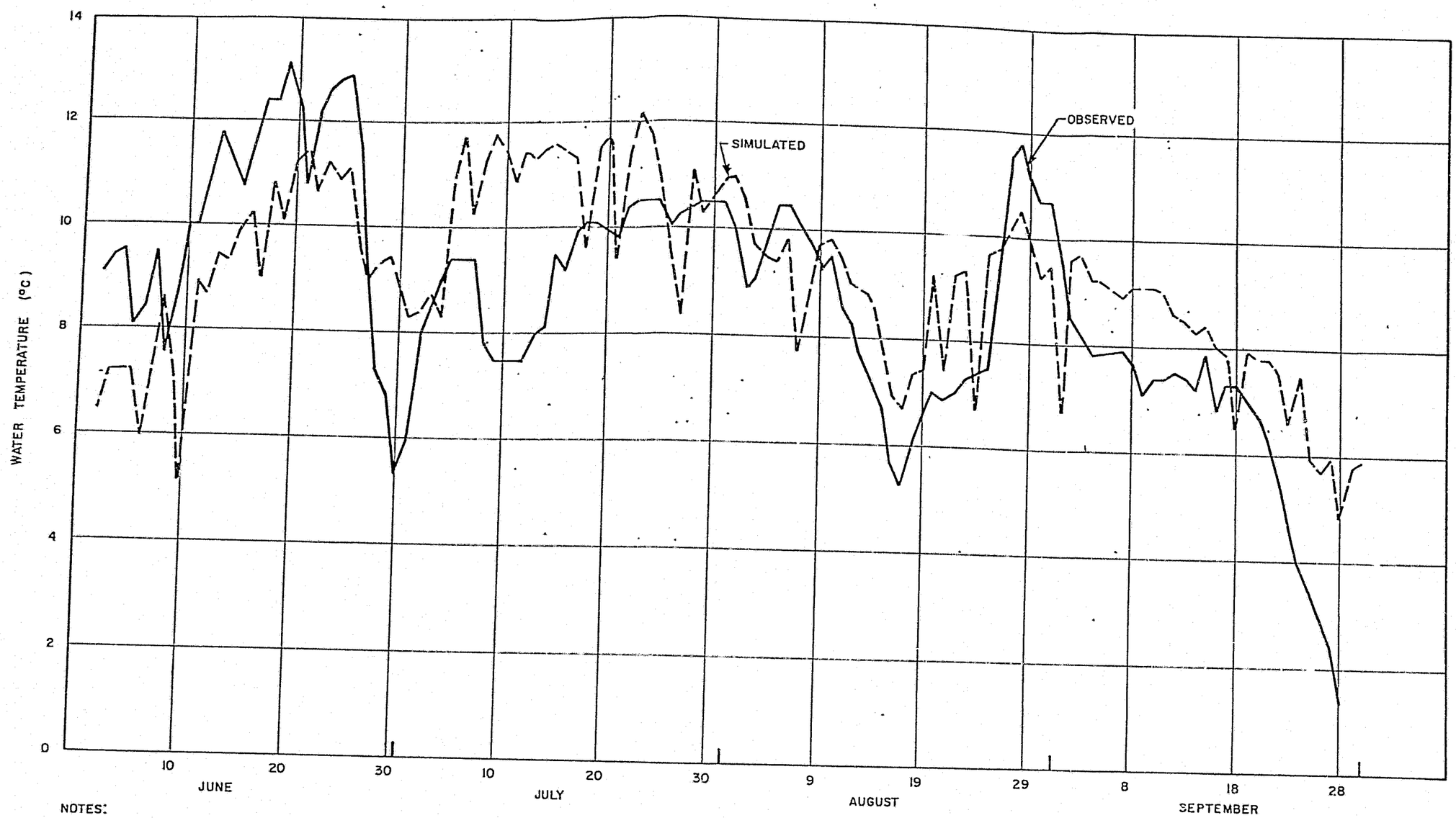
SUSITNA HEP
DEVIL CANYON OUTFLOW TEMP
DC-1022
2/2
DC 16 FEB-3



47 1320
10 X 10 TO ½ INCH • 10 X 15 INCHES
KEUFFEL & ESSER MADE IN U.S.A.

4


RETURN TO DC.
WATANA 2000
(WAH4020, DAT) DC 15 Feb 83
14
12
10
8
6
4
2
0
WATER TEMPERATURE AT SHERMAN
WATANA OPERATION
1
10
20
30
10
20
30
10
20
30
June
July
AUG
SEPT



NOTES:

1) TIME SCALE IS IN INCREMENTS OF 10 DAYS.
2) OBSERVED DATA FOR SUSITNA RIVER ABOVE FOURTH OF JULY CREEK (RM 131.3) ADF&G 1982.
3) PREDICTED WATER TEMPERATURES (RM 130.5) DURING WATANA OPERATION USING 1981 DATA.
4) TEMPERATURES REPORTED ARE MEAN DAILY VALUES.

Nein

~~DEVIL CANYON RESERVOIR INFLOW AND OUTFLOW~~ TEMPERATURES NEAR SHERMAN AND 1981 TEMPERATURE SIMULATION OF WATANA OPERATION

179
E.2.~~167~~

Return originals to D. Crawford

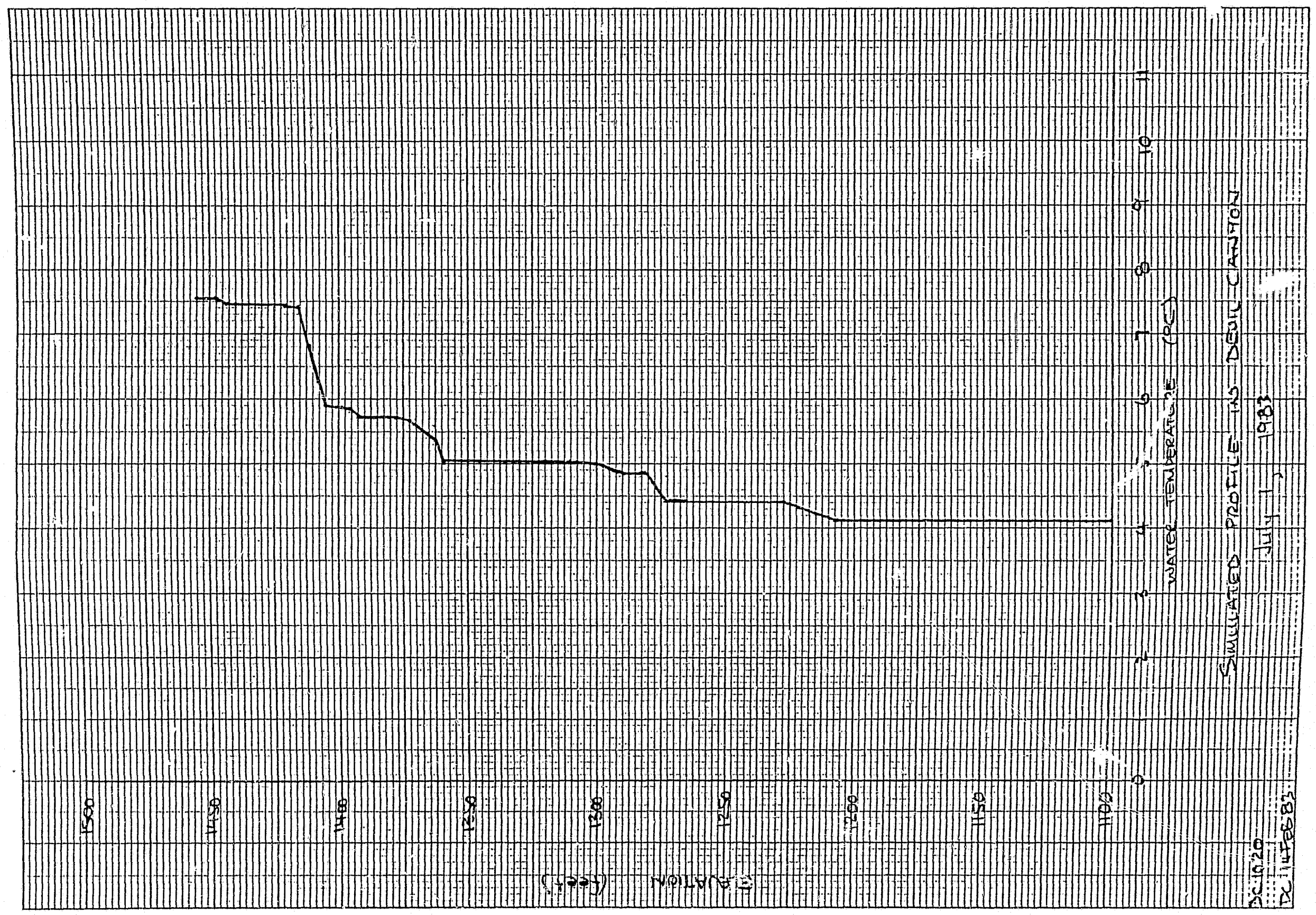


K&E 10 X 10 TO ½ IN
KEUFFEL & ESSER 7 X 10 INCHES
MADE IN U.S.A.

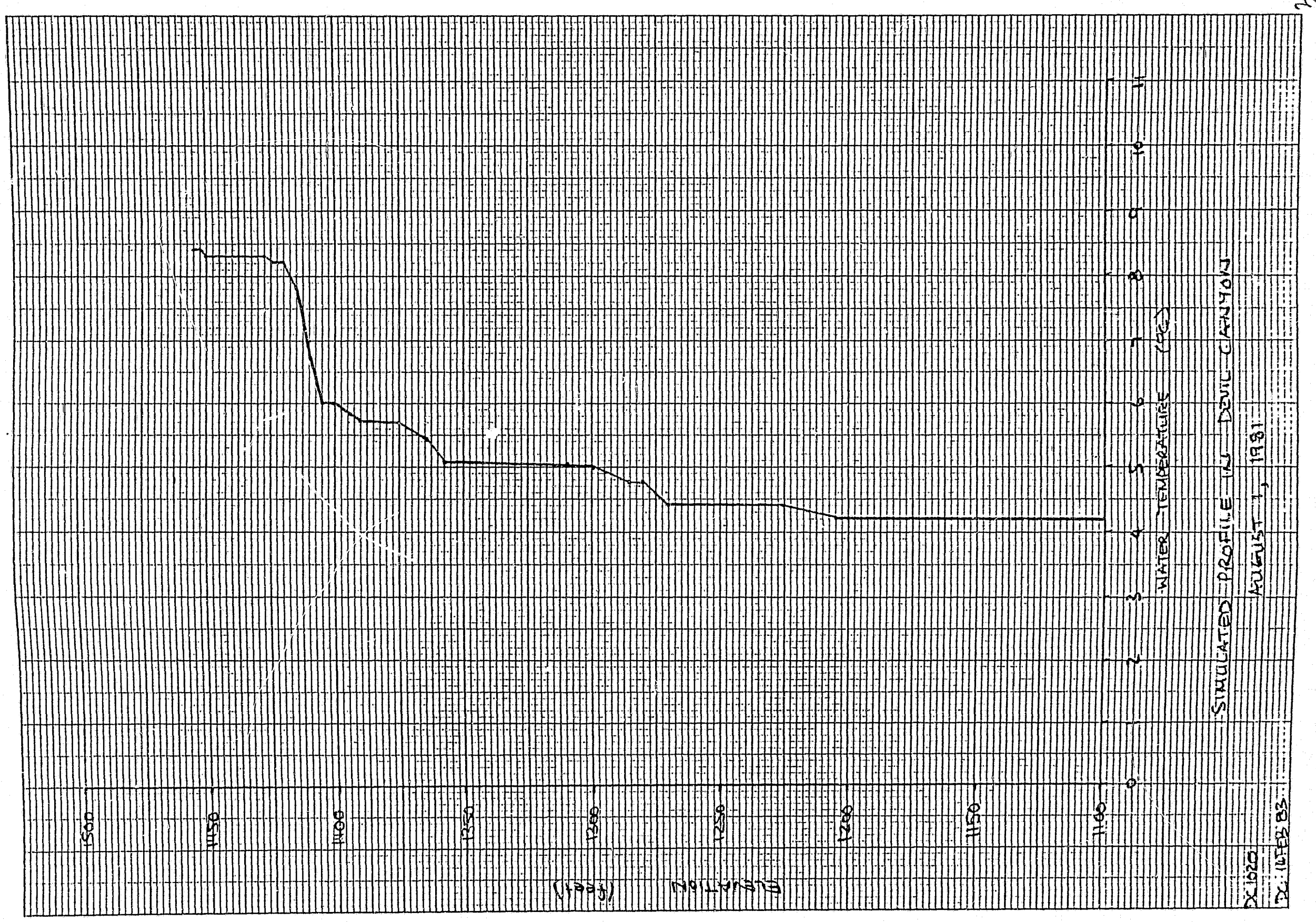
46 1320

Plot all four on one sheet

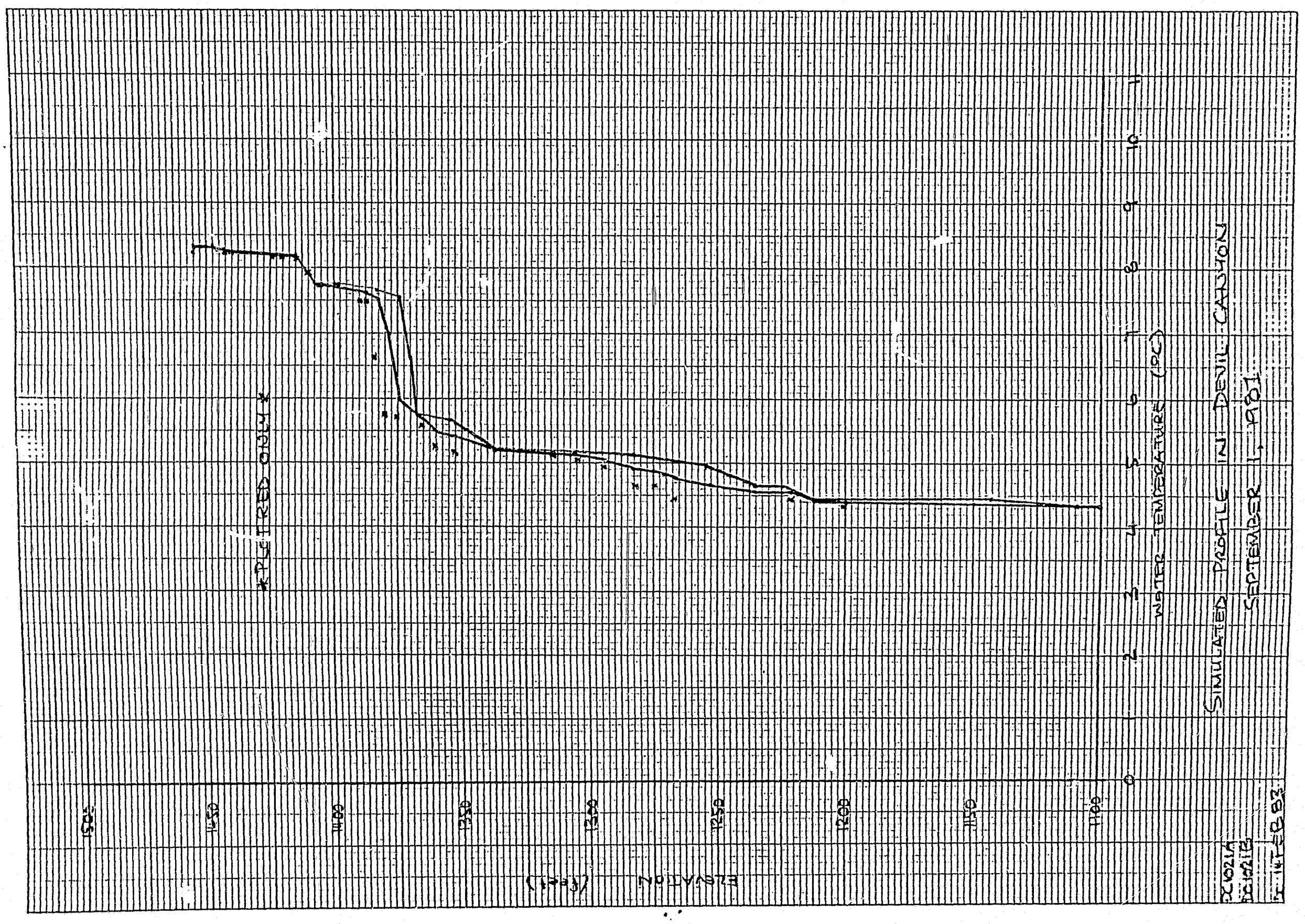
DC 1620
DC JUNE 83



46 1320
K+E 10 X 10 TO ½ INCH 7 X 10 INCHES
KEUFFEL & ESSER CO. MADE IN U.S.A.

