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28th October, 1985

Our Ref : D50/86

REPORT NUMBER : D50/86

CLIENT : N.T. Department of Mines & Energy

YOUR REFERENCE : 16/85/86

REPORT COMPRISING : Cover Sheet
Pages 1 and 2
Screen sizing analysis sheet
Assay report sheet

DATE RECEIVED : August 1985

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INTRODUCTION

A sample of mill product concentrate was submitted to AMDEL-NT by the Department of Mines and Energy for Mr. G.E. Casey from GML 120B. Testwork required included an XRD scan to determine minerals present, sizing and amalgamation test and assay for Au, Ag, Fe.

RESULTS

XRD SCAN

The scan revealed that the major minerals present were silica and haematite with a minor phase of lead-tin oxide.

SIZING

The sample was screened over a 1.18mm and a 45µm screens. Results are shown on the screen sizing analysis sheet. The material was reasonably coarse with the majority of the sample lying between 1.18mm and 45µm. The small amount of -45µm fraction was too small for analysis so was re-included in the sample for a head analysis and subsequent amalgamation test.

HEAD ASSAY

Analyses for Au, Ag, Fe on the sample were carried out to determine the grade of extractable Au and Ag and the Fe content. Results are tabulated on the assay report sheet.

AMALGAMATION TEST

After the sizing analysis was completed the fractions were recombined and an amalgamation test carried out. The amalgam was analysed for Au and the residue for Au, Ag, Fe. Results are tabulated on the assay report sheet. After dissolving the mercury with nitric acid, very fine visible gold was observed.

CONCLUSIONS

The poor recovery of the amalgam is probably due to the fact that the gold present is very finely grained and inaccessable to amalgamation without further reduction in size of the concentrates + 45µm fraction.

X-RAY DIFFRACTION SCAN

SAMPLE NO. 1

α Quartz - major phase SiO_2
Hematite - major phase FeO_2
Lead-tin Oxide - minor phase $PbSnO_4$

METALLURGICAL TEST

SCREEN SIZING ANALYSIS

Sample No. D50/86

Location .....

Clients Reference .....

Aperture in microns	Weight g	%	CUM. %	ASSAYS			DISTRIBUTIONS		
1.18mm	0.0	0.0							
45µm	316.3	97.3							
-45µm	8.8	2.7							
TOTAL: ASSAYED	325.1								

REMARKS:

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

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ANALYSIS

Sample N°	g/t Au	g/t Ag	% Fe				
HEAD	230	48	18.8				
AMALGAM	1.7						
RESIDUE	228	46	18.5	? not amenable to amalgamation. possibly further grinding required to liberate gold particles.			

METHOD

A2/3
A1/2
01/1

Larger sample required for sizing

500 micron
250 "
90 "
45 "