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CINOLA GOLD PROJECT

STAGE II

WORKSHOP RESPONSE REPORT

APPENDICES

CITY RESOURCES (CANADA) LIMITED

CINOLA GOLD PROJECT

STAGE II REVIEW

WORKSHOP RESPONSE REPORT

APPENDICES

Submitted by:

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August 1989

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LIST OF APPENDICES

APPENDIX 2.2.1-1

PREDICTED SEEPAGE THROUGH THE RECLAIMED CINOLA PIT BACKFILL

(Page 1 to 50)

REPORT TO
CITY RESOURCES LIMITED

ON

PREDICTED SEEPAGE THROUGH THE RECLAIMED CINOLA PIT BACKFILL

QUEEN CHARLOTTE ISLANDS
BRITISH COLUMBIA, CANADA

Prepared by

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Project 1100

May 5, 1989

ADRIAN BROWN CONSULTANTS, INC.
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May 5, 1989

Steffen Robertson and Kirsten
1030 West Georgia Street, Suite 801
Vancouver, British Columbia
Canada, V6E 2Y3

Attention: Mr. John Gadsby, P.E.

Re: **Predicted Flow through the Reclaimed Cinola Pit Backfill**

Dear John:

Please find attached my report on the above captioned matter. This report was requested as a result of the meetings with the Provincial and Federal reviewers of this project, which took place in Vancouver on May 5, 1989. The analysis performed is an extension of the work presented in our report on the geohydrology of the project, and evaluates the distribution of flow to the backfilled pit greater detail.

I trust that this report meets your needs at this time. Should you have any questions, please do not hesitate to call.

Respectfully submitted,
ADRIAN BROWN CONSULTANTS INC

Adrian Brown

Adrian Brown, P.E., President

Att.

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1.0 INTRODUCTION

City Resources Limited proposes to develop an open pit gold mine to exploit the Cinola orebody, located in the Queen Charlotte Islands. As some of the waste rock to be mined is potentially acid generating, it is proposed to partially backfill the pit with this rock, and to resaturate this material to prevent acid generation. This report presents a detailed evaluation of the seepage of groundwater through the backfill material after the reclamation of the mine.

2.0 ANALYSIS METHOD

The analysis involved the evaluation of the flow conditions through the backfill for both a transverse and a longitudinal section through the pit (Figure 1). The approach used is to refine the analyses performed in the geohydrology report ("The Gehoydrology of the Cinola Gold Project", ABC, March, 1989). The flow heads were computed, which allowed a computed time for plug flow at different locations over the reclaimed surface. This plug flow time was used to establish the total plug flow rates versus time for each condition, and then to compute the proportion of plug flow in the total seepage that passes through the backfill as a function of time. The plug flow is expected to remove the bulk of the available chemical mass that may exist in the backfill material, so this proportion indicates the extent to which the quality of this seepage has been modified by contact with the backfill.

The two sets of analysis were then used to estimate an effective overall condition. The detailed information on those analyses is attached as a data appendix; a discussion of the results is provided below.

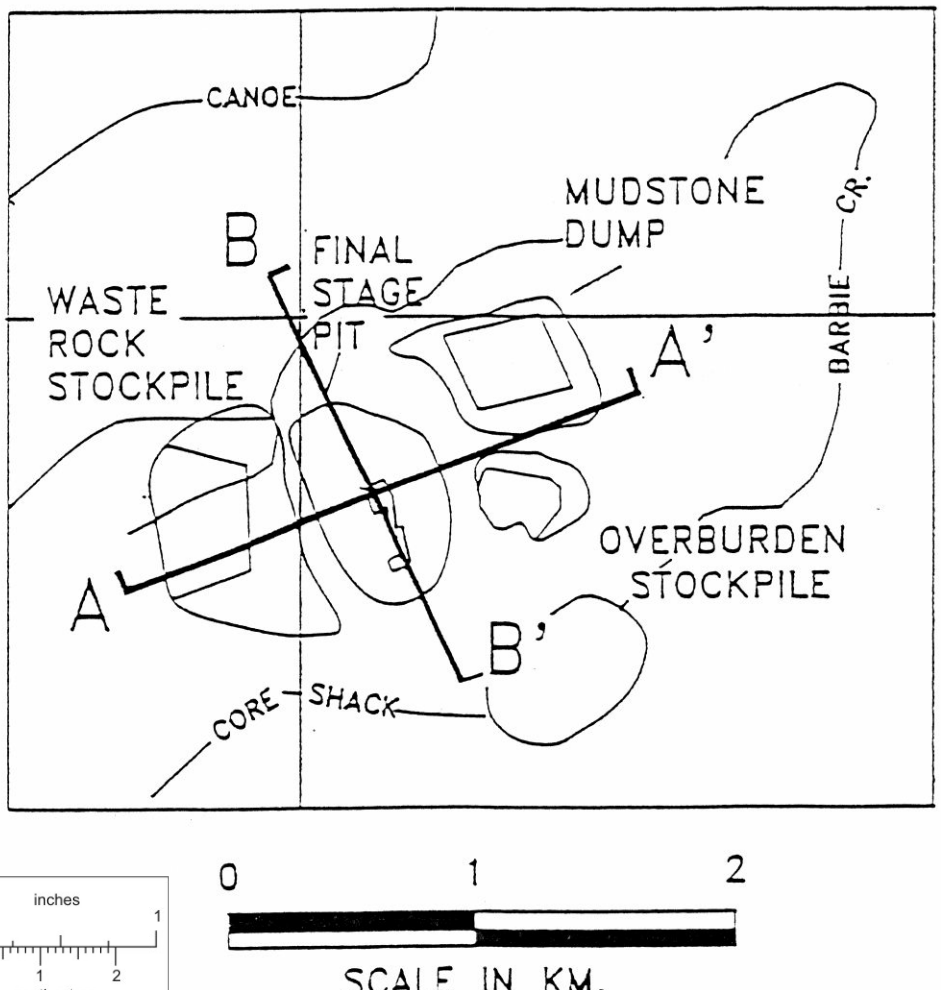


Figure 1 - Site Plan

3.0 ANALYSIS RESULTS

3.1 Transverse Section

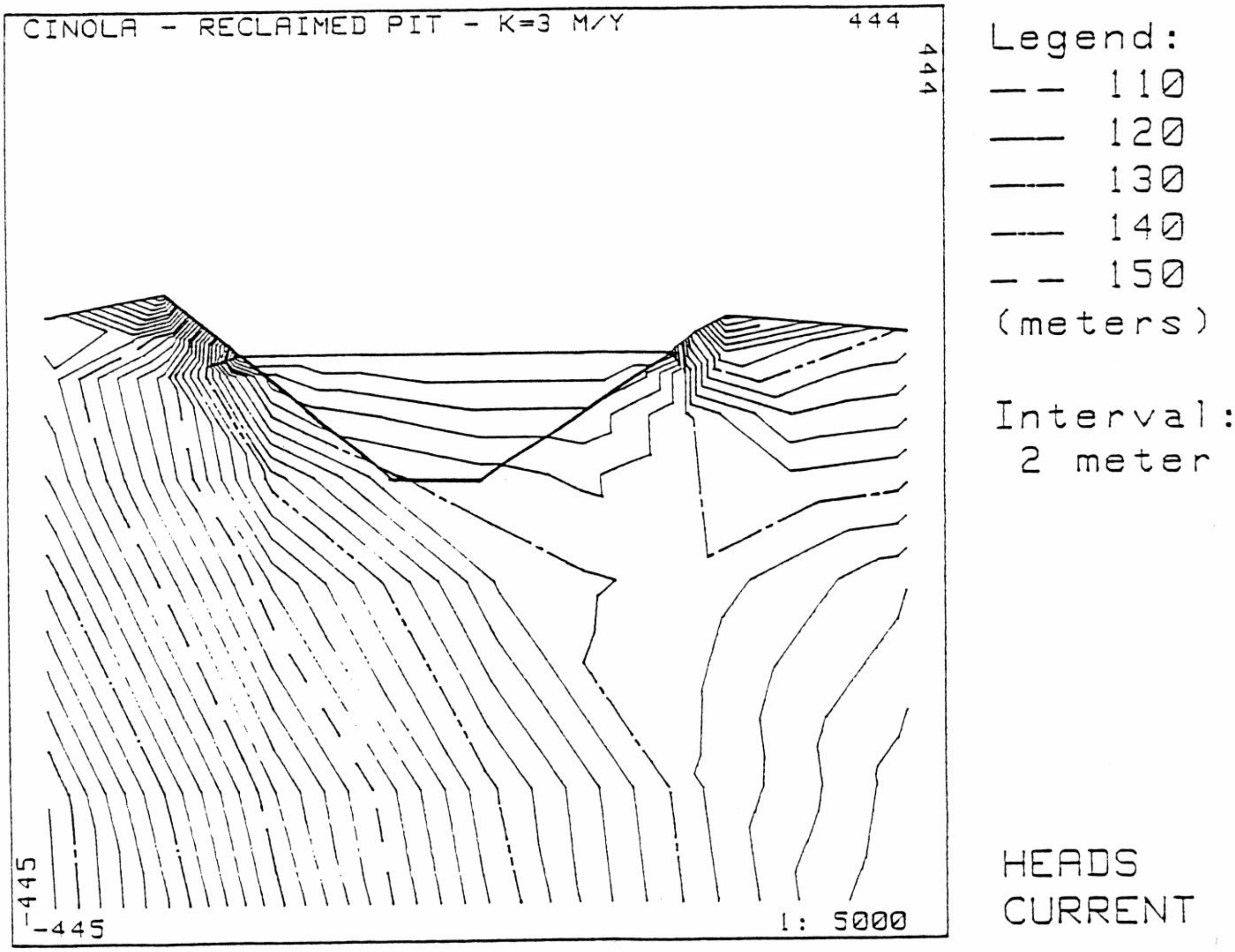
This analysis evaluated an east-west section through the deepest part of the pit. The results are as follows:

1. Heads. Heads are shown on Figure 2. The flow through the backfill material is in this section all upwards through the backfill.

2. Rate of flow per unit area. The rate of flow per unit area of the reclaimed surface of the pit was computed, and is illustrated in Figure 3. As expected the flow rate around the edges of the reclaimed area are much higher than the rates in the center of the pit.

3. Time taken for backfill to flush. The time taken for plug flow (that is the displacement of the first pore volume of porewater from the backfill material) was computed using an assumed porosity of 30%, and the results are presented in Figure 4. This shows that the edges of the reclaimed pit area flush quickly (in less than a year), because they are subject to high gradients and the depth of backfill material is small. The center of the pit takes up to 160 years to flush.

4. Estimated plug flow seepage. The estimated proportion of plug flow in the total seepage that passes through the backfill (that is the proportion of "first flush" water in of the backfill seepage) is plotted for this section on Figure 5. This shows that the plug flow drops to 75% of the total seepage in the first 2 years, to 50% of the total seepage in the first 10 years, and ends after 160 years.



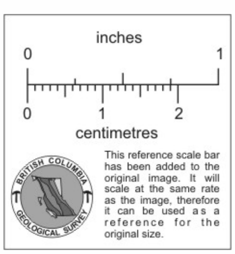


Figure 2 - Transverse Section - Heads (m)

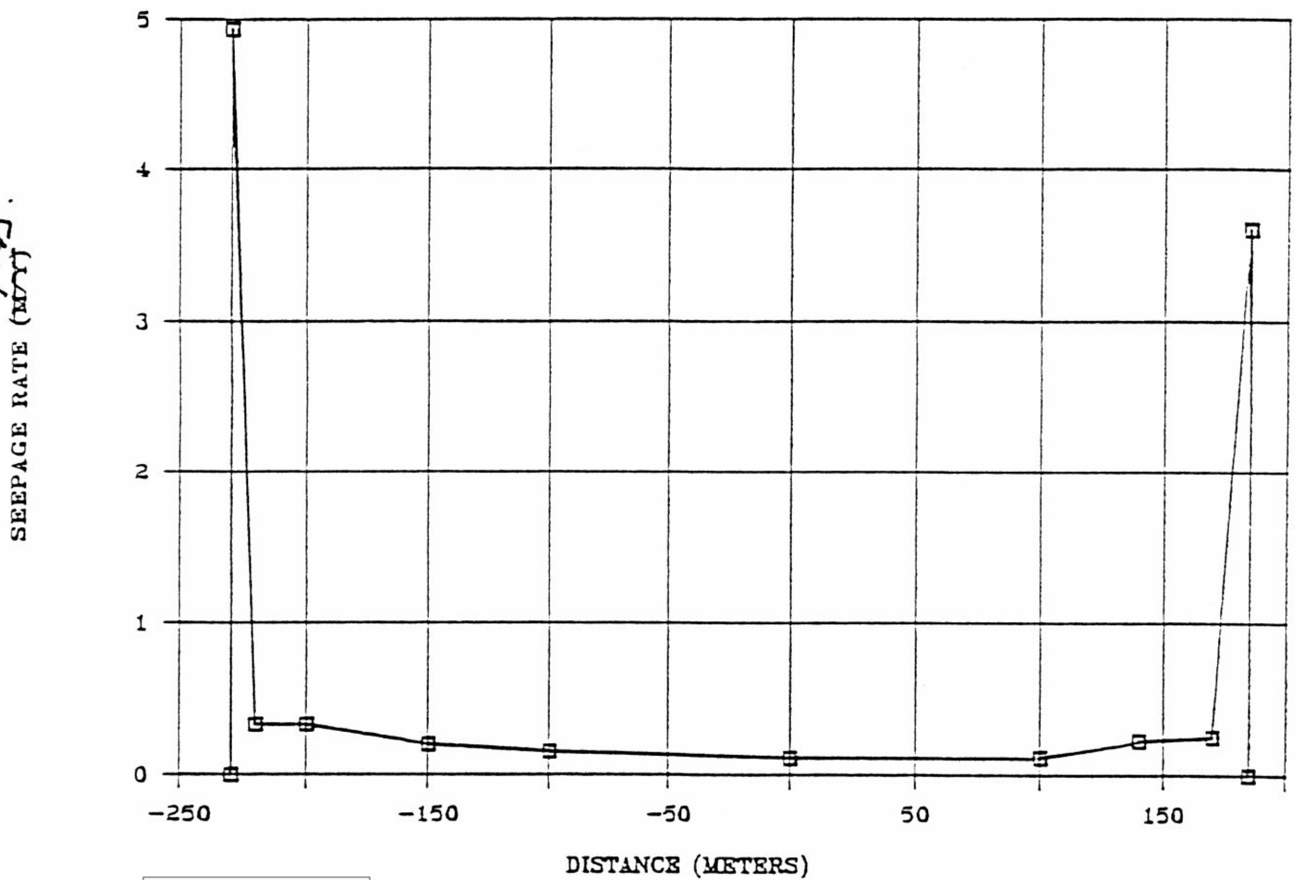
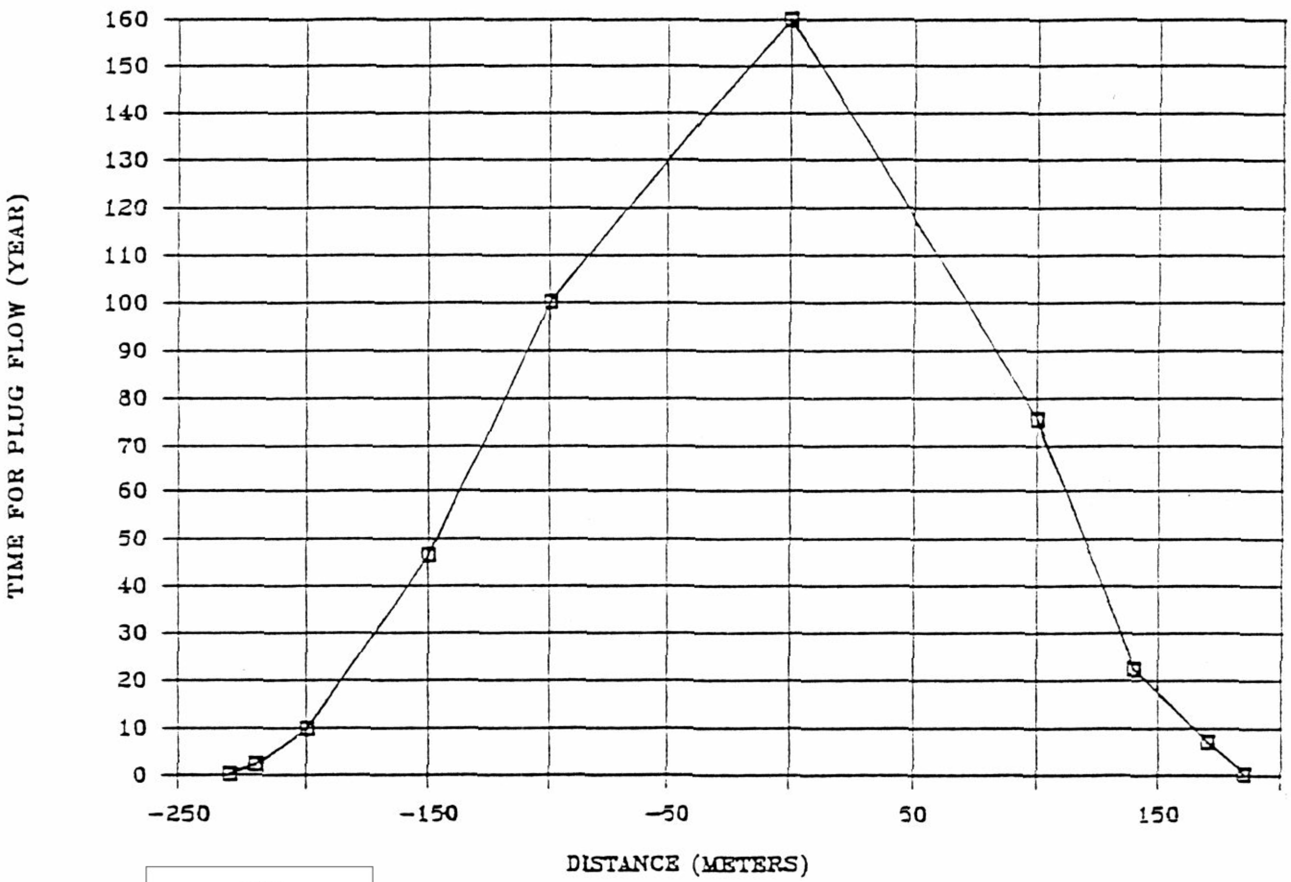


Figure 3 - Transverse Section - Seepage through Backfill ($m^3/m2/y$)



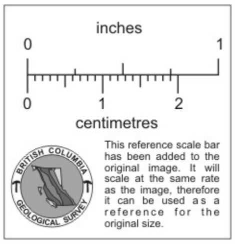


Figure 4 - Transverse Section - Time for Plug Flow (y)

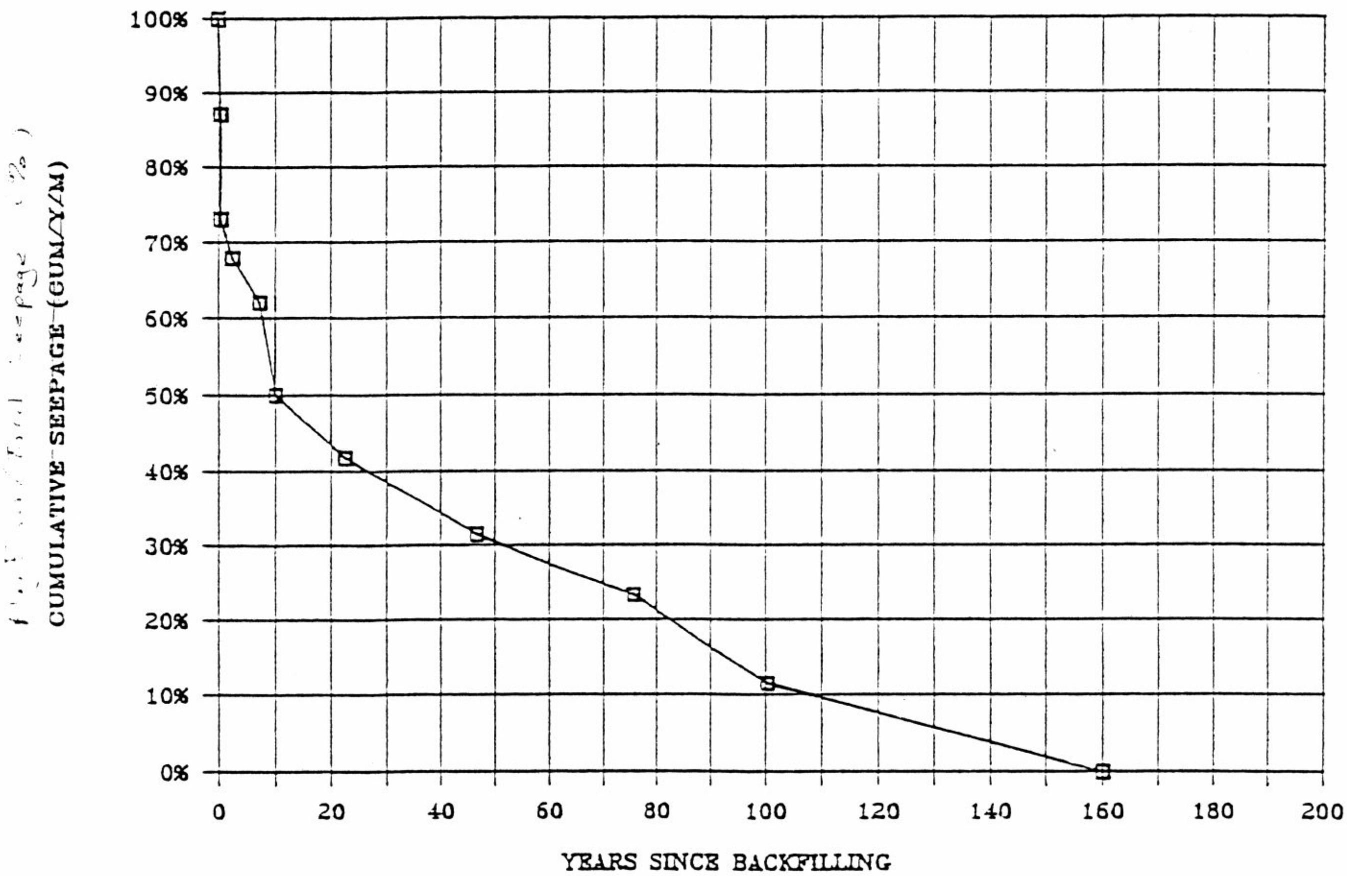


Figure 5 - Transverse Section - Proportion of Plug Flow (%)

3.2 Longitudinal Section

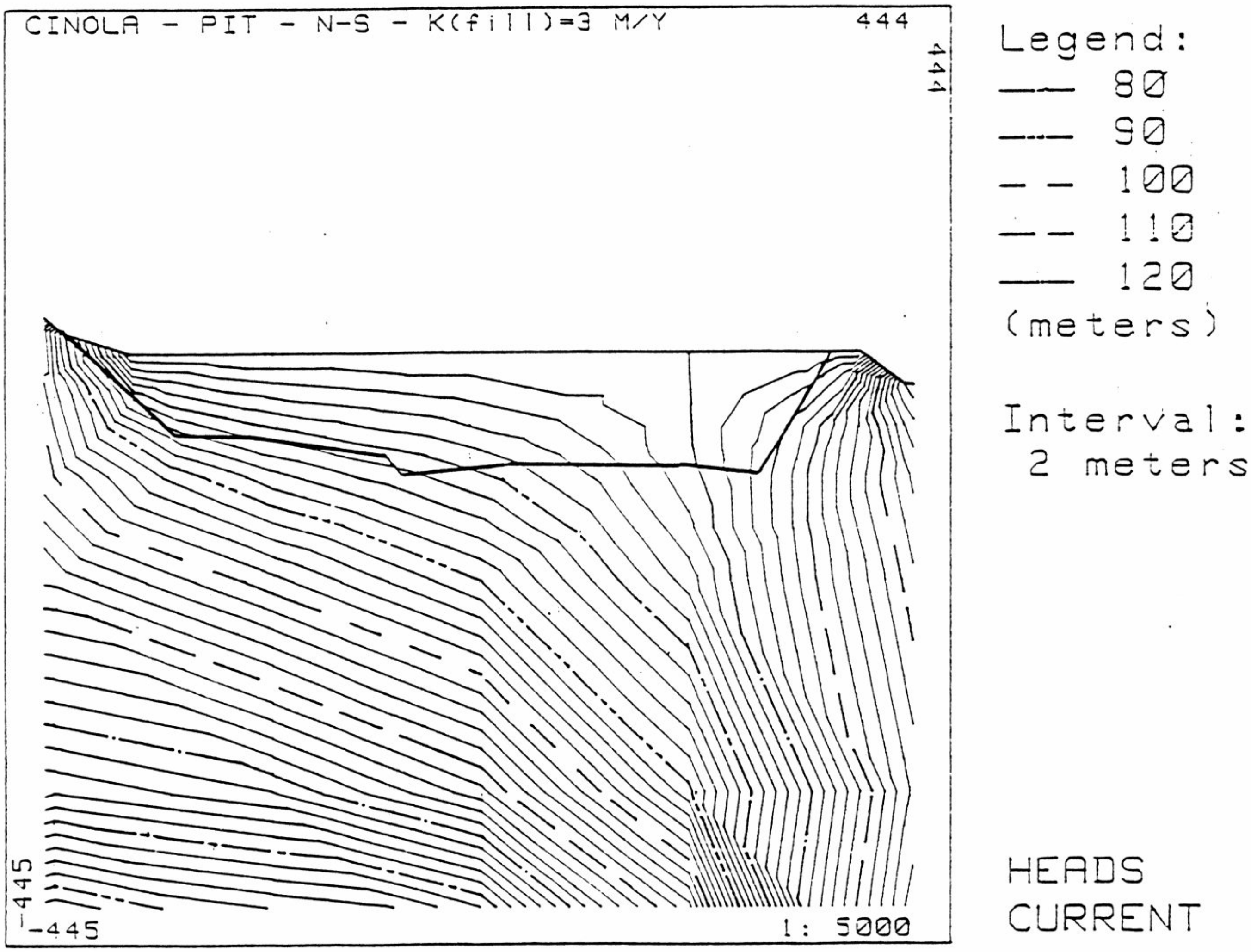
A similar analysis was performed using the longitudinal section presented in the geohydrology report (ABC, 1989). This analysis evaluated a north-south section through the deepest part of the pit. The results are as follows:

1. Heads. Heads are shown on Figure 6. The flow through the backfill material is upwards to the north of the section, and downwards to the south.

2. Rate of flow per unit area. The rate of flow per unit area of the reclaimed surface is illustrated in Figure 7. As before, the flow rate around the edges of the reclaimed area are much higher than the rates in the center of the pit. Also, in this section, the flow rate is downward to the south, and upward to the north.

3. Time taken for backfill to flush. The time taken for plug flow was computed using an assumed porosity of 30%, and the results are presented in Figure 8. This again shows that the edges of the reclaimed pit area flush quickly, while the stagnation point in the center south of the pit takes up to 400 years to flush.

4. Estimated plug flow seepage. The estimated proportion of the seepage through the backfill that is plug flow (that is comes from the "first flush" of the backfill) is plotted for this section on Figure 9. This shows that the plug flow drops somewhat less quickly than for the transverse section, but that the upward plug flow seepage reduces to 50% of the total seepage in the first 50 years. Note that the downward plug flow percentages drop off more quickly.



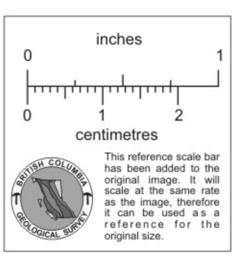


Figure 6 - Longitudinal Section - Heads (m)

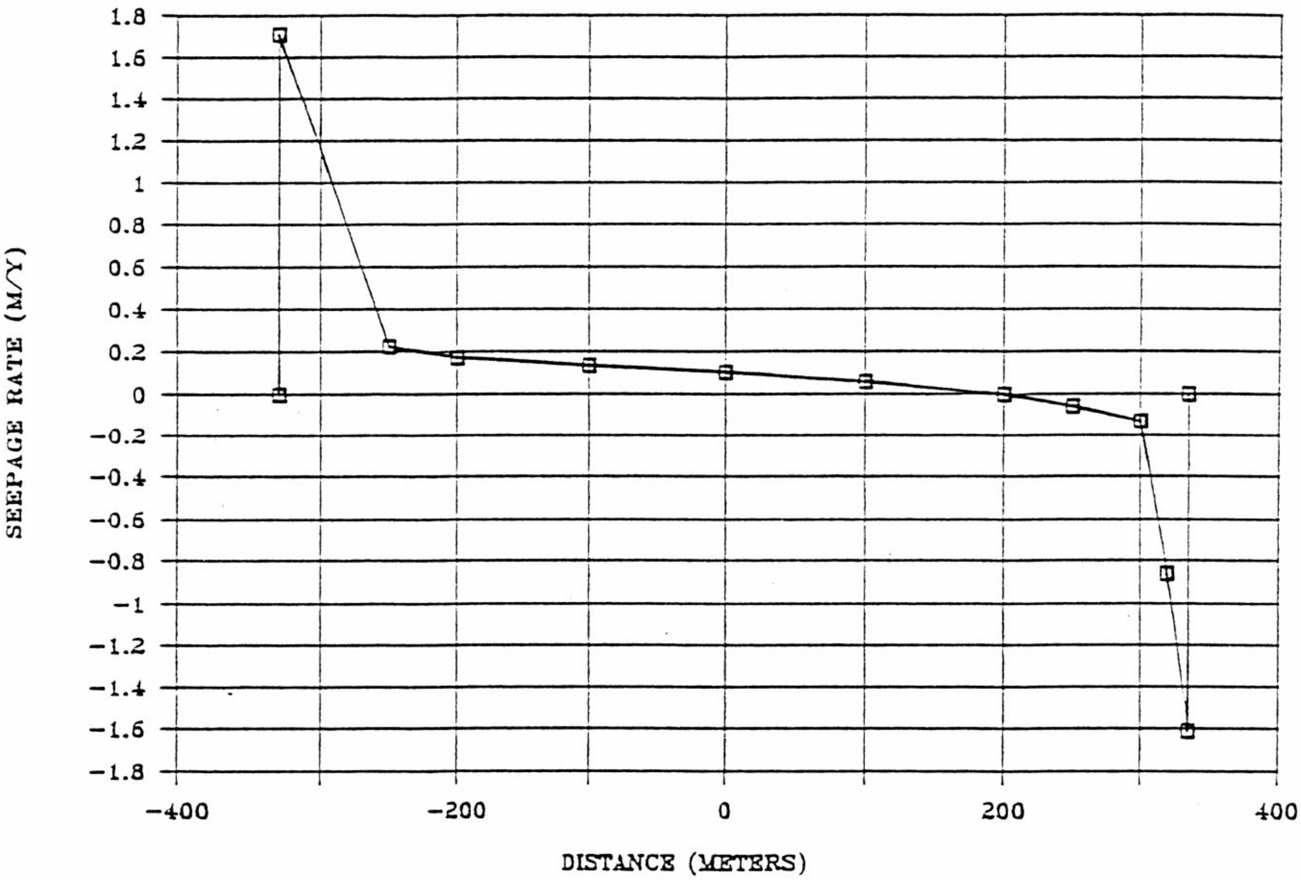
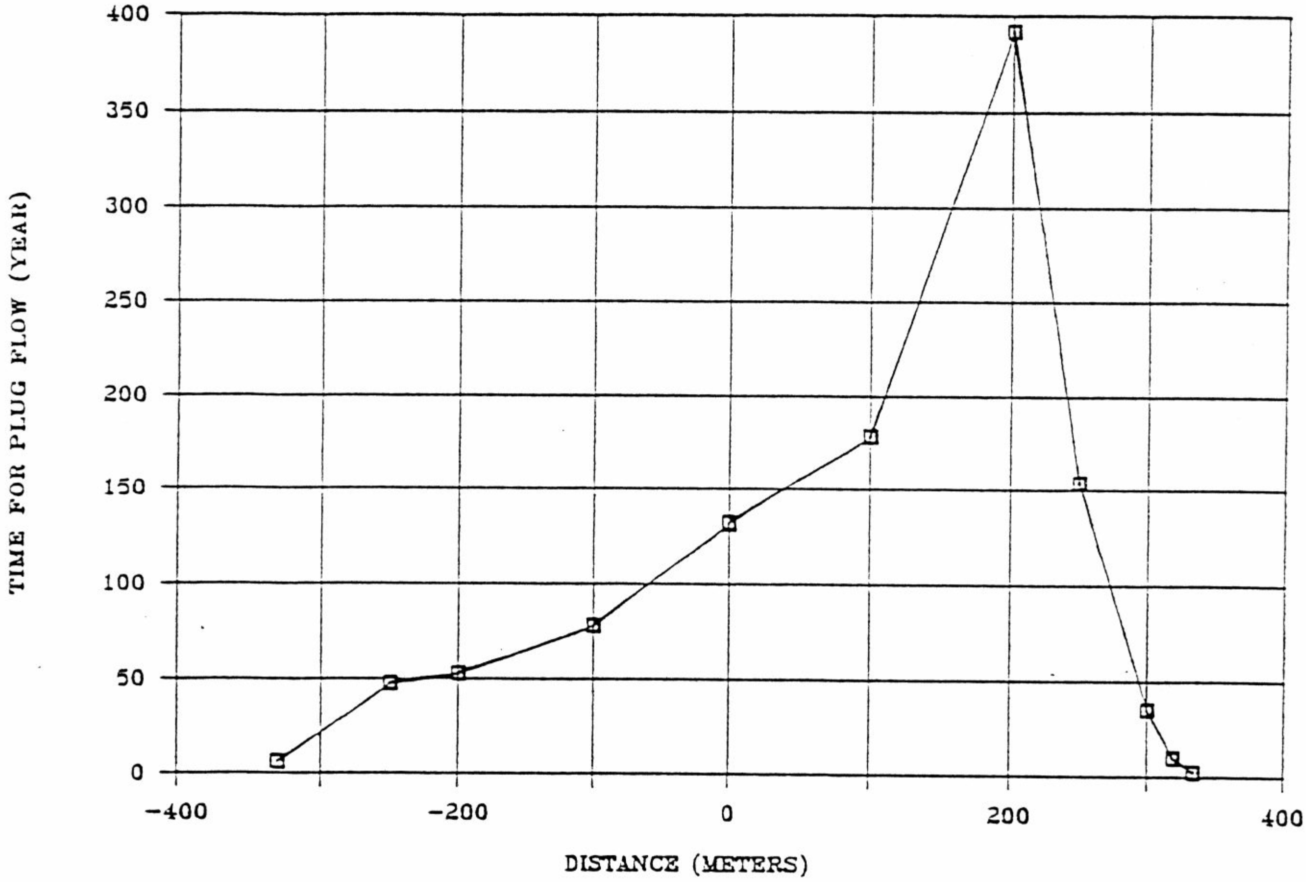


Figure 7 - Longitudinal Section - Seepage through Backfill ($m^3/m^2/y$)



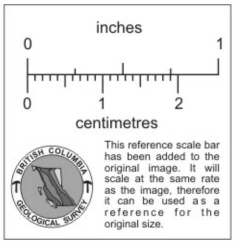


Figure 8 - Longitudinal Section - Time for Plug Flow (y)

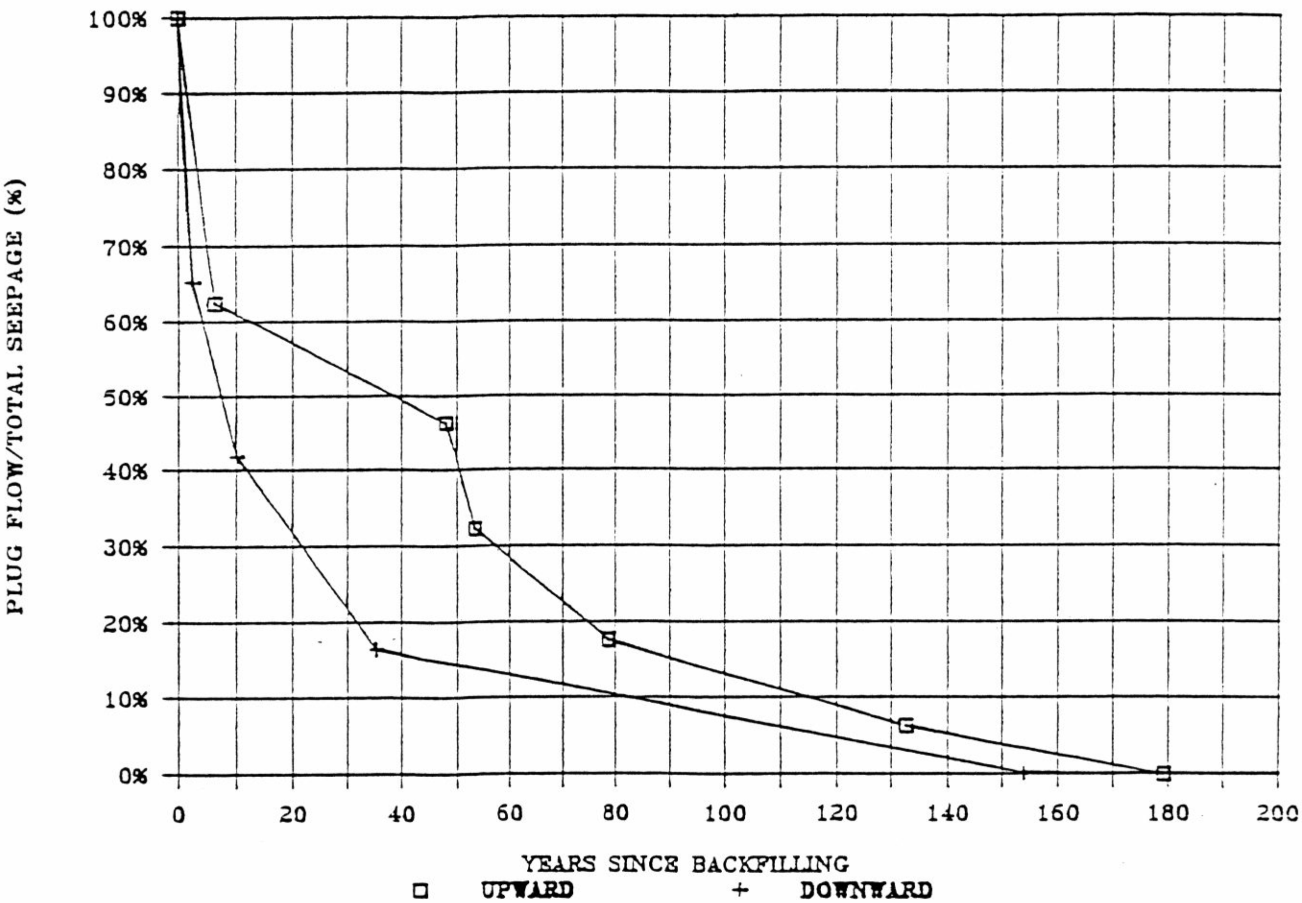


Figure 9 - Longitudinal Section - Proportion of Plug Flow (%)

3.3 Overall Results

The above results are taken for sections around the perimeter. An estimate of the combined effect of the seepage system can be obtained by combining these analyses, recognizing that the transverse section situation holds over perhaps a few hundred meters of the pit, and that the longitudinal section situation holds over a narrower portion of the pit. This is shown in two sketch plans of the reclaimed pit:

1. Rate of flow to the pit. Figure 10 shows the rate of flow to the reclaimed pit floor. The "high" rate of flow is greater than 0.3 cubic meters per square meter per year (and averages about 1 cubic meter per square meter per year), the "moderate" rate of flow is 0.1 to 0.3 cubic meters per square meter per year, and the "low" rate of flow is less than 0.1 cubic meters per square meter per year. As expected, the high flow area is of relatively small size, and is located where the backfill material is thinnest. Further, the locations of upward flow and downward flow are identified on this figure.

2. Time for plug flow. Figure 11 shows the time for the first pore volume to flush as a function of location in the pit. As can be seen, and would be expected, the flush times increase as the backfill depth increases, and as the gradient in the backfill decreases. Note that the plug flow flush times are for upward flow in the northern portion of the pit, and for downward flow in the sourthern portion of the pit.

3. Rate of plug flow. Figure 12 shows the expected proportion of seepage that passes through the backfill that is plug flow. After the plug flow occurs, the quality of the groundwater flow would be expected to approach the quality of groundwater in the country rock. The percentages for both upward and downward flow are shown. The figure indicates that the quality of the seepage from the backfill will improve rapidly, with the proportion of plug flow in the total seepage throught the backfill falling to 50% within a decade, and essentially ending within a century. Note that the seepage through the backfill will not change, only the proportion that is plug flow (that is the first pore volume).

In summary, the analysis indicates that the proportion of plug flow water in the backfill seepage halves in the first decade after backfilling of the pit, and drops to zero in the long term.

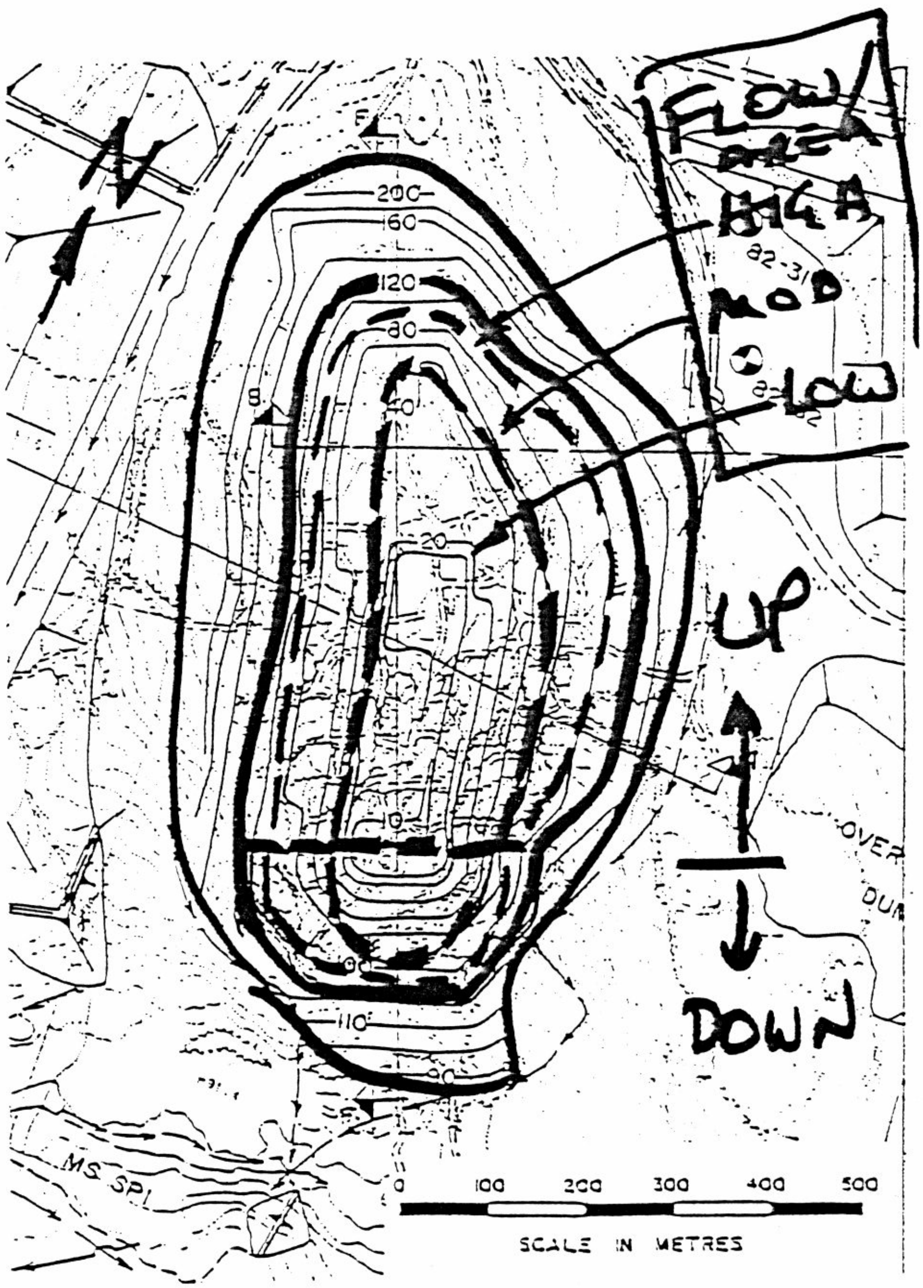


Figure 10 - Distribution of Seepage Flow Rates through Backfill

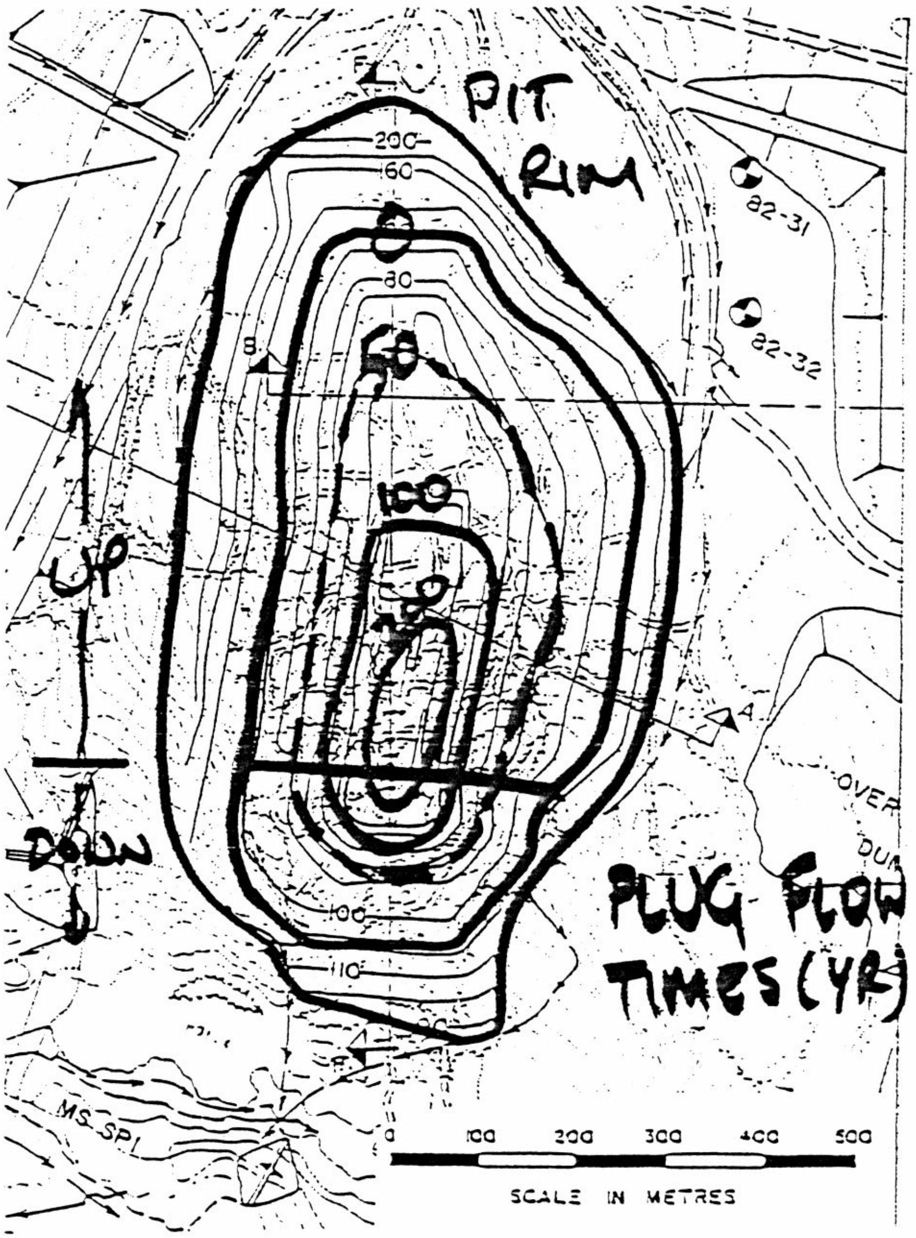


Figure 11 - Distribution of Times for Plug Flow (year)

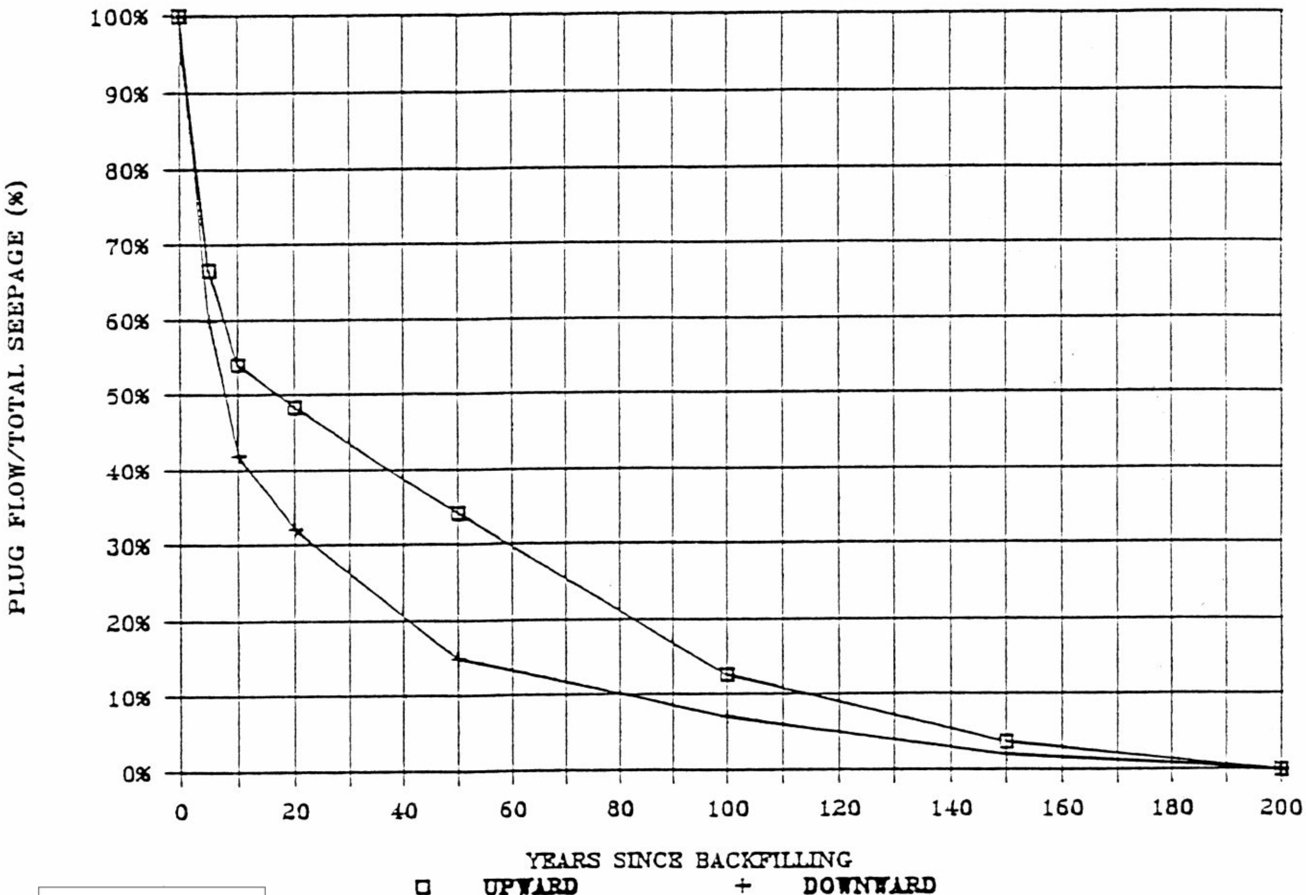


Figure 12 - Proportions of Plug Flow in Backfill Seepage

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................100
Number of elements.................154
Number of materials................7
Number of soils....................3

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	0.00E+00
2	2.00E+00	1.00E-06	.0500	0.00E+00
3	3.00E+00	1.00E-06	.0500	0.00E+00
4	3.00E+00	1.00E-06	.0200	
5	6.00E+00	1.00E-06	.0200	
6	3.00E+00	1.00E-06	.3000	
7	3.00E-01	1.00E-06	.0200	

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	0	0	-1400.0	-500.0	-1000.0	-500.0	320.0	320.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.410E+04	1
2	0	0	-1400.0	-300.0	-800.0	-300.0	320.0	320.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.915E+04	2
3	0	0	-1400.0	-100.0	-600.0	-100.0	320.0	320.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.200E+04	3
4	0	0	-1400.0	100.0	-400.0	100.0	320.0	320.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.933E+04	4
5	0	0	-1200.0	-500.0	-1000.0	-500.0	122.0	287.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.095E-02	5
6	0	0	-1200.0	-300.0	-800.0	-300.0	122.0	287.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.041E-01	6
7	0	0	-1200.0	-100.0	-600.0	-100.0	122.0	285.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.050E-02	7
8	0	0	-1200.0	100.0	-400.0	100.0	122.0	282.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.076E-02	8
9	0	0	-1000.0	-500.0	-1000.0	-500.0	122.0	257.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.160E-01	9
10	0	0	-1000.0	-300.0	-800.0	-300.0	122.0	255.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.982E-01	10
11	0	0	-1000.0	-100.0	-600.0	-100.0	122.0	251.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.330E-01	11
12	0	0	-1000.0	100.0	-400.0	100.0	122.0	244.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.369E-02	12
13	0	0	-800.0	-500.0	-1000.0	-500.0	122.0	228.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.676E-01	13
14	0	0	-800.0	-300.0	-800.0	-300.0	122.0	227.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.865E-01	14
15	0	0	-800.0	-100.0	-600.0	-100.0	122.0	221.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.923E-01	15
16	0	0	-800.0	100.0	-400.0	100.0	122.0	211.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.480E-02	16
17	0	0	-600.0	-500.0	-1000.0	-500.0	122.0	203.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.181E-01	17
18	0	0	-600.0	-300.0	-800.0	-300.0	122.0	201.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.732E-01	18
19	0	0	-600.0	-100.0	-600.0	-100.0	122.0	196.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.096E-01	19
20	0	0	-600.0	100.0	-400.0	100.0	122.0	170.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.430E-02	20
21	0	0	-400.0	-500.0	-1000.0	-500.0	122.0	182.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.696E-01	21
22	0	0	-400.0	-300.0	-800.0	-300.0	122.0	181.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.842E-01	22
23	0	0	-400.0	-100.0	-600.0	-100.0	122.0	170.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.054E-01	23
24	0	0	-400.0	100.0	-400.0	100.0	122.0	162.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.598E-02	24
25	0	0	-200.0	-500.0	-1000.0	-500.0	122.0	162.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.437E-01	25
26	0	0	-200.0	-300.0	-800.0	-300.0	122.0	158.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.797E-01	26
27	0	0	-200.0	-100.0	-600.0	-100.0	122.0	147.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.503E-01	27
28	-2	0	-230.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.468E+04	28
29	0	0	0.0	-500.0	-1000.0	-500.0	122.0	143.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.674E-01	29
30	0	0	0.0	-300.0	-800.0	-300.0	122.0	140.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.633E-01	30
31	0	0	20.0	-100.0	-600.0	-100.0	122.0	131.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.007E+00	31
32	-1	0	0.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.107E+04	32
33	0	0	200.0	-500.0	-1000.0	-500.0	122.0	130.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.025E-01	33
34	0	0	220.0	-300.0	-800.0	-300.0	122.0	127.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.134E+00	34
35	0	0	200.0	-100.0	-600.0	-100.0	122.0	129.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.936E-01	35
36	-2	0	185.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.704E+04	36
37	0	0	420.0	-500.0	-1000.0	-500.0	122.0	118.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.248E+00	37
38	0	0	400.0	-300.0	-800.0	-300.0	122.0	121.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.095E+00	38
39	0	0	400.0	-100.0	-600.0	-100.0	122.0	124.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.348E-01	39
40	0	0	400.0	140.0	-360.0	140.0	140.0	140.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.994E+04	40
41	0	0	600.0	-500.0	-1000.0	-500.0	122.0	109.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.107E-01	41
42	0	0	600.0	-300.0	-800.0	-300.0	122.0	110.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.538E-01	42
43	0	0	600.0	-100.0	-600.0	-100.0	122.0	113.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.470E-01	43
44	0	0	600.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.590E-03	44
45	0	0	900.0	-500.0	-1000.0	-500.0	90.0	90.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.362E-03	45
46	0	0	900.0	-300.0	-800.0	-300.0	90.0	90.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.033E+04	46
47	0	0	900.0	-100.0	-600.0	-100.0	90.0	90.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.200E+04	47
48	0	0	900.0	90.0	-410.0	90.0	90.0	90.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.650E+04	48
49	0	0	-1400.0	320.0	-180.0	320.0	320.0	320.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.733E+04	49
50	0	0	-1200.0	280.0	-220.0	280.0	280.0	280.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.743E+04	50

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	0	0	-960.0	230.0	-270.0	230.0	230.0	230.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.473E+04	51
52	0	0	0.0	0.0	0.0	0.0	0.0	0.0	XXXX	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	52
53	0	0	0.0	0.0	0.0	0.0	0.0	0.0	XXXX	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	53
54	0	0	0.0	0.0	0.0	0.0	0.0	0.0	XXXX	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	54
55	0	0	-400.0	160.0	-340.0	160.0	160.0	160.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.971E+03	55
56	0	0	-300.0	180.0	-320.0	180.0	180.0	180.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.144E+04	56
57	-1	0	-100.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.132E+04	57
58	-1	0	100.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.795E+03	58
59	0	0	240.0	155.0	-345.0	155.0	155.0	155.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.118E+04	59
60	0	0	-800.0	200.0	-300.0	200.0	200.0	200.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.674E+04	60
61	0	0	-600.0	155.0	-345.0	155.0	155.0	155.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.510E+04	61
62	0	0	-500.0	140.0	-360.0	140.0	122.0	166.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.156E-02	62
63	0	0	-500.0	100.0	-400.0	100.0	122.0	168.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.049E-01	63
64	0	0	-300.0	100.0	-400.0	100.0	122.0	151.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.690E-02	64
65	0	0	-300.0	0.0	-500.0	0.0	122.0	153.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.476E-01	65
66	0	0	-200.0	0.0	-500.0	0.0	122.0	139.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.540E-01	66
67	0	0	-160.0	60.0	-440.0	60.0	122.0	127.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.065E-01	67
68	0	0	-80.0	0.0	-500.0	0.0	122.0	130.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.991E-01	68
69	0	0	0.0	60.0	-440.0	60.0	122.0	124.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.048E-01	69
70	0	0	0.0	0.0	-500.0	0.0	122.0	128.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.922E-01	70
71	0	0	100.0	60.0	-440.0	60.0	122.0	124.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.044E-01	71
72	0	0	100.0	0.0	-500.0	0.0	122.0	127.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.697E-01	72
73	0	0	200.0	0.0	-500.0	0.0	122.0	129.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.590E-01	73
74	0	0	300.0	0.0	-500.0	0.0	122.0	131.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.826E-01	74
75	0	0	200.0	60.0	-440.0	60.0	122.0	129.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.115E-01	75
76	0	0	240.0	120.0	-380.0	120.0	122.0	143.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.434E-02	76
77	0	0	300.0	60.0	-440.0	60.0	122.0	136.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.226E-01	77
78	0	0	-330.0	140.0	-360.0	140.0	122.0	162.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.623E-02	78
79	0	0	-290.0	140.0	-360.0	140.0	122.0	157.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.937E-02	79
80	0	0	-500.0	0.0	-500.0	0.0	122.0	175.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.304E-01	80
81	0	0	-400.0	0.0	-500.0	0.0	122.0	165.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.345E-01	81
82	0	0	100.0	-100.0	-600.0	-100.0	122.0	130.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.209E+00	82
83	0	0	200.0	-200.0	-700.0	-200.0	122.0	128.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.768E+00	83
84	0	0	300.0	-300.0	-800.0	-300.0	122.0	125.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.049E+00	84
85	0	0	400.0	-400.0	-900.0	-400.0	122.0	120.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.052E+00	85
86	0	0	500.0	-500.0	-1000.0	-500.0	122.0	115.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.174E-01	86
87	0	0	-265.0	150.0	-350.0	150.0	150.0	150.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.107E+03	87
88	0	0	-240.0	130.0	-370.0	130.0	130.0	130.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.385E+03	88
89	-1	0	-220.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.953E+03	89
90	-1	0	-200.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.156E+04	90
91	-1	0	-150.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.978E+03	91
92	-1	0	140.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.891E+03	92
93	-1	0	170.0	120.0	-380.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.604E+03	93
94	0	0	190.0	125.0	-375.0	125.0	125.0	125.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.663E+03	94
95	0	0	210.0	140.0	-360.0	140.0	140.0	140.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.367E+03	95
96	0	0	200.0	100.0	-400.0	100.0	100.0	129.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.410E-02	96
97	0	0	160.0	100.0	-400.0	100.0	100.0	123.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.104E-02	97
98	0	0	-200.0	100.0	-400.0	100.0	100.0	124.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.978E-02	98
99	0	0	-240.0	100.0	-400.0	100.0	100.0	133.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.621E-02	99
100	0	0	-260.0	110.0	-390.0	110.0	110.0	139.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.295E-02	100

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	90	-1.2181E+05												
1	8	7.0169E+04	2	2	5.1718E+04	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

CINOLA - RECLAIMED PIT - K=3 M/Y TIME: 0 year UNITS - Length [L]: meter Time [T]: year

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	1	2	2	3	3	4	5	6	6	7	7	8	9	10	10	11	11	12	13	14	14	15	15	16	17	18	18	19	19	80	Node1
Node2	5	5	6	6	7	7	9	9	10	10	11	11	13	13	14	14	15	15	17	17	18	18	19	19	21	21	22	22	23	81	Node2
Node3	2	6	3	7	4	8	6	10	7	11	8	12	10	14	11	15	12	16	14	18	15	19	16	20	18	22	19	23	80	63	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	2	2	2	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	21	22	22	23	23	65	25	26	26	27	27	68	29	30	30	82	70	73	33	84	35	35	35	74	38	38	38	39	39	40	Node1
Node2	25	25	26	26	27	27	29	29	30	30	31	31	33	33	34	83	82	72	37	85	83	38	39	39	85	41	42	42	43	43	Node2
Node3	22	26	23	27	65	66	26	30	27	31	68	70	30	34	31	35	72	35	34	38	38	39	74	40	41	42	39	43	40	44	Node3
Matl	1	2	2	2	2	2	2	2	2	2	2	5	2	2	2	4	4	4	2	4	4	4	4	4	4	4	4	4	4	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	41	42	42	43	43	44	4	49	50	50	12	51	0	16	0	0	16	0	0	61	20	0	62	63	63	24	78	24	24	64	Node1
Node2	45	45	46	46	47	47	8	8	8	12	16	16	0	61	0	0	20	0	0	20	63	0	24	24	81	78	24	65	81	65	Node2
Node3	42	46	43	47	44	48	49	50	12	51	51	60	0	60	0	0	61	0	0	62	62	0	55	62	24	55	64	64	65	66	Node3
Matl	4	4	4	3	3	3	1	1	1	1	1	2	-1	2	-1	-1	2	-1	-1	2	2	-1	2	2	2	2	2	2	2	2	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0	0	1	1	0	1	1	1	1	1	1	1	1	Soil

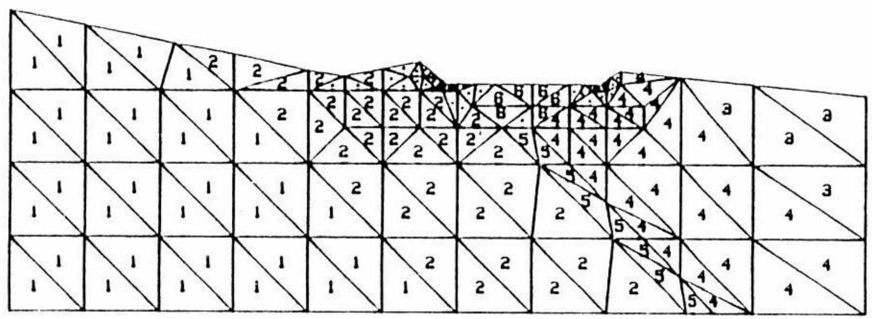
ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	64	64	98	66	27	67	67	57	68	32	69	69	91	70	70	92	71	71	35	73	95	59	71	96	75	75	76	40	55	56	Node1
Node2	66	100	66	68	68	68	69	69	70	69	71	70	98	72	31	71	73	72	74	74	76	76	75	75	77	74	77	77	78	78	Node2
Node3	99	79	67	67	66	69	57	32	69	58	58	71	67	71	82	97	75	73	73	75	59	40	97	76	76	77	40	74	56	79	Node3
Matl	2	2	2	2	2	6	6	6	6	6	6	6	6	4	5	6	4	4	4	4	4	4	4	4	4	4	4	4	2	2	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

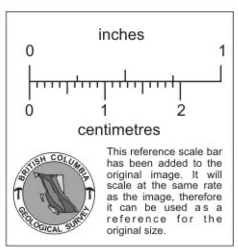
ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	79	56	23	19	20	23	31	31	83	83	34	34	37	85	82	87	79	38	100	64	28	28	39	90	66	91	58	92	93	97	Node1
Node2	73	79	81	80	80	65	83	34	84	34	85	37	86	86	35	79	100	100	99	99	99	98	98	98	98	67	71	97	97	96	Node2
Node3	64	87	80	20	63	81	82	83	38	84	84	85	85	41	72	88	88	28	28	100	98	89	90	91	99	57	92	93	36	36	Node3
Matl	2	2	2	2	2	2	5	5	4	5	5	5	5	4	4	2	2	2	2	2	2	6	6	6	2	6	6	6	6	4	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	151	152	153	154	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	36	94	95	97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	96	96	96	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	94	95	76	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil

CINOLA - RECLAIMED PIT - K=3 M/Y 1614

1318





-2238

-1943

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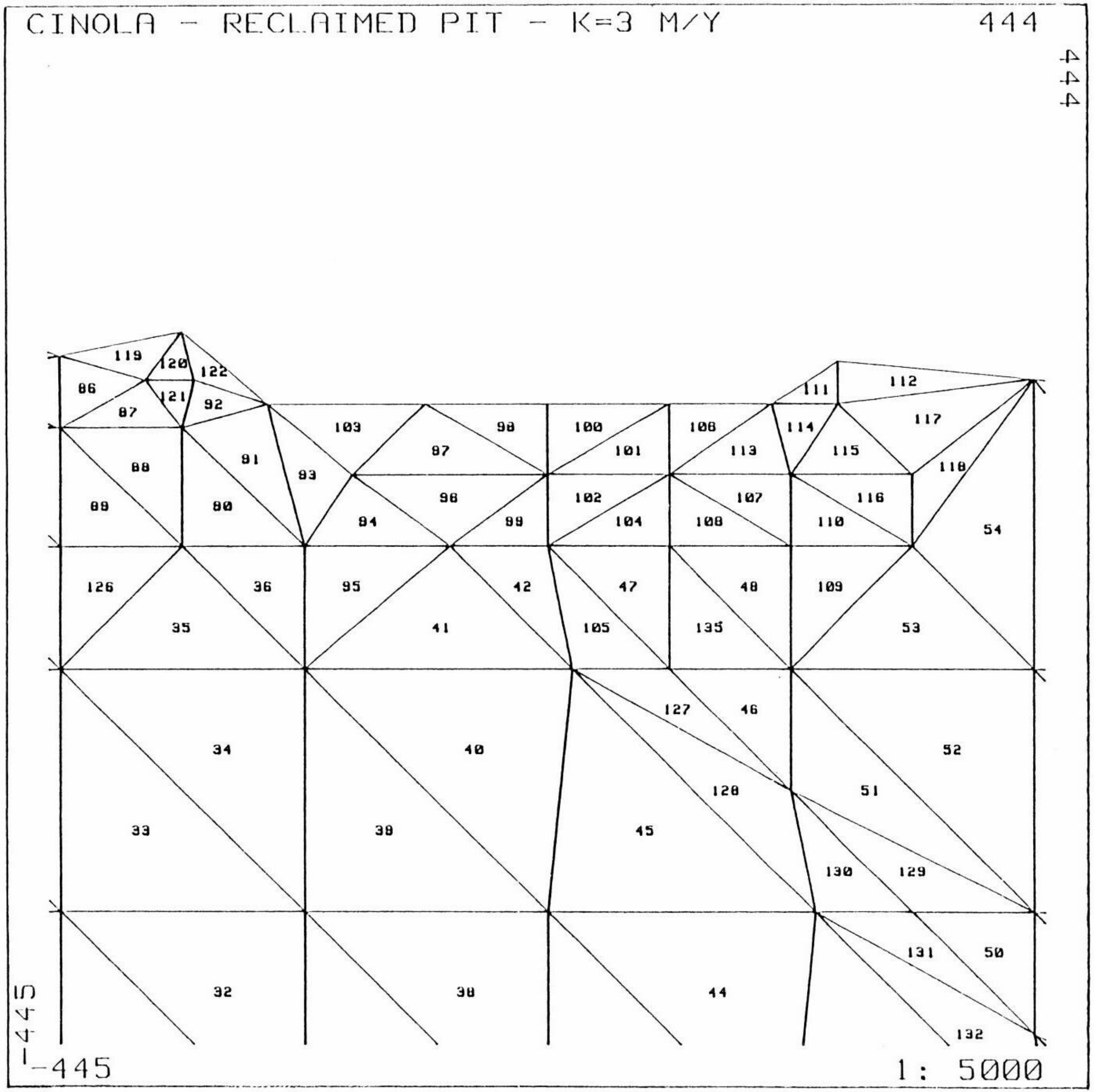
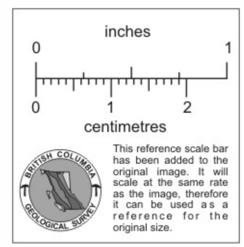
ELEMENTS
MATERIALS





