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TO: HOOD WORTHINGTON

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May 28, 1945

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100-B UNIT PURGE
MAY 20, 1945

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INTRODUCTION

The 100-B unit was purged with 100 ppm. Super-Cel for about one hour on May 20th.

CONCLUSIONS

1. Satisfactory pressure drop film removal was realized on tubes in the 0.240" and 0.175" orifice zones. Film removal was not as complete in the 0.140" zone and means of improving the purge in this zone should be considered.
2. There was essentially no plugging of header screens during the first 50 minutes of the purge. The plugging which occurred during the last few minutes of the purge was not serious enough to warrant replacing any of the header screens.

DETAILS

The purge was conducted similar to the previous solids purges made at 100-B Area. The solids feed was started at 8:33 A.M. and stopped at 9:31 A.M.

The individual riser flow rates remained essentially constant the first 50 minutes of the purge. The last few minutes of the purge the flow recorders indicated that header screens off of risers C and D started plugging. This plugging, however, was not serious enough to warrant replacing any of the screens.

Pressure Drop

The pressure drop data for Sample Room B and Panellit tubes are given in Tables I and II. These tables show the pressure drop increases before and after the purge on the basis of 0 and 250 MW power. The 250 MW data after the purge, May 24th data, were the lowest pressure drops reached after the purge. The pressure drop recoveries are given in Table III.

The pressure drop recovery on the 0.240" orifice zone is about the same as that realized on previous purges. The recovery on the 0.175" orifice zone was much better than that obtained on previous purges. On the 0.140" orifice zone, however, about 2 psi less film was removed during the purge than was deposited

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during the interval between the two last purges. If this were allowed to continue indefinitely, an objectionable amount of film would remain on the pieces in this zone. It is felt that purging the unchilled section of the unit for a longer period of time would reduce the amount of residual film in the 0.140" orifice zone after a purge.

The pressure drop decreases during the purge are shown in Figure I for three of the pressure drop tubes.

C. P. KIDDER
TECHNICAL DEPARTMENT

Per P. A. Dahlen
P. A. Dahlen

CPK
JW

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TABLE I
SAMPLE ROOM DATA
PRESSURE DROP - FEB. 24TH BASE TUBES

Power Level-MW	PSI Above Base			
	Before Purge		After Purge	
	May 19th	May 20th	May 20th	May 24th
	250	0	0	250
2465	14.8	9.3	2.3	0.6
2469	17.2	10.2	0.9	-1.8
2473	15.0	8.9	0.1	-2.5
2483	16.0	8.8	-0.7	-2.6
Average	16.0	9.3	0.7	-1.6

PRESSURE DROP - APRIL 29TH BASE TUBES

Power Level-MW	PSI Above Base			
	Before Purge		After Purge	
	May 19th	May 20th	May 20th	May 24th
	250	0	0	250
2375	15.1	7.9	1.4	-1.9
2475	16.7	9.5	0.5	-2.0
2479	15.4	8.3	1.0	-1.2
2575	13.7	9.2	0.3	-0.8
Average	15.2	8.7	0.8	-1.5

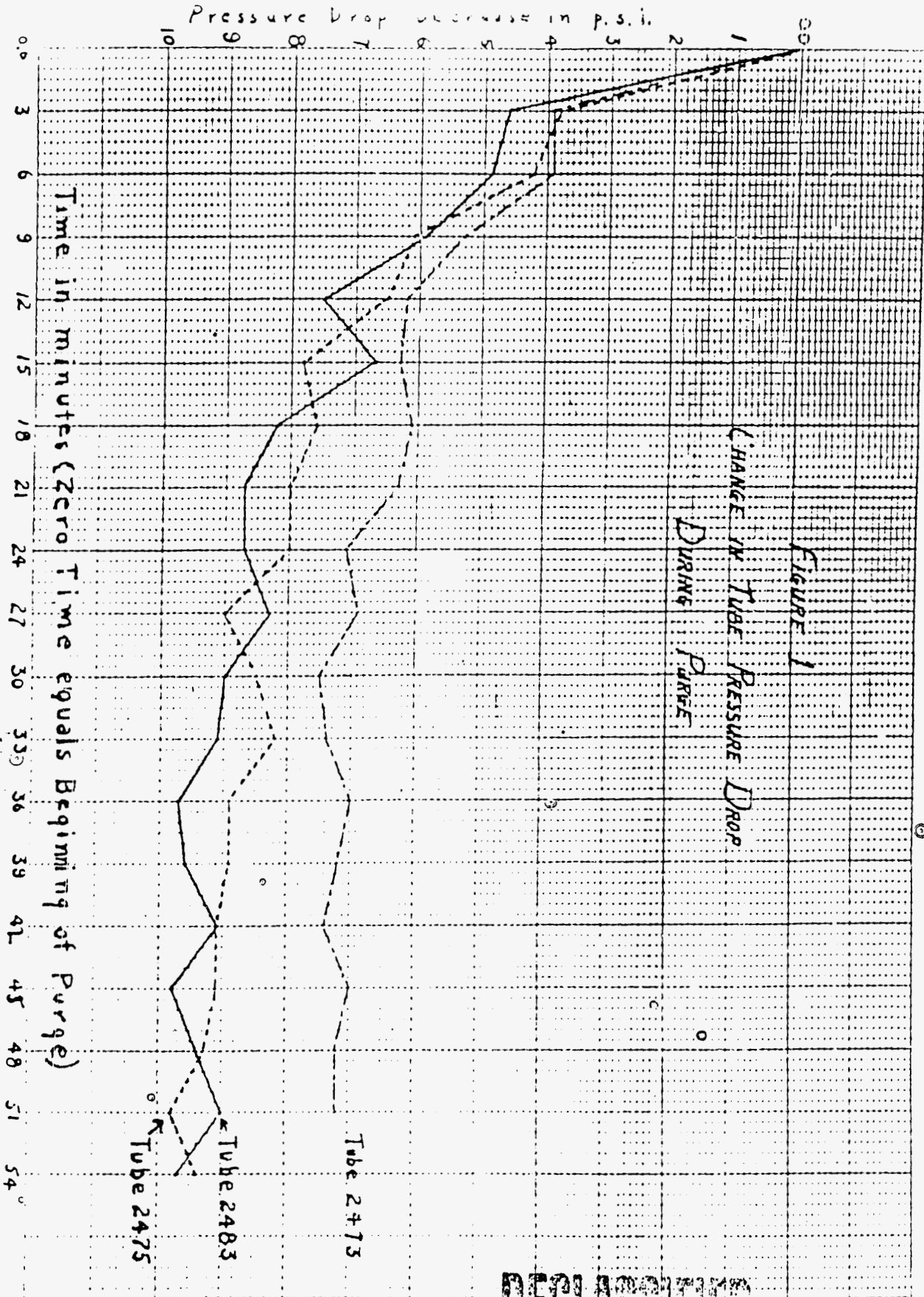
TABLE II
PANELLIT DATA
PRESSURE DROP - PSI ABOVE JAN. 29TH BASES

	ORIFICE ZONES.		
	0.240"	0.175"	0.140"
Before Purge (May 18th)	15	30	35
After Purge (May 22nd)	4	-3	12

TABLE III
PRESSURE DROP RECOVERY

	Percent
0.240" Orifice Zone	74
0.175" Orifice Zone	110
0.140" Orifice Zone	66
2/24 Base Pressure Drop Tubes	89*

*Calculated using the low point of March 15th, -3.9 psi above base, as the zero point.



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