

B-7-403
To S. Chmelyk

From S. Frei

Date October 18, 1982

Subject 2A CLEANING

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PURPOSE:

To determine whether the use of Dextrin during all stages of the lead cleaning circuit improves grade and/or recovery of lead compared to a standard cleaner test of 2A ore rod mill feed (RMF).

CONCLUSIONS:

1. Although the use of Dextrin during each of the lead cleaning stages showed improved lead grade throughout the test, increasingly large recovery losses (only 25% recovery by the end of the cleaning process) more than nullify any gains in lead grade.
2. Two-stage batch treatment of the third cleaner tails greatly improved the final lead grade (+ 10%) and recovery (+ 7%) of the lead circuit.

RECOMMENDATIONS:

1. Dextrin not be used as a graphite depressant during lead cleaning.
2. Batch post flotation of the 2A ore third cleaner tails be considered. Dextrin addition during these stages of the flotation scheme should be studied. (See October 18, 1982 report on 2A Post Flotation).

DISCUSSION:

The normal procedure for a standard cleaner test was followed for this Dextrin test with minor differences as outlined in the following procedure.

One difference which may have had hidden effects on the Dextrin cleaning test is that the lead rougher/scavenger concentrate was not reground prior to cleaning. A similar Dextrin test using the standard five minute regrind should be performed to isolate the differences between a standard and the Dextrin cleaner test.

Batch post flotation of the third cleaner tails significantly improved lead grade and recovery.

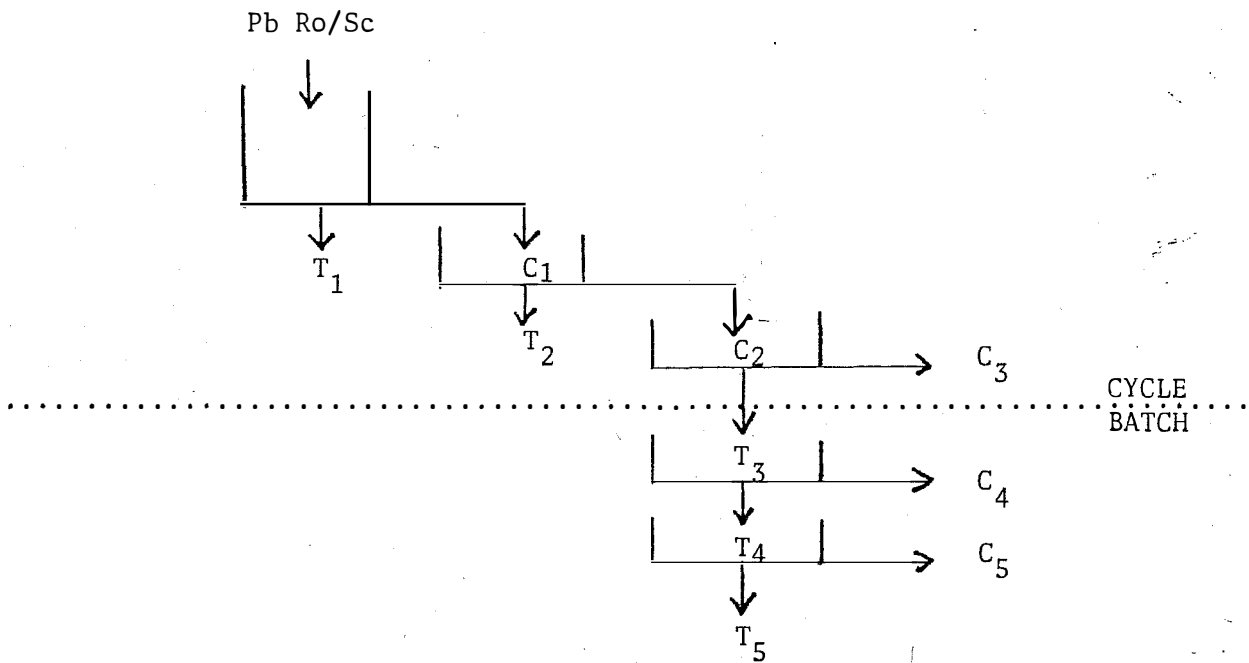
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PROCEDURE:

The procedure used on test 6 was the same as that of a standard cleaner test with the following changes:

1. No regrind of the Pb Ro/Sc (standard is 5 minutes regrind).
2. All cleaning stages were done at pH 10.5 (standard is 10.0 - 10.2).
3. Prior to first cleaning, 40 g/tonne Dextrin and 7.5 g/tonne Z-11 were added (standard is 35 g/tonne Z-11 only).
4. Prior to second cleaning, 30 g/tonne Dextrin and 5 g/tonne Z-11 were added (standard is 25 g/tonne Z-11 only).
5. Prior to third cleaning, 15 g/tonne Dextrin and 5 g/tonne Z-11 were added (standard is 15 g/tonne Z-11 only).