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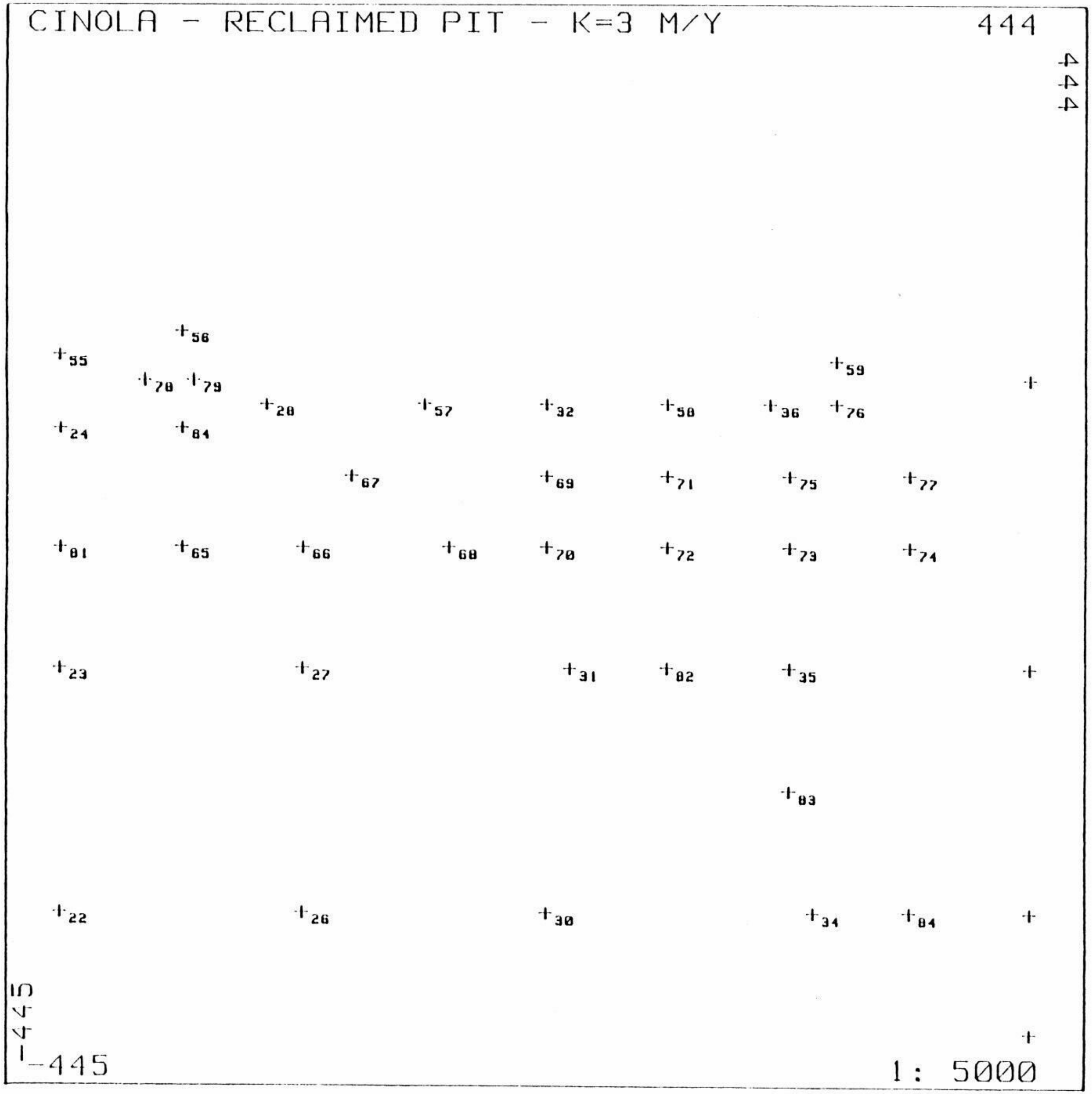

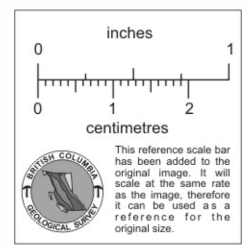

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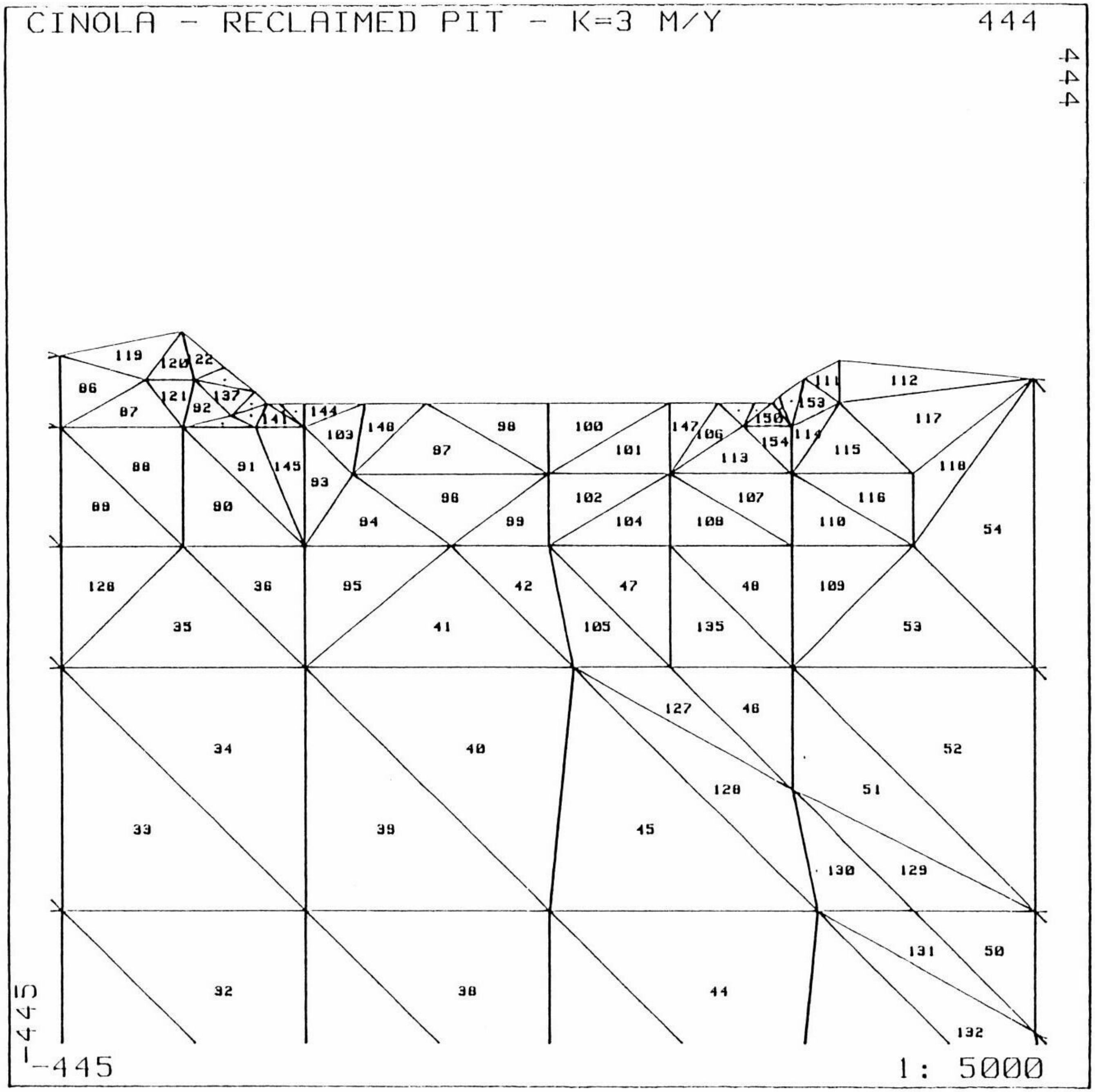

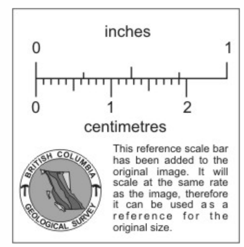

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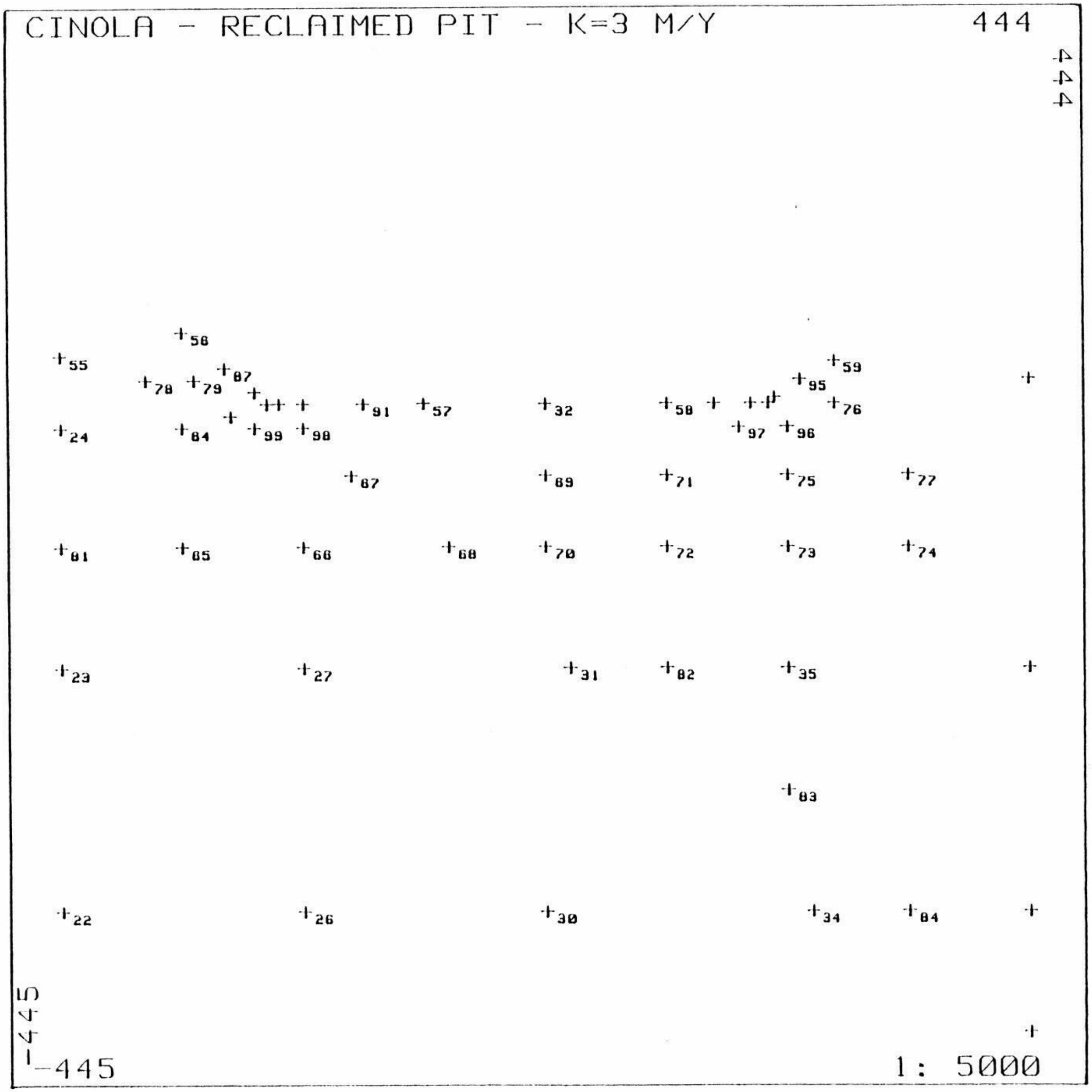

inches
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centimetres

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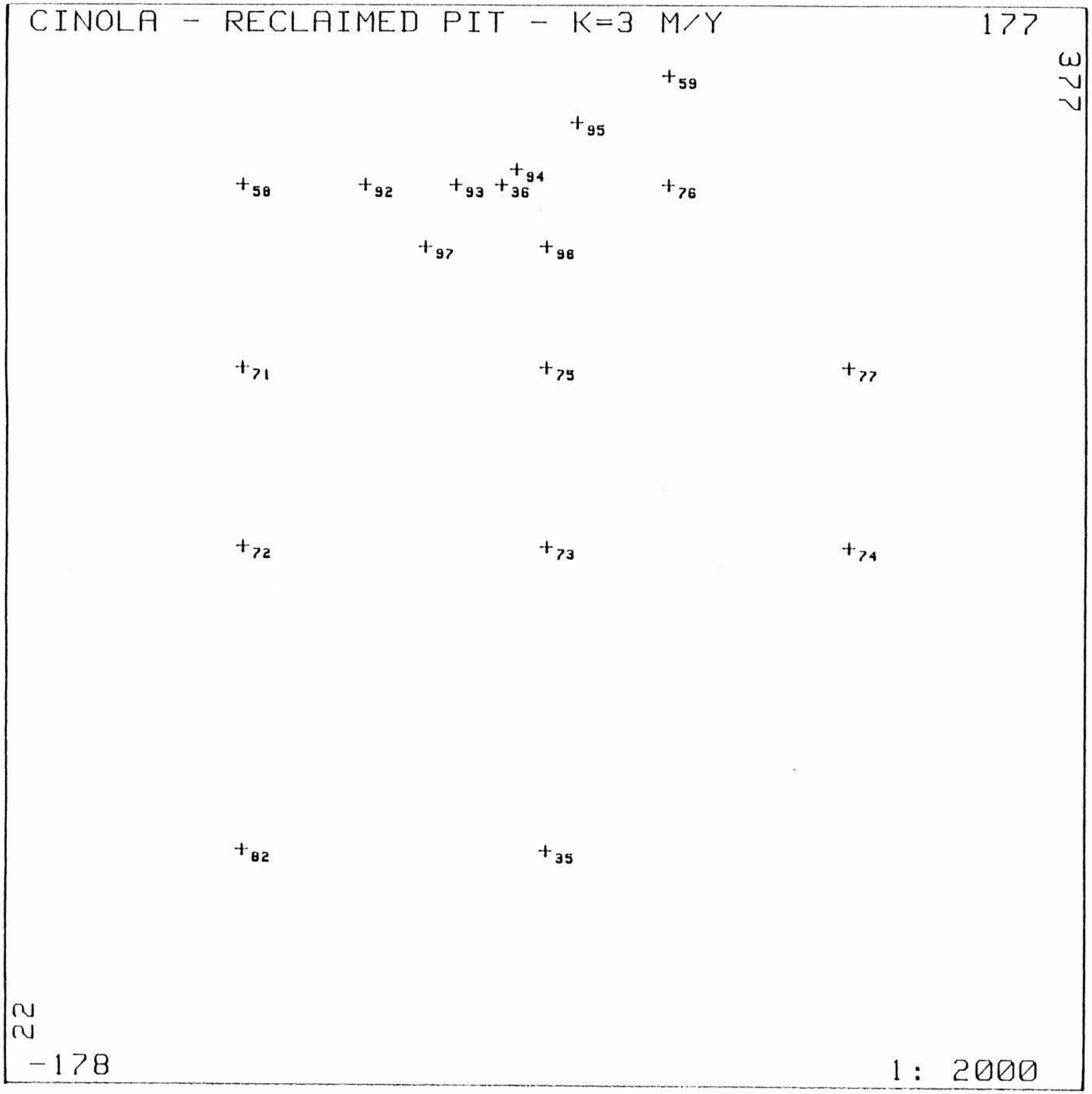
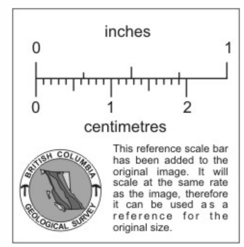
NODES
NUMBERS





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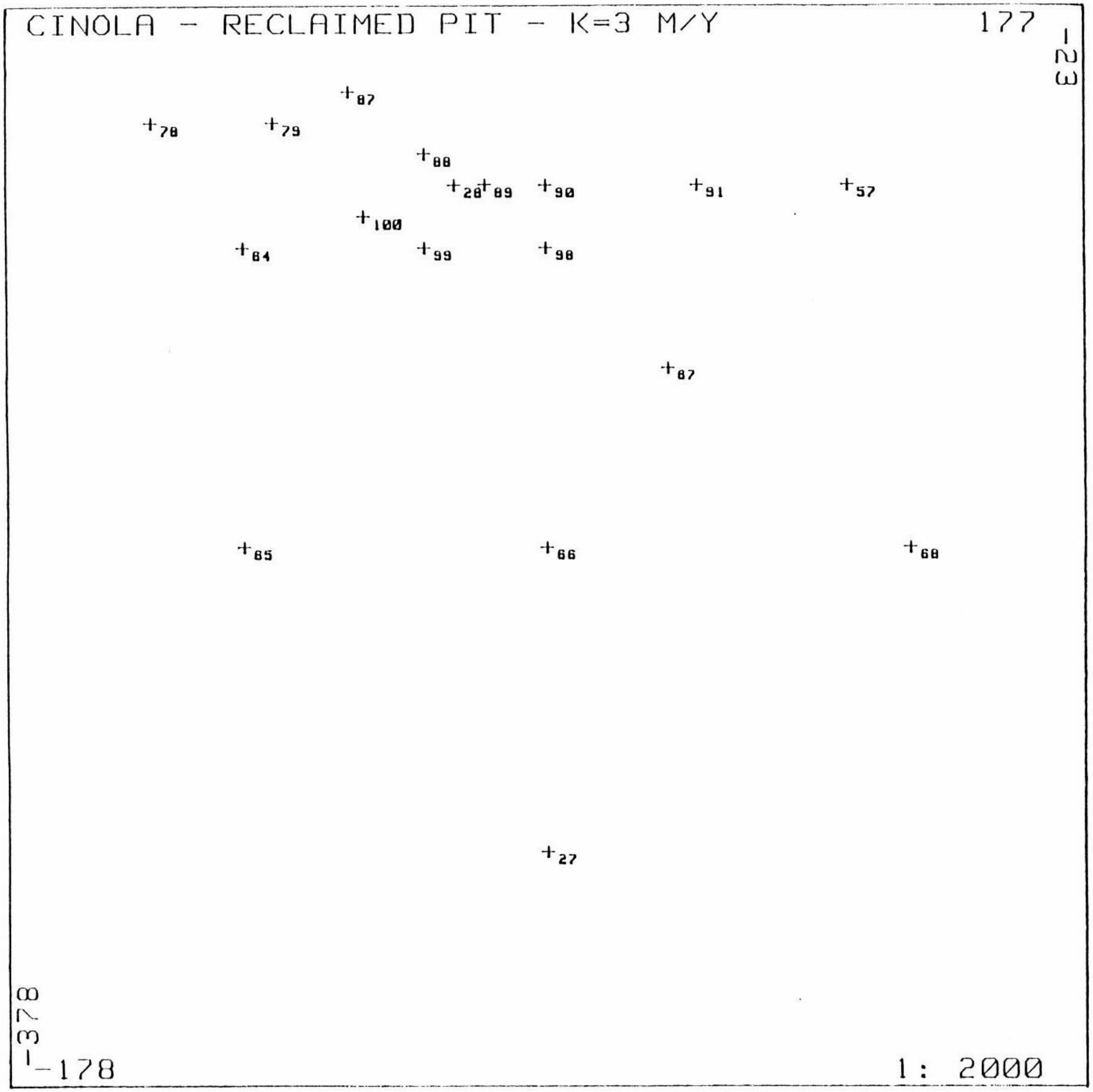

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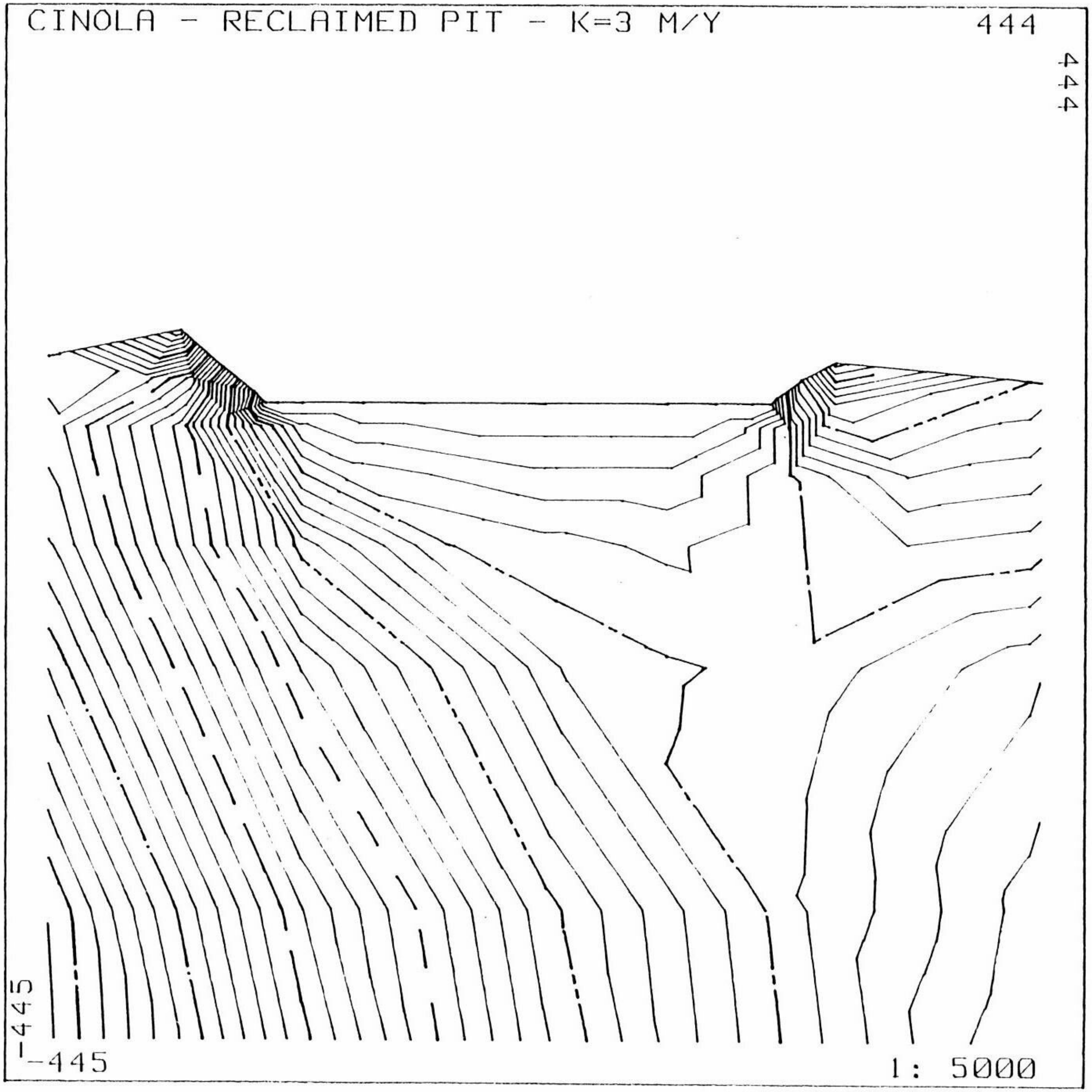

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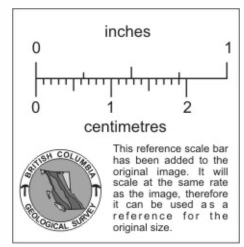
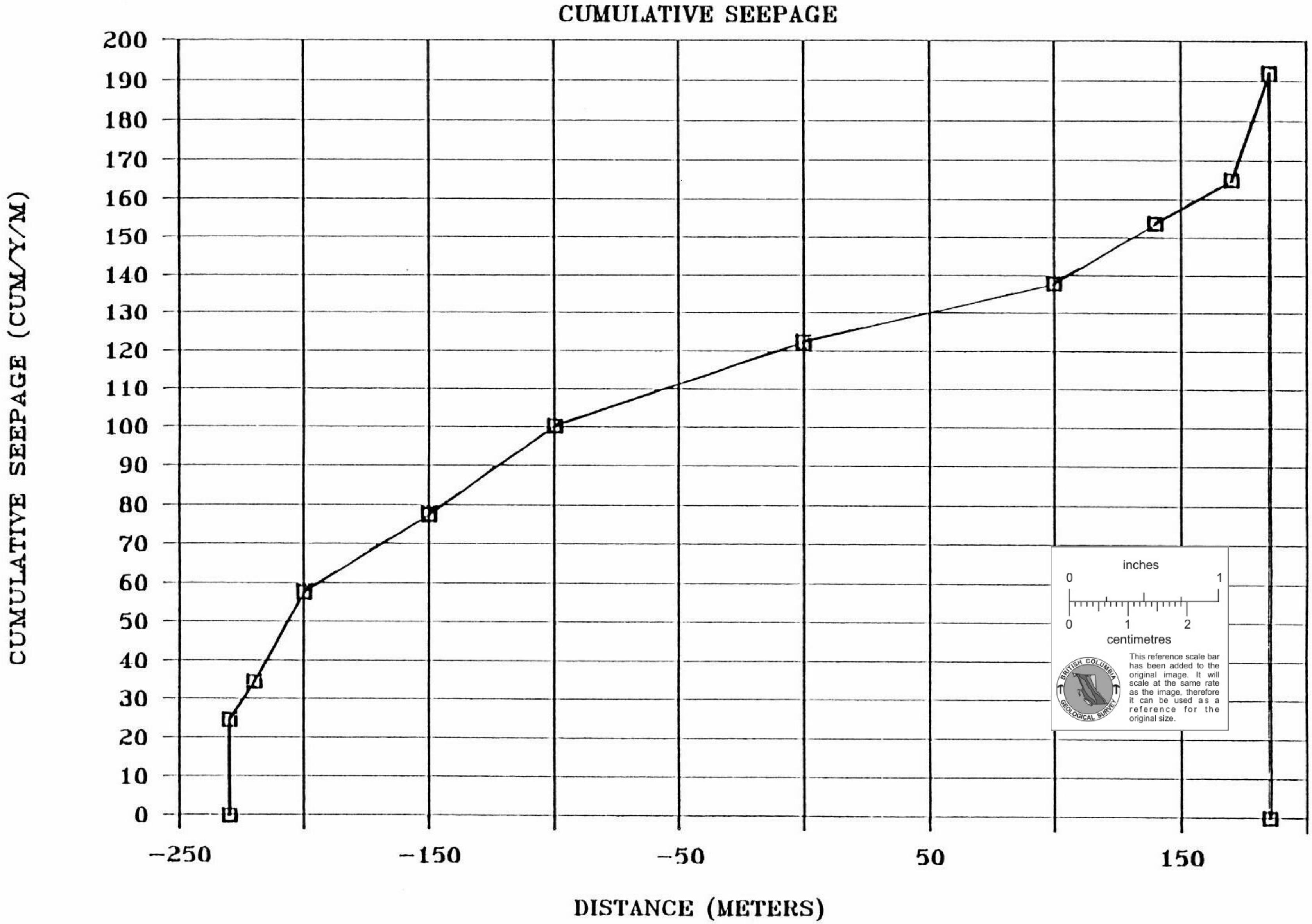
Interval:
2 meter

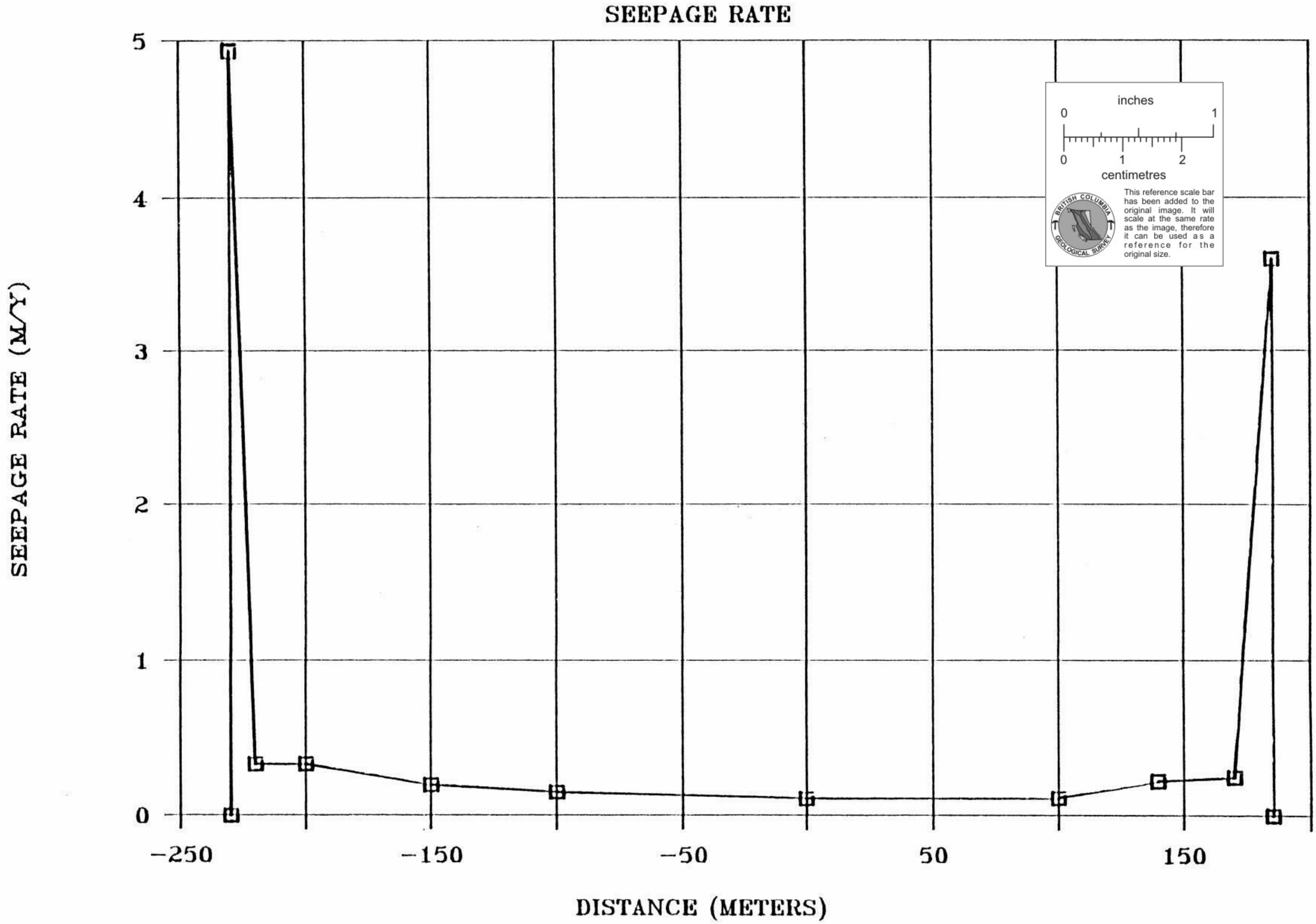


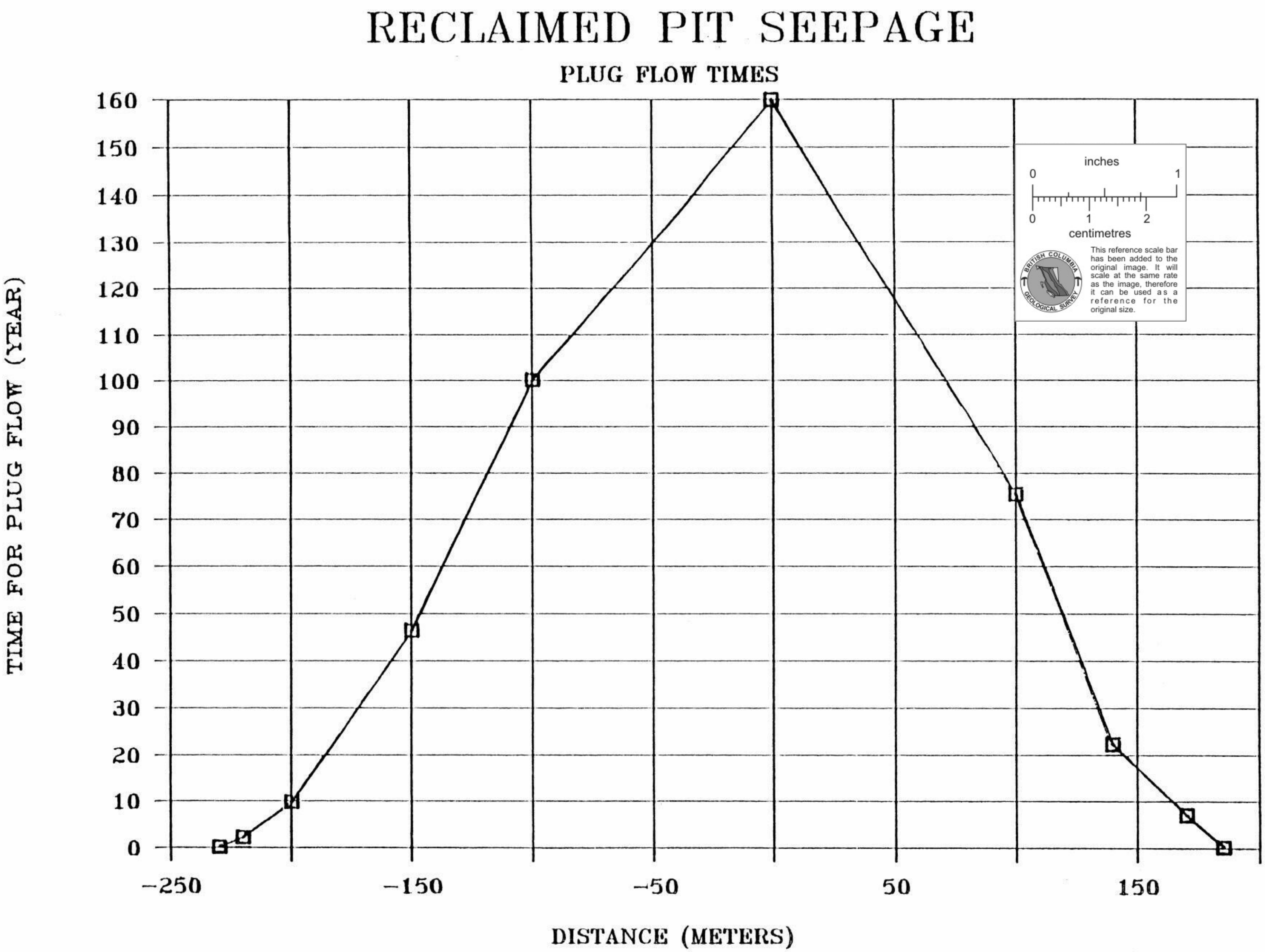
HEADS
CURRENT

RECLAIMED PIT SEEPAGE



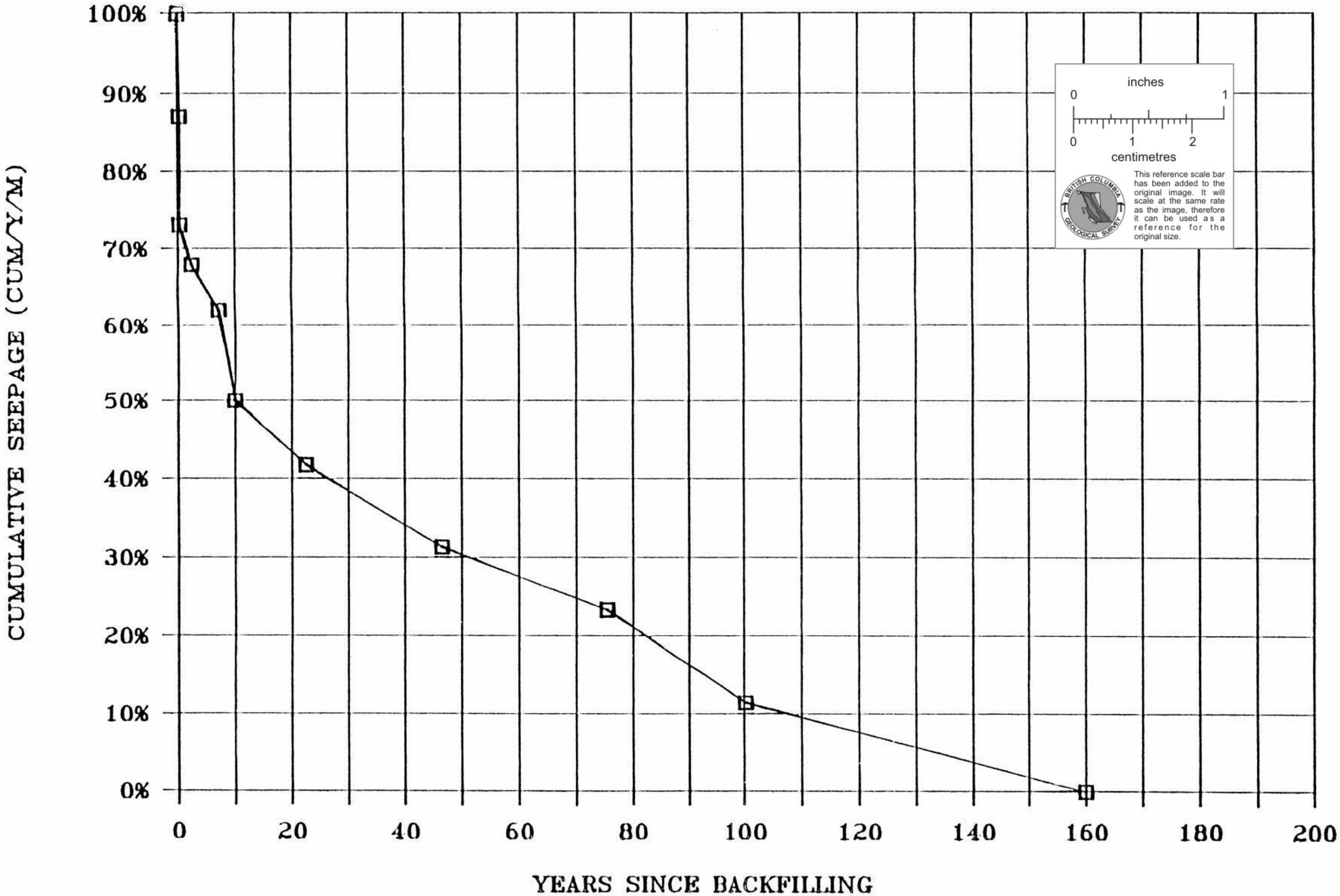
RECLAIMED PIT SEEPAGE




RECLAIMED PIT SEEPAGE
PLUG FLOW TIMES
TIME FOR PLUG FLOW (YEAR)
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
−250
−150
−50
50
150
DISTANCE (METERS)
inches
0
1
0
1
2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY

RECLAIMED PIT SEEPAGE

SEEPAGE OVER TIME



-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................130
Number of elements.................219
Number of materials................5
Number of soils....................6

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-01	.1000	0.00E+00
2	3.00E+00	1.00E-01	.1000	0.00E+00
3	3.00E+00	1.00E-01	.1000	0.00E+00
4	3.00E+00	1.00E-01	.1000	0.00E+00
5	3.00E+00	1.00E-01	.1000	0.00E+00
6				0.00E+00

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	0	0	-1000.0	-500.0	-900.0	-500.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.800E+04	1
2	0	0	-1000.0	-300.0	-700.0	-300.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.289E+04	2
3	0	0	-1000.0	-100.0	-500.0	-100.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.577E+04	3
4	0	0	-800.0	-500.0	-900.0	-500.0	140.0	140.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.911E+04	4
5	0	0	-800.0	-300.0	-700.0	-300.0	150.0	159.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.140E-02	5
6	0	0	-800.0	-100.0	-500.0	-100.0	150.0	160.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.717E-02	6
7	0	0	-600.0	-500.0	-900.0	-500.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.835E+02	7
8	0	0	-600.0	-300.0	-700.0	-300.0	150.0	166.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-7.222E-02	8
9	0	0	-600.0	-100.0	-500.0	-100.0	150.0	160.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.147E-02	9
10	0	0	-400.0	-500.0	-900.0	-500.0	208.0	208.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.526E+04	10
11	0	0	-400.0	-300.0	-700.0	-300.0	150.0	176.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.336E-01	11
12	0	0	-400.0	-100.0	-500.0	-100.0	150.0	157.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.883E-01	12
13	0	0	-200.0	-500.0	-900.0	-500.0	210.0	201.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.219E+04	13
14	0	0	-200.0	-300.0	-700.0	-300.0	150.0	172.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.163E-01	14
15	0	0	-200.0	-100.0	-500.0	-100.0	150.0	148.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.548E-01	15
16	0	0	0.0	-500.0	-900.0	-500.0	198.0	198.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.736E+04	16
17	0	0	0.0	-300.0	-700.0	-300.0	150.0	162.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.392E-01	17
18	0	0	0.0	-100.0	-500.0	-100.0	150.0	140.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.998E-01	18
19	0	0	200.0	-500.0	-900.0	-500.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.044E+04	19
20	0	0	200.0	-300.0	-700.0	-300.0	150.0	140.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.901E-01	20
21	0	0	200.0	-100.0	-500.0	-100.0	150.0	125.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-7.648E-01	21
22	0	0	400.0	-500.0	-900.0	-500.0	100.0	100.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.274E+04	22
23	0	0	400.0	-300.0	-700.0	-300.0	150.0	104.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.847E-01	23
24	0	0	400.0	-100.0	-500.0	-100.0	150.0	99.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.384E-01	24
25	0	0	600.0	-500.0	-900.0	-500.0	75.0	75.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.527E+03	25
26	0	0	600.0	-300.0	-700.0	-300.0	150.0	78.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.042E-02	26
27	0	0	600.0	-100.0	-500.0	-100.0	150.0	76.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.776E-02	27
28	0	0	800.0	-500.0	-900.0	-500.0	55.0	55.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.113E+04	28
29	0	0	800.0	-300.0	-700.0	-300.0	150.0	59.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.649E-02	29
30	0	0	800.0	-100.0	-500.0	-100.0	150.0	58.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.405E-02	30
31	0	0	1000.0	-500.0	-900.0	-500.0	45.0	45.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.000E+03	31
32	0	0	1000.0	-300.0	-700.0	-300.0	45.0	45.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.713E+04	32
33	0	0	1000.0	-100.0	-500.0	-100.0	45.0	45.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.391E+04	33
34	0	0	-1000.0	170.0	-230.0	170.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.615E+03	34
35	0	0	-1000.0	100.0	-300.0	100.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.917E+04	35
36	0	0	1000.0	45.0	-355.0	45.0	45.0	45.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.650E+03	36
37	0	0	-800.0	100.0	-300.0	100.0	150.0	145.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.168E-02	37
38	0	0	-600.0	100.0	-300.0	100.0	150.0	162.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.815E-02	38
39	0	0	-500.0	0.0	-400.0	0.0	150.0	158.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.117E-01	39
40	0	0	-400.0	0.0	-400.0	0.0	150.0	150.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.539E-01	40
41	0	0	-300.0	0.0	-400.0	0.0	150.0	141.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.574E-01	41
42	0	0	-200.0	0.0	-400.0	0.0	150.0	136.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.671E-01	42
43	0	0	-100.0	-20.0	-420.0	-20.0	150.0	135.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.690E-01	43
44	0	0	0.0	-50.0	-450.0	-50.0	150.0	134.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.365E-01	44
45	0	0	100.0	-50.0	-450.0	-50.0	150.0	129.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.386E-01	45
46	0	0	200.0	-50.0	-450.0	-50.0	150.0	122.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.367E-01	46
47	0	0	300.0	-50.0	-450.0	-50.0	150.0	111.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.150E-01	47
48	0	0	400.0	0.0	-400.0	0.0	150.0	96.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.541E-01	48
49	0	0	500.0	0.0	-400.0	0.0	150.0	82.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.246E-01	49
50	0	0	600.0	0.0	-400.0	0.0	150.0	72.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.541E-02	50

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	0	0	700.0	0.0	-400.0	0.0	150.0	64.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.744E-02	51
52	0	0	-870.0	150.0	-250.0	150.0	150.0	150.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.600E+04	52
53	0	0	-770.0	135.0	-265.0	135.0	135.0	135.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.379E+04	53
54	0	0	-600.0	170.0	-230.0	170.0	170.0	170.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.551E+04	54
55	0	0	-460.0	200.0	-200.0	200.0	200.0	200.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.072E+04	55
56	0	0	-390.0	140.0	-260.0	140.0	140.0	140.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.058E+04	56
57	0	0	-330.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.422E+04	57
58	0	0	-250.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.460E+04	58
59	0	0	-200.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.295E+04	59
60	0	0	-100.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.329E+04	60
61	0	0	0.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.035E+04	61
62	0	0	100.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	5.798E+03	62
63	0	0	200.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.457E-01	63
64	0	0	250.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.844E+03	64
65	0	0	300.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.403E+03	65
66	0	0	319.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.073E+03	66
67	0	0	334.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.038E+03	67
68	0	0	360.0	120.0	-280.0	120.0	120.0	120.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.610E+04	68
69	0	0	400.0	90.0	-310.0	90.0	90.0	90.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.628E+04	69
70	0	0	500.0	75.0	-325.0	75.0	75.0	75.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.861E+04	70
71	0	0	600.0	70.0	-330.0	70.0	70.0	70.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.594E+03	71
72	0	0	800.0	55.0	-345.0	55.0	55.0	55.0	HEAD	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.536E+03	72
73	0	0	-470.0	150.0	-250.0	150.0	150.0	176.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.157E-02	73
74	0	0	-400.0	100.0	-300.0	100.0	150.0	146.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.963E-02	74
75	0	0	-350.0	50.0	-350.0	50.0	150.0	140.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.422E-01	75
76	0	0	-360.0	118.0	-282.0	118.0	150.0	131.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.021E-02	76
77	0	0	-325.0	80.0	-320.0	80.0	150.0	131.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.139E-01	77
78	0	0	-290.0	40.0	-360.0	40.0	150.0	134.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.746E-01	78
79	0	0	-300.0	90.0	-310.0	90.0	150.0	127.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.521E-02	79
80	0	0	-250.0	90.0	-310.0	90.0	150.0	125.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.169E-01	80
81	0	0	-270.0	60.0	-340.0	60.0	150.0	131.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.023E-01	81
82	0	0	-220.0	60.0	-340.0	60.0	150.0	129.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.015E-01	82
83	0	0	-220.0	40.0	-360.0	40.0	150.0	132.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.566E-01	83
84	0	0	-200.0	90.0	-310.0	90.0	150.0	124.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.678E-01	84
85	0	0	-250.0	118.0	-282.0	118.0	150.0	120.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.977E-02	85
86	0	0	-200.0	118.0	-282.0	118.0	150.0	120.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.228E-02	86
87	0	0	-330.0	118.0	-282.0	118.0	150.0	120.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.166E-02	87
88	0	0	-100.0	118.0	-282.0	118.0	150.0	120.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.603E-01	88
89	0	0	-100.0	70.0	-330.0	70.0	150.0	125.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.408E-01	89
90	0	0	-150.0	50.0	-350.0	50.0	150.0	128.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.706E-01	90
91	0	0	-150.0	30.0	-370.0	30.0	150.0	131.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.896E-01	91
92	0	0	-85.0	20.0	-380.0	20.0	150.0	130.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.559E-01	92
93	0	0	-80.0	40.0	-360.0	40.0	150.0	128.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.275E-01	93
94	0	0	-30.0	70.0	-330.0	70.0	150.0	124.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-2.907E-01	94
95	0	0	-60.0	20.0	-380.0	20.0	150.0	130.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.244E-01	95
96	0	0	-70.0	0.0	-400.0	0.0	150.0	132.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.899E-01	96
97	0	0	30.0	10.0	-390.0	10.0	150.0	128.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.245E-01	97
98	0	0	30.0	30.0	-370.0	30.0	150.0	126.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-7.306E-01	98
99	0	0	0.0	118.0	-282.0	118.0	150.0	120.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.374E-01	99
100	0	0	100.0	118.0	-282.0	118.0	150.0	120.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.757E-01	100

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	0	0	100.0	70.0	-330.0	70.0	150.0	122.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.795E-01	101
102	0	0	120.0	30.0	-370.0	30.0	150.0	123.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.523E-01	102
103	0	0	120.0	10.0	-390.0	10.0	150.0	124.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.341E-01	103
104	0	0	200.0	10.0	-390.0	10.0	150.0	120.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.114E-01	104
105	0	0	200.0	70.0	-330.0	70.0	150.0	120.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.038E-01	105
106	0	0	200.0	118.0	-282.0	118.0	150.0	120.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.319E-01	106
107	0	0	250.0	118.0	-282.0	118.0	150.0	119.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.198E-01	107
108	0	0	250.0	80.0	-320.0	80.0	150.0	118.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.141E-01	108
109	0	0	268.0	20.0	-380.0	20.0	150.0	115.3	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.778E-01	109
110	0	0	256.0	5.0	-395.0	5.0	150.0	116.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.363E+00	110
111	0	0	270.0	0.0	-400.0	0.0	150.0	114.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.142E+00	111
112	0	0	285.0	50.0	-350.0	50.0	150.0	114.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.969E-01	112
113	0	0	300.0	80.0	-320.0	80.0	150.0	115.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.404E-01	113
114	0	0	319.0	118.0	-282.0	118.0	150.0	119.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.679E-02	114
115	0	0	327.0	100.0	-300.0	100.0	150.0	116.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.321E-01	115
116	0	0	300.0	50.0	-350.0	50.0	150.0	113.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.575E-01	116
117	0	0	330.0	50.0	-350.0	50.0	150.0	109.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.473E-01	117
118	0	0	288.0	30.0	-370.0	30.0	150.0	113.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.717E-01	118
119	0	0	300.0	0.0	-400.0	0.0	150.0	111.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.667E-01	119
120	0	0	360.0	50.0	-350.0	50.0	150.0	103.7	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-3.269E-01	120
121	0	0	370.0	80.0	-320.0	80.0	150.0	102.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.410E-01	121
122	0	0	350.0	100.0	-300.0	100.0	150.0	113.5	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-9.187E-02	122
123	0	0	200.0	30.0	-370.0	30.0	150.0	120.2	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-8.147E-01	123
124	0	0	300.0	118.0	-282.0	118.0	150.0	119.8	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-7.117E-02	124
125	0	0	400.0	50.0	-350.0	50.0	150.0	94.1	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.643E-01	125
126	0	0	-900.0	0.0	-400.0	0.0	0.0	161.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.122E-02	126
127	0	0	-700.0	0.0	-400.0	0.0	0.0	156.0	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-4.596E-02	127
128	0	0	-700.0	100.0	-300.0	100.0	100.0	150.9	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-1.920E-02	128
129	0	0	-600.0	0.0	-400.0	0.0	0.0	159.4	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-6.893E-02	129
130	0	0	-500.0	100.0	-300.0	100.0	100.0	165.6	CONT	0.000E+00	0.000E+00	0.000E+00	0.000E+00	-5.623E-02	130

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	130	-9.1486E+01												
1	0	0.0000E+00	2	0	0.0000E+00	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	2	2	3	4	5	5	6	7	8	8	9	10	11	11	12	13	14	14	15	16	17	17	18	19	20	20	21	22	23	23	Node1
Node2	4	5	5	7	7	8	8	10	10	11	11	13	13	14	14	16	16	17	17	19	19	20	20	22	22	23	23	25	25	26	Node2
Node3	5	3	6	5	8	6	9	8	11	9	12	11	14	12	15	14	17	15	18	17	20	18	21	20	23	21	24	23	26	24	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	24	25	26	26	27	28	29	29	30	3	126	34	35	52	37	53	6	9	127	9	12	130	38	38	54	38	55	73	56	56	Node1
Node2	26	28	28	29	29	31	31	32	32	126	37	35	37	37	128	128	127	39	128	12	40	40	39	73	73	130	73	74	74	76	Node2
Node3	27	26	29	27	30	29	32	30	33	35	35	52	52	53	53	54	37	129	37	39	39	74	130	54	55	73	56	56	76	57	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	74	76	76	74	74	40	40	12	41	41	41	75	75	77	77	79	79	79	79	57	85	58	59	85	85	80	60	81	78	42	Node1
Node2	77	87	77	75	40	41	12	15	15	42	83	41	78	78	79	76	81	80	85	87	58	65	85	84	80	62	81	83	83	91	Node2
Node3	76	57	87	77	75	75	41	41	42	83	78	78	77	79	87	81	80	85	87	58	87	59	86	86	84	84	82	82	81	83	Node3
Matl	1	3	2	1	1	1	1	1	1	1	1	1	1	2	2	2	5	5	5	3	3	3	3	5	5	5	5	2	2	1	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	59	86	84	84	84	84	82	83	42	42	15	43	43	43	43	91	90	90	89	88	88	60	88	94	93	94	94	95	95	96	Node1
Node2	86	88	88	89	90	82	83	91	43	15	18	18	44	96	92	92	92	93	93	89	94	88	99	93	92	98	95	97	96	44	Node2
Node3	60	60	86	88	89	90	90	90	91	43	43	44	96	92	91	90	93	89	94	94	99	61	61	95	95	101	98	98	97	97	Node3
Matl	3	3	5	5	5	5	2	2	1	1	1	1	1	1	1	2	2	5	5	5	5	3	3	5	2	5	5	2	2	1	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

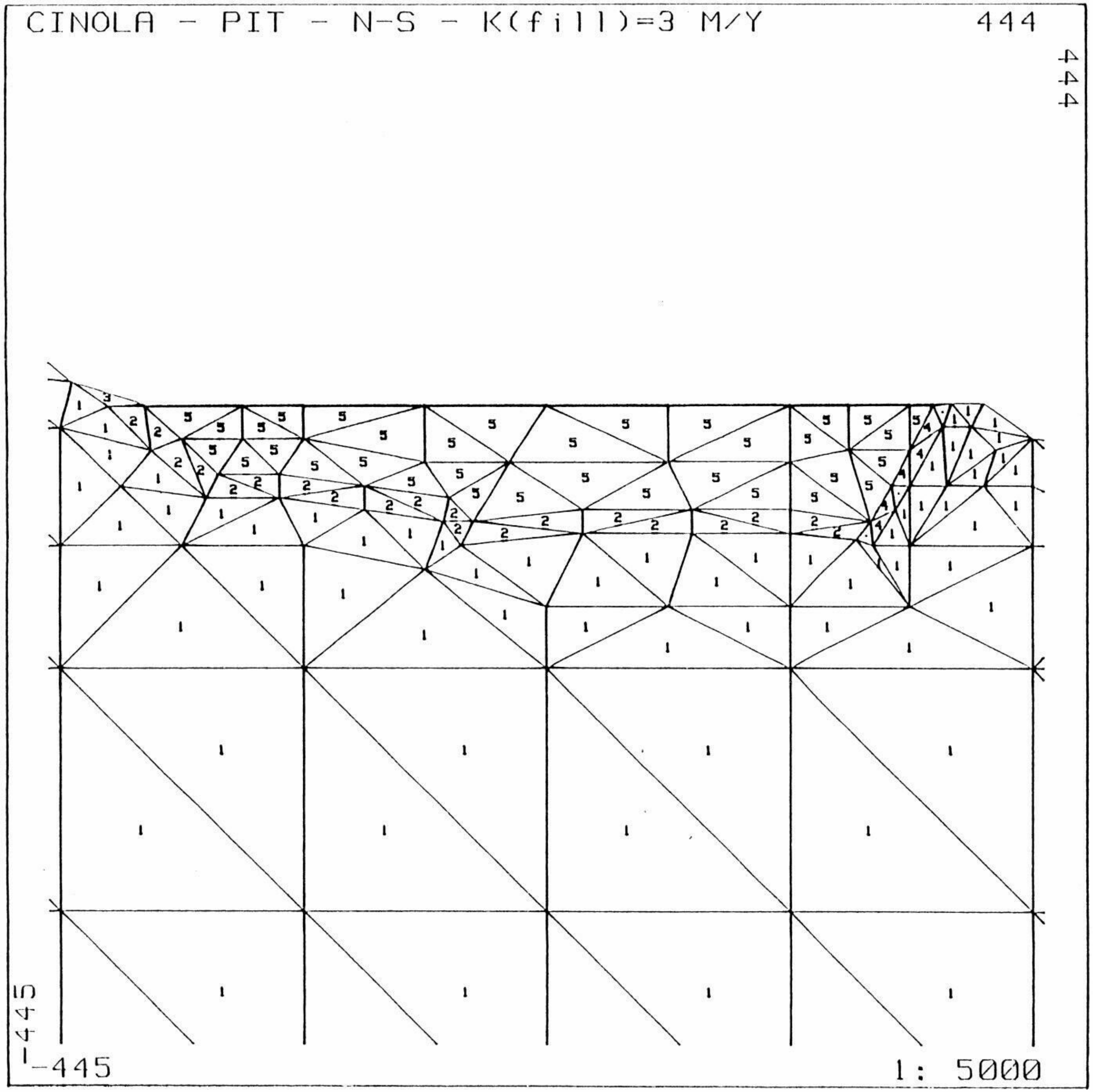
ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	18	44	44	45	97	97	98	94	99	99	99	100	100	100	101	101	102	102	102	103	103	45	21	46	46	46	110	111	104	109	Node1
Node2	21	18	45	103	103	102	102	101	101	62	100	63	106	101	105	102	123	104	103	46	45	21	24	21	47	110	47	47	110	110	Node2
Node3	45	45	97	97	102	98	101	99	100	61	62	62	63	106	106	105	105	123	104	104	46	46	47	47	110	104	111	119	109	111	Node3
Matl	1	1	1	1	2	2	5	5	5	3	3	3	3	5	5	5	5	2	2	1	1	1	1	1	1	1	1	1	2	4	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

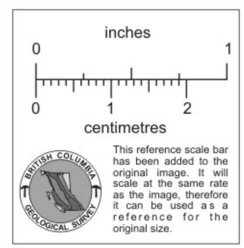
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	109	111	116	112	112	108	104	123	105	106	106	63	106	64	107	107	108	108	113	47	47	119	119	119	120	116	116	117	117	117	Node1
Node2	111	119	118	118	109	109	109	109	109	105	108	106	107	107	124	108	113	112	112	24	48	48	120	117	48	115	117	122	121	120	Node2
Node3	118	118	119	116	118	112	123	105	108	108	107	64	64	65	65	124	124	113	116	48	119	120	117	116	125	113	115	115	122	121	Node3
Matl	4	1	1	4	4	5	2	5	5	5	5	3	3	3	3	5	5	5	4	1	1	1	1	1	1	4	1	1	1	1	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	120	120	121	69	67	67	67	113	114	24	24	48	49	69	70	70	49	27	27	50	71	72	72	72	1	113	65	124	92	3	Node1
Node2	69	125	69	68	122	115	114	115	67	27	49	49	69	49	49	50	27	30	51	51	51	51	30	33	4	114	124	114	96	6	Node2
Node3	121	69	122	122	68	122	115	114	66	49	48	125	125	70	50	71	50	51	50	71	72	30	33	36	2	124	66	66	95	126	Node3
Matl	1	1	1	1	1	1	4	4	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5	3	3	2	1	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	Soil

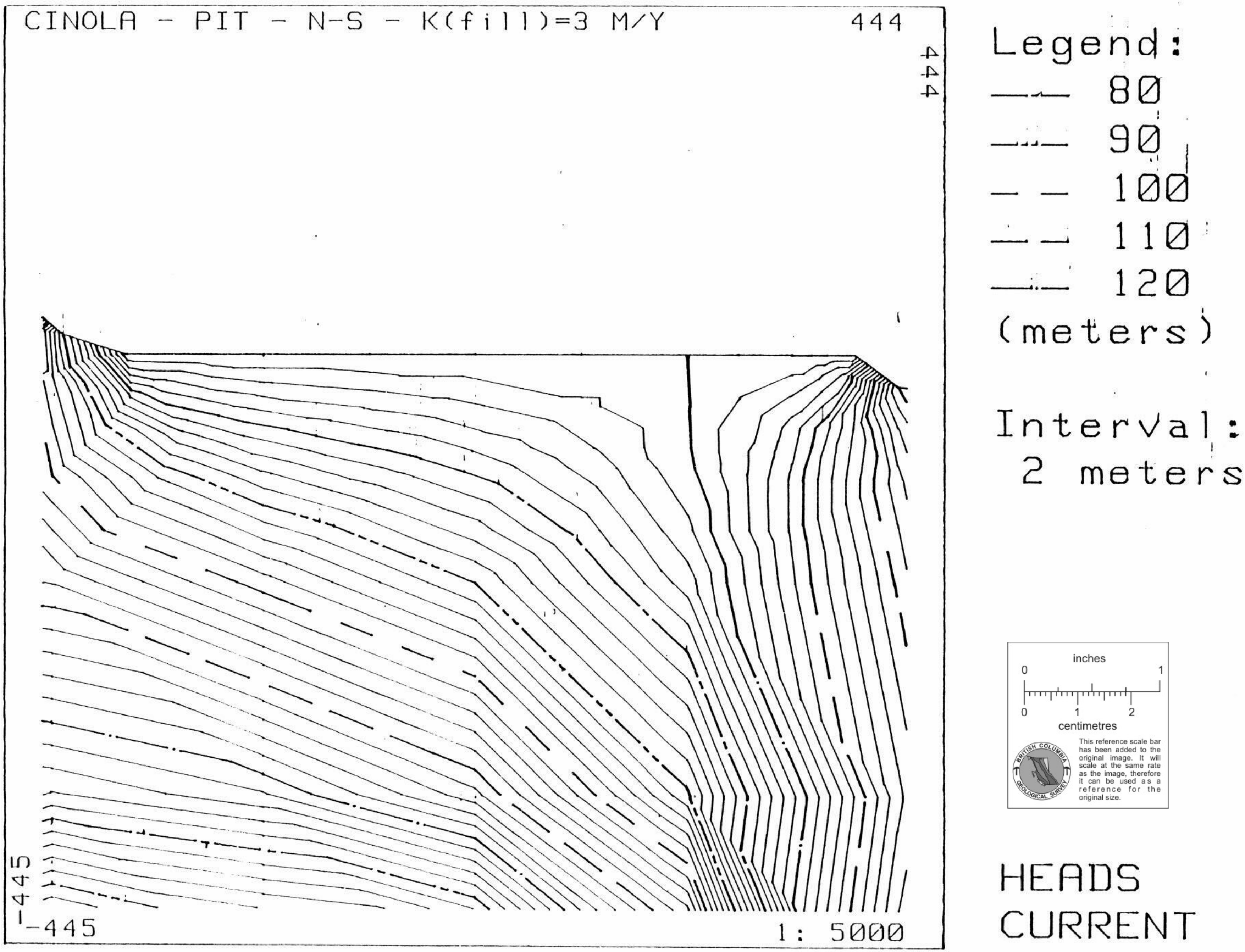
----------ELEMENT DATA-----------

ELEM	211	212	213	214	215	216	217	218	219	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	6	6	9	128	127	127	129	39	130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	37	9	129	38	38	129	39	40	74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	126	127	127	54	128	38	38	130	73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil





ELEMENTS
MATERIALS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-445
-445
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100
110
120
(meters)
Interval:
2 meters
inches
0
1
0
1
2
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
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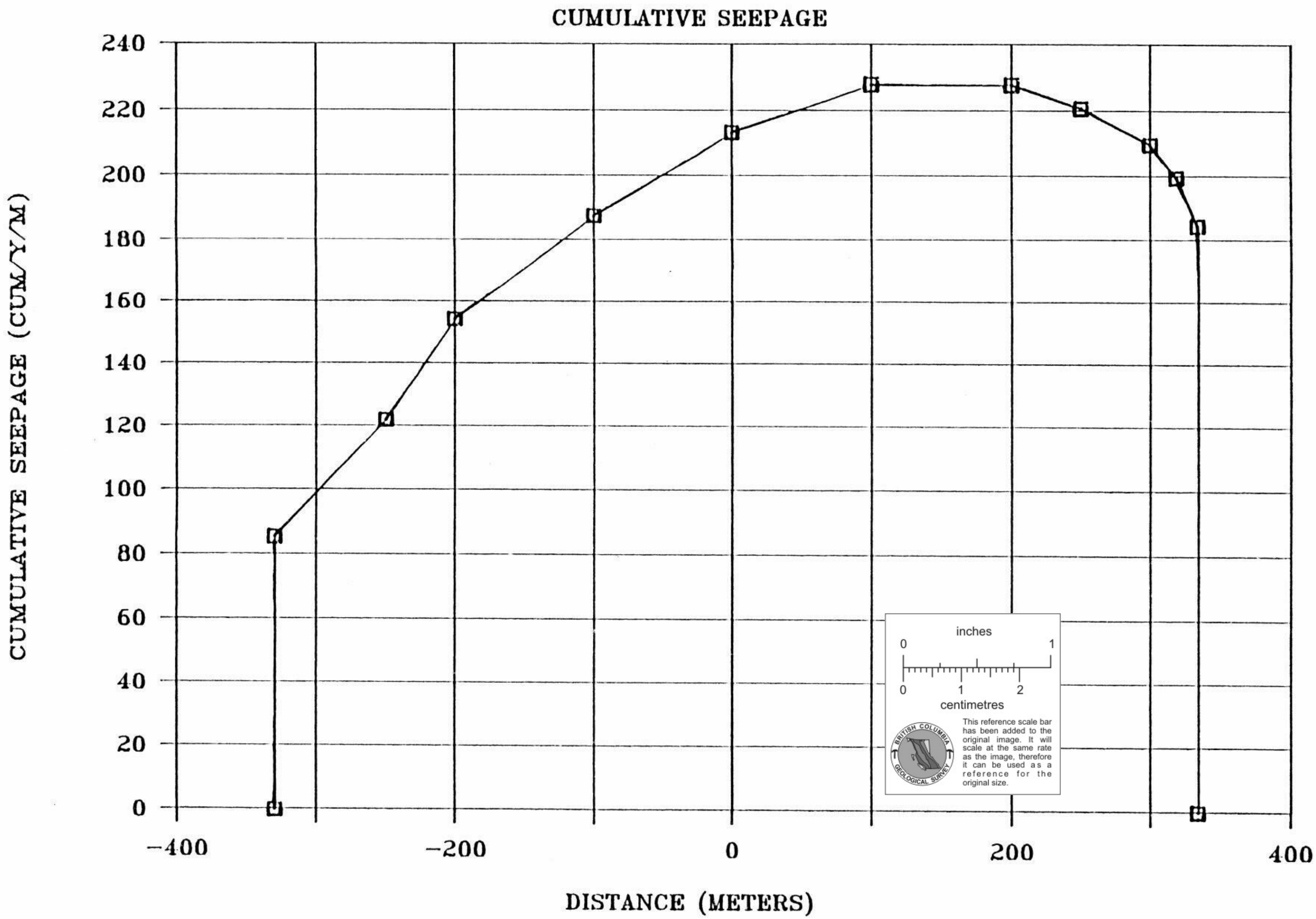
HEADS
CURRENT