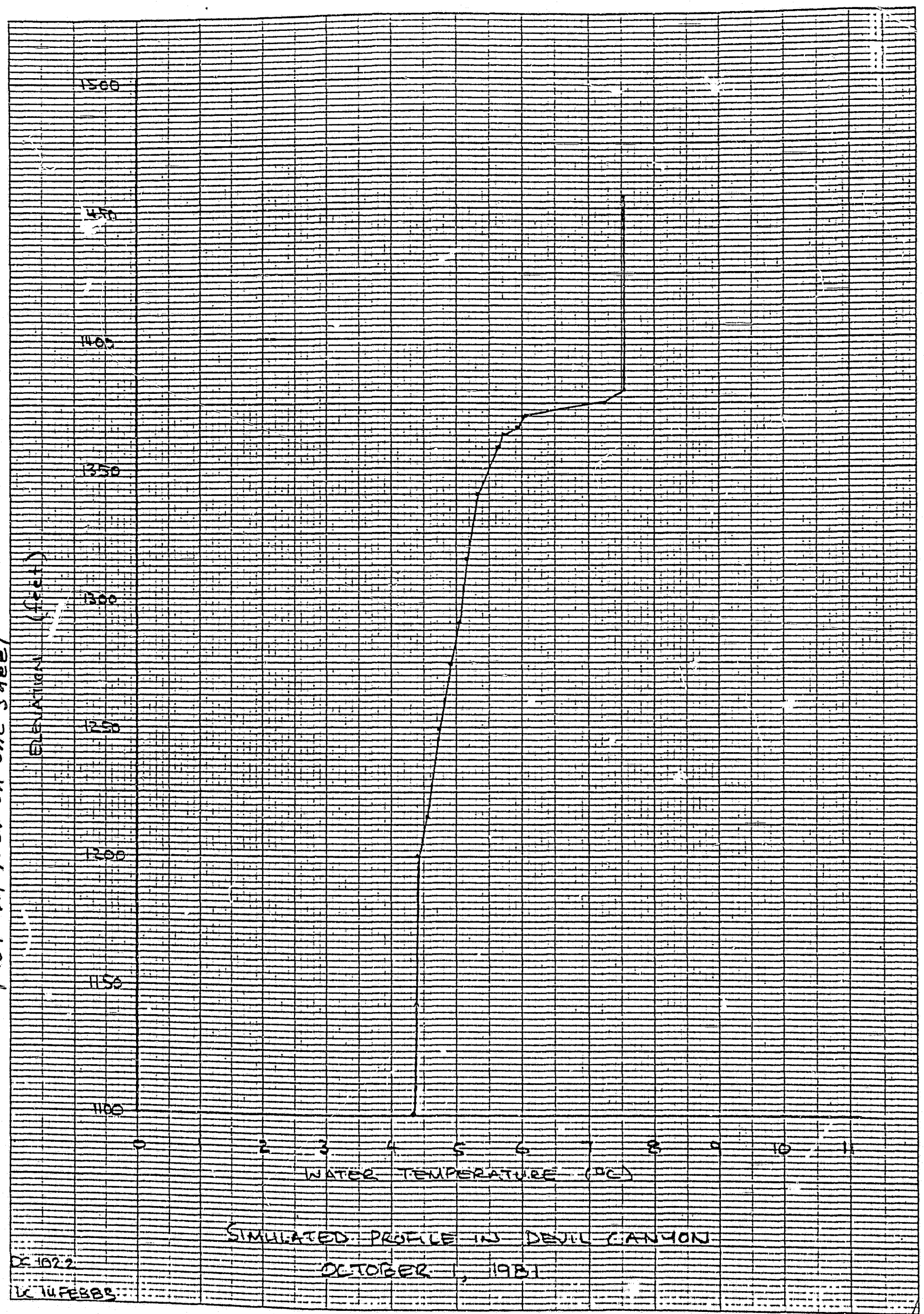


K&E 10 X 10 TO ½ IN KEUFFEL & ESSER 7 X 10 INCHES MADE IN U.S.A.
46 1320



K&E 10 X 10 TO ½ INCH KEUFFEL & ESSER 7 X 10 INCHES MADE IN U.S.A.
46 1320

Return originals to D. Crandall



Plot all four on one sheet

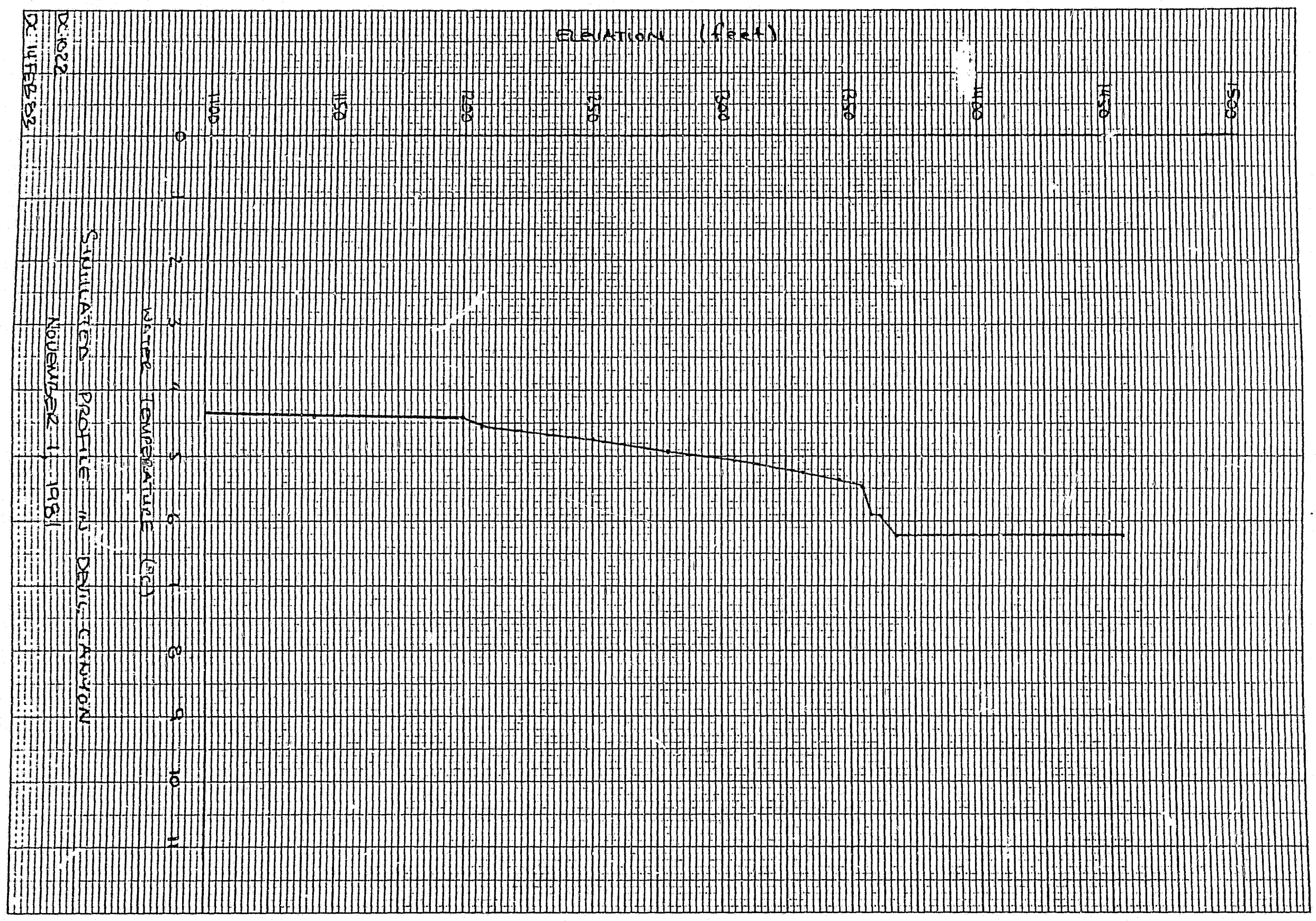
SIMULATED PROFILE IN DEVIL CANYON
OCTOBER 1, 1981

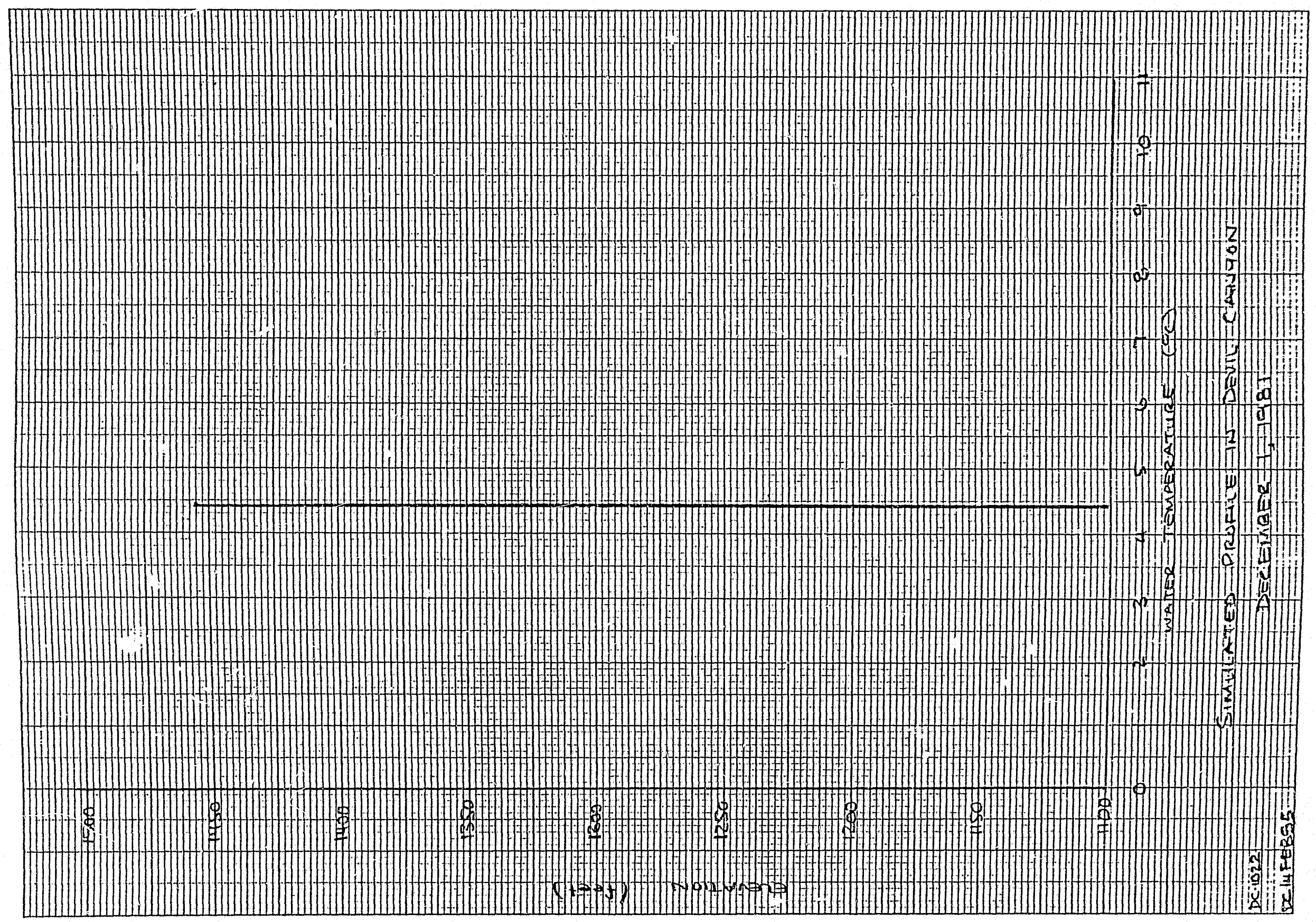
DC 102.2
DC 14 FEB 85

K+E 10 X 10 TO ½ INCH
KEUFFEL & ESSER CO. MADE IN U.S.A.

46 1320

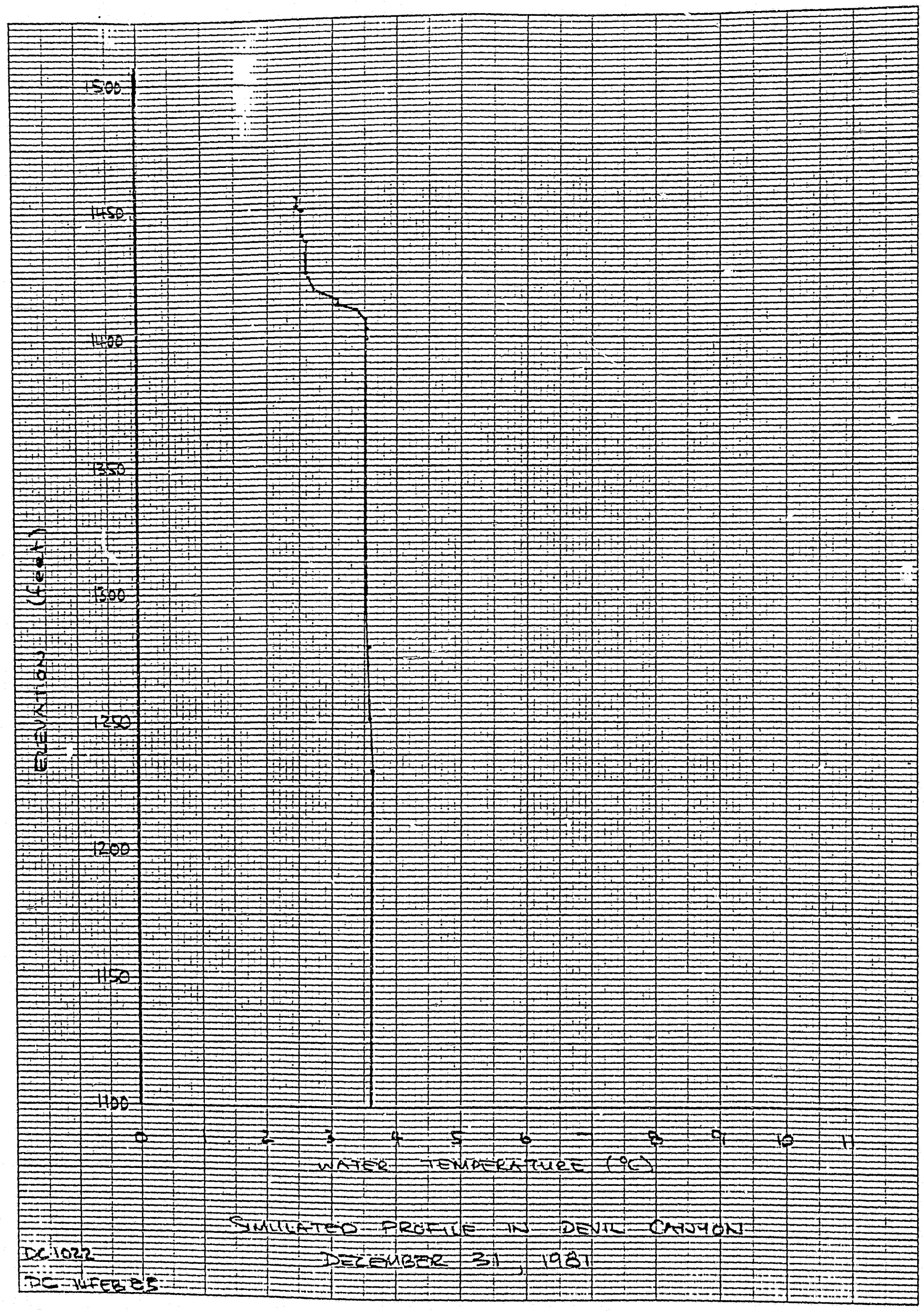
K+E 10 X 10 TO ½ IN 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.





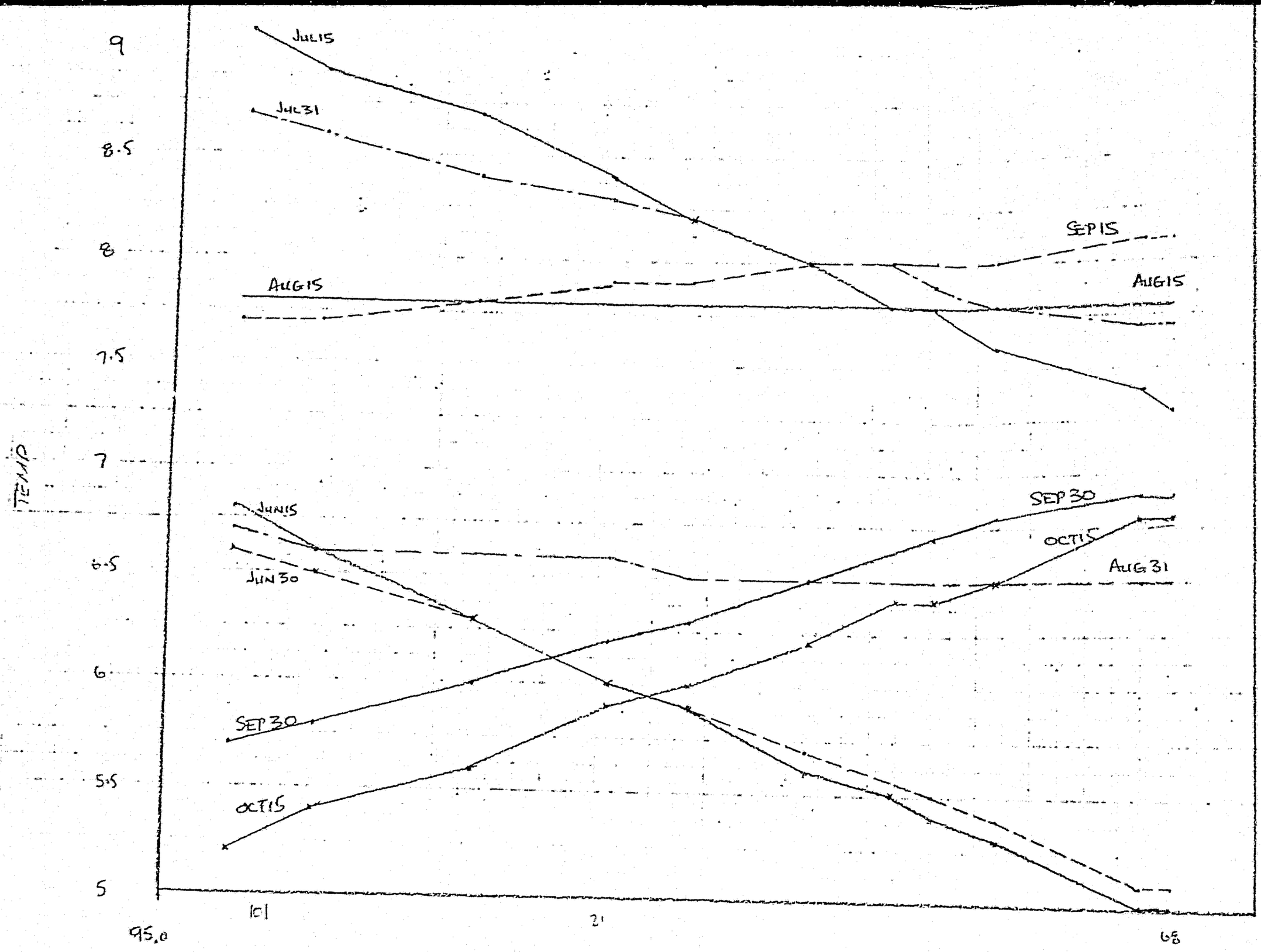
K+E 10 X 10 TO ½ IN. 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.
46 1320

K&E 10 X 10 TO ½ INCH
KEUFFEL & ESSER CO. MADE IN U.S.A.
46 1320
7 X 10 INCHES



SIMULATED PROFILE IN DEVIL CANYON
DECEMBER 31, 1981

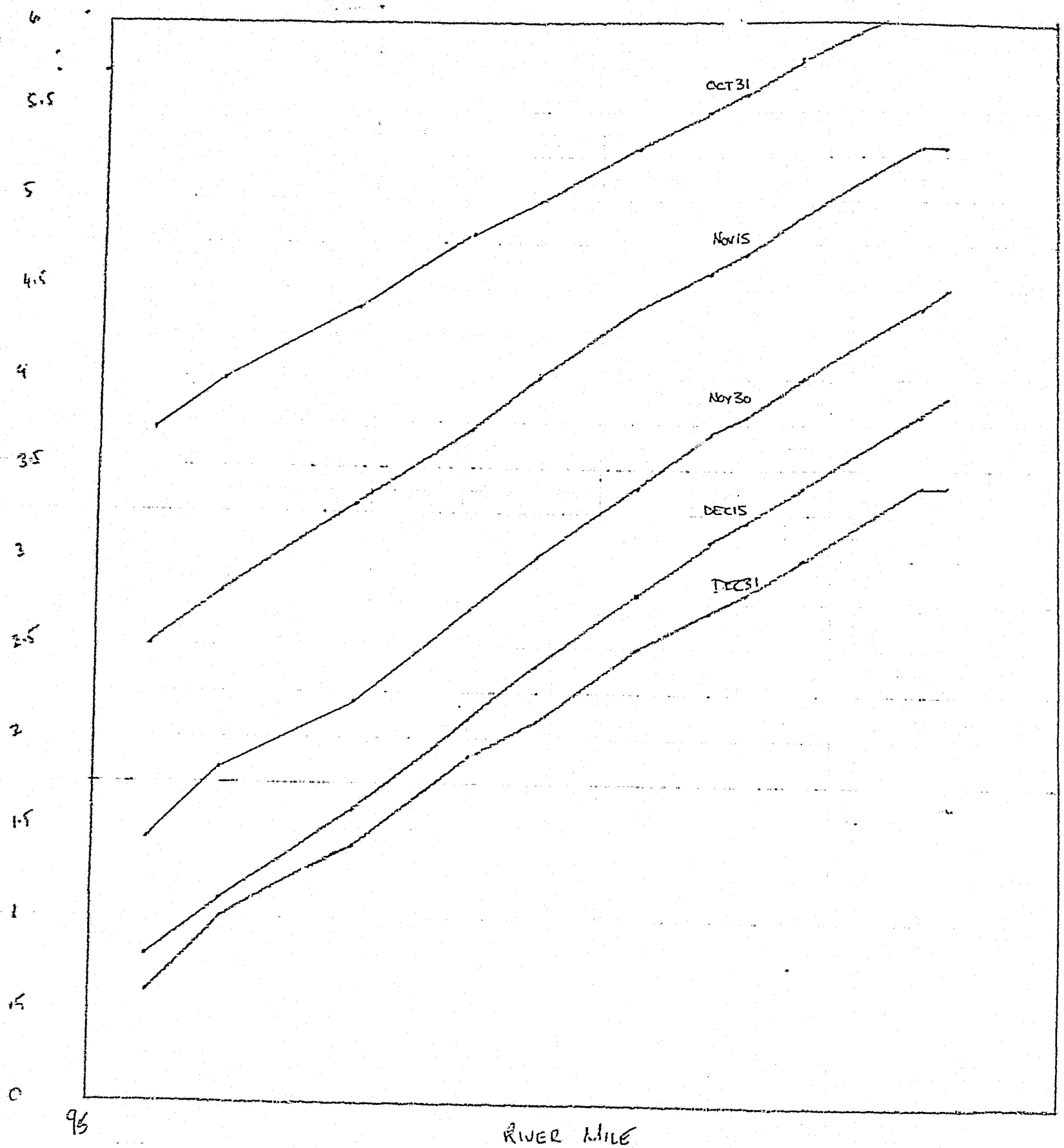
DC-1022
DC-14FEB85



W/DC (2010)
JUNE - ~~OCT~~ 1981
OCT

DC1020

DEVIL CANYON HEATSM
W/DC 2010
DYRESM RUN


6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
.5
0
OCT 31
NOV 15
NOV 30
DEC 15
DEC 31
95
RIVER MILE

VAX/VMS DCRAWFORD DCOUTF 15-FEB-1983 16:45 TTD7: 15-FEB-1983 16:45 DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCOUTF.DAT;7 VAX/VMS
VAX/VMS DCRAWFORD DCOUTF 15-FEB-1983 16:45 TTD7: 15-FEB-1983 16:45 DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCOUTF.DAT;7 VAX/VMS

```
                    DDDD     CCCC  RRRR     AAA   W   W  FFFFF   000   RRRR   DDDD
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                    D   D   C      RRRR    A   A  W   W  FFFF   0   0  RRRR   D   D
                    D   D   C      R R     AAAAA  W W W  F      0   0  R R    D   D
                    D   D   C      R  R    A   A  WW WW  F      0   0  R  R   D   D
                    DDDD     CCCC  R   R   A   A  W   W  F       000   R   R  DDDD

    DDDDDDDD       CCCCCCCC    000000    UU    UU  TTTTTTTTTT  FFFFFFFFFF
    DDDDDDDD       CCCCCCCC    000000    UU    UU  TTTTTTTTTT  FFFFFFFFFF
    DD    DD  CC          00    00  UU    UU      TT      FF
    DD    DD  CC          00    00  UU    UU      TT      FF
    DD    DD  CC          00    00  UU    UU      TT      FF
    DD    DD  CC          00    00  UU    UU      TT      FF
    DD    DD  CC          00    00  UU    UU      TT      FFFFFFFF
    DD    DD  CC          00    00  UU    UU      TT      FFFFFFFF
    DD    DD  CC          00    00  UU    UU      TT      FF
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    DD    DD  CC          00    00  UU    UU      TT      FF          ....
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    DDDDDDDD       CCCCCCCC    000000    UUUUUUUUUU      TT      FF          ....

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    DD    DD  AA        AA      TT      ;;;;        77
    DD    DD  AA        AA      TT                  77
    DD    DD  AA        AA      TT                  77
    DD    DD  AA        AA      TT      ;;;;      77
    DD    DD  AA        AA      TT      ;;;;      77
    DD    DD  AAAAAAAAAA      TT      ;;;;    77
    DD    DD  AAAAAAAAAA      TT      ;;;;    77
    DD    DD  AA        AA      TT        ;;    77
    DD    DD  AA        AA      TT        ;;    77
    DDDDDDDD      AA        AA      TT      ;;    77
    DDDDDDDD      AA        AA      TT      ;;    77

                    DDDD     CCCC  RRRR     AAA   W   W  FFFFF   000   RRRR   DDDD
                    D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
                    D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
                    D   D   C      RRRR    A   A  W   W  FFFF   0   0  RRRR   D   D
                    D   D   C      R R     AAAAA  W W W  F      0   0  R R    D   D
                    D   D   C      R  R    A   A  WW WW  F      0   0  R  R   D   D
                    DDDD     CCCC  R   R   A   A  W   W  F       000   R   R  DDDD
```


VAX/VMS DCRAWFORD DCOUTF 15-FEB-1983 16:45 TTD7: 15-FEB-1983 16:45 DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCOUTF.DAT;7 VAX/VMS
VAX/VMS DCRAWFORD DCOUTF 15-FEB-1983 16:45 TTD7: 15-FEB-1983 16:45 DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCOUTF.DAT;7 VAX/VMS