Flow Diagram for Dextrin Cleaner Test



OBSERVATIONS:

Comparison of Cumulative Lead Grades and Recoveries of Standard Cleaner Test vs Dextrin Cleaner Test

Test	Head Assay	C1		C2		C3	
		% Grade	% Recovery	% Grade	% Recovery	% Grade	% Recovery
Standard	1.40	9.33	84.15	12.48	82.14	16.44	79.99
Dextrin*	1.30	11.63	70.29	20.91	57.48	22.70	25.28

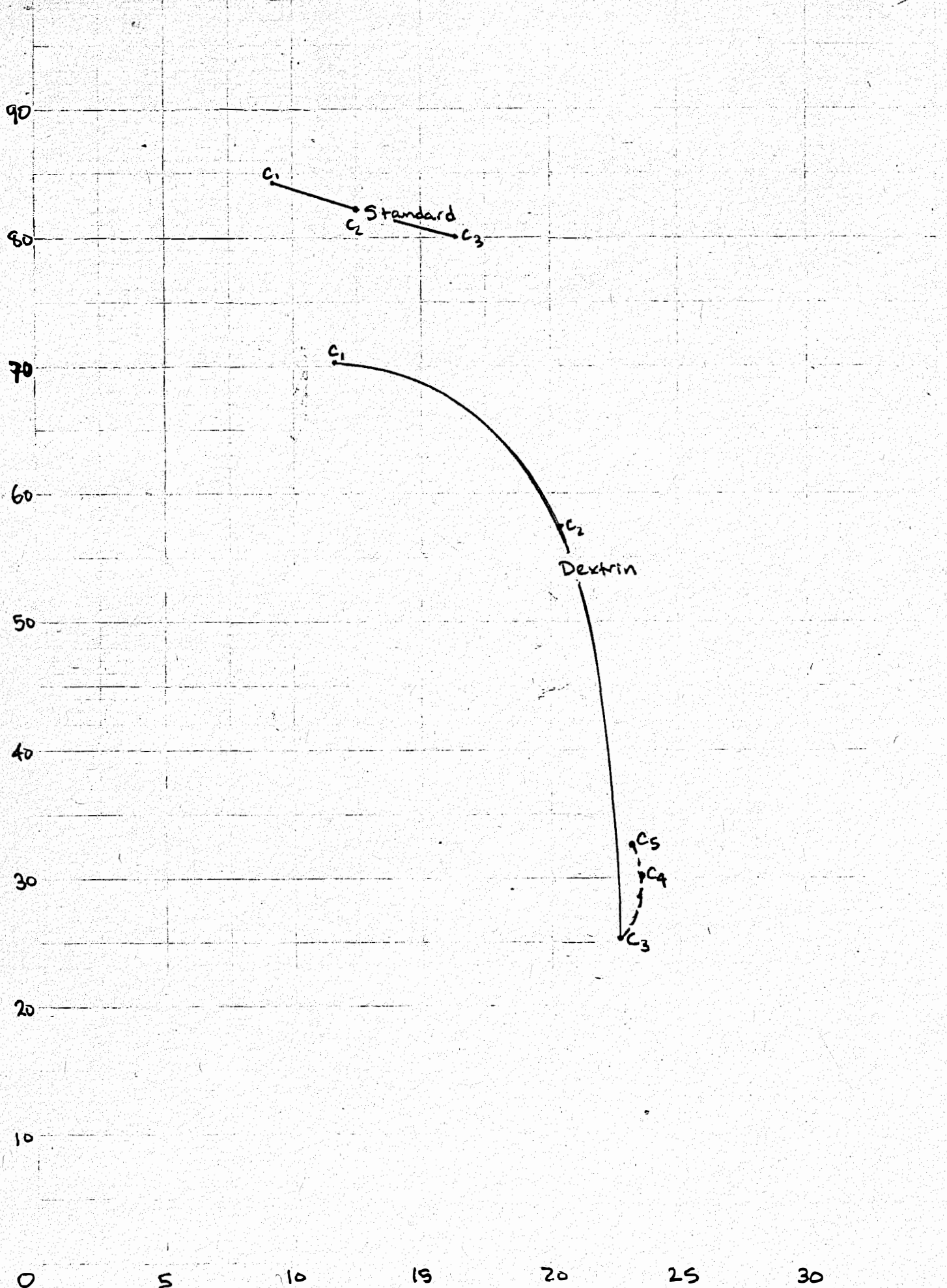
*The T₃ of this test was treated in a two-step batch process with the following results:

Stage	Cum. % Grade	Cum. % Recovery
C ₄	23.51	30.03
C ₅	23.26	32.59

Cleaner Testing of 2A RMF : Standard vs Dextrin on Cleaning (no regrind) (97P6)

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Cumulative % Recovery



Cumulative % Grade