RECLAIMED PIT SEEPAGE



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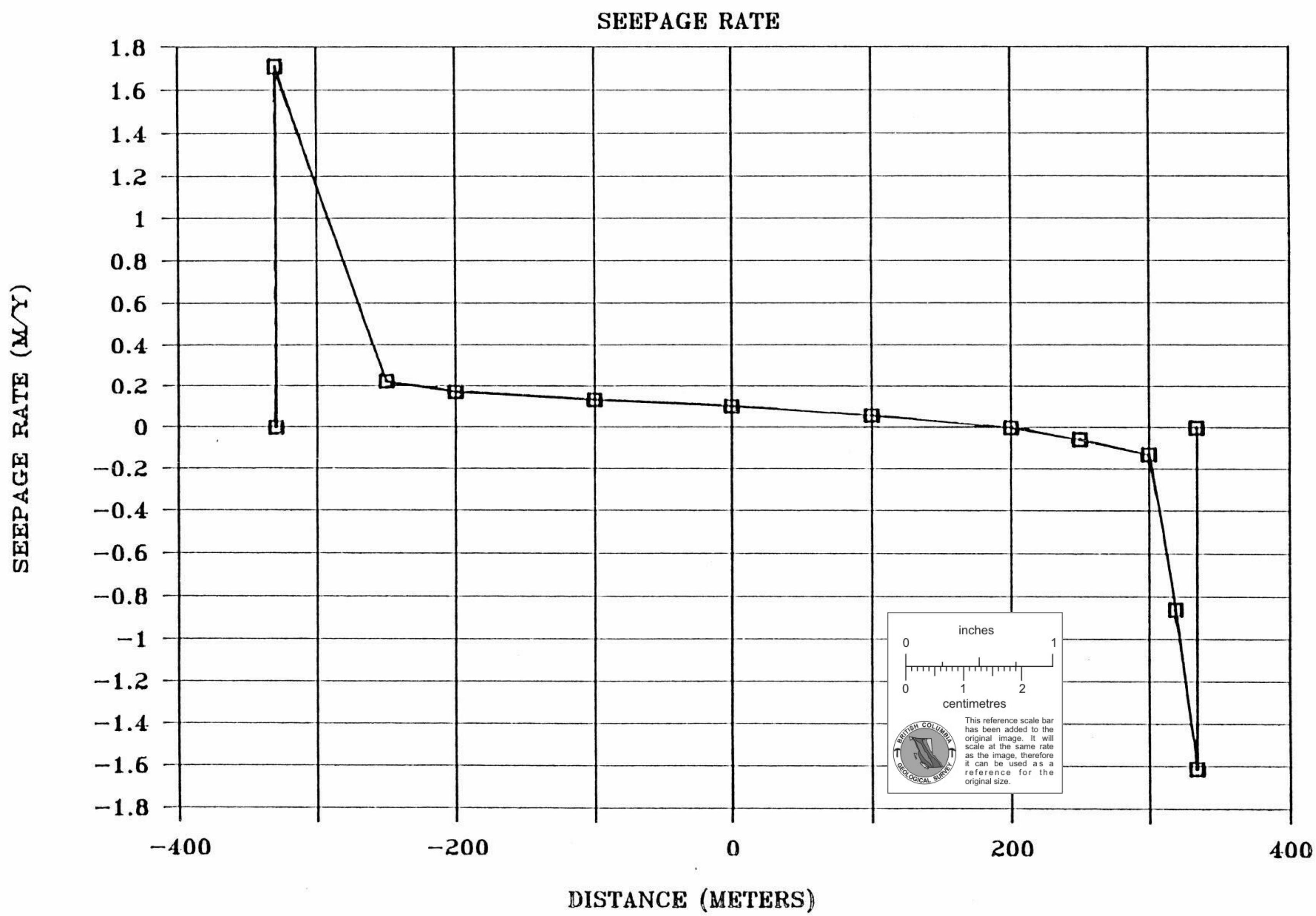

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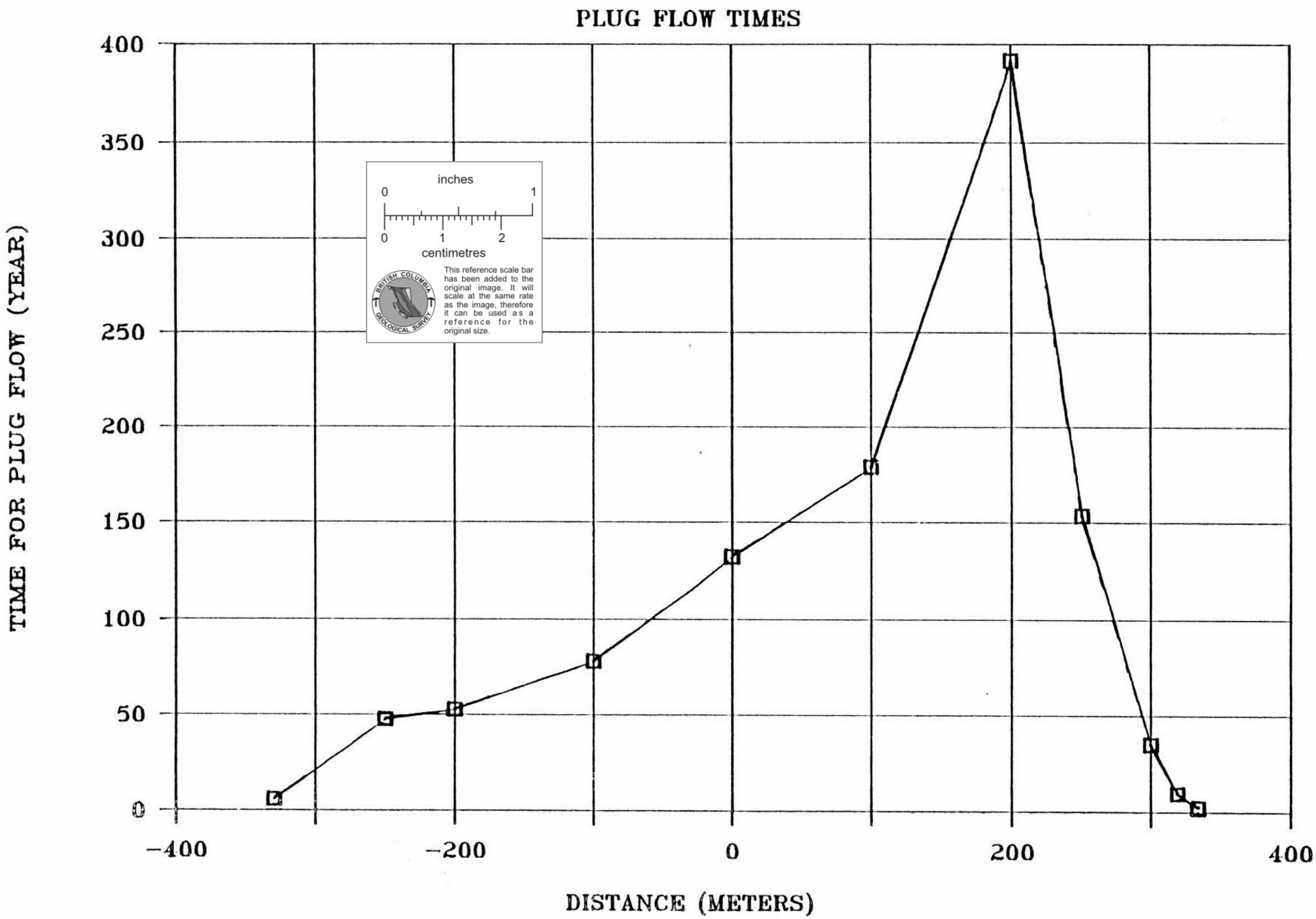

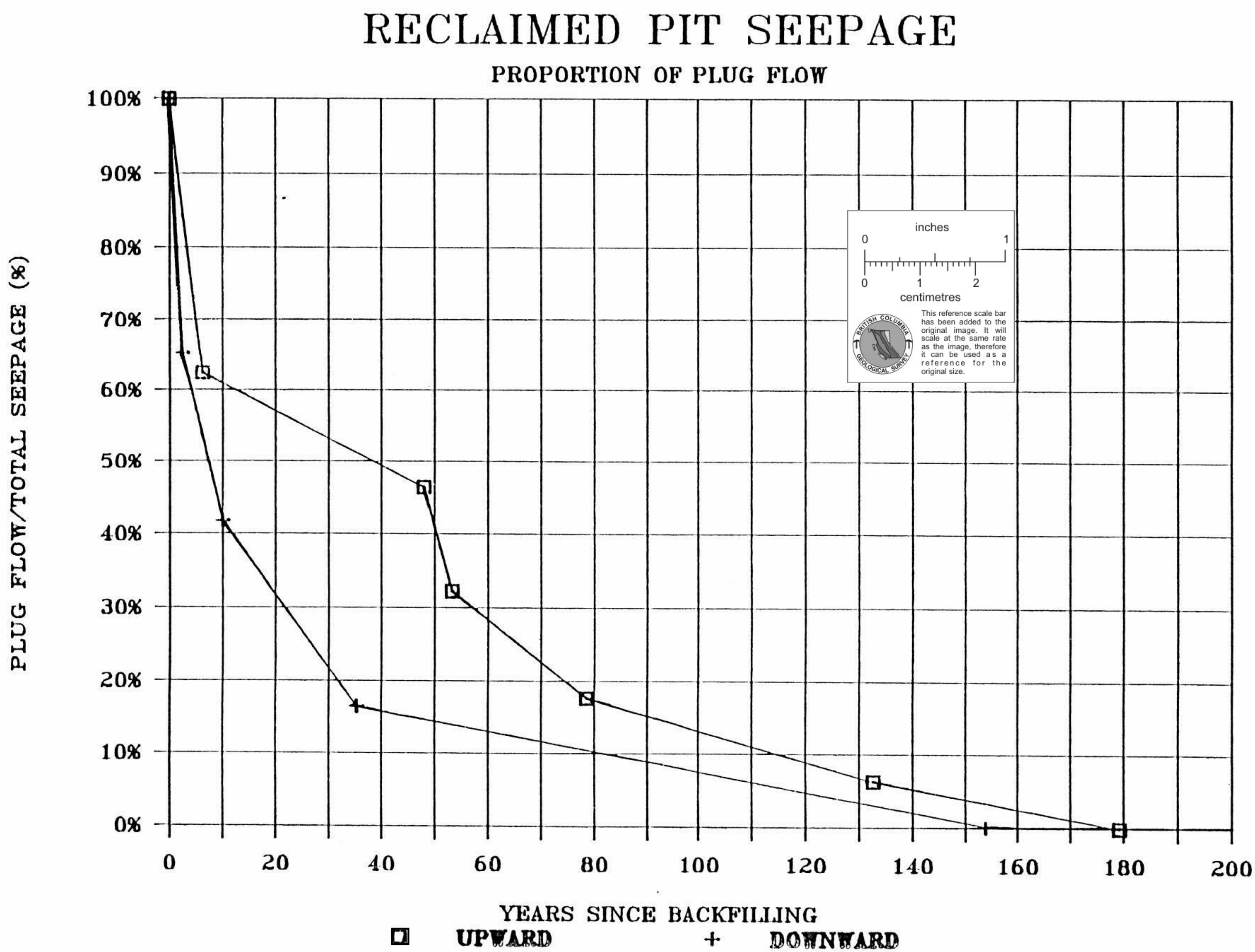
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PLUG FLOW/TOTAL SEEPAGE (%)
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60%
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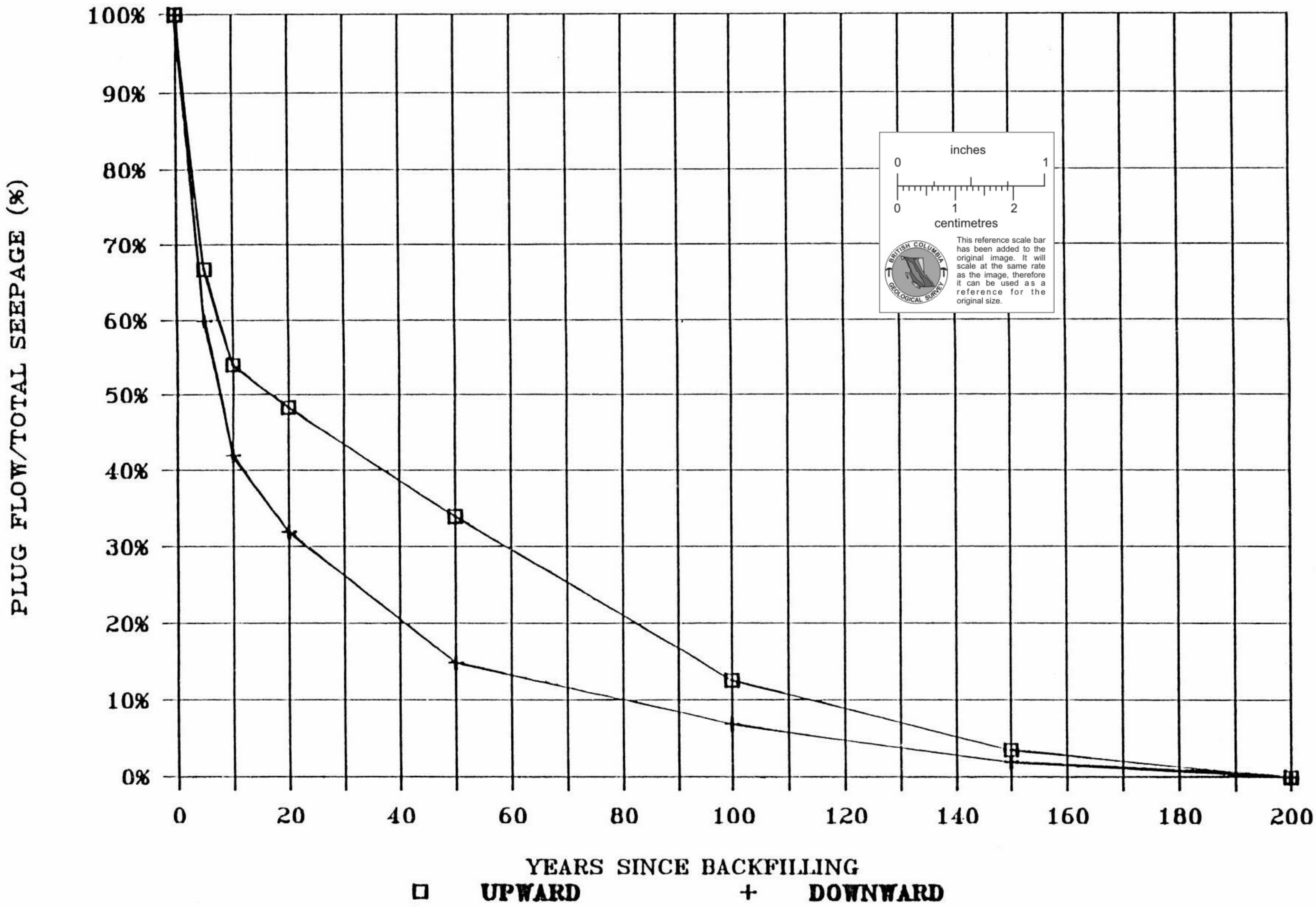
30%
20%
10%
0%
0
20
40
60
80
100
120
140
160
180
200
YEARS SINCE BACKFILLING
UPWARD
DOWNWARD
inches
0
1
0
1
2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA
GEOLOGICAL SURVEY

RECLAIMED PIT SEEPAGE

SEEPAGE OVER TIME



APPENDIX 2.2.3-1

RESPONSES TO SUPPLEMENTAL QUESTIONS ABOUT THE GEOHYDROLOGY OF THE PROPOSED CINOLA PIT

(Pages 1 to 91)

REPORT TO
CITY RESOURCES LIMITED
ON

RESPONSE TO SUPPLEMENTAL QUESTIONS ABOUT THE GEOHYDROLOGY OF THE PROPOSED CINOLA PIT

QUEEN CHARLOTTE ISLANDS
BRITISH COLUMBIA, CANADA

Prepared by

Adrian Brown Consultants, Inc
155 South Madison Street, Suite 302
Denver, Colorado 80209
(303) 399-9630

Project 1100
May 18, 1989

ADRIAN BROWN CONSULTANTS, INC.
155 South Madison Street, Suite 302
Denver, Colorado 80209-3014
(303) 399-9630 FAX (303) 399-9701

May 18, 1989

Steffen Robertson and Kirsten Limited
1030 West Georgia Street, Suite 801
Vancouver, British Columbia
Canada, V6E 2Y3

Attention: Mr. John Gadsby, P.E.

Re: Response to Questions about the Geohydrology of the Proposed Cinola Pit

Dear John:

Please find attached our report on the above captioned matter. This report was requested as a result of the meetings with the Provincial and Federal reviewers of this project, which took place in Vancouver on May 5, 1989. Several questions were asked on the behavior of the groundwater system in the vicinity of the proposed pit. These matters have been evaluated by further modeling of the area in and near the pit. This report sets out the results of the evaluations and activities have been performed to address these questions.

I trust that this report meets your needs at this time. Should you have any questions, please do not hesitate to call.

Respectfully submitted,
ADRIAN BROWN CONSULTANTS INC

Adrian Brown

Adrian Brown, P.E., President

Att.

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1.0 INTRODUCTION

At the groundwater workshop held in Vancouver on May 2, 1989, several questions were asked by the Governmental Review Panel on the behavior of the groundwater system in the vicinity of the proposed pit. Our formulation of these questions were:

1. If the effects of the adit drainage are taken into account, does the computed groundwater table reasonably match the observed current groundwater table for the selected values of the hydraulic conductivity and infiltration?

2. If the Specogna fault and hydrothermal breccia hydraulic conductivity were in fact 30 meters per year, what would be the effect on inflow to the pit, and what would be the effect on the flow in Barbie Creek during and after mining?

3. If the evaluations made in the Phase II report about inflow to the pit, and flow after pit reclamation turn out to be wrong, when would that be identifiable, and what responses would be available to mitigate the effects of the inflow?

4. What is the partitioning of the precipitation that has been used in the analysis, and what is its basis?

5. Could lateral and longitudinal cross sections through the pit be provided, showing the geology and the pre-mining water table?

Responses to these questions have been developed, in part bu the performance of further modeling of the area in and near the pit. This report sets out the results of evaluations and activities that we have performed to address these questions.

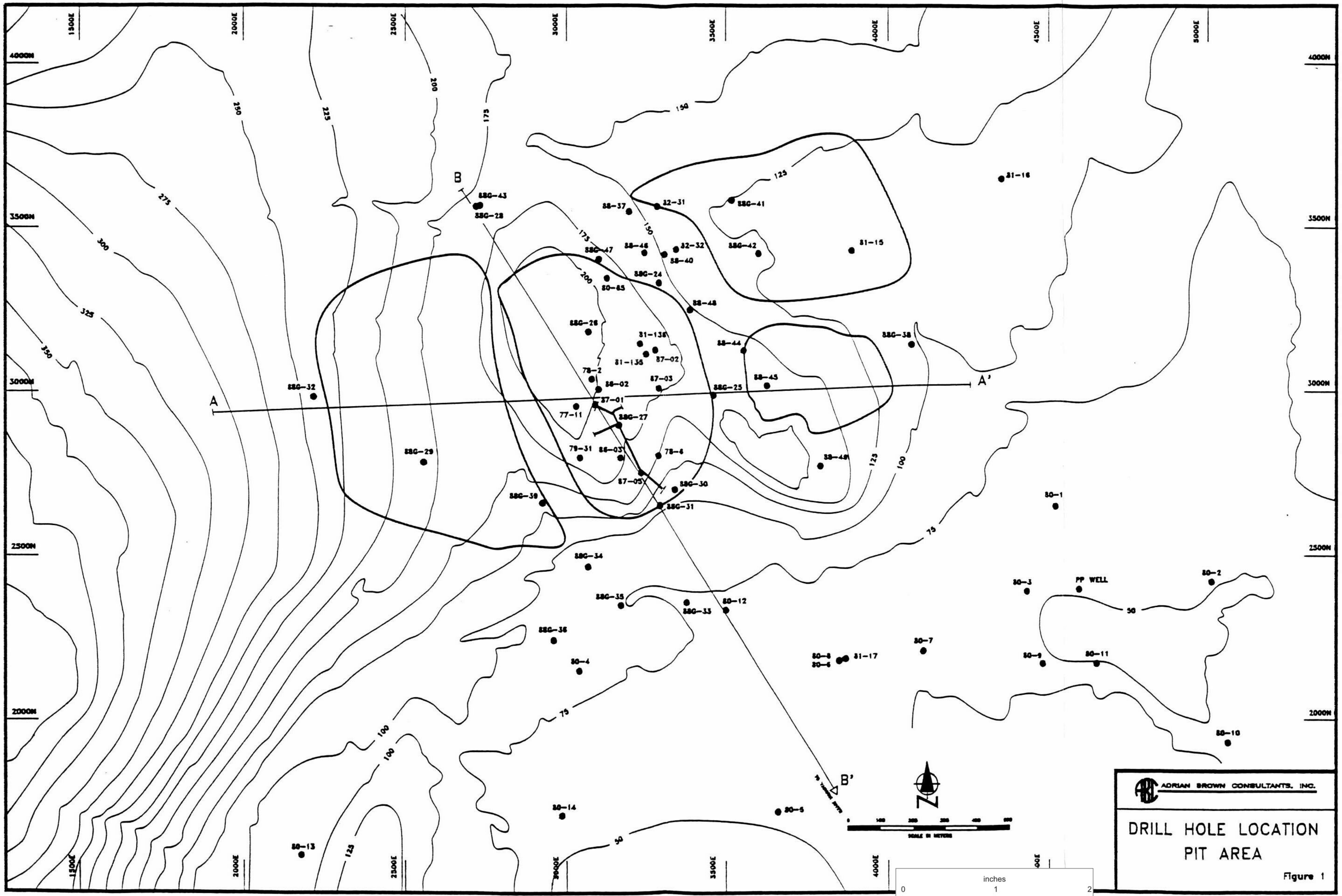
2.0 PRE-MINING HEAD/FLOW CONDITIONS INCLUDING ADIT EFFECTS

The Cinola exploration adit was installed in 1980, and extended in 1982. The collar elevation is about 117 meters above mean sea level, and the slope of the adit is about 1%. It would be expected to act as a drain in the groundwater system.

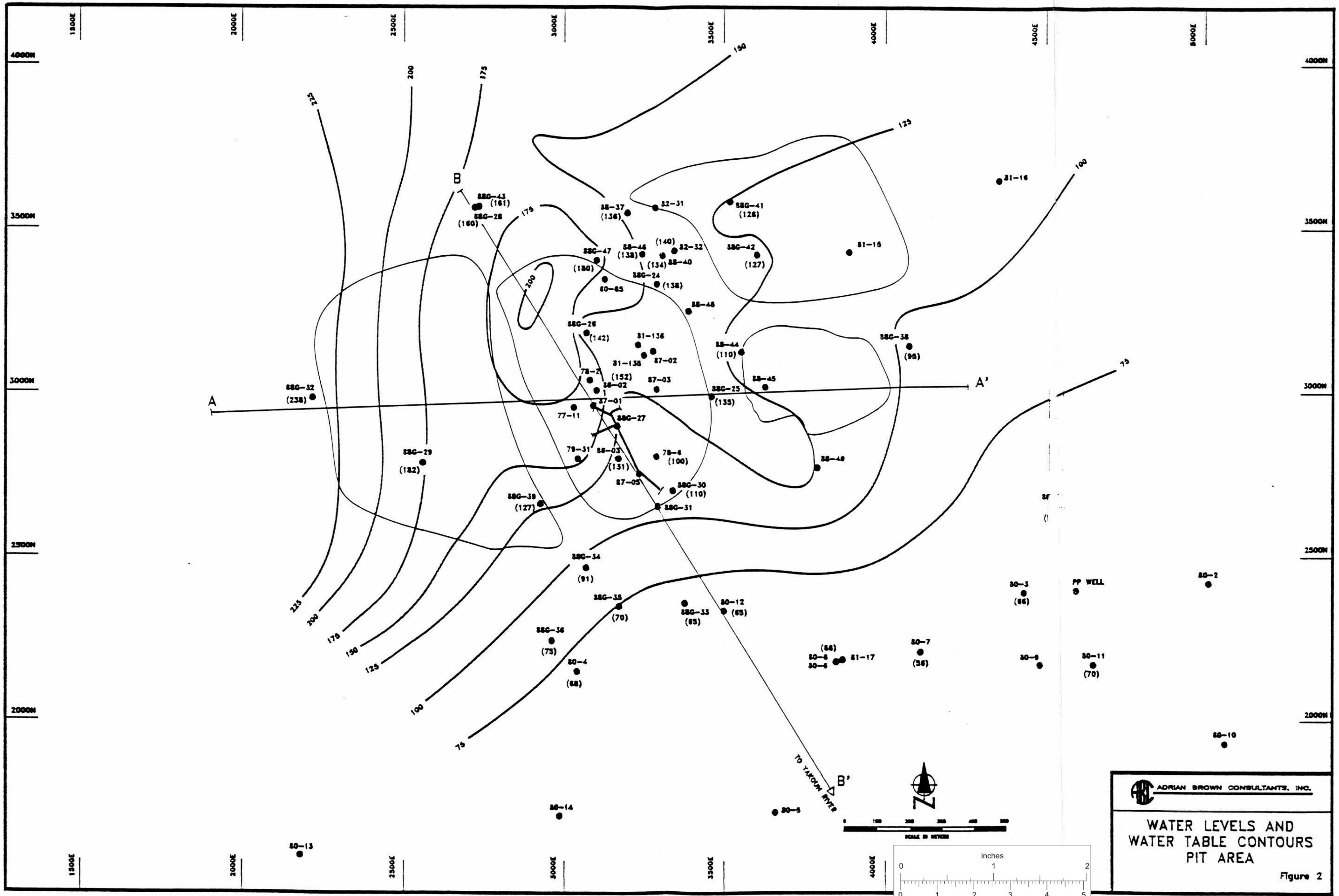
2.1 AVAILABLE CALIBRATION INFORMATION

A considerable amount of water level data is available in this area for this period, which allows reasonable calibration. This data has been collected in the drill holes and wells shown in Figure 1. The heads that currently exist in the area are indicated in Figure 2, which shows the values of the water levels used in the evaluation, and the resulting contours of the groundwater table. The raw information used for the preparation of this map are presented in Table 1. To assist in comparisons between computer generated results and the observed values of the groundwater table, a computer drawn version of the water table to the same scale as the computed results has been presented as Figure 3.

In addition, data exists on the flow from the adit: the four measurements are presented in Table 2. Based on these values, the recent flow from the adit appears to have been in the vicinity of about 200 cubic meters per day.



DRILL HOLE LOCATION
PIT AREA
Figure 1



WATER LEVELS AND
WATER TABLE CONTOURS
PIT AREA

Figure 2

Table 1 - Measured Water Levels in the Vicinity of the Proposed Pit

BOREHOLE INFORMATION / MEASURED WATER LEVELS (meters)

Drill hole	Northing	Easting	Collar Elev(m)	Bedrock Elev(m)	Azimuth	Dip	Length(m)	Piezo Tips	TIP(m)	Jul-81	Jan-82	Jun-87	Oct-87	Apr-88	May-88	Jul-88	Aug-88	05-Sep-88	11-Sep-88	Oct-88	Nov-88	Dec-88	Jan-89	REF
77-11			210.525			90	60.96	1			48													DP-01
78-02			200.318			90	42	1			24													DP-01
78-06			168.28			90	147	1			50													DP-01
79-31			182.52			90	29.8	1					26.4											DP-01
79-31														23.39	24.66						20.98		19.5	DP-01
80-01	2650	4520	63.95			48	53.3	2	1					11.6	6.5								6.07	DP-01
80-01									2					8.5	9.55								7.4	DP-01
80-02	2420	6010																						
80-03	2390	4430	70.75			90	53.4	3	3					14.8	7.4								6.8	DP-01
80-03									2					10.5	4.23								3.65	DP-01
80-03									1					5	5.22								4.8	DP-01
80-04	2150	3040	81.35			90	43	3	3					9.52	1.85								3.82	DP-01
80-04									2					16.74	HIT BOTTOM AT 16.79								16.3	DP-01
80-04									1					17.8	19.05								18.6	DP-01
80-05	1720	3660	57.3375			90	121.9	1	(w)					3.69	3.9								2.38	DP-01
80-06	2180	3850	56.285			90	61	2		-8.7														DP-01
80-06										PLUGGED														DP-01
80-06									(w)					DRY	DRY								NOT FLOWI	DP-01
80-07	2210	4107	57			90	68.9	2						FLOWING										DP-01
80-07									(w)					FLOWING	FLOWING								FLOWING	DP-01
80-07														FLOWING										DP-01
80-08	2180	3850	56.1			90	9.1	1	(w)					16.5 PSI	16.5 PSI								RUSTED GA	DP-01
80-09	2170	4480	56.17			90	32	1								-4.3								DP-01
80-09									(w)					BLOCKED	BLOCKED								RUSTED GA	DP-01
80-10	1930	5060	71			90	82.3	2								10.8								DP-01
80-10									1-3					BROKEN										DP-01
80-10																8.8								DP-01
80-11	2170	4650	81			90	82.3	4	78.4					21	11.57								11.4	DP-01
80-11									23.8					23.01	23.49								22	DP-01
80-11									46.8					27.05	24.95								18.65	DP-01
80-11									29.8					28.32	27.2								24	DP-01
80-12	2335	3500	70			90	46.3	4	5					DRY										DP-01
80-12									#4					6.25	HIT BOTTOM AT 25.6								4.3	DP-01
80-12									14.9					13.9	12.6								7.95	DP-01
80-12									46					18.45	13.4								8.4	DP-01
80-12									19.5					18.48	7.5								6.06	DP-01
80-126			198.697			90	60	1			11													DP-01
80-127			197.932			90	65	1			15													DP-01
80-13	1590	2178	94			90	8.7	1	(w)					0.76	0.73								0.12	DP-01
80-14	1710	2984	68			90	26.2	1						FLOWING	FLOWING								FLOWING	DP-01
80-14A						90		1						FLOWING	FLOWING								FLOWING	DP-01
80-17			56			90	8.2	1																
80-41			216.76			90	37.5	1						19.6	26.27						20.5		20.6	DP-01
80-41													24.8											DP-01
80-85			193.55			90	8	1			2													DP-01
81-15	3430	3880																						
81-16	3650	4350																						
81-17	2187	3860														7.5								DP-01
81-17														7.45	1.9								1.3	DP-01
81-135			184.65			90	49	1																
81-136			187.363			90	51.6	1					38.45											DP-01
81-136														36.16	38.75						34.49		34	DP-01
86-02			200.66			48	112.7	1						9.9	9.3						9.38		9.66	DP-01
86-02												78.6												DP-01
86-03			183.89			49	94.4	1					49.4											DP-01
86-03														45.42	46.5						45.08		44.1	DP-01

BOREHOLE INFORMATION

MEASURED WATER LEVELS (meters)

Drill Hole	Northing	Easting	Collar Elev(m)	Bedrock Elev(m)	Azimuth	Dip	Length(m)	Piezo Tips	TIP(m)	Jul-81	Jan-82	Jun-87	Oct-87	Apr-88	May-88	Jul-88	Aug-88	05-Sep-88	11-Sep-88	Oct-88	Nov-88	Dec-88	Jan-89	REF
87-01			199.66			48	93.5	1					46.8	40.94	46.22						36.67		35.24	DP-01
87-GEO-1			250	237	272	60	108.2	0																
87-GEO-2			220	189	117	50	168.9	1																
87-GEO-3			295	287	5	60	114.9	0																
87-GEO-4			265	233-175	52	60	93	1																
87-GEO-5			270	263	278	60	50.3	1																
87-GEO-6			295	289		90	18.3	1																
87-GEO-7			325	325		90	22.9	1																
87-GEO-8			250	237		90	23	1																
88G-01	5303.29	-701.35	275.18	264.3		90	55.4	1																
88G-02	5362.3	-526.37	290.5	279.9		90	63.8	2																
88G-03	5241.57	-786.84	284.37	224		90	73.8	2																
88G-04	4870.75	612.24	263.28	258.7		90	88.2	2																
88G-04				249.6																				
88G-05				306.3																				
88G-05	4734.91	-1008.58	312.88	311.9		90	54.6	3																
88G-06	3956.35	-1095.41	307.27	307		90	30.2	2																
88G-07	4273.62	-409.19	317.71	315.8		90	60.7	2																
88G-08	3852.58	-792.73	311.19	306.7		90	30.2	3																
88G-09	4946.6	563.31	233.24	229.6		90	57.8	1																
88G-10	4938.66	-548.49	264.91	225.6		90	57	2																
88G-11	4947.69	-196.88	266.59	263.6		90	47.2	2																
88G-11A	4947.65	-40.86	273.13	270.1		90	28.3	1																
88G-12	4716.87	-194.24	260.82	257.2		90	45.5	2																
88G-13	4518.43	-824.67	273.12	268.6		90	79.9	2																
88G-14	4812.72	-208.77	246.65	241.2		90	89.7	2																
88G-15	4381.77	674.55	273.67	240.4		90	80	1																
88G-16	5084.04	368.33	256.64	253.6		90	100.6	2																
88G-17	5019.23	473.66	197.73	190.8		90	60.2	2																
88G-18	4290.72	838.13	294.05	835.1		90	24	2																
88G-19	4120.42	845.94	301.28	300.4		90	19.5	2																
88G-20	4292.28	726.16	291.06	289.4		90	18	2																
88G-21	4257.21	538.64	285.13	281.1		90	21.9	2																
88G-22	4025.02	541.49	305.5	303.3		90	22.8	2																
88G-23	4635.53	839.45	301.42	295.6		90	18	2																
88G-24	3333.04	3288.49	157.75	156.8	213	39	261.5	2	CASING										BLOCKED					DP-01
88G-24									94								34.63	30.65	29.42				15.15	DP-01
88G-24									260								23.15	28.97	29.78				25.92	DP-01
88G-25	2988.39	3460.97	165.27	161.9	246	38	268.2	2	36.6								33.7		33.73					DP-01
88G-25									CASING										BLOCKED					DP-01
88G-25									268								48.5		48.49					DP-01
88G-26	3182.45	3068.57	206.12	203.8	243	42	221.6	2	91								83		83			80.13	79.54	DP-01
88G-26									CASING															DP-01
88G-26									217.6															DP-01
88G-27	2898.3	3164.58	184.72	178.6	248	42	190.5	1	83.7											FLOWING				DP-01
88G-28	3564.98	2719.21	162.53	147		90	36	2	OPEN										BLOCKED					DP-01
88G-28									24								2.1		2.09			1.12	0.84	DP-01
88G-28									34								2.3		2.26			1.45	1.22	DP-01
88G-29						90	98.3	2	40.65								1.2		1.22			1.8	1	DP-01
88G-29									OPEN															DP-01
88G-29									99								2.6		2.6			2.36	2.35	DP-01
88G-30	2701.62	3339.94	107.41	100.5		90	63	2	62.9										2.14	2.08			1.32	DP-01
88G-30									OPEN										0.1					DP-01
88G-30									34.6										2.11	2.09			1.45	DP-01
88G-31	2653.05	3291.39	99.85	96.8		90	47.8	2	OPEN										CAVE					DP-01
88G-31									46.8										0.19	-0.53			-0.6	DP-01

BOREHOLE INFORMATION / MEASURED WATER LEVELS (meters)

Drill Hole	Northing	Easting	Collar Elev(m)	Bedrock Elev(m)	Azimuth	Dip	Length(m)	Piezo Tips	TIP(m)	Jul-81	Jan-82	Jun-87	Oct-87	Apr-88	May-88	Jul-88	Aug-88	05-Sep-88	11-Sep-88	Oct-88	Nov-88	Dec-88	Jan-89	REF
88G-31									24.1										-0.26	-0.58			-0.6	DP-01
88G-32	2984.43	2218.19	243.41	236.6		90	70.4	1	OPEN										0.23					DP-01
88G-32									69.9										5.24				5.23	DP-01
88G-33	2358.85	3377.6	72.1	57.5		90	48.1	2	44.8										4.39	3.95			3.75	DP-01
88G-33									OPEN										0.1				0	DP-01
88G-33									29.6										9.38	4.7			3.7	DP-01
88G-34	2467.3	3067.77	92.5	87.5		90	39.6	2	38.7										1.74	2.23			2	DP-01
88G-34									5.1										0.82	0.49			0.4	DP-01
88G-34									OPEN										0.2					DP-01
88G-35	2349.58	3170.31	75.41	60.1		90	30	2	29.1										0.62	6.62			6.37	DP-01
88G-35									OPEN														0	DP-01
88G-35									9.9										6.89				6.43	DP-01
88G-36	2243.39	2959.31	93.77	73.2		90	34.7	2	19.5										18.69	16.91			15.85	DP-01
88G-36									34.7										19.51	17.02			15.87	DP-01
88G-36									OPEN										1.5				1.65	DP-01
88G-37	3549.63	3194.78	156.28	148.4	245	45	129.54	1	129										27.93			69.15	50.91	DP-01
88G-37									OPEN										BLOCKED					DP-01
88G-38	3134.84	4071.77	106.78	86		90	34.4	2	34.4										9.37	8.49			7.25	DP-01
88G-38									OPEN										1					DP-01
88G-38									16.3										4.85	4.74			3.48	DP-01
88G-39	2661.84	2924.38	133.78	130.1	336	47	141.3	2	72.4										4.95	16.8			17.74	DP-01
88G-39									140.85										4.28	15.38			16.6	DP-01
88G-39									OPEN										BLOCKED					DP-01
88G-40	3419.83	3307.06	151.71	138.3		90	132.6	1	125										15.93			2.5	2.47	DP-01
88G-40									OPEN										BLOCKED					DP-01
88G-41	3583.84	3518.16	124.29	117.3		90	26.5	2	OPEN										0					DP-01
88G-41									8.15										-0.59				-0.25	DP-01
88G-41									26										-0.86				-0.9	DP-01
88G-42	3423.96	3601.04	127.44	124.4		90	22.3	2	11.6										-0.05				-0.55	DP-01
88G-42									17.7										0.57				-0.55	DP-01
88G-42									OPEN										0.35					DP-01
88G-43	3568.01	2731.52	161.32	145.5		90	36	2	18.6										0.92			0.2	0	DP-01
88G-43									OPEN										BLOCKED					DP-01
88G-43									36										0.94			0.29	0	DP-01
88-44	3124.98	3555.04	157.87	156.5	250	47	105.8	1	103.8										44.06	39.4			33.11	DP-01
88-44									OPEN															DP-01
88-45	3017.65	3628.88	163.01	161.4	246	46.5	137.2	1	135.2										BLOCKED					DP-01
88-45									OPEN															DP-01
88-46	3424.02	3241.96	158.9	151.9	252	45	123.8	1	123.8													20.3	17.38	DP-01
88-46									OPEN															DP-01
88G-47	3403.99	3100.8	182.85	181.2	300	45	142.1	1	142														4.49	DP-01
88G-47									OPEN															DP-01
88-48	3248.72	3389	154.87	152.6	246	45	102.5	0																
88-49	2772.29	3791.94	172.35	170.4	210	45	100.6	0																
88G-50	4887.69	490.95	239.41	233.3	114	55	82	1																
88G-51	4986.48	551.16	225.29	219.4	114	45	57.3	2																
88G-52	4889.9	487.02	237.86	230.9	312	55	90.5	2																

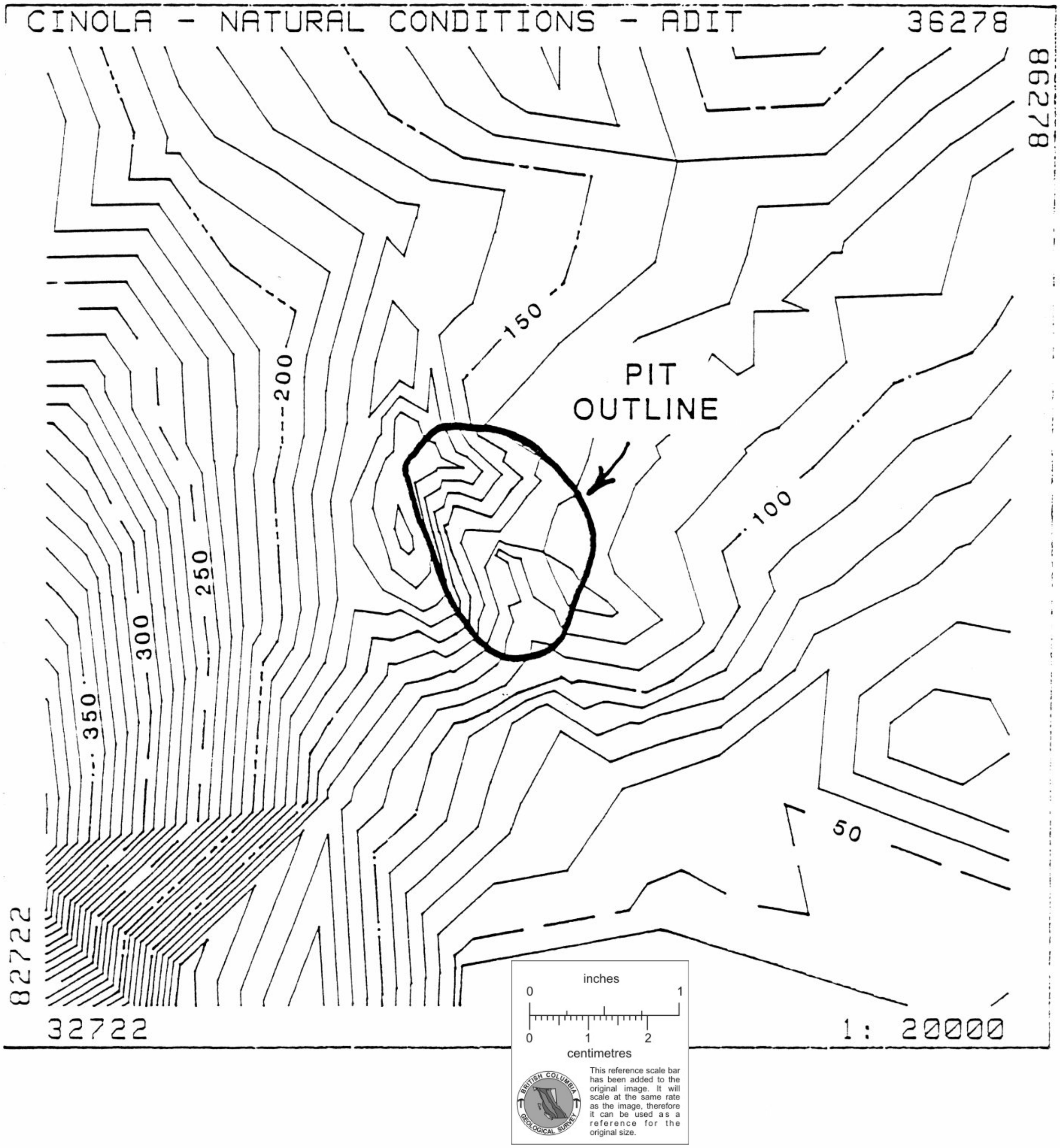


Figure 3 - Computer Drawn Water Table Contours - Pit Area

Table 2 - Flow from the Adit

Date	Adit Length (m)	Flow Rate (cum/d)	Comments
mid 1981	122	130	Flows became steady, vary with precipitation.
mid 1982	457	n/a	Adit extended to essentially its full length. Length includes spurs; actual distance from adit to most remote location is about 360 meters.
Aug 1988	457	97	Variations in flow due to precipitation considerably lower than when adit was shorter.
Nov 1988	457	242	After precipitation; variation with precipitation small.
Jan 1989	457	218	After precipitation.

2.2 ANALYSIS OF EFFECT OF ADIT

An analysis of the head and flow conditions in the vicinity of the pit was performed for the period after the adit had been installed, but prior to the development of the mine. The mesh used was essentially the same as for the aquifer analyses presented in Appendix C of the ABC Geohydrology Report. The mesh was modified to explicitly model the location and head effect of the adit. The results are attached to this report as Exhibit A.

The first analysis was a steady state simulation of the water table using the "standard" hydraulic conductivities for the area (see Appendix C, ABC Geohydrology Report). Specifically, the Specogna Fault and associated hydrothermal breccia was modeled with an hydraulic conductivity of 6 meters per year, while the altered/silicified Skonun was modeled with an hydraulic conductivity of 1.5 meters per year. The resulting computed water table for the area is presented in Figure 4. It is similar to the measured values, in that the adit is clearly visible in the drawdown system, and the other water levels are higher to both the east and west. The analysis also allows a computation of the flow from the adit under these conditions; the flow was is computed to be 268 cubic meters per day, somewhat above the observed value of about 200 cubic meters per day.

The hydraulic conductivity of the Specogna fault was then raised to 30 meters per year (a sixfold increase) and the analysis re-run. The water table is as portrayed in Figure 5, and is similar to the values obtained in the earlier run. The drawdown around the fault is, however, much more marked, and is not consistent with the observed data. The computed flow from the adit has dropped to 135 cubic meters per year, somewhat below the measured flow from the adit. This drop in flow to the adit is a result of the adit losing the contest with the fault zone for the infiltrating local groundwater.

Accordingly, it would appear that the calibration of the system is best achieved with the Specogna fault at the measured hydraulic conductivity of 6 meters per year, although it is not inconceivable that the effective hydraulic conductivity may be somewhat greater or less (say between 3 meters per year and 12 meters per year).

2.3 CONCLUSIONS FROM THE POST-ADIT ANALYSES

The conclusion of the evaluation is that, if the effects of the adit drainage are taken into account, the computed groundwater table does reasonably match the observed current groundwater table for the selected values of the hydraulic conductivity and infiltration.

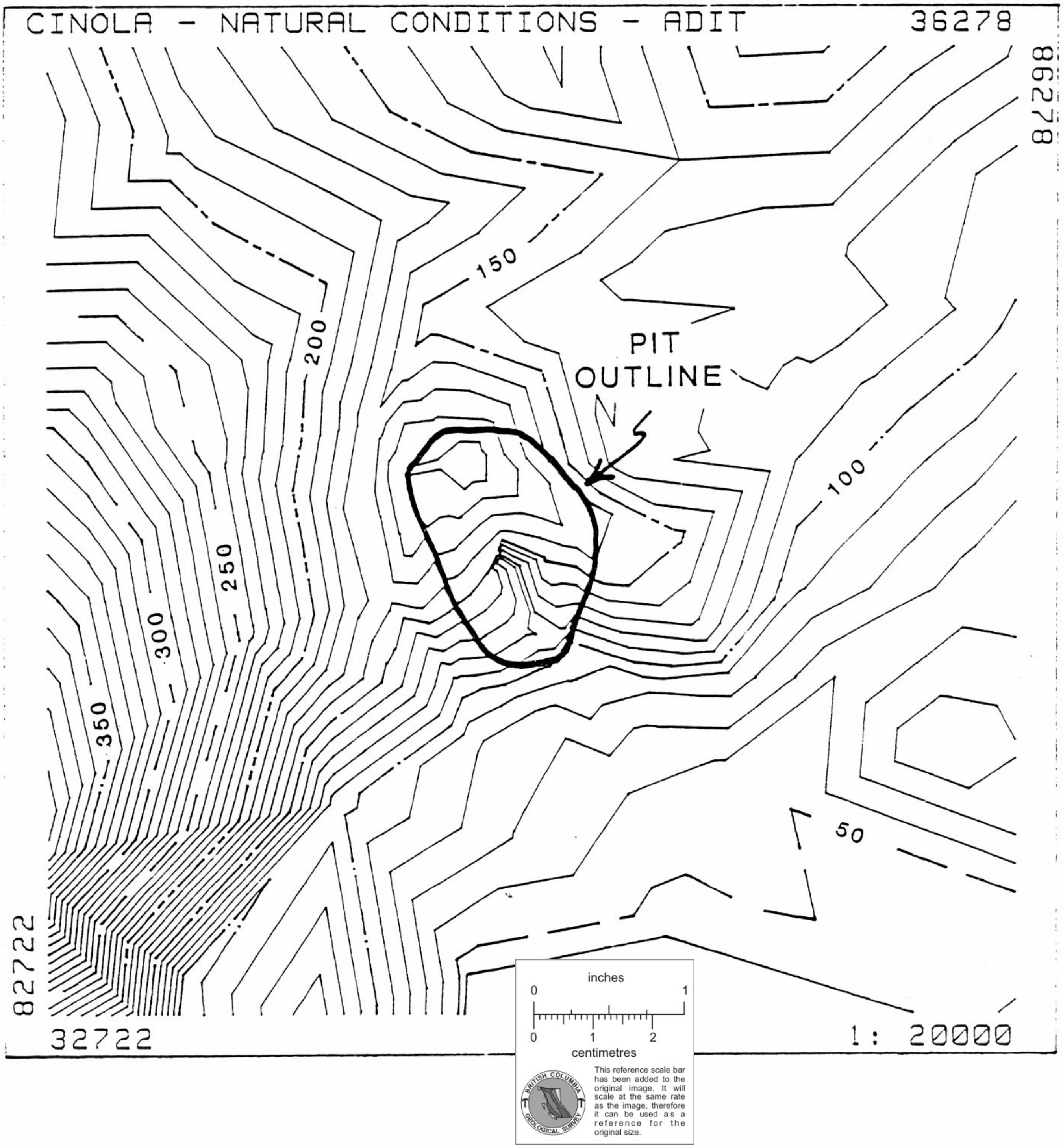


Figure 4 - Water Table - Standard Conditions with Adit Drainage

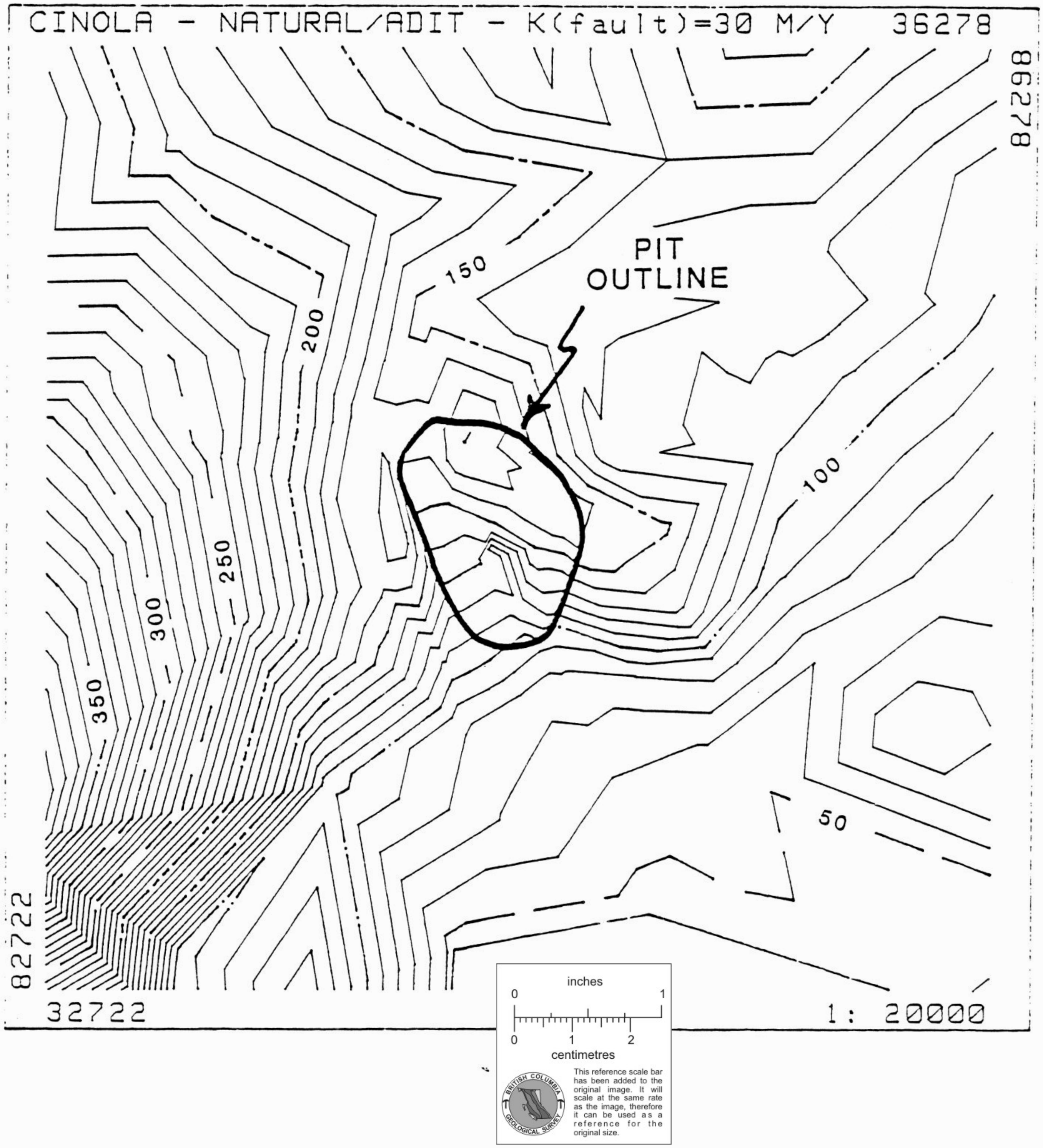


Figure 5 - Water Table - High Conductivity Fault with Adit Drainage

3.0 EFFECT OF A POSTULATED HIGH CONDUCTIVITY FEATURE

3.1 STATEMENT OF THE QUESTION

The representatives of the Governments wished an analysis of the conditions that would exist during mining, and after mine reclamation, if the Specogna Fault proved to have an effective hydraulic conductivity of 30 meters per year, a factor of five higher than the measured value, and of the best value for calibration of the existing heads. The principal concerns appeared to be:

1. the impact on the inflow to the mine, which might, if too high, overwhelm the water treatment plant capacity;
2. the impact on the flow in (particuarly) upper Barbie Creek of diversion through such a structure both during operation and after backfilling; and
3. the impact on the flow from the pit backfill to the lower Barbie Creek area after reclamation.

3.2 ANALYSES PERFORMED

Two analyses were performed, and the results compared to the standard analyses presented in Appendix C of the ABC Geohydrology Report. These analyses were conducted with the Specogna Fault and associated hydrothermal breccia assumed to have a hydraulic conductivity of 30 meters per year, for the following cases:

1. prior to mining (this analysis has already been presented in Appendix C of the ABC Geohydrology Report);
2. with the mine at full depth; and
3. after reclamation of the pit.

The results of the new analyses are presented in Exhibit B, and are summarized below.

3.2.1 Flow to the pit

The assumption of a high hydraulic conductivity fault/breccia feature increases the flow to the pit when fully mined from 1,300 cubic meters per day for the standard case (ABC Geohydrology Report) to 1,900 cubic meters per day for the high hydraulic conductivity case.

3.2.2 Impact on Barbie Creek

The increased hydraulic conductivity results in a diversion of some flow from upper Barbie Creek. The flow in Barbie Creek at the three times analysed (before, during, and after mining) is illustrated on Figure 6. The impact of mining on the flows in Upper Barbie Creek amounts to about a 13% reduction in the baseflow, and after reclamation this impact reduces to about 10%. This level of difference is not detectable in real stream systems, which are subject to far greater daily and seasonal variation.

3.3 CONCLUSIONS FROM THE ANALYSIS

The overall conclusion from this evaluation is that, if there is a high hydraulic conductivity through-going feature along the Specogna Fault alignment, then there will be a small computed reduction of the flow in Barbie Creek during and after mining. This reduction is small when compared with the normal variability of the stream flow, and so would not be detectable in the field.

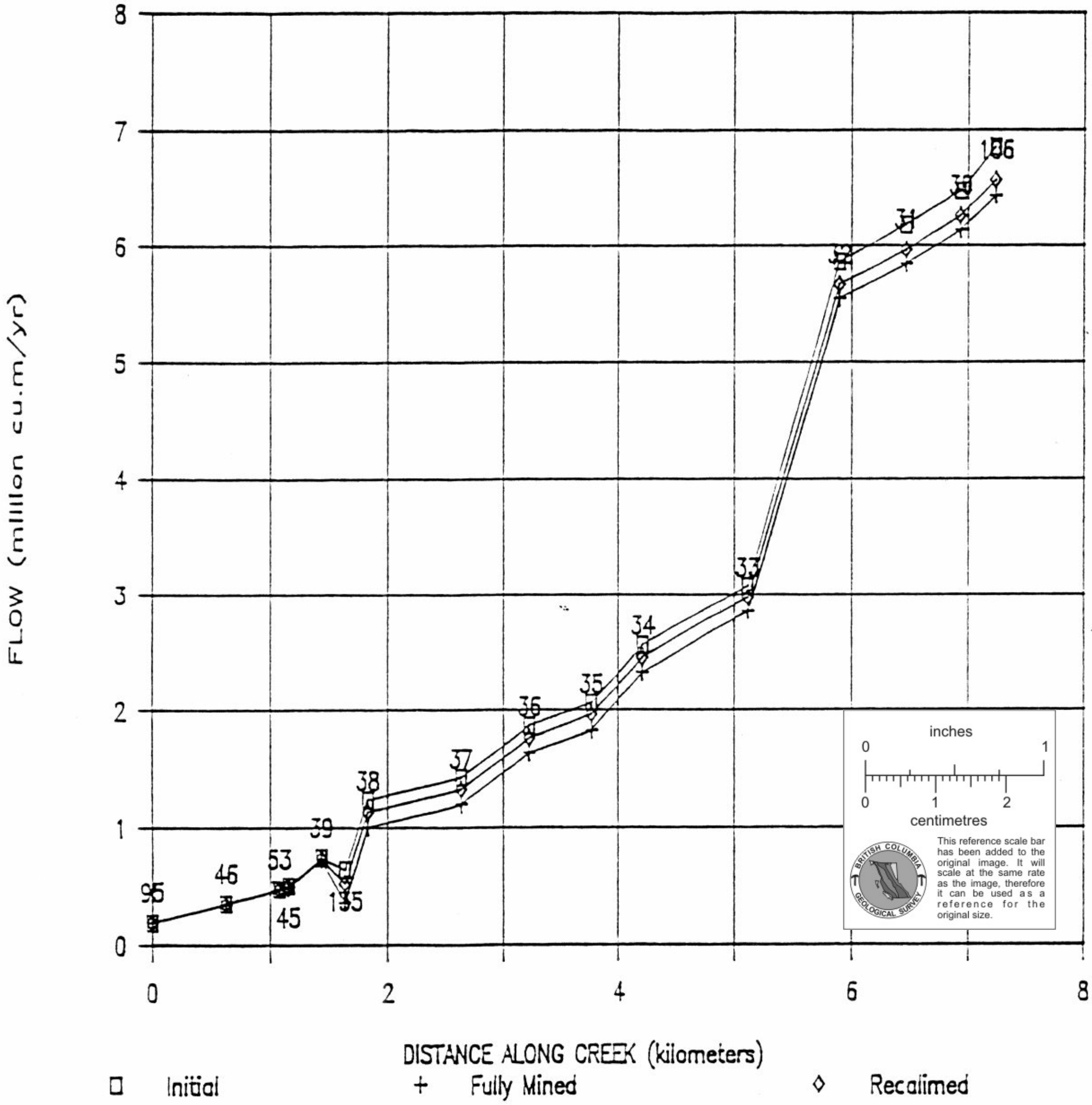


Figure 6 - Barbie Creek Baseflow - K(fault) = 30 meters/year

4.0 PROOF OF ANALYSES AND RESPONSE TO VARIANCES

It is possible that the evaluations made in the Phase II report about inflow to the pit and flow after pit reclamation could be incorrect. This section evaluates the mechanisms that ensure that if this were to be the case, it would be identified in a timely manner, and that there are "fall-back" engineering remedies available for the possible consequences of those unexpected flows. In presenting this section, it is pointed out that this does not reflect a lack of confidence in the predicted ranges of outcomes of the proposed project, but illustrates that the project plan as set out contains within it defense against not only anticipated potential impacts, but also unanticipated impacts.

4.1 METHODS OF CHECKING EVALUATION

There are several methods by which the evaluations presented in the Stage II report, the ABC Geohydrology Report, and this report will be checked during the actual operation of the facility. These are summarized below:

1. Water Level Monitoring. There are currently a number of completed drill holes in the vicinity of the pit which will be used for monitoring groundwater levels after the pit is constructed. In addition, it is likely that further monitoring holes will be installed during the development of

the pit to evaluate the impact of the pit, and the effectiveness of any slope stabilization or dewatering activities. Accordingly the head predictions of the evaluation will be checked against the expected values throughout the project; remediation could be triggered if operationally significant differences between predicted and actual heads were identified.

2. Mine Inflow Monitoring. Mine inflow will be measured as a routine part of the operation of the project. This is necessary to ensure that pump capacity will be available to remove it from the pit, and that treatment capacity is available for that portion of the inflow that requires quality adjustment prior to use or discharge. These monitored flows will be checked against predictions, and any variance may be the basis for remedial action.

3. Stream Flow Monitoring. The measurement of flow in the streams in the vicinity of the pit will be part of the overall project monitoring program. Any significant reduction of flow will be identified by this program, and the significance of any such observed changes can be evaluated.

Accordingly, it is considered that any geohydrological changes that occur will be identified, and can be compared with the changes contemplated in the pre-mining evaluation studies.

4.2 AVAILABLE REMEDIES

Significant unanticipated changes in pit hydrology flow would need to be evaluated with respect to a number of matters relating to impact. The remedies that are available are discussed below.

4.2.1 Excessive pit inflow

The pit water management system is designed on the basis of a reasonable variation around the predicted flows. If these flows were significantly different, then pit pumping and water treatment plant capacity might need to be modified. The pit pumping system is predicated mainly on the removal from the pit of direct storm precipitation. Groundwater inflow is a small percentage of such flows, and it is not considered credible for this to drive mine dewatering system design or requirements.

4.2.2 Excessive flow to the water treatment plant

The inflow to the pit might, in the worst case, be both of greater quantity and of sufficiently low quality to require treatment prior to discharge. This is considered to be unlikely, as the source of any sigificantly increased flow would have to be surface water, which is generally of excellent quality, and the flow rate through the rock would have to be high, making it unlikely that quality changes could occur. However if this unlikely circumstance occured, two remedies appear to be available. First, the flow quantity requiring treatment could be reduced, by a number of methods including grouting of the (presumably) high hydraulic conductivity flow conduit, channelizing of the portion of the surface streams that would be providing the flow, or dewatering of the flow conduit far enough from the orebody that the water produced would not require treatment. Second, the capacity of the treatment plant, or of the water storage associated with it, could be increased to accommodate the increased flow.

4.2.3 Excessive reduction in stream flow

The principal stream flow of concern with respect to the pit is the flow in upper Barbie Creek, adjacent to the pit. In this location it is understood that the flow is critical for fish habitat and spawning. In the event that the flow to the pit is significantly greater than predicted, the flow in the upper portion of Barbie Creek may be reduced, perhaps significantly in the extreme case. In the event that this were to occur, there are several engineered remedies that would be available, including channelization or sealing of the portion of the stream that overlies the conduit that is providing excessive inflow to pit, grouting of the conduit to the pit, interception of inflow water prior to its entry to the pit and replacement of this water into the stream (from a stream point of view this replacement would only be necessary during critical low flow periods, particularly those that happen to coincide with spawning).

4.2.4 Excessive impact on stream quality

The quality of water in streams might be more negatively impacted than expected if the seepage through the pit backfill after reclamation was either of significantly greater quantity or worse quality than currenly expected. The reasons that this might occur, and the remedies that are available, are discussed below

1. Pit backfill material proves to be of much higher hydraulic conductivity than currently expected. If the backfill were highly permeable throughout its mass, it is possible that seepage flows from the pit backfill in excess of the amounts calculated might occur. The permeability of the backfill material will be much better known once the waste rock pile has been built. The hydraulic conductivity of this feature can be ascertained, and the hydraulic conductivity of the backfill estimated. In the event that the hydraulic conductivity is considered to be too high, then the backfill material can be admixed with further excess mudstone. The amount of mudstone in the waste pile is about 5%; if this were raised to 10% the waste rock in the pit would be essentially impermeable.

2. Material to the south of the pit is of much higher hydraulic conductivity than current conditions and field measurements indicate. If the material to the south of the pit were of much higher hydraulic conductivity than the current evaluation suggests, it is possible that the seepage outflow

from the backfilled pit might be signficantly greater than expected, which might also create an unexpected negative impact. Monitoring of the flow to the pit and of the impact of mine development on groundwater levels would provide prior indication of this possibility. If this were to occur, then there are several engineering solutions, including lining of the pit face on the south end with mudstone prior to backfilling (to combat the possible presence of high hydraulic conductivity features), and grouting the material to the south of the pit (to reduce inflow during mining, and seepage after reclamation).

3. Water quality in the backfill is more lower than anticipated. If the quality of the water in the backfill were poor, and the quality of the seepage was not significantly modified by flow through the bedrock, it is possible that the quality of the surface water downgradient from the pit might be unexpectedly impacted. Measurement of quality of flow from the waste pile would provide prior indication of any such a potential problem. If such indications occur, then admixture of more neutralizing material with the pit backfill, to further reduce the potential for future acid drainage, might be indicated.

In summary, if the current predictions of the impact of the pit on the hydrologic system flow and quality prove to be significantly different from the actual conditions, this will be identifiable prior to the completion of the project, at which time available and feasible remedies exist for the rectification of any groundwater-related problems that might occur as a result of the changed conditions.

5.0 PARTITIONING OF PRECIPITATION

5.1 CONCEPT

The evaluations upon which the Stage II report, the ABC Geohydrology Report, and the current report are based in part on the availability of infiltration water to the groundwater system. This section describes the partitioning of incident precipitation that has been used in this study to develop groundwater flows.

Approximately 2.1 meters of (mainly) rain is estimated to fall on the project site each year. The fate of this precipitation is of concern for the entire project, both in terms of project water management, and in terms of the impact of the project on the surface and groundwater resources of the area. The process is illustrated in Figure 7 and comprises the following elements:

1. Precipitation. About 2.1 meters of precipitation falls on the project area, mainly as rain. The precipitation occurs in all months of the year. In the wetter months of October, November, and December, the precipitation rate reaches 300 mm/month (Stage II report). This precipitation is the source of all of the water in the project area.

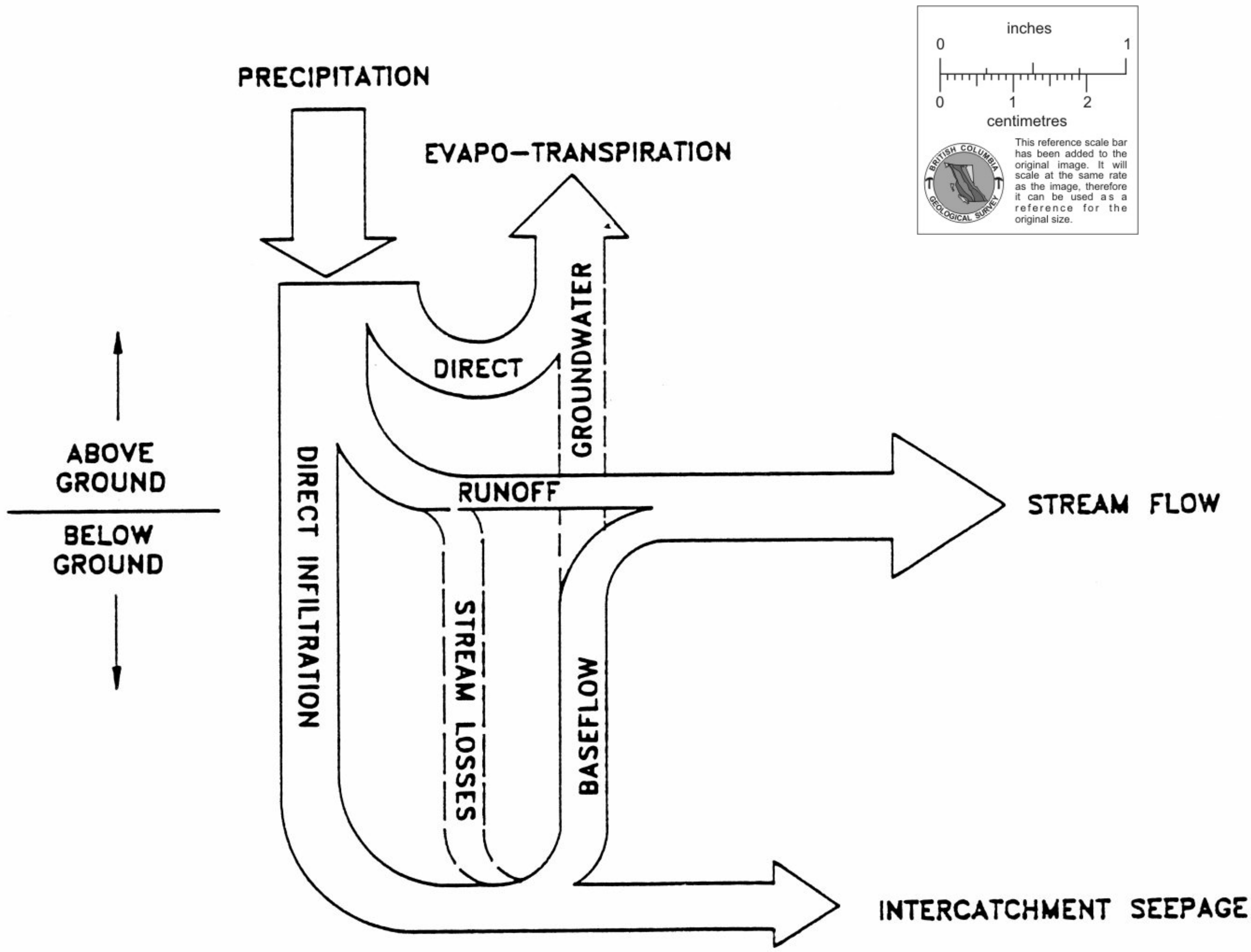


Figure 7 - Groundwater/Surface Water Concept

2. Runoff. During and after high precipitation events, some of the incident precipitation runs off directly to streams, without entering the groundwater system. In the Queen Charlottes, the dense ground cover and lush growth make direct runoff relatively limited, as the retention capacity of the ground surface is high. Normally, runoff is defined as water that moves to surface water courses without moveing below the ground surface. In this project, because of the ground cover, runoff is defined as any water that reaches the streams without entering the groundwater system that is below the root zone of the plants (about 2 meters below ground surface). Because of this definition, runoff is considered in this study to be a residual flow.