81152	22982.1	4.6	0.0	443.5
81153	22982.1	6.1	0.0	443.5
81154	22982.1	6.3	0.0	443.5
81155	22982.1	6.7	0.0	443.5
81156	22982.1	6.5	0.0	443.5
81157	22982.1	4.8	0.0	443.5
81158	22982.1	6.7	0.0	443.5
81159	22385.9	6.6	0.0	443.5
81160	22385.9	4.9	0.0	443.5
81161	22385.9	7.2	0.0	443.5
81162	22385.9	7.0	0.0	443.5
81163	22385.9	7.8	0.0	443.5
81164	22385.9	7.6	0.0	443.5
81165	22385.9	8.4	0.0	443.5
81166	19393.2	8.0	0.0	443.5
81167	19393.2	8.1	0.0	443.5
81168	19393.2	8.3	0.0	443.5
81169	19393.2	8.7	0.0	443.5
81170	19393.2	9.2	0.0	443.5
81171	19393.2	9.5	0.0	443.5
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81173	13892.3	9.3	0.0	443.5
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81176	13892.3	9.8	0.0	443.5
81177	13892.3	8.6	0.0	443.5
81178	13892.3	8.7	0.0	443.5
81179	13892.3	8.1	0.0	443.5
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81187	13567.9	9.5	0.0	443.5
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81189	13567.9	9.4	0.0	443.5
81190	13567.9	9.3	0.0	443.5
81191	13567.9	9.3	0.0	443.5
81192	13567.9	9.4	0.0	443.5
81193	13567.9	9.4	0.0	443.5
81194	16725.7	9.5	0.0	443.5
81195	16725.7	9.6	0.0	443.5
81196	16725.7	9.3	0.0	443.5
81197	16725.7	9.3	0.0	443.5
81198	16725.7	9.3	0.0	443.5
81199	16725.7	10.0	0.0	443.5
81200	16725.7	9.6	0.0	443.5
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81202	16529.2	9.6	0.0	443.5
81203	16529.2	9.6	0.0	443.5
81204	16529.2	9.6	0.0	443.5
81205	16529.2	9.6	0.0	443.5
81206	16529.2	9.6	0.0	443.5
81207	16529.2	9.6	0.0	443.5
81208	15868.4	9.7	0.0	443.5
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81213	15868.4	10.2	0.0	443.4
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81240	31615.1	4.0	33673.0	443.5
81241	31306.1	4.0	33673.0	443.5
81242	31037.7	4.0	33673.0	443.5
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81244	24469.4	4.0	33673.0	443.5
81245	20800.5	4.0	33673.0	443.5
81246	15726.3	4.0	33673.0	443.5
81247	11183.5	4.0	33673.0	443.5
81248	10634.4	4.0	33673.0	443.5
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81252	8269.3	4.0	33673.0	443.5
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81272	25974.1	7.0	0.0	442.3
81273	25974.1	7.2	0.0	442.1
81274	25974.1	7.0	0.0	441.9

Switch

FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED

81276	25974.1	6.6	0.0	441.4
81277	25974.1	6.4	0.0	441.1
81278	17369.4	6.2	0.0	441.3
81279	17369.4	6.1	0.0	441.4
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81284	17369.4	5.7	0.0	442.1
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81287	18231.1	5.6	0.0	442.3
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81290	18231.1	5.4	0.0	442.6
81291	18231.1	5.3	0.0	442.7
81292	20276.9	5.2	0.0	442.8
81293	20276.9	5.2	0.0	442.9
81294	20276.9	5.1	0.0	443.0
81295	20276.9	5.0	0.0	443.1
81296	20276.9	5.0	0.0	443.3
81297	20276.9	4.9	0.0	443.4
81298	20276.9	4.8	0.0	443.5
81299	21274.7	4.8	1.0	443.5
81300	21274.7	4.7	1.0	443.5
81301	21274.7	4.6	1.0	443.5
81302	21274.7	4.5	1.0	443.5
81303	21274.7	4.4	1.0	443.5
81304	21274.7	4.3	1.0	443.5
81305	21274.7	4.2	1.0	443.5
81306	24931.8	4.1	0.0	443.5
81307	24931.8	4.1	0.0	443.5
81308	24931.8	4.0	0.0	443.5
81309	24931.8	4.0	0.0	443.5
81310	24931.8	3.8	0.0	443.5
81311	24931.8	3.7	0.0	443.5
81312	24931.8	3.6	0.0	443.5
81313	25167.9	3.5	0.0	443.5
81314	25167.9	3.4	0.0	443.5
81315	25167.9	3.3	0.0	443.5
81316	25167.9	3.3	0.0	443.5
81317	25167.9	3.2	0.0	443.5
81318	25167.9	2.9	0.0	443.5
81319	25167.9	3.1	0.0	443.5
81320	25550.1	3.0	0.0	443.5
81321	25550.1	2.8	0.0	443.5
81322	25550.1	2.2	0.0	443.5
81323	25550.1	1.6	0.0	443.5
81324	25550.1	1.5	0.0	443.5
81325	25550.1	1.5	0.0	443.5
81326	25550.1	1.5	0.0	443.5
81327	25011.8	1.5	0.0	443.5
81328	25011.8	1.5	0.0	443.5
81329	25011.8	1.4	0.0	443.5
81330	25011.8	1.4	0.0	443.5
81331	25011.8	1.4	0.0	443.5
81332	25011.8	1.3	0.0	443.5
81333	25011.8	1.3	0.0	443.5
81334	25599.3	1.3	0.0	443.5
81335	25599.3	1.3	0.0	443.5
81336	25599.3	1.3	0.0	443.5
81337	25599.3	1.3	0.0	443.5

FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED

81339	25599.3	1.3	0.0	443.5
81340	25599.3	1.3	0.0	443.5
81341	26135.6	1.3	0.0	443.5
81342	26135.6	1.3	0.0	443.5
81343	26135.6	1.3	0.0	443.5
81344	26135.6	1.3	0.0	443.5
81345	26135.6	1.3	0.0	443.5
81346	26135.6	1.3	0.0	443.5
81347	26135.6	1.3	0.0	443.5
81348	26681.6	1.3	0.0	443.5
81349	26681.6	1.3	0.0	443.5
81350	26681.6	1.3	0.0	443.5
81351	26681.6	1.3	0.0	443.5
81352	26681.6	1.3	0.0	443.5
81353	26681.6	1.3	0.0	443.5
81354	26681.6	1.3	0.0	443.5
81355	27285.0	1.9	0.0	443.5
81356	27285.0	1.9	0.0	443.5
81357	27285.0	1.9	0.0	443.5
81358	27285.0	1.9	0.0	443.5
81359	27285.0	1.9	0.0	443.5
81360	27285.0	1.9	0.0	443.5
81361	27285.0	1.9	0.0	443.5
81362	27103.7	1.9	0.0	443.5
81363	27103.7	1.8	0.0	443.5
81364	27103.7	1.8	0.0	443.5
81365	27103.7	1.8	0.0	443.5

FOLD LENGTH
12 IN
11 IN
8.5 IN
8 IN
AUTO
MANUAL
FEED

DCCONT.DAT

```
  1  352
  8 1430
 15 2220
 22 1712
 29 1653
 36 2255
 43 1771
 50 1826
 57 1855
 63 2217
 70 2782
 77 4488
 84 4099
 91 3396
 98 3928
107 4843
114 4123
121 3045
128 1170
135 1012
142  885
149  686
156  545
163  473
170  376
177  311
184  273
191  246
198  226
205  205
212  196
 -1  100
```

RUN DCINFLOW

```
$ TYPE SYS$INPUT
$ ASSIGN/USER DCCONT.DAT  FOR002
$ ASSIGN/USER FOR059.DAT FOR006
$ ASSIGN/USER DCFLOW.OUT FOR007
$ RUN DCINFLOW
```

DCINFLOW.

365
152
213

```
  1  352
  8 1430
 15 2220
 22 1712
 29 1653
 36 2255
 43 1771
 50 1826
 57 1855
 63 2217
 70 2782
 77 4488
 84 4099
 91 3396
 98 3928
107 4843
114 4123
121 3045
128 1170
135 1012
142  885
149  686
156  545
163  473
170  376
177  311
184  273
191  246
198  226
205  205
212  196
-1 100
```

```
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DI
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DI
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DI
```

```
DDDD     CCCC   RRRR     AAA    W    W  FFFFF    000    RRR
D   D   C       R   R   A   A   W    W  F       0   0   R
D   D   C       R   R   A   A   W    W  F       0   0   R
D   D   C       RRRR    A   A   W    W  FFFF    0   0   RRR
D   D   C       R R     AAAAA   W W W  F       0   0   R R
D   D   C       R  R    A   A   WW WW  F       0   0   R  R
DDDD     CCCC   R   R   A   A   W    W  F        000    R   R
```

```
FFFFFFFFFF     000000     RRRRRRRR      000000     5555555555     999999
FFFFFFFFFF     000000     RRRRRRRR      000000     5555555555     999999
FF            00    00   RR     RR    00    00    55             99    99
FF            00    00   RR     RR    00    00    55             99    99
FF            00    00   RR     RR    00  0000    555555         99    99
FF            00    00   RR     RR    00  0000    555555         99    99
FFFFFFFF      00    00   RRRRRRRR     00  00  00        55       99999999
FFFFFFFF      00    00   RRRRRRRR     00  00  00        55       99999999
FF            00    00   RR   RR      0000    00          55           99
FF            00    00   RR   RR      0000    00          55           99
FF            00    00   RR    RR    00      00    55    55           99
FF            00    00   RR    RR    00      00    55    55           99
FF              000000     RR     RR    000000      555555     999999
FF              000000     RR     RR    000000      555555     999999
```

```
DDDDDDDD       AAAAAA     TTTTTTTTTT      ;;;;       11
DDDDDDDD       AAAAAA     TTTTTTTTTT      ;;;;       11
DD     DD     AA    AA       TT          ;;;;     1  11
DD     DD     AA    AA       TT          ;;;;     1111
DD     DD     AA    AA       TT                     11
DD     DD     AA    AA       TT                     11
DD     DD     AA    AA       TT          ;;;;       11
DD     DD     AA    AA       TT          ;;;;       11
DD     DD     AAAAAAAAAA     TT          ;;;;       11
DD     DD     AAAAAAAAAA     TT          ;;;;       11
DD     DD     AA    AA       TT            ;;       11
DD     DD     AA    AA       TT            ;;       11
DDDDDDDD      AA    AA       TT          ;;       111111
DDDDDDDD      AA    AA       TT          ;;       111111
```

```
DDDD     CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR
D   D   C       R   R   A   A   W    W  F       0   0   R
D   D   C       R   R   A   A   W    W  F       0   0   R
D   D   C       RRRR    A   A   W    W  FFFF    0   0   RRRR
D   D   C       R R     AAAAA   W W W  F       0   0   R R
D   D   C       R  R    A   A   WW WW  F       0   0   R  R
DDDD     CCCC   R   R   A   A   W    W  F        000    R   R
```

```
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DIS
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DIS
VAX/VMS   DCRAWFORD     FOR059 21-JAN-1983 08:35    TTD7: 21-JAN-1983 08:35    DIS
```

81152	17490.7	4.60	0.0	0.0
81153	17490.7	6.06	0.0	0.0
81154	17490.7	6.27	0.0	0.0
81155	17490.7	6.67	0.0	0.0
81156	17490.7	6.49	0.0	0.0
81157	17490.7	4.81	0.0	0.0
81158	17490.7	6.66	0.0	0.0
81159	17723.2	6.64	0.0	0.0
81160	17723.2	4.90	0.0	0.0
81161	17723.2	7.19	0.0	0.0
81162	17723.2	6.99	0.0	0.0
81163	17723.2	7.83	0.0	0.0
81164	17723.2	7.61	0.0	0.0
81165	17723.2	8.39	0.0	0.0
81166	15159.1	7.97	0.0	0.0
81167	15159.1	8.15	0.0	0.0
81168	15159.1	8.29	0.0	0.0
81169	15159.1	8.73	0.0	0.0
81170	15159.1	9.16	0.0	0.0
81171	15159.1	9.51	0.0	0.0
81172	15159.1	9.60	0.0	0.0
81173	9336.2	9.34	0.0	0.0
81174	9336.2	9.39	0.0	0.0
81175	9336.2	9.53	0.0	0.0
81176	9336.2	9.84	0.0	0.0
81177	9336.2	8.63	0.0	0.0
81178	9336.2	8.69	0.0	0.0
81179	9336.2	8.14	0.0	0.0
81180	8741.7	7.97	0.0	0.0
81181	8741.7	7.90	0.0	0.0
81182	8741.7	7.85	0.0	0.0
81183	8741.7	8.05	0.0	0.0
81184	8741.7	8.07	0.0	0.0
81185	8741.7	8.06	0.0	0.0
81186	8741.7	9.53	0.0	0.0
81187	9106.2	9.51	0.0	0.0
81188	9106.2	9.47	0.0	0.0
81189	9106.2	9.36	0.0	0.0
81190	9106.2	9.34	0.0	0.0
81191	9106.2	9.32	0.0	0.0
81192	9106.2	9.35	0.0	0.0
81193	9106.2	9.43	0.0	0.0
81194	6189.9	9.47	0.0	0.0
81195	6189.9	9.56	0.0	0.0
81196	6189.9	9.34	0.0	0.0
81197	6189.9	9.35	0.0	0.0
81198	6189.9	9.35	0.0	0.0
81199	6189.9	9.97	0.0	0.0
81200	6189.9	9.64	0.0	0.0
81201	6231.5	9.62	0.0	0.0
81202	6231.5	9.63	0.0	0.0
81203	6231.5	9.63	0.0	0.0
81204	6231.5	9.64	0.0	0.0
81205	6231.5	9.62	0.0	0.0
81206	6231.5	9.63	0.0	0.0
81207	6231.5	9.64	0.0	0.0
81208	6681.7	9.66	0.0	0.0
81209	6681.7	10.17	0.0	0.0
81210	6681.7	10.12	0.0	0.0
81211	6681.7	10.10	0.0	0.0
81212	6681.7	10.14	0.0	0.0
81213	6681.7	10.23	0.0	0.0

81214	6681.7	10.25	0.0	0.0
81215	6593.6	10.44	0.0	0.0
81216	6593.6	10.57	0.0	0.0
81217	6593.6	10.43	0.0	0.0
81218	6593.6	10.32	0.0	0.0
81219	6593.6	7.87	0.0	0.0
81220	6593.6	8.46	0.0	0.0
81221	6593.6	8.97	0.0	0.0
81222	13179.8	9.10	0.0	0.0
81223	13179.8	8.91	0.0	0.0
81224	13179.8	8.81	0.0	0.0
81225	13179.8	8.54	0.0	0.0
81226	13179.8	8.28	0.0	0.0
81227	13179.8	7.95	0.0	0.0
	13179.8	7.67		
81228	20495.6	9.46	7315.8	********
	~~5695.7~~	~~7.32~~		
81229	81345.6	9.45	75649.9 (OFLOW1)	********
	~~5695.7~~	~~7.28~~		
81230	65124.9	9.36	59429.2	********
	~~5695.7~~	~~7.30~~		
81231	62515.5	9.33	56819.8	********
	~~5695.7~~	~~7.28~~		
81232	70546.7	9.23	64851.0	********
	~~5695.7~~	~~7.20~~		
81233	95569.3	9.27	89873.6	********
	~~5695.7~~	~~7.24~~		
81234	89115.1	9.17	83419.4	********
	~~5695.7~~	~~7.25~~		
81235	81063.8	9.24	75368.1	********
	~~6004.0~~	~~5.80~~		
81236	70895.4	8.44	64891.4	********
	~~6004.0~~	~~7.40~~		
81237	61416.4	9.49	55412.4	********
	~~6004.0~~	~~9.47~~		
81238	55367.6	9.62	49363.6	********
	~~6004.0~~	~~9.43~~		
81239	54501.9	10.00	48497.9	********
	~~6004.0~~	~~9.42~~		
81240	56020.4	10.33	50016.4	********
	~~6004.0~~	~~9.71~~		
81241	55711.5	9.89	49707.5	********
	~~6004.0~~	~~9.44~~		
81242	55443.1	9.45	49439.1	********
	~~6696.3~~	~~9.38~~		
81243	53206.4	9.38	46510.1	********
	~~6696.3~~	~~7.89~~		
81244	51893.8	6.54	45197.5	********
	~~6696.3~~	~~7.34~~		
81245	48225.0	9.47	41528.7	********
	~~6696.3~~	~~7.36~~		
81246	43150.8	9.52	36454.5	********
	~~6696.3~~	~~7.35~~		
81247	38607.9	9.39	31911.6	********
	~~6696.3~~	~~7.37~~		
81248	38058.8	9.29	31362.5	********
	6696.3	7.36		
81249	37350.3	9.24	30654.0	********
	~~7388.7~~	~~7.35~~		
81250	36835.4	9.18	29446.7	********
	~~7388.7~~	~~7.29~~		
81251	37125.7	9.30	29737.0	********
	~~7388.7~~	~~7.27~~		
	37440.6	9.15		

SPILL = 75649.9

PH. = 5695.7 / 81345.6

81252			30051.9	********
	7388.7	7.25		
81253	35080.4	9.15	27691.7	********
	7388.7	7.22		
81254	33722.8	9.08	26334.1	********
	7388.7	7.18		
81255	31873.8	9.07	24485.1	********
	7388.7	7.14		
81256	30798.2	8.98	23409.5	********
	8257.3	7.06		
81257	29216.8	8.90	20959.5	********
	8257.3	7.01		
81258	28063.2	8.82	19805.9	********
	8257.3	7.01		
81259	26551.7	8.73	18294.4	********
	8257.3	6.99		
81260	26359.1	8.63	18101.8	********
	8257.3	6.96		
81261	24770.4	8.46	16513.1	********
	8257.3	7.12		
81262	24123.7	8.28	17866.4	********
	8257.3	7.06		
81263	26908.5	8.23	18651.2	********
	13507.7	6.85		
81264	28290.6	8.19	14782.9	********
	13507.7	6.90		
81265	26396.4	8.18	12888.7	********
	13507.7	6.85		
81266	24264.4	8.09	10756.7	906500.2
	13507.7	6.79		
81267	27349.2	8.02	13841.5	802897.9
	13507.7	6.76		
81268	22018.7	7.90	8511.0	759637.4
	13507.7	6.63		
81269	19974.7	7.81	6467.0	586846.1
	13507.7	6.60		
81270	18224.7	7.78	4717.0	422729.3
	16499.9	6.82		
81271	16793.1	7.46	293.2	95022.7
81272	16499.9	7.03	0.0	0.0
81273	16499.9	7.15	0.0	0.0
81274	16499.9	6.96	0.0	0.0
81275	16499.9	6.76	0.0	0.0
81276	16499.9	6.55	0.0	0.0
81277	16499.9	6.38	0.0	0.0
81278	18317.7	6.19	0.0	0.0
81279	18317.7	6.11	0.0	0.0
81280	18317.7	6.04	0.0	0.0
81281	18317.7	5.95	0.0	0.0
81282	18317.7	5.88	0.0	0.0
81283	18317.7	5.81	0.0	0.0
81284	18317.7	5.73	0.0	0.0
81285	18765.4	5.68	0.0	0.0
81286	18765.4	5.61	0.0	0.0
81287	18765.4	5.57	0.0	0.0
81288	18765.4	5.52	0.0	0.0
81289	18765.4	5.46	0.0	0.0
81290	18765.4	5.40	0.0	0.0
81291	18765.4	5.31	0.0	0.0
81292	22200.4	5.23	0.0	0.0
81293	22200.4	5.16	0.0	0.0
81294	22200.4	5.09	0.0	0.0
81295	22200.4	5.04	0.0	0.0

81296	22200.4	4.99	0.0	0.0
81297	22200.4	4.93	0.0	0.0
81298	22200.4	4.85	0.0	0.0
81299	19597.3	4.78	0.0	0.0
81300	19597.3	4.69	0.0	0.0
81301	19597.3	4.59	0.0	0.0
81302	19597.3	4.48	0.0	0.0
81303	19597.3	4.41	0.0	0.0
81304	19597.3	4.33	0.0	0.0
81305 1NOV	19597.3	4.22	0.0	0.0
81306	23597.5	4.11	0.0	0.0
81307	23597.5	4.05	0.0	0.0
81308 4NOV	23597.5	3.98	0.0	0.0
81309	23597.5	3.97	0.0	0.0
81310	23597.5	3.84	0.0	0.0
81311	23597.5	3.69	0.0	0.0
81312	23597.5	3.62	0.0	0.0
81313	24008.5	3.50	0.0	0.0
81314	24008.5	3.41	0.0	0.0
81315	24008.5	3.34	0.0	0.0
81316	24008.5	3.27	0.0	0.0
81317	24008.5	3.20	0.0	0.0
81318	24008.5	2.94	0.0	0.0
81319	24008.5	3.09	0.0	0.0
81320	24629.9	2.95	0.0	0.0
81321	24629.9	2.81	0.0	0.0
81322	24629.9	2.15	0.0	0.0
81323	24629.9	1.57	0.0	0.0
81324	24629.9	1.49	0.0	0.0
81325	24629.9	1.47	0.0	0.0
81326	24629.9	1.47	0.0	0.0
81327	24422.0	1.46	0.0	0.0
81328	24422.0	1.46	0.0	0.0
81329	24422.0	1.35	0.0	0.0
81330	24422.0	1.35	0.0	0.0
81331	24422.0	1.35	0.0	0.0
81332	24422.0	1.34	0.0	0.0
81333	24422.0	1.34	0.0	0.0
81334	25050.7	1.34	0.0	0.0
81335 1DEC	25050.7	1.34	0.0	0.0
81336	25050.7	1.34	0.0	0.0
81337	25050.7	1.34	0.0	0.0
81338	25050.7	1.33	0.0	0.0
81339	25050.7	1.33	0.0	0.0
81340	25050.7	1.32	0.0	0.0
81341	25647.7	1.34	0.0	0.0
81342	25647.7	1.34	0.0	0.0
81343	25647.7	1.33	0.0	0.0
81344	25647.7	1.31	0.0	0.0
81345	25647.7	1.30	0.0	0.0
81346	25647.7	1.29	0.0	0.0
81347	25647.7	1.29	0.0	0.0
81348	26217.8	1.29	0.0	0.0
81349	26217.8	1.28	0.0	0.0
81350	26217.8	1.28	0.0	0.0
81351	26217.8	1.27	0.0	0.0
81352	26217.8	1.27	0.0	0.0
81353	26217.8	1.26	0.0	0.0
81354	26217.8	1.26	0.0	0.0
81355	26846.5	1.89	0.0	0.0
81356	26846.5	1.88	0.0	0.0
81357	26846.5	1.88	0.0	0.0
81358	26846.5	1.88	0.0	0.0

