221623

Overburden Tonnage

(1) Main body - basalt SG = 2.6
direct overburden. thickness approximately 25 m
205,100 x 25 x 2.6 = 13.332×10^6 t
additional tonnes for 45° pitslope
over portion (0.7) of area with
circumference 4000 m and cross sectional
area 1800 m^2 = 4000 x 0.7 x 1800 x 2.6 = 13.104×10^6 t
Total = 26.436×10^6 t

(2) Bismuth Creek outlier.
direct overburden: about 3 m. SG = 2.6
30,000 x 3 x 2.6 = 0.234×10^6 t
additional tonnes for 45° pitslope
= 700 m x 1800 x 2.6 = 3.884×10^6 t
Total = 4.118×10^6 t

(3) Brampton Creek outlier.
direct overburden. about 20 m of basalt
and limestone SG 3.0: 19,200 x 20 x 3 = 1.152×10^6 t
additional tonnes for
45° pitslope = 600 x 1012 x 3.0 = 0.822×10^6 t
Total = 2.974×10^6 t

Overall total overburden = 33.528 tonnes

Overburden to Ore ration = 1.2 : 1.0

Mill Head Grade of Ore.

Using C. Ongs revised values for F: Using Amdel's values for Sn

(1) Main body - from 28 analyses ML2 F = 9.75% gives 19.5% CaF_2
from 28 analyses ML2 Sn = 0.14% as SnO_2

(2) Bismuth Creek outlier
from 29 analyses ML3A F = 8.8% gives 17.6% CaF_2
from 29 analyses ML3A Sn = 0.31% as SnO_2

(3) Brampton Creek outlier - no analyses assume as for (1)
CaF_2 = 19.5%
Sn = 0.14%

Total Overall Grade of Ore:

Average grade CaF_2

(2) $4.200 \times 10^6 \times 0.176$ = tonnes pure CaF_2 0.7392×10^6

(1) &(3) $23.94 \times 10^6 \times 0.195$ = tonnes pure CaF_2 4.6683×10^6

total tonnes pure CaF_2 5.4075×10^6

÷ by total tonnes gives overall grade = 19.2% CaF_2