

W of analytical

*Soluble Cu - Filtrate
Cu or Soluble Cu
Whitehorse, Fox
Cu in tail solution
In pit float test*

*Bob Sears - 186
Don Lafage / Brian Lewis*

*DT
East Kempville*

CURRAGH RESOURCES INC
INTER-OFFICE MEMORANDUM

007229

FARO OFFICE

DATE: January 8, 1991

TO: GORDON WILSON
CHIEF METALLURGIST

FROM: DAVE TENNEY
CHIEF GEOLOGIST

SUBJECT: COLD EXTRACTABLE COPPER TESTING

Numerous samples of blasthole chippings and stockpiled ore have been tested for cold extractable copper by Northern Analytical Laboratories in Whitehorse using water as a solvent and A.A. to measure to copper content of the resulting solution. Results for blasthole samples were very low (<2 ppm CxCu) presumably because any easily soluble copper had been leached out during the drilling process. However, several size fractions of stockpile sample V90PL-17 were also tested, giving results from 4 to 13 ppm cold extractable copper. This is much lower than the 200 ppm reported in earlier metallurgical test work on refractory ore. It is possible that water alone does not extract all the easily soluble copper, though this is doubtful in view of the results of analyzing blasthole chippings from CxCu. (All results were low whether or not one was refractory). It is also possible the samples were not agitated sufficiently for the extraction to take place but this too is considered unlikely.

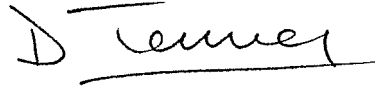
A set of colourmetric tests were run by myself using a total cold extractable heavy metal test (bloom test) which detects most (? all) base metals. The test is particularly sensitive to zinc. However, all results were remarkably anomalous and iron precipitated out. The test was abandoned as a means of detecting refractory ore since non refractory material gave anomalous results (not unexpectedly) owing to zinc sensitivity.

A second set of colourimetric tests designed to test for cold extractable copper alone were unsuccessful: no reading greater than 2 ppm was recorded even for samples known to be refractory which included samples V90L-17 analyzed by N.A.L.

This work is time consuming but could be continued. However, it appears that refractory Vangorda ore is detectable visually so I do not propose to do so unless requested.

Conclusions:

Cold extractable copper tests, in as far as they appeared to work, gave low or zero readings apparently not supporting the conclusion that refractory ore contains large amounts of easily soluble copper.

A handwritten signature in black ink, appearing to read "Dave Tenney", with a horizontal line underneath the name.

Dave Tenney
Chief Geologist

DT:cc

attmts.

cc: D. Basso
W. Dunn
M. Wasel
P. Ledwidge
B. Pisony