81359	26846.5	1.87	0.0	0.0
81360	26846.5	1.87	0.0	0.0
81361	26846.5	1.86	0.0	0.0
81362	26685.1	1.86	0.0	0.0
81363	26685.1	1.85	0.0	0.0
81364	26685.1	1.85	0.0	0.0
81365	26685.1	1.84	0.0	0.0

26685.1
196
26881.1

26685
390
27075

196
2.5
980
292
390.0

```
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TFC
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TFC
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TFC
```

```
DDDD      CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDD
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D
D    D   C       R   R   A   A   W    W  F       0   0   R   R   D
D    D   C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D
D    D   C       R R     AAAAA   W WW W  F       0   0   R R     D
D   D    C       R  R    A   A   WW  WW  F       0   0   R  R    D
DDDD      CCCC   R   R   A   A   W    W  F        000    R   R   DDD
```

```
DDDDDDDD      CCCCCCCC     000000     FFFFFFFFFF  II        000000     WW
DDDDDDDDD     CCCCCCCCC    000000     FFFFFFFFFF  LL        000000     WW
DD      DD    CC          00    00   FF          II        00    00   WW
DD      DD    CC          00    00   FF          LL        00    00   WW
DD      DD    CC          00    00   FF          LL        00    00   WW
DD      DD    CC          00    00   FF          II        00    00   WW
DD      DD    CC          00    00   FF          LL        00    00   WW
DD      DD    CC          00    00   FF          LL        00    00   WW
DD      DD    CC          00    00   FF          II        00    00   WW
DD      DD    CC          00    00   FF          LL        00    00   WW
DDDDDDDDD     CCCCCCCC     000000     FF          IIIIIIIIII  000000     WW
DDDDDDDD      CCCCCCCC     000000     FF          IIIIIIIIII  000000     WW
```

```
DDDDDDDD      AAAAAA     TTTTTTTTTT     $$$$      ??????
DDDDDDDDD     AAAAAA     TTTTTTTTTT     $$$$      ??????
DD      DD    AA  AA        TT          $$$$     22      22
DD      DD    AA  AA        TT          $$$$     22      22
DD      DD    AA  AA        TT                           22
DD      DD    AA  AA        TT                           22
DD      DD    AA  AA        TT          $$$$           22
DD      DD    AA  AA        TT          $$$$           22
DD      DD    AAAAAAAAAA    TT          $$$$        22
DD      DD    AAAAAAAAAA    TT          $$$$        22
DD      DD    AA      AA    TT             $$     22
DD      DD    AA      AA    TT             $$     22
DDDDDDDDD     AA      AA    TT          $$      2222222222
DDDDDDDD      AA      AA    TT          $$      2222222222
```

```
DDDD      CCCC   RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D    C       R   R   A   A   W    W  F       0   0   R   R   D   D
D    D   C       R   R   A   A   W    W  F       0   0   R   R   D    D
D    D   C       RRRR    A   A   W    W  FFFF    0   0   RRRR    D    D
D    D   C       R R     AAAAA   W WW W  F       0   0   R R     D    D
D   D    C       R  R    A   A   WW  WW  F       0   0   R  R    D   D
DDDD      CCCC   R   R   A   A   W    W  F        000    R   R   DDDD
```

```
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TECHNI
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TECHNI
VAX/VMS  DCRAWFORD     DCDFLOW 21-JAN-1983 14:34    TTD7: 21-JAN-1983 14:34    DISK$TECHNI
```

```
 4  1233480.  2.4466    1091.6
1350.   456.   1400.   707.   1450.   1048.   1500.   1484.
443.6  81152
1          9393.5
8          9149.8
15         7926.6
22         5678.2
29         5747.6
36         5545.6
43         4836.3
50         4756.0
57         4485.9
64         9807.5
71         9946.3
78        13763.2
85        13763.2
92        13763.2
99        13763.2
106       13763.2
113       11412.7
120       10616.4
127        7099.4
134        7451.6
141        7518.0 +769.8 —  8287.8
148        7123.6 +1572  —  8695.6
155        7787.4 +2403  — 10190.4
162        7638.9 +2648  — 10286.9
169        9723.1 + 719  — 10443.1
176       10223.1
183       10463.2
190       10682.4
197       10905.6
204       11159.2
211       11078.1
-1 100.
```

```
Y/UMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
Y/UMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
Y/UMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
```

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA   W WW W  F      0   0  R R    D   D
D   D   C      R  R    A   A   WW  WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R  DDDD
```

```
DDDDDDDD      CCCCCCCC    000000    IIII      IIII  TTTTTTTTTT  FFFFFFFFFF
DDDDDDDD      CCCCCCCC    000000    IIII      IIII  TTTTTTTTTT  FFFFFFFFFF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FFFFFFFF
DD     DD     CC          00    00  II        II      TT      FFFFFFFF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FF
DD     DD     CC          00    00  II        II      TT      FF
DDDDDDDDD     CCCCCCCCC    000000    IIIIIIIIIIIIII    TT      FF
DDDDDDDDD     CCCCCCCCC    000000    IIIIIIIIIIIIII    TT      FF
```

```
DDDDDDDDD       AAAAAA     TTTTTTTTTT      ;;;;      ??????
DDDDDDDDD       AAAAAA     TTTTTTTTTT      ;;;;      ??????
DD     DD     AA    AA       TT           ;;;;     22      22
DD     DD     AA    AA       TT           ;;;;     22      22
DD     DD     AA    AA       TT                            22
DD     DD     AA    AA       TT                            22
DD     DD     AA    AA       TT           ;;;;           22
DD     DD     AA    AA       TT           ;;;;           22
DD     DD     AAAAAAAAAA     TT           ;;;;        22
DD     DD     AAAAAAAAAA     TT           ;;;;        22
DD     DD     AA    AA       TT             ;;      22
DD     DD     AA    AA       TT             ;;      22
DDDDDDDDD     AA    AA       TT           ;;      ??????????
DDDDDDDDD     AA    AA       TT           ;;      ??????????
```

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA   W WW W  F      0   0  R R    D   D
D   D   C      R  R    A   A   WW  WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R  DDDD
```

```
/VMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
/VMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
/VMS   DCRAWFORD     DCOUTF 21-JAN-1983 14:35    TTD7: 21-JAN-1983 14:35    DISK$TECHNICAL:[DC
```

81152	22982.1	4.4	4095.2	443.5
81153	22982.1	6.1	1.2	443.5
81154	22982.1	6.3	1.2	443.5
81155	22982.1	6.7	1.2	443.5
81156	22982.1	6.5	1.2	443.5
81157	22982.1	4.8	1.2	443.5
81158	22982.1	6.7	1.2	443.5
81159	22385.9	6.6	0.5	443.5
81160	22385.9	4.9	0.5	443.5
81161	22385.9	7.2	0.5	443.5
81162	22385.9	7.0	0.5	443.5
81163	22385.9	7.8	0.5	443.5
81164	22385.9	7.4	0.5	443.5
81165	22385.9	5.4	0.5	443.5
81166	19393.2	8.0	1.0	443.5
81167	19393.2	8.1	1.0	443.5
81168	19393.2	8.3	1.0	443.5
81169	19393.2	8.7	1.0	443.5
81170	19393.2	9.2	1.0	443.5
81171	19393.2	9.5	1.0	443.5
81172	19393.2	9.4	1.0	443.5
81173	13892.3	9.3	0.0	443.5
81174	13892.3	9.4	0.0	443.5
81175	13892.3	9.5	0.0	443.5
81176	13892.3	9.8	0.0	443.5
81177	13892.3	8.6	0.0	443.5
81178	13892.3	8.7	0.0	443.5
81179	13892.3	8.1	0.0	443.5
81180	14062.1	8.0	0.0	443.5
81181	14062.1	7.9	0.0	443.5
81182	14062.1	7.8	0.0	443.5
81183	14062.1	8.1	0.5	443.5
81184	14062.1	8.1	1.0	443.5
81185	14062.1	8.1	1.0	443.5
81186	14062.1	9.5	1.0	443.5
81187	13567.9	9.5	0.9	443.5
81188	13567.9	9.5	0.9	443.5
81189	13567.9	9.4	0.9	443.5
81190	13567.9	9.3	0.9	443.5
81191	13567.9	9.3	0.9	443.5
81192	13567.9	9.4	0.9	443.5
81193	13567.9	9.4	0.9	443.5
81194	16725.7	9.5	0.0	443.5
81195	16725.7	9.6	0.0	443.5
81196	16725.7	9.3	0.0	443.5
81197	16725.7	9.3	0.0	443.5
81198	16725.7	9.3	0.0	443.5
81199	16725.7	10.0	0.0	443.5
81200	16725.7	9.6	0.0	443.5
81201	16529.2	9.6	0.0	443.5
81202	16529.2	9.6	0.0	443.5
81203	16529.2	9.6	0.0	443.5
81204	16529.2	9.6	0.0	443.5
81205	16529.2	9.6	0.0	443.5
81206	16529.2	9.6	0.0	443.5
81207	16529.2	9.6	0.0	443.5
81208	15868.4	9.7	0.0	443.5
81209	15868.4	10.2	0.0	443.5
81210	15868.4	10.1	0.0	443.5
81211	15868.4	10.1	0.0	443.5
81212	15868.4	10.1	0.0	443.5
81213	15868.4	10.2	0.0	443.5
81214	15868.4	10.3	0.0	443.5

81215	23995.0	10.4	0.0	443.3
81216	23995.0	10.6	0.0	443.0
81217	23995.0	10.4	0.0	442.8
81218	23995.0	10.3	0.0	442.6
81219	23995.0	7.9	0.0	442.4
81220	23995.0	8.5	0.0	442.2
81221	23995.0	9.0	0.0	441.9
81222	24334.6	9.1	0.0	441.9
81223	24334.6	8.9	0.0	441.8
81224	24334.6	8.8	0.0	441.7
81225	24334.6	8.5	0.0	441.6
81226	24334.6	8.3	0.0	441.6
81227	24334.6	8.0	0.0	441.5
81228	24334.6	9.5	0.0	441.7
81229	33673.0	9.4	0.0	443.4
81230	33673.0	9.4	40879.7	443.5
81231	33673.0	9.3	40537.2	443.5
81232	33673.0	9.2	48568.4	443.5
81233	33673.0	9.3	73590.9	443.5
81234	33673.0	9.2	67136.9	443.5
81235	33673.0	9.2	59085.4	443.5
81236	33673.0	8.4	46490.1	443.5
81237	33673.0	9.5	37011.1	443.5
81238	33673.0	9.6	30962.3	443.5
81239	33673.0	10.0	30096.5	443.5
81240	33673.0	10.3	31615.1	443.5
81241	33673.0	9.9	31306.1	443.5
81242	33673.0	9.4	31037.7	443.5
81243	33673.0	9.4	25782.0	443.5
81244	33673.0	6.5	24469.4	443.5
81245	33673.0	9.5	20800.5	443.5
81246	33673.0	9.5	15726.3	443.5
81247	33673.0	9.4	11183.5	443.5
81248	33673.0	9.3	10634.4	443.5
81249	33673.0	9.2	9925.9	443.5
81250	33673.0	9.2	7664.0	443.5
81251	33673.0	9.3	7954.3	443.5
81252	33673.0	9.1	8269.3	443.5
81253	33673.0	9.1	5909.0	443.5
81254	33673.0	9.1	4551.4	443.5
81255	33673.0	9.1	2702.5	443.5
81256	33673.0	9.0	1626.9	443.5
81257	33673.0	8.9	0.0	443.5
81258	33673.0	8.8	0.0	443.4
81259	33673.0	8.7	0.0	443.3
81260	33673.0	8.4	0.0	443.2
81261	33673.0	8.5	0.0	443.1
81262	33673.0	8.3	0.0	442.9
81263	33673.0	8.2	0.0	442.9
81264	27922.3	8.2	0.0	442.9
81265	27922.3	8.2	0.0	443.0
81266	27922.3	8.1	0.0	443.0
81267	27922.3	8.0	0.0	443.0
81268	27922.3	7.9	0.0	443.0
81269	27922.3	7.8	0.0	442.8
81270	27922.3	7.8	0.0	442.6
81271	25974.1	7.5	0.0	442.5
81272	25974.1	7.0	0.0	442.3
81273	25974.1	7.2	0.0	442.1
81274	25974.1	7.0	0.0	441.9
81275	25974.1	6.8	0.0	441.6
81276	25974.1	6.6	0.0	441.4
81277	25974.1	6.4	0.0	441.1

81341	26135.6	1.3	0.0	443.5
81342	26135.6	1.3	0.0	443.5
81343	26135.6	1.3	0.0	443.5
81344	26135.6	1.3	0.0	443.5
81345	26135.6	1.3	0.0	443.5
81346	26135.6	1.3	0.0	443.5
81347	26135.6	1.3	0.0	443.5
81348	26681.6	1.3	0.0	443.5
81349	26681.6	1.3	0.0	443.5
81350	26681.6	1.3	0.0	443.5
81351	26681.6	1.3	0.0	443.5
81352	26681.6	1.3	0.0	443.5
81353	26681.6	1.3	0.0	443.5
81354	26681.6	1.3	0.0	443.5
81355	27285.0	1.9	0.0	443.5
81356	27285.0	1.9	0.0	443.5
81357	27285.0	1.9	0.0	443.5
81358	27285.0	1.9	0.0	443.5
81359	27285.0	1.9	0.0	443.5
81360	27285.0	1.9	0.0	443.5
81361	27285.0	1.9	0.0	443.5
81362	27103.7	1.9	0.0	443.5
81363	27103.7	1.8	0.0	443.5
81364	27103.7	1.8	0.0	443.5
81365	27103.7	1.8	0.0	443.5

81278	17369.4		6.2	0.0	441.3
81279	17369.4		6.1	0.0	441.4
81280	17369.4		6.0	0.0	441.6
81281	17369.4		5.9	0.0	441.7
81282	17369.4		5.9	0.0	441.8
81283	17369.4		5.8	0.0	442.0
81284	17369.4		5.7	0.0	442.1
81285	18231.1		5.7	0.0	442.2
81286	18231.1		5.6	0.0	442.2
81287	18231.1		5.6	0.0	442.3
81288	18231.1		5.5	0.0	442.4
81289	18231.1		5.5	0.0	442.5
81290	18231.1		5.4	0.0	442.6
81291	18231.1		5.3	0.0	442.7
81292	18393.5		5.2	0.0	442.8
81293	18393.5		5.2	0.0	443.0
81294	18393.5		5.1	0.0	443.2
81295	18393.5		5.0	0.0	443.3
81296	18393.5	19633.1	5.0	1239.6	443.5
81297	18393.5	20185.6	4.9	5972.1	443.5
81298	18393.5	24165.6	4.8	5972.1	443.5
81299	17428.6		4.8	3847.0	443.5
81300	17428.6		4.7	3847.0	443.5
81301	17428.6		4.6	3847.0	443.5
81302	17428.6	21275.6	4.5	3847.0	443.5
81303	17428.6		4.4	3847.0	443.5
81304	17428.6		4.3	3847.0	443.5
81305	17428.6		4.2	3847.0	443.5
81306	19052.7		4.1	5878.3	443.5
81307	19052.7		4.1	5878.3	443.5
81308	19052.7		4.0	5878.3	443.5
81309	19052.7	24931.	4.0	5878.3	443.5
81310	19052.7		3.8	5878.3	443.5
81311	19052.7		3.7	5878.3	443.5
81312	19052.7		3.6	5878.3	443.5
81313	18689.3		3.5	478.8	443.5
81314	18689.3		3.4	6478.8	443.5
81315	18689.3		3.3	6478.8	443.5
81316	18689.3	25168.1	3.3	6478.8	443.5
81317	18689.3		3.2	6478.8	443.5
81318	18689.3		2.9	6478.8	443.5
81319	18689.3		3.1	6478.8	443.5
81320	23791.0		3.0	1758.8	443.5
81321	23791.0		2.8	1758.8	443.5
81322	23791.0		2.2	1758.8	443.5
81323	23791.0	25549	1.6	1758.8	443.5
81324	23791.0		1.5	1758.8	443.5
81325	23791.0		1.5	1758.8	443.5
81326	23791.0		1.5	1758.8	443.5
81327	25011.8		1.5	0.0	443.5
81328	25011.8		1.5	0.0	443.5
81329	25011.8		1.4	0.0	443.5
81330	25011.8		1.4	0.0	443.5
81331	25011.8		1.4	0.0	443.5
81332	25011.8		1.3	0.0	443.5
81333	25011.8		1.3	0.0	443.5
81334	25599.3		1.3	0.0	443.5
81335	25599.3		1.3	0.0	443.5
81336	25599.3		1.3	0.0	443.5
81337	25599.3		1.3	0.0	443.5
81338	25599.3		1.3	0.0	443.5
81339	25599.3		1.3	0.0	443.5
81340	25599.3		1.3	0.0	443.5

1855.4 ≈ 769.8 cfs.

3847 1572 cfs

5878.3 2402.6

6478.1 2648.1

1758.8 718.9.

0.— E+05

P5700.84.03.219

ACRES

Calculations

SUBJECT: SUSITNA HEP
DC. TEMP.

JOB NUMBER P5700.73
FILE NUMBER
SHEET OF
BY DATE
APP DATE

SPILLAGE PERIOD.

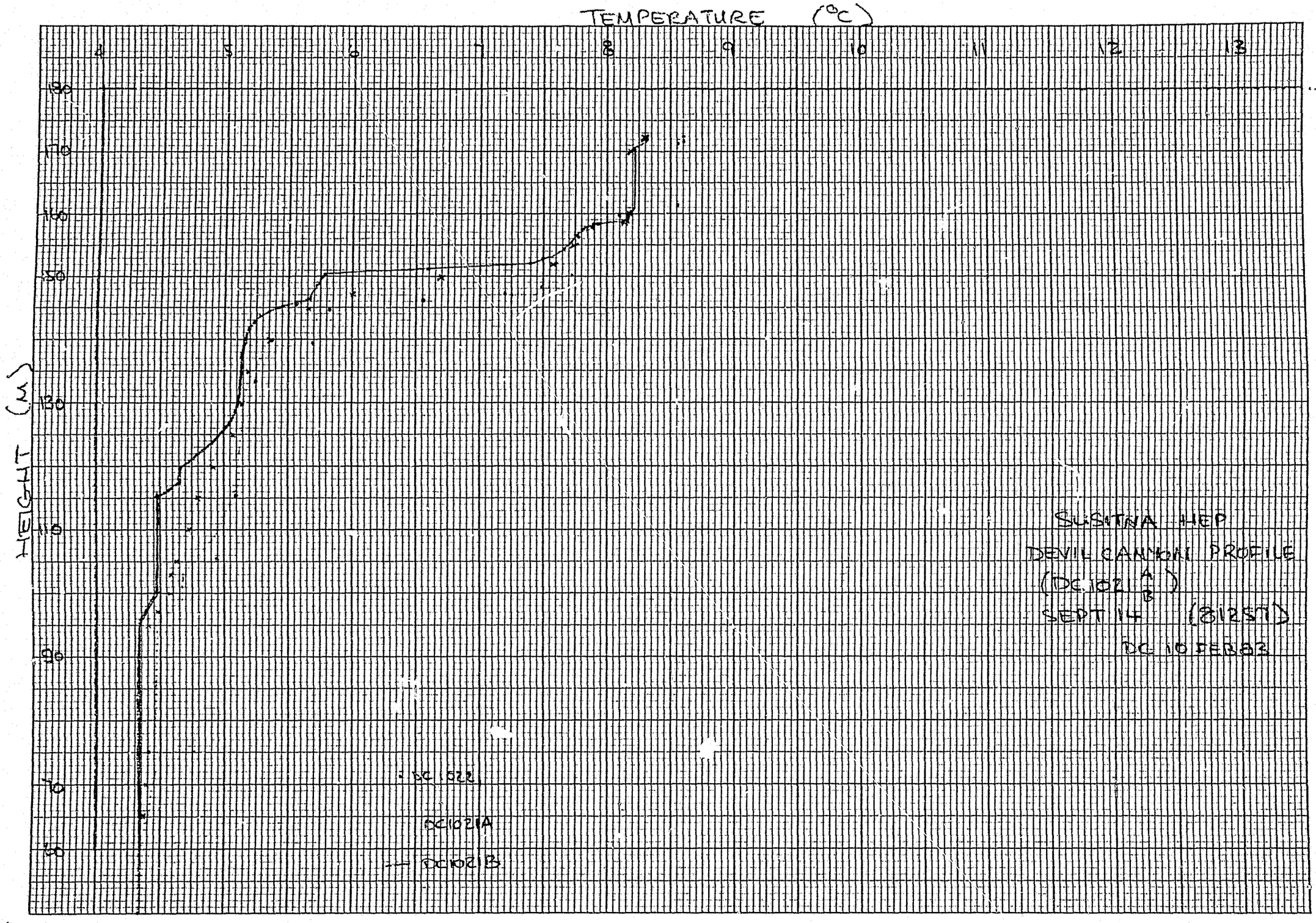
DAY	DC1021B P.H.		DC1021A SPILL		TOTAL		
B1228	24334.6	5.3	0	-	24334.6	5.3	
29	33673.0	5.31	0	-	33673.0	5.31	
30		7.72	39709.4	4.31	73382.4	5.87	5.87
31		7.74	40537.2	4.31	74210.2	5.87	
32		7.73	48568.4		82241.4	5.71	
33		5.32	73590.9	4.31	107263.9	4.63	
34		7.76	67136.9	4.32	100809.9	5.47	
35		7.75	59085.4		92758.4	5.57	
36		7.73	46490.1		80163.1	5.75	
37		7.79	37011.1		70684.1	5.97	
38		7.66	30962.3		64635.3	6.06	
39		7.85	30096.5	4.32	63769.5	6.18	
40		7.87	31615.1	4.33	65288.1	6.16	
41		7.77	31306.1		64979.1	6.11	
42		6.33	31037.7	4.33	64710.7	5.37	
43		8.06	25782.0	4.34	59,455.0	6.45	
44		5.69 8.06	24469.4	4.36	58142.4	6.50	
45		8.08	20800.5	4.35	54473.5	6.66	
46		8.09	15726.3	4.36	49544.3	6.90	
47		8.11	11183.5	4.37	44856.5	7.18	
48		8.12	10634.4	4.36	44367.4	7.22	
49		8.12	9925.5	4.36	43598.5	7.26	
50		8.12	7664.0		41337.0	7.42	
51		7.92	7954.3		41627.3	7.24	
52		8.12	8269.3		41942.3	7.38	
53		8.13	5909.0		39582.0	7.57	
54		8.13	4551.4		38224.4	7.68	
55		8.14	2702.5		36375.5	7.86	
56		8.14	1626.9	4.36	35301.9	7.97	
57	33673.0	8.13 (8.09)	-	-	33673.0	8.13	
58	33673.0	8.12 (8.09)	-	-	33673.0	8.12	

AAI-017 1/82

K+E 10 X 10 TO ½ I 7 X 10 INCHES
KEUFFEL & ESSER MADE IN U.S.A.

