

cc: R.L. Coleman
(RLC, BPW, Lakefield)
M.D. Rowswell
~~J. Paxton~~ delivered by
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019644

MEMO TO: John Carrington.

FROM: David Carson

SUBJECT: GRUM COMPOSITE BULK METALLURGICAL SAMPLE

Following is the desired make-up of the composite bulk sample to be used for pilot mill tests at Lakefield and Mattagami.

A = 5% (M)	FQ = 5% (MQ)
B = 10% (MV+Mpy)	G = 10% (P)
C3 = 10% (MQ-P)	H = 10% (P-MQ)
D = 5% (P)	J = 15% (Mpy)
FV = 5% (MV)	K = 25% (M)

(J is new sample of fine-grained medium-low grade Mpy; K is new sample of high grade unoxidized M, MB, or Mb; the contents of J and K are detailed below)

The above sample would be as closely representative of the pit ore as possible, meeting the following important requirements:

M = 60% (A + B + FV + J + K)
P + MQ = 40% (C3 + D + FQ + G + H)
MV = 10% (BV + FV)
Mpy = 20% (Bpy + J)
M-MB-Mb = 30% (A + K)
M oxidized = 15% (B + FV)
M in which Pb > Zn = 5% (A)
Ga/Sp = 5 + 6 = 10% (B)
Ga/Sp/Py = 5 + 6 = 20% (Bpy + J)

Sample J = Mpy = low-medium grade high-pyrite ore (5 - 8% Pb + Zn). This is required since it constitutes about 20% of the pit ore, yet no sites sampled to date are composed

mainly of this type. A good sample locality may be found at 72W 5N, or near F, or elsewhere. The sample should have the following characteristics:

- massive fine grained compact pyrite with very fine interstitial galena and sphalerite
- 5-8% Pb + Zn
- unoxidized
- little or minor gangue minerals other than pyrite
- $\frac{Ga}{Sp}/Py = 5 + 6$ (this I'll have to check out by microscope, but if the pyrite is fine, the galena and sphalerite will probably also be very fine)

[> 18% Pb + Zn]

Sample K = M-MB-Mb = high grade relatively coarse massive unoxidized ore. This is required because it is the most important ore-type, yet the only high grade massive ores tested to date are from A, B, and F, the latter two being highly oxidized vuggy types. The unoxidized high grade relatively coarse massive ore constitutes about 30% of the pit ore. This type of ore may occur at 68W 5NE, or elsewhere. It should have the following characteristics:

- massive, high grade, only moderate amounts of disseminated pyrite
- not from near stratigraphic top of orebody so $\frac{Ga}{Sp} = 2 - 3$ (this I'll check under the microscope, but if sample is not from the stratigraphic top and galena is visibly relatively coarse, the sample should be OK)
- unoxidized

The site "B" material should be taken only from between the two faults --- see my report on Grum, figure 32A.

Before samples "J" and "K" are mixed in to make up the composite, I should check them out by studying some of the - ¼ inch crushed, mixed material in polished section. I can do this during August. Please make sure that I am sent the required material by Lakefield.

David Carson

David Carson

DJC:gac