3. Direct Evaporation. When the precipitation reaches the ground surface, a portion of it directly evaporates from the leaves of plants, or from the ground surface (swamps, pools, streams, lakes, and other bodies of open water). The amount of evaporation is dependent among other things on the amount of open water, the temperature, humidity, wind velocity, and other factors.

4. Evapotranspiration. Some of the incident precipitation enters the groundwater system. Of that portion, some is captured by the roots of plants and trees, and is evapotranspired as part of the growth cycle. The quantity of water that is evapotranspired by plants is a complex function

of many variables, including temperature, humidity, wind velocity, plant type, soil type, and water availability.

5. Infiltration. The portion of incident precipitation that percolates below the root system of the plant community is described in this study as "infiltration". This water flows in the alluvial and bedrock groundwater system.

6. Baseflow Seepage. The groundwater that flows in the system must ultimately emerge to the surface water system. This seepage emerges at the surface, generally in topographic lows. Upon emerging, this water must once again pass through the root zone, where uptake and evapotranspiration is possible. If direct infiltration is adequate to satisfy this demand, then the seepage emerges at the surface, and either evaporates or flows by runoff to surface streams.

7. Stream Losses. If a stream flows across an area where the groundwater table is below the ground surface, then there will be a tendency for flow in the stream to recharge the groundwater system. The rate at which the stream is depleted in these circumstances depends among other things on the permeability of the streambed and underlying materials, the flow depth and width of the stream, and the depth to the water table.

8. Inter-catchment groundwater flow. Some of the groundwater in the system may flow from one catchment to the next, by

underflowing beneath catchment boundaries. This "deep seepage" would escape the local stream/evapotranspiration system, and represents the extent of unaccounted for flow (if neighboring catchments are unmonitored).

9. Stream Flow. The stream flow is the residual of the precipitation less evaporation/evapotranspiration and less inter-catchment seepage.

The above concept of flow is expressed in steady-state terms. The system has some storage, and in the short term (days to months) the amount of water stored will vary, creating a transient flow source or sink. However in the context of evaluation of a mining project these transients are of short duration, and in the context of the precipitation in the Queen Charlottes, the volumes of water are relatively small.

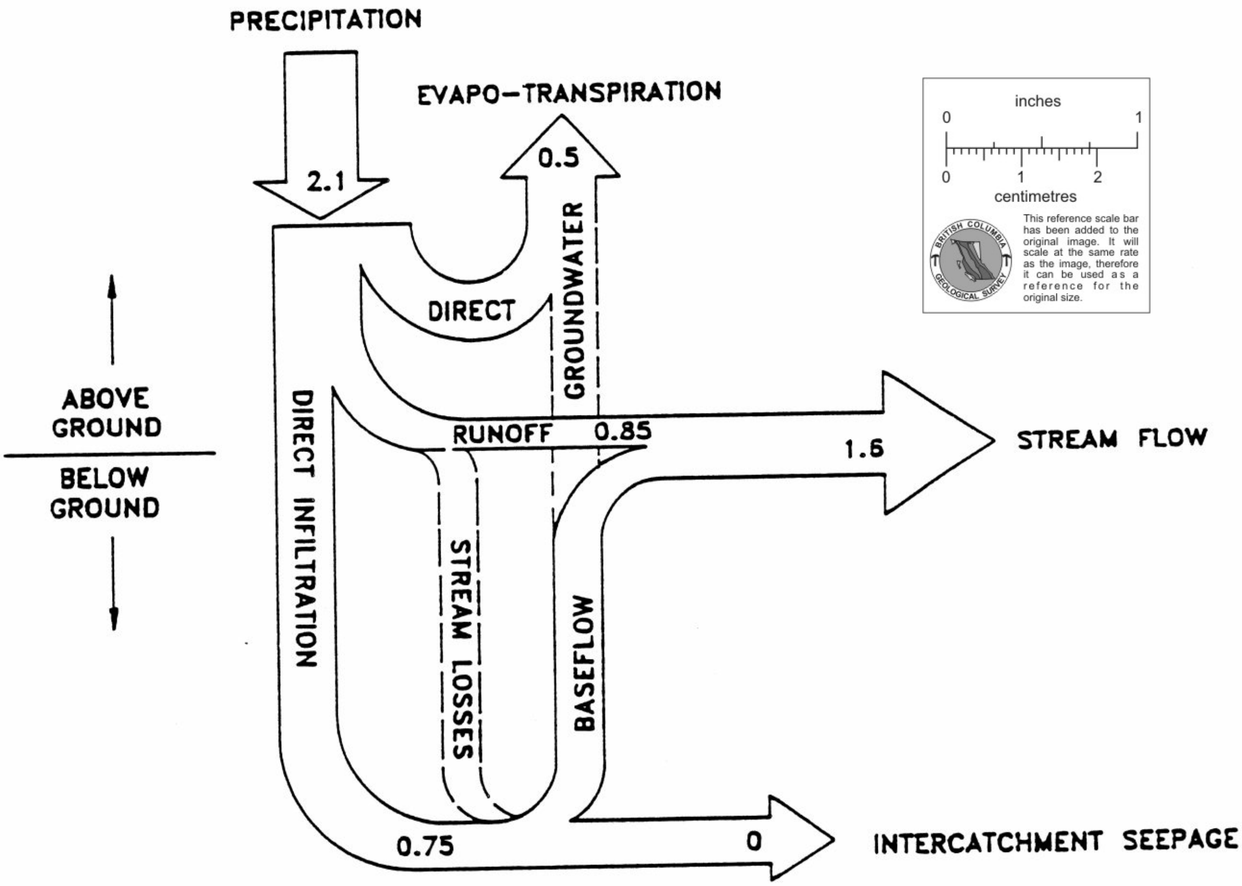
5.2 QUANTITATIVE ESTIMATE OF FLOWS

The system in the project area has been calibrated to establish the most reasonable flow rates for the above partitioning. Quantitative values are needed in order to be able to establish the likely impact of the project on groundwater and surface water resources. The above discussion illustrates the complexity of the detailed flow system; the approach taken in the study was to somewhat arbitrarily consider the dividing line between the surface and the groundwater system to be the bottom of the root zone of the surface plant community. The system was then calibrated by finding the infiltration rate that best matched the observed stream flows and groundwater table.

Calibration of the infiltration was performed by setting up a numerical model of the groundwater system, applying the known topography, geology, hydrogeology, and other information to the model, and computing what average infiltration to the groundwater system is required to create the observed groundwater table over the site area. This activity is reported in detail in the ABC Geohydrology Report (Appendix B). This analysis indicated that the infiltration rate to the groundwater system below the root zone averages about 0.75 meters per year.

In addition to this value, field observations of stream flow indicate that about 65% to 70% of the precipitation that falls ultimately reports to local streams (that is within the catchment area of the streams).

When all these factors are assembled into the conceptual model described above, the typical annual average flows are as indicated in Figure 8. Flows are expressed in volume/unit area of catchment/unit time, and the unit used is meters/year, allowing direct comparison with precipitation.



NOTE – All Flow Rates In Meters/Year

Figure 8 - Groundwater/Surface Water Concept - Quantitative

5.3 BASEFLOW

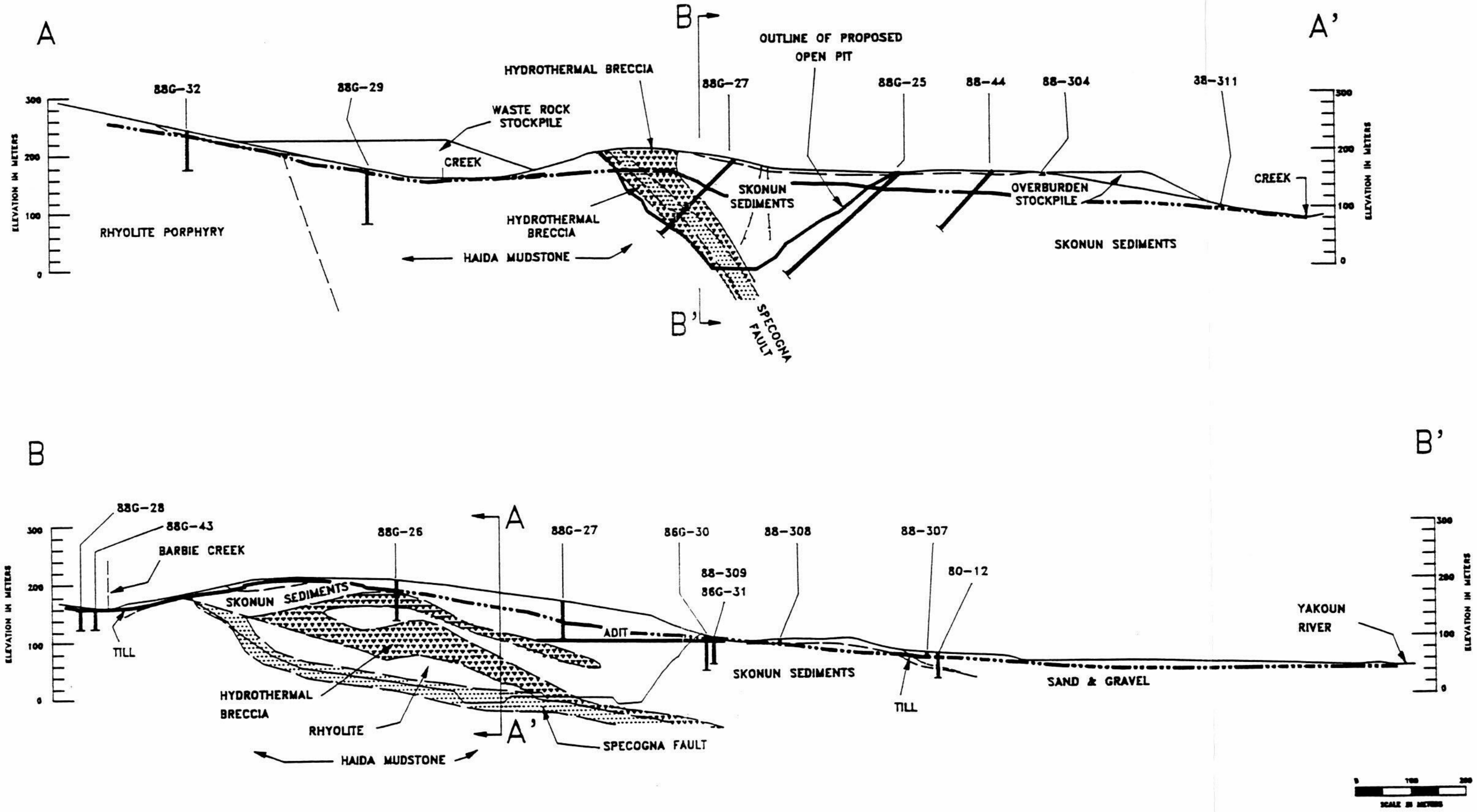
The term "baseflow" has been used in the reports describing the groundwater evaluations in this project. This term is sufficiently difficult as to require some description here. As shown in the above figures, the baseflow is defined in this project as the flow that moves from the groundwater system below the root zone to the surface water system. In surface water hydrology, baseflow is usually reserved for the flow that remains in the streams when all surface runoff has ceased, and is frequently measured as the asymtote of the recession flow curve after a precipitation event. However in the Queen Charlotte Islands context this definition poses a problem. Here, the preciptation rate is sufficiently high that the groundwater table is near the surface over much of the islands, and thus plants on the surface have direct access to the saturated groundwater system. During dry, hot periods, the forest's demand for water exceeds the incident precipitation, and so the plants draw on the groundwater. This has the effect of intercepting the "baseflow", and directly evapotranspiring it. Accordingly, in dry periods it would be expected that the stream flow would be less than the "baseflow".

To overcome these difficulties, baseflow is defined in this study as the streamflow when total evaporation plus evapotranspiration is exactly equal to precipitation.

6.0 CROSS SECTIONS IN THE VICINITY OF THE PIT

Two cross sections through the pit have been developed for this report, and are presented on Figure 9. The locations of the sections are indicated on Figure 1. In each case the post-adit construction, pre-mining groundwater table has been shown on the section. These levels have been taken from the contour plan presented in Figure 2.

The geology information has been developed from detailed information collected during exploration of the orebody, geotechnical drilling for the pit slopes, waste piles, and other structures, and from condemnation drilling outside the orebody limits. The locations of the principal drill holes used for this construction are indicated on the sections, and on Figure 1. For more detail on the geology the reader is directed to the Stage II report.



Water Table Post Adit Construction
Taken from Figure 2

ADRIAN BROWN CONSULTANTS, INC.

PIT AREA
CROSS SECTIONS

Figure 9

EXHIBIT A

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................136
Number of elements.................248
Number of materials................5
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	2.00E+00	1.00E-06	.0500	7.50E-01
4	1.50E+00	1.00E-06	.0500	7.50E-01
5	6.00E+00	1.00E-06	.0200	7.50E-01
6				7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	134	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.713E+07	2.771E+07	1
2	1	131	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.191E+07	2.317E+07	2
3	2	132	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.952E+07	2.093E+07	3
4	3	133	89850.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.586E+07	1.678E+07	4
5	4	130	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.518E+07	1.604E+07	5
6	5	129	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.169E+05	0.000E+00	1.454E+07	1.536E+07	6
7	6	128	86850.0	32350.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.347E+07	1.405E+07	7
8	7	127	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.299E+07	1.332E+07	8
9	8	124	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	6.061E+06	6.223E+06	9
10	9	121	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	5.059E+06	10
11	10	120	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.801E+06	11
12	11	94	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.672E+06	12
13	12	93	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	3.051E+06	13
14	13	122	80500.0	30800.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.656E+05	0.000E+00	0.000E+00	1.061E+06	14
15	29	119	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.819E+05	0.000E+00	0.000E+00	2.733E+05	15
16	27	118	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	6.400E+05	0.000E+00	0.000E+00	5.342E+05	16
17	18	117	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.131E+05	17
18	24	114	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.082E+06	18
19	23	115	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.940E+05	19
20	-1	116	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.236E+07	20
21	20	113	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.195E+07	21
22	1	112	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.831E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	111	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.159E+07	23
24	23	110	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.234E+06	24
25	24	109	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.487E+05	0.000E+00	5.215E+06	5.890E+06	25
26	25	108	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.040E+06	26
27	26	107	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.286E+06	3.926E+06	27
28	27	104	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.305E+06	28
29	28	100	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.429E+06	29
30	106	99	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	6.159E+06	6.516E+06	30
31	30	98	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.997E+06	6.223E+06	31
32	31	97	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.396E+05	0.000E+00	5.463E+06	5.904E+06	32
33	32	96	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.705E+06	3.080E+06	33
34	33	95	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	2.045E+06	2.558E+06	34
35	34	46	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.851E+06	2.066E+06	35
36	35	53	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.616E+06	1.871E+06	36
37	36	45	84925.0	35400.0	-175.0	125.0	140.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.218E+06	1.431E+06	37
38	37	92	84150.0	35225.0	-155.0	145.0	165.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	7.064E+05	1.239E+06	38
39	135	91	83950.0	34675.0	-138.0	162.0	160.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.444E+05	7.583E+05	39
40	9	90	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	1.058E+06	1.057E+06	40
41	40	86	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	8.045E+05	9.500E+05	41
42	41	103	84300.0	33775.0	-219.0	81.0	90.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.682E+05	8.223E+05	42
43	42	85	84250.0	33975.0	-195.0	105.0	127.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.822E+05	4.257E+05	43
44	43	84	84000.0	34275.0	-136.0	164.0	170.0	164.0	SWMP	0.000E+00	2.867E+04	0.000E+00	2.567E+05	3.073E+05	44
45	39	102	83925.0	34600.0	-138.0	162.0	175.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.682E+05	5.036E+05	45
46	53	77	83425.0	34725.0	-55.0	245.0	230.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.841E+05	3.439E+05	46
47	54	71	83525.0	34150.0	-55.0	245.0	220.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.847E+05	47
48	49	61	83800.0	34025.0	-122.0	178.0	170.0	178.0	SWMP	0.000E+00	3.288E+04	0.000E+00	0.000E+00	7.114E+04	48
49	43	76	84050.0	33975.0	-160.0	140.0	135.0	140.0	SWMP	0.000E+00	2.355E+04	0.000E+00	7.114E+04	9.151E+04	49
50	43	70	84125.0	34225.0	-141.0	159.0	175.0	159.0	SWMP	0.000E+00	7.070E+03	0.000E+00	0.000E+00	7.158E+03	50

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	60	84075.0	34450.0	-115.0	185.0	195.0	185.0	SWMP	0.000E+00	1.251E+04	0.000E+00	4.610E+00	1.152E+04	51
52	39	82	84025.0	34700.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.375E+03	0.000E+00	1.865E+00	3.064E+03	52
53	45	123	83850.0	34575.0	-130.0	170.0	165.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.395E+05	4.726E+05	53
54	44	123	83875.0	34250.0	-124.0	176.0	165.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.615E+05	54
55	89	75	84375.0	34050.0	-171.0	129.0	125.0	126.8	swmp	0.000E+00	9.891E+03	0.000E+00	0.000E+00	1.561E-01	55
56	43	81	84250.0	34225.0	-120.0	180.0	165.0	172.0	swmp	0.000E+00	6.867E+03	0.000E+00	0.000E+00	8.556E-01	56
57	51	79	84150.0	34475.0	-96.0	204.0	180.0	198.8	swmp	0.000E+00	5.109E+03	0.000E+00	9.676E+00	1.064E+00	57
58	52	74	84075.0	34700.0	-94.0	206.0	190.0	199.2	swmp	0.000E+00	9.772E+03	0.000E+00	0.000E+00	3.094E-01	58
59	135	60	84175.0	34850.0	-98.0	202.0	175.0	187.8	swmp	0.000E+00	2.358E+04	0.000E+00	0.000E+00	1.384E-01	59
60	82	79	84350.0	34850.0	-117.0	183.0	140.0	183.0	SWMP	0.000E+00	4.378E+04	0.000E+00	1.605E-01	2.749E+04	60
61	83	73	84600.0	34725.0	-146.0	154.0	135.0	154.0	SWMP	0.000E+00	3.353E+04	0.000E+00	5.582E+02	5.710E+04	61
62	83	66	84700.0	34575.0	-135.0	165.0	127.0	164.9	swmp	0.000E+00	2.306E+04	0.000E+00	0.000E+00	0.000E+00	62
63	64	88	84725.0	34375.0	-130.0	170.0	122.0	162.0	swmp	0.000E+00	3.164E+04	0.000E+00	0.000E+00	0.000E+00	63
64	65	72	84650.0	34250.0	-170.0	130.0	135.0	130.0	SWMP	0.000E+00	1.188E+04	0.000E+00	3.513E+03	5.212E+04	64
65	87	69	84625.0	34125.0	-200.0	100.0	120.0	100.0	SWMP	0.000E+00	1.469E+04	0.000E+00	2.603E+04	1.097E+05	65
66	88	136	84550.0	34050.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	9.766E+03	0.000E+00	9.409E-01	4.762E+03	66
67	43	68	84300.0	34250.0	-110.0	190.0	150.0	171.8	swmp	0.000E+00	1.172E+04	0.000E+00	0.000E+00	1.400E+00	67
68	57	57	84225.0	34475.0	-83.0	217.0	145.0	198.2	swmp	0.000E+00	1.453E+04	0.000E+00	0.000E+00	2.212E+00	68
69	136	51	84175.0	34725.0	-85.0	215.0	185.0	200.0	swmp	0.000E+00	1.102E+04	0.000E+00	0.000E+00	4.416E-01	69
70	60	67	84300.0	34775.0	-96.0	204.0	160.0	198.8	swmp	0.000E+00	1.367E+04	0.000E+00	2.007E-01	1.063E-01	70
71	61	63	84575.0	34650.0	-130.0	170.0	135.0	170.0	SWMP	0.000E+00	1.411E+04	0.000E+00	8.931E-02	1.397E+04	71
72	64	64	84650.0	34475.0	-125.0	175.0	123.0	173.4	swmp	0.000E+00	1.391E+04	0.000E+00	0.000E+00	0.000E+00	72
73	66	65	84475.0	34150.0	-145.0	155.0	115.0	136.6	swmp	0.000E+00	1.313E+04	0.000E+00	0.000E+00	2.541E-01	73
74	80	87	84350.0	34350.0	-90.0	210.0	130.0	182.5	swmp	0.000E+00	1.445E+04	0.000E+00	0.000E+00	7.048E-01	74
75	81	105	84250.0	34550.0	-85.0	215.0	145.0	200.8	swmp	0.000E+00	1.063E+04	0.000E+00	0.000E+00	1.294E+00	75
76	70	62	84275.0	34700.0	-88.0	212.0	180.0	205.7	swmp	0.000E+00	1.588E+04	0.000E+00	0.000E+00	1.772E-01	76
77	71	83	84490.0	34600.0	-115.0	185.0	140.0	185.0	SWMP	0.000E+00	1.547E+04	0.000E+00	0.000E+00	6.883E+03	77
78	64	126	84550.0	34400.0	-135.0	165.0	130.0	165.0	SWMP	0.000E+00	1.719E+04	0.000E+00	2.108E-01	2.449E+04	78
79	65	101	84600.0	34175.0	-175.0	125.0	122.0	123.2	swmp	0.000E+00	8.516E+03	0.000E+00	1.227E-01	4.884E-02	79
80	79	59	84500.0	34225.0	-140.0	160.0	110.0	150.0	swmp	0.000E+00	1.227E+04	0.000E+00	2.871E+00	1.393E-01	80
81	78	58	84400.0	34475.0	-105.0	195.0	140.0	195.0	SWMP	0.000E+00	2.041E+04	0.000E+00	5.405E+00	2.995E+02	81
82	123	52	84600.0	35120.0	-162.0	138.0	140.0	138.0	SWMP	0.000E+00	8.674E+04	0.000E+00	9.849E-02	1.119E+05	82
83	126	39	84800.0	34730.0	-176.0	124.0	125.0	124.0	SWMP	0.000E+00	4.804E+04	0.000E+00	4.310E+04	2.008E+05	83
84	102	135	85000.0	34475.0	-148.0	152.0	110.0	152.0	SWMP	0.000E+00	8.331E+04	0.000E+00	0.000E+00	3.266E+04	84
85	87	38	84775.0	34200.0	-170.0	130.0	132.0	130.0	SWMP	0.000E+00	2.523E+04	0.000E+00	0.000E+00	1.232E+04	85
86	103	37	85075.0	34150.0	-130.0	170.0	112.0	127.7	swmp	0.000E+00	5.531E+04	0.000E+00	0.000E+00	0.000E+00	86
87	105	36	84900.0	33950.0	-220.0	80.0	105.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	7.722E+04	1.799E+05	87
88	41	35	84625.0	34000.0	-205.0	95.0	105.0	92.7	swmp	0.000E+00	3.078E+04	0.000E+00	3.607E-01	1.312E-01	88
89	41	34	84425.0	33950.0	-207.0	93.0	110.0	93.0	SWMP	0.000E+00	8.242E+03	0.000E+00	6.970E-01	4.659E+04	89
90	42	33	83825.0	33575.0	-196.0	104.0	126.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.854E+05	90
91	9	32	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	31	83750.0	32820.0	-150.0	150.0	150.0	139.1	swmp	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	30	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.960E+05	7.062E+05	93
94	93	106	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	1.902E+05	94
95	46	56	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.857E+05	95
96	26	55	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.566E+05	96
97	39	69	83575.0	35100.0	-76.0	224.0	210.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	50	84000.0	35575.0	-122.0	178.0	174.0	178.0	SWMP	0.000E+00	2.656E+05	0.000E+00	0.000E+00	1.856E+05	98
99	36	48	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.886E+05	99
100	33	49	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.882E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	47	85390.0	34760.0	-189.0	111.0	105.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	5.062E+05	6.841E+05	101
102	31	54	85400.0	34300.0	-209.0	91.0	85.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	3.117E+04	1.572E+05	102
103	105	44	85175.0	34000.0	-214.0	86.0	90.0	86.0	SWMP	0.000E+00	5.563E+04	0.000E+00	-8.633E+05	6.380E+04	103
104	40	43	84875.0	33800.0	-233.0	67.0	77.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	5.877E+04	104
105	106	42	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	1.970E+05	3.560E+05	105
106	8	41	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.761E+06	6.944E+06	106
107	7	40	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.223E+05	107
108	6	22	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.378E+05	0.000E+00	0.000E+00	5.595E+05	108
109	3	19	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.813E+06	109
110	3	17	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	18	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	8.906E+05	0.000E+00	6.888E+05	1.624E+06	111
112	111	16	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	5.388E+05	112
113	2	15	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.155E+06	113
114	115	29	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.895E+06	114
115	1	28	87800.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.895E+06	3.398E+06	115
116	23	27	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	26	85450.0	36350.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.698E+05	117
118	29	25	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	4.400E+04	118
119	13	24	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.489E+06	119
120	94	23	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	1.169E+02	120
121	27	21	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.379E+05	121
122	12	20	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.179E+06	122
123	125	14	84680.0	35080.0	-167.0	133.0	135.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	8.372E+04	1.488E+05	123
124	125	13	85090.0	35160.0	-178.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.385E+04	124
125	101	12	85230.0	34870.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.945E+05	2.734E+05	125
126	101	11	84810.0	34780.0	-171.0	129.0	124.0	129.0	SWMP	0.000E+00	4.589E+04	0.000E+00	1.866E+05	2.068E+05	126
127	36	10	85180.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	9	85350.0	34840.0	-185.0	115.0	110.0	115.0	SWMP	0.000E+00	2.763E+04	0.000E+00	4.841E+04	6.841E+04	128
129	128	8	85420.0	35020.0	-182.0	118.0	115.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	7	85330.0	35200.0	-177.0	123.0	110.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.368E+04	130
131	132	6	85500.0	35230.0	-174.0	126.0	118.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.895E+04	2.318E+04	131
132	133	5	85580.0	35060.0	-185.0	115.0	110.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	4	85740.0	34990.0	-195.0	105.0	100.0	105.0	SWMP	0.000E+00	1.028E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	3	85540.0	35280.0	-173.0	127.0	110.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.895E+04	134
135	38	2	84050.0	35050.0	-145.0	155.0	150.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.411E+05	3.590E+05	135
136	39	1	84060.0	34865.0	-115.0	185.0	185.0	183.5	swmp	0.000E+00	5.463E+03	0.000E+00	2.400E+00	1.547E-01	136

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	4.0066E+07	2	0	0.0000E+00	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

-----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	118	15	29	16	16	27	17	26	26	98	26	18	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	22	116	116	22	22	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	8	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	35	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	84	101	102	101	33	32	107	108	100	33	100	35	35	36	34	25	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	86	84	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	25	99	98	38	82	127	37	127	83	83	83	83	61	60	70	76	76	77	71	71	72	62	63	85	85	85	65	64	64	64	Node1
Node2	98	98	38	82	127	36	36	134	34	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	87	65	85	85	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	84	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	78	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	78	78	79	79	79	66	65	88	88	40	40	40	91	91	41	89	89	89	89	89	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	88	88	104	40	105	9	91	40	41	89	43	55	66	88	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	80	79	78	64	65	65	87	87	104	104	105	9	41	42	42	42	43	55	66	88	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	5	4	4	4	5	5	5	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	2	Soil

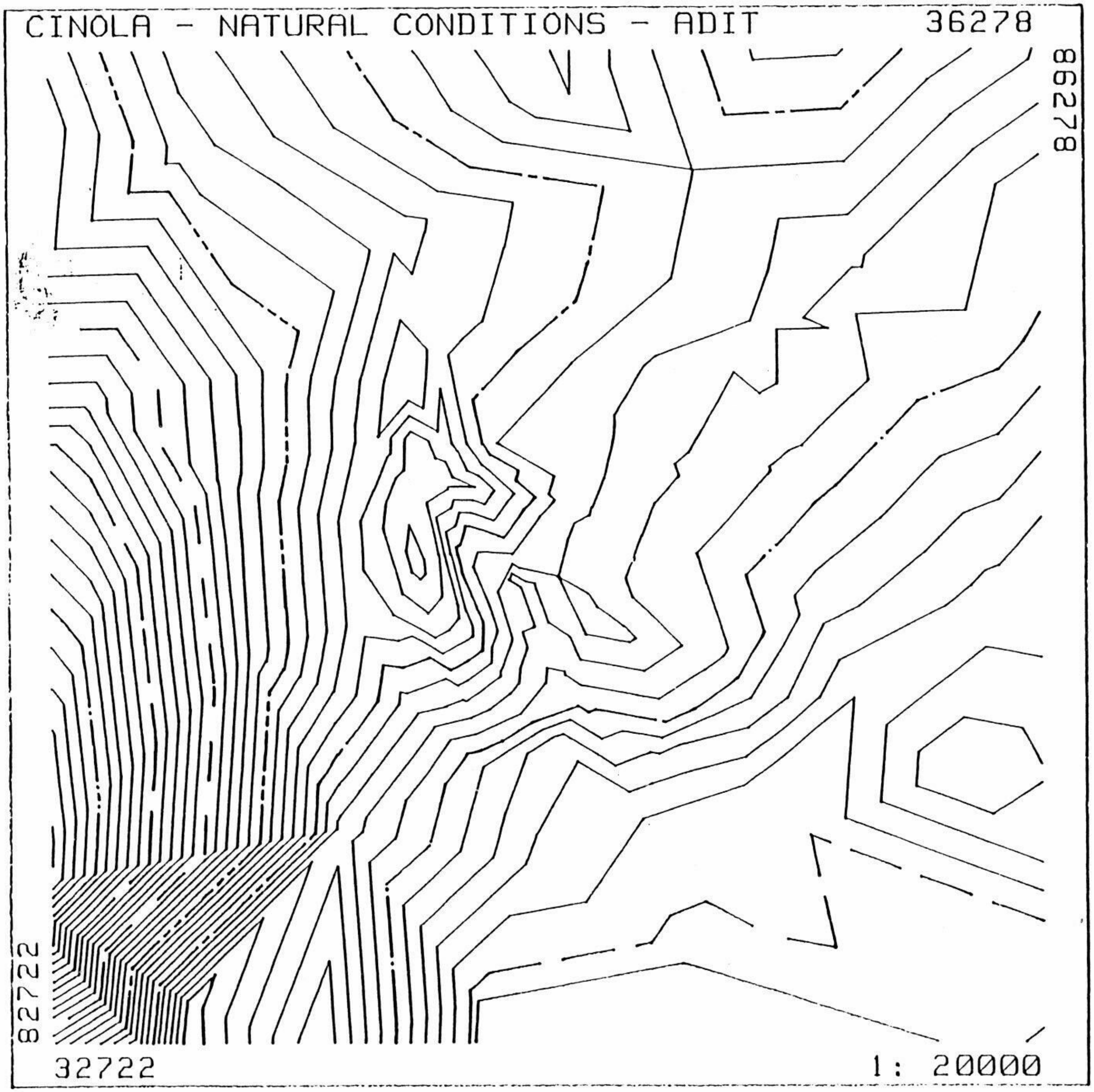
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	69	70	60	82	38	39	135	136	39	57	52	52	52	Node2
Node3	50	44	51	51	51	57	68	74	68	75	81	76	75	69	69	57	58	59	59	59	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	5	5	5	5	4	4	4	4	4	5	5	5	5	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	1	2	2	2	2	5	5	Soil

ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	98	97	53	39	45	44	51	44	43	40	43	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	88	49	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

----------ELEMENT DATA-----------

ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125	125	124	82	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	12	92	119	122	94	119	25	69	10	93	83	83	83	101	101	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

ELEM	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	129	128	133	36	135	59	98	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	132	101	32	134	136	136	135	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	131	133	100	100	39	58	38	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	3	3	3	3	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	7	3	3	3	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil

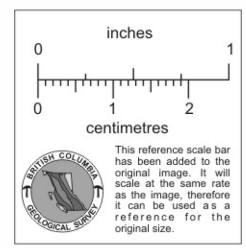


Legend:

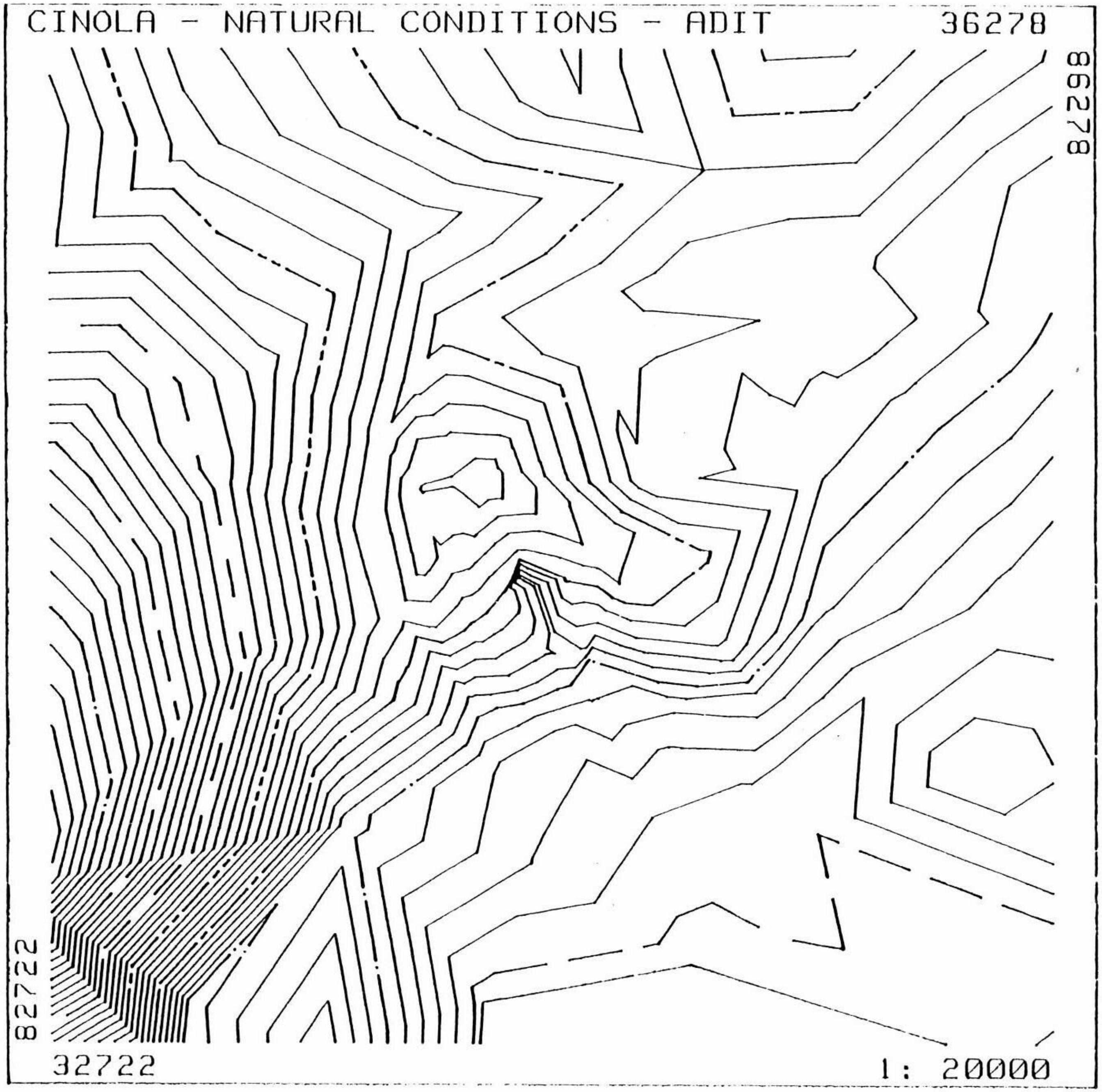
- — — 50
- —·— 100
- —··— 150
- —···— 200
- — — 250

(meters)

Interval:
10 meters



HEADS
INITIAL



Legend:

-- 50

—.— 100

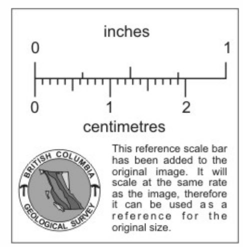
—..— 150

—...— 200

— — 250

(meters)

Interval:
10 meters



HEADS
CURRENT

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................138
Number of elements.................252
Number of materials................5
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	2.00E+00	1.00E-06	.0500	7.50E-01
4	1.50E+00	1.00E-06	.0500	7.50E-01
5	3.00E-01	1.00E-06	.0200	7.50E-01
6				7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	134	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.708E+07	2.748E+07	1
2	1	131	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.186E+07	2.295E+07	2
3	2	132	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.947E+07	2.071E+07	3
4	3	133	89850.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.581E+07	1.656E+07	4
5	4	130	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.513E+07	1.581E+07	5
6	5	129	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.169E+05	0.000E+00	1.449E+07	1.513E+07	6
7	6	128	86850.0	32950.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.342E+07	1.332E+07	7
8	7	127	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.295E+07	1.310E+07	8
9	8	124	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	6.032E+06	6.132E+06	9
10	9	121	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	4.906E+06	10
11	10	120	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.648E+06	11
12	11	94	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.518E+06	12
13	12	93	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	2.664E+06	13
14	13	122	80500.0	30600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.656E+05	0.000E+00	0.000E+00	9.150E+05	14
15	29	119	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.819E+05	0.000E+00	0.000E+00	4.799E+05	15
16	27	118	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	6.400E+05	0.000E+00	0.000E+00	5.600E+05	16
17	18	117	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.162E+05	17
18	24	114	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.085E+06	18
19	23	115	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.940E+05	19
20	-1	116	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.254E+07	20
21	20	113	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.212E+07	21
22	1	112	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.831E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	111	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.176E+07	23
24	23	110	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.412E+06	24
25	24	109	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.487E+05	0.000E+00	5.215E+06	6.065E+06	25
26	25	108	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.215E+06	26
27	26	107	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.286E+06	4.105E+06	27
28	27	104	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.452E+06	28
29	28	100	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.700E+06	29
30	106	99	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	6.134E+06	6.426E+06	30
31	30	98	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.972E+06	6.134E+06	31
32	31	97	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.396E+05	0.000E+00	5.439E+06	5.817E+06	32
33	32	96	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.690E+06	3.045E+06	33
34	33	95	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	2.030E+06	2.522E+06	34
35	34	46	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.836E+06	2.030E+06	35
36	35	53	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.601E+06	1.836E+06	36
37	36	45	84925.0	35400.0	-175.0	125.0	125.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.203E+06	1.395E+06	37
38	37	92	84150.0	35225.0	-155.0	145.0	145.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	6.374E+05	1.203E+06	38
39	133	91	83950.0	34875.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.437E+05	7.400E+05	39
40	9	90	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	1.028E+06	1.113E+06	40
41	40	86	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	7.815E+05	9.705E+05	41
42	41	103	84300.0	33775.0	-219.0	81.0	81.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.665E+05	7.777E+05	42
43	42	85	84250.0	33975.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.312E+05	3.975E+05	43
44	43	84	84000.0	34275.0	-136.0	164.0	164.0	164.0	SWMP	0.000E+00	2.867E+04	0.000E+00	2.567E+05	2.397E+05	44
45	39	102	83925.0	34600.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.682E+05	4.967E+05	45
46	53	78	83425.0	34725.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.841E+05	3.395E+05	46
47	54	77	83525.0	34150.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.799E+05	47
48	49	71	83800.0	34025.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	3.288E+04	0.000E+00	0.000E+00	7.114E+04	48
49	43	61	84050.0	33975.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.355E+04	0.000E+00	7.114E+04	9.151E+04	49
50	43	76	84125.0	34225.0	-141.0	159.0	159.0	155.2	swmp	0.000E+00	7.070E+03	0.000E+00	0.000E+00	2.113E-02	50

----------NODE AND FLOW DATA----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	70	84075.0	34450.0	-115.0	185.0	185.0	178.6	swmp	0.000E+00	1.251E+04	0.000E+00	4.276E+00	8.306E-02	51
52	39	60	84025.0	34700.0	-115.0	185.0	185.0	171.9	swmp	0.000E+00	7.375E+03	0.000E+00	1.777E+00	5.300E-02	52
53	45	82	83850.0	34575.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.395E+05	4.682E+05	53
54	44	123	83875.0	34250.0	-124.0	176.0	176.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.567E+05	54
55	39	125	84375.0	34050.0	-171.0	129.0	129.0	105.2	swmp	0.000E+00	9.391E+03	0.000E+00	0.000E+00	5.639E-01	55
56	43	75	84250.0	34225.0	-120.0	180.0	180.0	126.1	swmp	0.000E+00	6.867E+03	0.000E+00	0.000E+00	3.224E+00	56
57	51	81	84150.0	34475.0	-96.0	204.0	204.0	147.2	swmp	0.000E+00	5.109E+03	0.000E+00	8.945E+00	4.276E+00	57
58	52	133	84075.0	34700.0	-94.0	206.0	206.0	160.0	swmp	0.000E+00	9.772E+03	0.000E+00	0.000E+00	1.777E+00	58
59	135	137	84175.0	34850.0	-98.0	202.0	202.0	162.7	swmp	0.000E+00	2.358E+04	0.000E+00	0.000E+00	1.029E+00	59
60	82	74	84350.0	34850.0	-117.0	183.0	183.0	179.7	swmp	0.000E+00	4.378E+04	0.000E+00	1.560E-01	9.574E-02	60
61	83	80	84600.0	34725.0	-146.0	154.0	154.0	154.0	SWMP	0.000E+00	3.353E+04	0.000E+00	4.373E-02	3.650E+04	61
62	33	79	84700.0	34575.0	-135.0	165.0	165.0	161.7	swmp	0.000E+00	2.306E+04	0.000E+00	0.000E+00	1.194E-02	62
63	64	73	84725.0	34375.0	-130.0	170.0	170.0	159.2	swmp	0.000E+00	3.164E+04	0.000E+00	0.000E+00	7.303E-03	63
64	65	66	84650.0	34250.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.220E+04	0.000E+00	4.494E-02	1.869E+04	64
65	87	68	84625.0	34125.0	-200.0	100.0	100.0	100.0	SWMP	0.000E+00	1.425E+04	0.000E+00	1.869E+04	7.192E+04	65
66	88	72	84550.0	34050.0	-195.0	105.0	105.0	93.0	swmp	0.000E+00	9.109E+03	0.000E+00	7.463E-01	2.848E-01	66
67	43	69	84300.0	34250.0	-110.0	190.0	190.0	125.7	swmp	0.000E+00	1.172E+04	0.000E+00	0.000E+00	5.232E+00	67
68	57	136	84225.0	34475.0	-83.0	217.0	217.0	145.3	swmp	0.000E+00	1.453E+04	0.000E+00	0.000E+00	8.945E+00	68
69	136	68	84175.0	34725.0	-85.0	215.0	215.0	150.2	swmp	0.000E+00	1.102E+04	0.000E+00	0.000E+00	2.292E+00	69
70	60	57	84300.0	34775.0	-96.0	204.0	204.0	180.2	swmp	0.000E+00	1.367E+04	0.000E+00	1.922E-01	1.560E-01	70
71	61	51	84575.0	34650.0	-130.0	170.0	170.0	166.3	swmp	0.000E+00	1.411E+04	0.000E+00	9.016E-02	4.373E-02	71
72	64	67	84650.0	34475.0	-125.0	175.0	175.0	166.0	swmp	0.000E+00	1.391E+04	0.000E+00	0.000E+00	1.783E-02	72
73	66	63	84475.0	34150.0	-145.0	155.0	155.0	108.4	swmp	0.000E+00	1.239E+04	0.000E+00	0.000E+00	7.463E-01	73
74	80	64	84350.0	34350.0	-90.0	210.0	210.0	131.0	swmp	0.000E+00	1.443E+04	0.000E+00	0.000E+00	2.459E+00	74
75	81	65	84250.0	34550.0	-85.0	215.0	215.0	149.5	swmp	0.000E+00	1.063E+04	0.000E+00	0.000E+00	5.049E+00	75
76	70	87	84275.0	34700.0	-88.0	212.0	212.0	175.4	swmp	0.000E+00	1.588E+04	0.000E+00	0.000E+00	1.922E-01	76
77	71	105	84490.0	34600.0	-115.0	185.0	185.0	169.5	swmp	0.000E+00	1.547E+04	0.000E+00	0.000E+00	9.016E-02	77
78	64	62	84550.0	34400.0	-135.0	165.0	165.0	150.4	swmp	0.000E+00	1.778E+04	0.000E+00	0.000E+00	1.981E-02	78
79	-2	83	84600.0	34140.0	-175.0	117.0	117.0	117.0	SWMP	0.000E+00	7.969E+03	0.000E+00	7.731E+04	4.927E+04	79
80	79	126	84510.0	34200.0	-140.0	117.0	117.0	117.0	SWMP	0.000E+00	9.656E+03	0.000E+00	6.966E+04	7.731E+04	80
81	138	101	84400.0	34475.0	-105.0	195.0	195.0	147.5	swmp	0.000E+00	1.597E+04	0.000E+00	5.049E+00	1.417E-01	81
82	123	59	84600.0	35120.0	-162.0	138.0	138.0	138.0	SWMP	0.000E+00	8.674E+04	0.000E+00	9.574E-02	8.302E+04	82
83	126	58	84800.0	34730.0	-176.0	124.0	124.0	124.0	SWMP	0.000E+00	4.804E+04	0.000E+00	3.650E+04	1.782E+05	83
84	102	52	85000.0	34475.0	-148.0	152.0	152.0	152.0	SWMP	0.000E+00	8.331E+04	0.000E+00	0.000E+00	2.976E+04	84
85	37	39	84775.0	34200.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	2.523E+04	0.000E+00	0.000E+00	1.054E+04	85
86	103	135	85075.0	34150.0	-130.0	170.0	170.0	126.7	swmp	0.000E+00	5.531E+04	0.000E+00	0.000E+00	-3.128E-04	86
87	105	38	84900.0	33950.0	-220.0	80.0	80.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	8.246E+04	1.375E+05	87
88	41	37	84625.0	34000.0	-205.0	95.0	95.0	82.3	swmp	0.000E+00	3.078E+04	0.000E+00	2.848E-01	1.263E-01	88
89	41	36	84425.0	33950.0	-207.0	93.0	93.0	93.0	SWMP	0.000E+00	8.242E+03	0.000E+00	5.639E-01	3.816E+03	89
90	42	35	83825.0	33575.0	-196.0	104.0	104.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.690E+05	90
91	9	34	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	33	83750.0	32820.0	-150.0	150.0	150.0	138.2	swmp	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	32	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.960E+05	9.624E+05	93
94	93	31	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	4.960E+05	94
95	46	30	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.341E+05	95
96	26	106	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.523E+05	96
97	39	56	83575.0	35100.0	-76.0	224.0	224.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	55	84000.0	35575.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	2.658E+05	0.000E+00	0.000E+00	7.960E+04	98
99	36	39	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.286E+05	99
100	33	50	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.882E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	.INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	48	85390.0	34760.0	-189.0	111.0	111.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	4.971E+05	6.326E+05	101
102	31	49	85400.0	34300.0	-209.0	91.0	91.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	2.976E+04	1.547E+05	102
103	105	47	85175.0	34000.0	-214.0	86.0	86.0	86.0	SWMP	0.000E+00	5.563E+04	0.000E+00	-3.128E-04	6.471E+04	103
104	40	54	84875.0	33800.0	-233.0	67.0	67.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	5.774E+04	104
105	106	44	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	2.022E+05	3.145E+05	105
106	8	43	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.740E+06	6.813E+06	106
107	7	42	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.225E+05	107
108	6	41	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.878E+05	0.000E+00	0.000E+00	6.695E+05	108
109	3	40	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.813E+06	109
110	3	22	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	19	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	8.906E+05	0.000E+00	6.888E+05	1.624E+06	111
112	111	17	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	6.888E+05	112
113	2	18	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.155E+06	113
114	115	16	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.895E+06	114
115	1	15	87800.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.895E+06	3.398E+06	115
116	23	29	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	28	85450.0	36550.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.698E+05	117
118	29	27	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	5.333E+05	118
119	13	26	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.248E+06	119
120	94	25	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	2.597E+05	120
121	27	24	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.739E+05	121
122	12	23	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.412E+06	122
123	125	21	84680.0	35080.0	-167.0	133.0	133.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	8.302E+04	1.199E+05	123
124	125	20	85090.0	35160.0	-178.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.385E+04	124
125	101	14	85230.0	34870.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.938E+05	2.445E+05	125
126	101	13	84810.0	34780.0	-171.0	129.0	129.0	129.0	SWMP	0.000E+00	4.589E+04	0.000E+00	1.782E+05	1.842E+05	126
127	36	12	85180.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	11	85350.0	34840.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	2.963E+04	0.000E+00	4.841E+04	6.841E+04	128
129	128	10	85420.0	35020.0	-182.0	118.0	118.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	9	85350.0	35200.0	-177.0	123.0	123.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.868E+04	130
131	132	8	85500.0	35230.0	-174.0	126.0	126.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.395E+04	2.318E+04	131
132	133	7	85580.0	35060.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	6	85740.0	34990.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.028E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	5	85540.0	35280.0	-173.0	127.0	127.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.395E+04	134
135	38	4	84050.0	35050.0	-145.0	155.0	155.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.400E+05	6.078E+05	135
136	39	3	84060.0	34865.0	-115.0	185.0	185.0	161.2	swmp	0.000E+00	5.463E+03	0.000E+00	2.292E+00	8.550E-01	136
137	80	2	84450.0	34370.0	-110.0	117.0	117.0	117.0	SWMP	0.000E+00	7.094E+03	0.000E+00	3.479E+04	6.966E+04	137
138	137	1	84400.0	34400.0	-105.0	117.0	117.0	117.0	SWMP	0.000E+00	1.438E+03	0.000E+00	1.417E-01	3.479E+04	138

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	4.0016E+07	2	1	4.9266E+04	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	118	15	29	16	16	27	17	26	26	98	26	18	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	22	116	116	22	22	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	8	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	35	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	34	101	102	101	33	32	107	108	100	33	100	35	35	36	34	25	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	36	34	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	25	99	98	38	82	127	37	127	83	83	83	83	61	60	70	76	76	77	71	71	72	62	63	85	85	35	65	64	64	64	Node1
Node2	98	98	38	82	127	36	36	134	84	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	87	65	65	65	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	84	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	78	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	73	78	79	79	79	66	65	88	88	40	40	40	91	91	41	89	89	89	89	89	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	88	88	104	40	105	9	91	40	41	39	43	55	66	88	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	137	79	78	64	65	65	87	87	104	104	105	9	41	42	42	42	43	55	66	88	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	5	4	4	4	5	5	5	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	2	Soil

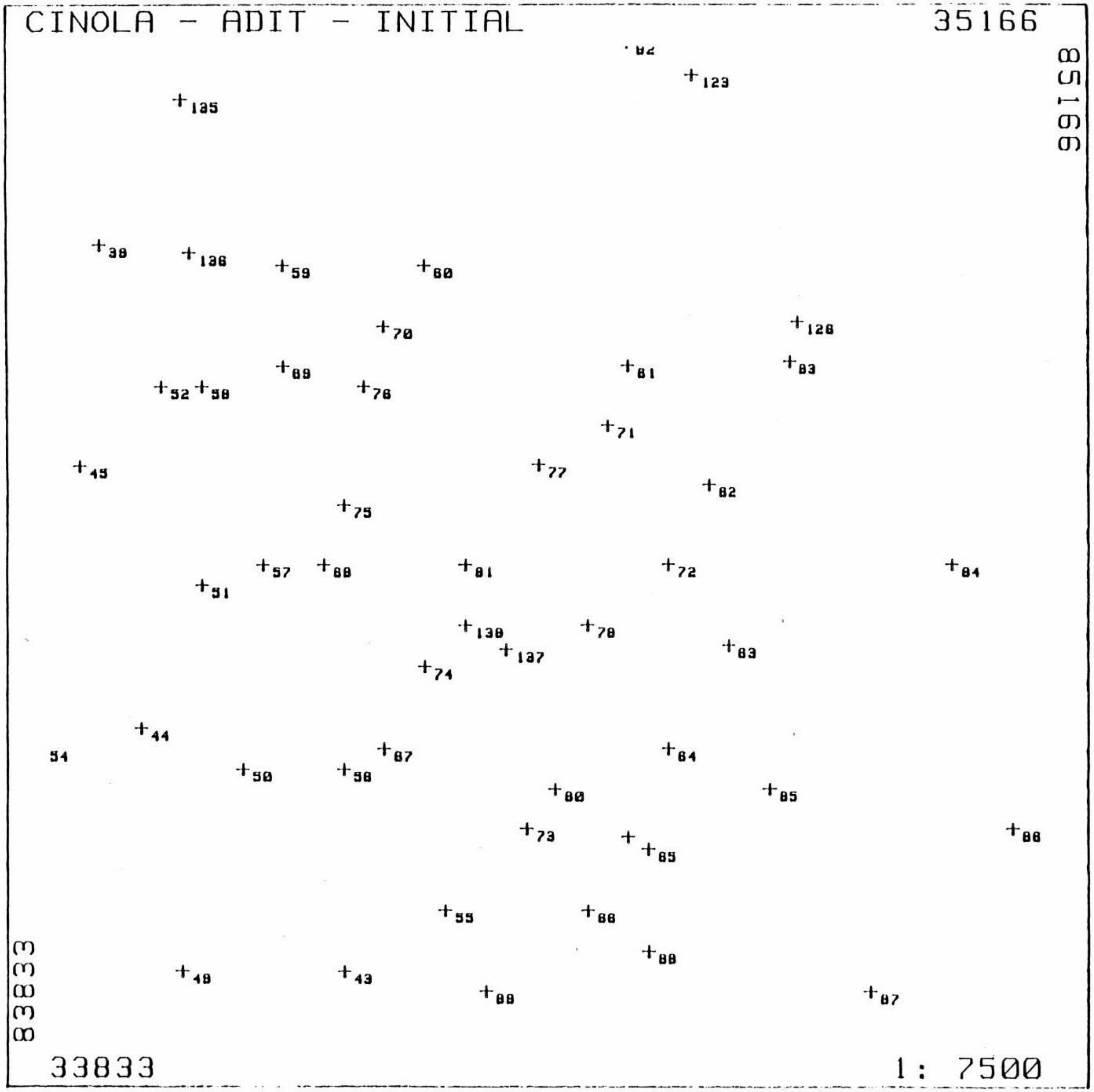
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	69	70	60	82	38	39	135	136	39	57	52	52	52	Node2
Node3	50	44	51	51	51	57	68	74	68	75	137	76	75	69	69	57	58	59	59	59	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	5	5	5	5	4	4	4	4	4	5	5	5	5	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	1	2	2	2	2	5	5	Soil

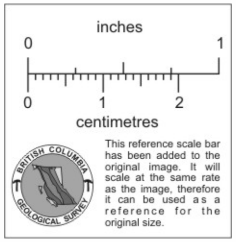
ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	98	97	53	39	45	44	51	44	43	40	43	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	88	49	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

----------ELEMENT DATA-----------

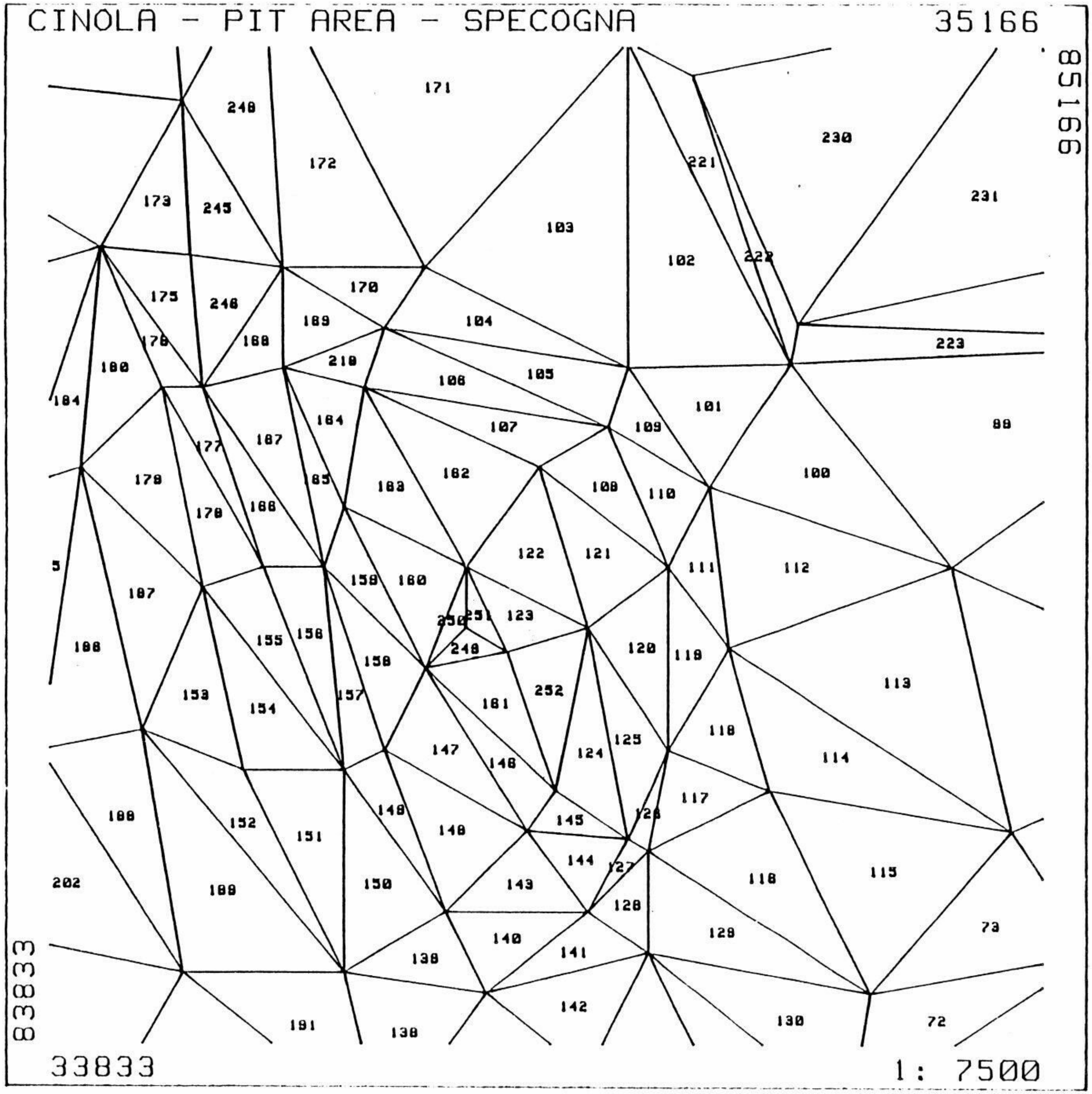
ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125	125	124	82	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	12	92	119	122	94	119	25	69	10	93	83	83	83	101	101	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

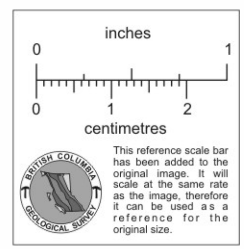
ELEM	241	242	243	244	245	246	247	248	249	250	251	252	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	129	128	133	36	135	59	98	38	74	81	81	78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	132	101	32	134	136	136	135	135	137	74	138	137	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	131	133	100	100	59	58	38	59	138	138	137	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	3	3	3	3	5	5	5	5	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	7	3	3	3	4	4	4	4	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil



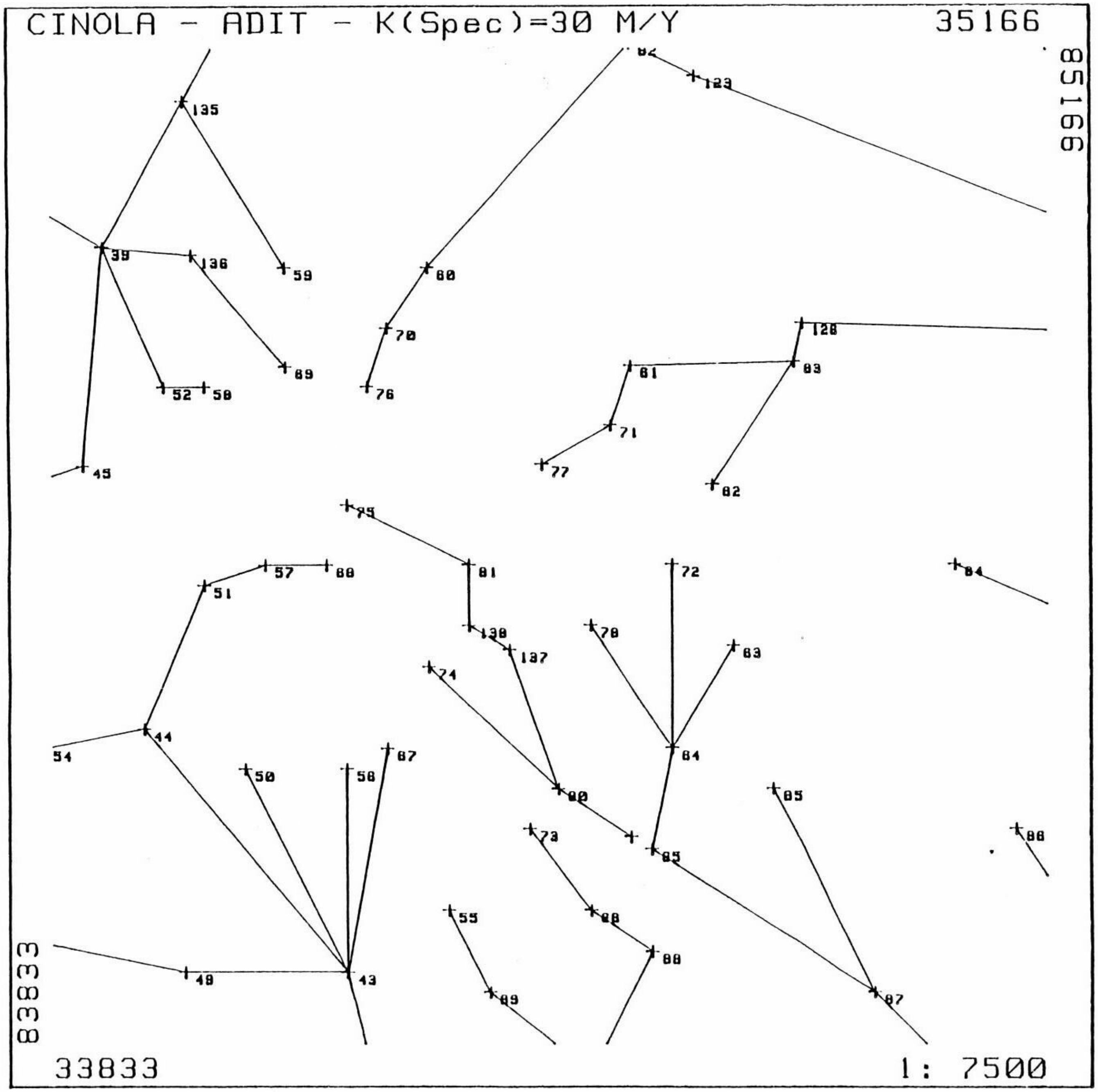


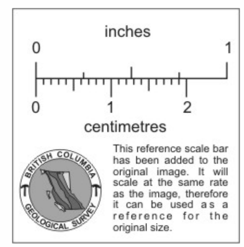
NODES NUMBERS



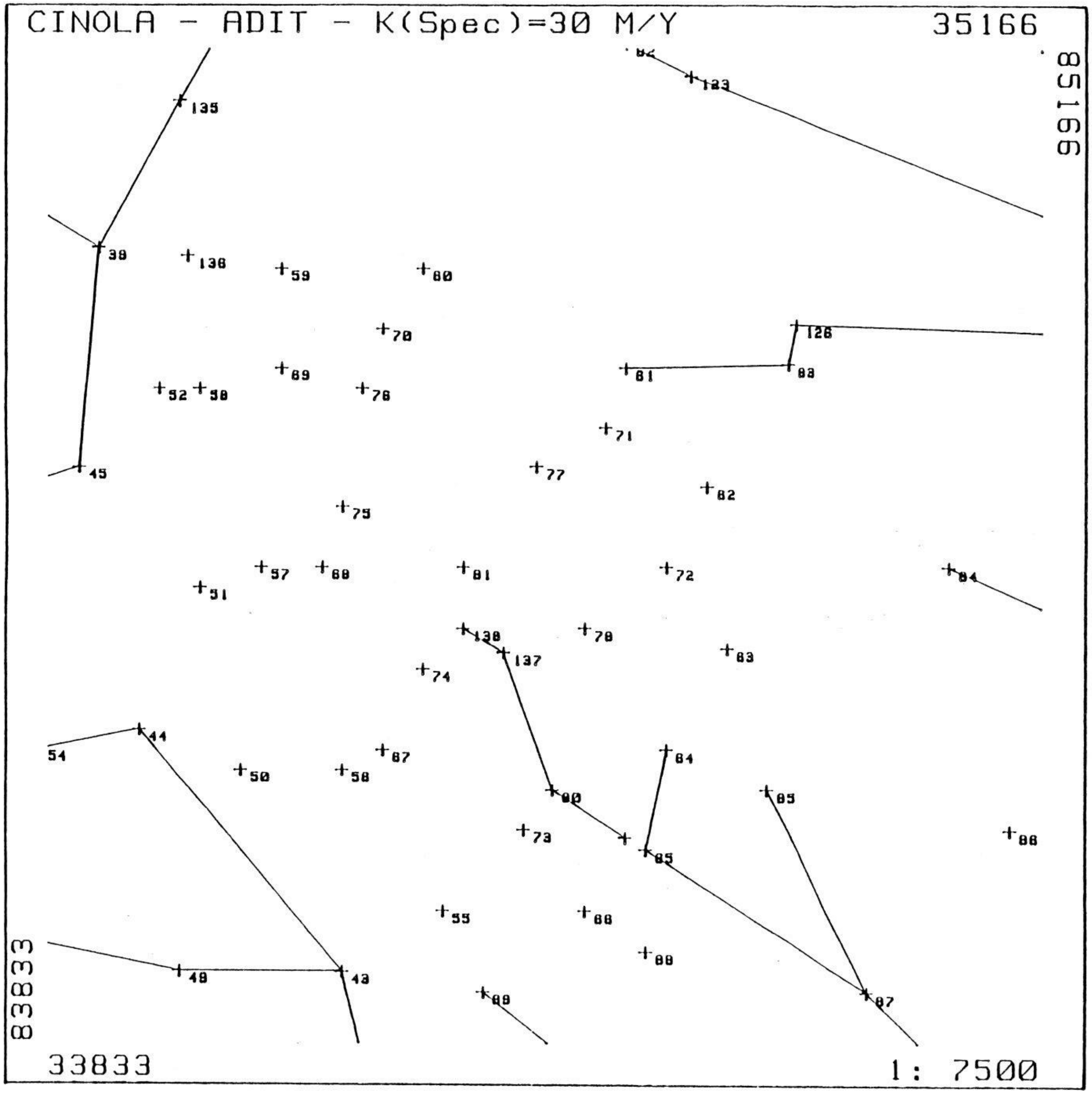


ELEMENTS
NUMBERS





STREAMS
NUMBERS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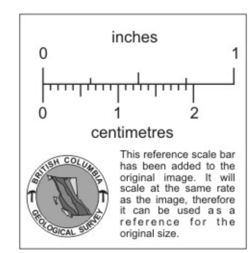
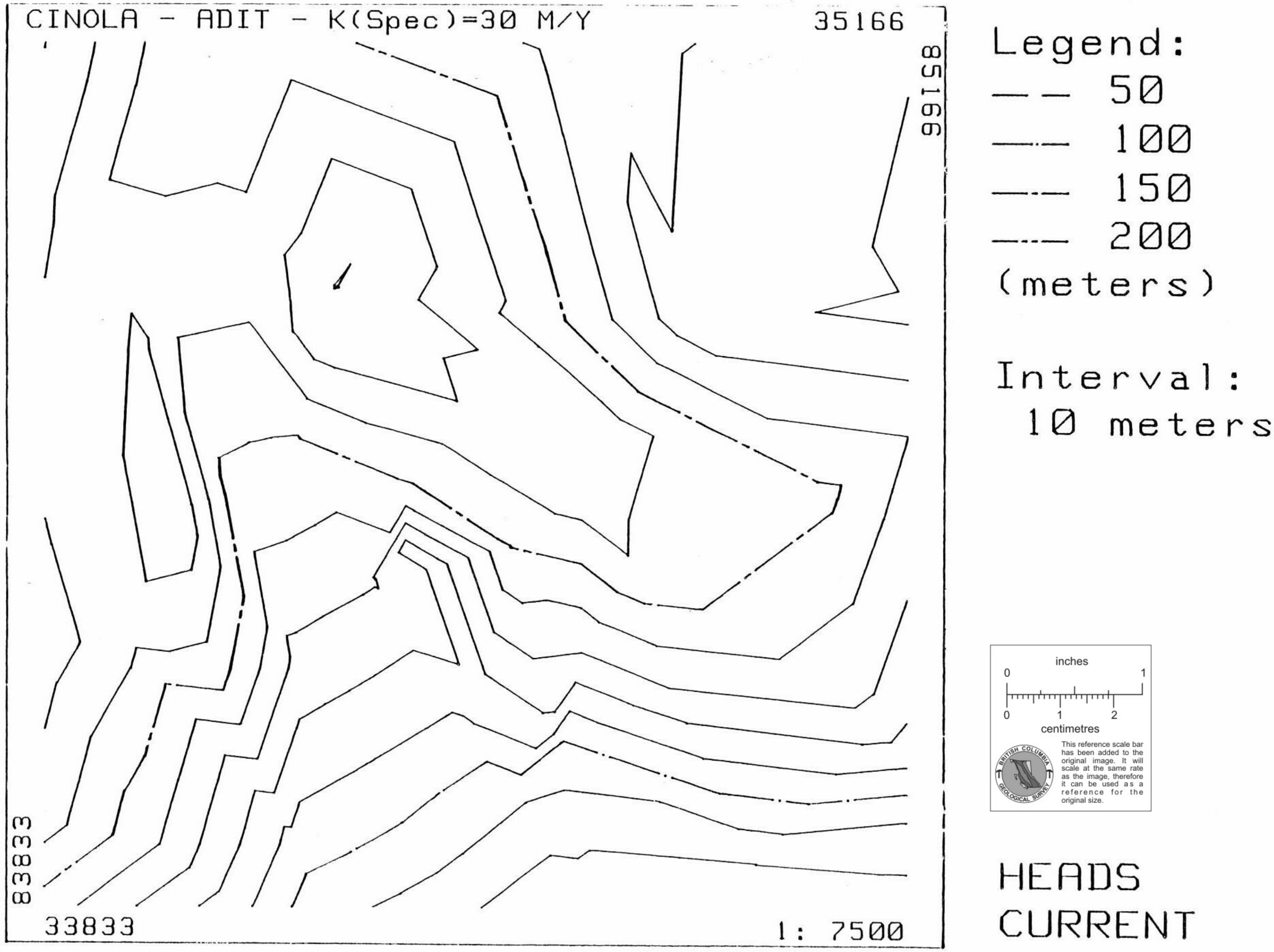
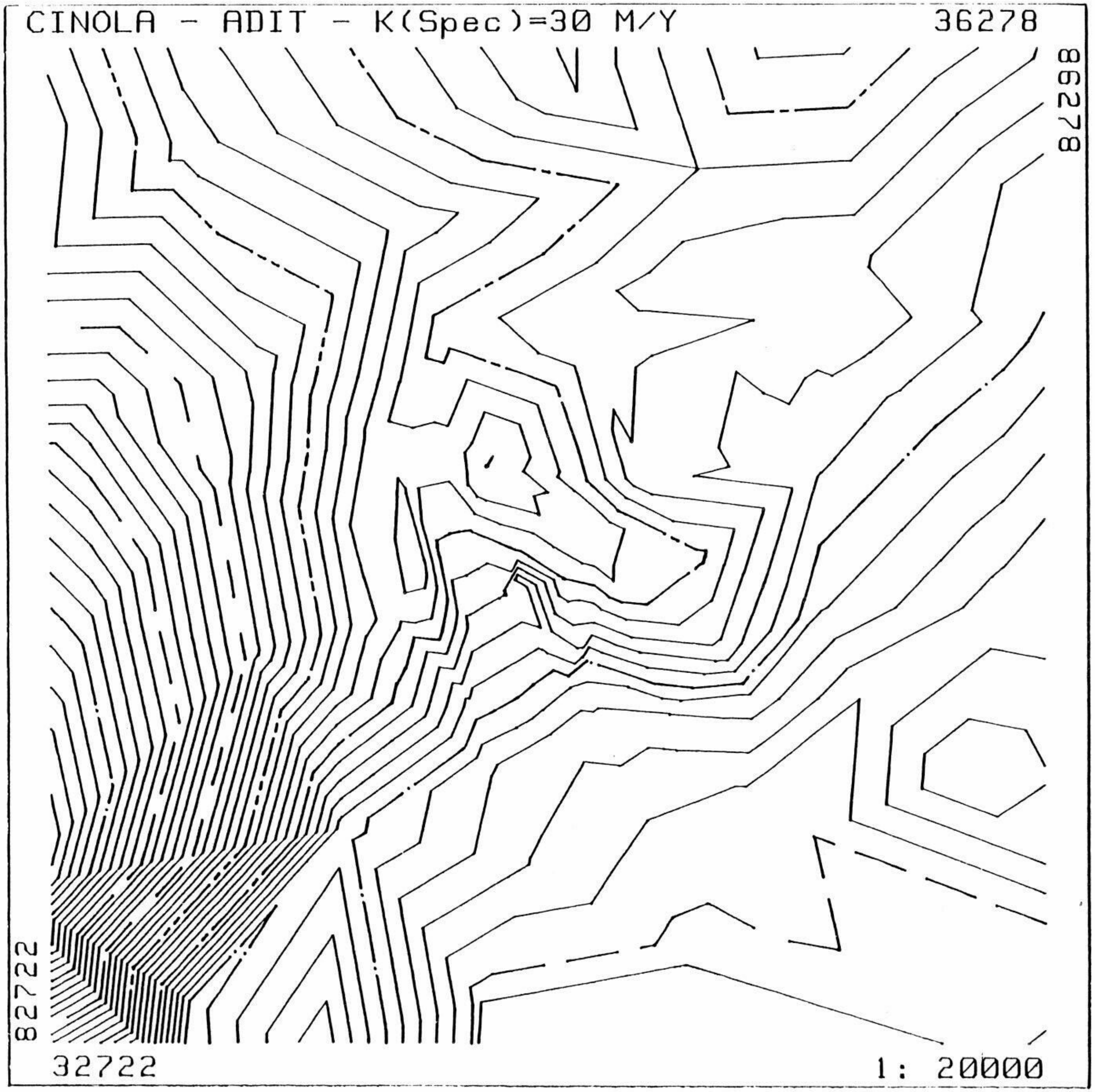
85166
83833
33833
1: 7500

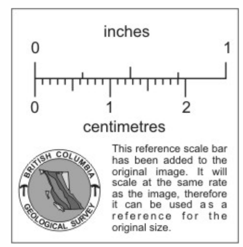

inches
0
1
0
1
2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.


CINOLA - ADIT - K(Spec)=30 M/Y
35166
85166
83833
33833
1: 7500
Legend:
50
100
150
200
(meters)
Interval:
10 meters
HEADS
CURRENT
inches
0
1
0
1
2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY



Legend:
— — 50
—·— 100
—··— 150
—···— 200
— — 250
(meters)

Interval:
10 meters



HEADS
CURRENT

EXHIBIT. B

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................136
Number of elements.................248
Number of materials................5
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	3.00E+00	1.00E-06	.0500	7.50E-01
4	1.50E+00	1.00E-06	.0500	7.50E-01
5	3.00E+01	1.00E-06	.0200	7.50E-01
6				7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	138	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.702E+07	2.753E+07	1
2	1	137	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.180E+07	2.299E+07	2
3	2	134	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.940E+07	2.075E+07	3
4	3	131	89850.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.575E+07	1.661E+07	4
5	4	132	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.506E+07	1.586E+07	5
6	5	133	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.169E+05	0.000E+00	1.443E+07	1.518E+07	6
7	6	130	86850.0	32850.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.333E+07	1.387E+07	7
8	7	129	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.288E+07	1.314E+07	8
9	8	128	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	5.394E+06	6.161E+06	9
10	9	127	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	4.706E+06	10
11	10	124	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.648E+06	11
12	11	121	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.519E+06	12
13	12	120	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	2.664E+06	13
14	13	94	80500.0	30800.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.656E+05	0.000E+00	0.000E+00	9.150E+05	14
15	29	93	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.319E+05	0.000E+00	0.000E+00	4.799E+05	15
16	17	122	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	6.400E+05	0.000E+00	0.000E+00	5.600E+05	16
17	16	119	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.162E+05	17
18	24	118	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.085E+06	18
19	23	117	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.940E+05	19
20	-1	114	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.254E+07	20
21	20	115	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.212E+07	21
22	1	116	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.831E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	113	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.176E+07	23
24	23	112	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.412E+06	24
25	24	111	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.487E+05	0.000E+00	5.215E+06	6.065E+06	25
26	25	110	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.215E+06	26
27	26	109	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.286E+06	4.105E+06	27
28	27	108	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.452E+06	28
29	28	107	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.700E+06	29
30	106	104	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	6.123E+06	6.451E+06	30
31	30	100	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.961E+06	6.159E+06	31
32	31	99	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.376E+05	0.000E+00	5.434E+06	5.841E+06	32
33	32	98	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.692E+06	3.060E+06	33
34	33	97	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	2.032E+06	2.537E+06	34
35	34	96	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.838E+06	2.045E+06	35
36	35	95	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.603E+06	1.851E+06	36
37	36	46	84925.0	35400.0	-175.0	125.0	125.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.205E+06	1.410E+06	37
38	37	53	84150.0	35225.0	-155.0	145.0	145.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	1.044E+06	1.218E+06	38
39	105	45	83950.0	34875.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.486E+05	7.411E+05	39
40	9	92	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	9.287E+05	1.142E+06	40
41	40	91	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	8.238E+05	9.988E+05	41
42	41	90	84300.0	33775.0	-219.0	81.0	81.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.727E+05	7.794E+05	42
43	42	86	84250.0	33975.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.858E+05	3.991E+05	43
44	43	103	84000.0	34275.0	-136.0	164.0	164.0	164.0	SWMP	0.000E+00	2.867E+04	0.000E+00	2.592E+05	2.907E+05	44
45	39	85	83925.0	34600.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.682E+05	4.974E+05	45
46	53	84	83425.0	34725.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.841E+05	3.395E+05	46
47	54	102	83525.0	34150.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.799E+05	47
48	49	77	83800.0	34025.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	3.268E+04	0.000E+00	0.000E+00	7.114E+04	48
49	43	71	84050.0	33975.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.335E+04	0.000E+00	7.114E+04	9.151E+04	49
50	43	61	84125.0	34225.0	-141.0	159.0	159.0	158.7	swmp	0.000E+00	7.070E+03	0.000E+00	0.000E+00	2.451E+02	50

----------NODE AND FLOW DATA-----------

-NODE DATA- ###	LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	76	84075.0	34450.0	-115.0	185.0	185.0	182.3	swmp	0.000E+00	1.251E+04	0.000E+00	3.930E-01	8.559E-02	51
52	39	70	84025.0	34700.0	-115.0	185.0	185.0	174.4	swmp	0.000E+00	7.373E+03	0.000E+00	2.833E-01	5.674E-02	52
53	45	60	83850.0	34575.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.395E+05	4.682E+05	53
54	44	32	83875.0	34250.0	-124.0	176.0	176.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.567E+05	54
55	89	123	84375.0	34050.0	-171.0	129.0	126.3	107.9	swmp	0.000E+00	9.391E+03	0.000E+00	0.000E+00	7.173E-01	55
56	43	125	84250.0	34225.0	-120.0	180.0	172.0	132.3	swmp	0.000E+00	6.367E+03	0.000E+00	0.000E+00	3.385E+00	56
57	51	75	84150.0	34475.0	-96.0	204.0	193.3	153.3	swmp	0.000E+00	5.109E+03	0.000E+00	7.615E-01	4.744E+00	57
58	52	81	84075.0	34700.0	-94.0	206.0	199.2	163.3	swmp	0.000E+00	9.772E+03	0.000E+00	0.000E+00	1.919E+00	58
59	103	73	84175.0	34850.0	-98.0	202.0	187.3	164.6	swmp	0.000E+00	2.333E+04	0.000E+00	0.000E+00	1.099E+00	59
60	82	74	84350.0	34850.0	-117.0	183.0	183.0	161.4	swmp	0.000E+00	4.378E+04	0.000E+00	1.633E+00	1.014E-01	60
61	83	80	84600.0	34725.0	-146.0	154.0	154.0	154.0	SWMP	0.000E+00	3.353E+04	0.000E+00	2.399E-01	4.310E+04	61
62	83	79	84700.0	34575.0	-135.0	165.0	164.9	164.6	swmp	0.000E+00	2.306E+04	0.000E+00	0.000E+00	2.032E-03	62
63	64	73	84725.0	34375.0	-130.0	170.0	162.0	161.3	swmp	0.000E+00	3.164E+04	0.000E+00	0.000E+00	2.088E-03	63
64	65	66	84650.0	34250.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.220E+04	0.000E+00	3.234E-01	2.603E+04	64
65	87	88	84625.0	34125.0	-200.0	100.0	100.0	100.0	SWMP	0.000E+00	1.425E+04	0.000E+00	6.551E+03	6.515E+04	65
66	88	72	84550.0	34050.0	-195.0	105.0	105.0	93.9	swmp	0.000E+00	9.109E+03	0.000E+00	1.134E-02	3.712E-01	66
67	43	69	84300.0	34250.0	-110.0	190.0	171.3	132.5	swmp	0.000E+00	1.172E+04	0.000E+00	0.000E+00	6.307E+00	67
68	57	106	84225.0	34475.0	-83.0	217.0	198.2	152.1	swmp	0.000E+00	1.453E+04	0.000E+00	0.000E+00	9.978E+00	68
69	106	68	84175.0	34725.0	-85.0	215.0	200.0	164.0	swmp	0.000E+00	1.102E+04	0.000E+00	0.000E+00	2.470E+00	69
70	60	57	84300.0	34775.0	-96.0	204.0	198.8	183.3	swmp	0.000E+00	1.367E+04	0.000E+00	1.545E+00	1.652E-01	70
71	61	51	84575.0	34650.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	1.411E+04	0.000E+00	5.588E-01	5.583E+02	71
72	64	67	84650.0	34475.0	-125.0	175.0	173.4	172.6	swmp	0.000E+00	1.391E+04	0.000E+00	0.000E+00	5.607E-03	72
73	66	63	84475.0	34150.0	-145.0	155.0	136.6	112.1	swmp	0.000E+00	1.239E+04	0.000E+00	0.000E+00	9.683E-01	73
74	80	64	84350.0	34350.0	-90.0	210.0	182.5	139.4	swmp	0.000E+00	1.443E+04	0.000E+00	0.000E+00	2.754E+00	74
75	81	65	84250.0	34550.0	-85.0	215.0	200.3	155.9	swmp	0.000E+00	1.063E+04	0.000E+00	0.000E+00	5.562E+00	75
76	70	87	84275.0	34700.0	-88.0	212.0	205.7	179.9	swmp	0.000E+00	1.588E+04	0.000E+00	0.000E+00	2.065E-01	76
77	71	105	84490.0	34600.0	-115.0	185.0	185.0	177.9	swmp	0.000E+00	1.547E+04	0.000E+00	0.000E+00	9.190E-02	77
78	64	62	84550.0	34400.0	-135.0	165.0	165.0	165.0	SWMP	0.000E+00	1.778E+04	0.000E+00	3.357E-01	3.513E+03	78
79	65	83	84600.0	34175.0	-175.0	125.0	123.2	117.5	swmp	0.000E+00	7.969E+03	0.000E+00	2.220E+05	4.080E-02	79
80	79	126	84500.0	34225.0	-140.0	160.0	150.0	131.2	swmp	0.000E+00	9.656E+03	0.000E+00	1.369E+05	1.262E-01	80
81	78	101	84400.0	34475.0	-105.0	195.0	195.0	168.9	swmp	0.000E+00	1.597E+04	0.000E+00	9.531E-01	2.169E-01	81
82	123	59	84600.0	35120.0	-162.0	138.0	138.0	138.0	SWMP	0.000E+00	8.674E+04	0.000E+00	7.923E-01	8.372E+04	82
83	126	58	84800.0	34730.0	-176.0	124.0	124.0	124.0	SWMP	0.000E+00	4.304E+04	0.000E+00	3.521E+04	1.366E+05	83
84	102	52	85000.0	34475.0	-148.0	152.0	152.0	152.0	SWMP	0.000E+00	8.331E+04	0.000E+00	0.000E+00	3.117E+04	84
85	87	39	84775.0	34200.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	2.523E+04	0.000E+00	0.000E+00	1.207E+04	85
86	103	133	85075.0	34150.0	-130.0	170.0	127.7	126.6	swmp	0.000E+00	5.531E+04	0.000E+00	0.000E+00	-8.384E-05	86
87	105	38	84900.0	33950.0	-220.0	80.0	80.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	1.611E+05	1.327E+05	87
88	41	37	84625.0	34000.0	-205.0	95.0	92.7	82.7	swmp	0.000E+00	3.079E+04	0.000E+00	1.263E+04	1.642E-01	88
89	41	36	84425.0	33950.0	-207.0	93.0	93.0	93.0	SWMP	0.000E+00	3.242E+03	0.000E+00	6.484E+03	2.517E+04	89
90	42	35	83825.0	33575.0	-196.0	104.0	104.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.690E+05	90
91	9	34	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	33	83750.0	32820.0	-150.0	150.0	139.1	138.2	swmp	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	32	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.760E+05	9.624E+05	93
94	93	31	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	4.960E+05	94
95	46	30	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.341E+05	95
96	26	106	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.523E+05	96
97	39	56	83575.0	35100.0	-76.0	224.0	224.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	55	84000.0	35575.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	2.658E+05	0.000E+00	0.000E+00	7.960E+04	98
99	36	89	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.386E+05	99
100	33	50	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.382E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	48	85390.0	34760.0	-189.0	111.0	111.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	4.904E+05	6.417E+05	101
102	31	49	85400.0	34300.0	-209.0	91.0	91.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	2.335E+04	1.561E+05	102
103	105	47	85175.0	34000.0	-214.0	86.0	86.0	86.0	SWMP	0.000E+00	5.563E+04	0.000E+00	-1.155E-03	6.462E+04	103
104	40	54	84875.0	33800.0	-233.0	67.0	67.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	5.959E+04	104
105	106	44	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	2.860E+05	3.092E+05	105
106	8	43	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.313E+06	6.833E+06	106
107	7	42	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.225E+05	107
108	6	41	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.878E+05	0.000E+00	0.000E+00	6.595E+05	108
109	3	40	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.313E+06	109
110	3	22	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	19	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.906E+05	0.000E+00	6.888E+05	1.624E+06	111
112	111	17	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	6.888E+05	112
113	2	18	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.185E+06	113
114	115	16	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.895E+06	114
115	1	15	87800.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.395E+06	3.395E+06	115
116	23	29	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	28	85450.0	36550.0	-115.0	125.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.599E+05	117
118	29	27	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	5.333E+05	118
119	13	26	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.248E+06	119
120	94	25	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	2.597E+05	120
121	27	24	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.739E+05	121
122	12	23	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.412E+06	122
123	125	21	84680.0	35080.0	-167.0	133.0	133.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	8.350E+04	1.206E+05	123
124	125	20	85090.0	35160.0	-178.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.385E+04	124
125	101	14	85230.0	34670.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.943E+05	2.452E+05	125
126	101	13	84810.0	34780.0	-171.9	129.0	129.0	129.0	SWMP	0.000E+00	4.589E+04	0.000E+00	1.710E+05	1.926E+05	126
127	36	12	85180.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	11	85330.0	34640.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	2.963E+04	0.000E+00	4.841E+04	6.341E+04	128
129	128	10	85420.0	35020.0	-182.0	118.0	118.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	9	85350.0	35200.0	-177.0	123.0	123.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.868E+04	130
131	132	8	85500.0	35230.0	-174.0	126.0	126.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.895E+04	2.318E+04	131
132	133	7	85580.0	35060.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	6	85740.0	34990.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.028E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	5	85540.0	35280.0	-173.0	127.0	127.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.895E+04	134
135	38	4	84050.0	35050.0	-145.0	155.0	155.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.480E+05	6.268E+05	135
136	39	3	84060.0	34865.0	-115.0	185.0	183.5	163.0	swmp	0.000E+00	5.463E+03	0.000E+00	8.272E-01	9.073E-01	136

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	4.0066E+07	2	0	0.0000E+00	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	118	15	29	16	16	27	17	26	26	98	26	16	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	22	116	116	22	22	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	8	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	33	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	84	101	102	101	33	32	107	108	100	33	100	35	35	36	34	25	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	86	84	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	35	99	99	38	32	127	37	127	33	33	33	33	61	60	70	76	76	77	71	71	72	62	63	85	85	35	65	64	64	64	Node1
Node2	98	98	38	32	127	36	36	134	34	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	87	65	85	85	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	34	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	78	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	78	78	79	79	79	66	65	38	38	40	40	40	91	91	41	89	39	89	39	39	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	38	38	104	40	105	9	91	40	41	89	43	55	66	88	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	80	79	78	64	65	65	37	37	104	104	105	9	41	42	42	42	43	55	66	88	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	5	4	4	4	5	5	5	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	2	Soil

ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	67	70	60	82	38	39	135	136	39	57	52	52	52	Node2
Node3	59	44	51	51	51	57	68	74	68	75	81	76	75	69	69	57	58	59	59	57	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	5	5	5	5	4	4	4	4	4	5	5	5	5	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	1	2	2	2	2	5	5	Soil

ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	98	97	53	39	45	44	51	44	43	40	47	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	38	43	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

-----------ELEMENT DATA-----------

ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125
Node2	12	92	119	122	94	119	25	69	10	93	83	83	83	101	101
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6

ELEM	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	125	124	82	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

ELEM	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0
Node1	129	128	133	96	135	59	93	33	0	0	0	0	0	0	0
Node2	132	101	72	134	136	136	135	133	0	0	0	0	0	0	0
Node3	131	133	100	100	59	58	33	59	0	0	0	0	0	0	0
Matl	3	3	3	3	5	5	5	5	0	0	0	0	0	0	0
Soil	7	3	3	3	4	4	4	4	0	0	0	0	0	0	0

ELEM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................136
Number of elements.................248
Number of materials................5
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	2.00E+00	1.00E-06	.0500	7.50E-01
4	1.50E+00	1.00E-06	.0500	7.50E-01
5	3.00E+01	1.00E-06	.0200	7.50E-01
6				7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA-----------

-NODE DATA- ###	LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	136	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.644E+07	2.683E+07	1
2	1	134	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.121E+07	2.230E+07	2
3	2	131	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.882E+07	2.006E+07	3
4	3	132	89850.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.516E+07	1.591E+07	4
5	4	133	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.448E+07	1.516E+07	5
6	5	130	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.169E+05	0.000E+00	1.385E+07	1.448E+07	6
7	6	129	86250.0	32850.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.277E+07	1.318E+07	7
8	7	128	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.230E+07	1.245E+07	8
9	8	127	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	5.774E+06	5.874E+06	9
10	9	124	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	4.906E+06	10
11	10	121	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.648E+06	11
12	11	120	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.518E+06	12
13	12	94	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	2.664E+06	13
14	13	93	80500.0	30800.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.656E+05	0.000E+00	0.000E+00	9.150E+05	14
15	29	122	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.819E+05	0.000E+00	0.000E+00	4.799E+05	15
16	27	119	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	6.400E+05	0.000E+00	0.000E+00	5.600E+05	16
17	18	118	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.162E+05	17
18	24	117	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.085E+06	18
19	22	114	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.940E+05	19
20	-1	115	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.254E+07	20
21	20	116	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.212E+07	21
22	1	113	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.831E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	112	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.176E+07	23
24	23	111	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.412E+06	24
25	24	110	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.487E+05	0.000E+00	5.215E+06	6.065E+06	25
26	25	109	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.215E+06	26
27	26	108	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.286E+06	4.105E+06	27
28	27	107	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.452E+06	28
29	28	104	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.700E+06	29
30	106	100	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	5.838E+06	6.130E+06	30
31	30	99	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.676E+06	5.838E+06	31
32	31	98	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.396E+05	0.000E+00	5.160E+06	5.538E+06	32
33	32	97	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.489E+06	2.844E+06	33
34	33	96	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	1.830E+06	2.322E+06	34
35	34	95	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.635E+06	1.830E+06	35
36	35	46	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.400E+06	1.635E+06	36
37	36	53	84925.0	35400.0	-175.0	125.0	125.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.003E+06	1.195E+06	37
38	37	45	84150.0	35225.0	-155.0	145.0	145.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	4.336E+05	1.003E+06	38
39	133	92	83950.0	34675.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.349E+05	7.264E+05	39
40	9	91	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	7.422E+05	8.550E+05	40
41	40	90	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	7.575E+05	7.285E+05	41
42	41	89	84300.0	33775.0	-219.0	81.0	81.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.474E+05	7.575E+05	42
43	42	88	84250.0	33975.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.705E+05	3.784E+05	43
44	43	36	84000.0	34275.0	-136.0	164.0	164.0	164.0	SWMP	0.000E+00	2.867E+04	0.000E+00	2.567E+05	2.790E+05	44
45	39	103	83925.0	34600.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.662E+05	4.879E+05	45
46	53	35	83425.0	34725.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.841E+05	3.395E+05	46
47	54	37	83525.0	34150.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.799E+05	47
48	49	105	83800.0	34025.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	3.288E+04	0.000E+00	0.000E+00	7.114E+04	48
49	43	34	84050.0	33975.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.355E+04	0.000E+00	7.114E+04	9.151E+04	49
50	47	102	84125.0	34225.0	-141.0	159.0	159.0	132.4	swmp	0.000E+00	7.070E+03	0.000E+00	0.000E+00	1.023E+04	50

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	83	84075.0	34450.0	-115.0	185.0	185.0	133.4	swmp	0.000E+00	1.251E+04	0.000E+00	0.000E+00	2.188E-03	51
52	39	126	84025.0	34700.0	-115.0	185.0	185.0	140.7	swmp	0.000E+00	7.375E+03	0.000E+00	0.000E+00	4.118E-02	52
53	45	82	83850.0	34575.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.395E+05	4.682E+05	53
54	44	123	83875.0	34250.0	-124.0	176.0	176.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.567E+05	54
55	-2	125	84375.0	34050.0	-171.0	129.0	126.8	65.3	swmp	0.000E+00	9.891E+03	0.000E+00	0.000E+00	1.120E-04	55
56	-2	101	84250.0	34225.0	-120.0	180.0	172.0	62.8	swmp	0.000E+00	6.867E+03	0.000E+00	0.000E+00	-4.825E-03	56
57	-2	81	84150.0	34475.0	-96.0	204.0	198.8	65.6	swmp	0.000E+00	5.109E+03	0.000E+00	0.000E+00	2.352E-01	57
58	-2	80	84075.0	34700.0	-94.0	206.0	199.2	110.6	swmp	0.000E+00	9.772E+03	0.000E+00	0.000E+00	2.108E+00	58
59	-2	79	84175.0	34850.0	-98.0	202.0	187.8	137.0	swmp	0.000E+00	2.358E+04	0.000E+00	0.000E+00	1.920E+00	59
60	-2	78	84350.0	34850.0	-117.0	183.0	183.0	147.9	swmp	0.000E+00	4.378E+04	0.000E+00	0.000E+00	1.309E-01	60
61	-2	77	84600.0	34725.0	-146.0	154.0	154.0	140.3	swmp	0.000E+00	3.353E+04	0.000E+00	0.000E+00	5.792E-02	61
62	-2	76	84700.0	34575.0	-135.0	165.0	164.9	137.1	swmp	0.000E+00	2.306E+04	0.000E+00	0.000E+00	1.148E-02	62
63	-2	75	84725.0	34375.0	-130.0	170.0	162.0	133.3	swmp	0.000E+00	3.164E+04	0.000E+00	0.000E+00	2.956E-03	63
64	-2	74	84650.0	34250.0	-170.0	130.0	130.0	95.8	swmp	0.000E+00	1.188E+04	0.000E+00	0.000E+00	1.304E-03	64
65	-2	73	84625.0	34125.0	-200.0	100.0	100.0	83.1	swmp	0.000E+00	1.469E+04	0.000E+00	0.000E+00	5.585E-04	65
66	-2	72	84550.0	34050.0	-195.0	105.0	105.0	70.2	swmp	0.000E+00	9.766E+03	0.000E+00	0.000E+00	7.797E-04	66
67	-2	71	84300.0	34250.0	-110.0	120.0	171.8	62.3	swmp	0.000E+00	1.172E+04	0.000E+00	0.000E+00	2.662E-03	67
68	-2	70	84225.0	34475.0	-83.0	120.0	198.2	60.5	swmp	0.000E+00	1.453E+04	0.000E+00	0.000E+00	-6.716E-02	68
69	-2	69	84175.0	34725.0	-85.0	120.0	200.0	109.0	swmp	0.000E+00	1.102E+04	0.000E+00	0.000E+00	3.156E+00	69
70	-2	68	84300.0	34775.0	-96.0	120.0	198.8	118.9	swmp	0.000E+00	1.367E+04	0.000E+00	0.000E+00	1.374E-01	70
71	-2	67	84575.0	34650.0	-130.0	120.0	170.0	119.6	swmp	0.000E+00	1.411E+04	0.000E+00	0.000E+00	4.694E-02	71
72	-2	66	84650.0	34475.0	-125.0	120.0	173.4	120.0	SWMP	0.000E+00	1.391E+04	0.000E+00	0.000E+00	2.070E+03	72
73	-2	65	84475.0	34150.0	-145.0	60.0	136.6	60.0	SWMP	0.000E+00	1.313E+04	0.000E+00	0.000E+00	6.390E+04	73
74	-2	64	84350.0	34350.0	-90.0	60.0	182.5	60.0	SWMP	0.000E+00	1.445E+04	0.000E+00	0.000E+00	1.149E+04	74
75	-2	63	84250.0	34550.0	-85.0	60.0	200.8	60.0	SWMP	0.000E+00	1.063E+04	0.000E+00	0.000E+00	2.444E+05	75
76	-2	62	84275.0	34700.0	-88.0	60.0	205.7	60.0	SWMP	0.000E+00	1.588E+04	0.000E+00	0.000E+00	7.239E+04	76
77	-2	61	84490.0	34600.0	-115.0	60.0	185.0	60.0	SWMP	0.000E+00	1.547E+04	0.000E+00	0.000E+00	5.356E+04	77
78	-2	60	84550.0	34400.0	-135.0	60.0	165.0	60.0	SWMP	0.000E+00	1.719E+04	0.000E+00	0.000E+00	2.972E+04	78
79	-2	59	84600.0	34175.0	-175.0	60.0	123.2	60.0	SWMP	0.000E+00	8.516E+03	0.000E+00	0.000E+00	3.741E+04	79
80	-2	58	84500.0	34225.0	-140.0	0.0	150.0	0.0	SWMP	0.000E+00	1.227E+04	0.000E+00	0.000E+00	9.351E+04	80
81	-2	57	84400.0	34475.0	-105.0	0.0	195.0	0.0	SWMP	0.000E+00	2.041E+04	0.000E+00	0.000E+00	8.113E+04	81
82	123	56	84600.0	35120.0	-162.0	138.0	138.0	138.0	SWMP	0.000E+00	8.674E+04	0.000E+00	0.000E+00	6.672E+04	82
83	126	55	84800.0	34730.0	-176.0	124.0	124.0	124.0	SWMP	0.000E+00	4.804E+04	0.000E+00	0.000E+00	1.160E+05	83
84	102	52	85000.0	34475.0	-148.0	152.0	152.0	152.0	SWMP	0.000E+00	8.331E+04	0.000E+00	0.000E+00	1.331E+04	84
85	87	39	84775.0	34200.0	-170.0	130.0	130.0	116.4	swmp	0.000E+00	2.523E+04	0.000E+00	0.000E+00	2.061E-03	85
86	103	135	85075.0	34150.0	-130.0	170.0	127.7	125.2	swmp	0.000E+00	5.531E+04	0.000E+00	0.000E+00	3.712E-04	86
87	105	38	84900.0	33950.0	-220.0	80.0	80.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	2.061E-03	4.744E+04	87
88	41	37	84625.0	34000.0	-205.0	95.0	92.7	73.9	swmp	0.000E+00	3.078E+04	0.000E+00	0.000E+00	1.079E-03	88
89	41	36	84425.0	33950.0	-207.0	93.0	93.0	69.6	swmp	0.000E+00	8.242E+03	0.000E+00	0.000E+00	8.394E-04	89
90	42	35	83825.0	33575.0	-196.0	104.0	104.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.690E+05	90
91	9	34	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	33	83750.0	32820.0	-150.0	150.0	139.1	138.2	swmp	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	32	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.960E+05	9.624E+05	93
94	93	31	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	4.960E+05	94
95	46	30	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.841E+05	95
96	26	106	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.523E+05	96
97	39	51	83575.0	35100.0	-76.0	224.0	224.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	50	84000.0	35575.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	2.658E+05	0.000E+00	0.000E+00	7.960E+04	98
99	36	48	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.886E+05	99
100	33	49	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.382E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	47	85390.0	34760.0	-189.0	111.0	111.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	4.186E+05	5.541E+05	101
102	31	54	85400.0	34300.0	-209.0	91.0	91.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	1.331E+04	1.378E+05	102
103	105	44	85175.0	34000.0	-214.0	86.0	86.0	86.0	SWMP	0.000E+00	5.563E+04	0.000E+00	3.712E-04	6.333E+04	103
104	40	43	84875.0	33800.0	-233.0	67.0	67.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	1.366E+04	104
105	106	42	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	1.108E+05	2.230E+05	105
106	8	41	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.535E+05	6.426E+05	106
107	7	40	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.225E+05	107
108	6	22	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.378E+05	0.000E+00	0.000E+00	6.675E+05	108
109	3	19	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.813E+06	109
110	3	17	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	18	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	8.706E+05	0.000E+00	6.828E+05	1.624E+06	111
112	111	16	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	6.388E+05	112
113	2	15	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.155E+06	113
114	115	29	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.395E+06	114
115	1	28	87800.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.895E+06	3.398E+06	115
116	23	27	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	26	85450.0	36550.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.698E+05	117
118	29	25	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	5.333E+05	118
119	13	24	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.248E+06	119
120	94	23	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	2.597E+05	120
121	27	21	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.739E+05	121
122	12	20	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.412E+06	122
123	125	14	84680.0	35080.0	-167.0	133.0	133.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	6.672E+04	1.036E+05	123
124	125	13	85090.0	35160.0	-178.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.385E+04	124
125	101	12	85230.0	34870.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.775E+05	2.282E+05	125
126	101	11	84810.0	34780.0	-171.0	129.0	129.0	129.0	SWMP	0.000E+00	4.589E+04	0.000E+00	1.160E+05	1.220E+05	126
127	36	10	85180.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	9	85350.0	34840.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	2.963E+04	0.000E+00	4.841E+04	6.841E+04	128
129	128	8	85420.0	35020.0	-182.0	118.0	118.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	7	85350.0	35200.0	-177.0	123.0	123.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.366E+04	130
131	132	6	85500.0	35230.0	-174.0	126.0	126.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.895E+04	2.318E+04	131
132	133	5	85580.0	35060.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	4	85740.0	34990.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.023E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	3	85540.0	35280.0	-173.0	127.0	127.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.395E+04	134
135	33	2	84050.0	35050.0	-145.0	155.0	155.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.264E+05	3.540E+05	135
136	39	1	84060.0	34865.0	-115.0	185.0	183.5	137.3	swmp	0.000E+00	5.463E+03	0.000E+00	0.000E+00	2.161E+00	136

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	3.9371E+07	2	27	6.9455E+05	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

-----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	118	15	29	16	16	27	17	26	26	98	26	18	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	22	116	116	22	22	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	8	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	35	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	84	101	102	101	33	32	107	108	100	33	100	35	35	36	34	25	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	86	84	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	25	99	98	38	82	127	37	127	83	83	83	83	61	60	70	76	76	77	71	71	72	62	63	85	65	85	65	64	64	64	Node1
Node2	98	98	38	82	127	36	36	134	84	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	87	65	85	85	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	84	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	78	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	78	78	79	79	79	66	65	88	88	40	40	40	91	91	41	89	89	89	89	89	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	88	88	104	40	105	9	91	40	41	89	43	55	66	88	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	80	79	78	64	65	65	87	87	104	104	105	9	41	42	42	42	43	55	66	88	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	5	4	4	4	5	5	5	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	4	4	4	4	4	4	4	2	Soil

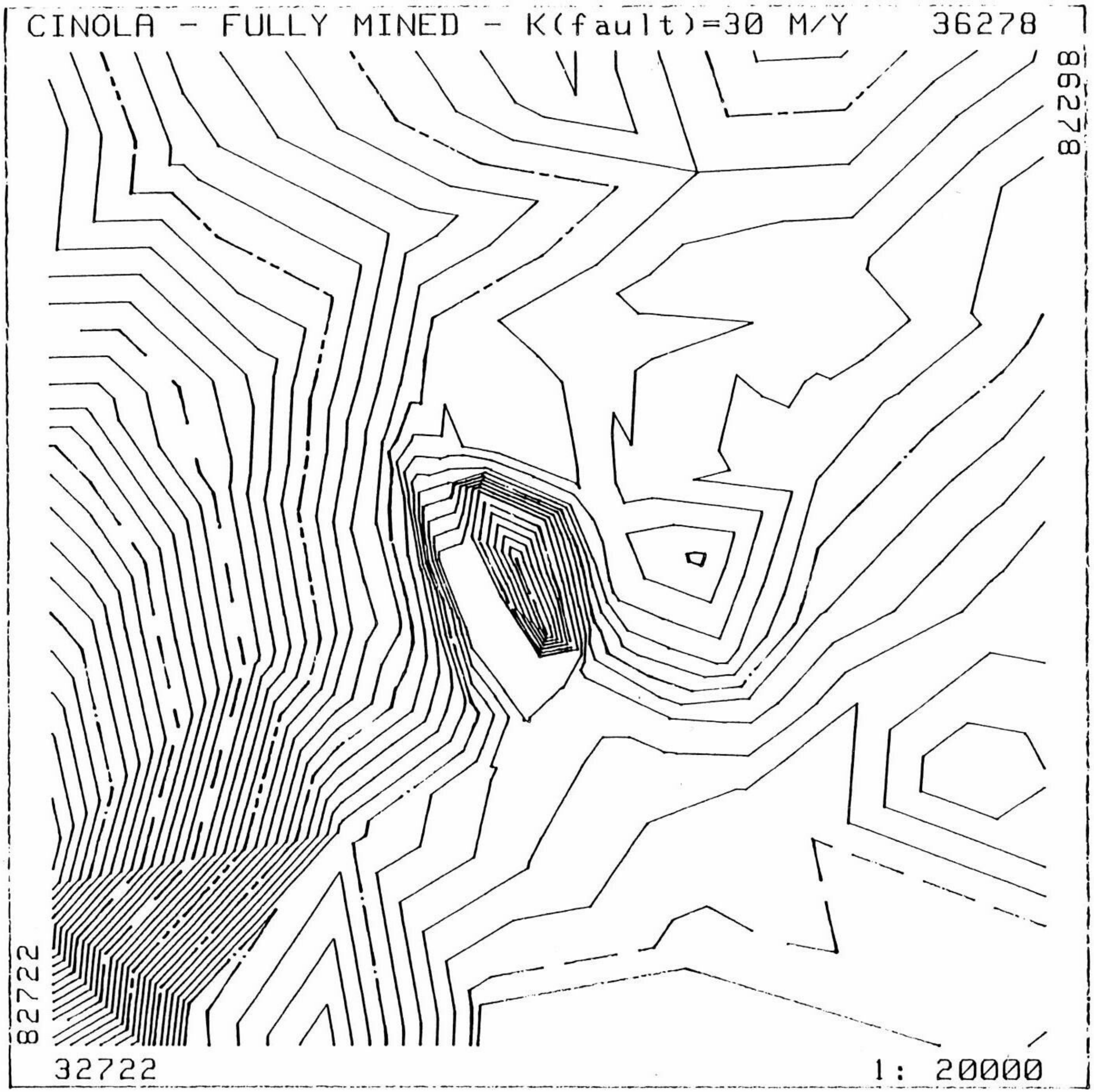
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	69	70	60	82	38	39	135	136	39	57	52	52	52	Node2
Node3	50	44	51	51	51	57	68	74	68	75	81	76	75	69	69	57	58	59	59	59	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	5	5	5	5	4	4	4	4	4	5	5	5	5	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	2	1	2	2	2	2	5	5	Soil

ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	99	97	53	39	45	44	51	44	43	40	43	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	38	49	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

----------ELEMENT DATA-----------

ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125	125	124	82	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	12	92	119	122	94	119	25	69	10	93	83	83	83	101	101	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

ELEM	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	129	128	133	36	135	59	98	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	132	101	32	134	136	136	135	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	131	133	100	100	59	58	38	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	3	3	3	3	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	7	3	3	3	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil



Legend:

— — 0

— — 50

—·— 100

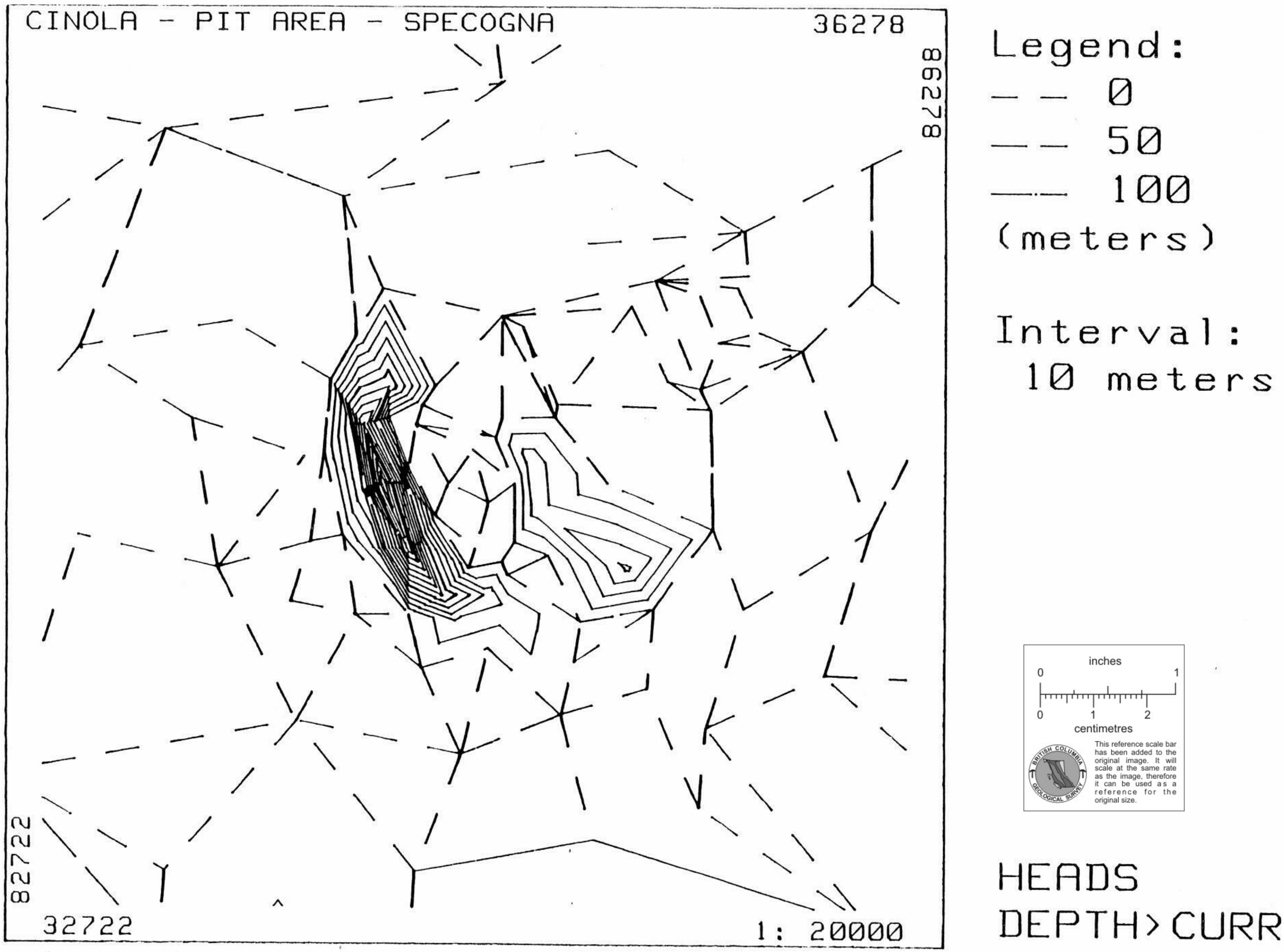
—·— 150

—··— 200

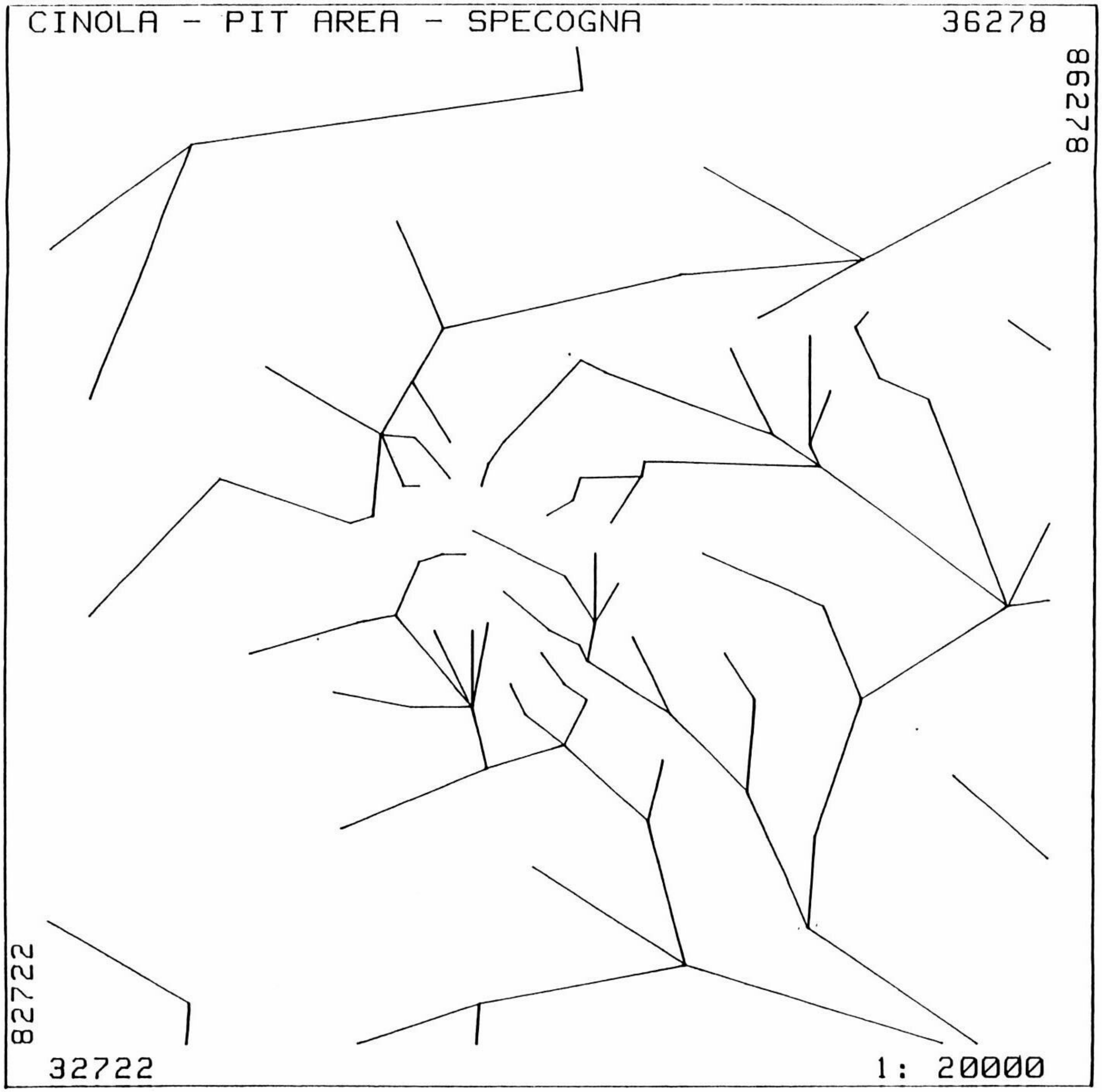
(meters)

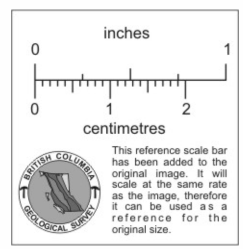
Interval:
10 meters

HEADS
CURRENT



CINOLA - PIT AREA - SPECOGNA
36278
86278
82722
32722
1: 20000
Legend:
0
50
100
(meters)
Interval:
10 meters
HEADS
DEPTH>CURR
inches
0
1
0
1
2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY





STREAMS
LOCATIONS

6

-----KEY ANALYSIS PARAMETERS-----

Number of nodes.....................136
Number of elements.................248
Number of materials................6
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	2.00E+00	1.00E-06	.0500	7.50E-01
4	3.00E+00	1.00E-06	.3000	7.50E-01
5	6.00E+00	1.00E-06	.0200	7.50E-01
6	3.00E+00	1.00E-06	.3000	7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	136	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.713E+07	2.753E+07	1
2	1	134	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.191E+07	2.299E+07	2
3	2	131	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.952E+07	2.075E+07	3
4	3	132	89650.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.586E+07	1.661E+07	4
5	4	133	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.518E+07	1.586E+07	5
6	5	130	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.169E+05	0.000E+00	1.454E+07	1.518E+07	6
7	6	129	86850.0	32950.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.347E+07	1.387E+07	7
8	7	128	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.299E+07	1.314E+07	8
9	8	127	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	6.313E+06	6.413E+06	9
10	9	124	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	4.706E+06	10
11	10	121	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.648E+06	11
12	11	120	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.518E+06	12
13	12	94	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	2.654E+06	13
14	13	93	80500.0	30600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.656E+05	0.000E+00	0.000E+00	9.150E+05	14
15	29	122	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.319E+05	0.000E+00	0.000E+00	4.799E+05	15
16	27	119	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	5.400E+05	0.000E+00	0.000E+00	5.600E+05	16
17	18	118	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.162E+05	17
18	24	117	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.085E+06	18
19	23	114	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.740E+05	19
20	-1	115	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.254E+07	20
21	20	116	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.212E+07	21
22	1	113	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.331E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	112	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.176E+07	23
24	23	111	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.412E+06	24
25	24	110	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.487E+05	0.000E+00	5.215E+06	6.065E+06	25
26	25	109	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.215E+06	26
27	26	108	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.236E+06	4.105E+06	27
28	27	107	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.452E+06	28
29	28	104	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.700E+06	29
30	106	100	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	5.980E+06	6.272E+06	30
31	30	99	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.313E+06	5.980E+06	31
32	31	98	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.396E+05	0.000E+00	5.299E+06	5.678E+06	32
33	32	97	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.638E+06	2.993E+06	33
34	33	96	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	1.979E+06	2.471E+06	34
35	34	95	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.784E+06	1.979E+06	35
36	35	46	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.549E+06	1.784E+06	36
37	36	53	84925.0	35400.0	-175.0	125.0	125.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.152E+06	1.344E+06	37
38	37	45	84150.0	35225.0	-155.0	145.0	145.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	9.510E+05	1.152E+06	38
39	105	92	83950.0	34675.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.406E+05	7.047E+05	39
40	9	91	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	1.348E+06	1.394E+06	40
41	40	90	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	1.199E+06	1.237E+06	41
42	41	89	84300.0	33775.0	-219.0	81.0	81.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.656E+05	7.769E+05	42
43	42	86	84250.0	33975.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.778E+05	3.766E+05	43
44	43	103	84000.0	34275.0	-136.0	164.0	164.0	164.0	SWMP	0.000E+00	2.857E+04	0.000E+00	2.567E+05	2.883E+05	44
45	39	55	83925.0	34600.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.682E+05	4.736E+05	45
46	53	57	83425.0	34725.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.341E+05	3.395E+05	46
47	54	105	83525.0	34150.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.799E+05	47
48	49	34	83800.0	34025.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	3.238E+04	0.000E+00	0.000E+00	7.114E+04	48
49	47	102	84050.0	33975.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.355E+04	0.000E+00	7.114E+04	9.151E+04	49
50	43	83	84125.0	34225.0	-141.0	159.0	157.0	155.2	swmp	0.000E+00	7.070E+03	0.000E+00	0.000E+00	3.407E+03	50

----------NODE AND FLOW DATA----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	126	84075.0	34450.0	-115.0	185.0	185.0	167.8	swmo	0.000E+00	1.251E+04	0.000E+00	0.000E+00	-1.945E-02	51
52	39	62	84025.0	34700.0	-115.0	185.0	185.0	157.9	swmo	0.000E+00	7.375E+03	0.000E+00	0.000E+00	1.338E-02	52
53	45	123	83850.0	34575.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.395E+05	4.682E+05	53
54	44	125	83875.0	34250.0	-124.0	176.0	176.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.567E+05	54
55	66	101	84375.0	34050.0	-171.0	129.0	126.3	111.9	swmo	0.000E+00	9.891E+03	0.000E+00	0.000E+00	-2.636E-01	55
56	67	75	84250.0	34225.0	-120.0	180.0	172.0	125.1	swmo	0.000E+00	6.367E+03	0.000E+00	0.000E+00	1.020E-01	56
57	68	65	34150.0	34475.0	-96.0	204.0	198.3	128.7	swmo	0.000E+00	5.109E+03	0.000E+00	0.000E+00	1.411E-01	57
58	69	63	84075.0	34700.0	-94.0	206.0	199.2	138.3	swmo	0.000E+00	9.772E+03	0.000E+00	0.000E+00	2.211E-01	58
59	76	64	84175.0	34850.0	-98.0	202.0	187.8	149.2	swmo	0.000E+00	2.558E+04	0.000E+00	0.000E+00	3.088E-01	59
60	70	79	84350.0	34850.0	-117.0	183.0	183.0	142.9	swmo	0.000E+00	4.378E+04	0.000E+00	0.000E+00	2.261E-02	60
61	71	62	84600.0	34725.0	-146.0	154.0	154.0	135.0	swmo	0.000E+00	3.333E+04	0.000E+00	0.000E+00	-2.829E-03	61
62	72	72	84700.0	34575.0	-135.0	165.0	164.9	137.0	swmo	0.000E+00	2.306E+04	0.000E+00	0.000E+00	7.698E-02	62
63	64	73	84725.0	34375.0	-130.0	170.0	162.0	136.0	swmo	0.000E+00	3.164E+04	0.000E+00	0.000E+00	3.708E-01	63
64	79	61	84650.0	34250.0	-170.0	130.0	130.0	126.8	swmo	0.000E+00	1.188E+04	0.000E+00	3.708E-01	-4.560E-01	64
65	66	71	84625.0	34125.0	-200.0	100.0	100.0	100.0	SWMP	0.000E+00	1.469E+04	0.000E+00	0.000E+00	7.470E+04	65
66	63	77	84550.0	34050.0	-195.0	122.0	105.0	122.0	SWMP	0.000E+00	9.766E+03	0.000E+00	4.570E+05	3.506E+05	66
67	73	60	84300.0	34250.0	-110.0	122.0	171.3	122.0	SWMP	0.000E+00	1.172E+04	0.000E+00	1.020E-01	1.996E+04	67
68	74	70	84225.0	34475.0	-83.0	122.0	198.2	122.0	SWMP	0.000E+00	1.453E+04	0.000E+00	1.411E-01	3.229E+04	68
69	75	59	84175.0	34725.0	-85.0	122.0	200.0	122.0	SWMP	0.000E+00	1.102E+04	0.000E+00	2.211E-01	5.463E+04	69
70	76	58	84300.0	34775.0	-96.0	122.0	198.8	122.0	SWMP	0.000E+00	1.367E+04	0.000E+00	2.261E-02	6.699E+04	70
71	77	69	84575.0	34650.0	-130.0	122.0	170.0	122.0	SWMP	0.000E+00	1.411E+04	0.000E+00	-2.829E-03	5.181E+04	71
72	78	76	84650.0	34475.0	-125.0	122.0	173.4	122.0	SWMP	0.000E+00	1.391E+04	0.000E+00	7.698E-02	4.366E+04	72
73	66	81	84475.0	34150.0	-145.0	122.0	136.5	122.0	SWMP	0.000E+00	1.313E+04	0.000E+00	1.996E+04	2.286E+04	73
74	80	57	84350.0	34350.0	-90.0	122.0	182.5	122.0	SWMP	0.000E+00	1.445E+04	0.000E+00	3.229E+04	4.674E+04	74
75	81	68	84250.0	34550.0	-85.0	122.0	200.3	122.0	SWMP	0.000E+00	1.063E+04	0.000E+00	0.000E+00	1.063E+04	75
76	81	74	84275.0	34700.0	-88.0	122.0	205.7	122.0	SWMP	0.000E+00	1.588E+04	0.000E+00	1.216E+05	1.375E+05	76
77	81	80	84490.0	34600.0	-115.0	122.0	185.0	122.0	SWMP	0.000E+00	1.547E+04	0.000E+00	5.181E+04	6.728E+04	77
78	80	56	84550.0	34400.0	-135.0	122.0	165.0	122.0	SWMP	0.000E+00	1.719E+04	0.000E+00	4.366E+04	7.082E+04	78
79	66	67	84600.0	34175.0	-175.0	122.0	123.2	115.3	swmo	0.000E+00	8.516E+03	0.000E+00	-4.560E-01	4.451E-02	79
80	66	73	84500.0	34225.0	-140.0	122.0	150.0	122.0	SWMP	0.000E+00	1.227E+04	0.000E+00	3.534E+05	3.595E+05	80
81	80	55	84400.0	34475.0	-105.0	122.0	195.0	122.0	SWMP	0.000E+00	2.041E+04	0.000E+00	2.154E+05	2.358E+05	81
82	123	66	84600.0	35120.0	-162.0	138.0	138.0	138.0	SWMP	0.000E+00	3.674E+04	0.000E+00	0.000E+00	6.346E+04	82
83	126	38	84800.0	34730.0	-176.0	124.0	124.0	124.0	SWMP	0.000E+00	4.304E+04	0.000E+00	0.000E+00	1.096E+05	83
84	102	52	85000.0	34475.0	-148.0	152.0	152.0	152.0	SWMP	0.000E+00	3.331E+04	0.000E+00	0.000E+00	1.547E+04	84
85	87	39	84775.0	34200.0	-170.0	130.0	130.0	127.4	swmo	0.000E+00	2.523E+04	0.000E+00	0.000E+00	-1.149E-01	85
86	103	135	85075.0	34150.0	-130.0	170.0	127.7	127.1	swmo	0.000E+00	5.531E+04	0.000E+00	0.000E+00	7.123E-02	86
87	105	38	84900.0	33950.0	-220.0	80.0	80.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	-1.149E-01	5.879E+04	87
88	41	37	84625.0	34000.0	-205.0	95.0	92.7	95.0	SWMP	0.000E+00	3.078E+04	0.000E+00	3.506E+05	3.703E+05	88
89	41	36	84425.0	33950.0	-207.0	93.0	93.0	93.0	SWMP	0.000E+00	5.242E+03	0.000E+00	0.000E+00	5.157E+04	89
90	42	35	83825.0	33575.0	-196.0	104.0	104.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.690E+05	90
91	9	34	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	33	83750.0	32820.0	-150.0	150.0	139.1	138.2	swmo	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	32	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.960E+05	9.624E+05	93
94	93	31	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	4.960E+05	94
95	46	30	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.841E+05	95
96	26	106	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.523E+05	96
97	39	51	83575.0	35100.0	-76.0	224.0	224.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	50	84000.0	35575.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	2.658E+05	0.000E+00	0.000E+00	1.856E+05	98
99	36	48	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.886E+05	99
100	33	49	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.382E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE DATA- ###	LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	47	85390.0	34760.0	-189.0	111.0	111.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	4.089E+05	5.445E+05	101
102	31	54	85400.0	34300.0	-209.0	91.0	91.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	1.547E+04	1.405E+05	102
103	105	44	85175.0	34000.0	-214.0	86.0	86.0	86.0	SWMP	0.000E+00	5.563E+04	0.000E+00	7.123E-02	6.511E+04	103
104	40	43	84875.0	33800.0	-233.0	67.0	67.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	6.118E+04	104
105	106	42	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	1.239E+05	2.362E+05	105
106	8	41	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.509E+06	6.881E+06	106
107	7	40	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.225E+05	107
108	6	22	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.378E+05	0.000E+00	0.000E+00	6.695E+05	108
109	3	19	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.813E+06	109
110	3	17	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	18	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	8.906E+05	0.000E+00	6.888E+05	1.624E+06	111
112	111	16	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	6.888E+05	112
113	2	15	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.155E+06	113
114	115	29	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.895E+06	114
115	1	28	87300.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.695E+06	3.098E+06	115
116	23	27	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	26	85450.0	36550.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.695E+05	117
118	29	25	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	5.333E+05	118
119	13	24	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.248E+06	119
120	94	23	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	2.597E+05	120
121	27	21	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.739E+05	121
122	12	20	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.412E+06	122
123	125	14	84660.0	35080.0	-167.0	133.0	133.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	6.346E+04	1.004E+05	123
124	125	13	85090.0	35160.0	-173.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.335E+04	124
125	101	12	85230.0	34870.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.742E+05	2.249E+05	125
126	101	11	84810.0	34780.0	-171.0	129.0	129.0	129.0	SWMP	0.000E+00	4.589E+04	0.000E+00	1.096E+05	1.156E+05	126
127	36	10	85130.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	9	85350.0	34840.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	2.963E+04	0.000E+00	4.341E+04	6.241E+04	128
129	123	8	85420.0	35020.0	-182.0	118.0	118.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	7	85350.0	35200.0	-177.0	123.0	123.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.868E+04	130
131	132	6	85500.0	35230.0	-174.0	126.0	126.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.895E+04	2.318E+04	131
132	133	5	85580.0	35060.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	4	85740.0	34990.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.028E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	3	85540.0	35280.0	-173.0	127.0	127.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.895E+04	134
135	38	2	84050.0	35050.0	-145.0	155.0	155.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.347E+05	7.654E+05	135
136	39	1	84060.0	34865.0	-115.0	185.0	183.5	150.8	swmp	0.000E+00	5.463E+03	0.000E+00	0.000E+00	3.601E-01	136

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	4.0065E+07	2	0	0.0000E+00	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	119	15	29	16	16	27	17	26	26	98	26	18	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	32	116	116	32	32	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	8	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	35	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	84	101	102	101	33	32	107	108	100	33	100	35	35	36	34	25	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	86	84	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	25	99	98	38	82	127	37	127	83	83	63	63	61	60	70	76	76	77	71	71	72	62	63	85	85	85	65	64	64	64	Node1
Node2	98	98	38	82	127	36	36	134	84	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	87	65	85	85	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	84	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	78	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	78	78	79	79	79	66	65	88	88	40	40	40	91	91	41	89	89	89	89	89	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	88	88	104	40	105	9	91	40	41	89	43	55	66	88	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	80	79	78	64	65	65	87	87	104	104	105	9	41	42	42	42	43	55	66	88	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	6	4	4	4	6	6	6	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	6	4	4	4	6	6	6	2	Soil

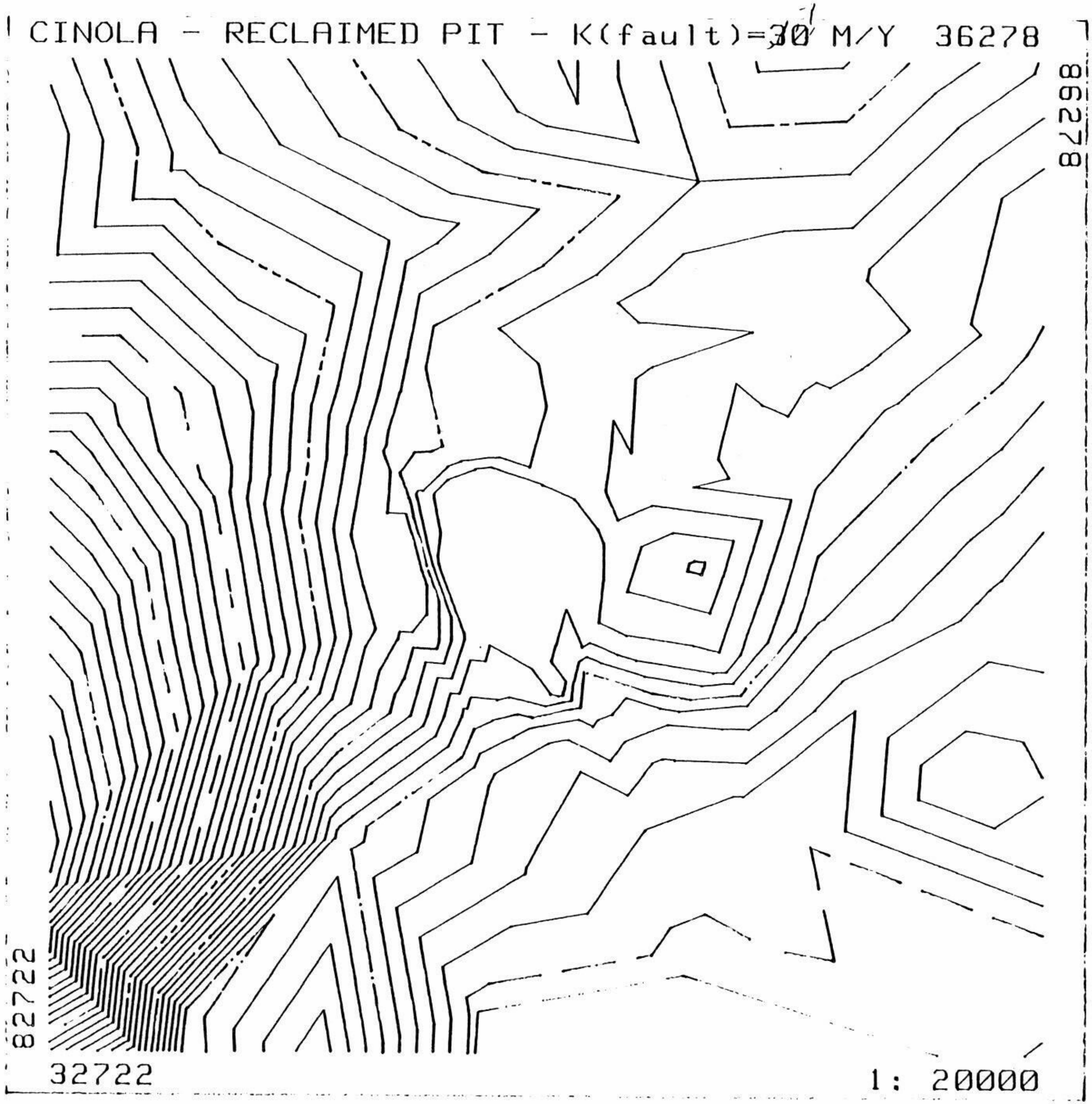
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	69	70	60	82	38	39	135	136	39	57	52	52	52	Node2
Node3	50	44	51	51	51	57	68	74	68	75	81	76	75	69	69	57	58	59	59	59	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	6	6	6	6	4	4	4	4	4	6	6	6	6	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	6	6	6	6	4	4	4	4	4	6	6	6	6	4	4	3	3	2	1	2	2	2	2	5	5	Soil

ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	98	97	53	39	45	44	51	44	43	40	43	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	88	49	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

----------ELEMENT DATA-----------

ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125	125	124	82	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	12	92	119	122	94	119	25	69	10	93	83	83	83	101	101	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

ELEM	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	129	128	133	36	135	59	98	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	132	101	32	134	136	136	135	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	131	133	100	100	59	58	32	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	3	3	3	3	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	7	3	3	3	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil

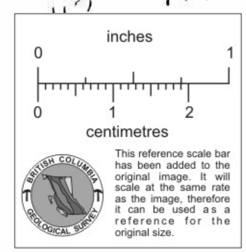


Legend:

- 50
- 100
- 150
- 200
- 250

(meters)

Interval:
10 meters



HEADS
CURRENT

-----KEY ANALYSIS PARAMETERS-----

Number of nodes....................136
Number of elements.................248
Number of materials................6
Number of soils....................7

-----MATERIAL AND SOIL DATA-----

MATERIAL OR SOIL	HYDRAULIC CONDUCTIVITY [L/T]	SPECIFIC STORAGE [1/L]	SPECIFIC YIELD [-]	DISTRIBUTED INFLOW [L/T]
1	3.00E+00	1.00E-06	.0200	7.50E-01
2	3.00E-01	1.00E-06	.0200	7.50E-02
3	3.00E+00	1.00E-06	.0500	7.50E-01
4	3.00E+00	1.00E-06	.3000	7.50E-01
5	3.00E+01	1.00E-06	.0200	7.50E-01
6	3.00E+00	1.00E-06	.3000	7.50E-01
7				7.50E-01

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
1	-1	136	88750.0	39150.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	3.481E+05	0.000E+00	2.713E+07	2.753E+07	1
2	1	134	89000.0	37400.0	-280.0	20.0	20.0	20.0	SWMP	0.000E+00	1.015E+06	0.000E+00	2.191E+07	2.299E+07	2
3	2	131	90000.0	36000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	1.220E+06	0.000E+00	1.952E+07	2.073E+07	3
4	3	132	89850.0	34000.0	-275.0	25.0	25.0	25.0	SWMP	0.000E+00	6.966E+05	0.000E+00	1.586E+07	1.661E+07	4
5	4	133	89000.0	31650.0	-270.0	30.0	30.0	30.0	SWMP	0.000E+00	6.703E+05	0.000E+00	1.518E+07	1.586E+07	5
6	5	130	87600.0	32500.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	6.159E+05	0.000E+00	1.454E+07	1.518E+07	6
7	6	129	86850.0	32350.0	-265.0	35.0	35.0	35.0	SWMP	0.000E+00	3.719E+05	0.000E+00	1.347E+07	1.387E+07	7
8	7	128	86000.0	32800.0	-260.0	40.0	40.0	40.0	SWMP	0.000E+00	1.420E+05	0.000E+00	1.299E+07	1.314E+07	8
9	8	127	84950.0	33125.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	8.513E+04	0.000E+00	6.335E+06	6.435E+06	9
10	9	124	84275.0	33000.0	-255.0	45.0	45.0	45.0	SWMP	0.000E+00	1.257E+05	0.000E+00	4.648E+06	4.906E+06	10
11	10	121	84200.0	31900.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	1.226E+05	0.000E+00	4.518E+06	4.648E+06	11
12	11	120	83600.0	32200.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	3.222E+05	0.000E+00	4.077E+06	4.518E+06	12
13	12	94	82300.0	31450.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	3.044E+05	0.000E+00	2.163E+06	2.664E+06	13
14	13	93	80500.0	30800.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	7.556E+05	0.000E+00	0.000E+00	9.150E+05	14
15	29	122	79500.0	32750.0	370.0	670.0	670.0	670.0	SWMP	0.000E+00	5.619E+05	0.000E+00	0.000E+00	4.799E+05	15
16	27	119	81000.0	34500.0	95.0	395.0	395.0	395.0	SWMP	0.000E+00	6.400E+05	0.000E+00	0.000E+00	5.600E+05	16
17	16	118	82300.0	36000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	4.347E+05	0.000E+00	0.000E+00	3.162E+05	17
18	24	117	83200.0	37100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	7.662E+05	0.000E+00	3.162E+05	1.085E+06	18
19	23	114	84550.0	38650.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	6.294E+05	0.000E+00	0.000E+00	5.940E+05	19
20	-1	115	86200.0	40400.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.025E+05	0.000E+00	1.212E+07	1.254E+07	20
21	20	116	87000.0	39700.0	-235.0	65.0	65.0	65.0	SWMP	0.000E+00	3.237E+05	0.000E+00	1.176E+07	1.212E+07	21
22	1	113	87900.0	39000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	8.831E+05	0.000E+00	0.000E+00	7.385E+05	22
23	21	112	86000.0	39000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.378E+06	0.000E+00	1.036E+07	1.176E+07	23
24	23	111	84400.0	37450.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.173E+06	0.000E+00	7.150E+06	8.412E+06	24
25	24	110	84600.0	36000.0	-180.0	120.0	120.0	120.0	SWMP	0.000E+00	7.467E+05	0.000E+00	5.215E+06	6.065E+06	25
26	25	109	83325.0	35825.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	7.426E+05	0.000E+00	4.358E+06	5.215E+06	26
27	26	108	82200.0	35000.0	-25.0	275.0	275.0	275.0	SWMP	0.000E+00	6.241E+05	0.000E+00	3.236E+06	4.105E+06	27
28	27	107	81700.0	34000.0	65.0	365.0	365.0	365.0	SWMP	0.000E+00	6.200E+05	0.000E+00	1.700E+06	2.452E+06	28
29	28	104	80600.0	32900.0	160.0	460.0	460.0	460.0	SWMP	0.000E+00	5.069E+05	0.000E+00	1.013E+06	1.700E+06	29
30	106	100	85375.0	33550.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	2.316E+05	0.000E+00	5.960E+06	6.252E+06	30
31	30	99	85525.0	34000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.119E+05	0.000E+00	5.798E+06	5.960E+06	31
32	31	98	86000.0	34300.0	-236.0	64.0	64.0	64.0	SWMP	0.000E+00	3.396E+05	0.000E+00	5.279E+06	5.658E+06	32
33	32	97	86350.0	35000.0	-223.0	77.0	77.0	77.0	SWMP	0.000E+00	3.262E+05	0.000E+00	2.618E+06	2.973E+06	33
34	33	96	86400.0	35900.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	4.734E+05	0.000E+00	1.958E+06	2.450E+06	34
35	34	95	86000.0	35700.0	-190.0	110.0	110.0	110.0	SWMP	0.000E+00	1.731E+05	0.000E+00	1.764E+06	1.958E+06	35
36	35	46	85525.0	35450.0	-179.0	121.0	121.0	121.0	SWMP	0.000E+00	2.190E+05	0.000E+00	1.529E+06	1.764E+06	36
37	36	53	84925.0	35400.0	-175.0	125.0	125.0	125.0	SWMP	0.000E+00	1.518E+05	0.000E+00	1.131E+06	1.323E+06	37
38	37	45	84150.0	35225.0	-155.0	145.0	145.0	145.0	SWMP	0.000E+00	9.677E+04	0.000E+00	6.003E+05	1.131E+06	38
39	105	92	83950.0	34875.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	5.684E+04	0.000E+00	6.415E+05	7.362E+05	39
40	9	91	84825.0	33600.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	4.751E+04	0.000E+00	1.362E+06	1.415E+06	40
41	40	90	84550.0	33850.0	-227.0	73.0	73.0	73.0	SWMP	0.000E+00	1.405E+04	0.000E+00	9.219E+05	1.255E+06	41
42	41	89	84300.0	33775.0	-219.0	81.0	81.0	81.0	SWMP	0.000E+00	6.625E+03	0.000E+00	7.647E+05	7.759E+05	42
43	42	86	84250.0	33975.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.253E+04	0.000E+00	3.798E+05	3.957E+05	43
44	43	103	84000.0	34275.0	-136.0	164.0	164.0	164.0	SWMP	0.000E+00	2.867E+04	0.000E+00	2.567E+05	2.883E+05	44
45	39	85	83925.0	34600.0	-138.0	162.0	162.0	162.0	SWMP	0.000E+00	2.250E+04	0.000E+00	4.682E+05	4.945E+05	45
46	53	87	83425.0	34725.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	1.680E+05	0.000E+00	1.841E+05	3.375E+05	46
47	54	105	83525.0	34150.0	-55.0	245.0	245.0	245.0	SWMP	0.000E+00	2.555E+05	0.000E+00	0.000E+00	1.799E+05	47
48	49	84	83800.0	34025.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	3.288E+04	0.000E+00	0.000E+00	7.114E+04	48
49	43	102	84050.0	33975.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.355E+04	0.000E+00	7.114E+04	9.151E+04	49
50	43	83	84125.0	34225.0	-141.0	159.0	159.0	155.2	swap	0.000E+00	7.070E+03	0.000E+00	0.000E+00	-4.237E+04	50

----------NODE AND FLOW DATA-----------

-NODE ###	DATA- LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUN DARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
51	44	126	84075.0	34450.0	-115.0	185.0	185.0	168.3	swmp	0.000E+00	1.251E+04	0.000E+00	0.000E+00	-5.062E-04	51
52	39	82	84025.0	34700.0	-115.0	185.0	185.0	163.3	swmp	0.000E+00	7.375E+03	0.000E+00	0.000E+00	-8.790E-03	52
53	45	123	83850.0	34575.0	-130.0	170.0	170.0	170.0	SWMP	0.000E+00	6.664E+04	0.000E+00	3.393E+05	4.682E+05	53
54	44	125	83875.0	34250.0	-124.0	176.0	176.0	176.0	SWMP	0.000E+00	4.422E+04	0.000E+00	1.799E+05	2.567E+05	54
55	66	101	84375.0	34050.0	-171.0	129.0	126.8	101.6	swmp	0.000E+00	9.391E+03	0.000E+00	0.000E+00	-2.314E-01	55
56	67	75	84250.0	34225.0	-120.0	180.0	172.0	124.9	swmp	0.000E+00	6.867E+03	0.000E+00	0.000E+00	-6.632E-03	56
57	68	65	84150.0	34475.0	-96.0	204.0	198.3	129.5	swmp	0.000E+00	5.109E+03	0.000E+00	0.000E+00	-6.879E-03	57
58	69	60	84075.0	34700.0	-94.0	206.0	199.2	146.6	swmp	0.000E+00	9.772E+03	0.000E+00	0.000E+00	-1.398E-01	58
59	76	64	84175.0	34850.0	-98.0	202.0	187.8	153.6	swmp	0.000E+00	2.358E+04	0.000E+00	0.000E+00	-6.849E-01	59
60	70	79	84350.0	34850.0	-117.0	183.0	183.0	143.7	swmp	0.000E+00	4.378E+04	0.000E+00	0.000E+00	-5.227E-02	60
61	71	62	84600.0	34725.0	-146.0	154.0	154.0	135.1	swmp	0.000E+00	3.353E+04	0.000E+00	0.000E+00	-1.643E-02	61
62	72	72	84700.0	34575.0	-135.0	165.0	164.9	133.0	swmp	0.000E+00	2.706E+04	0.000E+00	0.000E+00	9.656E-03	62
63	64	78	84725.0	34375.0	-130.0	170.0	162.0	138.0	swmp	0.000E+00	3.164E+04	0.000E+00	0.000E+00	3.465E-02	63
64	79	61	84650.0	34250.0	-170.0	130.0	130.0	126.7	swmp	0.000E+00	1.188E+04	0.000E+00	3.465E-02	-1.606E-01	64
65	66	71	84625.0	34125.0	-200.0	100.0	100.0	100.0	SWMP	0.000E+00	1.469E+04	0.000E+00	0.000E+00	7.007E+04	65
66	58	77	84550.0	34050.0	-195.0	122.0	105.0	118.7	swmp	0.000E+00	9.766E+03	0.000E+00	4.591E+05	-2.214E+00	66
67	73	60	84300.0	34250.0	-110.0	122.0	171.8	122.0	SWMP	0.000E+00	1.172E+04	0.000E+00	-6.632E-03	1.748E+04	67
68	74	70	84225.0	34475.0	-83.0	122.0	198.2	122.0	SWMP	0.000E+00	1.453E+04	0.000E+00	-6.879E-03	3.342E+04	68
69	75	59	84175.0	34725.0	-85.0	122.0	200.0	122.0	SWMP	0.000E+00	1.102E+04	0.000E+00	-1.398E-01	6.998E+04	69
70	75	58	84300.0	34775.0	-96.0	122.0	198.8	122.0	SWMP	0.000E+00	1.367E+04	0.000E+00	-5.227E-02	7.038E+04	70
71	77	69	84575.0	34650.0	-130.0	122.0	170.0	122.0	SWMP	0.000E+00	1.411E+04	0.000E+00	-1.643E-02	5.205E+04	71
72	78	76	84650.0	34475.0	-125.0	122.0	173.4	122.0	SWMP	0.000E+00	1.391E+04	0.000E+00	9.656E-03	4.866E+04	72
73	66	81	84475.0	34150.0	-145.0	122.0	136.6	122.0	SWMP	0.000E+00	1.313E+04	0.000E+00	1.748E+04	9.539E-03	73
74	80	57	84350.0	34350.0	-90.0	122.0	182.5	122.0	SWMP	0.000E+00	1.445E+04	0.000E+00	3.342E+04	4.788E+04	74
75	81	68	84250.0	34550.0	-85.0	122.0	200.3	122.0	SWMP	0.000E+00	1.063E+04	0.000E+00	0.000E+00	1.063E+04	75
76	81	74	84275.0	34700.0	-38.0	122.0	205.7	122.0	SWMP	0.000E+00	1.588E+04	0.000E+00	1.403E+05	1.562E+05	76
77	81	80	84490.0	34600.0	-115.0	122.0	185.0	122.0	SWMP	0.000E+00	1.547E+04	0.000E+00	5.205E+04	6.752E+04	77
78	80	56	84550.0	34400.0	-135.0	122.0	165.0	122.0	SWMP	0.000E+00	1.719E+04	0.000E+00	4.866E+04	7.081E+04	78
79	66	67	84600.0	34175.0	-175.0	122.0	123.2	115.7	swmp	0.000E+00	8.516E+03	0.000E+00	-1.606E-01	-2.190E-02	79
80	66	73	84500.0	34225.0	-140.0	122.0	150.0	122.0	SWMP	0.000E+00	1.227E+04	0.000E+00	3.735E+05	3.795E+05	80
81	80	55	84400.0	34475.0	-105.0	122.0	195.0	122.0	SWMP	0.000E+00	2.041E+04	0.000E+00	2.344E+05	2.548E+05	81
82	123	66	84600.0	35120.0	-162.0	138.0	138.0	138.0	SWMP	0.000E+00	8.674E+04	0.000E+00	0.000E+00	6.380E+04	82
83	126	88	34800.0	34730.0	-176.0	124.0	124.0	124.0	SWMP	0.000E+00	4.804E+04	0.000E+00	0.000E+00	1.097E+05	83
84	102	52	85000.0	34475.0	-148.0	152.0	152.0	152.0	SWMP	0.000E+00	5.331E+04	0.000E+00	0.000E+00	1.547E+04	84
85	87	39	84775.0	34200.0	-170.0	130.0	130.0	127.4	swmp	0.000E+00	2.523E+04	0.000E+00	0.000E+00	-4.376E-02	85
86	103	135	85075.0	34150.0	-130.0	170.0	127.7	127.1	swmp	0.000E+00	5.531E+04	0.000E+00	0.000E+00	2.342E-02	86
87	105	38	84900.0	33950.0	-220.0	80.0	80.0	80.0	SWMP	0.000E+00	3.484E+04	0.000E+00	-4.376E-02	5.767E+04	87
88	41	37	84625.0	34000.0	-205.0	95.0	92.7	91.9	swmp	0.000E+00	3.078E+04	0.000E+00	-2.214E+00	-1.379E+00	88
89	41	36	84425.0	33950.0	-207.0	93.0	93.0	93.0	SWMP	0.000E+00	8.242E+03	0.000E+00	0.000E+00	1.460E+05	89
90	42	35	83825.0	33575.0	-196.0	104.0	104.0	104.0	SWMP	0.000E+00	2.707E+05	0.000E+00	0.000E+00	3.690E+05	90
91	9	34	84450.0	33450.0	-231.0	69.0	69.0	69.0	SWMP	0.000E+00	1.492E+04	0.000E+00	0.000E+00	1.317E+04	91
92	10	33	83750.0	32820.0	-150.0	150.0	139.1	138.2	swmp	0.000E+00	2.614E+05	0.000E+00	0.000E+00	0.000E+00	92
93	122	32	83325.0	33000.0	-205.0	95.0	95.0	95.0	SWMP	0.000E+00	1.513E+05	0.000E+00	4.960E+05	9.624E+05	93
94	93	31	82700.0	33375.0	134.0	434.0	434.0	434.0	SWMP	0.000E+00	6.724E+05	0.000E+00	2.597E+05	4.760E+05	94
95	46	30	83000.0	34275.0	40.0	340.0	340.0	340.0	SWMP	0.000E+00	2.677E+05	0.000E+00	0.000E+00	1.341E+05	95
96	26	106	83000.0	35000.0	-23.0	277.0	277.0	277.0	SWMP	0.000E+00	3.402E+05	0.000E+00	0.000E+00	2.523E+05	96
97	39	51	83575.0	35100.0	-76.0	224.0	224.0	224.0	SWMP	0.000E+00	1.973E+05	0.000E+00	0.000E+00	1.470E+05	97
98	38	50	84000.0	35575.0	-122.0	178.0	178.0	178.0	SWMP	0.000E+00	2.658E+05	0.000E+00	0.000E+00	7.960E+04	98
99	36	48	85000.0	35750.0	-160.0	140.0	140.0	140.0	SWMP	0.000E+00	2.313E+05	0.000E+00	0.000E+00	1.886E+05	99
100	33	49	86000.0	35250.0	-193.0	107.0	107.0	107.0	SWMP	0.000E+00	1.382E+05	0.000E+00	0.000E+00	1.674E+05	100

----------NODE AND FLOW DATA-----------

-NODE DATA- ###	LNK	INT	X-COORD [L]	Y-COORD [L]	BASE-EL [L]	MAX-EL [L]	INIT-W/T [L]	NEW-W/T [L]	BOUNDARY	FIXED-INF [L3/T]	INFILT_INF [L3/T]	STORE_INF [L3/T]	STREAM_INF [L3/T]	OUTFLOW [L3/T]	NODE ###
101	32	47	85390.0	34760.0	-189.0	111.0	111.0	111.0	SWMP	0.000E+00	1.314E+05	0.000E+00	4.094E+05	5.449E+05	101
102	31	54	85400.0	34300.0	-209.0	91.0	91.0	91.0	SWMP	0.000E+00	1.155E+05	0.000E+00	1.547E+04	1.405E+05	102
103	105	44	85175.0	34000.0	-214.0	86.0	86.0	86.0	SWMP	0.000E+00	5.563E-04	0.000E+00	2.842E-02	6.511E+04	103
104	40	43	84875.0	33800.0	-233.0	67.0	67.0	67.0	SWMP	0.000E+00	3.594E+04	0.000E+00	0.000E+00	1.078E+05	104
105	106	42	85150.0	33700.0	-241.0	59.0	59.0	59.0	SWMP	0.000E+00	1.021E+05	0.000E+00	1.223E+05	2.350E+05	105
106	8	41	85350.0	33250.0	-248.0	52.0	52.0	52.0	SWMP	0.000E+00	9.297E+04	0.000E+00	6.487E+06	6.560E+06	106
107	7	40	85825.0	33750.0	-212.0	88.0	88.0	88.0	SWMP	0.000E+00	4.253E+05	0.000E+00	0.000E+00	3.225E+05	107
108	6	22	87000.0	33700.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	6.873E+05	0.000E+00	0.000E+00	6.875E+05	108
109	3	19	88500.0	33700.0	-225.0	75.0	75.0	75.0	SWMP	0.000E+00	1.904E+06	0.000E+00	0.000E+00	1.313E+06	109
110	3	17	88250.0	35000.0	-245.0	55.0	55.0	55.0	SWMP	0.000E+00	9.369E+05	0.000E+00	0.000E+00	1.097E+06	110
111	32	18	87000.0	34450.0	-250.0	50.0	50.0	50.0	SWMP	0.000E+00	8.906E+05	0.000E+00	6.888E+05	1.624E+06	111
112	111	16	87000.0	35600.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	6.772E+05	0.000E+00	0.000E+00	6.888E+05	112
113	2	15	87950.0	35550.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.422E+06	0.000E+00	0.000E+00	1.155E+06	113
114	115	29	87000.0	37000.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	1.097E+06	0.000E+00	7.698E+05	1.895E+06	114
115	1	28	87800.0	38000.0	-240.0	60.0	60.0	60.0	SWMP	0.000E+00	1.437E+06	0.000E+00	1.895E+06	3.398E+06	115
116	33	27	85700.0	37500.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	1.390E+06	0.000E+00	0.000E+00	1.352E+06	116
117	114	26	85450.0	36550.0	-115.0	185.0	185.0	185.0	SWMP	0.000E+00	9.173E+05	0.000E+00	0.000E+00	7.698E+05	117
118	29	25	80900.0	32600.0	265.0	565.0	565.0	565.0	SWMP	0.000E+00	9.844E+05	0.000E+00	0.000E+00	5.333E+05	118
119	13	24	82000.0	32100.0	-150.0	150.0	150.0	150.0	SWMP	0.000E+00	1.092E+06	0.000E+00	0.000E+00	1.248E+06	119
120	94	23	81900.0	33200.0	225.0	525.0	525.0	525.0	SWMP	0.000E+00	5.323E+05	0.000E+00	0.000E+00	2.597E+05	120
121	27	21	82350.0	34200.0	105.0	405.0	405.0	405.0	SWMP	0.000E+00	4.381E+05	0.000E+00	0.000E+00	2.739E+05	121
122	12	20	83300.0	32700.0	-210.0	90.0	90.0	90.0	SWMP	0.000E+00	3.322E+05	0.000E+00	9.624E+05	1.412E+06	122
123	125	14	84680.0	35080.0	-167.0	133.0	133.0	133.0	SWMP	0.000E+00	2.361E+04	0.000E+00	6.380E+04	1.007E+05	123
124	125	13	85090.0	35160.0	-178.0	122.0	122.0	122.0	SWMP	0.000E+00	4.701E+04	0.000E+00	0.000E+00	7.385E+04	124
125	101	12	85230.0	34870.0	-186.0	114.0	114.0	114.0	SWMP	0.000E+00	3.610E+04	0.000E+00	1.746E+05	2.253E+05	125
126	101	11	84810.0	34780.0	-171.0	129.0	129.0	129.0	SWMP	0.000E+00	4.539E+04	0.000E+00	1.097E+05	1.157E+05	126
127	36	10	85180.0	35260.0	-170.0	130.0	130.0	130.0	SWMP	0.000E+00	6.231E+04	0.000E+00	0.000E+00	1.667E+04	127
128	101	9	85350.0	34840.0	-165.0	115.0	115.0	115.0	SWMP	0.000E+00	2.763E+04	0.000E+00	4.841E+04	6.841E+04	128
129	128	8	85420.0	35020.0	-182.0	118.0	118.0	118.0	SWMP	0.000E+00	2.025E+04	0.000E+00	0.000E+00	1.973E+04	129
130	128	7	85350.0	35200.0	-177.0	123.0	123.0	123.0	SWMP	0.000E+00	1.620E+04	0.000E+00	0.000E+00	2.868E+04	130
131	132	6	85500.0	35230.0	-174.0	126.0	126.0	126.0	SWMP	0.000E+00	1.270E+04	0.000E+00	1.395E+04	2.318E+04	131
132	133	5	85580.0	35060.0	-185.0	115.0	115.0	115.0	SWMP	0.000E+00	1.140E+04	0.000E+00	2.318E+04	3.222E+04	132
133	32	4	85740.0	34990.0	-195.0	105.0	105.0	105.0	SWMP	0.000E+00	1.028E+05	0.000E+00	3.222E+04	1.379E+05	133
134	131	3	85540.0	35280.0	-173.0	127.0	127.0	127.0	SWMP	0.000E+00	4.088E+04	0.000E+00	0.000E+00	1.395E+04	134
135	38	2	84050.0	35050.0	-145.0	155.0	155.0	155.0	SWMP	0.000E+00	5.766E+04	0.000E+00	7.362E+05	5.207E+05	135
136	39	1	84060.0	34865.0	-115.0	185.0	183.5	153.4	swmp	0.000E+00	5.463E+03	0.000E+00	0.000E+00	-1.220E+00	136

----------SINK FLOW DATA----------

SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]	SINK ##	CONN ##	TOT_FLOW [L3/T]
0	0	0.0000E+00												
1	2	4.0065E+07	2	0	0.0000E+00	3	0	0.0000E+00	4	0	0.0000E+00	5	0	0.0000E+00
6	0	0.0000E+00	7	0	0.0000E+00	8	0	0.0000E+00	9	0	0.0000E+00	10	0	0.0000E+00
11	0	0.0000E+00	12	0	0.0000E+00	13	0	0.0000E+00	14	0	0.0000E+00	15	0	0.0000E+00
16	0	0.0000E+00	17	0	0.0000E+00	18	0	0.0000E+00	19	0	0.0000E+00	20	0	0.0000E+00

----------ELEMENT DATA-----------

ELEM	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	ELEM
Node1	96	27	27	96	28	120	94	120	120	118	118	15	118	118	15	29	16	16	27	17	26	26	98	26	18	18	24	19	20	23	Node1
Node2	26	121	28	121	120	94	95	119	118	14	15	118	28	120	29	28	28	27	26	26	25	98	26	96	25	24	23	23	23	22	Node2
Node3	27	96	121	95	121	121	121	94	119	119	14	29	29	28	16	16	27	17	17	18	18	25	97	97	24	19	19	20	21	21	Node3
Matl	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3	3	1	1	3	3	3	3	3	3	Soil

ELEM	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	ELEM
Node1	23	23	24	116	115	117	116	115	34	114	113	114	112	113	33	112	110	112	111	109	109	109	109	109	109	108	108	7	7	8	Node1
Node2	116	24	117	115	1	114	114	2	114	113	2	34	113	3	112	110	3	33	110	3	110	4	5	6	108	109	7	108	107	7	Node2
Node3	22	116	116	22	22	116	115	1	117	115	115	112	114	2	34	113	113	111	112	110	111	3	4	5	6	111	6	107	30	30	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	ELEM
Node1	5	8	106	106	30	30	107	31	31	103	103	103	103	103	102	102	101	133	32	33	32	107	35	100	133	100	36	99	35	117	Node1
Node2	30	106	105	30	31	107	32	32	102	105	104	87	86	102	84	101	102	101	33	32	107	108	100	33	100	35	35	36	34	35	Node2
Node3	106	9	9	105	105	31	31	102	103	31	105	104	87	86	86	34	32	32	100	111	111	111	34	34	134	36	117	117	117	99	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Soil

ELEM	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	ELEM
Node1	25	99	98	38	82	127	37	127	83	83	83	83	61	60	70	76	76	77	71	71	72	62	63	85	35	85	65	64	64	64	Node1
Node2	99	98	38	82	127	36	36	134	84	62	61	82	82	70	71	71	77	72	62	72	63	63	86	86	37	65	35	35	63	72	Node2
Node3	99	37	37	37	37	37	99	36	101	84	62	61	60	61	61	70	71	71	61	62	62	84	84	63	86	87	64	63	72	73	Node3
Matl	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Matl
Soil	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	4	4	Soil

ELEM	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	ELEM
Node1	78	78	78	78	79	79	79	66	65	88	38	40	40	40	91	91	41	39	39	89	89	89	66	66	73	73	73	55	55	55	Node1
Node2	72	77	81	80	64	65	66	85	38	104	40	105	9	91	40	41	39	43	55	66	58	41	73	79	79	80	74	73	67	56	Node2
Node3	77	81	80	79	78	64	65	65	37	67	104	104	105	9	41	42	42	42	43	55	66	38	55	73	80	74	67	67	56	43	Node3
Matl	4	4	4	4	4	4	4	3	3	3	5	3	3	2	2	2	2	2	2	5	5	5	6	4	4	4	6	6	6	2	Matl
Soil	4	4	4	4	4	4	4	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	6	4	4	4	6	6	6	2	Soil

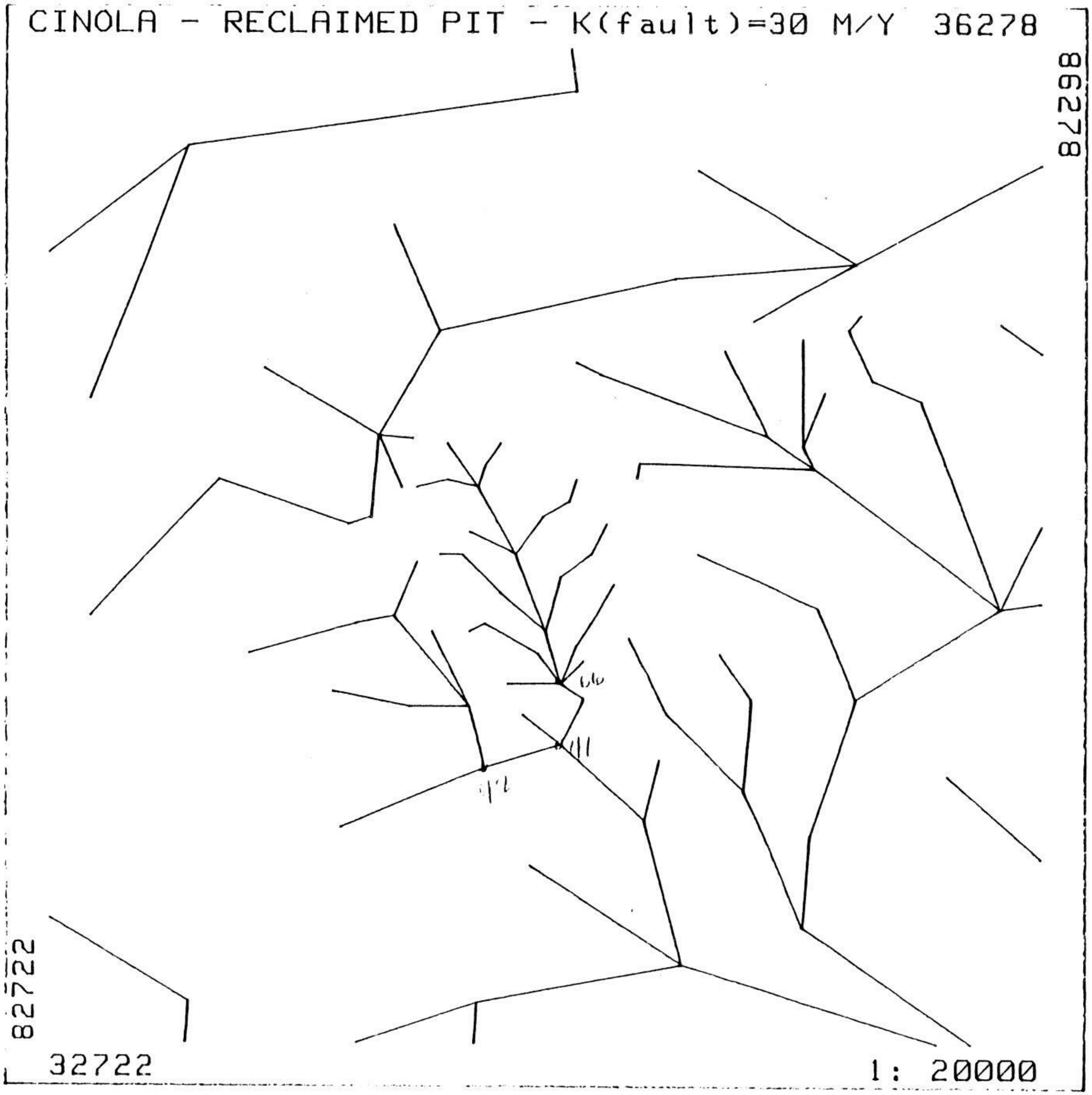
ELEM	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	ELEM
Node1	43	43	44	50	56	56	56	68	74	74	74	81	81	75	68	68	68	58	69	70	60	60	135	39	58	58	52	57	51	45	Node1
Node2	56	50	50	56	57	68	67	67	75	81	80	77	76	76	75	58	69	69	70	60	62	38	39	135	136	39	57	52	52	52	Node2
Node3	50	44	51	51	51	57	68	74	66	75	81	76	75	69	69	57	58	59	59	59	38	59	136	97	39	52	58	51	45	39	Node3
Matl	2	2	2	2	2	6	6	6	6	4	4	4	4	4	6	6	6	6	4	4	3	3	2	1	2	2	2	2	2	2	Matl
Soil	2	5	5	2	2	6	6	6	6	4	4	4	4	4	6	6	6	6	4	4	3	3	2	1	2	2	2	2	5	5	Soil

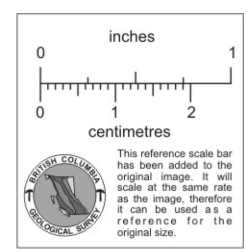
ELEM	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	ELEM
Node1	135	39	46	45	54	54	44	49	49	41	42	42	91	91	91	92	93	94	94	47	90	48	48	47	47	47	47	46	97	94	Node1
Node2	98	97	53	39	45	44	51	44	43	40	43	49	42	90	10	11	92	93	90	90	49	49	54	54	53	46	95	96	96	122	Node2
Node3	97	46	39	53	53	45	45	54	44	88	49	90	90	10	9	10	90	90	47	48	48	54	47	53	46	95	94	95	46	93	Node3
Matl	1	1	1	2	2	2	2	2	2	5	2	2	2	2	2	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	Matl
Soil	1	1	5	5	5	5	5	5	5	3	2	2	2	2	2	1	1	1	1	1	2	5	5	5	5	1	1	1	1	1	Soil

----------ELEMENT DATA-----------

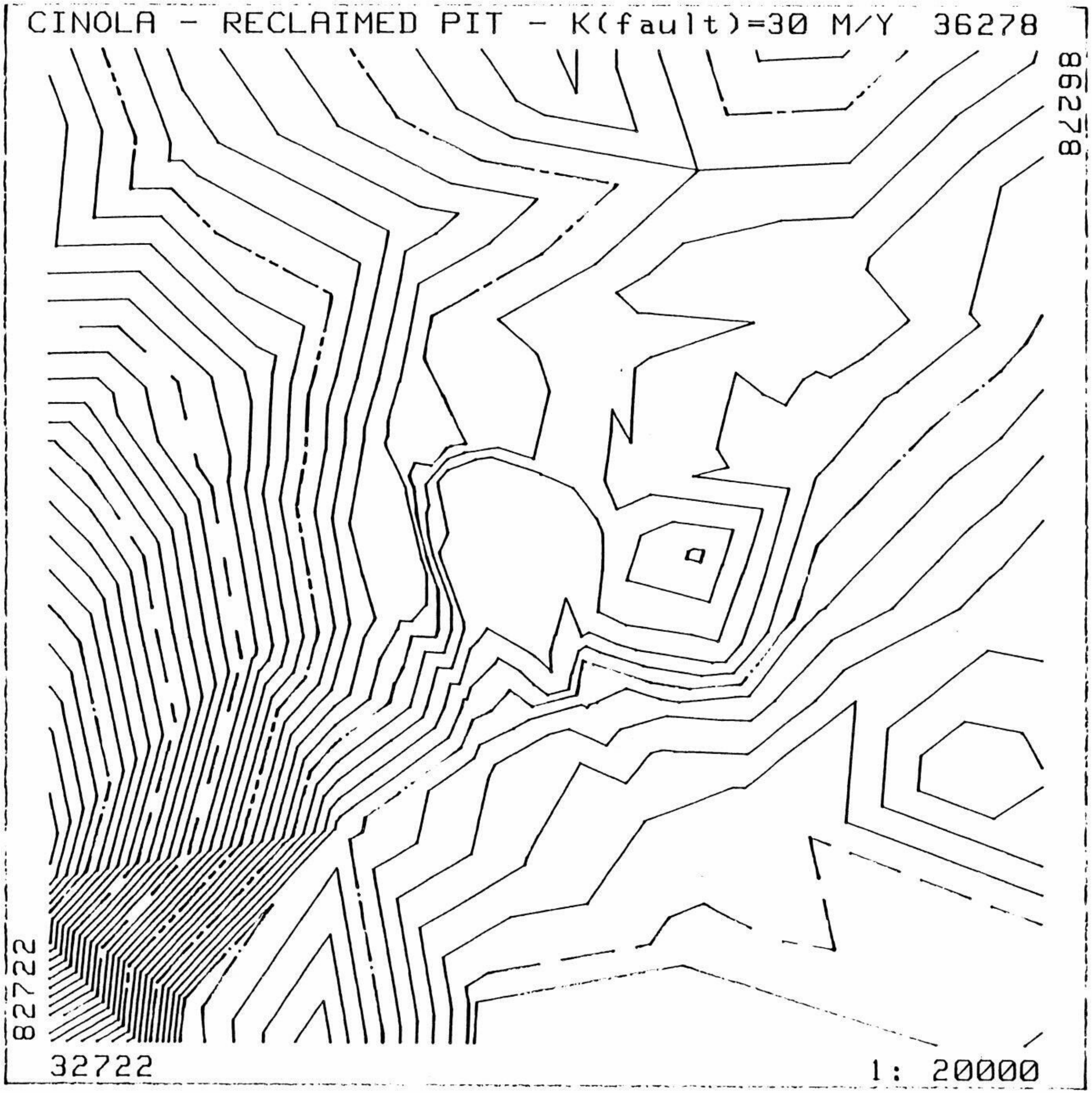
ELEM	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	ELEM
Node1	122	11	12	12	122	13	24	70	92	92	82	123	126	126	125	125	124	62	82	123	124	127	128	128	129	132	131	127	127	130	Node1
Node2	12	92	119	122	94	119	25	69	10	93	83	63	83	101	101	128	125	124	123	126	126	128	129	133	133	133	132	131	130	129	Node2
Node3	92	12	13	119	119	14	117	76	90	122	123	126	101	125	128	127	127	127	124	124	125	130	130	129	132	134	134	134	131	131	Node3
Matl	1	1	1	1	1	1	3	4	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	Matl
Soil	1	1	1	1	1	1	3	4	1	1	6	6	6	6	6	6	6	6	6	6	6	7	7	7	7	7	7	7	7	7	Soil

ELEM	241	242	243	244	245	246	247	248	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	ELEM
Node1	129	128	133	36	133	59	98	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node1
Node2	132	101	32	134	136	136	135	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node2
Node3	131	133	100	100	59	58	38	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Node3
Matl	3	3	3	3	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Matl
Soil	7	3	3	3	4	4	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Soil





STREAMS LOCATIONS



Legend:

— —	50
—·—	100
—··—	150
—···—	200
— —	250

(meters)

Interval:
10 meters

1255 ×10^6
7.759 ×10^5

inches
0 1
0 1 2
centimetres
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.
BRITISH COLUMBIA GEOLOGICAL SURVEY

HEADS
CURRENT

Materials 1-6

APPENDIX 3.2.8-1

SUMMARY OF KINETIC TEST DATA USED IN THE EVALUATION OF CRITICAL NNP VALUE FOR ACID GENERATION, CINOLA GOLD PROJECT

(Pages 1 to 6)

APPENDIX 3.2.8-1
TABLE 1

Reprinted From Stage II Report, Volume V

TABLE 3.3.3-1

Results of Acid-base Accounting From Norecol Humidity Cell Experiments (Series I and II), Cinola Gold Project

							t $CaCO_3$/1000 t			
HUMIDITY CELL	SAMPLE	SERIES	PASTE pH	TOTAL SULPHUR (%S)	SULPHIDE (%S)	LEACHABLE SULPHATE (%S)	MAXIMUM POTENTIAL ACIDITY	NEUTRALI-ZATION POTENTIAL	NET NEUTRALI-ZATION POTENTIAL	KINETIC TESTS[a] pH<5
1	Weathered Skonun Sediments (Conglomerate)	I[b]	4.6	-	0.38	-	11.9	-3.3	-15.2	Yes
		II[b]	4.3	0.58	0.22	0.26	18.2	-0.33	-18.5	Yes
2	Skonun Sediments (Conglomerate)	I	4.8	-	1.43	-	44.7	+1.3	-43.4	Yes
		II	3.7	1.45	1.13	0.21	45.3	-3.97	-48.8	Yes
3	Argillically Altered Skonun Sediments	II[c]	2.6	2.59	1.52	0.84	80.9	-20.8	-101.7	Yes
4	Skonun Sediments (Single-phase breccia)	I	5.4	-	1.85	-	57.8	-0.1	-57.9	Yes
		II	3.7	1.66	1.43	0.12	51.9	-1.06	-53.0	Yes

[a] Based on humidity cell data reported in Volume V Appendix 3.3.3 - 1A and Appendix 3.3.3-2A of the Stage II Report.
[b] Analysis for Series I and II were performed by different laboratories for comparison.
[c] Argillically altered Skonun sediments were only tested in Series II. Maximum potential acidity was calculated from sulphide for Series I and from total sulphur for Series II.

APPENDIX 3.2.8-1

TABLE 2

Reprinted from Stage II Report, Volume V

TABLE 3.4.3-2

Summary of Norecol Acid-base Accounting Study Results for Waste Rock Pads, Cinola Gold Project

PARAMETER	UNITS	BOTTOM SAND[a]	PAD 1	PAD 2	PAD 3	PAD 4
Quantity of waste rock	t	-	20	30	30	30
Total S	%	0.003	1.95	2.96	3.06	1.75
Total S	kg	-	390	888	918	525
Total SO_4[b]	kg	-	1170	2660	2750	1580
Neutralization potential	t $CaCO_3$/1000 t	3.59	2.16	3.05	-6.37	0.69
Paste pH	-	7.8	5.3	7.2	3.5	7.1
Net neutralization potential	t $CaCO_3$/1000 t	+3.50	-58.7	-89.5	-102	-54.0
Kinetic Tests: pH<5[c]			Yes	Yes	Yes	Yes
Time period of onset			4 months	2 months	immediate	1 month

[a] Sand used at the bottom of each waste rock pad.

[b] Total sulphate is calculated by assuming the total sulphur content could be completely oxidized to sulphate.

[c] Based on humidity cell data reported in Appendix 3.4.3-1 of Volume V of the Stage II Report.

APPENDIX 3.2.8-1
TABLE 3

Reprinted from Table Stage II Report, Volume V

TABLE 3.5.2-1
Description of Waste Rock Samples Used In Norecol Column Experiments, Cinola Gold Project

WASTE ROCK GROUP	SECTION No.[a]	HOLE No.[b]	SAMPLE No.	LITHOLOGIC UNIT[c]	ABA SAMPLING NET NP[d]	KINETIC TESTS pH <5
Skonun	11+82	86-R-30	43515	2d	-41	Yes[e]
Sediments	14+89	86-R-43	43286	2c	-102	Yes[e]
(Composite)	15+25	87-R-12	45580	2c	-44	Yes[e]
Single and	13+20	86-R-38	44438	4c	-52	Yes[f]
Multiphase	15+55	86-R-25	42642	4c	-59	Yes[f]
Breccia	12+12	86-R-27	42478	4b	-28	Yes[f]
(Composite)						

[a] Section locations on Figure 3.2.3-1.
[b] Drill hole locations are shown on Table 3.2.4-1, Volume V.
[c] Lithological units are described in Section 3.2.3, Volume V.
[d] Based on ABA data reported in Volume V Appendix 3.2.3-1 of the Stage II Report.
[e] pH remained constant at low levels (2.2-3.8) or dropped to ~3.5 in upper part of column for unflushed, constant trickle and wet/dry cycle conditions. pH generally remained >6 in lower part of columns and other conditions (flushed, unsaturated with water table)
[f] pH constant in range 2.5 to 3.5 for all column experimental conditions.

Refer to Table 3.5.3-1 of Volume V for details

APPENDIX 3.2.8-1

TABLE 4

Reprinted from Table Stage II Report, Volume V

TABLE 3.6.3-1

Results of Norecol Acid-base Accounting Study of Argillically Altered Rock from the Cinola Gold Project (Series IV)

SAMPLE	TOTAL SULPHUR (%S)	SULPHIDE[a] (%S)	LEACHABLE SULPHATE (as %S)	PASTE pH	MAXIMUM ACID POTENTIAL[b,c]	NEUTRALIZATION POTENTIAL[c,d]	NET NEUTRALIZATION POTENTIAL[d]	KINETIC TESTS pH<5
Before Wash Tests								
R-1	4.30	4.08	0.22	2.93	127.5	-3.1	-130.6	Yes
R-1	4.42	4.30	0.12	3.58	134.4	0.8	-133.6	Yes
R-3	5.64	5.51	0.13	3.95	172.2	3.3	-168.9	Yes
R-4	4.71	4.59	0.12	3.96	143.4	3.6	-139.8	Yes
After Wash Tests								
R-1	3.03	2.97	0.06	2.99	92.8	-0.1	-92.9	Yes
R-2	3.91	3.87	0.05	3.54	120.6	1.6	-119.0	Yes
R-3	5.64	5.58	0.06	3.77	174.4	3.3	-171.1	Yes
R-4	5.51	5.44	0.77	3.76	170.0	2.6	-167.4	Yes

[a] Sulphide is calculated by subtracting leachable sulphate from total sulphur.
[b] Maximum acid potential is calculated from sulphide.
[c] Potentials expressed in tonnes of calcium carbonate equivalent per 1000 t of sample
[d] A negative net neutralization potential indicates that the sample has a potential to produce acid mine drainage.
[e] Based on humidity cell data reported in Volume V, Appendix 3.3.4-2 of the Stage II Report.

APPENDIX 3.2.8-1

TABLE 5

REPRINTED FORM STAGE II REPORT, VOLUME V APPENDICES

APPENDIX 3.3.4-3

TABLE 1

ACID-BASE ACCOUNTING RESULTS FROM WASTE ROCK USED IN NORECOL HUMIDITY CELL EXPERIMENTS (SERIES III), CINOLA GOLD PROJECT

				($t\ CaCO_3/1000\ t$)			
WASTE ROCK GROUP	HUMIDITY CELL No.	PASTE pH	TOTAL SULPHUR (%)	MAXIMUM POTENTIAL ACIDITY	NEUTRALIZATION POTENTIAL	NET NEUTRALIZATION POTENTIAL	HUMIDITY CELL pH<5[a]
HAIDA MUDSTONES							
	6	8.2	1.30	40.6	29.7	-10.9	No
	17	8.2	1.38	43.1	151	+108	No
	19	8.4	0.87	27.3	49.4	+22.1	No
	20	7.7	1.15	35.9	7.12	-28.8	Yes
	22	8.1	1.21	37.8	86.4	+48.6	No
	31	7.6	1.71	53.4	35.1	-18.3	No
SKONUN SEDIMENTS							
Sandstone	4	5.4	3.01	94.1	1.32	-92.8	Yes
	7	4.9	1.98	61.9	2.47	-59.4	Yes
	16	4.6	3.12	97.2	0.30	-97.2	Yes
	21	4.1	2.46	73.8	-0.45	-74.3	Yes
	23	5.1	3.84	120	-1.89	-122	Yes
	32	4.1	3.08	96.3	3.04	-93.3	Yes
Matrix Conglomerate	1	6.3	0.96	29.9	1.00	-28.9	Yes
	5	4.7	0.84	26.2	0.50	-25.7	Yes
	8	4.7	2.34	73.1	1.25	-71.9	Yes
	10	4.8	2.16	67.5	0.95	-66.6	Yes
	12	4.9	1.90	59.4	0.37	-58.8	Yes
	27	5.7	2.35	73.4	1.30	-72.1	Yes

continued . . .

APPENDIX 3.2.8-1

TABLE 5 (continued)

REPRINTED FORM STAGE II REPORT, VOLUME V APPENDICES

APPENDIX 3.3.4-3

TABLE 1 (concluded)

ACID-BASE ACCOUNTING RESULTS FROM WASTE ROCK USED IN NORECOL HUMIDITY CELL EXPERIMENTS (SERIES III), CINOLA GOLD PROJECT

				($t\ CaCO_3/1000\ t$)			
WASTE ROCK GROUP	HUMIDITY CELL No.	PASTE pH	TOTAL SULPHUR (%)	MAXIMUM POTENTIAL ACIDITY	NEUTRALIZATION POTENTIAL	NET NEUTRALIZATION POTENTIAL	HUMIDITY CELL pH<5[a]
Clast conglomerate and Single Phase Breccia	11	7.7	2.53	79.1	6.23	-72.9	Yes
	14	7.7	2.61	81.6	13.4	-68.2	No
	15	6.4	2.20	68.8	1.74	-67.1	Yes
	18	5.0	1.47	45.9	0.95	-45.0	Yes
	28	6.5	2.55	79.7	2.54	-77.2	Yes
	29	7.6	2.23	69.7	9.33	-60.4	No
	30	5.0	1.63	50.9	0.25	-50.7	Yes
RHYOLITE	33	5.0	3.22	101	2.39	-98.6	Yes
MULTIPHASE BRECCIA							
	9	4.4	1.51	47.2	0.22	-47.0	Yes
	26	4.3	2.14	66.9	0.01	-66.9	Yes
	34	6.9	3.00	31.3	1.51	-29.8	Yes
ARGILLICALLY ALTERED SKONUN SEDIMENTS							
	2	4.9	4.10	128	1.32	-127	Yes
	3	3.8	6.08	190	0.01	-190	Yes
	13	6.5	4.00	125	3.99	-121	Yes
	24	6.6	4.05	127	6.58	-120	Yes
	25	7.2	4.83	151	7.15	-144	Yes

[a] Based on humidity cell data reported in Volume V Appendix 3.3.4-1B of the Stage II Report. All cells ran for 20 weeks, except cells 11, 20, 22 which have been running for 2 years.

APPENDIX 4.2.2-1

HIGH WEST MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION

(Pages 1 to 50)

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: PREPRODUCTION

FILE: WBPREP

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE7 = 75 ha
RUNOFF FACTOR = 0.8

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	FLOW TO FLOR CK	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE7	REDUCTION IN FLOW
	mm	mm	ha	<------	------	------	1000 m3/d	------	------	------>	M m3	m	1000 m3/d	%
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
											0.000	285		
JUL	80	104	0.03	0.00	3.34	0.00	0.000	0.000	2.64	0.70	0.022	287	1.55	4.1
AUG	78	98	0.59	0.01	3.25	0.02	0.000	0.000	2.58	0.67	0.042	290	1.51	4.1
SEP	166	71	1.43	0.08	7.11	0.03	0.000	0.001	5.67	1.49	0.087	291	3.32	4.1
OCT	297	44	2.06	0.20	12.26	0.03	0.000	0.001	4.91	7.52	0.320	297	5.75	12.1
NOV	260	21	5.33	0.51	10.82	0.04	0.000	0.002	4.44	6.85	0.526	300	5.20	12.1
DEC	260	12	7.33	0.66	10.84	0.03	0.000	0.002	4.29	6.67	0.733	302	5.08	12.1
MEAN	190	58	2.36	0.24	7.84	0.03	0.000	0.001	4.08	3.98	0.288	294	3.72	8.1
TOTAL	1141	350							7.50E+05 m3				6.85E+05 m3	

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Controlled flow
11 Net result of columns 5 to 10
12 Water volume in storage
13 From curve of capacity vs. elevation
14 From column 2, catchment, and runoff factor
15 Reduction in Florence Creek flow due to filling of water storage reservoir

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 1

FILE: WB1

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R   S U P P L Y   R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------				1000 m3/d				------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													0.733	302	
JAN	216	13	9.35	0.65	7.45	0.04	0.000	0.003	0.20	0.00	3.12	4.73	0.879	303	3.66
FEB	216	16	10.11	0.78	8.20	0.06	0.000	0.004	0.20	0.00	3.46	5.26	1.027	305	4.05
MAR	144	26	11.63	0.54	4.89	0.10	0.000	0.004	0.20	0.00	4.16	0.97	1.057	305	2.44
APR	171	40	11.63	0.66	6.00	0.16	0.000	0.004	0.20	0.00	5.11	1.20	1.093	305	2.99
MAY	112	66	11.63	0.42	3.80	0.25	0.000	0.004	0.20	0.76	3.24	-0.22	1.086	305	1.90
JUN	94	87	11.63	0.33	2.95	0.34	0.000	0.004	0.20	1.45	2.51	-1.22	1.049	305	1.47
JUL	80	104	11.63	0.30	2.72	0.39	0.000	0.004	0.20	1.63	2.31	-1.52	1.002	305	1.35
AUG	78	98	11.63	0.29	2.65	0.37	0.000	0.004	0.20	1.65	2.25	-1.54	0.954	304	1.32
SEP	166	71	10.87	0.60	5.85	0.26	0.000	0.004	0.20	0.35	4.96	0.69	0.975	304	2.91
OCT	297	44	10.87	1.04	10.14	0.15	0.000	0.004	0.20	0.00	4.29	6.53	1.177	306	5.03
NOV	260	21	12.40	1.07	9.08	0.09	0.000	0.004	0.20	0.00	3.88	5.99	1.357	307	4.55
DEC	260	12	13.17	1.10	8.74	0.05	0.000	0.004	0.20	0.00	3.76	5.83	1.537	309	4.40
MEAN	173	50	11.39	0.65	6.02	0.19	0.000	0.004	0.20	0.49	3.58	2.20	1.100	305	3.00
TOTAL	2084	598									1.31E+06 m3				1.09E+06 m3

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, see column 28
12 Flow to Florence Creek equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #1 CATCHMENT =	44 ha	AREA OF LOW GRADE ORE STOCKPILE =	3.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	0 t/day	VOL OF WASTE ROCK IN YEAR =	0.00 M m3
MILL EFFLUENT RECYCLE RATIO =	84 %	TOTAL VOL OF SOLIDS IN YEAR =	1.83 M m3

I M P O U N D M E N T   N U M B E R   1
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM WS RES	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------------	------------	------------	------------	------------	1000 m3/d	------------	------------	------------	------------	------------>				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
													0.100	0.000	265	268
JAN	3.0	0.21	2.00	0.34	0.01	0.073	0.003	9.71	9.28	2.70	0.33	0.00	0.110	0.155	270	271
FEB	5.9	0.46	2.06	0.38	0.03	0.074	0.005	9.71	9.28	2.70	0.65	0.00	0.129	0.295	271	273
MAR	7.7	0.36	1.18	0.23	0.06	0.074	0.007	9.71	9.28	2.70	-0.51	0.00	0.113	0.450	273	274
APR	8.6	0.49	1.41	0.29	0.11	0.074	0.008	9.71	9.28	2.70	-0.14	0.00	0.108	0.600	275	276
MAY	10.4	0.33	0.85	0.19	0.22	0.074	0.009	9.71	9.28	2.70	-1.03	0.76	0.100	0.755	276	277
JUN	11.3	0.32	0.64	0.14	0.33	0.074	0.010	9.71	9.28	2.70	-1.45	1.45	0.100	0.905	278	279
JUL	13.1	0.34	0.56	0.13	0.44	0.074	0.012	9.71	9.28	2.70	-1.63	1.63	0.100	1.060	280	280
AUG	14.0	0.35	0.53	0.12	0.44	0.074	0.013	9.71	9.28	2.70	-1.65	1.65	0.100	1.215	280	281
SEP	15.1	0.34	1.12	0.27	0.36	0.074	0.014	9.71	9.28	2.70	-0.35	0.35	0.100	1.365	281	282
OCT	16.2	1.55	1.96	0.47	0.23	0.074	0.014	9.71	9.28	2.70	1.44	0.00	0.145	1.520	282	283
NOV	17.3	1.50	1.62	0.42	0.12	0.074	0.015	9.71	9.28	2.70	1.21	0.00	0.181	1.670	283	284
DEC	18.4	1.54	1.50	0.41	0.07	0.074	0.016	9.71	9.28	2.70	1.17	0.00	0.217	1.825	284	285
MEAN	11.8	0.69	1.27	0.28	0.20	0.074	0.011	9.71	9.28	2.70	-0.17	0.49	0.125	0.989	278	279
TOTAL											-6.20E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 Mill site and low grade ore stockpile runoff, plus other wastes
21 From columns 3 and 17
22-23 From seepage calculations
24 *Mill effluent*
25 Mill effluent recycle (as a % of total mill inflow)
26 From moisture content and deposition rates
27 Net result of columns 18 to 26
28 From columns 27 and 29
29 From columns 27 and 28; 100 000 m3 minimum
30 From deposition rates and densities
31 From curve of capacity vs. elevation
32 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 425 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #1	SEEPAGE OUT	EXC/ DEF	FLOW TO FLO CK	WATER IN POND M m3	WATER ELEV m	REDUCTION IN FLOW %
		<----------------------			1000 m3/d			--------------------->			
	33	34	35	36	37	38	39	40	41	42	43
									0.100	220	
JAN	1.4	0.10	27.44	0.01	0.003	0.004	27.53	27.53	0.100	220	17.8
FEB	1.4	0.11	30.38	0.01	0.005	0.004	30.48	30.48	0.100	220	17.8
MAR	1.4	0.07	20.37	0.01	0.007	0.004	20.43	20.43	0.100	220	10.0
APR	1.4	0.09	25.00	0.02	0.008	0.004	25.07	25.07	0.100	220	10.0
MAY	1.4	0.05	15.85	0.03	0.009	0.004	15.97	15.97	0.100	220	10.1
JUN	1.4	0.04	12.28	0.04	0.010	0.004	12.29	12.29	0.100	220	10.2
JUL	1.4	0.04	11.32	0.05	0.012	0.004	11.32	11.32	0.100	220	10.2
AUG	1.4	0.04	11.04	0.04	0.013	0.004	11.04	11.04	0.100	220	10.2
SEP	1.4	0.08	24.27	0.03	0.014	0.004	24.32	24.32	0.100	220	10.0
OCT	1.4	0.13	37.73	0.02	0.014	0.004	37.86	37.86	0.100	220	17.8
NOV	1.4	0.12	34.13	0.01	0.015	0.004	34.25	34.25	0.100	220	17.8
DEC	1.4	0.12	33.03	0.01	0.016	0.004	33.15	33.15	0.100	220	17.8
MEAN	1.4	0.08	23.51	0.02	0.011	0.004	23.57	23.57	0.100	220	13.3
TOTAL								8.60E+06 m3			

33-34 As for Impoundment #1
35 Runoff from undisturbed catchment, plus columns 12 and 16
36-42 As for Impoundment #1
43 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 2

FILE: WB2

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------				1000 m3				------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.537	309	
JAN	216	13	14.71	1.02	7.18	0.06	0.000	0.005	0.20	0.00	3.98	3.95	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.35	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.55	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.00	2.32	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.83	1.45	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.24	5.72	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.41	0.88	5.86	0.25	0.000	0.005	0.20	0.09	5.85	0.34	1.660	310	3.00
TOTAL	2084	598									2.14E+06 m3				1.09E+06 m3

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, see column 28
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

PULP DENSITY =	33 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #1 CATCHMENT =	44 ha	AREA OF LOW GRADE ORE STOCKPILE =	8.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	0 t/day	VOL OF WASTE ROCK IN YEAR =	0.00 M m3
MILL EFFLUENT RECYCLE RATIO=	94 %	TOTAL VOL OF SOLIDS IN YEAR =	1.83 M m3

IMPOUNDMENT NUMBER 1
(ACTIVE)

MONTH	POND AREA	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	FROM MILL	RETURN TO MIL	RET IN PORES	EXC/ DEF	FROM WS RES	WATER IN POND	TOT TAILS+ WASTE ROCK	SOLIDS ELEV	WATER ELEV
	ha	<------------------------------------1000 m3/d										------------------------------------>	M m3	M m3	m	m
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
													0.217	1.825	284	285
JAN	19.5	1.36	1.19	0.59	0.08	0.075	0.017	9.71	9.28	2.70	0.84	0.00	0.243	1.980	285	286
FEB	20.6	1.59	1.26	0.65	0.12	0.075	0.018	9.71	9.28	2.70	1.16	0.00	0.275	2.120	286	287
MAR	21.7	1.01	0.73	0.39	0.18	0.075	0.019	9.71	9.28	2.70	-0.28	0.00	0.267	2.275	286	288
APR	22.8	1.30	0.85	0.48	0.30	0.075	0.020	9.71	9.28	2.70	0.10	0.00	0.270	2.425	287	289
MAY	23.9	0.86	0.51	0.30	0.51	0.075	0.020	9.71	9.28	2.70	-1.05	0.00	0.237	2.580	288	289
JUN	23.9	0.67	0.39	0.24	0.69	0.075	0.020	9.71	9.28	2.70	-1.62	0.00	0.199	2.730	289	290
JUL	25.0	0.65	0.34	0.22	0.84	0.075	0.021	9.71	9.28	2.70	-1.86	0.00	0.131	2.885	290	290
AUG	25.0	0.63	0.33	0.21	0.79	0.075	0.021	9.71	9.28	2.70	-1.84	0.83	0.100	3.040	290	291
SEP	26.0	1.44	0.70	0.46	0.62	0.075	0.022	9.71	9.28	2.70	-0.24	0.24	0.100	3.190	291	291
OCT	26.0	2.49	1.21	0.80	0.37	0.075	0.022	9.71	9.28	2.70	1.91	0.00	0.159	3.345	291	292
NOV	27.0	2.34	1.03	0.73	0.19	0.075	0.023	9.71	9.28	2.70	1.69	0.00	0.210	3.495	292	292
DEC	27.0	2.26	1.00	0.70	0.10	0.075	0.023	9.71	9.28	2.70	1.64	0.00	0.261	3.650	292	293
MEAN	24.1	1.38	0.79	0.48	0.40	0.075	0.021	9.71	9.28	2.70	0.03	0.09	0.203	2.814	289	290
TOTAL											1.08E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 Mill site and low grade ore stockpile runoff, plus other wastes
21 From columns 3 and 17
22-23 From seepage calculations
24 Mill effluent
25 Mill effluent recyle (as a % of total mill inflow)
26 From moisture content and deposition rates
27 Net result of columns 18 to 26
28 From columns 27 and 29
29 From column 27 and 28; 100 000 m3 minimum
30 From deposition rates and densities
31 From curve of capacity vs. elevation
32 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 420 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #1	SEEPAGE OUT	EXC/ DEF	FLOW TO FLO CK	WATER IN POND	WATER ELEV	REDUCTION IN FLOW
	ha	<-------			1000 m3/d			------->	M m3	m	%
	33	34	35	36	37	38	39	40	41	42	43
									0.100	220	
JAN	1.4	0.10	28.06	0.01	0.017	0.004	28.16	28.16	0.100	220	16.2
FEB	1.4	0.11	35.47	0.01	0.018	0.004	35.58	35.58	0.100	220	6.2
MAR	1.4	0.07	21.20	0.01	0.019	0.004	21.27	21.27	0.100	220	6.8
APR	1.4	0.08	26.01	0.02	0.020	0.004	26.09	26.09	0.100	220	6.9
MAY	1.4	0.05	16.21	0.03	0.020	0.004	16.25	16.25	0.100	220	8.2
JUN	1.4	0.04	12.33	0.04	0.020	0.004	12.34	12.34	0.100	220	9.8
JUL	1.4	0.04	11.24	0.05	0.021	0.004	11.25	11.25	0.100	220	10.7
AUG	1.4	0.04	10.14	0.04	0.021	0.004	10.15	10.15	0.100	220	16.4
SEP	1.4	0.08	24.84	0.03	0.022	0.004	24.90	24.90	0.100	220	8.2
OCT	1.4	0.13	43.99	0.02	0.022	0.004	44.12	44.12	0.100	220	6.4
NOV	1.4	0.12	39.86	0.01	0.023	0.004	39.99	39.99	0.100	220	6.2
DEC	1.4	0.12	38.61	0.01	0.023	0.004	38.75	38.75	0.100	220	6.1
MEAN	1.4	0.08	25.58	0.02	0.021	0.004	25.66	25.66	0.100	220	9.1
TOTAL								9.36E+06 m3			

33-34 As for Impoundment #1
35 Runoff from undisturbed catchment, plus columns 12 and 16
36-42 As for Impoundment #1
43 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 3

FILE: WB3

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT =	162 ha
CATCHMENT FOR DITCH IE1 =	75 ha
RUNOFF FACTOR =	0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------	------	------	------	1000 m3/d	------	------	------	------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.05	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.00	2.32	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.00	2.28	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.00	6.28	0.00	1.660	310	3.00
TOTAL	2084	598									2.29E+06 m3				1.09E+06 m

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, see column 28
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #1 CATCHMENT =	44 ha	AREA OF LOW GRADE ORE STOCKPILE =	10.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2600 t/day	VOL OF WASTE ROCK IN YEAR =	0.43 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.26 M m3

IMPOUNDMENT NUMBER 1
(ACTIVE)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	FROM MILL	RETURN TO MIL	RET IN PORES	EXC/ DEF	FROM WS RES	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV
		<------	1000 m3/d									------>				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
													0.261	3.650	292	293
JAN	28.0	1.95	0.79	0.68	0.12	0.075	0.024	9.71	9.28	2.70	1.07	0.00	0.294	3.642	293	294
FEB	29.0	2.24	0.81	0.76	0.17	0.075	0.025	9.71	9.28	2.70	1.41	0.00	0.333	4.015	293	295
MAR	30.0	1.39	0.46	0.46	0.25	0.075	0.026	9.71	9.28	2.70	-0.17	0.00	0.329	4.206	294	297
APR	30.0	1.71	0.56	0.59	0.40	0.075	0.026	9.71	9.28	2.70	0.20	0.00	0.334	4.392	295	298
MAY	31.0	1.12	0.38	0.35	0.65	0.075	0.026	9.71	9.28	2.70	-1.08	0.00	0.300	4.583	295	29[illegible]
JUN	31.0	0.87	0.25	0.27	0.90	0.075	0.026	9.71	9.28	2.70	-1.73	0.00	0.249	4.769	296	297
JUL	32.0	0.83	0.22	0.25	1.07	0.075	0.027	9.71	9.28	2.70	-2.01	0.00	0.186	4.961	297	297
AUG	32.0	0.81	0.21	0.25	1.01	0.075	0.027	9.71	9.28	2.70	-1.98	0.00	0.125	5.152	297	298
SEP	33.0	1.83	0.43	0.54	0.79	0.075	0.028	9.71	9.28	2.70	-0.22	0.00	0.119	5.338	298	298
OCT	33.0	3.16	0.74	0.94	0.47	0.075	0.028	9.71	9.28	2.70	2.14	0.00	0.185	5.529	298	299
NOV	34.0	2.95	0.61	0.85	0.24	0.075	0.029	9.71	9.28	2.70	1.93	0.00	0.243	5.715	299	300
DEC	35.0	2.94	0.53	0.82	0.14	0.075	0.030	9.71	9.28	2.70	1.92	0.00	0.303	5.906	300	30[illegible]
MEAN	31.5	1.81	0.49	0.56	0.52	0.075	0.027	9.71	9.28	2.70	0.11	0.00	0.249	4.872	296	297
TOTAL											4.19E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 Mill site and low grade ore stockpile runoff, plus other wastes
21 From columns 3 and 17
22-23 From seepage calculations
24 Mill effluent
25 Mill effluent recyle (as a % of total mill inflow)
26 From moisture content and deposition rates
27 Net result of columns 18 to 26

28 From columns 27 and 29
29 From column 27 and 28; 100 000 m3 minimum
30 From deposition rates and densities
31 From curve of capacity vs. elevation
32 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 418 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #1	SEEPAGE OUT	EXC/ DEF	FLOW TO FLO CK	WATER IN POND M m3	WATER ELEV m	REDUCTION IN FLOW %
		<-----------			1000 m3/d			----------->			
	33	34	35	36	37	38	39	40	41	42	43
									0.100	220	
JAN	1.4	0.10	31.93	0.01	0.024	0.004	32.04	32.04	0.100	220	6.5
FEB	1.4	0.11	33.36	0.01	0.025	0.004	35.48	35.48	0.100	220	6.5
MAR	1.4	0.07	21.13	0.01	0.026	0.004	21.21	21.21	0.100	220	7.1
APR	1.4	0.08	25.93	0.02	0.025	0.004	26.01	26.01	0.100	220	7.1
MAY	1.4	0.05	16.15	0.03	0.026	0.004	16.21	16.21	0.100	220	9.5
JUN	1.4	0.04	12.29	0.04	0.026	0.004	12.31	12.31	0.100	220	10.0
JUL	1.4	0.04	11.20	0.05	0.027	0.004	11.21	11.21	0.100	220	10.9
AUG	1.4	0.04	10.93	0.04	0.027	0.004	10.95	10.95	0.100	220	10.8
SEP	1.4	0.08	25.00	0.03	0.028	0.004	25.07	25.07	0.100	220	7.7
OCT	1.4	0.13	43.85	0.02	0.028	0.004	43.99	43.99	0.100	220	6.6
NOV	1.4	0.12	39.74	0.01	0.029	0.004	39.88	39.88	0.100	220	6.4
DEC	1.4	0.12	38.50	0.01	0.030	0.004	38.63	38.63	0.100	220	6.3
MEAN	1.4	0.08	25.93	0.02	0.027	0.004	26.01	26.01	0.100	220	7.9
TOTAL								9.49E+06 m3			

33-34 As for Impoundment #1
35 Runoff from undisturbed catchment, plus columns 12 and 16
36-42 As for Impoundment #1
43 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 4

FILE: WB4

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R   S U P P L Y   R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<----------				1000 m3/d				---------->	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	12	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.89	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.00	[illegible]	[illegible]	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.00	2.28	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.00	6.23	0.00	1.660	310	3.00
TOTAL	2084	598									2.29E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, see column 28
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #1 CATCHMENT =	44 ha	AREA OF LOW GRADE ORE STOCKPILE =	8.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

I M P O U N D M E N T   N U M B E R   1
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	FROM MILL	RETURN TO MIL	RET IN PORES	EXC/ DEF	FROM WS RES	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	------	1000 m3/d	------	------	------	------	------>				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
													0.303	5.906	300	300
JAN	35.0	2.44	0.44	0.59	0.15	0.075	0.030	9.71	9.28	2.70	1.09	0.00	0.336	6.097	300	301
FEB	36.0	2.78	0.43	0.65	0.21	0.075	0.031	9.71	9.28	2.70	1.42	0.00	0.375	6.268	301	302
MAR	37.0	1.72	0.23	0.39	0.31	0.075	0.031	9.71	9.28	2.70	-0.21	0.00	0.370	6.459	301	302
APR	37.0	2.11	0.29	0.48	0.49	0.075	0.031	9.71	9.28	2.70	0.14	0.00	0.374	6.643	302	303
MAY	38.0	1.37	0.15	0.30	0.91	0.075	0.032	9.71	9.28	2.70	-1.21	0.00	0.333	6.833	302	303
JUN	38.0	1.06	0.12	0.24	1.10	0.075	0.032	9.71	9.28	2.70	-1.92	0.00	0.279	7.017	303	303
JUL	38.0	0.99	0.11	0.22	1.27	0.075	0.032	9.71	9.28	2.70	-2.20	0.00	0.210	7.207	303	304
AUG	39.0	0.98	0.09	0.21	1.23	0.075	0.033	9.71	9.28	2.70	-2.19	0.00	0.143	7.399	304	304
SEP	39.0	2.16	0.19	0.46	0.92	0.075	0.033	9.71	9.28	2.70	-0.34	0.00	0.132	7.582	304	305
OCT	40.0	3.33	0.27	0.30	0.57	0.075	0.034	9.71	9.28	2.70	2.10	0.00	0.197	7.772	305	305
NOV	40.0	3.47	0.24	0.73	0.28	0.075	0.034	9.71	9.28	2.70	1.92	0.00	0.255	7.956	305	306
DEC	41.0	3.44	0.13	0.70	0.16	0.075	0.035	9.71	9.28	2.70	1.92	0.00	0.315	8.146	306	306
MEAN	38.2	2.19	0.23	0.48	0.63	0.075	0.032	9.71	9.28	2.70	0.03	0.00	0.276	7.120	303	304
TOTAL											1.23E+04 m3					

17 From curve of area vs. elevation

18 From columns 2 and 17

19 From columns 2, 17, catchment, and runoff factor

20 Mill site and low grade ore stockpile runoff, plus other wastes

21 From columns 3 and 17

22-23 From seepage calculations

24 Mill effluent

25 Mill effluent recyle (as a % of total mill inflow)

26 From moisture content and deposition rates

27 Net result of columns 18 to 26

28 From columns 27 and 29

29 From column 27 and 28; 100 000 m3 minimum

30 From deposition rates and densities

31 From curve of capacity vs. elevation

32 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 420 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #1	SEEPAGE OUT	EXC/ DEF	FLOW TO FLO CK	WATER IN POND M m3	WATER ELEV m	REDUCTION IN FLOW %
		<----------	----------	----------	1000 m3/d	----------	----------	---------->			
	33	34	35	36	37	38	39	40	41	42	43
									0.100	220	
JAN	1.4	0.10	32.03	0.01	0.030	0.004	32.15	32.15	0.100	220	6.2
FEB	1.4	0.11	35.47	0.01	0.031	0.004	35.59	35.59	0.100	220	6.2
MAR	1.4	0.07	21.20	0.01	0.031	0.004	21.28	21.28	0.100	220	6.8
APR	1.4	0.08	26.01	0.02	0.031	0.004	26.10	26.10	0.100	220	6.8
MAY	1.4	0.05	16.21	0.03	0.032	0.004	16.26	16.26	0.100	220	8.2
JUN	1.4	0.04	12.33	0.04	0.032	0.004	12.35	12.35	0.100	220	9.7
JUL	1.4	0.04	11.24	0.05	0.032	0.004	11.26	11.26	0.100	220	10.6
AUG	1.4	0.04	10.97	0.04	0.033	0.004	10.99	10.99	0.100	220	10.5
SEP	1.4	0.08	25.08	0.03	0.033	0.004	25.15	25.15	0.100	220	7.4
OCT	1.4	0.13	43.99	0.02	0.034	0.004	44.13	44.13	0.100	220	6.4
NOV	1.4	0.12	39.86	0.01	0.034	0.004	40.00	40.00	0.100	220	6.2
DEC	1.4	0.12	38.61	0.01	0.035	0.004	38.76	38.76	0.100	220	6.1
MEAN	1.4	0.08	26.01	0.02	0.032	0.004	26.09	26.09	0.100	220	7.6
TOTAL								9.52E+06 m3			

33-34 As for Impoundment #1

35 Runoff from undisturbed catchment, plus columns 12 and 16

36-42 As for Impoundment #1

43 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 5

FILE: WB5

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------			1000 m3/d					------>	M m3	m	1000 m3/c
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.00	2.32	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.00	2.28	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.33	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.00	6.28	0.00	1.660	310	3.00
TOTAL	2084	598									2.29E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	DECANT TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-------	-------	-------	-------	1000 m3/d	-------	-------	-------	------->				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.315	8.146	306	306
JAN	41.0	2.96	0.15	0.17	0.075	0.032	13.03	0.00	-10.16	0.00	0.000	8.146	306	306
FEB	41.0	2.85	0.16	0.23	0.075	0.029	0.00	0.00	2.83	0.00	0.079	8.146	306	306
MAR	41.0	1.90	0.10	0.34	0.075	0.028	0.00	0.00	1.71	0.00	0.132	8.146	306	306
APR	41.0	2.29	0.12	0.55	0.075	0.028	0.00	0.00	1.88	0.00	0.189	8.146	306	306
MAY	41.0	1.48	0.08	0.97	0.075	0.027	0.00	0.00	0.73	0.00	0.211	8.146	306	306
JUN	41.0	1.11	0.06	1.19	0.075	0.027	0.00	0.00	0.03	0.00	0.212	8.146	306	306
JUL	41.0	1.06	0.05	1.38	0.075	0.026	0.00	0.00	-0.21	0.00	0.205	8.146	306	306
AUG	41.0	1.03	0.05	1.30	0.075	0.026	0.00	0.00	-0.16	0.00	0.200	8.146	306	306
SEP	41.0	2.20	0.12	0.97	0.075	0.026	0.00	0.00	1.39	0.00	0.242	8.146	306	306
OCT	41.0	3.93	0.20	0.58	0.075	0.025	0.00	0.00	3.60	0.00	0.354	8.146	306	307
NOV	42.0	3.52	0.12	0.29	0.075	0.025	0.00	0.00	3.40	0.00	0.456	8.146	306	307
DEC	42.0	3.52	0.00	0.16	0.075	0.024	0.00	0.00	3.41	0.00	0.561	8.146	306	307
MEAN	41.2	2.31	0.10	0.67	0.075	0.027	1.11	0.00	0.68	0.00	0.238	8.146	306	306
TOTAL									2.47E+05 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Set to zero for Year 5
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From columns 25 and 26; 100 000 m3 minimum
28-29 From Year 4

30 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #2 CATCHMENT =	50 ha	AREA OF LOW GRADE ORE STOCKPILE =	5.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

IMPOUNDMENT NUMBER 2
(ACTIVE)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-----					1000 m3/d					----->				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
													0.000	0.000	239	239
JAN	0.0	0.00	2.44	0.44	0.00	0.085	0.000	9.71	9.28	2.70	0.69	13.03	0.425	0.190	242	248
FEB	10.1	0.78	2.16	0.49	0.06	0.082	0.006	9.71	9.28	2.70	1.16	0.00	0.458	0.362	245	250
MAR	13.0	0.60	1.20	0.29	0.11	0.081	0.007	9.71	9.28	2.70	-0.21	0.00	0.451	0.552	247	251
APR	13.8	0.79	1.44	0.35	0.18	0.081	0.008	9.71	9.28	2.70	0.20	0.00	0.457	0.736	249	252
MAY	14.6	0.53	0.90	0.23	0.31	0.080	0.009	9.71	9.28	2.70	-0.36	0.00	0.430	0.927	251	253
JUN	15.4	0.43	0.68	0.13	0.45	0.080	0.009	9.71	9.28	2.70	-1.37	0.00	0.389	1.111	252	254
JUL	16.2	0.42	0.61	0.15	0.54	0.079	0.010	9.71	9.28	2.70	-1.56	0.00	0.341	1.301	253	255
AUG	17.0	0.43	0.58	0.16	0.54	0.079	0.011	9.71	9.28	2.70	-1.58	0.00	0.292	1.491	254	256
SEP	17.8	0.98	1.25	0.35	0.42	0.079	0.011	9.71	9.28	2.70	-0.05	0.00	0.291	1.675	255	257
OCT	18.6	1.78	2.11	0.60	0.26	0.078	0.012	9.71	9.28	2.70	2.02	0.00	0.353	1.865	256	258
NOV	19.4	1.68	1.86	0.55	0.14	0.078	0.013	9.71	9.28	2.70	1.74	0.00	0.405	2.050	257	260
DEC	21.0	1.76	1.70	0.53	0.08	0.077	0.014	9.71	9.28	2.70	1.70	0.00	0.458	2.240	258	261
MEAN	14.8	0.85	1.41	0.36	0.26	0.080	0.009	9.71	9.28	2.70	0.15	1.11	0.396	1.213	252	255
TOTAL											5.41E+04 m3					

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 Mill site and low grade ore stockpile runoff, plus other wastes
35 From columns 3 and 31
36-37 From seepage calculations
38 Mill effluent
39 Mill effluent recyle (as a % of total mill inflow)
40 From moisture content and deposition rates
41 Net result of columns 32 to 40
42 From columns 28, 41 and 43
43 From columns 41 and 42; 100 000 m3 minimum
44 From deposition rates and densities
45 From curve of capacity vs. elevation
46 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 373 ha

SETTLING POND (IMPOUNDMENT NUMBER 3)

MONTH	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #2	SEEPAGE OUT	DECANT FR IMP #1	EXC/ DEF	FLOW TO FLO CK	WATER IN POND	WATER ELEV	REDUCTION IN FLOW
	ha	<------------------			1000 m3/d				---------------->	M m3	m	%
	47	48	49	50	51	52	53	54	55	56	57	58
										0.100	220	
JAN	1.4	0.10	29.74	0.01	0.000	0.004	0.00	29.83	29.83	0.100	220	12.0
FEB	1.4	0.11	32.93	0.01	0.004	0.004	0.00	33.03	33.03	0.100	220	12.0
MAR	1.4	0.07	19.67	0.01	0.005	0.004	0.00	19.72	19.72	0.100	220	12.6
APR	1.4	0.08	24.14	0.02	0.006	0.004	0.00	24.20	24.20	0.100	220	12.7
MAY	1.4	0.05	15.02	0.03	0.006	0.004	0.00	15.05	15.05	0.100	220	14.1
JUN	1.4	0.04	11.40	0.04	0.007	0.004	0.00	11.41	11.41	0.100	220	15.7
JUL	1.4	0.04	10.39	0.05	0.007	0.004	0.00	10.39	10.38	0.100	220	16.5
AUG	1.4	0.04	10.14	0.04	0.008	0.004	0.00	10.14	10.14	0.100	220	16.4
SEP	1.4	0.08	23.26	0.03	0.008	0.004	0.00	23.31	23.31	0.100	220	13.2
OCT	1.4	0.13	40.84	0.02	0.009	0.004	0.00	40.95	40.95	0.100	220	12.1
NOV	1.4	0.12	37.01	0.01	0.009	0.004	0.00	37.13	37.13	0.100	220	12.0
DEC	1.4	0.12	35.86	0.01	0.010	0.004	0.00	35.97	35.97	0.100	220	11.9
MEAN	1.4	0.08	24.13	0.02	0.007	0.004	0.00	24.19	24.19	0.100	220	13.5
TOTAL									8.83E+06 m3			

47-48 As for Impoundment #1

49 Runoff from undisturbed catchment, plus columns 12 and 16

50-57 As for Impoundment #1

58 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 6

FILE: WB6

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<-------			1000 m3/d					------->	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.55	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.00	2.32	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.59	0.49	0.000	0.005	0.20	0.00	2.28	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.05	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.00	6.28	0.00	1.660	310	3.00
TOTAL	2084	598									2.29E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T N U M B E R 1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	DECANT TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------------------				1000 m3/d				---------------->				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.561	8.146	306	307
JAN	42.0	2.93	0.10	0.18	0.075	0.024	0.00	3.33	-0.43	0.00	0.548	8.146	306	307
FEB	42.0	2.93	0.11	0.24	0.075	0.024	0.00	3.33	-0.48	0.00	0.535	8.146	306	307
MAR	42.0	1.95	0.07	0.35	0.075	0.024	0.00	2.15	-0.43	0.00	0.521	8.146	306	307
APR	42.0	2.32	0.08	0.56	0.075	0.023	0.00	2.34	-0.45	0.00	0.508	8.146	306	307
MAY	42.0	1.52	0.05	0.89	0.075	0.023	0.00	1.16	-0.43	0.00	0.494	8.146	306	307
JUN	42.0	1.14	0.04	1.22	0.075	0.023	0.00	0.46	-0.45	0.00	0.481	8.146	306	307
JUL	42.0	1.08	0.04	1.41	0.075	0.022	0.00	0.20	-0.43	0.00	0.467	8.146	306	307
AUG	42.0	1.06	0.04	1.33	0.075	0.022	0.00	0.25	-0.43	0.00	0.454	8.146	306	307
SEP	42.0	2.25	0.08	0.99	0.075	0.022	0.00	1.83	-0.45	0.00	0.440	8.146	306	307
OCT	42.0	4.02	0.13	0.60	0.075	0.022	0.00	4.05	-0.43	0.00	0.427	8.146	306	307
NOV	42.0	3.52	0.12	0.29	0.075	0.021	0.00	3.85	-0.45	0.00	0.413	8.146	306	307
DEC	42.0	3.52	0.00	0.16	0.075	0.021	0.00	3.85	-0.43	0.00	0.400	8.146	306	307
MEAN	42.0	2.35	0.07	0.69	0.075	0.023	0.00	2.23	-0.44	0.00	0.474	8.146	306	307
TOTAL									-1.61E+05 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Decant to reduce water volume to nominal 400 000 m3
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From columns 25 and 26; 100 000 m3 minimum
28-29 From Year 4
30 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #2 CATCHMENT =	50 ha	AREA OF LOW GRADE ORE STOCKPILE =	2.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

IMPOUNDMENT NUMBER 2
(ACTIVE)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	------	1000 m3/d	------	------	------	------	------>				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
													0.459	2.240	258	261
JAN	21.8	1.52	1.38	0.29	0.09	0.077	0.015	9.71	9.28	2.70	0.39	0.00	0.495	2.430	259	261
FEB	21.8	1.68	1.53	0.32	0.12	0.077	0.015	9.71	9.28	2.70	1.19	0.00	0.519	2.602	260	262
MAR	22.5	1.05	0.89	0.20	0.19	0.077	0.016	9.71	9.28	2.70	-0.27	0.00	0.510	2.792	261	263
APR	23.3	1.33	1.07	0.24	0.31	0.076	0.016	9.71	9.28	2.70	0.11	0.00	0.513	2.976	262	264
MAY	24.0	0.87	0.66	0.15	0.51	0.076	0.017	9.71	9.28	2.70	-1.05	0.00	0.481	3.166	262	264
JUN	24.0	0.67	0.51	0.12	0.70	0.076	0.017	9.71	9.28	2.70	-1.61	0.00	0.432	3.350	263	265
JUL	24.8	0.64	0.46	0.11	0.83	0.075	0.018	9.71	9.28	2.70	-1.85	0.00	0.375	3.541	264	265
AUG	24.8	0.62	0.44	0.11	0.79	0.075	0.018	9.71	9.28	2.70	-1.83	0.00	0.319	3.731	265	266
SEP	25.5	1.41	0.95	0.23	0.60	0.075	0.018	9.71	9.28	2.70	-0.23	0.00	0.312	3.915	265	267
OCT	26.3	2.51	1.59	0.40	0.37	0.075	0.019	9.71	9.28	2.70	1.92	0.00	0.371	4.105	266	268
NOV	27.0	2.34	1.40	0.36	0.19	0.074	0.020	9.71	9.28	2.70	1.69	0.00	0.422	4.289	267	269
DEC	27.8	2.33	1.31	0.35	0.11	0.074	0.020	9.71	9.28	2.70	1.66	0.00	0.473	4.490	268	270
MEAN	24.5	1.41	1.01	0.24	0.40	0.076	0.017	9.71	9.28	2.70	0.04	0.00	0.434	3.453	264	265
TOTAL											1.5E+04 m3					

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 Mill site and low grade ore stockpile runoff, plus other wastes
35 From columns 3 and 31
36-37 From seepage calculations
38 Mill effluent
39 Mill effluent recyle (as a % of total mill inflow)
40 From moisture content and deposition rates
41 Net result of columns 32 to 40
42 From columns 41 and 43
43 From column 41 and 42; 100 000 m3 minimum
44 From deposition rates and densities
45 From curve of capacity vs. elevation
46 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 376 ha

S E T T L I N G   P O N D   (I M P O U N D M E N T   N U M B E R   3)

MONTH	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #2	SEEPAGE OUT	DECANT FR IMP #1	EXC/ DEF	FLOW TO FLO CK	WATER IN POND	WATER ELEV	REDUCTION IN FLOW
	ha	<------------------			1000 m3/d				------------------>	M m3	m	%
	47	48	49	50	51	52	53	54	55	56	57	58
										0.100	220	
JAN	1.4	0.10	29.88	0.01	0.011	0.004	3.33	33.31	33.31	0.100	220	3.3
FEB	1.4	0.11	33.09	0.01	0.011	0.004	3.33	36.52	36.52	0.100	220	4.1
MAR	1.4	0.07	19.77	0.01	0.011	0.004	2.15	21.98	21.98	0.100	220	4.2
APR	1.4	0.08	24.25	0.02	0.011	0.004	2.34	26.66	26.66	0.100	220	5.1
MAY	1.4	0.05	15.10	0.03	0.012	0.004	1.16	16.29	16.29	0.100	220	8.1
JUN	1.4	0.04	11.46	0.04	0.012	0.004	0.46	11.93	11.93	0.100	220	12.4
JUL	1.4	0.04	10.44	0.05	0.012	0.004	0.20	10.64	10.64	0.100	220	14.8
AUG	1.4	0.04	10.19	0.04	0.012	0.004	0.25	10.44	10.44	0.100	220	14.3
SEP	1.4	0.08	23.37	0.03	0.013	0.004	1.83	25.26	25.26	0.100	220	7.1
OCT	1.4	0.13	41.04	0.02	0.013	0.004	4.05	45.21	45.21	0.100	220	4.4
NOV	1.4	0.12	37.19	0.01	0.014	0.004	3.85	41.17	41.17	0.100	220	3.8
DEC	1.4	0.12	36.03	0.01	0.014	0.004	3.85	40.00	40.00	0.100	220	3.5
MEAN	1.4	0.08	24.25	0.02	0.012	0.004	2.23	26.54	26.54	0.100	220	7.1
TOTAL									9.69E+06 m3			

46-47 As for Impoundment #1

48 Runoff from undisturbed catchment, plus columns 12 and 16

49-56 As for Impoundment #1

57 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 7

FILE: WB7

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R   S U P P L Y   R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<----------				1000 m3/d				---------->	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.58	3.71	0.33	0.000	0.005	0.20	0.00	3.75	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.23	2.09	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.18	2.10	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.04	6.25	0.00	1.660	310	3.00
TOTAL	2084	599									2.28E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------				1000 m3/d				------>				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.400	8.146	306	307
JAN	42.0	2.93	0.10	0.18	0.075	0.021	0.00	2.90	0.00	0.00	0.400	8.146	306	307
FEB	42.0	2.93	0.11	0.24	0.075	0.021	0.00	2.35	0.00	0.00	0.400	8.146	306	307
MAR	42.0	1.95	0.07	0.35	0.075	0.020	0.00	1.72	0.00	0.00	0.400	8.146	306	307
APR	42.0	2.32	0.08	0.56	0.075	0.020	0.00	1.89	0.00	0.00	0.400	8.146	306	307
MAY	42.0	1.52	0.05	0.89	0.075	0.020	0.00	0.73	0.00	0.00	0.400	8.146	306	307
JUN	42.0	1.14	0.04	1.22	0.075	0.019	0.00	0.01	0.00	0.00	0.400	8.146	306	307
JUL	42.0	1.08	0.04	1.41	0.075	0.019	0.00	0.00	-0.23	0.23	0.400	8.146	306	307
AUG	42.0	1.06	0.04	1.33	0.075	0.019	0.00	0.00	-0.18	0.18	0.400	8.146	306	307
SEP	42.0	2.25	0.08	0.99	0.075	0.019	0.00	1.39	0.00	0.00	0.400	8.146	306	307
OCT	42.0	4.02	0.13	0.50	0.075	0.019	0.00	3.62	0.00	0.00	0.400	8.146	306	307
NOV	42.0	3.52	0.12	0.29	0.075	0.019	0.00	3.41	0.00	0.00	0.400	8.146	306	307
DEC	42.0	3.52	0.00	0.16	0.075	0.018	0.00	3.42	0.00	0.00	0.400	8.146	306	307
MEAN	42.0	2.35	0.07	0.69	0.075	0.020	0.00	1.82	-0.04	0.04	0.400	8.146	306	307
TOTAL									-1.28E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From column 26; 400 000 m3 maximum
28-29 From Year 4
30 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #2 CATCHMENT =	50 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	3300 t/day	VOL OF WASTE ROCK IN YEAR =	0.55 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.37 M m3

I M P O U N D M E N T   N U M B E R   2
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV
		<------					1000 m3/d					------>				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
													0.473	4.480	268	270
JAN	28.5	1.99	1.05	0.20	0.12	0.074	0.021	9.71	9.28	2.70	0.89	0.00	0.501	4.681	269	270
FEB	28.5	2.20	1.16	0.22	0.16	0.074	0.021	9.71	9.28	2.70	1.19	0.00	0.534	4.863	269	271
MAR	29.3	1.36	0.67	0.13	0.25	0.073	0.022	9.71	9.28	2.70	-0.31	0.00	0.524	5.065	270	271
APR	29.3	1.67	0.83	0.16	0.39	0.073	0.022	9.71	9.28	2.70	0.04	0.00	0.526	5.260	270	272
MAY	30.0	1.08	0.51	0.10	0.64	0.073	0.022	9.71	9.28	2.70	-1.17	0.00	0.489	5.461	271	273
JUN	30.8	0.86	0.38	0.08	0.89	0.072	0.023	9.71	9.28	2.70	-1.80	0.00	0.435	5.656	272	273
JUL	30.8	0.79	0.35	0.07	1.0[illegible]	0.072	0.023	9.71	9.28	2.70	-2.04	0.00	0.372	5.858	272	273
AUG	30.8	0.77	0.34	0.07	0.97	0.072	0.023	9.71	9.28	2.70	-2.02	0.00	0.309	6.059	273	274
SEP	31.5	1.74	0.72	0.15	0.75	0.072	0.024	9.71	9.28	2.70	-0.36	0.00	0.299	6.254	273	274
OCT	31.5	3.02	1.24	0.27	0.45	0.072	0.024	9.71	9.28	2.70	1.85	0.00	0.356	6.456	274	275
NOV	32.3	2.80	1.08	0.24	0.23	0.072	0.024	9.71	9.28	2.70	1.66	0.00	0.406	6.651	275	276
DEC	33.0	2.77	1.00	0.23	0.13	0.071	0.025	9.71	9.28	2.70	1.54	0.00	0.457	6.852	275	276
MEAN	30.5	1.75	0.77	0.16	0.50	0.073	0.023	9.71	9.28	2.70	-0.04	0.00	0.433	5.755	272	273
TOTAL											-1.5E+04 m3					

31 From curve of area vs. elevation

32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor

34 Mill site and low grade ore stockpile runoff, plus other wastes
35 From columns 3 and 31

36-37 From seepage calculations
38 Mill effluent

39 Mill effluent recyle (as a % of total mill inflow)

40 From moisture content and deposition rates

41 Net result of columns 32 to 40

42 From columns 41 and 43
43 From column 41 and 42; 100 000 m3 minimum
44 From deposition rates and densities
45 From curve of capacity vs. elevation
46 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 378 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #2	SEEPAGE OUT	SPILL FR IMP #1	EXC/ DEF	FLOW TO FLO CK	WATER IN POND M m3	WATER ELEV m	REDUCTION IN FLOW %
		<------	------	------	1000 m3/d	------	------	------	------>			
	47	48	49	50	51	52	53	54	55	56	57	58
										0.100	220	
JAN	1.4	0.10	29.98	0.01	0.015	0.004	2.90	32.99	32.99	0.100	220	4.1
FEB	1.4	0.11	33.20	0.01	0.015	0.004	2.85	36.16	36.16	0.100	220	4.9
MAR	1.4	0.07	19.83	0.01	0.015	0.004	1.72	21.62	21.62	0.100	220	5.5
APR	1.4	0.08	24.34	0.02	0.015	0.004	1.89	26.30	26.30	0.100	220	6.2
MAY	1.4	0.05	15.15	0.03	0.016	0.004	0.73	15.91	15.91	0.100	220	9.9
JUN	1.4	0.04	11.50	0.04	0.016	0.004	0.01	11.53	11.53	0.100	220	14.9
JUL	1.4	0.04	10.25	0.05	0.016	0.004	0.00	10.25	10.25	0.100	220	17.4
AUG	1.4	0.04	10.05	0.04	0.016	0.004	0.00	10.05	10.05	0.100	220	17.0
SEP	1.4	0.08	23.45	0.03	0.017	0.004	1.39	24.90	24.90	0.100	220	8.2
OCT	1.4	0.13	41.17	0.02	0.017	0.004	3.62	44.92	44.92	0.100	220	4.9
NOV	1.4	0.12	37.31	0.01	0.017	0.004	3.41	40.85	40.85	0.100	220	4.5
DEC	1.4	0.12	36.15	0.01	0.018	0.004	3.42	39.69	39.69	0.100	220	4.1
MEAN	1.4	0.08	24.30	0.02	0.016	0.004	1.82	26.19	26.19	0.100	220	8.5
TOTAL									9.56E+06 m3			

46-47 As for Impoundment #1
48 Runoff from undisturbed catchment, plus columns 12 and 16
49-56 As for Impoundment #1
57 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 8

FILE: WB8

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------				1000 m3/d				------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.98	0.00	1.660	310	3.66
FEB	215	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.65	0.21	0.000	0.005	0.20	0.00	6.12	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.23	2.09	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.18	2.10	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.03	6.25	0.00	1.660	310	3.00
TOTAL	2084	599									2.28E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill [illegible] plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-------	-------	-------	-------	1000 m3/d	-------	-------	-------	------->				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.400	8.146	306	307
JAN	42.0	2.93	0.10	0.12	0.075	0.018	0.00	2.90	0.00	0.00	0.400	8.146	306	307
FEB	42.0	2.93	0.11	0.24	0.075	0.018	0.00	2.85	0.00	0.00	0.400	8.146	306	307
MAR	42.0	1.95	0.07	0.35	0.075	0.018	0.00	1.72	0.00	0.00	0.400	8.146	306	307
APR	42.0	2.32	0.08	0.56	0.075	0.018	0.00	1.89	0.00	0.00	0.400	8.146	306	307
MAY	42.0	1.52	0.05	0.89	0.075	0.017	0.00	0.73	0.00	0.00	0.400	8.146	306	307
JUN	42.0	1.14	0.04	1.22	0.075	0.017	0.00	0.02	0.00	0.00	0.400	8.146	306	307
JUL	42.0	1.08	0.04	1.41	0.075	0.017	0.00	0.00	-0.23	0.23	0.400	8.146	306	307
AUG	42.0	1.06	0.04	1.33	0.075	0.017	0.00	0.00	-0.18	0.18	0.400	8.146	306	307
SEP	42.0	2.25	0.08	0.99	0.075	0.017	0.00	1.39	0.00	0.00	0.400	8.146	306	307
OCT	42.0	4.02	0.13	0.60	0.075	0.016	0.00	3.62	0.00	0.00	0.400	8.146	306	307
NOV	42.0	3.52	0.12	0.29	0.075	0.016	0.00	3.41	0.00	0.00	0.400	8.146	306	307
DEC	42.0	3.52	0.00	0.16	0.075	0.016	0.00	3.42	0.00	0.00	0.400	8.146	306	307
MEAN	42.0	2.35	0.07	0.69	0.075	0.017	0.00	1.82	-0.03	0.03	0.400	8.146	306	307
TOTAL									-1.27E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From column 26; 400 000 m3 maximum
28-29 From Year 4

30 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #2 CATCHMENT =	50 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

I M P O U N D M E N T   N U M B E R   2
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	------	1000 m3/d	------	------	------	------	------>				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
													0.457	6.852	275	276
JAN	33.0	2.30	0.83	0.20	0.14	0.071	0.025	9.71	9.28	2.70	0.96	0.00	0.486	7.042	276	277
FEB	33.8	2.60	0.38	0.22	0.19	0.071	0.026	9.71	9.28	2.70	1.27	0.00	0.522	7.214	276	278
MAR	34.5	1.60	0.50	0.13	0.29	0.071	0.026	9.71	9.28	2.70	-0.28	0.00	0.513	7.404	277	278
APR	34.5	1.97	0.62	0.16	0.46	0.071	0.026	9.71	9.28	2.70	0.05	0.00	0.515	7.588	277	278
MAY	35.3	1.27	0.37	0.10	0.75	0.070	0.027	9.71	9.28	2.70	-1.24	0.00	0.477	7.779	278	279
JUN	35.3	0.99	0.29	0.08	1.02	0.070	0.027	9.71	9.28	2.70	-1.90	0.00	0.420	7.962	278	280
JUL	36.0	0.93	0.25	0.07	1.21	0.070	0.028	9.71	9.28	2.70	-2.19	0.00	0.352	8.153	279	280
AUG	36.0	0.91	0.25	0.07	1.14	0.070	0.028	9.71	9.28	2.70	-2.15	0.00	0.295	8.343	280	280
SEP	36.0	1.99	0.54	0.15	0.85	0.070	0.028	9.71	9.28	2.70	-0.40	0.00	0.273	8.527	280	281
OCT	36.8	3.53	0.89	0.27	0.52	0.069	0.028	9.71	9.28	2.70	1.92	0.00	0.333	8.713	281	281
NOV	36.8	3.19	0.80	0.24	0.26	0.069	0.028	9.71	9.28	2.70	1.74	0.00	0.385	8.902	281	282
DEC	37.6	3.15	0.73	0.23	0.15	0.069	0.029	9.71	9.28	2.70	1.74	0.00	0.439	9.092	281	283
MEAN	35.5	2.03	0.58	0.16	0.58	0.070	0.027	9.71	9.28	2.70	-0.05	0.00	0.416	8.065	279	280
TOTAL											-1.3E+04 m3					

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 Mill site and low grade ore stockpile runoff, plus other wastes
35 From columns 3 and 31
36-37 From seepage calculations
38 Mill effluent
39 Mill effluent recyle (as a % of total mill inflow)
40 From moisture content and deposition rates
41 Net result of columns 32 to 40
42 From columns 41 and 43
43 From column 41 and 42; 100 000 m3 minimum
44 From deposition rates and densities
45 From curve of capacity vs. elevation
46 From curve of capacity vs. elevation

IMPOUNDMENT #3 CATCHMENT = 378 ha

S E T T L I N G P O N D (I M P O U N D M E N T N U M B E R 3)

MONTH	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #2	SEEPAGE OUT	DECANT FR IMP #1	EXC/ DEF	FLOW TO FLG CK	WATER IN POND	WATER ELEV	REDUCTION IN FLOW
	ha	<-----------			1000 m3/d				----------->	M m3	m	%
	47	48	49	50	51	52	53	54	55	56	57	58
										0.100	220	
JAN	1.4	0.10	29.99	0.01	0.019	0.004	2.90	32.99	32.99	0.100	220	4.1
FEB	1.4	0.11	33.20	0.01	0.018	0.004	2.85	36.16	36.16	0.100	220	4.9
MAR	1.4	0.07	19.83	0.01	0.019	0.004	1.72	21.62	21.62	0.100	220	5.5
APR	1.4	0.08	24.34	0.02	0.019	0.004	1.89	26.31	26.31	0.100	220	6.2
MAY	1.4	0.05	15.15	0.03	0.019	0.004	0.73	15.92	15.92	0.100	220	9.8
JUN	1.4	0.04	11.50	0.04	0.019	0.004	0.02	11.53	11.53	0.100	220	14.9
JUL	1.4	0.04	10.23	0.05	0.020	0.004	0.00	10.25	10.25	0.100	220	17.4
AUG	1.4	0.04	10.05	0.04	0.020	0.004	0.00	10.06	10.06	0.100	220	17.0
SEP	1.4	0.08	23.45	0.03	0.020	0.004	1.39	24.90	24.90	0.100	220	8.2
OCT	1.4	0.13	41.17	0.02	0.020	0.004	3.62	44.92	44.92	0.100	220	4.9
NOV	1.4	0.12	37.31	0.01	0.020	0.004	3.41	40.85	40.85	0.100	220	4.5
DEC	1.4	0.12	36.15	0.01	0.021	0.004	3.42	39.70	39.70	0.100	220	4.1
MEAN	1.4	0.08	24.30	0.02	0.019	0.004	1.82	26.19	26.19	0.100	220	8.5
TOTAL									9.56E+06 m3			

46-47 As for Impoundment #1

48 Runoff from undisturbed catchment, plus columns 12 and 16

49-56 As for Impoundment #1

57 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 9

FILE: WB9

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT =	162	ha
CATCHMENT FOR DITCH IE1 =	75	ha
RUNOFF FACTOR =	0.7	

W A T E R   S U P P L Y   R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------			1000 m3/d					------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.63	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.23	2.09	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.18	2.10	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.03	6.25	0.00	1.660	310	3.00
TOTAL	2084	598									2.28E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m
		<-----------				1000 m3/d				----------->			
	17	18	19	20	21	22	23	24	25	26	27	28	29
											0.400	8.146	306
JAN	42.0	2.93	0.10	0.18	0.075	0.016	0.00	2.91	0.00	0.00	0.400	8.146	306
FEB	42.0	2.93	0.11	0.24	0.075	0.016	0.00	2.85	0.00	0.00	0.400	8.146	306
MAR	42.0	1.95	0.07	0.35	0.075	0.016	0.00	1.72	0.00	0.00	0.400	8.146	306
APR	42.0	2.32	0.08	0.55	0.075	0.016	0.00	1.90	0.00	0.00	0.400	8.146	306
MAY	42.0	1.52	0.05	0.89	0.075	0.016	0.00	0.73	0.00	0.00	0.400	8.146	306
JUN	42.0	1.14	0.04	1.22	0.075	0.016	0.00	0.02	0.00	0.00	0.400	8.146	306
JUL	42.0	1.08	0.04	1.41	0.075	0.016	0.00	0.00	-0.23	0.23	0.400	8.146	306
AUG	42.0	1.06	0.04	1.33	0.075	0.016	0.00	0.00	-0.18	0.18	0.400	8.146	306
SEP	42.0	2.25	0.08	0.99	0.075	0.016	0.00	1.39	0.00	0.00	0.400	8.146	306
OCT	42.0	4.02	0.13	0.60	0.075	0.016	0.00	3.62	0.00	0.00	0.400	8.146	306
NOV	42.0	3.52	0.12	0.29	0.075	0.016	0.00	3.41	0.00	0.00	0.400	8.146	306
DEC	42.0	3.52	0.00	0.16	0.075	0.016	0.00	3.42	0.00	0.00	0.400	8.146	306
MEAN	42.0	2.35	0.07	0.69	0.075	0.016	0.00	1.82	-0.03	0.03	0.400	8.146	306
TOTAL									-1.26E+04 m3				

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From column 25; 400 000 m3 maximum
28-29 From Year 4

30 From curve of capacity vs. elevation

IMPOUNDMENT #2 CATCHMENT = 50 ha

I M P O U N D M E N T   N U M B E R   2

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	DECANT TO IMP #3	DECANT TO SET POND	EXC/ DEF	FROM IMP#1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m
		<-------------------------				1000 m3/d				------------------------>			
	31	32	33	34	35	36	37	38	39	40	41	42	43
											0.439	9.092	281
JAN	38.4	2.69	0.57	0.16	0.069	0.029	17.28	0.00	-14.16	0.00	0.000	9.092	281
FEB	36.8	2.84	0.71	0.00	0.069	0.025	0.00	0.00	3.60	0.00	0.101	9.092	281
MAR	37.6	1.75	0.40	0.32	0.069	0.025	0.00	0.00	1.88	0.00	0.159	9.092	281
APR	37.6	2.14	0.49	0.50	0.069	0.024	0.00	0.00	2.18	0.00	0.224	9.092	281
MAY	37.6	1.36	0.31	0.80	0.069	0.024	0.00	0.00	0.92	0.00	0.253	9.092	281
JUN	37.6	1.05	0.24	1.09	0.069	0.024	0.00	0.00	0.25	0.00	0.260	9.092	281
JUL	37.6	0.97	0.22	1.26	0.069	0.023	0.00	0.00	-0.02	0.00	0.260	9.092	281
AUG	37.6	0.95	0.22	1.19	0.069	0.023	0.00	0.00	0.02	0.00	0.260	9.092	281
SEP	37.6	2.08	0.48	0.99	0.069	0.023	0.00	0.00	1.72	0.00	0.312	9.092	281
OCT	37.6	3.60	0.83	0.53	0.069	0.022	0.00	0.00	3.35	0.00	[illegible]	9.092	281
NOV	39.4	3.83	0.70	0.27	0.069	0.022	0.00	0.00	3.81	0.00	0.548	9.092	281
DEC	39.4	3.22	0.68	0.15	0.069	0.022	0.00	0.00	3.80	0.00	0.666	9.092	281
MEAN	37.7	2.16	0.49	0.60	0.069	0.024	1.47	0.00	0.62	0.00	0.291	9.092	281
TOTAL									2.27E+05 m3				

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 From columns 3 and 31
35-36 From seepage calculations
37 Decant of pond water to Imp #3
38 Set to zero for Year 9
39 Net result of columns 32 to 38
40 Decant from Imp#1, if necessary
41 From column 40
42-43 From Year 8

44 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #3 CATCHMENT =	45 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	5000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE=	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

I M P O U N D M E N T   N U M B E R   3
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #2	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-------------------------------------					1000 m3/d	-----------------				------------------>				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
													0.100	0.000	208	220
JAN	1.4	0.10	2.13	0.20	0.01	0.028	0.006	9.71	9.28	2.70	17.44	17.28	0.641	0.190	223	238
FEB	6.6	0.51	2.07	0.22	0.04	0.025	0.014	9.71	9.28	2.70	0.50	0.00	0.654	0.362	230	240
MAR	7.3	0.34	1.23	0.13	0.06	0.024	0.015	9.71	9.28	2.70	-0.63	0.00	0.635	0.552	233	242
APR	8.5	0.49	1.45	0.16	0.11	0.024	0.016	9.71	9.28	2.70	-0.28	0.00	0.623	0.736	236	244
MAY	9.8	0.35	0.89	0.10	0.21	0.023	0.017	9.71	9.28	2.70	-1.13	0.00	0.591	0.927	240	245
JUN	10.4	0.29	0.68	0.08	0.30	0.023	0.017	9.71	9.28	2.70	-1.52	0.00	0.546	1.111	241	247
JUL	11.6	0.30	0.60	0.07	0.39	0.023	0.018	9.71	9.28	2.70	-1.69	0.00	0.493	1.301	243	248
AUG	12.3	0.31	0.58	0.07	0.39	0.023	0.019	9.71	9.28	2.70	-1.70	0.00	0.441	1.491	245	249
SEP	12.9	0.71	1.24	0.15	0.30	0.022	0.019	9.71	9.28	2.70	-0.47	0.00	0.427	1.675	247	250
OCT	13.5	1.29	2.11	0.27	0.19	0.022	0.019	9.71	9.28	2.70	1.21	0.00	0.464	1.865	249	252
NOV	15.2	1.32	1.81	0.24	0.11	0.022	0.020	9.71	9.28	2.70	0.99	0.00	0.494	2.050	250	253
DEC	16.1	1.35	1.70	0.23	0.06	0.022	0.021	9.71	9.28	2.70	0.94	0.00	0.523	2.240	251	254
MEAN	10.5	0.61	1.37	0.16	0.18	0.023	0.017	9.71	9.28	2.70	1.16	1.47	0.544	1.213	241	247
TOTAL											4.2E+05 m3					

45 From curve of area vs. elevation
46 From columns 2 and 45
47 From columns 2, 45, catchment, and runoff factor
48 Mill site and low grade ore stockpile runoff, plus other wastes
49 From columns 3 and 45
50-51 From seepage calculations
52 Mill effluent
53 Mill effluent recyle (as a % of total mill inflow)
54 From moisture content and deposition rates
55 Net result of columns 46 to 54
56 From columns 37, 55 and 57
57 From column 55 and 56; 100 000 m3 minimum
58 From deposition rates and densities
59 From curve of capacity vs. elevation
60 From curve of capacity vs. elevation

SETTLING POND CATCHMENT = 333 ha

SETTLING POND

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #3	SEEPAGE OUT	DECANT FR IMP #1	DECANT FR IMP #2	EXC/ DEF	FLOW TO FLO CK	REDUCTION IN FLOW %
		<------				1000 m3/d				------>	
	61	62	63	64	65	66	67	68	69	70	71
JAN	1.4	0.10	27.79	0.01	0.006	0.004	2.91	0.00	30.79	30.79	9.6
FEB	1.4	0.11	30.77	0.01	0.014	0.004	2.85	0.00	33.73	33.73	10.4
MAR	1.4	0.07	18.37	0.01	0.015	0.004	1.72	0.00	20.16	20.16	11.0
APR	1.4	0.08	22.54	0.02	0.016	0.004	1.90	0.00	24.51	24.51	11.7
MAY	1.4	0.05	14.01	0.03	0.017	0.004	0.73	0.00	14.78	14.78	15.4
JUN	1.4	0.04	10.62	0.04	0.017	0.004	0.02	0.00	10.65	10.65	20.4
JUL	1.4	0.04	9.44	0.05	0.018	0.004	0.00	0.00	9.44	9.44	22.9
AUG	1.4	0.04	9.26	0.04	0.019	0.004	0.00	0.00	9.27	9.27	22.5
SEP	1.4	0.08	21.71	0.03	0.019	0.004	1.39	0.00	23.16	23.16	13.7
OCT	1.4	0.13	38.15	0.02	0.019	0.004	3.62	0.00	41.90	41.90	10.4
NOV	1.4	0.12	34.58	0.01	0.020	0.004	3.41	0.00	38.12	38.12	10.0
DEC	1.4	0.12	33.51	0.01	0.021	0.004	3.42	0.00	37.05	37.05	9.6
MEAN	1.4	0.08	22.50	0.02	0.017	0.004	1.82	0.00	24.39	24.39	14.0
TOTAL										8.90E+06 m3	

61-62 As for Impoundment #1

63 Runoff from undisturbed catchment, plus columns 12 and 16

64-70 As for Impoundment #1

71 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 10

FILE: WB10

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R   S U P P L Y   R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<----	----	----	----	1000 m3/d	----	----	----	---->	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.35	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	87	15.48	0.43	2.87	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.23	2.09	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.18	2.10	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.63	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.03	6.25	0.00	1.660	310	3.00
TOTAL	2084	598									2.28E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m
		<------				1000 m3/d				------>			
	17	18	19	20	21	22	23	24	25	26	27	28	29
											0.400	8.146	306
JAN	42.0	2.93	0.10	0.19	0.075	0.016	0.00	2.91	0.00	0.00	0.400	8.146	306
FEB	42.0	2.93	0.11	0.24	0.075	0.016	0.00	2.95	0.00	0.00	0.400	8.146	306
MAR	42.0	1.95	0.07	0.35	0.075	0.016	0.00	1.72	0.00	0.00	0.400	8.146	306
APR	42.0	2.32	0.08	0.56	0.075	0.016	0.00	1.90	0.00	0.00	0.400	8.146	306
MAY	42.0	1.52	0.05	0.89	0.075	0.016	0.00	0.73	0.00	0.00	0.400	8.146	306
JUN	42.0	1.14	0.04	1.22	0.075	0.016	0.00	0.02	0.00	0.00	0.400	8.146	306
JUL	42.0	1.08	0.04	1.41	0.075	0.016	0.00	0.00	-0.23	0.23	0.400	8.146	306
AUG	42.0	1.06	0.04	1.33	0.075	0.016	0.00	0.00	-0.18	0.18	0.400	8.146	306
SEP	42.0	2.25	0.08	0.99	0.075	0.016	0.00	1.39	0.00	0.00	0.400	8.146	306
OCT	42.0	4.02	0.13	0.60	0.075	0.016	0.00	3.62	0.00	0.00	0.400	8.146	306
NOV	42.0	3.52	0.12	0.29	0.075	0.016	0.00	3.41	0.00	0.00	0.400	8.146	306
DEC	42.0	3.52	0.00	0.16	0.075	0.016	0.00	3.42	0.00	0.00	0.400	8.146	306
MEAN	42.0	2.35	0.07	0.69	0.075	0.016	0.00	1.82	-0.03	0.03	0.400	8.146	306
TOTAL									-1.26E+04 m3				

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water storage reservoir, if necessary
27 From column 26; 400 000 m3 maximum
28-29 From Year 4

30 From curve of capacity vs. elevation

IMPOUNDMENT #2 CATCHMENT = 50 ha

I M P O U N D M E N T   N U M B E R   2

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	DECANT TO IMP #3	DECANT TO SET POND	EXC/ DEF	FROM IMP#1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m
		<----------				1000 m3/d				---------->			
	31	32	33	34	35	36	37	38	39	40	41	42	43
											0.439	9.092	281
JAN	38.4	2.68	0.57	0.16	0.069	0.022	0.00	3.23	-0.10	0.00	0.436	9.092	281
FEB	38.4	2.96	0.63	0.22	0.069	0.022	0.00	3.53	-0.12	0.00	0.432	9.092	281
MAR	38.4	1.78	0.38	0.32	0.069	0.022	0.00	1.99	-0.10	0.00	0.429	9.092	281
APR	38.4	2.19	0.46	0.51	0.069	0.021	0.00	2.29	-0.11	0.00	0.425	9.092	281
MAY	38.4	1.39	0.29	0.82	0.069	0.021	0.00	1.02	-0.10	0.00	0.420	9.092	281
JUN	38.4	1.08	0.23	1.11	0.069	0.021	0.00	0.34	-0.11	0.00	0.419	9.092	281
JUL	38.4	0.99	0.21	1.29	0.069	0.021	0.00	0.06	-0.10	0.00	0.415	9.092	281
AUG	38.4	0.97	0.20	1.21	0.069	0.021	0.43	0.00	-0.43	0.00	0.403	9.092	281
SEP	38.4	2.12	0.45	0.91	0.069	0.021	-0.53	1.21	-0.02	0.00	0.402	9.092	281
OCT	38.4	3.68	0.78	0.55	0.069	0.020	0.00	3.98	-0.02	0.00	0.401	9.092	281
NOV	38.4	3.33	0.70	0.27	0.069	0.020	0.00	3.34	-0.02	0.00	0.401	9.092	281
DEC	38.4	3.22	0.68	0.15	0.069	0.020	0.00	3.83	-0.02	0.00	0.400	9.092	281
MEAN	38.4	2.19	0.46	0.63	0.069	0.021	0.08	2.10	-0.11	0.00	0.415	9.092	281
TOTAL									-3.38E+04 m3				

31 From curve of area vs. elevation

32 From columns 2 and 31

33 From columns 2, 31, catchment, and runoff factor

34 From columns 3 and 31

35-36 From seepage calculations

37 Decant of pond water to Imp #3

38 Decant to reduce water volume to nominal 400 000 m3

39 Net result of columns 32 to 38

40 Decant from Imp#1, if necessary

41 From column 40

42-43 From Year 9

44 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #3 CATCHMENT =	45 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

I M P O U N D M E N T N U M B E R 3
(A C T I V E)

MONTH	POND AREA	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #2	WATER IN POND	TOT TAILS+ WASTE ROCK	SOLIDS ELEV	WATER ELEV
	ha	<------	------	------	------	------	1000 m3/d	------	------	------	------	------>	M m3	M m3	m	-
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
													0.292	2.126	250	251
JAN	15.2	1.05	1.45	0.20	0.06	0.022	0.020	9.71	9.28	2.70	0.37	0.00	0.303	2.316	252	253
FEB	16.1	1.24	1.56	0.22	0.09	0.022	0.021	9.71	9.28	2.70	0.65	0.00	0.321	2.488	252	254
MAR	16.9	0.79	0.91	0.13	0.14	0.021	0.021	9.71	9.28	2.70	-0.59	0.00	0.303	2.678	254	255
APR	17.3	1.01	1.09	0.16	0.24	0.021	0.022	9.71	9.28	2.70	-0.25	0.00	0.295	2.862	255	256
MAY	18.6	0.67	0.67	0.10	0.40	0.021	0.022	9.71	9.28	2.70	-1.23	0.00	0.257	3.052	256	257
JUN	19.5	0.54	0.50	0.08	0.55	0.021	0.023	9.71	9.28	2.70	-1.72	0.00	0.206	3.236	257	258
JUL	20.3	0.52	0.45	0.07	0.63	0.021	0.023	9.71	9.28	2.70	-1.92	0.00	0.146	3.427	258	259
AUG	21.2	0.53	0.42	0.07	0.67	0.020	0.024	9.71	9.28	2.70	-1.93	0.43	0.100	3.617	259	259
SEP	21.2	1.17	0.92	0.15	0.50	0.020	0.024	9.71	9.28	2.70	-0.53	0.53	0.100	3.801	260	260
OCT	22.0	2.11	1.54	0.27	0.31	0.020	0.024	9.71	9.28	2.70	1.33	0.00	0.141	3.991	260	261
NOV	23.2	2.01	1.33	0.24	0.15	0.020	0.025	9.71	9.28	2.70	1.12	0.00	0.175	4.175	261	262
DEC	24.3	2.04	1.22	0.23	0.09	0.020	0.025	9.71	9.28	2.70	1.11	0.00	0.210	4.365	262	263
MEAN	19.7	1.14	1.00	0.16	0.33	0.021	0.023	9.71	9.28	2.70	-0.31	0.08	0.213	3.339	257	255
TOTAL											-1.1E+05 m3					

45 From curve of area vs. elevation
46 From columns 2 and 45
47 From columns 2, 45, catchment, and runoff factor
48 Mill site and low grade ore stockpile runoff, plus other wastes
49 From columns 3 and 45
50-51 From seepage calculations
52 Mill effluent
53 Mill effluent recyle (as a % of total mill inflow)
54 From moisture content and deposition rates
55 Net result of columns 46 to 54
56 From columns 55 and 57
57 From column 55 and 56; 100 000 m3 minimum
58 From deposition rates and densities
59 From curve of capacity vs. elevation
60 From curve of capacity vs. elevation

SETTLING POND CATCHMENT = 333 ha

S E T T L I N G P O N D

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #3	SEEPAGE OUT	DECANT FR IMP #1	DECANT FR IMP #2	EXC/ DEF	FLOW TO FLO CK	REDUCTION IN FLOW %
		<--------------------				1000 m3/d				-------------------->	
	61	62	63	64	65	66	67	68	69	70	71
JAN	1.4	0.10	27.79	0.01	0.020	0.004	2.91	3.23	34.03	34.03	1.5
FEB	1.4	0.11	30.77	0.01	0.021	0.004	2.85	3.53	37.27	37.27	2.4
MAR	1.4	0.07	18.37	0.01	0.021	0.004	1.72	1.99	22.15	22.15	3.5
APR	1.4	0.09	22.54	0.02	0.022	0.004	1.90	2.29	26.81	26.81	4.7
MAY	1.4	0.05	14.01	0.03	0.022	0.004	0.73	1.02	15.80	15.80	10.4
JUN	1.4	0.04	10.62	0.04	0.023	0.004	0.02	0.34	11.00	11.00	18.2
JUL	1.4	0.04	9.44	0.05	0.023	0.004	0.00	0.06	9.51	9.51	22.4
AUG	1.4	0.04	9.26	0.04	0.024	0.004	0.00	0.00	9.27	9.27	22.4
SEP	1.4	0.08	21.71	0.03	0.024	0.004	1.39	1.21	24.37	24.37	9.9
OCT	1.4	0.13	38.15	0.02	0.024	0.004	3.62	3.99	45.89	45.89	3.1
NOV	1.4	0.12	34.55	0.01	0.025	0.004	3.41	3.64	41.96	41.96	2.2
DEC	1.4	0.12	33.51	0.01	0.025	0.004	3.42	3.63	40.89	40.89	1.7
MEAN	1.4	0.08	22.50	0.02	0.023	0.004	1.82	2.10	26.50	26.50	8.6
TOTAL										9.67E-06 m3	

61-62 As for Impoundment #1

63 Runoff from undisturbed catchment, plus columns 12 and 16

64-70 As for Impoundment #1

71 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 11

FILE: WB11

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

W A T E R S U P P L Y R E S E R V O I R

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<------			1000 m3/d					------>	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.05	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.49	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	94	87	15.48	0.43	2.37	0.45	0.000	0.005	0.20	0.00	2.55	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.27	2.05	0.00	1.660	310	1.35
AUG	78	98	15.48	0.39	2.58	0.49	0.000	0.005	0.20	0.18	2.10	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.93	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.54	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.04	6.24	0.00	1.660	310	3.00
TOTAL	2084	598									2.28E+06 m3				1.09E+06

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-----	-----	-----	-----	1000 m3/d	-----	-----	-----	----->				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.400	8.146	306	307
JAN	42.0	2.93	0.10	0.18	0.075	0.016	0.00	2.91	0.00	0.00	0.400	8.146	306	307
FEB	42.0	2.93	0.11	0.24	0.075	0.016	0.00	2.85	0.00	0.00	0.400	9.146	306	307
MAR	42.0	1.95	0.07	0.35	0.075	0.016	0.00	1.72	0.00	0.00	0.400	8.146	306	307
APR	42.0	2.32	0.08	0.56	0.075	0.016	0.00	1.90	0.00	0.00	0.400	8.146	306	307
MAY	42.0	1.52	0.05	0.89	0.075	0.016	0.00	0.73	0.00	0.00	0.400	8.146	306	307
JUN	42.0	1.14	0.04	1.22	0.075	0.016	0.00	0.02	0.00	0.00	0.400	8.146	306	307
JUL	42.0	1.08	0.04	1.41	0.075	0.016	0.04	0.00	-0.27	0.27	0.400	8.146	306	307
AUG	42.0	1.06	0.04	1.33	0.075	0.016	0.00	0.00	-0.18	0.18	0.400	8.146	306	307
SEP	42.0	2.25	0.08	0.99	0.075	0.016	0.00	1.39	0.00	0.00	0.400	8.146	306	307
OCT	42.0	4.02	0.13	0.50	0.075	0.016	0.00	3.62	0.00	0.00	0.400	8.146	306	307
NOV	42.0	3.52	0.12	0.29	0.075	0.016	0.00	3.41	0.00	0.00	0.400	8.146	306	307
DEC	42.0	3.52	0.00	0.15	0.075	0.016	0.00	3.42	0.00	0.00	0.400	8.146	306	307
MEAN	42.0	2.35	0.07	0.69	0.075	0.016	0.00	1.82	-0.04	0.04	0.400	8.146	306	307
TOTAL									-1.4E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From column 26; 400 000 m3 maximum
28-29 From Year 4
30 From curve of capacity vs. elevation

IMPOUNDMENT #2 CATCHMENT = 50 ha

I M P O U N D M E N T   N U M B E R   2

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	DECANT TO IMP #3	SPILL TO SET POND	EXC/ DEF	FROM IMP#1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	1000 m3/d	------	------	------	------>				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44
											0.400	9.092	281	283
JAN	38.4	2.68	0.57	0.16	0.069	0.019	0.00	3.13	0.00	0.00	0.400	9.092	281	283
FEB	38.4	2.96	0.63	0.22	0.069	0.019	0.00	3.42	0.00	0.00	0.400	9.092	281	283
MAR	38.4	1.78	0.38	0.82	0.069	0.019	0.00	1.39	0.00	0.00	0.400	9.092	281	283
APR	38.4	2.19	0.46	0.51	0.069	0.019	0.00	2.19	0.00	0.00	0.400	9.092	281	283
MAY	38.4	1.39	0.29	0.82	0.069	0.019	0.00	0.91	0.00	0.00	0.400	9.092	281	283
JUN	38.4	1.08	0.23	1.11	0.069	0.019	0.00	0.24	0.00	0.00	0.400	9.092	281	283
JUL	38.4	0.99	0.21	1.29	0.069	0.019	0.00	0.00	-0.04	0.04	0.400	9.092	281	283
AUG	38.4	0.97	0.20	1.21	0.069	0.019	0.00	0.01	0.00	0.00	0.400	9.092	281	283
SEP	38.4	2.12	0.45	0.91	0.069	0.019	0.00	1.72	0.00	0.00	0.400	9.092	281	283
OCT	38.4	3.63	0.78	0.55	0.069	0.018	0.00	3.35	0.00	0.00	0.400	9.092	281	283
NOV	38.4	3.33	0.70	0.27	0.069	0.018	0.00	3.81	0.00	0.00	0.400	9.092	281	283
DEC	38.4	3.22	0.68	0.15	0.069	0.018	0.00	3.80	0.00	0.00	0.400	9.092	281	283
MEAN	38.4	2.19	0.46	0.63	0.069	0.019	0.00	2.08	-0.00	0.00	0.400	9.092	281	283
TOTAL									-1.17E+03 m3					

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 From columns 3 and 31
35-36 From seepage calculations
37 Decant of pond water to Imp #3
38 Spillway flow
39 Net result of columns 32 to 38
40 Decant from Imp#1, if necessary
41 From column 40
42-43 From Year 8
44 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #3 CATCHMENT =	45 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

I M P O U N D M E N T   N U M B E R   3
(A C T I V E)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MIL	RET IN PORES	EXC/ DEF	FROM IMP #2	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATE ELE
		<-------------				1000 m3/d					------------->					
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
													0.411	4.480	262	26
JAN	26.6	1.85	0.90	0.20	0.11	0.019	0.025	9.71	9.28	2.70	0.55	0.00	0.428	4.670	263	26-
FEB	26.6	2.05	0.99	0.22	0.15	0.019	0.026	9.71	9.28	2.70	0.83	0.00	0.452	4.842	263	26
MAR	27.8	1.29	0.56	0.13	0.23	0.019	0.026	9.71	9.28	2.70	-0.54	0.00	0.435	5.032	264	26
APR	28.9	1.65	0.64	0.15	0.39	0.019	0.027	9.71	9.28	2.70	-0.22	0.00	0.429	5.216	265	26
MAY	28.9	1.04	0.41	0.10	0.62	0.019	0.027	9.71	9.29	2.70	-1.35	0.00	0.387	5.406	266	26
JUN	30.1	0.84	0.29	0.08	0.87	0.019	0.027	9.71	9.28	2.70	-1.94	0.00	0.328	5.590	266	26
JUL	30.1	0.73	0.27	0.07	1.01	0.019	0.027	9.71	9.29	2.70	-2.17	0.00	0.261	5.781	267	26
AUG	31.2	0.79	0.24	0.07	0.99	0.018	0.028	9.71	9.28	2.70	-2.17	0.00	0.194	5.971	268	26
SEP	31.2	1.73	0.53	0.15	0.74	0.018	0.028	9.71	9.28	2.70	-0.51	0.00	0.175	6.155	268	26
OCT	32.4	3.10	0.85	0.27	0.46	0.018	0.028	9.71	9.28	2.70	1.47	0.00	0.221	6.345	269	27
NOV	33.5	2.90	0.70	0.24	0.23	0.018	0.029	9.71	9.28	2.70	1.32	0.00	0.261	6.529	270	27
DEC	33.5	2.81	0.68	0.23	0.13	0.018	0.029	9.71	9.28	2.70	1.30	0.00	0.301	6.720	270	27
MEAN	30.1	1.73	0.59	0.16	0.50	0.019	0.027	9.71	9.28	2.70	-0.30	0.00	0.322	5.693	267	268
TOTAL												-1.1E+05 m3				

45 From curve of area vs. elevation
46 From columns 2 and 45
47 From columns 2, 45, catchment, and runoff factor
48 Mill site and low grade ore stockpile runoff, plus other wastes
49 From columns 3 and 45
50-51 From seepage calculations
52 Mill effluent
53 Mill effluent recyle (as a% of total mill inflow)
54 From moisture content and deposition rates
55 Net result of columns 46 to 54
56 From columns 37, 55 and 57
57 From column 55 and 56; 100 000 m3 minimum
58 From deposition rates and densities
59 From curve of capacity vs. elevation
60 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #3 CATCHMENT =	45 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

IMPOUNDMENT NUMBER 3
(ACTIVE)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MIL	RET IN PORES	EXC/ DEF	FROM IMP #2	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m
		<------	------	------	------	------	1000 m3/d	------	------	------	------	------>			
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
													0.411	4.480	262
JAN	26.6	1.85	0.90	0.20	0.11	0.019	0.025	9.71	9.28	2.70	0.55	0.00	0.423	4.670	263
FEB	26.6	2.05	0.99	0.22	0.15	0.019	0.026	9.71	9.28	2.70	0.83	0.00	0.452	4.842	263
MAR	27.8	1.29	0.56	0.13	0.23	0.019	0.026	9.71	9.28	2.70	-0.54	0.00	0.435	5.032	264
APR	28.9	1.65	0.64	0.15	0.39	0.019	0.027	9.71	9.28	2.70	-0.22	0.00	0.429	5.216	265
MAY	28.9	1.04	0.41	0.10	0.62	0.019	0.027	9.71	9.28	2.70	-1.05	0.00	0.387	5.406	266
JUN	30.1	0.84	0.29	0.08	0.87	0.019	0.027	9.71	9.28	2.70	-1.94	0.00	0.328	5.590	266
JUL	30.1	0.73	0.27	0.07	1.01	0.019	0.027	9.71	9.28	2.70	-2.17	0.00	0.261	5.781	267
AUG	31.2	0.79	0.24	0.07	0.99	0.018	0.028	9.71	9.28	2.70	-2.17	0.00	0.194	5.971	268
SEP	31.2	1.73	0.53	0.15	0.74	0.018	0.028	9.71	9.28	2.70	-0.61	0.00	0.175	6.155	268
OCT	32.4	3.10	0.85	0.27	0.46	0.019	0.028	9.71	9.28	2.70	1.47	0.00	0.221	6.345	269
NOV	33.5	2.90	0.70	0.24	0.23	0.019	0.029	9.71	9.28	2.70	1.32	0.00	0.261	6.529	270
DEC	33.5	2.81	0.69	0.23	0.13	0.019	0.029	9.71	9.28	2.70	1.30	0.00	0.301	6.720	270
MEAN	30.1	1.73	0.59	0.16	0.50	0.019	0.027	9.71	9.28	2.70	-0.00	0.00	0.322	5.693	267
TOTAL												-1.1E+05 m3			

45 From curve of area vs. elevation
46 From columns 2 and 45
47 From columns 2, 45, catchment, and runoff factor
48 Mill site and low grade ore stockpile runoff, plus other wastes
49 From columns 3 and 45
50-51 From seepage calculations
52 Mill effluent
53 Mill effluent recyle (as a% of total mill inflow)
54 From moisture content and deposition rates
55 Net result of columns 46 to 54
56 From columns 37, 55 and 57
57 From column 55 and 56; 100 000 m3 minimum
58 From deposition rates and densities
59 From curve of capacity vs. elevation
60 From curve of capacity vs. elevation

SETTLING POND CATCHMENT = 333 ha

S E T T L I N G P O N D

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #3	SEEPAGE OUT	SPILL FR IMP #1	SPILL FR IMP #2	EXC/ DEF	FLOW TO FLO CK	REDUCTION IN FLOW %
		<----------	----------	----------	----------	----------	1000 m3/d	----------	----------	---------->	
	61	62	63	64	65	66	67	68	69	70	71
JAN	1.4	0.10	27.79	0.01	0.026	0.004	2.91	3.13	33.94	33.94	1.7
FEB	1.4	0.11	30.77	0.01	0.025	0.004	2.85	3.42	37.16	37.16	2.7
MAR	1.4	0.07	18.37	0.01	0.026	0.004	1.72	1.89	22.06	22.06	3.9
APR	1.4	0.08	22.54	0.02	0.027	0.004	1.90	2.19	26.71	26.71	5.0
MAY	1.4	0.05	14.01	0.03	0.027	0.004	0.73	0.91	15.70	15.70	10.9
JUN	1.4	0.04	10.62	0.04	0.027	0.004	0.02	0.24	10.90	10.90	18.8
JUL	1.4	0.04	9.40	0.05	0.027	0.004	0.00	0.00	9.41	9.41	20.1
AUG	1.4	0.04	9.26	0.04	0.028	0.004	0.00	0.01	9.28	9.28	22.4
SEP	1.4	0.06	21.71	0.03	0.028	0.004	1.39	1.72	24.88	24.88	6.0
OCT	1.4	0.13	38.15	0.02	0.028	0.004	3.62	3.96	45.87	45.87	3.2
NOV	1.4	0.12	34.58	0.01	0.029	0.004	3.41	3.81	41.94	41.94	2.0
DEC	1.4	0.12	33.51	0.01	0.029	0.004	3.42	3.80	40.87	40.87	1.7
MEAN	1.4	0.08	22.49	0.02	0.027	0.004	1.92	2.08	26.48	26.48	8.7
TOTAL										9.66E+06 m3	

61-62 As for Impoundment #1

63 Runoff from undisturbed catchment, plus columns 12 and 16
64-70 As for Impoundment #1

71 Reduction in Upper Florence Creek flow, before flow augmentation

CINOLA GOLD PROJECT
HIGH WEST AREA
MONTHLY WATER BALANCE FOR AVERAGE ANNUAL PRECIPITATION: YEAR 12

FILE: WB12

DATE: 29-Jun-89

W S RESERVOIR CATCHMENT = 162 ha
CATCHMENT FOR DITCH IE1 = 75 ha
RUNOFF FACTOR = 0.7

WATER SUPPLY RESERVOIR

MONTH	PRECIP	POTENT EVAPOT	POND AREA	DIRECT PRECIP	RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #1	WATER SUPPLY	DECANT TO IMP#1	FLOW TO SET POND	EXC/ DEF	WATER IN RES	WATER ELEV	RUNOFF IN DITCH IE1
	mm	mm	ha	<-------				1000 m3/d				------->	M m3	m	1000 m3/d
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
													1.660	310	
JAN	216	13	15.48	1.08	7.15	0.06	0.000	0.005	0.20	0.00	7.96	0.00	1.660	310	3.66
FEB	216	16	15.48	1.19	7.91	0.09	0.000	0.005	0.20	0.00	8.81	0.00	1.660	310	4.05
MAR	144	26	15.48	0.72	4.76	0.13	0.000	0.005	0.20	0.00	5.15	0.00	1.660	310	2.44
APR	171	40	15.48	0.88	5.85	0.21	0.000	0.005	0.20	0.00	6.32	0.00	1.660	310	2.99
MAY	112	66	15.48	0.56	3.71	0.33	0.000	0.005	0.20	0.00	3.73	0.00	1.660	310	1.90
JUN	84	37	15.48	0.43	2.37	0.45	0.000	0.005	0.20	0.00	2.65	0.00	1.660	310	1.47
JUL	80	104	15.48	0.40	2.65	0.52	0.000	0.005	0.20	0.27	2.06	0.00	1.660	310	1.35
AUG	78	99	15.48	0.39	2.58	0.49	0.000	0.005	0.20	1.02	1.26	0.00	1.660	310	1.32
SEP	166	71	15.48	0.86	5.68	0.37	0.000	0.005	0.20	0.00	5.96	0.00	1.660	310	2.91
OCT	297	44	15.48	1.48	9.83	0.22	0.000	0.005	0.20	0.00	10.88	0.00	1.660	310	5.03
NOV	260	21	15.48	1.34	8.89	0.11	0.000	0.005	0.20	0.00	9.92	0.00	1.660	310	4.55
DEC	260	12	15.48	1.30	8.60	0.06	0.000	0.005	0.20	0.00	9.64	0.00	1.660	310	4.40
MEAN	173	50	15.48	0.88	5.86	0.25	0.000	0.005	0.20	0.11	6.17	0.00	1.660	310	3.00
TOTAL	2084	598									2.25E+06 m3				1.09E+06 m3

NOTES RE COLUMNS:

2 From Stage II Report, Vol III
3 From Stage II Report, Vol III
4 From curve of area vs. elevation
5 From columns 2 and 4
6 From columns 2, 4, catchment, and runoff factor
7 From columns 3 and 4
8 Set equal to zero
9 From seepage calculations
10 Mill make-up plus mill and mine domestic supply
11 Decant to Imp. #1 to maintain min. water vol, if necessary
12 Flow to Florence Creek; equal to excess (column 13) when reservoir full, controlled at other times
13 Net result of columns 5 to 12
14 Water volume in storage
15 From curve of capacity vs. elevation
16 From column 2, catchment, and runoff factor

IMPOUNDMENT #1 CATCHMENT = 44 ha

I M P O U N D M E N T   N U M B E R   1

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #2	DECANT TO IMP #2	SPILL TO SET POND	EXC/ DEF	FROM WSR	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	1000 m3/d	------	------	------	------>				
	17	18	19	20	21	22	23	24	25	26	27	28	29	30
											0.400	8.146	306	307
JAN	42.0	2.93	0.10	0.13	0.075	0.016	0.00	2.91	0.00	0.00	0.400	8.146	306	307
FEB	42.0	2.93	0.11	0.24	0.075	0.016	0.00	2.85	0.00	0.00	0.400	8.146	306	307
MAR	42.0	1.95	0.07	0.35	0.075	0.016	0.00	1.72	0.00	0.00	0.400	8.146	306	307
APR	42.0	2.32	0.08	0.56	0.075	0.016	0.00	1.90	0.00	0.00	0.400	8.146	306	307
MAY	42.0	1.52	0.05	0.39	0.075	0.016	0.00	0.73	0.00	0.00	0.400	8.146	306	307
JUN	42.0	1.14	0.04	1.22	0.075	0.016	0.00	0.02	0.00	0.00	0.400	8.146	306	307
JUL	42.0	1.08	0.04	1.41	0.075	0.016	0.04	0.00	-0.27	0.27	0.400	8.146	306	307
AUG	42.0	1.06	0.04	1.33	0.075	0.016	0.84	0.00	-1.02	1.02	0.400	8.146	306	307
SEP	42.0	2.25	0.08	0.99	0.075	0.016	0.00	1.39	0.00	0.00	0.400	8.146	306	307
OCT	42.0	4.02	0.13	0.60	0.075	0.016	0.00	3.62	0.00	0.00	0.400	8.146	306	307
NOV	42.0	3.51	0.12	0.23	0.075	0.016	0.00	3.41	0.00	0.00	0.400	8.146	306	307
DEC	42.0	3.52	0.00	0.16	0.075	0.016	0.00	3.42	0.00	0.00	0.400	8.146	306	307
MEAN	42.0	2.35	0.07	0.69	0.075	0.016	0.074	1.82	-0.11	0.11	0.400	8.146	306	307
TOTAL									-4.0E+04 m3					

17 From curve of area vs. elevation
18 From columns 2 and 17
19 From columns 2, 17, catchment, and runoff factor
20 From columns 3 and 17
21-22 From seepage calculations
23 Decant of pond water to Imp #2
24 Spillway flow
25 Net result of columns 18 to 24
26 Decant from water supply res., if necessary
27 From column 26; 400 000 m3 maximum
28-29 From Year 4
30 From curve of capacity vs. elevation

IMPOUNDMENT #2 CATCHMENT = 50 ha

I M P O U N D M E N T   N U M B E R   2

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	POND EVAP	SEEPAGE IN	SEEP TO IMP #3	DECANT TO IMP #3	SPILL TO SET POND	EXC/ DEF	FROM IMP#1	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<-------------	-------------	-------------	-------------	1000 m3/d	-------------	-------------	-------------	------------->				
	31	32	33	34	35	36	37	38	39	40	41	42	43	44
											0.400	9.092	281	283
JAN	38.4	2.68	0.57	0.16	0.069	0.018	0.00	3.13	0.00	0.00	0.400	9.092	281	283
FEB	38.4	2.96	0.63	0.22	0.069	0.018	0.00	3.42	0.00	0.00	0.400	9.092	281	283
MAR	38.4	1.78	0.38	0.32	0.069	0.018	0.00	1.89	0.00	0.00	0.400	9.092	281	283
APR	36.4	2.19	0.46	0.51	0.069	0.017	0.00	2.19	0.00	0.00	0.400	9.092	281	283
MAY	38.4	1.09	0.23	0.32	0.069	0.017	0.00	0.91	0.00	0.00	0.400	9.092	281	283
JUN	38.4	1.08	0.23	1.11	0.069	0.017	0.00	0.24	0.00	0.00	0.400	9.092	281	283
JUL	38.4	0.99	0.21	1.29	0.069	0.017	0.00	0.00	-0.04	0.04	0.400	9.092	281	283
AUG	38.4	0.97	0.20	1.21	0.069	0.017	0.85	0.00	-0.84	0.84	0.400	9.092	281	283
SEP	38.4	2.12	0.45	0.31	0.069	0.017	0.67	1.05	0.00	0.00	0.400	9.092	281	283
OCT	38.4	3.68	0.78	0.55	0.069	0.017	0.00	3.95	0.00	0.00	0.400	9.092	281	283
NOV	38.4	3.33	0.70	0.27	0.069	0.017	0.00	3.61	0.00	0.00	0.400	9.092	281	283
DEC	38.4	3.22	0.68	0.15	0.069	0.017	0.00	3.31	0.00	0.00	0.400	9.092	281	283
MEAN	38.4	2.19	0.46	0.63	0.069	0.017	0.13	2.03	-0.07	0.07	0.400	9.092	281	283
TOTAL									-2.72E+04 m3					

31 From curve of area vs. elevation
32 From columns 2 and 31
33 From columns 2, 31, catchment, and runoff factor
34 From columns 3 and 31
35-36 From seepage calculations
37 Decant of pond water to Imp #3
38 Spillway flow
39 Net result of columns 32 to 38
40 Decant from Imp#1, if necessary
41 From column 40
42-43 From Year 8

44 From curve of capacity vs. elevation

PULP DENSITY =	38 %	DRY DENSITY OF PLACED TAILINGS =	1.20 t/m3
TAILINGS MOISTURE CONTENT =	45 %	BULK DENSITY OF WASTE ROCK =	2.20 t/m3
IMPOUNDMENT #3 CATCHMENT =	45 ha	AREA OF LOW GRADE ORE STOCKPILE =	0.0 ha
TAILINGS DEPOSITION RATE =	6000 t/day	VOL OF TAILS PRODUCED IN YEAR =	1.83 M m3
WASTE ROCK DEPOSITION RATE =	2500 t/day	VOL OF WASTE ROCK IN YEAR =	0.41 M m3
MILL EFFLUENT RECYCLE RATIO=	84 %	TOTAL VOL OF SOLIDS IN YEAR =	2.24 M m3

IMPOUNDMENT NUMBER 3
(ACTIVE)

MONTH	POND AREA ha	DIRECT PRECIP	LOCAL RUNOFF	MILL RUNOFF	POND EVAP	SEEPAGE IN	SEEPAGE OUT	FROM MILL	RETURN TO MILL	RET IN PORES	EXC/ DEF	FROM IMP #2	WATER IN POND M m3	TOT TAILS+ WASTE ROCK M m3	SOLIDS ELEV m	WATER ELEV m
		<------	------	------	------	------1000 m3/d	------	------	------	------	------	------>				
	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
													0.301	6.720	270	271
JAN	34.7	2.42	0.50	0.20	0.15	0.018	0.029	9.71	9.28	2.70	0.68	0.00	0.322	6.910	271	272
FEB	35.8	2.76	0.50	0.22	0.20	0.018	0.030	9.71	9.28	2.70	0.98	0.00	0.350	7.082	271	272
MAR	35.8	1.56	0.30	0.13	0.30	0.019	0.030	9.71	9.28	2.70	-0.50	0.00	0.334	7.272	272	273
APR	37.0	2.11	0.32	0.16	0.49	0.017	0.030	9.71	9.28	2.70	-0.19	0.00	0.329	7.456	272	273
MAY	37.0	1.34	0.20	0.10	0.79	0.017	0.030	9.71	9.28	2.70	-1.44	0.00	0.284	7.646	273	274
JUN	38.2	1.07	0.13	0.08	1.11	0.017	0.031	9.71	9.28	2.70	-2.11	0.00	0.220	7.830	273	274
JUL	38.2	0.98	0.12	0.07	1.28	0.017	0.031	9.71	9.28	2.70	-2.39	0.00	0.146	8.020	274	274
AUG	38.2	0.96	0.12	0.07	1.21	0.017	0.031	9.71	9.28	2.70	-2.34	0.85	0.100	8.211	275	275
SEP	39.3	2.18	0.22	0.15	0.93	0.017	0.031	9.71	9.28	2.70	-0.67	0.67	0.100	8.395	275	275
OCT	39.3	3.77	0.38	0.27	0.56	0.017	0.031	9.71	9.28	2.70	1.57	0.00	0.149	8.585	276	276
NOV	40.5	3.51	0.27	0.24	0.28	0.017	0.031	9.71	9.28	2.70	1.45	0.00	0.192	8.769	276	277
DEC	41.6	3.49	0.20	0.23	0.16	0.017	0.032	9.71	9.28	2.70	1.47	0.00	0.238	8.959	276	277
MEAN	38.0	2.18	0.27	0.16	0.62	0.017	0.030	9.71	9.28	2.70	-0.30	0.13	0.230	7.938	274	274
TOTAL												-1.1E+05 m3				

45 From curve of area vs. elevation
46 From columns 2 and 45
47 From columns 2, 45, catchment, and runoff factor
48 Mill site and low grade ore stockpile runoff, plus other wastes
49 From columns 3 and 45
50-51 From seepage calculations
52 Mill effluent
53 Mill effluent recyle (as a % of total mill inflow)
54 From moisture content and deposition rates
55 Net result of columns 46 to 54
56 From columns 37, 55 and 57
57 From column 55 and 56; 100 000 m3 minimum
58 From deposition rates and densities
59 From curve of capacity vs. elevation
60 From curve of capacity vs. elevation

SETTLING POND CATCHMENT = 333 ha

S E T T L I N G P O N D

MONTH	POND AREA ha	DIRECT PRECIP	RUNOFF	POND EVAP	SEEP FR IMP #3	SEEPAGE OUT	SPILL FR IMP #1	SPILL FR IMP #2	EXC/ DEF	FLOW TO FLO CK	REDUCTION IN FLOW %
		<------	------	------	------	------	1000 m3/d	------	------	------>	
	61	62	63	64	65	66	67	68	69	70	71
JAN	1.4	0.10	27.79	0.01	0.029	0.004	2.91	3.13	33.94	33.94	1.7
FEB	1.4	0.11	30.77	0.01	0.030	0.004	2.85	3.42	37.17	37.17	2.7
MAR	1.4	0.07	18.37	0.01	0.030	0.004	1.72	1.89	22.06	22.06	3.9
APR	1.4	0.08	22.54	0.02	0.030	0.004	1.90	2.19	26.71	26.71	4.9
MAY	1.4	0.05	[illegible]	0.03	0.030	0.004	0.72	0.91	15.71	15.71	10.9
JUN	1.4	0.04	10.62	0.04	0.031	0.004	0.02	0.24	10.90	10.90	15.8
JUL	1.4	0.04	9.40	0.05	0.031	0.004	0.00	0.00	9.42	9.42	23.1
AUG	1.4	0.04	8.42	0.04	0.031	0.004	0.00	0.00	8.44	8.44	28.2
SEP	1.4	0.08	21.71	0.03	0.031	0.004	1.39	1.05	24.22	24.22	10.4
OCT	1.4	0.13	38.15	0.02	0.031	0.004	3.52	3.96	45.88	45.88	3.2
NOV	1.4	0.12	34.58	0.01	0.031	0.004	3.41	3.81	41.95	41.95	1.8
DEC	1.4	0.12	33.51	0.01	0.032	0.004	3.42	3.81	40.87	40.87	1.7
MEAN	1.4	0.08	22.42	0.02	0.030	0.004	1.82	2.03	26.36	26.36	9.4
TOTAL										9.625E+06 m3	

61-62 As for Impoundment #1

63 Runoff from undisturbed catchment, plus columns 12 and 16

64-70 As for Impoundment #1

71 Reduction in Upper Florence Creek flow, before flow augmentation

APPENDIX 4.2.3-1

BASEFLOWS FROM THE YAKOUN RIVER NEAR PORT CLEMENTS (080A003) GAUGE AND FROM BARBIE AND FLORENCE CREEKS

(Pages 1 to 2)

APPENDIX 4.2.3-1

BASEFLOWS FROM THE YAKOUN RIVER NEAR PORT CLEMENTS (080A003) GAUGE AND FROM BARBIE AND FLORENCE CREEKS

		BASE FLOWS IN STUDY AREA STREAMS (m^3/s)				
		BARBIE CREEK		FLORENCE CREEK		YAKOUN
YEAR	DATE	MIDDLE	LOWER	MIDDLE	LOWER	WSC
1986	Dec 16		0.159			11.6
1987	Mar 3		0.159			11.5
1987	Mar 19	0.1	0.226			17.9
1987	Apr 6	0.037	0.101			8.8
1987	Apr 25	0.086	0.159			20.6
1987	May 9	0.051	0.109		0.43	16.9
1987	May 20	0.089	0.146		0.52	22.1
1987	May 23	0.044	0.104		0.36	10.4
1987	June 9		0.093		0.39	10.4
1987	June 25	0.035		0.114	0.35	7.76
1987	June 30	0.027		0.071	0.24	5.41
1987	July 6	0.02	0.051	0.058	0.16	3.91
1987	July 15	0.013	0.023	0.04	0.1	3.22
1987	July 20	0.009	0.012	0.025	0.06	2.68
1987	Aug 10	0.013	0.041	0.029	0.08	2.24
1987	Aug 27	0.008	0.041	0.03	0.09	2.02
1987	Sept 5	0.023	0.093	0.076	0.31	8.57
1987	Sept 10	0.013	0.051	0.038	0.1	4.25
1987	Sept 26	0.037	0.4	0.13	0.56	23.1
1987	Oct 11	0.034	0.113	0.115	0.49	15.6
1987	Oct 23	0.025	0.083	0.027	0.3	8.5
1987	Nov 2	0.086	0.191	0.341	0.66	25.9
1987	Nov 16		0.353	0.286	1.39	35.5
1987	Dec 17	0.132	0.194	0.24	0.84	30
1988	Jan 7	0.041	0.062	0.103	0.49	10
1988	Jan 31	0.04	0.104	0.092	0.58	21.8
1988	Feb 24	0.068	0.133	0.146	0.416	16.7
1988	Feb 28	0.057	0.097	0.112	0.344	13.2
1988	Mar 16	0.066	0.114	0.121	0.394	17.1
1988	Mar 27				1.27	36.3
1988	Apr 15	0.072	0.133	0.2	0.541	21.4
1988	Apr 27	0.036	0.057	0.111	0.269	10.5
1988	May 9	0.013	0.022		0.133	7.67
1988	June 6	0.071	0.171	0.121	0.61	21.9
1988	June 13	0.048	0.105	0.109	0.394	9.58

continued . . .

APPENDIX 4.2.3-1 (concluded)

BASEFLOWS FROM THE YAKOUN RIVER NEAR PORT CLEMENTS (080A003) GAUGE AND FROM BARBIE AND FLORENCE CREEKS

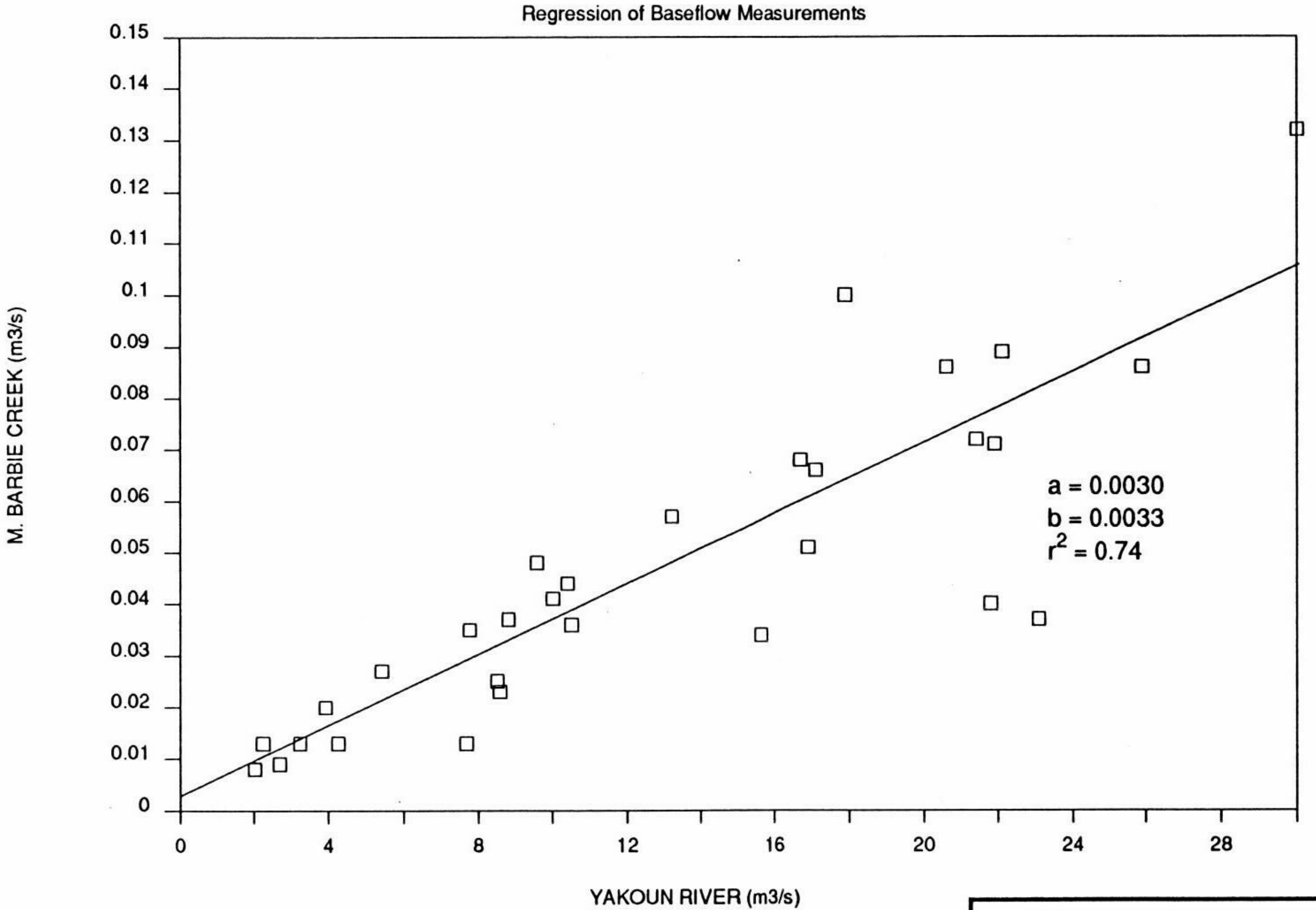
		BASE FLOWS IN STUDY AREA STREAMS (m^3/s)				
		BARBIE CREEK		FLORENCE CREEK		YAKOUN
YEAR	DATE	MIDDLE	LOWER	MIDDLE	LOWER	WSC
1988	July 7		0.061	0.113	0.376	7.98
1988	July 20		0.122	0.077	0.394	7.01
1988	Aug 5		0.019	0.101	0.215	6.85
1988	Aug 16		0.019	0.045	0.168	4.93
1988	Aug 27		0.019	0.045	0.143	3.04
1988	Sept 4		0.01	0.039	0.133	3.84
1988	Sept 17		0.019	0.044	0.154	5.36
1988	Oct 28		0.211	0.316	0.692	27.4

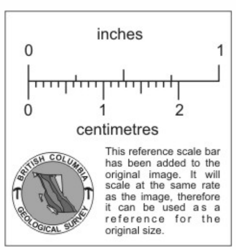
APPENDIX 4.2.3-2

LINEAR REGRESSION PLOTS FOR CONCURRENT BASE-FLOW DISCHARGES ON THE STUDY AREA CREEKS AND THE YAKOUN RIVER

(Pages 1 to 4)

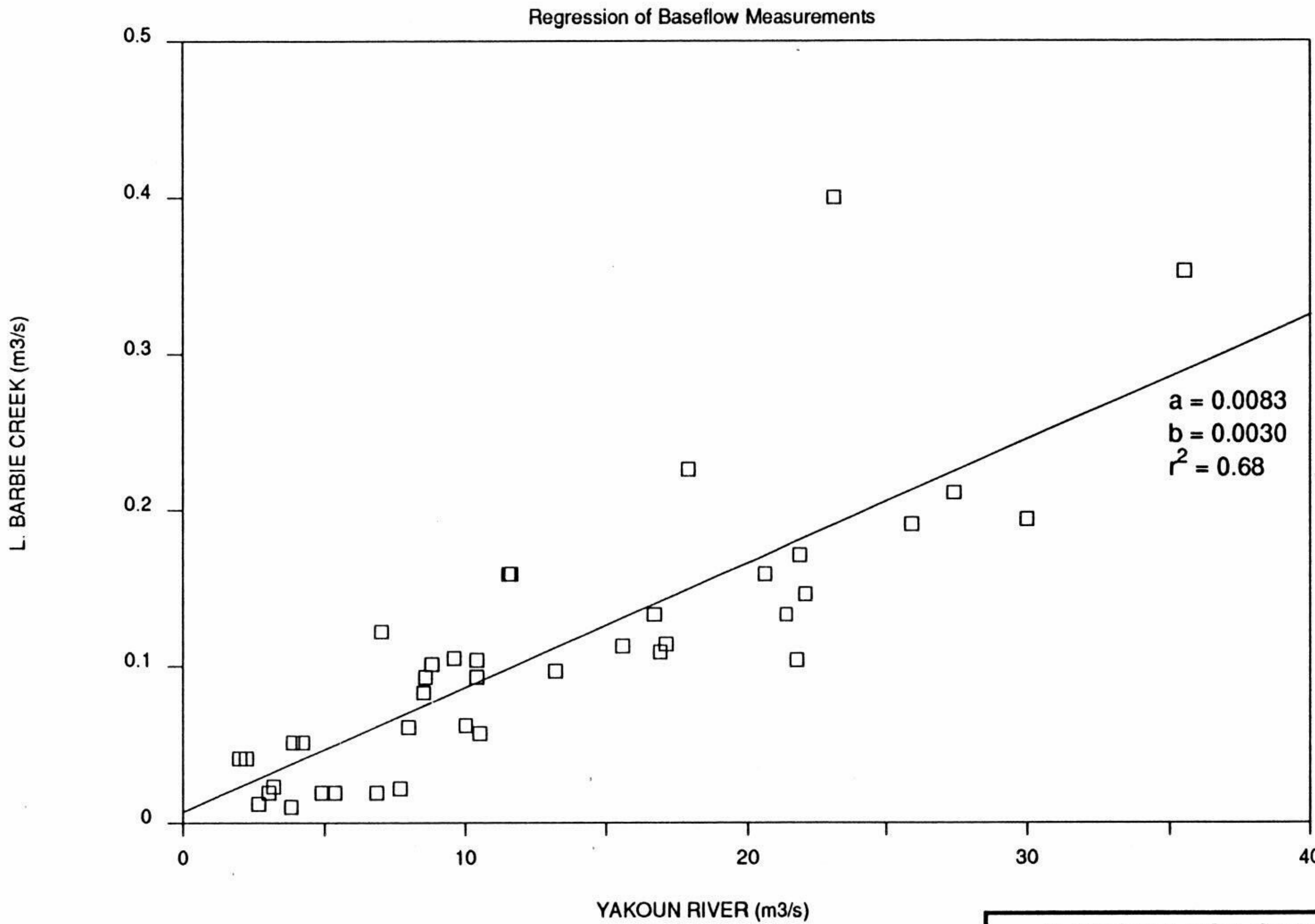
Yakoun vs Middle Barbie

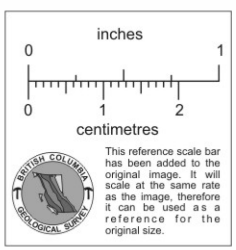




YAKOUN VS MIDDLE BARBIE	
Figure No. **1**	**CINOLA ADDENDUM REPORT**
Date **May 1989**	Drawn by **NORECOL**

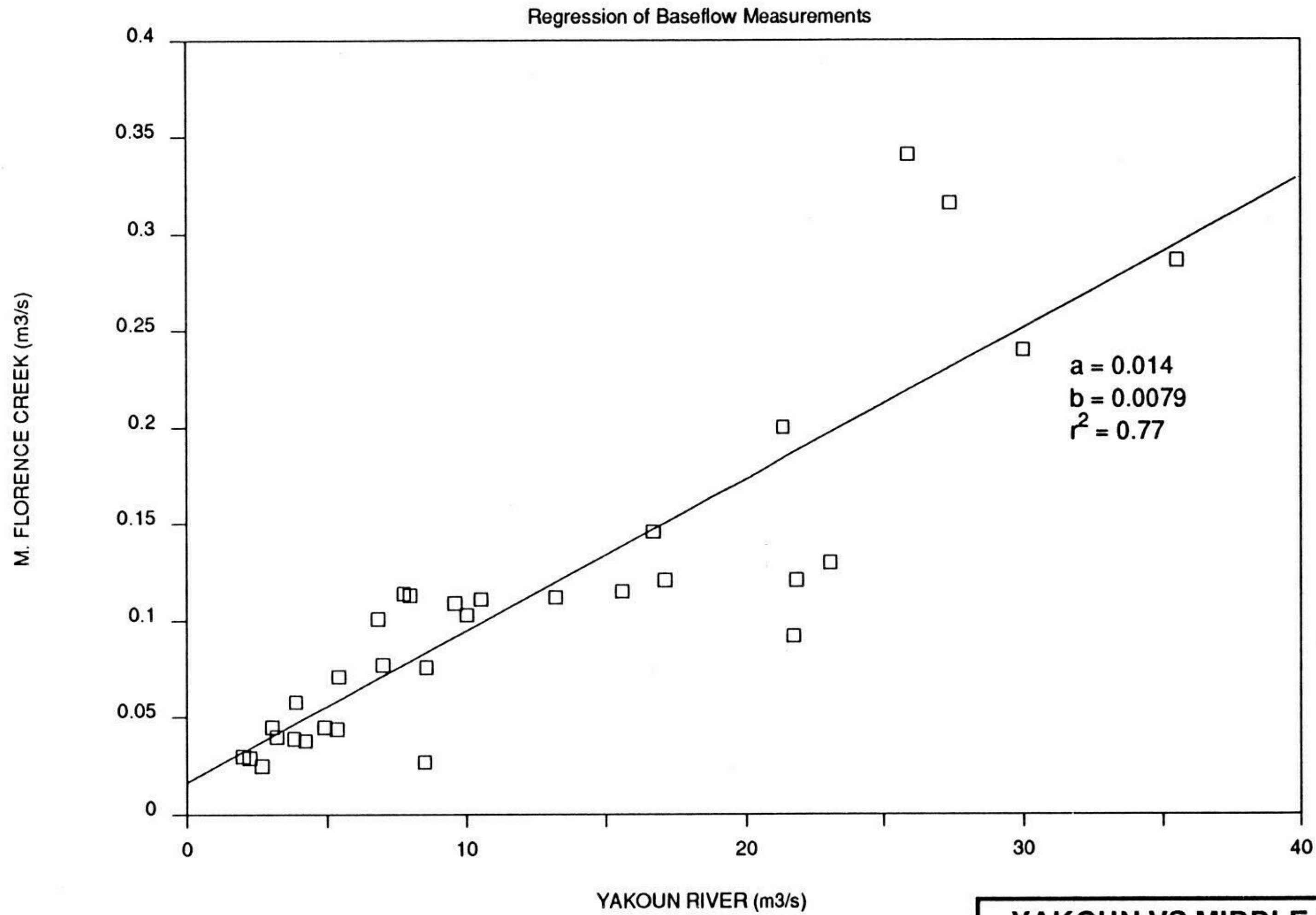
Yakoun vs Lower Barbie





YAKOUN VS LOWER BARBIE	
Figure No. **2**	**CINOLA ADDENDUM REPORT**
Date **May 1989**	Drawn by **NORECOL**

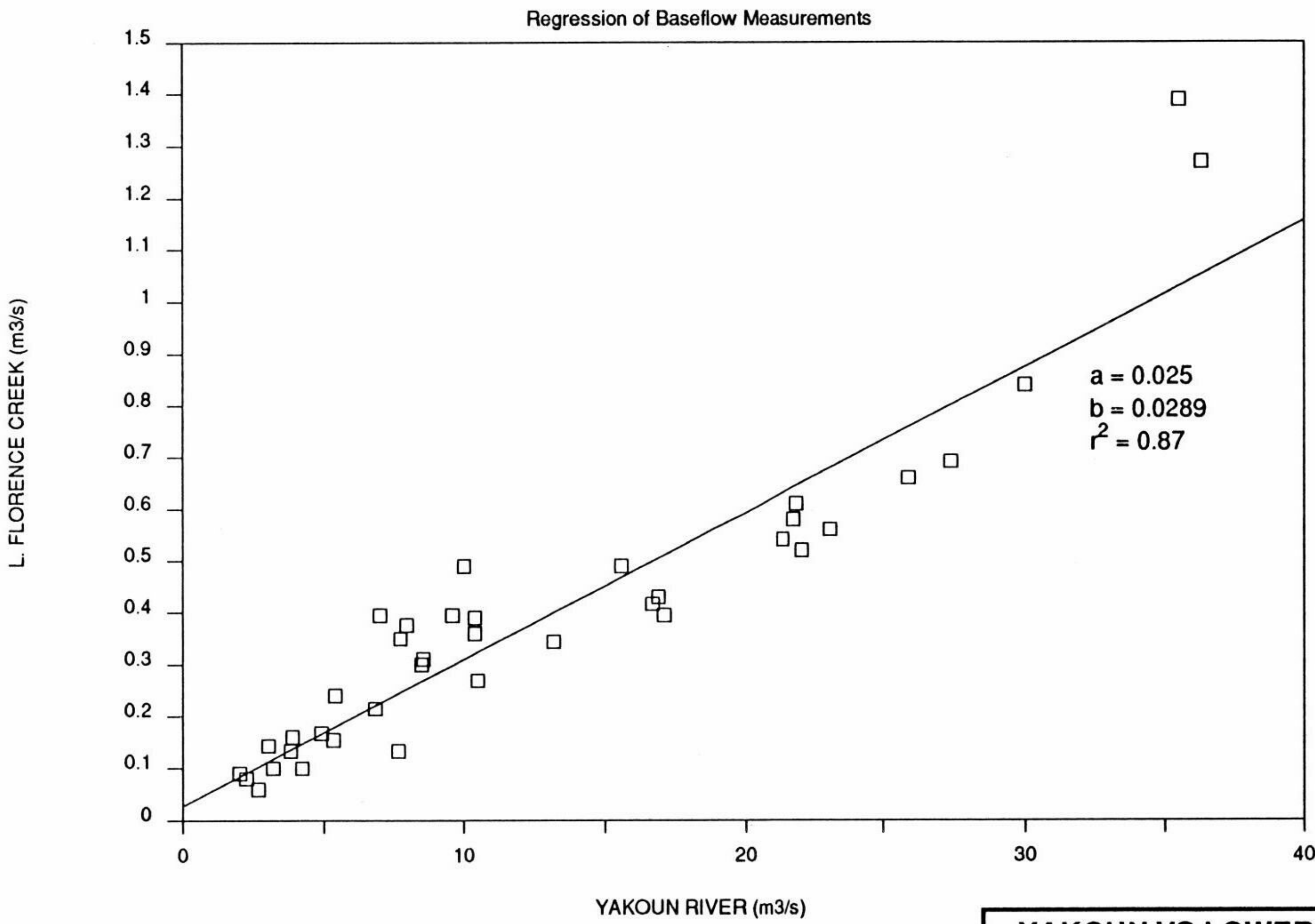
Yakoun vs Middle Florence

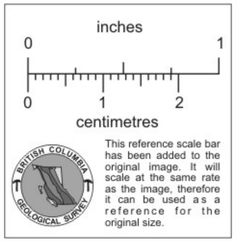


YAKOUN VS MIDDLE FLORENCE

Figure No. 3	CINOLA ADDENDUM REPORT
Date: May 1989	Drawn by: NORECOL

Yakoun vs Lower Florence





YAKOUN VS LOWER FLORENCE	
Figure No. **4**	**CINOLA ADDENDUM REPORT**
Date **May 1989**	Drawn by **NORECOL**

APPENDIX 4.2.6-1

MINE AREA: WATER MANAGEMENT PLAN
FOR YEAR OF WETTEST PRECIPITATION

(Pages 1 to 9)

FILE: MINWAT3

	Catchment Area (ha)	Runoff Factor
Pit (Mudstone)	0.00	0.90
Pit (Acid Generating)	39.25	0.90
MSSP1: WRS Runoff	1.10	1.00
MSSP2: WRS Active face	0.60	1.00
MSSP3: Pit - Acid Gen.	1.35	1.00
MSSP4: Pit - Mudstone	0.00	1.00
MSSP5: Temp. Haul Road	0.20	1.00
MSSP6: M & O	2.45	1.00
MSSP7: WRS North	1.10	1.00
MSSP8: Mine Plant	0.00	1.00

	Catchment Area (ha)	Runoff Factor
WRS: 3:1 slope to south	3.00	0.98
WRS: 3:1 slope to north	1.60	0.98
WRS: Top surface	8.00	0.90
WRS: Active face	5.07	1.00
Haul Road to WRS	1.44	1.00
WRS to Pit & Area south	9.08	0.60
Above WRS & below Div ditch	33.50	0.80
Mudstone dump	20.00	0.90
Overburden dump	12.23	0.70
Area around M/S & O/B	37.45	0.60

MONTH	DAYS	PPTN	POTENTIAL EVAPO-TRANSPIRATION	DISCHARGE from PIT ACID GEN	LOCAL DISCHARGE to MSSP3	GROUNDWATER PIT to MSSP3	TOTAL MSSP3 to LIME TREATPLANT	DISCHARGE from WRS to MSSP2	LOCAL DISCHARGE to MSSP2	TOTAL INFLOW to MSSP2	DISCHARGE to MSW1	LOCAL DISCHARGE to MSW1	TOTAL INFLOW to MSW1
		mm	mm	<---				1000 m3/d					--->
1	2	3	4	5	6	7	8	9	10	11	12	13	14
JAN	31	281	14	3.20	0.12	0.14	3.46	0.71	0.05	0.76	4.22	0.40	4.62
FEB	28	251	16	3.17	0.12	0.14	3.42	0.70	0.05	0.75	4.18	0.39	4.56
MAR	31	160	26	1.82	0.06	0.14	2.03	0.48	0.03	0.50	2.53	0.21	2.74
APR	30	180	41	2.12	0.07	0.14	2.33	0.53	0.03	0.56	2.88	0.23	3.11
MAY	31	104	66	1.19	0.03	0.14	1.35	0.37	0.01	0.38	1.73	0.09	1.82
JUN	30	96	88	1.13	0.02	0.14	1.29	0.36	0.01	0.37	1.65	0.06	1.71
JUL	31	110	105	1.25	0.02	0.14	1.41	0.38	0.01	0.39	1.80	0.06	1.86
AUG	31	89	98	1.01	0.01	0.14	1.16	0.34	0.00	0.34	1.51	0.03	1.54
SEP	30	185	71	2.18	0.06	0.14	2.38	0.54	0.03	0.56	2.94	0.21	3.15
OCT	31	317	44	3.61	0.13	0.14	3.88	0.78	0.06	0.83	4.71	0.42	5.13
NOV	30	337	19	3.97	0.15	0.14	4.25	0.84	0.06	0.90	5.16	0.49	5.65
DEC	31	268	11	3.05	0.11	0.14	3.31	0.68	0.05	0.73	4.04	0.38	4.42
MEAN		198	50	2.30	0.07	0.14	2.51	0.56	0.03	0.59	3.10	0.25	3.35
TOTAL		2378	599										

NOTES RE COLUMNS:

3 From Norecol (Yakoun R data * 18/17)
4 From Norecol report (Masset data)
5 From area and runoff factor
6 From area and runoff factor less 2/3 of potential evapotranspiration from pond
7 Groundwater to MSSP3
8 Total of 5 to 7
9 From area and runoff factor for active face, infiltration from 3:1 slopes and horizontal surface, and groundwater to WRS
10 From area and runoff factor
11 Total of 9 and 10
12 Total of 8 and 11
13 From area and runoff factor less 2/3 of potential evapotranspiration from pond
14 Total of 12 and 13

	Catchment Area (ha)	Runoff Factor
Between Pit & Haul Road	4.25	0.60
Mine Plant incl. MSSP8	1.45	0.80
MSW1	4.52	1.00
MSW2	3.13	1.00

	Quantity (m3/d)
Groundwater to WRS	168
Groundwater to MSSP4	140
Groundwater to MSSP3	140

DISCHARGE from WRS to MSSP1	DISCHARGE from ABOVE WRS to MSSP1	LOCAL DISCHARGE to MSSP1	TOTAL INFLOW to MSSP1	DISCHARGE from PIT MUDSTONE	LOCAL INFLOW to MSSP4	TOTAL INFLOW to MSSP4	DISCHARGE from HAUL ROAD	LOCAL INFLOW to MSSP5	TOTAL INFLOW to MSSP5
<------------				1000 m3/d					------------>
15	16	17	18	19	20	21	22	23	24
1.06	2.43	0.10	3.59	0.14	0.00	0.14	0.13	0.02	0.15
1.05	2.40	0.09	3.55	0.14	0.00	0.14	0.13	0.02	0.15
0.60	1.38	0.05	2.04	0.14	0.00	0.14	0.07	0.01	0.08
0.70	1.61	0.06	2.37	0.14	0.00	0.14	0.09	0.01	0.10
0.39	0.90	0.02	1.31	0.14	0.00	0.14	0.05	0.00	0.05
0.37	0.86	0.01	1.25	0.14	0.00	0.14	0.05	0.00	0.05
0.42	0.95	0.01	1.38	0.14	0.00	0.14	0.05	0.00	0.05
0.34	0.77	0.01	1.11	0.14	0.00	0.14	0.04	0.00	0.04
0.72	1.65	0.05	2.43	0.14	0.00	0.14	0.09	0.01	0.10
1.20	2.74	0.10	4.04	0.14	0.00	0.14	0.15	0.02	0.17
1.32	3.01	0.12	4.44	0.14	0.00	0.14	0.16	0.02	0.18
1.01	2.32	0.09	3.42	0.14	0.00	0.14	0.12	0.02	0.14
0.76	1.75	0.06	2.57	0.14	0.00	0.14	0.09	0.01	0.10

15 From areas and runoff factors
16 From area and runoff factor
17 From area and runoff factor less 2/3 of
potential evapotranspiration from pond
18 Total of 15 to 17
19 From area, runoff factor, and groundwater to MSSP4
20 From area and runoff factor less 2/3 of
potential evapotranspiration from pond
21 Total of 19 and 20
22 From area and runoff factor
23 From area and runoff factor less 2/3 of
potential evapotranspiration from pond
24 Total of 22 and 23

DISCHARGE from M/S DUMP	DISCHARGE from O/B DUMP	AREA around M/S & O/B	LOCAL DISCHARGE to MSSP6	DISCH from btwn PIT & HAUL RD	TOTAL INFLOW to MSSP6	LOCAL DISCHARGE to MSW2	TOTAL INFLOW to MSW2	DISCHARGE from WRS to NORTH	LOCAL DISCHARGE to MSSP7	TOTAL INFLOW to MSSP7	MINE PLANT including MSSP8
<------					1000 m3/d						------>
25	26	27	28	29	30	31	32	33	34	35	36
1.63	0.78	2.04	0.21	0.23	5.04	0.27	5.31	0.14	0.10	0.24	0.11
1.61	0.77	2.01	0.21	0.23	4.98	0.27	5.25	0.14	0.09	0.23	0.10
0.93	0.44	1.16	0.11	0.13	2.86	0.14	3.00	0.08	0.05	0.13	0.06
1.08	0.51	1.35	0.12	0.15	3.32	0.16	3.48	0.09	0.06	0.15	0.07
0.60	0.29	0.75	0.05	0.09	1.83	0.06	1.89	0.05	0.02	0.07	0.04
0.58	0.27	0.72	0.03	0.08	1.73	0.04	1.77	0.05	0.01	0.06	0.04
0.64	0.30	0.80	0.03	0.09	1.92	0.04	1.96	0.06	0.01	0.07	0.04
0.52	0.25	0.65	0.02	0.07	1.54	0.02	1.57	0.05	0.01	0.05	0.03
1.11	0.53	1.39	0.11	0.16	3.39	0.14	3.53	0.10	0.05	0.15	0.07
1.84	0.88	2.30	0.23	0.26	5.67	0.29	5.96	0.16	0.10	0.26	0.12
2.02	0.96	2.52	0.26	0.29	6.24	0.34	6.58	0.18	0.12	0.30	0.13
1.56	0.74	1.94	0.21	0.22	4.66	0.26	4.93	0.14	0.09	0.23	0.10
1.17	0.56	1.46	0.13	0.17	3.59	0.17	3.76	0.10	0.06	0.16	0.08

25 From area and runoff factor
26 From area and runoff factor
27 From area and runoff factor
28 From area and runoff factor less 2/3 of potential evapotranspiration from pond
29 From area and runoff factor
30 Total of 25 to 29
31 From area and runoff factor less 2/3 of potential evapotranspiration from pond
32 Total of 30 and 31
33 From area and runoff factor
34 From area and runoff factor less 2/3 of potential evapotranspiration from pond
35 Total of 33 and 34
36 From area and runoff factor

CINOLA GOLD PROJECT - MINE AREA
WATER MANAGEMENT PLAN FOR YEAR OF WETTEST PRECIPITATION: YEAR 7

FILE: MINWAT7

	Catchment Area (ha)	Runoff Factor
Pit (Mudstone)	0.00	0.90
Pit (Acid Generating)	39.25	0.90
MSSP1: WRS Runoff	1.10	1.00
MSSP2: WRS Active face	0.60	1.00
MSSP3: Pit - Acid Gen.	1.35	1.00
MSSP4: Pit - Mudstone	0.00	1.00
MSSP5: Temp. Haul Road	0.20	1.00
MSSP6: M & O	2.45	1.00
MSSP7: WRS North	1.10	1.00
MSSP8: Mine Plant	0.00	1.00

	Catchment Area (ha)	Runoff Factor
WRS: 3:1 slope to south	8.50	0.98
WRS: 3:1 slope to north	2.53	0.98
WRS: Top surface	15.30	0.90
WRS: Active face	5.29	1.00
Haul Road to WRS	2.16	1.00
WRS to Pit & Area south	9.66	0.60
Above WRS & below Div ditch	6.77	0.80
Mudstone dump	20.00	0.90
Overburden dump	12.23	0.70
Area around M/S & O/B	37.45	0.60

MONTH	DAYS	PPTN mm	POTENTIAL EVAPO-TRANSPIRATION mm	DISCHARGE from PIT ACID GEN	LOCAL DISCHARGE to MSSP3	GROUNDWATER PIT to MSSP3	TOTAL MSSP3 to LIME TREATPLANT	DISCHARGE from WRS to MSSP2	LOCAL DISCHARGE to MSSP2	TOTAL INFLOW to MSSP2	DISCHARGE to MSW1	LOCAL DISCHARGE to MSW1	TOTAL INFLOW to MSW1
				<----	----	----	----	1000 m3/d	----	----	----	----	---->
1	2	3	4	5	6	7	8	9	10	11	12	13	14
JAN	31	281	14	3.20	0.12	0.34	3.66	0.81	0.05	0.86	4.52	0.40	4.92
FEB	28	251	16	3.17	0.12	0.34	3.62	0.80	0.05	0.85	4.47	0.39	4.86
MAR	31	160	26	1.82	0.06	0.34	2.23	0.53	0.03	0.56	2.78	0.21	2.99
APR	30	180	41	2.12	0.07	0.34	2.53	0.59	0.03	0.62	3.15	0.23	3.38
MAY	31	104	66	1.19	0.03	0.34	1.55	0.40	0.01	0.42	1.97	0.09	2.05
JUN	30	96	88	1.13	0.02	0.34	1.49	0.39	0.01	0.40	1.89	0.06	1.94
JUL	31	110	105	1.25	0.02	0.34	1.61	0.42	0.01	0.43	2.04	0.06	2.09
AUG	31	89	98	1.01	0.01	0.34	1.36	0.37	0.00	0.37	1.74	0.03	1.77
SEP	30	185	71	2.18	0.06	0.34	2.58	0.60	0.03	0.63	3.21	0.21	3.42
OCT	31	317	44	3.61	0.13	0.34	4.08	0.89	0.06	0.94	5.02	0.42	5.44
NOV	30	337	19	3.97	0.15	0.34	4.45	0.96	0.06	1.02	5.48	0.49	5.97
DEC	31	268	11	3.05	0.11	0.34	3.51	0.78	0.05	0.83	4.33	0.38	4.71
MEAN		198	50	2.30	0.07	0.34	2.71	0.63	0.03	0.66	3.37	0.25	3.62
TOTAL		2378	599										

NOTES RE COLUMNS:

3 From Norecol (Yakoun R data * 18/17)
4 From Norecol report (Masset data)
5 From area and runoff factor
6 From area and runoff factor less 2/3 of potential evapotranspiration from pond
7 Groundwater to MSSP3
8 Total of 5 to 7
9 From area and runoff factor for active face, infiltration from 3:1 slopes and horizontal surface, and groundwater to WRS
10 From area and runoff factor
11 Total of 9 and 10
12 Total of 8 and 11
13 From area and runoff factor less 2/3 of potential evapotranspiration from pond
14 Total of 12 and 13

	Catchment Area (ha)	Runoff Factor
Between Pit & Haul Road	4.25	0.60
Mine Plant incl. MSSP8	1.45	0.80
MSW1	4.52	1.00
MSW2	3.13	1.00

	Quantity (m3/d)
Groundwater to WRS	168
Groundwater to MSSP4	340
Groundwater to MSSP3	340

Units: 1000 m3/d

DISCHARGE from WRS to MSSP1	DISCHARGE from ABOVE WRS to MSSP1	LOCAL DISCHARGE to MSSP1	TOTAL INFLOW to MSSP1	DISCHARGE from PIT MUDSTONE	LOCAL INFLOW to MSSP4	TOTAL INFLOW to MSSP4	DISCHARGE from HAUL ROAD	LOCAL INFLOW to MSSP5	TOTAL INFLOW to MSSP5
15	16	17	18	19	20	21	22	23	24
2.23	0.49	0.10	2.82	0.34	0.00	0.34	0.20	0.02	0.21
2.20	0.49	0.09	2.78	0.34	0.00	0.34	0.19	0.02	0.21
1.27	0.28	0.05	1.60	0.34	0.00	0.34	0.11	0.01	0.12
1.47	0.32	0.06	1.86	0.34	0.00	0.34	0.13	0.01	0.14
0.82	0.18	0.02	1.03	0.34	0.00	0.34	0.07	0.00	0.08
0.79	0.17	0.01	0.97	0.34	0.00	0.34	0.07	0.00	0.07
0.87	0.19	0.01	1.08	0.34	0.00	0.34	0.08	0.00	0.08
0.71	0.16	0.01	0.87	0.34	0.00	0.34	0.06	0.00	0.06
1.52	0.33	0.05	1.90	0.34	0.00	0.34	0.13	0.01	0.14
2.51	0.55	0.10	3.17	0.34	0.00	0.34	0.22	0.02	0.24
2.76	0.61	0.12	3.49	0.34	0.00	0.34	0.24	0.02	0.26
2.12	0.47	0.09	2.69	0.34	0.00	0.34	0.19	0.02	0.20
1.60	0.35	0.06	2.01	0.34	0.00	0.34	0.14	0.01	0.15

15 From areas and runoff factors
16 From area and runoff factor
17 From area and runoff factor less 2/3 of potential evapotranspiration from pond
18 Total of 15 to 17
19 From area, runoff factor, and groundwater to MSSP4
20 From area and runoff factor less 2/3 of potential evapotranspiration from pond
21 Total of 19 and 20
22 From area and runoff factor
23 From area and runoff factor less 2/3 of potential evapotranspiration from pond
24 Total of 22 and 23

DISCHARGE from M/S DUMP	DISCHARGE from O/B DUMP	AREA around M/S & O/B	LOCAL DISCHARGE to MSSP6	DISCH from btwn PIT & HAUL RD	TOTAL INFLOW to MSSP6	LOCAL DISCHARGE to MSW2	TOTAL INFLOW to MSW2	DISCHARGE from WRS to NORTH	LOCAL DISCHARGE to MSSP7	TOTAL INFLOW to MSSP7	MINE PLANT including MSSP8
<------------					1000 m3/d						------------>
25	26	27	28	29	30	31	32	33	34	35	36
1.63	0.78	2.04	0.21	0.23	5.10	0.27	5.38	0.22	0.10	0.32	0.11
1.61	0.77	2.01	0.21	0.23	5.04	0.27	5.31	0.22	0.09	0.32	0.10
0.93	0.44	1.16	0.11	0.13	2.90	0.14	3.04	0.13	0.05	0.18	0.06
1.08	0.51	1.35	0.12	0.15	3.36	0.16	3.52	0.15	0.06	0.20	0.07
0.60	0.29	0.75	0.05	0.09	1.85	0.06	1.91	0.08	0.02	0.10	0.04
0.58	0.27	0.72	0.03	0.08	1.75	0.04	1.79	0.08	0.01	0.09	0.04
0.64	0.30	0.80	0.03	0.09	1.94	0.04	1.98	0.09	0.01	0.10	0.04
0.52	0.25	0.65	0.02	0.07	1.56	0.02	1.59	0.07	0.01	0.08	0.03
1.11	0.53	1.39	0.11	0.16	3.44	0.14	3.58	0.15	0.05	0.20	0.07
1.84	0.88	2.30	0.23	0.26	5.74	0.29	6.03	0.25	0.10	0.36	0.12
2.02	0.96	2.52	0.26	0.29	6.32	0.34	6.66	0.28	0.12	0.40	0.13
1.56	0.74	1.94	0.21	0.22	4.67	0.26	4.93	0.21	0.09	0.31	0.10
1.17	0.56	1.46	0.13	0.17	3.63	0.17	3.80	0.16	0.06	0.22	0.08

25 From area and runoff factor
26 From area and runoff factor
27 From area and runoff factor
28 From area and runoff factor less 2/3 of potential evapotranspiration from pond
29 From area and runoff factor
30 Total of 25 to 29
31 From area and runoff factor less 2/3 of potential evapotranspiration from pond
32 Total of 30 and 31
33 From area and runoff factor
34 From area and runoff factor less 2/3 of potential evapotranspiration from pond
35 Total of 33 and 34
36 From area and runoff factor

FILE: MINWAT12

	Catchment Area (ha)	Runoff Factor
Pit (Mudstone)	0.00	0.90
Pit (Acid Generating)	41.60	0.90
MSSP1: WRS Runoff	1.10	1.00
MSSP2: WRS Active face	0.60	1.00
MSSP3: Pit - Acid Gen.	1.35	1.00
MSSP4: Pit - Mudstone	0.00	1.00
MSSP5: Temp. Haul Road	0.20	1.00
MSSP6: M & O	2.45	1.00
MSSP7: WRS North	1.10	1.00
MSSP8: Mine Plant	0.00	1.00

	Catchment Area (ha)	Runoff Factor
WRS: 3:1 slope to south	25.63	0.98
WRS: 3:1 slope to north	2.53	0.98
WRS: Top surface	14.01	0.90
WRS: Active face	5.25	1.00
Haul Road to WRS	2.61	1.00
WRS to Pit & Area south	9.71	0.60
Above WRS & below Div ditch	0.00	0.80
Mudstone dump	20.00	0.90
Overburden dump	12.23	0.70
Area around M/S & O/B	37.45	0.60

MONTH	DAYS	PPTN (mm)	POTENTIAL EVAPO-TRANSPIRATION (mm)	DISCHARGE from PIT ACID GEN	LOCAL DISCHARGE to MSSP3	GROUNDWATER PIT to MSSP3	TOTAL MSSP3 to LIME TREATPLANT	DISCHARGE from WRS to MSSP2	LOCAL DISCHARGE to MSSP2	TOTAL INFLOW to MSSP2	DISCHARGE to MSW1	LOCAL DISCHARGE to MSW1	TOTAL INFLOW to MSW1
				<----				1000 m3/d					---->
1	2	3	4	5	6	7	8	9	10	11	12	13	14
JAN	31	281	14	3.39	0.12	0.63	4.14	0.82	0.05	0.87	5.01	0.40	5.41
FEB	28	251	16	3.36	0.12	0.63	4.10	0.81	0.05	0.87	4.96	0.39	5.35
MAR	31	160	26	1.93	0.06	0.63	2.62	0.54	0.03	0.57	3.19	0.21	3.40
APR	30	180	41	2.25	0.07	0.63	2.94	0.60	0.03	0.63	3.57	0.23	3.80
MAY	31	104	66	1.26	0.03	0.63	1.91	0.41	0.01	0.42	2.33	0.09	2.42
JUN	30	96	88	1.20	0.02	0.63	1.84	0.40	0.01	0.41	2.25	0.06	2.30
JUL	31	110	105	1.33	0.02	0.63	1.97	0.42	0.01	0.43	2.40	0.06	2.46
AUG	31	89	98	1.07	0.01	0.63	1.71	0.38	0.00	0.38	2.09	0.03	2.12
SEP	30	185	71	2.31	0.06	0.63	3.00	0.61	0.03	0.64	3.64	0.21	3.84
OCT	31	317	44	3.83	0.13	0.63	4.58	0.91	0.06	0.96	5.54	0.42	5.96
NOV	30	337	19	4.21	0.15	0.63	4.98	0.98	0.06	1.04	6.02	0.49	6.51
DEC	31	268	11	3.24	0.11	0.63	3.98	0.79	0.05	0.84	4.82	0.38	5.20
MEAN		198	50	2.44	0.07	0.63	3.14	0.64	0.03	0.67	3.81	0.25	4.05
TOTAL		2378	599										

NOTES RE COLUMNS:

3 From Norecol (Yakoun R data * 18/17)
4 From Norecol report (Masset data)
5 From area and runoff factor
6 From area and runoff factor less 2/3 of potential evapotranspiration from pond
7 Groundwater to MSSP3
8 Total of 5 to 7
9 From area and runoff factor for active face, infiltration from 3:1 slopes and horizontal surface, and groundwater to WRS
10 From area and runoff factor
11 Total of 9 and 10
12 Total of 8 and 11
13 From area and runoff factor less 2/3 of potential evapotranspiration from pond
14 Total of 12 and 13

	Catchment Area (ha)	Runoff Factor
Between Pit & Haul Road	4.25	0.60
Mine Plant incl. MSSP8	1.45	0.80
MSW1	4.52	1.00
MSW2	3.13	1.00

	Quantity (m3/d)
Groundwater to WRS	168
Groundwater to MSSP4	625
Groundwater to MSSP3	625

DISCHARGE from WRS to MSSP1	DISCHARGE from ABOVE WRS to MSSP1	LOCAL DISCHARGE to MSSP1	TOTAL INFLOW to MSSP1	DISCHARGE from PIT MUDSTONE	LOCAL INFLOW to MSSP4	TOTAL INFLOW to MSSP4	DISCHARGE from HAUL ROAD	LOCAL INFLOW to MSSP5	TOTAL INFLOW to MSSP5
<------------	------------	------------	------------	1000 m3/d	------------	------------	------------	------------	------------>
15	16	17	18	19	20	21	22	23	24
3.64	0.00	0.10	3.74	0.63	0.00	0.63	0.24	0.02	0.25
3.60	0.00	0.09	3.70	0.63	0.00	0.63	0.23	0.02	0.25
2.08	0.00	0.05	2.13	0.63	0.00	0.63	0.13	0.01	0.14
2.41	0.00	0.06	2.47	0.63	0.00	0.63	0.16	0.01	0.17
1.35	0.00	0.02	1.37	0.63	0.00	0.63	0.09	0.00	0.09
1.29	0.00	0.01	1.30	0.63	0.00	0.63	0.08	0.00	0.09
1.43	0.00	0.01	1.44	0.63	0.00	0.63	0.09	0.00	0.10
1.15	0.00	0.01	1.16	0.63	0.00	0.63	0.07	0.00	0.08
2.48	0.00	0.05	2.53	0.63	0.00	0.63	0.16	0.01	0.17
4.11	0.00	0.10	4.21	0.63	0.00	0.63	0.27	0.02	0.29
4.52	0.00	0.12	4.64	0.63	0.00	0.63	0.29	0.02	0.31
3.48	0.00	0.09	3.57	0.63	0.00	0.63	0.23	0.02	0.24
2.62	0.00	0.06	2.68	0.63	0.00	0.63	0.17	0.01	0.18

15 From areas and runoff factors
16 From area and runoff factor
17 From area and runoff factor less 2/3 of potential evapotranspiration from pond
18 Total of 15 to 17
19 From area, runoff factor, and groundwater to MSSP4
20 From area and runoff factor less 2/3 of potential evapotranspiration from pond
21 Total of 19 and 20
22 From area and runoff factor
23 From area and runoff factor less 2/3 of potential evapotranspiration from pond
24 Total of 22 and 23

DISCHARGE from M/S DUMP	DISCHARGE from O/B DUMP	AREA around M/S & O/B	LOCAL DISCHARGE to MSSP6	DISCH from btwn PIT & HAUL RD	TOTAL INFLOW to MSSP6	LOCAL DISCHARGE to MSW2	TOTAL INFLOW to MSW2	DISCHARGE from WRS to NORTH	LOCAL DISCHARGE to MSSP7	TOTAL INFLOW to MSSP7	MINE PLANT including MSSP8
<------------					1000 m3/d						------------>
25	26	27	28	29	30 ¦	31	32 ¦	33	34	35 ¦	36 ¦
1.63	0.78	2.04	0.21	0.23	5.14 ¦	0.27	5.42 ¦	0.22	0.10	0.32 ¦	0.11 ¦
1.61	0.77	2.01	0.21	0.23	5.09 ¦	0.27	5.35 ¦	0.22	0.09	0.32 ¦	0.10 ¦
0.93	0.44	1.16	0.11	0.13	2.92 ¦	0.14	3.06 ¦	0.13	0.05	0.18 ¦	0.06 ¦
1.08	0.51	1.35	0.12	0.15	3.39 ¦	0.16	3.55 ¦	0.15	0.06	0.20 ¦	0.07 ¦
0.60	0.29	0.75	0.05	0.09	1.87 ¦	0.06	1.93 ¦	0.08	0.02	0.10 ¦	0.04 ¦
0.58	0.27	0.72	0.03	0.08	1.77 ¦	0.04	1.81 ¦	0.08	0.01	0.09 ¦	0.04 ¦
0.64	0.30	0.80	0.03	0.09	1.96 ¦	0.04	2.00 ¦	0.09	0.01	0.10 ¦	0.04 ¦
0.52	0.25	0.65	0.02	0.07	1.58 ¦	0.02	1.60 ¦	0.07	0.01	0.08 ¦	0.03 ¦
1.11	0.53	1.39	0.11	0.16	3.46 ¦	0.14	3.61 ¦	0.15	0.05	0.20 ¦	0.07 ¦
1.84	0.88	2.30	0.23	0.26	5.79 ¦	0.29	6.08 ¦	0.25	0.10	0.36 ¦	0.12 ¦
2.02	0.96	2.52	0.26	0.29	6.37 ¦	0.34	6.71 ¦	0.28	0.12	0.40 ¦	0.13 ¦
1.56	0.74	1.94	0.21	0.22	4.67 ¦	0.26	4.93 ¦	0.21	0.09	0.31 ¦	0.10 ¦
1.17	0.56	1.46	0.13	0.17	3.65 ¦	0.17	3.82 ¦	0.16	0.06	0.22 ¦	0.08 ¦

25 From area and runoff factor
26 From area and runoff factor
27 From area and runoff factor
28 From area and runoff factor less 2/3 of potential evapotranspiration from pond
29 From area and runoff factor
30 Total of 25 to 29
31 From area and runoff factor less 2/3 of potential evapotranspiration from pond
32 Total of 30 and 31
33 From area and runoff factor
34 From area and runoff factor less 2/3 of potential evapotranspiration from pond
35 Total of 33 and 34
36 From area and runoff factor

APPENDIX 6.2.3-1

COMMENTARY FROM ENVIRONMENT CANADA ON MERCURY / NUTRIENTS

(Pages 1 to 2)

NOTES
CINOLA Hg/NUTRIENTS

1. <u>The-concept/theory-of-Biodilution.</u> Still have some problems with this concept. Jernelov <u>et al</u> offers no evidence of this in their paper. The theory that organisms in oligotrophic lakes tend to have higher Hg levels than organisms in eutrophic lakes could be due to biodilution, could also be due to some other phenomenon such as reduced availability of mercury under eutrophic conditions owing to production of sulphides and organic chelators.

Advice given to me is that Hecky <u>et al</u> in their limnocorral experiments in Southern Indian Lake, found that doubling the primary productivity had no effect on either the uptake of mercury by fish or on the growth of the fish. This does not necessarily constitute evidence of biodilution, for biodilution would of been accompanied by an increase in the growth rate of fish. Also I understand that the report does not claim that biodilution was involved!

Again, advice given to me re Rudd and Turner's experiment performed in limnocorrals with water-tight plastic bottoms installed in Clay Lake found that increasing the primary productivity 4X or 9X caused a substantial net <u>increase</u> in the mercury content of fish muscle. The authors concluded that enhancement of productivity increased both the rate of mercury methyl production (because of increased microbial activity) and the biodilution of mercury (because of increased fish growth), and that the effect of increased methyl mercury production far exceeded the opposing effect of biodilution. Thus, their conclusions are in direct opposition to the biodilution concept.

Jackson 1988 (Can. Jour. Fish. Aquat. Sci. <u>45</u>: 1744-1757) found evidence that biodilution does does not play a significant role.

2. <u>Availability-of-Mercury-(especially-inert-inorganic-cinnabar)</u>.

The concerns about increased inorganic mercury mobilisation are dismissed on the grounds that cinnabar, the source of mercury, is relatively insoluble and unreactive. This could still be open to some question. For instance in Rudd and Turner's experiments there were major increases in nutrient levels and primary production and only a trace of mercury was added (as radioactive Hg-203); yet the result was a net increase in the accumulation of mercury by fish. Moreover, cinnabar, though very insoluble and relatively stable to oxidation, does have a finite solubility and undergo oxidation (e.g. by trivalent iron in acid mine waters) to the more soluble mercuric sulphate. (As what could be happening now to cause the elevated Hg levels at the Cinola site). Consequently, some increase in the pool of potentially available inorganic mercury is likely in the event that mining causes an increase in the cinnabar particles into the environment. The amount may be small compared with the amounts in a heavily polluted body of water, but experience with the polluted reservoirs in Northern Manitoba has shown that it does not take much mercury to create a problem id the conditions are right for a rise in the rates of mercury methylation and bio-accumulation. Even without an increase in the abundance of inorganic mercury, the enhanced primary production could cause an increase in methyl mercury production; the mercury from the cinnabar would simply enhance this increase.

3. A contingency plan:

In order to give approval of the mine, a contingency plan has to be developed as to what to do if mercury methylation does occur once mining begins.

APPENDIX 7.2.2-1

FERGUSON BAY DOCK IMPACTS AND COMPENSATION
HAY & COMPANY RESPONSE

(Pages 1 to 3)

RECEIVED MAY 2 6 1989

HAY & COMPANY

CONSULTANTS INC.

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May 24, 1989

File : NORE.02

Norecol Environmental Consultants Ltd.
Suite 700, 1090 West Pender Street
Vancouver, B.C.
V6E 2N7

Attention : Ms. E. M. Neil

Dear Ms. Neil

Re: Ferguson Bay Dock Site

In reference to our recent meeting on the physical impacts and compensation potential for the above project, this letter presents our opinion and comments as requested.

The following comments are made on the basis of a review of existing data as no site visit was undertaken by Hay & Company. The data reviewed, included an air photo (BC86114 # 010), a plan showing marine vegetation zones (Norecol 1989), underwater photos inside and outside the bay (Norecol), panorama photos taken from the existing breakwater looking north and east across the eelgrass bed and along the adjacent shoreline (Norecol), plan showing bathymetric contours and the existing breakwater (Taylor Peach), and a substrate and biological survey of Ferguson Bay (MacMillan Bloedel, 1978).

Investigations by Taylor Peach (designers of the new facility) through discussions with locals and MacMillan Bloedel indicate that winds and waves approach the site from a variety of directions with some predominance from the north. Major winds around the Queen Charlotte Islands are southeast along Hecate Strait and westerly through Dixon Entrance. Overland winds are affected by local topography such as the mountains to the west and the north-south axis of Masset Sound. These topographic features will have an effect on wave directions at the site. In addition arctic outflow winds, which occur primarily during the winter, will cross Hecate Strait from the Skeena valley and generate waves across Masset Inlet approaching the site from the east.

There are no definite indications of predominance in coastal processes as indicated by the geomorphic features shown in the air photo. The influence of the tidal flows through Juskatla

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Narrows to the west of Ferguson Bay is evident in the alignment of bars and spits, and the development of the Yakoun River delta is evident to the east. There is little evidence of recent shoreline development between Ferguson Bay and Yakoun Bay.

A narrow tidal shelf runs between the Yakoun River delta and the east side of the existing breakwater at the site. The air photo indicates the shelf to be approximately uniform in width except against the breakwater where it widens. No distinctive shelf is evident in the air photo to the west of the breakwater. The change in the width of the shelf is also borne out in the surveyed contours, Figure 1.

The reasons for the wider shelf on the east side of the breakwater are not evident in the data reviewed. The portion of the shelf exposed in the panorama photos appears quite stable with a heavy armouring of cobble and boulder although some minor erosion of the low backshore escarpment is evident in the fallen trees. The breakwater has been in place for at least 10 years and any significant littoral drift would be seen in either accretion or erosion of the upper foreshore at the root of the structure.

A layer of fine sediments appears on the surface in the sub-tidal zone as seen in the underwater photos and documented in the substrate and biological survey of 1978. Such sediments settling out from the water column can be expected in a large inlet where tidal velocities are low and should not present any physical constraints on compensation development.

With little source of sediments for shoreline development between Ferguson and Yakoun bays, it appears the wider shelf at the breakwater may have existed prior to construction or have developed through backshore erosion in response to the prescence of the structure. In any event the present equilibrium of the foreshore east of the breakwater would indicate an opportunity for extending the existing eelgrass bed by excavating into the inter-tidal shelf at the appropriate elevation.

A more detailed study than this overview is recommended to confirm the potential for extending the existing eelgrass bed, or creating additional beds along the foreshore east of the breakwater. The elevation of the beds are not precisely known, the scope for such development may not exist where the shelf is narrow, and any change to the shelf may impact the adjacent backshore until a new state of equilibrium exists.

We would be pleased to visit the site to more closely examine the physical conditions and discuss compensation potential with Fisheries and Oceans. We have undertaken similar compensation projects and are known to the Fisheries and Oceans staff at Prince Rupert.

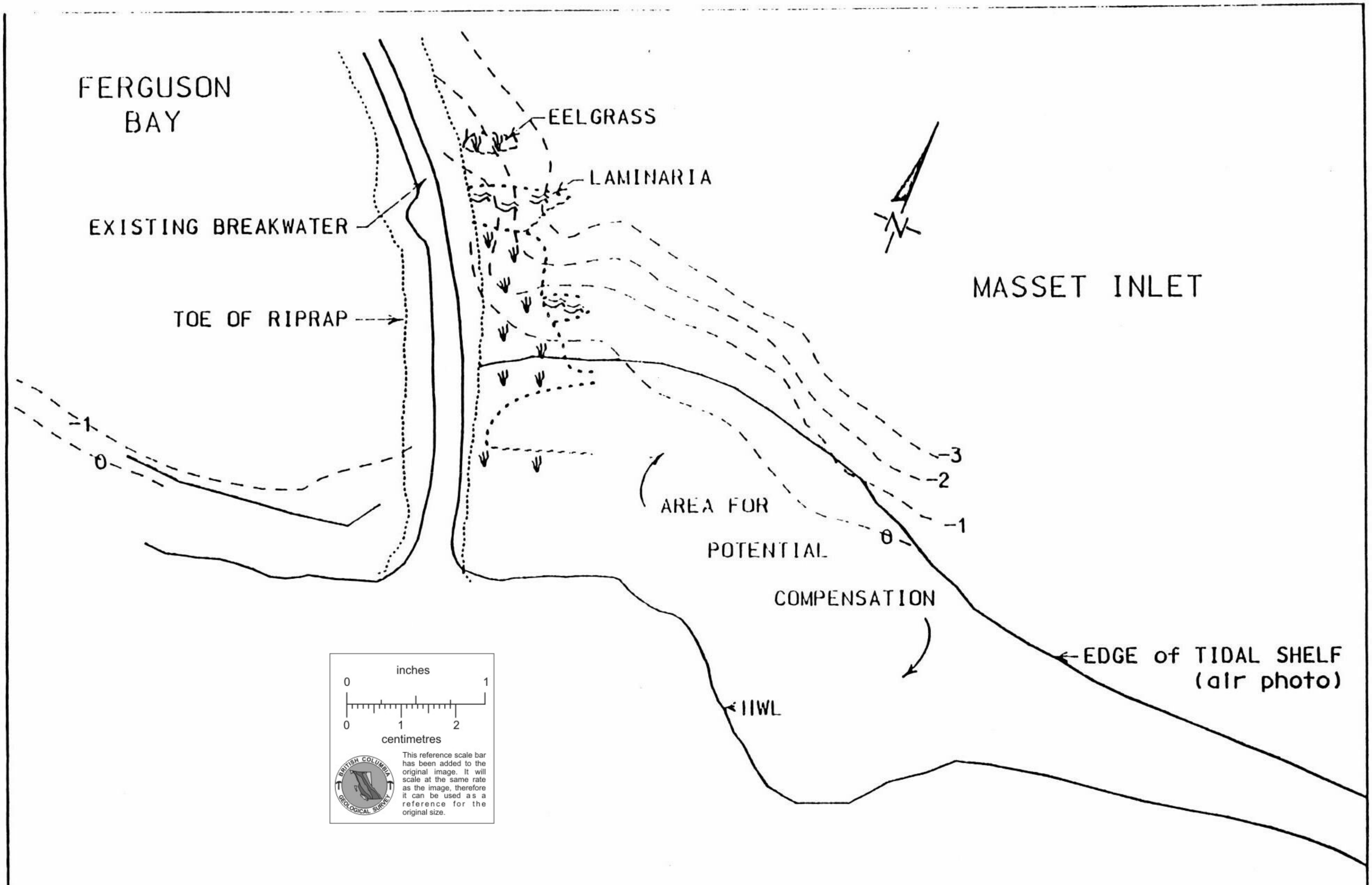
We trust this brief overview of site conditions meets your present needs and if there are any further queries, please call.

Yours very truly,

HAY & COMPANY CONSULTANTS INC.

D.D. McConnell, P.Eng.

DMc/
encl.



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FERGUSON BAY BREAKWATER SITE PLAN

FIG. 1

NOR 01