

Memoandum.

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To: Robin Bennet, Executive Vice-President, Operations.
Jim Muir, General Manager, Faro Operations.
Gregg Titson, Vice-President, Exploration.
Eric Beaumont, Manager of Processing, Faro Operations.
Lam Reid, Geologist, Whitehorse Office.

From: Gudgey McDonald, Vice-President, Metallurgy

February 12, 1991

Re: GRUM DEPOSIT
STAGE 1 PIT
METALLURGICAL TESTWORK

The laboratory test programme run in 1989-90 involved four ore composites that were prepared from diamond drill whole and split core. These composites were identified by rock type and represented the entire ore reserve (Stage 1 and the Final open pit areas). A description of the 1989-90 composites is as follows:

Composite G1 - contains 4A material (sulphid-bearing, ribbon-banded, graphitic quartzite)
- represents 53% of Stage 1 pit ore and 49% of Final pit ore.

Composite G2 - high grade non-carbonaceous quartzite.
- represents 13% of Stage 1 pit ore and 14% of Final pit ore.

Composite G3 - massive sulphide (core contained drilling additives that are possibly deleterious to metallurgical performance).

Composite G4 - massive sulphide (clean core - no drilling additives)
- represents 33% of Stage 1 pit ore and

The process flow sheet, reagent scheme and projected metallurgical response for each ore type has been developed, refer to the Lakefield Research report "The Recovery of Lead and Zinc from GRUM DRE SAMPLES - Progress Report

3, January 25, 1990"

The on-going metallurgical programme must focus on the Stage 1 pit ore and especially the first-12 month production period. The programme will involve:

- a) inspect several diamond drill holes to assess the degree of porous, altered ore that exists.
 - 68W / 2.5N there is an upper massive sulphide lense. (Look at DD hole 87-G-05)
 - 66W / 2.5-3.0N there is more massive sulphide, the FAGU159 area (Look at DD hole 89-G-29)
- b) To select and inspect several diamond drill holes that have massive sulphide intersections which appear altered and finer grained than the rest of the massive sulphide occurrences.
 - 60W (Look at DD hole 88-G-03, 89-G-34 and 89-G-35)
- c) Do mineralogy and laboratory flotation tests to determine the metallurgical performance.

If this investigation does detect a poorer metallurgical response than projected from the 1989-90 programme; then identification of the problematic ore (type and deposition) must be made, relative tonnages calculated and a large sample acquired for laboratory testwork, even a pilot plant test would be considered.

SCHEDULE:

Inspect diamond drill core } February 18th to 22nd, 1991
 Review diamond drill logs }

Mineralogy } March, 1991
 Laboratory testwork }