46 1320

257



ACRES

Calculations

SUBJECT: SUSITNA HEP

DC. TEMP PROFILE

JOB NUMBER P5700.73

FILE NUMBER

SHEET OF

BY DC DATE 14 FEB 83

APP DATE

STARTING PROFILE FOR DC1022 (Revised).

25	
172.44	8.27
171.8	8.27
170.5	8.17
160.0	8.17
158.5	8.13
157.6	7.84
155.0	7.72
152.0	7.57
150.0	6.70
147.0	6.00
145.0	5.65
140.0	5.35
135.0	5.20
130.0	5.15
125.0	5.07
120.0	4.93
115.0	4.80
110.0	4.73
105.0	4.62
100.0	4.57
97.0	4.48
95.0	4.40
70.0	4.40
65.0	4.36
0.0	4.36

AA1-017 1/82

PS700.14.03.218

Calculations

SUBJECT: SUSITNA HEP
RES. TEMP.
TWO INTAKES D.C.

JOB NUMBER PS700.73
FILE NUMBER
SHEET 1 OF 5
BY DC DATE 9 FEB 83
APP DATE

DEVIL CANYON

RUNS DC1020
1021A
1021B
1022

DC1020

RUN JUNE 1 to August 17.
81152 81229 78 days

Two intakes

DC 1021

AUGUST 17 to SEPT. 14 spillage period
81229 81257 28 days

assume as DC1010 period

DC 1022

SEPT 14 to December 31
81257 81365

Two intakes ——— 108 days

line 784, main

AAI-017 1/82

ACRES

Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET 2 OF _____
BY _____ DATE _____
APP _____ DATE _____

For run do

DC 1020

two intakes — remove values.

check August 17 profile with DC1010 profile

DC 1022

re-start with profile below.

20	
172.5	8.6 Revise
171.9	8.6
171.3	8.56
161.0	8.56
159.7	8.10
158.5	7.93
157.5	7.81
156.0	7.78
150.0	7.73
148.3	7.49
147.2	7.40
146.0	6.56
144.9	5.82
139.4	5.69
133.3	5.25
115.3	5.10
105.6	4.94
75.1	4.45
62.8	4.35
0.0	4.35

AAI-017 1/82

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET 3 OF
BY DATE
APP DATE

DC1021

INITIAL PROFILE (FROM DC1020)

81228 → 81258 (31 days)

172.5	8.20	0.0
171.8	8.20	0.0
170.9	7.70	0.0
165.0	7.70	0.0
163.7	7.68	0.0
162.4	7.67	0.0
153.7	7.67	0.0
152.1	6.71	0.0
151.1	5.77	0.0
149.6	5.73	0.0
148.1	5.69	0.0
146.5	5.61	0.0
144.7	5.34	
143.7	5.20	
142.6	5.14	
138.3	5.11	
127.7	5.07	
124.6	4.96	
120.9	4.68	
118.6	4.68	
116.2	4.44	
102.2	4.44	
96.2	4.30	
90	4.30	

AAI-017 1/82

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET 4 OF
BY DATE
APP DATE

DC 1021

SPILLAGE PERIOD

1. RUN WITH SPILLS AT DEPTH
2. RUN WITH POWERHOUSE AT SURFACE

} combine for one run.

1/. DC1021A

- subtract p.h. flow from inflow
- p.h flow = spillage , temp = 4°c.

2/. DC1021B

- subtract spill from inflow
- p.h. flow = p.h flow , temp = 9°c.

ACRES

Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET 5 OF _____
BY _____ DATE _____
APP _____ DATE _____

DAY	INFLOW	P.H.FLOW	SPILL	DC1021A	DC1021B
228	29545.6	24334.6	0		
229	93040.4	33673.0	0		
230	76819.6		39709.4		
231	74210.3		40537.2		
232	82241.5		48568.4		
233	107264.0		73590.9		
234	100809.9		67136.9		
235	92758.5		59685.4		
236	80163.1		46490.1		
237	70684.1		37011.1		
238	64635.3		30962.3		
239	63769.6		30096.5		
240	65288.1		31615.1	INFLOW = SPILL	INFLOW = P.H.FLOW
241	64979.2		31306.1		
242	64716.8		31037.7		
243	59455.0		25782.0		
244	58142.4		24469.4		
245	54473.6		20800.5		
246	49399.4		15726.3		
247	44856.5		11183.5		
248	44307.4		10634.4		
249	43598.9		9925.5		
250	41337.1		7664.0		
251	41627.4		7954.3		
252	41942.3		8269.3		
253	39582.1		5909.0		
254	38224.5		4551.4		
255	36375.5		2702.5		
256	35299.9	33673.0	1626.9		
257	33745.1	33673.0	0.0		
258	31691.5	33673.0	0.0		

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81341	26133.
81342	26133.
81343	26133.
81344	26133.
81345	26133.
81346	26133.
81347	26133.
81348	26681.
81349	26681.
81350	26681.
81351	26681.
81352	26681.
81353	26681.
81354	26681.
81355	27285.
81356	27285.
81357	27285.
81358	27285.
81359	27285.
81360	27285.
81361	27285.
81362	27103.
81363	27103.
81364	27103.
81365	27103.

81341	26135.6	1.8	0.0	443.5
81342	26135.6	1.8	0.0	443.5
81343	26135.6	1.8	0.0	443.5
81344	26135.6	1.8	0.0	443.5
81345	26135.6	1.8	0.0	443.5
81346	26135.6	1.8	0.0	443.5
81347	26135.6	1.8	0.0	443.5
81348	26681.6	1.8	0.0	443.5
81349	26681.6	1.8	0.0	443.5
81350	26681.6	1.8	0.0	443.5
81351	26681.6	1.8	0.0	443.5
81352	26681.6	1.8	0.0	443.5
81353	26681.6	1.8	0.0	443.5
81354	26681.6	1.8	0.0	443.5
81355	27285.0	1.9	0.0	443.5
81356	27285.0	1.9	0.0	443.5
81357	27285.0	1.9	0.0	443.5
81358	27285.0	1.9	0.0	443.5
81359	27285.0	1.9	0.0	443.5
81360	27285.0	1.9	0.0	443.5
81361	27285.0	1.9	0.0	443.5
81362	27103.7	1.9	0.0	443.5
81363	27103.7	1.8	0.0	443.5
81364	27103.7	1.8	0.0	443.5
81365	27103.7	1.8	0.0	443.5

81278	17369.4	5.2	0.0	441.3
81279	17369.4	5.1	0.0	441.4
81280	17369.4	5.0	0.0	441.6
81281	17369.4	4.9	0.0	441.7
81282	17369.4	4.9	0.0	441.8
81283	17369.4	4.8	0.0	442.0
81284	17369.4	4.7	0.0	442.1
81285	18231.1	4.7	0.0	442.2
81286	18231.1	4.6	0.0	442.3
81287	18231.1	4.6	0.0	442.4
81288	18231.1	4.5	0.0	442.5
81289	18231.1	4.5	0.0	442.6
81290	18231.1	4.4	0.0	442.7
81291	18231.1	4.3	0.0	442.8
81292	20276.9	4.3	0.0	442.9
81293	20276.9	4.2	0.0	443.0
81294	20276.9	4.1	0.0	443.1
81295	20276.9	4.0	0.0	443.3
81296	20276.9	4.0	0.0	443.4
81297	20276.9	3.9	0.0	443.5
81298	20276.9	3.8	0.0	443.5
81299	21274.7	3.7	1.0	443.5
81300	21274.7	3.6	1.0	443.5
81301	21274.7	3.5	1.0	443.5
81302	21274.7	3.5	1.0	443.5
81303	21274.7	3.4	1.0	443.5
81304	21274.7	3.3	1.0	443.5
81305	21274.7	3.2	1.0	443.5
81306	24931.8	3.1	0.0	443.5
81307	24931.8	3.1	0.0	443.5
81308	24931.8	3.0	0.0	443.5
81309	24931.8	3.0	0.0	443.5
81310	24931.8	2.9	0.0	443.5
81311	24931.8	2.8	0.0	443.5
81312	24931.8	2.7	0.0	443.5
81313	25167.9	2.6	0.0	443.5
81314	25167.9	2.5	0.0	443.5
81315	25167.9	2.4	0.0	443.5
81316	25167.9	2.3	0.0	443.5
81317	25167.9	2.2	0.0	443.5
81318	25167.9	2.2	0.0	443.5
81319	25167.9	2.1	0.0	443.5
81320	25550.1	2.0	0.0	443.5
81321	25550.1	2.0	0.0	443.5
81322	25550.1	1.9	0.0	443.5
81323	25550.1	1.8	0.0	443.5
81324	25550.1	1.8	0.0	443.5
81325	25550.1	1.7	0.0	443.5
81326	25550.1	1.6	0.0	443.5
81327	25011.0	1.6	0.0	443.5
81328	25011.0	1.5	0.0	443.5
81329	25011.0	1.5	0.0	443.5
81330	25011.0	1.4	0.0	443.5
81331	25011.0	1.4	0.0	443.5
81332	25011.0	1.3	0.0	443.5
81333	25011.0	1.3	0.0	443.5
81334	25011.0	1.2	0.0	443.5
81335	25011.0	1.2	0.0	443.5
81336	25011.0	1.1	0.0	443.5
81337	25011.0	1.1	0.0	443.5
81338	25011.0	1.0	0.0	443.5
81339	25011.0	1.0	0.0	443.5
81340	25011.0	1.0	0.0	443.5

[illegible]	24290.0	0.4	0.0	113.2
[illegible]	23595.6	[illegible]	0.0	443.1
[illegible]	23595.0	[illegible]	0.0	443.0
[illegible]	23595.0	[illegible]	0.0	443.0
[illegible]	24290.1	[illegible]	0.1	443.0
81276	23595.0	5.0	0.0	443.4
81281	23595.0	[illegible]	0.0	443.1
81286	24334.6	[illegible]	0.1	441.9
81291	24334.6	5.1	0.1	441.8
81296	24334.6	5.0	0.0	441.7
81301	24334.6	5.0	0.0	441.7
81306	24334.6	5.5	0.1	441.8
81311	24334.6	5.5	0.0	441.7
81316	24334.6	5.5	0.0	441.7
81321	24334.6	5.5	0.0	441.7

811[illegible]3	[illegible]	[illegible]	0.0	443.5
811[illegible]2	[illegible]	[illegible]	[illegible]	[illegible]
811[illegible]2	[illegible]	[illegible]	[illegible]	[illegible]
811[illegible]1	[illegible]	[illegible]	0.0	[illegible]
811[illegible]1	[illegible]	[illegible]	0.0	443.5
811[illegible]3	[illegible]	[illegible]	0.0	443.5
811[illegible]1	[illegible]	6.7	0.0	443.5
811[illegible]1	[illegible]	6.6	0.0	443.5
811[illegible]3	[illegible]	[illegible]	0.0	443.5
811[illegible]1	[illegible]	7.2	0.0	443.5
81167	[illegible]	7.[illegible]	0.0	443.5
81163	[illegible]	7.8	0.0	443.5
81164	22385.9	7.6	0.0	443.5
81165	[illegible]	8.4	0.0	443.5
81[illegible]	[illegible]	8.[illegible]	0.0	443.5
81[illegible]	19393.2	8.1	0.0	443.5
81168	19393.[illegible]	8.3	0.0	443.5
81[illegible]	[illegible]	8.7	0.0	443.5
81170	[illegible]	9.2	0.0	443.5
81171	[illegible]	9.5	0.0	443.5
81172	[illegible]	9.6	0.0	443.5
81173	[illegible]	9.3	0.0	443.5
81174	13892.3	9.4	0.0	443.5
81175	13892.3	9.5	0.0	443.5
81176	13892.3	9.8	0.0	443.5
81177	13892.3	[illegible]	0.0	443.5
81178	13892.3	8.7	0.0	443.5
81179	13892.3	8.1	0.0	443.5
81180	14062.1	8.0	0.0	443.5
811[illegible]1	14062.1	7.[illegible]	0.0	443.5
81182	14062.1	7.8	0.0	443.5
81183	[illegible]	8.1	0.0	443.5
81184	[illegible]	8.1	0.0	443.5
81185	14062.1	8.1	0.0	443.5
81186	14062.1	9.5	0.0	443.5
811871	13567.9	9.5	0.0	443.5
81188	13567.9	9.5	0.0	443.5
81189	13567.9	9.4	0.0	443.5
81190	13567.9	9.3	0.0	443.5
8119[illegible]	13567.9	9.3	0.0	443.5
81192	13567.9	9.4	0.0	443.5
81193	13567.9	9.4	0.0	443.5
811941	16725.7	9.5	0.0	443.5
81195	16725.7	9.[illegible]	0.0	443.5
81196	16725.7	[illegible]	0.0	443.5
81[illegible]	16725.7	9.3	0.0	443.5
81198	16725.7	9.3	0.0	443.5
81199	16725.7	10.0	0.0	443.5
81200	16725.7	9.6	0.0	443.5
81201	[illegible]	9.6	0.0	443.5
81202	[illegible]	9.6	0.0	443.5
812031	[illegible]	[illegible]	0.0	443.5
81204	[illegible]	[illegible]	0.0	443.5
81[illegible]	[illegible]	[illegible]	0.0	443.5
81[illegible]1	[illegible]	[illegible]	0.0	443.5
81207	[illegible]	[illegible]	0.0	443.5
81208	[illegible]	[illegible]	0.0	443.5
81209	15568.4	10.2	0.0	443.5
81210	15568.4	10.1	0.0	443.5
81211	15568.4	10.1	0.0	443.5
81212	15568.4	10.1	0.0	443.4
81213	15568.4	10.2	0.0	443.4
81214	15568.4	10.3	0.0	443.4

172.4
3.7
168.7

DCOUTF.

DC1000

— Check inflow = 16529.2 ?

```
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
```

```
DDDD     CCCC  RRRR     AAA   W   W  FFFFF   OOO   RRRR   DDDD
D   D   C      R   R   A   A  W   W  F      O   O  R   R  D   D
D   D   C      R   R   A   A  W   W  F      O   O  R   R  D   D
D   D   C      RRRR    A   A  W   W  FFFF   O   O  RRRR   D   D
D   D   C      R R     AAAAA  W W W  F      O   O  R R    D   D
D   D   C      R  R    A   A  WW WW  F      O   O  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W  F       OOO   R   R  DDDD
```

```
DDDDDDDD      CCCCCCCC  FFFFFFFFFF  II          OOOOOO    WW      WW
DDDDDDDD      CCCCCCCC  FFFFFFFFFF  LL          OOOOOO    WW      WW
DD      DD   CC        FF          II         OO      OO  WW      WW
DD      DD   CC        FF          LL         OO      OO  WW      WW
DD      DD   CC        FF          LL         OO      OO  WW      WW
DD      DD   CC        FF          LL         OO      OO  WW      WW
DD      DD   CC        FFFFFFFF    II         OO      OO  WW      WW
DD      DD   CC        FFFFFFFF    LL         OO      OO  WW      WW
DD      DD   CC        FF          LL         OO      OO  WW  WW  WW
DD      DD   CC        FF          LL         OO      OO  WW  WW  WW
DD      DD   CC        FF          LL         OO      OO  WWWW WWWW      ....
DDDDDDDD      CCCCCCCC  FF          LLLLLLIIIII   OOOOOO    WW      WW    ....
DDDDDDDD      CCCCCCCC  FF          LLLLLLLLLLL   OOOOOO    WW      WW    ....
```

```
  OOOOOO    UU      UU  TTTTTTTTTT      ####    5555555555
  OOOOOO    UU      UU  TTTTTTTTTT      ####    5555555555
OO      OO  UU      UU      TT          ####    55
OO      OO  UU      UU      TT          ####    55
OO      OO  UU      UU      TT                  555555
OO      OO  UU      UU      TT                  555555
OO      OO  UU      UU      TT          ####        55
OO      OO  UU      UU      TT          ####        55
OO      OO  UU      UU      TT          ####          55
OO      OO  UU      UU      TT          ####          55
OO      OO  UU      UU      TT            ##    55    55
OO      OO  UU      UU      TT            ##    55    55
  OOOOOO    UUUUUUUUUU      TT          ##        555555
  OOOOOO    UUUUUUUUUU      TT          ##        555555
```

```
DDDD     CCCC  RRRR     AAA   W   W  FFFFF   OOO   RRRR   DDDD
D   D   C      R   R   A   A  W   W  F      O   O  R   R  D   D
D   D   C      R   R   A   A  W   W  F      O   O  R   R  D   D
D   D   C      RRRR    A   A  W   W  FFFF   O   O  RRRR   D   D
D   D   C      R R     AAAAA  W W W  F      O   O  R R    D   D
D   D   C      R  R    A   A  WW WW  F      O   O  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W  F       OOO   R   R  DDDD
```

```
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
VAX/VMS  DCRAWFORD     DCFLOW 21-JAN-1983 14:32    TTD7: 21-JAN-1983 14:32    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;5     VAX/VMS
```

81152	22983.3	4.6	0.0
81153	22983.3	6.1	0.0
81154	22983.3	6.3	0.0
81155	22983.3	6.7	0.0
81156	22983.3	6.5	0.0
81157	22983.3	4.8	0.0
81158	22983.3	6.7	0.0
81159	22386.4	6.6	0.0
81160	22386.4	4.9	0.0
81161	22386.4	7.2	0.0
81162	22386.4	7.0	0.0
81163	22386.4	7.8	0.0
81164	22386.4	7.6	0.0
81165	22386.4	8.4	0.0
81166	19394.2	8.0	0.0
81167	19394.2	8.1	0.0
81168	19394.2	8.3	0.0
81169	19394.2	8.7	0.0
81170	19394.2	9.2	0.0
81171	19394.2	9.5	0.0
81172	19394.2	9.6	0.0
81173	13891.8	9.3	0.0
81174	13891.8	9.4	0.0
81175	13891.8	9.5	0.0
81176	13891.8	9.8	0.0
81177	13891.8	8.6	0.0
81178	13891.8	8.7	0.0
81179	13891.8	8.1	0.0
81180	14063.1	8.0	0.0
81181	14063.1	7.9	0.0
81182	14063.1	7.8	0.0
81183	14063.1	8.1	0.0
81184	14063.1	8.1	0.0
81185	14063.1	8.1	0.0
81186	14063.1	9.5	0.0
81187	13568.8	9.5	0.0
81188	13568.8	9.5	0.0
81189	13568.8	9.4	0.0
81190	13568.8	9.3	0.0
81191	13568.8	9.3	0.0
81192	13568.8	9.4	0.0
81193	13568.8	9.4	0.0
81194	16722.5	9.5	0.0
81195	16722.5	9.6	0.0
81196	16722.5	9.3	0.0
81197	16722.5	9.3	0.0
81198	16722.5	9.3	0.0
81199	16722.5	10.0	0.0
81200	16722.5	9.6	0.0
81201	16529.2	9.6	0.0
81202	16529.2	9.6	0.0
81203	16529.2	9.6	0.0
81204	16529.2	9.6	0.0
81205	16529.2	9.6	0.0
81206	16529.2	9.6	0.0
81207	16529.2	9.6	0.0
81208	15866.2	9.7	0.0
81209	15866.2	10.2	0.0
81210	15866.2	10.1	0.0
81211	15866.2	10.1	0.0
81212	15866.2	10.1	0.0
81213	15866.2	10.2	0.0
81214	15866.2	10.3	0.0

81341	24134.6	1.3	0.0
81342	24134.6	1.3	0.0
81343	24134.6	1.3	0.0
81344	24134.6	1.3	0.0
81345	24134.6	1.3	0.0
81346	24134.6	1.3	0.0
81347	24134.6	1.3	0.0
81348	24682.7	1.3	0.0
81349	24682.7	1.3	0.0
81350	24682.7	1.3	0.0
81351	24682.7	1.3	0.0
81352	24682.7	1.3	0.0
81353	24682.7	1.3	0.0
81354	24682.7	1.3	0.0
81355	27284.4	1.9	0.0
81356	27284.4	1.9	0.0
81357	27284.4	1.9	0.0
81358	27284.4	1.9	0.0
81359	27284.4	1.9	0.0
81360	27284.4	1.9	0.0
81361	27284.4	1.9	0.0
81362	27103.5	1.9	0.0
81363	27103.5	1.8	0.0
81364	27103.5	1.8	0.0
81365	27103.5	1.8	0.0

81278	21180.2	6.2	0.0
81279	21180.2	6.1	0.0
81280	21180.2	6.0	0.0
81281	21180.2	5.9	0.0
81282	21180.2	5.9	0.0
81283	21180.2	5.8	0.0
81284	21180.2	5.7	0.0
81285	21241.4	5.7	0.0
81286	21241.4	5.6	0.0
81287	21241.4	5.6	0.0
81288	21241.4	5.5	0.0
81289	21241.4	5.5	0.0
81290	21241.4	5.4	0.0
81291	21241.4	5.3	0.0
81292	24365.6	5.2	0.0
81293	24365.6	5.2	0.0
81294	24365.6	5.1	0.0
81295	24365.6	5.0	0.0
81296	24365.6	5.0	0.0
81297	24365.6	4.9	0.0
81298	24365.6	4.8	0.0
81299	21275.7	4.8	0.0
81300	21275.7	4.7	0.0
81301	21275.7	4.6	0.0
81302	21275.7	4.5	0.0
81303	21275.7	4.4	0.0
81304	21275.7	4.3	0.0
81305	21275.7	4.2	0.0
81306	24930.9	4.1	0.0
81307	24930.9	4.1	0.0
81308	24930.9	4.0	0.0
81309	24930.9	4.0	0.0
81310	24930.9	3.8	0.0
81311	24930.9	3.7	0.0
81312	24930.9	3.6	0.0
81313	25168.2	3.5	0.0
81314	25168.2	3.4	0.0
81315	25168.2	3.3	0.0
81316	25168.2	3.3	0.0
81317	25168.2	3.2	0.0
81318	25168.2	2.9	0.0
81319	25168.2	3.1	0.0
81320	25549.8	3.0	0.0
81321	25549.8	2.8	0.0
81322	25549.8	2.2	0.0
81323	25549.8	1.6	0.0
81324	25549.8	1.5	0.0
81325	25549.8	1.5	0.0
81326	25549.8	1.5	0.0
81327	25009.2	1.5	0.0
81328	25009.2	1.5	0.0
81329	25009.2	1.4	0.0
81330	25009.2	1.4	0.0
81331	25009.2	1.4	0.0
81332	25009.2	1.3	0.0
81333	25009.2	1.3	0.0
81334	25596.3	1.3	0.0
81335	25596.3	1.3	0.0
81336	25596.3	1.3	0.0
81337	25596.3	1.3	0.0
81338	25596.3	1.3	0.0
81339	25596.3	1.3	0.0
81340	25596.3	1.3	0.0

81215	16255.2	10.4	0.0
81216	16255.2	10.6	0.0
81217	16255.2	10.4	0.0
81218	16255.2	10.3	0.0
81219	16255.2	7.9	0.0
81220	16255.2	8.5	0.0
81221	16255.2	9.0	0.0
81222	22229.8	9.1	0.0
81223	22229.8	8.9	0.0
81224	22229.8	8.8	0.0
81225	22229.8	8.5	0.0
81226	22229.8	8.3	0.0
81227	22229.8	8.0	0.0
81228	29545.6	9.5	0.0
81229	93040.4	9.4	0.0
81230	76819.6	9.4	0.0
81231	74210.3	9.3	0.0
81232	82241.5	9.2	0.0
81233	107264.0	9.3	0.0
81234	100809.9	9.2	0.0
81235	92758.5	9.2	0.0
81236	80163.1	8.4	0.0
81237	70681.1	9.5	0.0
81238	64635.3	9.6	0.0
81239	63769.6	10.0	0.0
81240	65288.1	10.3	0.0
81241	64979.2	9.9	0.0
81242	64710.8	9.4	0.0
81243	59455.0	9.4	0.0
81244	58142.4	6.5	0.0
81245	54473.6	9.5	0.0
81246	49399.4	9.5	0.0
81247	44856.5	9.4	0.0
81248	44307.4	9.3	0.0
81249	43598.9	9.2	0.0
81250	41337.1	9.2	0.0
81251	41627.4	9.3	0.0
81252	41942.3	9.1	0.0
81253	39582.1	9.1	0.0
81254	38224.5	9.1	0.0
81255	36375.5	9.1	0.0
81256	35299.9	9.0	0.0
81257	32845.1	8.9	0.0
81258	31691.5	8.8	0.0
81259	30180.0	8.7	0.0
81260	29987.4	8.6	0.0
81261	28398.7	8.5	0.0
81262	29752.0	8.3	0.0
81263	30536.8	8.2	0.0
81264	31319.5	8.2	0.0
81265	29425.3	8.2	0.0
81266	27293.3	8.1	0.0
81267	30378.1	8.0	0.0
81268	25047.6	7.9	0.0
81269	23003.6	7.8	0.0
81270	21253.6	7.8	0.0
81271	19609.1	7.5	0.0
81272	19315.9	7.0	0.0
81273	19315.9	7.2	0.0
81274	19315.9	7.0	0.0
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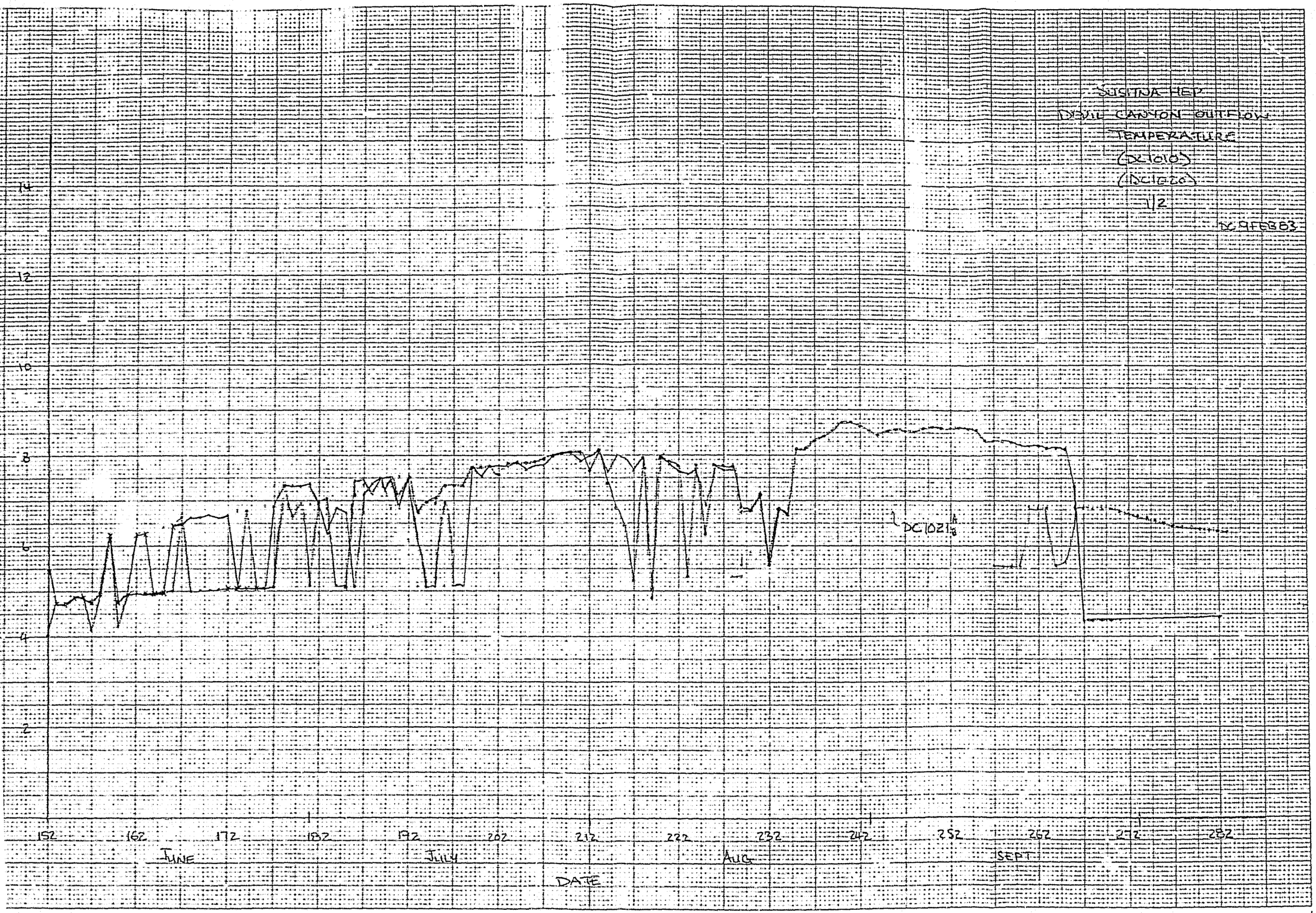
81276	19315.9	6.6	0.0
81277	19315.9	6.4	0.0


SUSITNA HEP
DEVIL CANYON OUTFLOW
TEMPERATURE
(DC1010)
(DC1020)
1/2
DC 9FEB83
14
12
10
8
6
4
2
DC1021
152
162
172
182
192
202
212
222
232
242
252
262
272
282
JUNE
JULY
AUG
SEPT
DATE

SUSITNA HEP

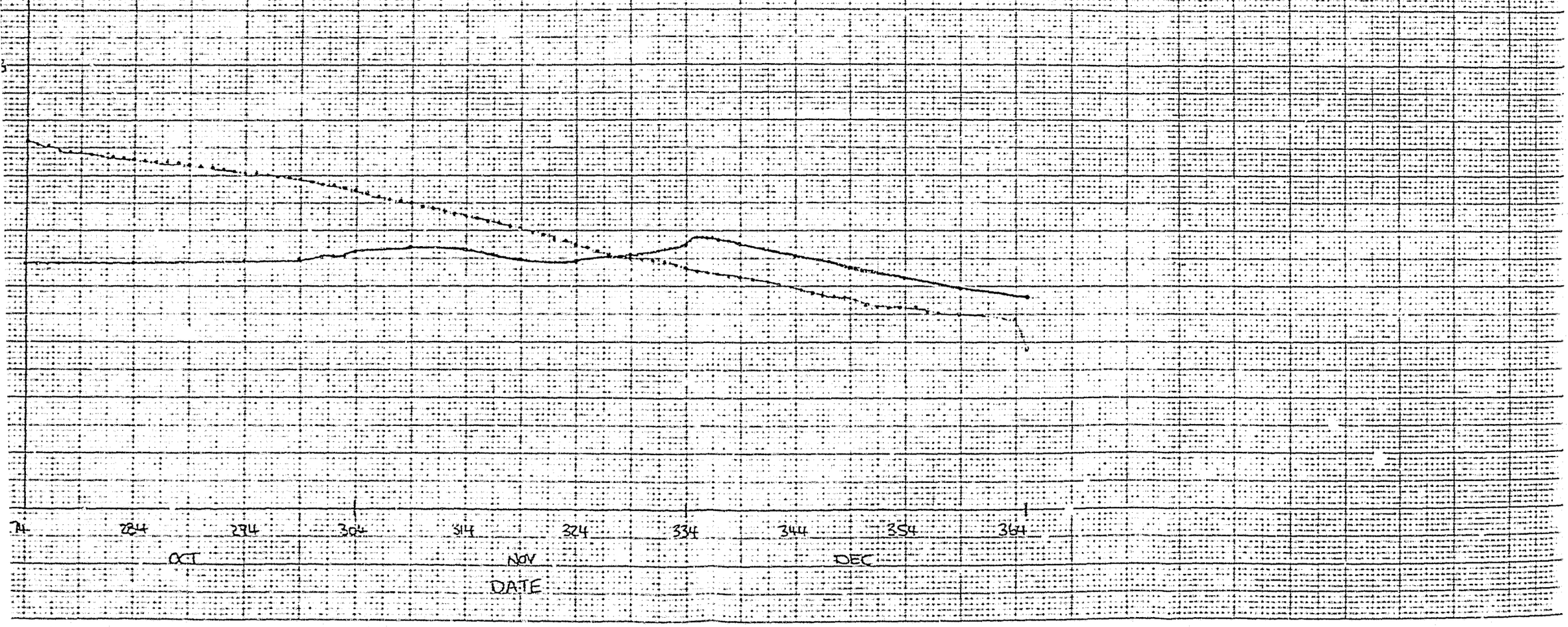
DEVIL CANYON OUTFLOW

TEMPERATURE

(DC1010)

(DC1022)

2/2 DL 9FEB83



ACRES

Calculations

SUBJECT:

JOB NUMBER _____

FILE NUMBER _____

SHEET _____ OF _____

BY _____ DATE _____

APP _____ DATE _____

P5700.14.03.217

ACRES

Calculations

SUBJECT RESERVOIR TEMP
DEVIL CANYON.

By DC Date 11 Jan 82 Project No. P5700.73
Checked ____ Date ____ Calculation No. ____
Page ___ of ____

Rev	By	Checked

DEVIL CANYON
-WEEKLY SIMULATION "H" - CONTRIBUTION FLOW D/S WA
START WEEK 35, YR 32.

WK	WATANA OUT	DC IN	W - DC CONTRI.	$10^3 M^3/d$	
	FLOW CFS				
35	5051	5402	352	861	REVISE TO
36	4533	5962	1430	3499	CASE "P"
37	4051	6271	2220	5431	
38	4189	5901	1712	4189	
39	4119	5772	1653	4044	
40	3816	6071	2255	5517	
41	4027	5798	1771	4333	
42	3986	5812	1826	4467	
43	3957	5812	1855	4538	
44	3852	6069	2217	5424	
45	3572	6354	2782	6806	
46	2876	7364	4488	10980	
47	3129	7228	4099	10029	
48	3526	6922	3396	8309	
49	7731	11659	3928	9610	
50	39811	44654	4843	11849	
51	33888	38011	4123	10087	
52	25035	28080	3045	7450	
1	9616	16786	1170	2862	↑
2	8325	9337	1012	2476	Assume Avg.
3	7282	8167	885	2165	CONDITIONS
4	5644	6330	686	1670	(P.H. FLOWS)
5	4480	5025	545	1333	
6	3891	4365	474	1160	
7	3092	3468	376	920	
8	2554	2865	311	761	
9	2242	2515	273	668	
10	2017	2263	246	602	
11	1864	2090	226	553	
12	1689	1894	205	502	
13	1614	1810	196	480	

AVER WEEKLY FLOWS
AT
WATANA
&
DEVIL CANYON.

1	9616.4	10785.9
2	8324.9	9337.4
3	7281.6	8167.2
4	5643.7	6330.1
5	4479.7	5024.5
6	3891.4	4364.7
7	3091.5	3467.5
8	2554.2	2864.8
9	2242.0	2514.7
10	2017.3	2262.7
11	1863.5	2090.1
12	1688.9	1894.3
13	1614.0	1810.3
14	1505.3	1688.3
15	1407.0	1578.1
16	1333.0	1495.2
17	1278.1	1433.5
18	1240.4	1391.3
19	1176.8	1319.9
20	1123.6	1260.2
21	1102.7	1236.8
22	1078.9	1210.1
23	1047.1	1174.4
24	1006.4	1128.7
25	971.6	1089.8
26	960.9	1077.8
27	962.6	1079.7
28	983.8	1103.5
29	1033.5	1159.2
30	1111.7	1246.9
31	1432.5	1606.7
32	2776.7	3114.4
33	4010.6	4498.4
34	5408.2	6066.0
35	10331.8	11588.3
36	14345.6	16090.3
37	19267.1	21610.3
38	21389.8	23991.3
39	22883.6	25666.7
40	23491.0	26348.0
41	22379.8	25101.7
42	20931.5	23477.2
43	20333.8	22806.9
44	20646.9	23158.1
45	21108.3	23675.5
46	20208.8	22666.7
47	18653.5	20922.2
48	20130.4	22578.7
49	19076.3	21396.4
50	15812.0	17735.1
51	13969.9	15669.0
52	12474.0	13991.1

DCDYR.COM

```
$ TYPE SYS$INPUT

HYDR DYRESM -
-------------------------------------
June, 1982

$ ASSIGN/USER DCDYR.DAT     FOR005
$ ASSIGN/USER DCDYR.OUT     FOR003
$ ASSIGN/USER DCSEDIM.OUT FOR067
$ ASSIGN/USER WAWEAT.DAT    FOR020
$ ASSIGN/USER DCPHYS.DAT   FOR021
$ ASSIGN/USER DCFLOW.OUT    FOR022
$ ASSIGN/USER DCOUTFI.DAT   FOR023
$ ASSIGN/USER WAWIND.DAT FOR024
$!
$ RUN TECHNICAL:[DCRAWFORD.RESTEMP]DCFMAIN
$!
$EXIT
```

DCINFLOW.FOR

```
C
C   PROGRAM TO COMPUTE DC INFLOW FROM KATARA P/H FLOW
C   SPILLAGE AND CONTRIBUTION FLOW.
C
      DIMENSION QFLOW(365)
      SAL=0.0
      ID=0
      AK=2.4466
  100 CONTINUE
      READ(2,*)ISD,FLOW
      IF(ISD.GE.1)THEN
       IED=ISD+6
       DO 200 I=ISD,IED
       ID=ID+1
       QFLOW(ID)=FLOW*AK
  200 CONTINUE
      ELSE
       GOTO999
      END IF
  999 CONTINUE
      DO 300 I=1,ID
      READ(6,600)PH1,T1
      READ(6,601)ISEQ,QFLOW,T2
  600 FORMAT(1H,10X,F10.1,2X,F5.2)
  601 FORMAT(1H+,T6,25X,F10.1,2X,F5.1)
      INFL=PH1+QFLOW(I)
      TEMP=(PH1*T1+QFLOW(I)*T2)/INFL
      WRITE(7,700)ISEQ,INFL,TEMP,SAL
  700 FORMAT(1X,I6,3(F10.1,2X))
  300 CONTINUE
      STOP
      END
```

1	352
8	1430
15	2220
22	1712
29	1653
36	2255
43	1771
50	1826
57	1855
63	2217
70	2782
77	4188
84	4099
91	3396
98	3928
107	4843
114	4123
121	3045
128	1170
135	1012
142	885
149	686
156	545
163	473
170	376
177	311
184	273
191	246
198	226
205	205
212	196
-1	100

35

17
70
88
1749
1837

ICE MAIN

1 MIXER

1 FCT

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET OF
BY DATE
APP DATE

```
      DIMENSION OFLOW(365)
      SAL=0.0
      ID=0                                  AK
      AK= 2.4466
100   CONTINUE
      READ(2,*)ISD, FLOW
      IF (ISD.GE.1) THEN
        IED = ISD+6
        DO 200 I = ISD,IED
        ID = ID+1
        OFLOW (ID) = FLOW*AK
200     CONTINUE
      ELSE
        GO TO 999
      END IF
      GO TO 100
999   CONTINUE
      DO 300 I = 1,ID
      READ(6,*)ISEQ, PH1, T1, OFL, T2
      INFL = PH1 + OFL + OFLOW(ID)
      TEMP = (PH1*T1 + OFL*T2 + OFLOW(ID)*T2)/INFL

      WRITE(7,700) ISEQ, INFL, TEMP, SAL
700   FORMAT(1X,I6, 3 F10.0)
300   CONTINUE
```

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```
      DIMENSION STOR(25,2),QFLOW(300),YST(25),XST(25),MON(12)
     & , QTEMP(300)
      EQUIVALENCE (YST(1),STOR(1,1)),(XST(1),STOR(1,2))
      DATA MON/31,28,31,30,31,30,31,31,30,31,30,31/
C
      READ(2,*)NPST,CONV,AK,STMAX
      READ(2,*)((STOR(J,I),I=1,2),J=1,NPST)
      STMAX=STMAX*CONV
      DO 50 I=1,NPST
      STOR(I,2)=STOR(I,2)*CONV
   50 STOR(I,1)=STOR(I,1)*0.3048
C
      ID=0
      READ(2,*)WSS,ISTART
      CALL WATSER(WSS,YST,XST,SST,
      IST=ISTART-1
  100 CONTINUE
      READ(2,*)ISD,FLOW
      IF(ISD.GE.1)THEN
       IED=ISD+6
       DO 200 I=ISD,IED
       ID=ID+1
       QFLOW(ID)=FLOW*AK
  200  CONTINUE
      ELSE
       GO TO 999
      END IF
      GO TO 100
  999 CONTINUE
      DO 300 I=1,ID
      READ(6,*)ISEQ,SUSFLOW,TEMP
      QTEMP(I)=TEMP
      WSEL=SST+(SUSFLOW-QFLOW(I))*1000.0
      IF(WSEL.GE.STMAX)THEN
       SPILL =(WSEL-STMAX)/1000.0
       WSEL = STMAX
      ELSE
       SPILL=0.0
      END IF
      CALL WATSER(WSEL,XST,YST,ELEV)
      IST=IST+1
      WRITE(4,400)IST,QFLOW(I),QTEMP(I),SPILL,ELEV
  400 FORMAT(1X,I6,4F10.1)
      SST=WSEL
  300 CONTINUE
      STOP
      END
      SUBROUTINE WATSER(XIN,X,Y,YOUT)
      DIMENSION X(1),Y(1)
      KK=1
   35 IF(XIN-X(KK+1))50,36,40
   36 YOUT=Y(KK+1)
      RETURN
   40 KK=KK+1
      GOTO35
   50 YOUT=Y(KK)+((Y(KK+1)-Y(KK))/(X(KK+1)-X(KK)))*(XIN-X(KK))
      RETURN
      END
```

```
X/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCR
X/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCR
X/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCR

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
                D    D   C     R    R  A    A  W    W  F       0    0  R    R  D    D
                D    D   C     R    R  A    A  W    W  F       0    0  R    R  D    D
                D    D   C     RRRR    A    A  W    W  FFFF    0    0  RRRR    D    D
                D    D   C     R R     AAAAA  W W W  F       0    0  R R     D    D
                D    D   C     R  R    A    A  WW WW  F       0    0  R  R    D    D
                DDDD     CCCC  R    R  A    A  W    W  F        000    R    R  DDDD

   000000     FFFFFFFFFF  LL              000000     WW       WW
   000000     FFFFFFFFFF  LL              000000     WW       WW
 00       00  FF          LL          00       00  WW       WW
 00       00  FF          LL          00       00  WW       WW
 00       00  FF          LL          00       00  WW       WW
 00       00  FF          LL          00       00  WW       WW
 00       00  FFFFFFFF    LL          00       00  WW       WW
 00       00  FFFFFFFF    LL          00       00  WW       WW
 00       00  FF          LL          00       00  WW       WW
 00       00  FF          LL          00       00  WW  WW   WW
 00       00  FF          LL          00       00  WW  WW   WW
 00       00  FF          LL          00       00  WWWW  WWWW      ....
   000000     FF          LLLLLLLLLL    000000     WW       WW      ....
   000000     FF          LLLLLLLLLL    000000     WW       WW      ....
                                                                   ....

FFFFFFFFFF     000000     RRRRRRRR        ;;;;       222222        11
FFFFFFFFFF     000000     RRRRRRRR        ;;;;       222222        11
FF           00       00  RR       RR     ;;;;    22       22     1111
FF           00       00  RR       RR     ;;;;    22       22     1111
FF           00       00  RR       RR                     22       11
FF           00       00  RR       RR                     22       11
FFFFFFFF     00       00  RRRRRRRR        ;;;;          22        11
FFFFFFFF     00       00  RRRRRRRR        ;;;;          22        11
FF           00       00  RR   RR         ;;;;        22          11
FF           00       00  RR   RR         ;;;;        22          11
FF           00       00  RR     RR         ;;      22            11
FF           00       00  RR     RR         ;;      22            11
FF             000000     RR       RR     ;;      2222222222    111111
FF             000000     RR       RR     ;;      2222222222    111111

                DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
                D    D   C     R    R  A    A  W    W  F       0    0  R    R  D    D
                D    D   C     R    R  A    A  W    W  F       0    0  R    R  D    D
                D    D   C     RRRR    A    A  W    W  FFFF    0    0  RRRR    D    D
                D    D   C     R R     AAAAA  W W W  F       0    0  R R     D    D
                D    D   C     R  R    A    A  WW WW  F       0    0  R  R    D    D
                DDDD     CCCC  R    R  A    A  W    W  F        000    R    R  DDDD

S   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCRAWF
S   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCRAWF
S   DCRAWFORD    OFLOW 20-JAN-1983 10:50   TTD7: 20-JAN-1983 10:51   DISK$TECHNICAL:[DCRAWF
```

```
$ TYPE SYS$INPUT
$ ASSIGN/USER OFLOW.DAT  FOR002
$ ASSIGN/USER INFLOW.DAT FOR006
$ ASSIGN/USER OFLOW.OUT  FOR004
$ RUN OFLOW
```

```
VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[
VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[
VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[

                    DDDD    CCCC  RRRR    AAA   W   W  FFFFF   OOO   RRRR   DDDD
                    D   D  C      R   R  A   A  W   W  F      O   O  R   R  D   D
                    D   D  C      R   R  A   A  W   W  F      O   O  R   R  D   D
                    D   D  C      RRRR   A   A  W   W  FFFF   O   O  RRRR   D   D
                    D   D  C      R R    AAAAA  W W W  F      O   O  R R    D   D
                    D   D  C      R  R   A   A  WW WW  F      O   O  R  R   D   D
                    DDDD    CCCC  R   R  A   A  W   W  F       OOO   R   R  DDDD

   OOOOOO     FFFFFFFFFF  LL            OOOOOO     WW       WW
   OOOOOO     FFFFFFFFFF  LL            OOOOOO     WW       WW
OO       OO  FF          LL          OO       OO  WW       WW
OO       OO  FF          LL          OO       OO  WW       WW
OO       OO  FF          LL          OO       OO  WW       WW
OO       OO  FF          LL          OO       OO  WW       WW
OO       OO  FFFFFFFF    LL          OO       OO  WW       WW
OO       OO  FFFFFFFF    LL          OO       OO  WW       WW
OO       OO  FF          LL          OO       OO  WW  WW   WW
OO       OO  FF          LL          OO       OO  WW  WW   WW
OO       OO  FF          LL          OO       OO  WWWW  WWWW      ****
OO       OO  FF          LL          OO       OO  WWWW  WWWW      ****
   OOOOOO     FF          LLLLLLLLLL    OOOOOO     WW       WW      ****
   OOOOOO     FF          LLLLLLLLLL    OOOOOO     WW       WW      ****

   CCCCCCCC    OOOOOO     MM      MM      ;;;;     77777777
   CCCCCCCC    OOOOOO     MM      MM      ;;;;     77777777
CC          OO      OO  MMMM  MMMM      ;;;;             77
CC          OO      OO  MMMM  MMMM      ;;;;             77
CC          OO      OO  MM  MM  MM                       77
CC          OO      OO  MM  MM  MM                       77
CC          OO      OO  MM      MM      ;;;;           77
CC          OO      OO  MM      MM      ;;;;           77
CC          OO      OO  MM      MM      ;;;;         77
CC          OO      OO  MM      MM      ;;;;         77
CC          OO      OO  MM      MM        ;;       77
CC          OO      OO  MM      MM        ;;       77
   CCCCCCCC    OOOOOO     MM      MM      ;;       77
   CCCCCCCC    OOOOOO     MM      MM      ;;       77

                    DDDD    CCCC  RRRR    AAA   W   W  FFFFF   OOO   RRRR   DDDD
                    D   D  C      R   R  A   A  W   W  F      O   O  R   R  D   D
                    D   D  C      R   R  A   A  W   W  F      O   O  R   R  D   D
                    D   D  C      RRRR   A   A  W   W  FFFF   O   O  RRRR   D   D
                    D   D  C      R R    AAAAA  W W W  F      O   O  R R    D   D
                    D   D  C      R  R   A   A  WW WW  F      O   O  R  R   D   D
                    DDDD    CCCC  R   R  A   A  W   W  F       OOO   R   R  DDDD

VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[D
VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[D
VAX/VMS   DCRAWFORD    OFLOW 20-JAN-1983 10:50    TTD7: 20-JAN-1983 10:50    DISK$TECHNICAL:[D
```

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET OF
BY DATE
APP DATE

8	176	10223.1
9	183	10463.3
10	190	10682.4
11	197	10905.6
12	204	11152.2
13	211	11078.1

DCOFLOW.DAT

4 1233480. 2.4466 443.6
1350. 456. 1400. 707. 1450. 1048. 1500. 1484.
443.6 81152
1
8
15
22
29
36
43
50
57
63
70
77
84
91
98
107
114
121
128

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P5700.14.03.217 152

Calculations

SUBJECT: SUSITNA HEP
DC REF. TEMP

JOB NUMBER P5700,73
FILE NUMBER
SHEET ____ OF ____
BY DC DATE 21 Jan 83
APP ____ DATE ____

P.H. FLOWS / SPILLS

DCOUTF.DAT

BASED ON WEEKLY ENERGY SIMULATION "P"

SIMULATION WK #		P.H. FLOW	SPILL
35	1	9393.5	
	8	9149.8	
	15	7926.6	
	22	5678.2	
	29	5747.6	
	36	5545.6	
	43	6836.3	
	50	6756.0	
	57	6485.9	
	64	9807.5	
	71	9946.3	
	78	13763.2	17042.7
	85	13763.2	21162.2
	92	13763.2	9789.8
	99	13763.2	3200.9
	106	13763.2	
	113	11412.7	
52	120	10616.4	
1	127	7099.4	
2	134	7451.6	
3	141	7518.0	
4	148	7123.6	
5	155	7787.4	
6	162	7638.9	
7	169	9724.1	

1981

AVE CONDITIONS

?/

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4	1233480. 2.
1350.	456. 1
443.6	81152
1	9393.5
8	9149.8
15	7926.6
22	5678.2
29	5747.6
36	5545.6
43	6836.3
50	6756.0
57	6485.9
64	9807.5
71	9946.3
78	13763.2
85	13763.2
92	13763.2
99	13763.2
106	13763.2
113	11412.7
120	10616.4
127	7099.4
134	7451.6
141	7518.0
148	7123.6
155	7787.4
162	7638.9
169	9724.1
176	10223.1
183	10463.2
190	10682.4
197	10905.6
204	11152.2
211	11078.1
-1	100.

1091.6

4 1233480. 2.4466 ~~443.6~~
1350. 456. 1400. 707. 1450. 1048. 1500. 1484.
443.6 81152

1	9393.5
8	9149.8
15	7926.6
22	5678.2
29	5747.6
36	5545.6
43	6836.3
50	6756.0
57	6485.9
64	9807.5
71	9946.3
78	13763.2
85	13763.2
92	13763.2
99	13763.2
106	13763.2
113	11412.7
120	10616.4
127	7099.4
134	7451.6
141	7518.0
148	7123.6
155	7787.4
162	7638.9
169	9724.1
176	10223.1
183	10463.2
190	10682.4
197	10905.6
204	11152.2
211	11078.1

-1 100.

DCOFLOW.DAT

RUN DFLOW.

ACRES

Calculations

SUBJECT:

JOB NUMBER
FILE NUMBER
SHEET OF
BY DATE
APP DATE

DCPHYS.DAT

```
.14.      0.00000114    0.00000014    1.00

      457.     11141169.     38.79
      442.      7868597.     31.81
      427.      5310039.     23.38
      412.      3422156.     17.34
      396.      2191661.      9.20
      381.      1465419.      6.47
      366.       992696.      3.86
      351.       634537.      3.86
      335.       371521.      1.98
      320.       187825.      1.98
      305.        56355.       .55
      290.         2544.       .33
      274             7.       .005
      271             0.       .0
443.6    50000.    1000.    271.
 1    3.7    2000.
425.     50000.    1000.
3.0  0.0  0.0  0.0    80.0  0.0  0.0  0.0
```

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P5700.14.03.216

ACRES

Calculations

SUBJECT: SUSITNA HEP

D.C. Res. Temp.

JOB NUMBER P5700.73
FILE NUMBER
SHEET OF
BY DC DATE 9 Jan 83
APP DATE

DEVIL CANYON PHYSICAL PARAMETERS.

DC PHYS.DAT

STORAGE / AREA - ELEVATION.

ELEVATION		STORAGE		AREA		
FT	M	AC-FT	M³	FT²	M²	
890	271	0	0	0	0	
900	274	6	7401	52272	004859	
950	290	2063	2,544,566	3,531,845	328287	
1000	305	7507	56,355,049	5,953,781	553,408	
1050	320	25020	187,825,140	24,560,870	2282,948	} AVE
1100	335	49490	371,521,430	18,075,658	1,680,144	
1150	351	84526	634,536,682	42,971,069	3,994,188	} AVE
1200	366	132 236	992,695,652	40,158,835	3,732,789	
1250	381	195 207	1,465,418,949	69,561,835	6,465,816	
1300	396	291949	2,191,661,143	99,001,426	9,202,244	
1350	412	455862	3,422,156,034	186,603,586	17,344,641	
1400	427	707 345	5,310,038,915	251,583,394	23,384,834	
1450	442	1048 168	7,868,597,176	342,266,602	31,813,894	
1500	457	1484 104	11,141,169730	417,308,285	38,789,066.	

1 AC-FT = 1233.48 M³

1 FT² = (1/3.28)² M²

AVERAGED VALUES 1 1981,546
2 3,863,489

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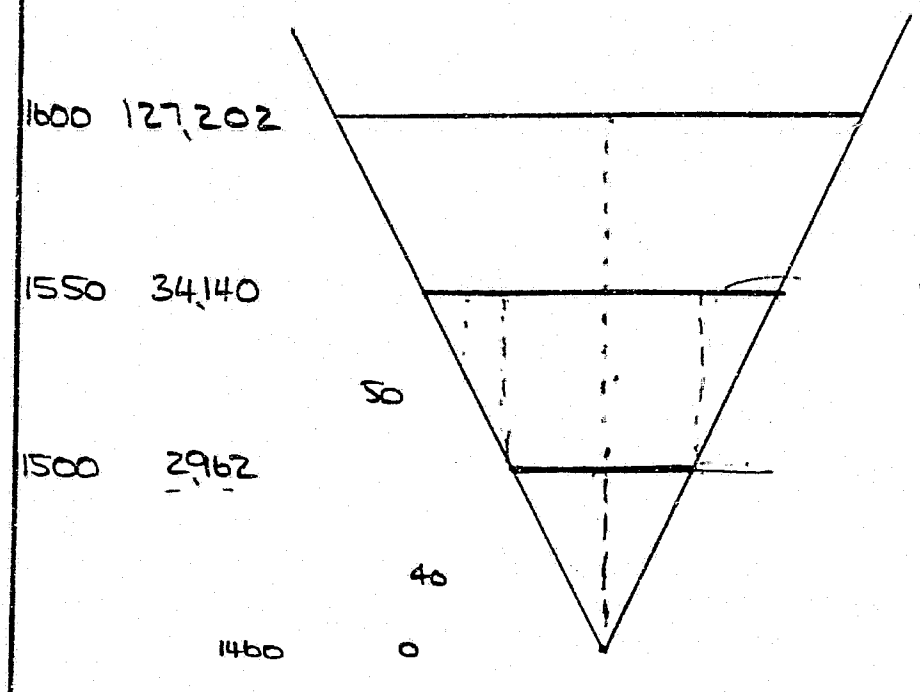
8

ACRES

Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY _____ DATE _____
APP _____ DATE _____



114,277,918 /

47,873,311 /

33,047.

6451 /

$$\left[A_{N-1} + \frac{(A_N - A_{N-1})}{2} \right] * 50 = \frac{VOL}{50}$$

$$\frac{A_{N-1}}{2} + \frac{A_N}{2} = \frac{VOL}{50}$$

$$A_N = \left(\frac{VOL}{50} - \frac{A_{N-1}}{2} \right) 2$$

STO 1	−
RCL 0	2
−	X
RCL 7	STO 4
X	RCL 1
RCL 4	STO 0
2	RCL 4
÷	GTO 00

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ACRES

Calculations

SUBJECT:

JOB NUMBER _____
FILE NUMBER _____
SHEET _____ OF _____
BY _____ DATE _____
APP _____ DATE _____

OVERFLOW AT :

	ELEV	LENGTH	WIDTH	BASE
(1404)	428.	50,000	1000.	271.

INTAKES

1	3.7	1000.	
425.0	50000	1000.	

OTHER

3.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0

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4

81276	25974.1	6.6	0.0	441.4
81277	25974.1	6.4	0.0	441.1
81278	17369.4	6.2	0.0	441.3
81279	17369.4	6.1	0.0	441.4
81280	17369.4	6.0	0.0	441.6
81281	17369.4	5.9	0.0	441.7
81282	17369.4	5.9	0.0	441.8
81283	17369.4	5.8	0.0	442.0
81284	17369.4	5.7	0.0	442.1
81285	18231.1	5.7	0.0	442.2
81286	18231.1	5.6	0.0	442.2
81287	18231.1	5.6	0.0	442.3
81288	18231.1	5.5	0.0	442.4
81289	18231.1	5.5	0.0	442.5
81290	18231.1	5.4	0.0	442.6
81291	18231.1	5.3	0.0	442.7
81292	20276.9	5.2	0.0	442.8
81293	20276.9	5.2	0.0	442.9
81294	20276.9	5.1	0.0	443.0
81295	20276.9	5.0	0.0	443.1
81296	20276.9	5.0	0.0	443.3
81297	20276.9	4.9	0.0	443.4
81298	20276.9	4.8	0.0	443.5
81299	21274.7	4.8	1.0	443.5
81300	21274.7	4.7	1.0	443.5
81301	21274.7	4.6	1.0	443.5
81302	21274.7	4.5	1.0	443.5
81303	21274.7	4.4	1.0	443.5
81304	21274.7	4.3	1.0	443.5
81305	21274.7	4.2	1.0	443.5
81306	24931.8	4.1	0.0	443.5
81307	24931.8	4.1	0.0	443.5
81308	24931.8	4.0	0.0	443.5
81309	24931.8	4.0	0.0	443.5
81310	24931.8	3.8	0.0	443.5
81311	24931.8	3.7	0.0	443.5
81312	24931.8	3.6	0.0	443.5
81313	25167.9	3.5	0.0	443.5
81314	25167.9	3.4	0.0	443.5
81315	25167.9	3.3	0.0	443.5
81316	25167.9	3.3	0.0	443.5
81317	25167.9	3.2	0.0	443.5
81318	25167.9	2.9	0.0	443.5
81319	25167.9	3.1	0.0	443.5
81320	25550.1	3.0	0.0	443.5
81321	25550.1	2.8	0.0	443.5
81322	25550.1	2.2	0.0	443.5
81323	25550.1	1.6	0.0	443.5
81324	25550.1	1.5	0.0	443.5
81325	25550.1	1.5	0.0	443.5
81326	25550.1	1.5	0.0	443.5
81327	25011.8	1.5	0.0	443.5
81328	25011.8	1.5	0.0	443.5
81329	25011.8	1.4	0.0	443.5
81330	25011.8	1.4	0.0	443.5
81331	25011.8	1.4	0.0	443.5
81332	25011.8	1.3	0.0	443.5
81333	25011.8	1.3	0.0	443.5
81334	25599.3	1.3	0.0	443.5
81335	25599.3	1.3	0.0	443.5
81336	25599.3	1.3	0.0	443.5
81337	25599.3	1.3	0.0	443.5
81338	25599.3	1.3	0.0	443.5

```
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DC
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DC
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DC
```

```
DDDD     CCCC  RRRR     AAA   W   W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A  W   W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA  W W W  F      0   0  R R    D   D
D   D   C      R  R    A   A  WW WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W  F       000   R   R  DDDD
```

```
DDDDDDDD      CCCCCCCC    000000     UU      UU  TTTTTTTTTT  FFFFFFFFFF
DDDDDDDDD     CCCCCCCCC   000000     UU      UU  TTTTTTTTTT  FFFFFFFFFF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FFFFFFFF
DD      DD    CC         00    00    UU      UU      TT      FFFFFFFF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DD      DD    CC         00    00    UU      UU      TT      FF
DDDDDDDDD     CCCCCCCCC   000000     UUUUUUUUUUUUUU      TT      FF
DDDDDDDD      CCCCCCCCC   000000     UUUUUUUUUUUUU       TT      FF
```

```
DDDDDDDD      AAAAAA    TTTTTTTTTT      ;;;;     666666
DDDDDDDDD     AAAAAA    TTTTTTTTTT      ;;;;     666666
DD      DD    AA  AA       TT           ;;;;     66
DD      DD    AA  AA       TT           ;;;;     66
DD      DD    AA  AA       TT                    66
DD      DD    AA  AA       TT                    66
DD      DD    AA  AA       TT           ;;;;     66666666
DD      DD    AA  AA       TT           ;;;;     66666666
DD      DD    AAAAAAAAAA   TT           ;;;;     66    66
DD      DD    AAAAAAAAAA   TT           ;;;;     66    66
DD      DD    AA  AA       TT             ;;     66    66
DD      DD    AA  AA       TT             ;;     66    66
DDDDDDDDD     AA  AA       TT           ;;       666666
DDDDDDDD      AA  AA       TT           ;;       666666
```

```
DDDD     CCCC  RRRR     AAA   W   W  FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
D   D   C      R   R   A   A  W   W  F      0   0  R   R  D   D
D   D   C      RRRR    A   A  W   W  FFFF   0   0  RRRR   D   D
D   D   C      R R     AAAAA  W W W  F      0   0  R R    D   D
D   D   C      R  R    A   A  WW WW  F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W  F       000   R   R  DDDD
```

```
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DD
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DD
JAX/VMS  DCRAWFORD     DCOUTF 21-JAN-1983 15:03    TTD7: 21-JAN-1983 15:05    DISK$TECHNICAL:[DD
```

```
14    0.00000114    0.00000014    1.00
457.   11141169.    38.79
442.    7868597.    31.81
427.    5310039.    23.38
412.    3422156.    17.34
396.    2191461.     9.20
381.    1465419.     6.47
366.     992694.     3.86
351.     634537.     3.86
335.     371521.     1.98
320.     187825.     1.98
305.      96355.     0.55
290.       2544.     0.33
274.          7.     0.005
271.259       0.     0.0
443.4    50000.    1000.    271.-
1   3.7    2000.
425.0    50000.    1000.
3.0   0.0   0.0   0.0   80.0   0.0   0.0   0.0
```

3

1425 – 434.5 50000. 1000.
1375 – 419.2 50000. 1000.
1050 – 320.1 10000. 1000

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C      RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D   C      R R     AAAAA   W W W  F       0   0   R R     D   D
D   D   C      R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD     CCCC  R   R   A   A   W    W  F        000    R   R   DDDD

DDDDDDDD      CCCCCCCC    000000     FFFFFFFFFF  LL          000000     WW      WW
DDDDDDDD      CCCCCCCC    000000     FFFFFFFFFF  LL          000000     WW      WW
DD      DD    CC          00  00     FF         LL          00  00     WW      WW
DD      DD    CC          00  00     FF         LL          00  00     WW      WW
DD      DD    CC          00  00     FF         LL          00  00     WW      WW
DD      DD    CC          00  00     FF         LL          00  00     WW      WW
DD      DD    CC          00  00     FFFFFFFF   LL          00  00     WW      WW
DD      DD    CC          00  00     FFFFFFFF   LL          00  00     WW      WW
DD      DD    CC          00  00     FF         LL          00  00     WW WW   WW
DD      DD    CC          00  00     FF         LL          00  00     WW WW   WW
DD      DD    CC          00  00     FF         LL          00  00     WWWW    WWWW
DD      DD    CC          00  00     FF         LL          00  00     WWWW    WWWW
DDDDDDDD      CCCCCCCC    000000     FF         LLLLLLLLLL  000000     WW      WW
DDDDDDDD      CCCCCCCC    000000     FF         LLLLLLLLLL  000000     WW      WW

DDDDDDDD      AAAAAA     TTTTTTTTTT     ;;;;      666666
DDDDDDDD      AAAAAA     TTTTTTTTTT     ;;;;      666666
DD      DD    AA  AA        TT          ;;;;      66
DD      DD    AA  AA        TT          ;;;;      66
DD      DD    AA  AA        TT                    66
DD      DD    AA  AA        TT                    66
DD      DD    AA  AA        TT          ;;;;      666666666
DD      DD    AA  AA        TT          ;;;;      66666666
DD      DD    AAAAAAAAAA    TT          ;;;;      66      66
DD      DD    AAAAAAAAAA    TT          ;;;;      66      66
DD      DD    AA  AA        TT            ;;      66      66
DD      DD    AA  AA        TT            ;;      66      66
DDDDDDDD      AA  AA        TT          ;;          666666
DDDDDDDD      AA  AA        TT          ;;          666666

DDDD     CCCC  RRRR     AAA    W    W  FFFFF    000    RRRR    DDDD
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C      R   R   A   A   W    W  F       0   0   R   R   D   D
D   D   C      RRRR    A   A   W    W  FFFF    0   0   RRRR    D   D
D   D   C      R R     AAAAA   W W W  F       0   0   R R     D   D
D   D   C      R  R    A   A   WW WW  F       0   0   R  R    D   D
DDDD     CCCC  R   R   A   A   W    W  F        000    R   R   DDDD
```

81338	25596.3	1.3	0.0
81339	25596.3	1.3	0.0
81340	25596.3	1.3	0.0
81341	26134.6	1.3	0.0
81342	26134.6	1.3	0.0
81343	26134.6	1.3	0.0
81344	26134.6	1.3	0.0
81345	26134.6	1.3	0.0
81346	26134.6	1.3	0.0
81347	26134.6	1.3	0.0
81348	26682.7	1.3	0.0
81349	26682.7	1.3	0.0
81350	26682.7	1.3	0.0
81351	26682.7	1.3	0.0
81352	26682.7	1.3	0.0
81353	26682.7	1.3	0.0
81354	26682.7	1.3	0.0
81355	27284.4	1.9	0.0
81356	27284.4	1.9	0.0
81357	27284.4	1.9	0.0
81358	27284.4	1.9	0.0
81359	27284.4	1.9	0.0
81360	27284.4	1.9	0.0
81361	27284.4	1.9	0.0
81362	27103.5	1.9	0.0
81363	27103.5	1.8	0.0
81364	27103.5	1.8	0.0
81365	27103.5	1.8	0.0

