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BY AUTHORITY OF R40-CG-4
BY *James Davis* S.E. Gieschen 8-24-90
DATE 7-11-90

TRANSMITTAL CONTROL NUMBER
HANFORD
51715

1. Hood Worthington *HW-3-2254*
2. Simon-Mackay-Smith-700 Area
3. P.W. Crane
4. C.M. Gross - 300 Area
5. C.A. Priode
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THIS DOCUMENT CONSISTS OF 2 PAGES

TO: HOOD WORTHINGTON

100-F UNIT PURGE
JUNE 16, 1945

HW--3-2754

DE91 001895

INTRODUCTION

The 100-F unit was purged with 100 ppm. Super-Cel for about one hour on June 16, 1945.

CONCLUSIONS

1. Satisfactory pressure drop film removal was realized on tubes in the 0.240" and 0.175" orifice zones. The residual film on tubes in the 0.140" zone after the purge was considerably greater than that after the previous purge which was for one and one-half hours duration.
2. The 50-mesh header screens started to plug 20-30 minutes after the start of the purge. The screens inspected showed less tar than that found on previous inspections.
3. The 30-mesh header screens at either end of 23-1/2 header did not plug sufficiently to affect the Panellit pressures. These screens have been in place for three purges without showing evidence of plugging.

DETAILS

Solids feed was started to the process water at 8:45 A.M. The riser flow rates indicated that some of the cross-header screens off of A and C risers started to plug 20-30 minutes after the start of the purge. The solids feed was stopped to risers B and C at 9:40 A.M. and to risers A and D at 9:47 A.M. Twenty of the 50-mesh screens off of risers A and C were replaced following the purge. These screens contained some tar but not as much as was found at the two previous purges at this area. The two 30-mesh screens installed in header 23-1/2 prior to the May 3rd purge did not plug sufficiently to affect Panellit pressures. This is now the third successive purge in which there has been no evidence of plugging of the 30-mesh screens.

Pressure Drop

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The pressure drop data for Sample Room B and Panellit tubes are given in Tables I and II. Table I shows the pressure drop above base before and after the purge at 0 and 265 MW power.

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Pressure Drop - Cont.

The 265 MW data after the purge, June 19th data, were the lowest pressure drops reached after the purge. The pressure drop recoveries are given in Table III.

The pressure drop recoveries in the 0.240" and 0.175" orifice zones were satisfactory but the recovery in the 0.140" zone was not satisfactory. A satisfactory purge of the 0.140" orifice zone was realized on May 20th at this area when the duration of purge was one and one-half hours. This indicates that the duration of purge for risers A and D should be one and one-half hours using 100 ppm. turbidity concentration to effectively remove the pressure drop film in the 0.140" orifice zone.

G. P. KIDDER
TECHNICAL DEPARTMENT

CPK

Per

P. A. Dahlen
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TABLE I
B SAMPLE ROOM DATA
PRESSURE DROP - PSI ABOVE BASE

<u>Powder Level - MW</u>	<u>Before Purge</u>		<u>After Purge</u>	
	<u>June 15th</u>	<u>June 16th</u>	<u>June 16th</u>	<u>June 19th</u>
	<u>265</u>	<u>0</u>	<u>0</u>	<u>265</u>
2465	32.8	20.2	2.1	1.9
2469	34.4	23.6	4.0	3.6
2473	29.9	21.7	2.7	1.2
2475	29.0	18.9	1.8	1.8
2479	28.7	17.3	1.8	1.7
2483	33.3	21.0	6.5	3.8
2375	25.5	16.8	1.5	-0.6
2575	<u>26.0</u>	<u>17.3</u>	<u>---</u>	<u>2.5</u>
Average	30.0	19.6	2.5	2.0

TABLE II
PANELLIT DATA
PRESSURE DROP - PSI ABOVE MARCH 12TH BASES

	<u>Orifice Zones</u>		
	<u>0.240"</u>	<u>0.175"</u>	<u>0.140"</u>
Before Purge (June 14th)	36	29	25
After Purge (June 16th)	7	9	14

TABLE III
PRESSURE DROP RECOVERIES

	<u>Percent Recovery</u>
0.240" Orifice Zone	81
0.175" Orifice Zone	69
0.140" Orifice Zone	44
Pressure Drop Tubes	93*

*Calculated using the low point of March 11th, -1.7 p.s.i. above base, as the zero point.

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KEUFFEL & ESSER CO., N. Y. NO. 295-11
1/4" x 1/8" to the half inch, 1/16" lines omitted.
Engraving, 7 x 11 in.
MADE IN U.S.A.

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