

006203

To J. Levanahocc: M. NicholsonFrom R. MurarkaR. VisagieDate August 17, 1983Subject Copper concentrate: 2EF ore.

Recent testwork with 2EF ore has been very promising. Table 1 lists equivalent rougher concentrate metallurgy using three different schemes.

Although all test results appear similar, test #3 should be investigated further for the following reasons:

- (1) The test was tried in our lab in 1972 and the present results are far better.
- (2) Minerec 1661 is known to be Cu-selective
- (3) Minerec 1661 has never been tried in our lab in the cleaner circuit. The metallurgy may turn out to be better than the best found so far (14.7% grade with 62% recovery to first cleaner stage).

The most logical manner to proceed would be to first check the reproducibility of the test results because of historical problems with reproducibility. Then a cleaner test should be carried out to the first stage. If the metallurgy is better than the best achieved so far, a complete cleaner test to three cleaner stages should be carried out. Depending on the results obtained, a decision to conduct a locked cycle test should be made.



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TABLE 1

| TEST # | SAMPLE                 | % WT. | ASSAYS |     |      |     |     | DISTRIBUTION |     |     |      |      |
|--------|------------------------|-------|--------|-----|------|-----|-----|--------------|-----|-----|------|------|
|        |                        |       | Pb     | Zn  | Fe   | Cu  | Ag  | Pb           | Zn  | Fe  | Cu   | Ag   |
| 1      | Cu Rougher concentrate | 2.5   | 14.4   | 9.3 | 23.3 | 5.2 | 4.2 | 9.4          | 4.3 | 1.9 | 73.0 | 9.7  |
| 2      | "                      | 1.8   | 15.3   | 5.8 | 25.9 | 7.0 | 4.8 | 7.5          | 2.1 | 1.4 | 68.3 | 7.6  |
| 3      | "                      | 2.9   | 16.5   | 7.7 | 28.2 | 5.4 | 4.8 | 12.3         | 4.2 | 2.2 | 76.1 | 10.5 |

troy  
oz/t

Test 1: 1 kg/t  $\text{Na}_2\text{SO}_3$  ; 1 kg sample  
65 g/t Z-11

Test 2: 1 kg/t  $\text{Na}_2\text{SO}_3$  ; 8 kg/ sample  
150 g/t Z-11

Test 3: 1.25 kg/t  $\text{Na}_2\text{SO}_3$  ; 2 kg sample  
50 g/t Minerec 1661