14112 G.B.

81275	19315.9	6.8	0.0
81276	19315.9	6.6	0.0
81277	19315.9	6.4	0.0
81278	21180.2	6.2	0.0
81279	21180.2	6.1	0.0
81280	21180.2	6.0	0.0
81281	21180.2	5.9	0.0
81282	21180.2	5.9	0.0
81283	21180.2	5.8	0.0
81284	21180.2	5.7	0.0
81285	21241.4	5.7	0.0
81286	21241.4	5.6	0.0
81287	21241.4	5.6	0.0
81288	21241.4	5.5	0.0
81289	21241.4	5.5	0.0
81290	21241.4	5.4	0.0
81291	21241.4	5.3	0.0
81292	24365.6	5.2	0.0
81293	24365.6	5.2	0.0
81294	24365.6	5.1	0.0
81295	24365.6	5.0	0.0
81296	24365.6	5.0	0.0
81297	24365.6	4.9	0.0
81298	24365.6	4.8	0.0
81299	21275.7	4.8	0.0
81300	21275.7	4.7	0.0
81301	21275.7	4.6	0.0
81302	21275.7	4.5	0.0
81303	21275.7	4.4	0.0
81304	21275.7	4.3	0.0
81305	21275.7	4.2	0.0
81306	24930.9	4.1	0.0
81307	24930.9	4.1	0.0
81308	24930.9	4.0	0.0
81309	24930.9	4.0	0.0
81310	24930.9	3.8	0.0
81311	24930.9	3.7	0.0
81312	24930.9	3.6	0.0
81313	25168.2	3.5	0.0
81314	25168.2	3.4	0.0
81315	25168.2	3.3	0.0
81316	25168.2	3.3	0.0
81317	25168.2	3.2	0.0
81318	25168.2	2.9	0.0
81319	25168.2	3.1	0.0
81320	25549.8	3.0	0.0
81321	25549.8	2.8	0.0
81322	25549.8	2.2	0.0
81323	25549.8	1.6	0.0
81324	25549.8	1.5	0.0
81325	25549.8	1.5	0.0
81326	25549.8	1.5	0.0
81327	25009.2	1.5	0.0
81328	25009.2	1.5	0.0
81329	25009.2	1.4	0.0
81330	25009.2	1.4	0.0
81331	25009.2	1.4	0.0
81332	25009.2	1.3	0.0
81333	25009.2	1.3	0.0
81334	25596.3	1.3	0.0
81335	25596.3	1.3	0.0
81336	25596.3	1.3	0.0

14112 G.R.

81212	15866.2	10.1	0.0
81213	15866.2	10.2	0.0
81214	15866.2	10.3	0.0
81215	16255.2	10.4	0.0
81216	16255.2	10.6	0.0
81217	16255.2	10.4	0.0
81218	16255.2	10.3	0.0
81219	16255.2	7.9	0.0
81220	16255.2	8.5	0.0
81221	16255.2	9.0	0.0
81222	22229.8	9.1	0.0
81223	22229.8	8.9	0.0
81224	22229.8	8.8	0.0
81225	22229.8	8.5	0.0
81226	22229.8	8.3	0.0
81227	22229.8	8.0	0.0
81228	29545.6	9.5	0.0
81229	93040.4 ✓	9.4 ✓	0.0
81230	76819.6	9.4	0.0
81231	74210.3	9.3	0.0
81232	82241.5	9.2	0.0
81233	107264.0	9.3	0.0
81234	100809.9	9.2	0.0
81235	92758.5	9.2	0.0
81236	80163.1	8.4	0.0
81237	70684.1	9.5	0.0
81238	64635.3	9.6	0.0
81239	63769.6	10.0	0.0
81240	65288.1	10.3	0.0
81241	64979.2	9.9	0.0
81242	64710.8	9.4	0.0
81243	59455.0	9.4	0.0
81244	58142.4	6.5	0.0
81245	54473.6	9.5	0.0
81246	49399.4	9.5	0.0
81247	44856.5	9.4	0.0
81248	44307.4	9.3	0.0
81249	43598.9	9.2	0.0
81250	41337.1	9.2	0.0
81251	41627.4	9.3	0.0
81252	41942.3	9.1	0.0
81253	39582.1	9.1	0.0
81254	38224.5	9.1	0.0
81255	36375.5	9.1	0.0
81256	35299.9	9.0	0.0
81257	32845.1	8.9	0.0
81258	31691.5	8.8	0.0
81259	30180.6	8.7	0.0
81260	29987.4	9.6	0.0
81261	28398.7	8.5	0.0
81262	29752.0	8.3	0.0
81263	30536.8	8.2	0.0
81264	31319.5	8.2	0.0
81265	29425.3	8.2	0.0
81266	27293.3	8.1	0.0
81267	30378.1	8.0	0.0
81268	25047.6	7.9	0.0
81269	23003.6	7.8	0.0
81270	21253.6	7.8	0.0
81271	19609.1	7.5	0.0
81272	19315.9	7.0	0.0
81273	19315.9	7.2	0.0
81274	19315.9	7.0	0.0

14112 G.B.

	1			
1	81152	22983.3	4.6	0.0 ✓
2	81153	22983.3	6.1	0.0
3	81154	22983.3	6.3	0.0
4	81155	22983.3	6.7	0.0
5	81156	22983.3	6.5	0.0
6	81157	22983.3	4.8	0.0
7	81158	22983.3	6.7	0.0
8	81159	22386.4	6.6	0.0
9	81160	22386.4	4.9	0.0
10	81161	22386.4	7.2	0.0
11	81162	22386.4	7.0	0.0
12	81163	22386.4	7.8	0.0
13	81164	22386.4	7.6	0.0
14	81165	22386.4	8.4	0.0
15	81166	19394.2	8.0	0.0
16	81167	19394.2	8.1	0.0
17	81168	19394.2	8.3	0.0
18	81169	19394.2	8.7	0.0
19	81170	19394.2	9.2	0.0
20	81171	19394.2	9.5	0.0
21	81172	19394.2	9.6	0.0 used in DC1020
22	81173	13891.8	9.3	0.0
23	81174	13891.8 ✓	9.4 ✓	0.0
24	81175	13891.8	9.5	0.0
25	81176	13891.8	9.8	0.0
26	81177	13891.8	8.6	0.0
27	81178	13891.8	8.7	0.0
28	81179	13891.8	8.1	0.0
29	81180	14063.1	8.0	0.0
30	81181	14063.1	7.9	0.0
31	81182	14063.1	7.8	0.0
32	81183	14063.1	8.1	0.0
33	81184	14063.1	8.1	0.0
34	81185	14063.1	8.1	0.0
35	81186	14063.1	9.5	0.0
36	81187	13568.8	9.5	0.0
37	81188	13568.8	9.5	0.0
38	81189	13568.8	9.4	0.0
39	81190	13568.8	9.3	0.0
40	81191	13568.8	9.3	0.0
41	81192	13568.8	9.4	0.0
42	81193	13568.8	9.4	0.0
43	81194	16722.5	9.5	0.0
44	81195	16722.5	9.6	0.0
45	81196	16722.5	9.3	0.0
46	81197	16722.5	9.3	0.0
47	81198	16722.5	9.3	0.0
48	81199	16722.5	10.0	0.0
49	81200	16722.5	9.6	0.0
50	81201	16529.2	9.6	0.0
51	81202	16529.2	9.6	0.0
52	81203	16529.2 ✓	9.6 ✓	0.0
53	81204	16529.2	9.6	0.0
54	81205	16529.2	9.6	0.0
55	81206	16529.2	9.6	0.0
56	81207	16529.2	9.6	0.0
57	81208	15866.2	9.7	0.0
58	81209	15866.2	10.2	0.0
59	81210	15866.2	10.1	0.0

14112 G.B.

81215	23995.0	10.4	0.0	443.2
81216	23995.0	10.6	0.0	443.0
81217	23995.0	10.4	0.0	442.8
81218	23995.0	10.3	0.0	442.6
81219	23995.0	7.9	0.0	442.4
81220	23995.0	8.5	0.0	442.1
81221	23995.0	9.0	0.0	441.9
81222	24334.6	9.1	0.0	441.8
81223	24334.6	8.9	0.0	441.7
81224	24334.6	8.8	0.0	441.7
81225	24334.6	8.5	0.0	441.6
81226	24334.6	8.3	0.0	441.5
81227	24334.6	8.0	0.0	441.4
81228	24334.6	9.5	0.0	441.6
81229	33673.0	9.4	0.0	443.4
81230	33673.0	9.4	39709.4	443.5
81231	33673.0	9.3	40537.2	443.5
81232	33673.0	9.2	48568.4	443.5
81233	33673.0	9.3	73590.9	443.5
81234	33673.0	9.2	67136.9	443.5
81235	33673.0	9.2	59085.4	443.5
81236	33673.0	8.4	46490.1	443.5
81237	33673.0	9.5	37011.1	443.5
81238	33673.0	9.6	30962.3	443.5
81239	33673.0	10.0	30096.5	443.5
81240	33673.0	10.3	31615.1	443.5
81241	33673.0	9.9	31306.1	443.5
81242	33673.0	9.4	31037.7	443.5
81243	33673.0	9.4	25782.0	443.5
81244	33673.0	6.5	24469.4	443.5
81245	33673.0	9.5	20800.5	443.5
81246	33673.0	9.5	15726.3	443.5
81247	33673.0	9.4	11183.5	443.5
81248	33673.0	9.3	10634.4	443.5
81249	33673.0	9.2	9925.9	443.5
81250	33673.0	9.2	7664.0	443.5
81251	33673.0	9.3	7954.3	443.5
81252	33673.0	9.1	8269.3	443.5
81253	33673.0	9.1	5909.0	443.5
81254	33673.0	9.1	4551.4	443.5
81255	33673.0	9.1	2703.5	443.5
81256	33673.0	9.0	1624.9	443.5
81257	33673.0	8.9	0.0	443.5
81258	33673.0	8.8	0.0	443.4
81259	33673.0	8.7	0.0	443.3
81260	33673.0	8.6	0.0	443.2
81261	33673.0	8.5	0.0	443.1
81262	33673.0	8.3	0.0	442.9
81263	33673.0	8.2	0.0	442.9
81264	27922.3	8.2	0.0	442.9
81265	27922.3	8.2	0.0	443.0
81266	27922.3	8.1	0.0	443.0
81267	27922.3	8.0	0.0	443.0
81268	27922.3	7.9	0.0	443.0
81269	27922.3	7.8	0.0	442.8
81270	27922.3	7.8	0.0	442.6
81271	25974.1	7.5	0.0	442.5
81272	25974.1	7.0	0.0	442.3
81273	25974.1	7.2	0.0	442.1
81274	25974.1	7.0	0.0	441.9
81275	25974.1	6.8	0.0	441.6

Reverse spillage & p.h. flow.

select outlet works at elevation — 1050' (

by taking outflow temp at 4°C.

81152	22982.1	4.6	0.0	443.5
81153	22982.1	6.1	0.0	443.5
81154	22982.1	6.3	0.0	443.5
81155	22982.1	6.7	0.0	443.5
81156	22982.1	6.5	0.0	443.5
81157	22982.1	4.8	0.0	443.5
81158	22982.1	6.7	0.0	443.5
81159	22385.9	4.6	0.0	443.5
81160	22385.9	4.9	0.0	443.5
81161	22385.9	7.2	0.0	443.5
81162	22385.9	7.0	0.0	443.5
81163	22385.9	7.8	0.0	443.5
81164	22385.9	7.6	0.0	443.5
81165	22385.9	8.4	0.0	443.5
81166	19393.2	8.0	0.0	443.5
81167	19393.2	8.1	0.0	443.5
81168	19393.2	8.3	0.0	443.5
81169	19393.2	8.7	0.0	443.5
81170	19393.2	9.2	0.0	443.5
81171	19393.2	9.5	0.0	443.5
81172	19393.2	9.6	0.0	443.5
81173	13892.3	9.3	0.0	443.5
81174	13892.3	9.4	0.0	443.5
81175	13892.3	9.5	0.0	443.5
81176	13892.3	9.8	0.0	443.5
81177	13892.3	8.6	0.0	443.5
81178	13892.3	8.7	0.0	443.5
81179	13892.3	8.1	0.0	443.5
81180	14062.1	8.0	0.0	443.5
81181	14062.1	7.9	0.0	443.5
81182	14062.1	7.8	0.0	443.5
81183	14062.1	8.1	0.0	443.5
81184	14062.1	8.1	0.0	443.5
81185	14062.1	8.1	0.0	443.5
81186	14062.1	9.5	0.0	443.5
81187	13567.9	9.5	0.0	443.5
81188	13567.9	9.5	0.0	443.5
81189	13567.9	9.4	0.0	443.5
81190	13567.9	9.3	0.0	443.5
81191	13567.9	9.3	0.0	443.5
81192	13567.9	9.4	0.0	443.5
81193	13567.9	9.4	0.0	443.5
81194	16725.7	9.5	0.0	443.5
81195	16725.7	9.6	0.0	443.5
81196	16725.7	9.3	0.0	443.5
81197	16725.7	9.3	0.0	443.5
81198	16725.7	9.3	0.0	443.5
81199	16725.7	10.0	0.0	443.5
81200	16725.7	9.6	0.0	443.5
81201	16529.2	9.6	0.0	443.5
81202	16529.2	9.6	0.0	443.5
81203	16529.2	9.6	0.0	443.5
81204	16529.2	9.6	0.0	443.5
81205	16529.2	9.6	0.0	443.5
81206	16529.2	9.6	0.0	443.5
81207	16529.2	9.6	0.0	443.5
81208	15868.4	9.7	0.0	443.5
81209	15868.4	10.2	0.0	443.5
81210	15868.4	10.1	0.0	443.5
81211	15868.4	10.1	0.0	443.4
81212	15868.4	10.1	0.0	443.4

81340	25599.3	1.3	0.0	443.5
81341	26135.6	1.3	0.0	443.5
81342	26135.6	1.3	0.0	443.5
81343	26135.6	1.3	0.0	443.5
81344	26135.6	1.3	0.0	443.5
81345	26135.6	1.3	0.0	443.5
81346	26135.6	1.3	0.0	443.5
81347	26135.6	1.3	0.0	443.5
81348	26681.6	1.3	0.0	443.5
81349	26681.6	1.3	0.0	443.5
81350	26681.6	1.3	0.0	443.5
81351	26681.6	1.3	0.0	443.5
81352	26681.6	1.3	0.0	443.5
81353	26681.6	1.3	0.0	443.5
81354	26681.6	1.3	0.0	443.5
81355	27285.0	1.9	0.0	443.5
81356	27285.0	1.9	0.0	443.5
81357	27285.0	1.9	0.0	443.5
81358	27285.0	1.9	0.0	443.5
81359	27285.0	1.9	0.0	443.5
81360	27285.0	1.9	0.0	443.5
81361	27285.0	1.9	0.0	443.5
81362	27103.7	1.9	0.0	443.5
81363	27103.7	1.8	0.0	443.5
81364	27103.7	1.8	0.0	443.5
81365	27103.7	1.8	0.0	443.5

```
VAX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[D
VAX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[D
VAX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[D
```

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DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR    DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R   D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R   D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR    D   D
D   D   C      R R     AAAAA   W W W  F      0   0  R R     D   D
D   D   C      R  R    A   A   WW WW  F      0   0  R  R    D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R   DDDD
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DDDDDDDD       CCCCCCCC  PPPPPPPP    HH      HH  YY      YY    SSSSSSSS
DDDDDDDDD      CCCCCCCCC PPPPPPPPP   HH      HH  YY      YY    SSSSSSSS
DD      DD  CC           PP      PP  HH      HH  YY      YY  SS
DD      DD  CC           PP      PP  HH      HH  YY      YY  SS
DD      DD  CC           PP      PP  HH      HH    YY  YY    SS
DD      DD  CC           PP      PP  HH      HH    YY  YY    SS
DD      DD  CC           PPPPPPPPP   HHHHHHHHHH      YY        SSSSSS
DD      DD  CC           PPPPPPPPP   HHHHHHHHHH      YY        SSSSSS
DD      DD  CC           PP          HH      HH      YY              SS
DD      DD  CC           PP          HH      HH      YY              SS
DD      DD  CC           PP          HH      HH      YY              SS
DD      DD  CC           PP          HH      HH      YY              SS
DDDDDDDDD      CCCCCCCCC PP          HH      HH      YY      SSSSSSSS
DDDDDDDD       CCCCCCCCC PP          HH      HH      YY      SSSSSSSS
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DDDDDDDD       AAAAAA     TTTTTTTTTT      $$$$        11
DDDDDDDDD      AAAAAA     TTTTTTTTTT      $$$$        11
DD      DD  AA      AA       TT          $$  $$     1111
DD      DD  AA      AA       TT          $$  $$     1111
DD      DD  AA      AA       TT                       11
DD      DD  AA      AA       TT                       11
DD      DD  AA      AA       TT          $$$$         11
DD      DD  AA      AA       TT          $$$$         11
DD      DD  AAAAAAAAAA       TT          $$$$         11
DD      DD  AAAAAAAAAA       TT          $$$$         11
DD      DD  AA      AA       TT            $$         11
DD      DD  AA      AA       TT            $$         11
DDDDDDDDD   AA      AA       TT        $$             111111
DDDDDDDD    AA      AA       TT        $$             111111
```

```
DDDD     CCCC  RRRR     AAA    W    W  FFFFF   000   RRRR    DDDD
D   D   C      R   R   A   A   W    W  F      0   0  R   R   D   D
D   D   C      R   R   A   A   W    W  F      0   0  R   R   D   D
D   D   C      RRRR    A   A   W    W  FFFF   0   0  RRRR    D   D
D   D   C      R R     AAAAA   W W W  F      0   0  R R     D   D
D   D   C      R  R    A   A   WW WW  F      0   0  R  R    D   D
DDDD     CCCC  R   R   A   A   W    W  F       000   R   R   DDDD
```

```
AX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[DD
AX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[DD
AX/VMS   DCRAWFORD     DCPHYS 21-JAN-1983 14:40    TTD7: 21-JAN-1983 14:40    DISK$TECHNICAL:[DD
```

```
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
```

```
DDDD     CCCC  RRRR     AAA   W   W FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A  W   W F      0   0  R   R  D   D
D    D  C      R   R   A   A  W   W F      0   0  R   R  D    D
D    D  C      RRRR    A   A  W   W FFFF   0   0  RRRR   D    D
D    D  C      R R     AAAAA  W W W F      0   0  R R    D    D
D   D   C      R  R    A   A  WW WW F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W F       000   R   R  DDDD
```

```
DDDDDDDD      CCCCCCCC  FFFFFFFFFF  LL                000000    WW      WW
DDDDDDDD      CCCCCCCC  FFFFFFFFFF  LL                000000    WW      WW
DD     DD  CC           FF          LL              00      00  WW      WW
DD     DD  CC           FF          LL              00      00  WW      WW
DD     DD  CC           FF          LL              00      00  WW      WW
DD     DD  CC           FF          LL              00      00  WW      WW
DD     DD  CC           FFFFFFFF    LL              00      00  WW      WW
DD     DD  CC           FFFFFFFF    LL              00      00  WW      WW
DD     DD  CC           FF          LL              00      00  WW  WW  WW
DD     DD  CC           FF          LL              00      00  WW  WW  WW
DD     DD  CC           FF          LL              00      00  WWWW    WWWW    ****
DDDDDDDD      CCCCCCCC  FF          LLLLLLLLLL      000000    WW      WW    ****
DDDDDDDD      CCCCCCCC  FF          LLLLLLLLLL      000000    WW      WW    ****
```

DC INFLOW

W/DC "2010"

```
000000    UU     UU  TTTTTTTTTT    $$$$    666666
000000    UU     UU  TTTTTTTTTT    $$$$    666666
00     00 UU     UU      TT        $$$$    66
00     00 UU     UU      TT        $$$$    66
00     00 UU     UU      TT                66
00     00 UU     UU      TT                66
00     00 UU     UU      TT        $$$$    66666666
00     00 UU     UU      TT        $$$$    66666666
00     00 UU     UU      TT        $$$$    66    66
00     00 UU     UU      TT        $$$$    66    66
00     00 UU     UU      TT          $$    66    66
00     00 UU     UU      TT          $$    66    66
000000    UUUUUUUUUU      TT        $$      666666
000000    UUUUUUUUUU      TT        $$      666666
```

```
DDDD     CCCC  RRRR     AAA   W   W FFFFF   000   RRRR   DDDD
D   D   C      R   R   A   A  W   W F      0   0  R   R  D   D
D    D  C      R   R   A   A  W   W F      0   0  R   R  D    D
D    D  C      RRRR    A   A  W   W FFFF   0   0  RRRR   D    D
D    D  C      R R     AAAAA  W W W F      0   0  R R    D    D
D   D   C      R  R    A   A  WW WW F      0   0  R  R   D   D
DDDD     CCCC  R   R   A   A  W   W F       000   R   R  DDDD
```

```
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
VAX/VMS  DCRAWFORD    DCFLOW 15-FEB-1983 16:10    TTD7: 15-FEB-1983 16:10    DISK$TECHNICAL:[DCRAWFORD.RESTEMP]DCFLOW.OUT;6    VAX/VMS
```

```
4  1233480.  2.4466  1091.6
1350.  456.  1400.  707.  1450.  1048.  1500.  1484.
443.45  81152
1          9393.5
8          9149.8
15         7926.6
22         5678.2
29         5747.6
36         5545.6
43         6836.3
50         6754.0
57         6485.9
64         9807.5
71         9946.3
78        13763.2
85        13763.2
92        13763.2
99        13763.2
106       13763.2
113       11412.7
120       10616.4
127        7099.4
134        7451.6
141        8287.8
148        8695.6
155       10190.4
162       10286.9
169       10443.1
176       10223.1
183       10463.2
190       10682.4
197       10905.6
204       11152.2
211       11078.1
-1 100.
```

TO DETERMINE DC OUTFLOW