

NOTICE

**CERTAIN DATA
CONTAINED IN THIS
DOCUMENT MAY BE
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PRODUCTS.**

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UNITED STATES GOVERNMENT

WASH DC
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TO: HOOD WORTHINGTON

100-1 UNIT PURGE
JUNE 4, 1946

THIS DOCUMENT CONSISTS OF 3 PAGES

HW--3-2643

DE91 002387

INTRODUCTION

The 100-1 unit was purged with 100 p.p.m. caustic for less than one hour on June 4th.

CONCLUSIONS

1. Considerable plugging of the 20-mesh header screens was experienced. The duration of the purge was less than the proposed one hour because of this plugging.
2. Some of the screens removed after the purge showed traces of bar.
3. The pressure drop recovery was about normal for a purge of this shorter duration.

DETAILS

The solids feed was started to the process water at 8:25 A.M. and was discontinued at 8:44 A.M. because the riser flow rates indicated that header screens off of A and B risers started to plug. Very slight improvement in flow rates was realized with the feed shut off so the solids feed was resumed at 8:48 A.M. At 9:00 A.M. the solids feed to riser B was stopped because of the decrease in flow rate on this riser. This feed was again resumed at 9:10 A.M. and continued for ten minutes when the solids feed to B and C risers was discontinued. At 9:20 A.M. the solids feed was also discontinued for A and B risers. The total duration of solids feed to the individual risers is shown in the following table:

Riser	Duration, hours
A	0.97
B	0.03
C	0.10
D	0.97

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None of the riser flow rates were permitted to fall below 6,000 gpm.

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A total of twenty-two cross-header screens were replaced after the purge and the per cent flow rates then became better balanced than they were prior to the purge. