Trow Thunder Bay Branch

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September 27, 1993

C94C

Homestake Canada Ltd.
1000 - 700 West Pender Street
Vancouver, B.C.
V6C 1G8

Attention: Mr. Bill Napier, Director Environmental Affairs

RE: Abandonment and Restoration
Water Balance Calculations
Cullaton Lake Gold Mine
Ref. No. F-90132-A/G

Dear Mr. Napier,

In discussions with Mr. Mike Legge of the Water Resources Division of Indian and Northern Affairs Canada, and receipt of their letter of May 27, 1993, it was requested that the water balance calculations be carried out on an annual basis and/or on a month by month basis for periods during the year using worst-case assumptions for precipitation, evaporation and snow drifting. The purpose of these calculations is to establish whether the water level in Tailings Pond 1 could be lowered below the spillway invert elevation (93.3 m) during any particular year or for any period in a particular year, thereby exposing the uncovered tailings to oxidation.

Since the worst case on an annual basis had already been analyzed (our letter report of March 30, 1993), it would be more prudent to analyze the water budget on a month by month basis using the worst-case combination of precipitation, evaporation and snow accumulation by drifting in the preceding winter period.

Six (6) cases were analyzed using the worst-case data from the 30 year records from a weather station at Ennadi Lake. The results are given in Appendix A and are summarized below:

Case	Assumptions	Loss (cu.m.)	W.L. Drop
1	Minimum Precipitation Max. Evap. in May	17,746	.2
2	Minimum Precipitation Max. Evap. in June	24,921	.3
3	Minimum Precipitation Max. Evap. in July	28,340	.3
4	Minimum Precipitation Max. Evap. in August	24,984	.3
5	Minimum Precipitation Max. Evap. in September	24,547	.3
6	Minimum Precipitation Max. Evap in July and August	31,210	.4

The worst case considered is Case 6, based on the minimum recorded precipitation combined with the maximum evaporation for the 2 months of July and August. The calculated seasonal lowering of the pond level is 0.4 m to elevation 92.9 m. This would ultimately expose an area of approximately 5,000 sq. m. of tailings that would normally be covered with water, which is 5% of the total tailings area that was previously exposed to oxidation prior to restoration work.

The total time of exposure of tailings to oxidation would be limited to approximately 90 days before the water level rises again with the normal September and October precipitation, followed by freezing and snow cover.

No remedial works are considered necessary to accommodate this possibility of the tailings being seasonally exposed to oxidation for the following reasons:

1. the return period of the combination of circumstances that will lead to seasonal exposure of the tailings is greater than 100 years;

2. the tailings, prior to the restoration work, have been exposed to oxidation for more than 7 years with no measurable effects of acid generation on the surrounding environment. The area of tailings that would be exposed by potential seasonal lower of the water level is a maximum of 5% of the area that was previously exposed and for a shorter period of time. In addition, only part of this 5% would be exposed in the 90 day period.

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Mr. M. Legge also enquired about the significance of evapotranspiration and the diversion ditch on the east side of the tailings disposal area. Evapotranspiration is not significant due to the sparsity of vegetation in the collection basin. The diversion ditch was constructed to divert runoff from entering Tailings Pond 2 (Polishing Pond) and has no effect on the runoff entering Tailings Pond 1 (Tailings Pond). For reference to ground elevations, see Drawing No. 5 of the Abandonment and Restoration Plan, May 7, 1991.

If there are any questions with respect to this letter report, please contact this office at your convenience.

Yours very truly,
TROW CONSULTING ENGINEERS LTD.

Robert B. Dodds, Ph.D., P. Eng.
Thunder Bay Branch Manager

David Chan, P. Eng.

PROFESSIONAL ENGINEER
R. B. DODDS
PROVINCE OF ONTARIO

REGISTERED PROFESSIONAL
R. B. DODDS
LICENSEE
N.W.T.

APPENDIX A

Reference No. 90132

August 20, 1993

Cullaton Lake
Water Balance Calculations

General Assumptions:

1. Drainage area = 178,000 cu.m.
2. All runoff eventually reaches the basin
3. Pond surface area at El. 95.3 (m) = 84,000 sq.m.
4. Estimated annual seepage volume = 20,000 cu.m
5. Assumed evapotranspiration ≈ 0 due to lack of vegetation in the tailings area
6. Monthly evaporation based on Thornthwaite method
7. The spillway will be able to discharge more than 100,000 cu.m. per month
8. The month with minimum precipitation will occur in the month with maximum evaporation (maximum temperature)

The following six (6) cases were considered:

Case 1: Minimum precipitation and maximum evaporation in May

The evaporation and seepage are greater than runoff (or inflow) in the months of June, July and August. The total negative inflow (or loss) for the three months is 17,746 cu.m. or equivalent to approximately 17,746/84,000 = 0.211 m (0.69 ft) of water depth in the pond. This volume (loss) will be recovered in the spring runoff (a total of precipitation and snow drift).

Case 2: Minimum precipitation and maximum evaporation in June

Similar to case 1, negative inflow (loss) will occur in the months of June, July and August. The total loss is estimated to be 24,921 cu.m. or an equivalent of 0.297 m (0.97 ft) of water depth. However, this volume will be recovered in the spring runoff (the pond water level will reach an elevation of 93.3 m before discharging through the spillway).

Case 3: Minimum precipitation and maximum evaporation in July

Similar to the above cases, negative inflow (loss) will occur in the months of June, July and August. The total loss is estimated to be 28,340 cu.m. or an equivalent of 0.337 m (1.11 ft) of water depth. This volume will be recovered in the spring runoff.

Case 4: Minimum precipitation and maximum evaporation in August

Similar to the above cases, negative inflow (loss) will occur in the months of June, July and August. The total loss is estimated to be 24,984 cu.m. or an equivalent of 0.297 m (0.98 ft) of water depth.

Case 5: Minimum precipitation and maximum evaporation in September

The four summer months including June, July, August and September will have negative inflow (loss). The total loss is estimated to be 24,547 cu.m. or an equivalent water depth of 0.292 m (0.96 ft).

The above cases were calculated based on the 30 years climatic data or 30-year return period.

Case 6: Minimum precipitation and maximum evaporation in the months of July and August

Negative inflow (loss) will occur in the months of June, July and August. The total loss is estimated to be 31,210 cu.m. or an equivalent water depth of 0.372 m (1.22 ft). The total loss is less than the total spring runoff from precipitation and snow drift (45,039 cu.m.). Therefore, the loss will be recovered during the spring runoff. The return period is expected to be greater than 1/100.

Case 1: Minimum Precipitation and Maximum Evaporation in the Month of MAY

Month	(A) Average Total Precipitation (mm)	(B) Minimum Precipitation (mm)	(C) Drainage Area (sq. m)	(D) Estimated Potential Runoff (cu. m)	(E) Runoff from Precipitation (cu. m)	(F) Mean Temperature (C)	(G) Maximum Temperature (C)	(H) Average Evaporation (mm)	(I) Pond Area (sq. m)	(J) Evaporation Loss (cu. m)	(K) Estimated Seepage (cu. m)	(L) 1 m Snow Drift Equivalent Precipitation (cu. m)	(M) Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	5.1	178,000	5,909.6	0	-5.0	-1.9	0	84,000	-	4,000	-	
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	0	84,000	-	0	2,225	
December	12.6	0	178,000	2,242.8	0	-25.6	-21.9	0	84,000	-	0	4,450	
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	0	84,000	-	0	4,450	
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	0	84,000	-	0	4,450	
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	0	84,000	-	0	4,450	
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	0	84,000	-	0	4,450	-
May	19.6	1.5	178,000	267.0	12,639.2 [N]	-2.7	1.7	29.5	84,000	2,478.0	0	2,225	39,339.2
June	30.7	2.0	178,000	5,464.6	(-6,187.8)	7.2	12.2	91.1	84,000	7,652.4	4,000	-	-
July	51.9	17.3	178,000	9,238.2	(-6,051.4)	13	17.7	134.4	84,000	11,289.6	4,000	-	-
August	41.7	5.8	178,000	7,422.6	(-5,506.6)	11.5	15.7	106.3	84,000	8,929.2	4,000	-	-
September	44.7	9.7	178,000	7,956.6	479	3.9	7.1	41.4	84,000	3,477.6	4,000	-	-
Total	294.5										20,000	26,700	

TOTAL - VE RUNOFF = -17,745.8 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulae
(I) Water level elevation in Pond @ = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months

Case 2: Minimum Precipitation and Maximum Evaporation in the Month of JUNE

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Month	Average Total Precipitation (mm)	Minimum Precipitation (mm)	Drainage Area (sq. m)	Estimated Potential Runoff (cu. m)	Runoff from Precipitation (cu. m)	Mean Temperature (C)	Maximum Temperature (C)	Average Evaporation (mm)	Pond Area (sq. m)	Evaporation Loss (cu. m)	Estimated Seepage (cu. m)	1 m Snow Drift Equivalent Precipitation (cu. m)	Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	5.1	178,000	5,909.6	0	-5.0	-1.9	-	84,000	-	4,000	-	-
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	-	84,000	-	0	2,225	-
December	12.6	0	178,000	2,242.8	0	-25.8	-21.9	-	84,000	-	0	4,450	-
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	-	84,000	-	0	4,450	-
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	-	84,000	-	0	4,450	-
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	-	84,000	-	0	4,450	-
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	-	84,000	-	0	4,450	-
May	19.6	1.5	178,000	3,488.8	18,339.0 (N)	-2.7	1.7	-	84,000	-	0	2,225	45,039.0
June	30.7	2.0	178,000	356.0	(-14,127.2)	7.2	12.2	124.8	84,000	10,483.2	4,000	-	-
July	51.9	17.3	178,000	9,238.2	(-5,648.2)	13.0	17.7	129.6	84,000	10,886.4	4,000	-	-
August	41.7	5.8	178,000	7,422.6	(-5,145.4)	11.5	15.7	102.0	84,000	8,568.0	4,000	-	-
September	44.7	9.7	178,000	7,956.6	731.0	1.9	7.1	38.4	84,000	3,225.6	4,000	-	-
Total	294.5												
											20,000	26,700	

TOTAL - VE RUNOFF = -24,920.8 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulae
(I) Water level elevation in Pond @ = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months

Case 3: Minimum Precipi[illegible]nd Maximum Evaporation in the Month of JULY

Month	(A) Average Total Precipitation (mm)	(B) Minimum Precipitation (mm)	(C) Drainage Area (sq. m)	(D) Estimated Potential Runoff (cu. m)	(E) Runoff from Precipitation (cu. m)	(F) Mean Temperature (C)	(G) Maximum Temperature (C)	(H) Average Evaporation (mm)	(I) Pond Area (sq. m)	(J) Evaporation Loss (cu. m)	(K) Estimated Seepage (cu. m)	(L) 1 m Snow Drift Equivalent Precipitation (cu. m)	(M) Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	5.1	178,000	5,909.6	0	-5.0	-1.9	-	84,000	-	4,000	-	-
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	-	84,000	-	0	2,225	-
December	12.6	0	178,000	2,242.8	0	-25.8	-21.9	-	84,000	-	0	4,450	-
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	-	84,000	-	0	4,450	-
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	-	84,000	-	0	4,450	-
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	-	84,000	-	0	4,450	-
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	-	84,000	-	0	4,450	-
May	19.6	1.5	178,000	3,488.8	18,339.0 [N]	-2.7	1.7	-	84,000	-	0	2,225	45,039.0
June	30.7	2.0	178,000	5,464.6	(-8,926.2)	7.2	12.2	123.7	84,000	10,390.8	4,000	-	-
July	51.9	17.3	178,000	3,079.4	(-14,343.8)	13.0	17.7	159.8	84,000	13,423.2	4,000	-	-
August	41.7	5.8	178,000	7,422.6	(-5,069.6)	11.5	15.7	101.1	84,000	8,492.4	4,000	-	-
September	44.7	9.7	178,000	7,956.6	781.4	3.9	7.1	37.8	84,000	3,175.2	4,000	-	-
Total	294.5										20,000	26,700	

TOTAL - VE RUNOFF = -28,339.6 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulae
(I) Water level elevation in Pond @ = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months

Case 4: Minimum Precipitation and Maximum Evaporation in the Month of AUGUST

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Month	Average Total Precipitation (mm)	Minimum Precipitation (mm)	Drainage Area (sq. m)	Estimated Potential Runoff (cu. m)	Runoff from Precipitation (cu. m)	Mean Temperature (C)	Maximum Temperature (C)	Average Evaporation (mm)	Pond Area (sq. m)	Evaporation Loss (cu. m)	Estimated Seepage (cu. m)	1 m Snow Drift Equivalent Precipitation (cu. m)	Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	5.1	178,000	5,909.6	0	-6.0	-1.9	-	84,000	-	4,000	-	-
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	-	84,000	-	0	2,225	-
December	12.6	0	178,000	2,242.8	0	-25.8	-21.9	-	84,000	-	0	4,450	-
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	-	84,000	-	0	4,450	-
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	-	84,000	-	0	4,450	-
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	-	84,000	-	0	4,450	-
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	-	84,000	-	0	4,450	-
May	19.6	1.5	178,000	3,488.8	18,339.0 [N]	-2.7	1.7	-	84,000	-	0	2,225	45,039.0
June	30.7	2.0	178,000	5,464.6	(-5,759.4)	7.2	12.2	86.0	84,000	7,224.0	4,000	-	-
July	51.9	17.3	178,000	9,238.2	(-5,623.0)	13.0	17.7	129.3	84,000	10,861.2	4,000	-	-
August	41.7	5.8	178,000	1,032.4	(-13,602.0)	11.5	15.7	126.6	84,000	10,634.4	4,000	-	-
September	44.7	9.7	178,000	7,956.6	1,940.6	3.9	7.1	24.0	84,000	2,016.0	4,000	-	-
Total	294.5										20,000	26,700	

TOTAL - VE RUNOFF = -24,984.4 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulae
(I) Water level elevation in Pond 8 = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months

Case 6: Minimum Precipi[illegible]nd Maximum Evaporation in the Month of SEPTEMBER

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Month	Average Total Precipitation (mm)	Minimum Precipitation (mm)	Drainage Area (sq. m)	Estimated Potential Runoff (cu. m)	Runoff from Precipitation (cu. m)	Mean Temperature (C)	Maximum Temperature (C)	Average Evaporation (mm)	Pond Area (sq. m)	Evaporation Loss (cu. m)	Estimated Seepage (cu. m)	1 m Snow Drift Equivalent Precipitation (cu. m)	Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	6.1	178,000	5,909.6	0	-5.0	-1.9	-	84,000	-	4,000	-	-
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	-	84,000	-	0	2,225	-
December	12.6	0	178,000	2,242.8	0	-25.8	-21.9	-	84,000	-	0	4,450	-
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	-	84,000	-	0	4,450	-
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	-	84,000	-	0	4,450	-
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	-	84,000	-	0	4,450	-
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	-	84,000	-	0	4,450	-
May	19.6	1.5	178,000	3,488.8	18,339.0 [N]	-2.7	1.7	-	84,000	-	0	2,225	45,039.0
June	30.7	2.0	178,000	5,464.6	(-6,003.0)	7.2	12.2	88.9	84,000	7,467.6	4,000	-	-
July	51.9	17.3	178,000	9,238.2	(-5,866.6)	13.0	17.7	132.2	84,000	11,104.8	4,000	-	-
August	41.7	5.8	178,000	7,422.6	(-5,338.6)	11.5	15.7	104.3	84,000	8,761.2	4,000	-	-
September	44.7	9.7	178,000	1,726.6	(-7,338.6)	3.9	7.1	60.3	84,000	5,065.2	4,000	-	-
Total	294.5										20,000	26,700	

