

Memorandum to: Gregg Wilson

007788

From: Geoffrey McDonald

Date: January 12, 1992.

Re: FARR Decommissioning Plans.

1.0 "What technological features can attribute to recovery"

- source {
- a) Mill headgrades were high
 - b) Mill throughput rates (tonnages) were higher
 - c) Flotation time economically set
 - d) All process upset/spills reported to the tailings pond
 - e) Very limited process control

- recovery {
- p) Reagents (strong and more selective) eg Denhurst, Australia
 - q) Reagents (depressants)
 - h) Equipment - column flotation
 - additional regrinding (improved liberation)
 - high intensity conditioning.
 - i) Lower mill feed grades (tailings) will yield a product
 - j) Reprocessing is similar to an extended flotation time (the main source of the original mineral loss)

2.0 "Mineral Recoveries"

- a) Laboratory testwork is an on-going exercise
- b) Testwork to date has been concentrating on recovering minerals (lead, zinc, silver, gold) in a ^{bulk} heavier concentrate. The testwork related to cleaning has just started.
- c) Low recoveries were projected.
- d) We are doing testwork at Faro and Lakefield Research and have sent a composite tailings sample to Denhurst in Australia (new reagent) so success is ensured.

5.0 "Capital"

- a) The bulk concentrate prospect means there is only one rougher stage, not two as is required for selective lead and zinc concentrate production.
- b) Now one half of the reprocessed tailings (400,000 tpm) can be processed in the current lead rougher circuit and the other half of the reprocessed tailings (400,000 tpm) can be processed in the current zinc rougher circuit
- c) This in essence will increase the rougher stage flotation by 50 to 100% over the original selective flotation circuit
- d) Cleaner flotation capacity more than adequate, as is the required capacity. Current selective flotation concentrate production 50,000 tpm; forecast bulk concentrate production of 8,000 tpm.
- e) Capital for pipeline, pump and surge tank construction/ installation.

FARO DIVISION
DECOMMISSIONING PLAN
TAILING REPROCESSING.

PROPOSED TESTWORK

A. SAMPLE ACQUISITION

- CYPRUS ANVIL TAILING @ 1.7 lbs/ft.
- CURRAGH TAILING @ 1.7 lbs/ft.
- total sample weight required 1000 lbs.
- length of core = $(\frac{1000}{1.7}) = 600$ ft.
or 10 holes @ 60 ft.

B. LABORATORY TESTWORK.

- batch testwork - reagents (collectors, depressants, activators, surface conditioners)
- regrinding
- high intensity conditioning
- Flowsheet development
- laboratory locked cycle testwork on the batch test optimum test condition

C. ESTIMATED COSTS

a) Sample Acquisition

- mobilize and demobilize driller = \$ 1500
- 600 ft of drilling on grid (600' x 7) = 4200
- sample bags, etc = 300
- SUB TOTAL = \$ 6000

b) Laboratory Programme

- batch tests (60 test @ \$325 per test) = \$ 19,500
- large scale cleaner tests (15 tests @ \$750 per test) = 11,250
- lock cycle test (2 tests @ \$4000 per test) = 8,000
- sample preparation and compositing = 2,700
- report preparation and evaluation = 6,000
- sample storage = 500
- SUB TOTAL = \$ 47,950

TOTAL ESTIMATED COST

= \$ 54,000

D. SCHEDULE

a) Sample Acquisition - April, 1992 (during show)

b) Testwork - Batch testwork starts in May, 1992
with the program carefully controlled:

- Testwork to progress over the following
6 months.