TOTAL - VE RUNOFF = -24,546.8 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulae
(I) Water level elevation in Pond 8 = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months

Case 6: Minimum Precipitation and Maximum Evaporation in the Months of JULY & AUGUST

	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)
Month	Average Total Precipitation (mm)	Minimum Precipitation (mm)	Drainage Area (sq. m)	Estimated Potential Runoff (cu. m)	Runoff from Precipitation (cu. m)	Mean Temperature (C)	Maximum Temperature (C)	Average Evaporation (mm)	Pond Area (sq. m)	Evaporation Loss (cu. m)	Estimated Seepage (cu. m)	1 m Snow Drift Equivalent Precipitation (cu. m)	Snow Drift Consideration Potential Discharge (cu. m)
October	33.2	5.1	178,000	5,909.6	0	-5.0	-1.9	-	84,000	-	4,000	-	-
November	16.4	4.6	178,000	2,919.2	0	-17.3	-13.4	-	84,000	-	0	2,225	-
December	12.6	0	178,000	2,242.8	0	-25.8	-21.9	-	84,000	-	0	4,450	-
January	10.3	0.5	178,000	1,833.4	0	-30.9	-27.0	-	84,000	-	0	4,450	-
February	6.4	0.3	178,000	1,139.2	0	-29.1	-24.8	-	84,000	-	0	4,450	-
March	11.7	2.0	178,000	2,082.6	0	-23.8	-18.8	-	84,000	-	0	4,450	-
April	15.3	1.5	178,000	2,723.4	0	-13.1	-7.7	-	84,000	-	0	4,450	-
May	19.6	1.5	178,000	3,488.8	18,339.0 [N]	-2.7	1.7	-	84,000	-	0	2,225	45,039.0
June	30.7	2.0	178,000	5,464.6	(-5,608.2)	7.2	12.2	84.2	84,000	7,072.8	4,000	-	-
July	61.9	17.3	178,000	3,079.4	(-11,168.6)	13.0	17.7	122.0	84,000	10,248.0	4,000	-	-
August	41.7	5.8	178,000	1,032.4	(-14,433.6)	11.5	15.7	136.5	84,000	11,466.0	4,000	-	-
September	44.7	9.7	178,000	7,956.6	823.4	3.9	7.1	37.3	84,000	3,133.2	4,000	-	-
Total	294.5										20,000	28,700	

TOTAL - VE RUNOFF = -31,210.4 cu.m.

(A) Records between 1951-1980 for Ennadai Lake, Northwest Territories, Canadian Climate Normals, Volume 3, Environmental Canada
(B) Records Between 1949-1979 for Ennadai Lake, Northwest Territories provided by Water Resources Division, N. W. T.
(D) Mean: D = A x C ; minimum: D = B x C
(E) E = D - I - K or spring discharge E = Σ(Di) - I - K
(F) & (G) Mean Daily temperature between 1951-1980, Canadian Climate Normals, Volume 2, Environmental Canada
(H) Estimated monthly evaporation based on Thornthwaite (1949/1954) formulas
(I) Water level elevation in Pond @ = 93.3 (m)
(J) J = H x I
(K) Estimated total seepage = 20,000 cu. m.
(L) Assumed 15% of 1 m depth snow drift
(M) Discharge included runoff from snow drift (assumed all runoff can be discharged within a month)
(N) Accumulated potential runoff from winter months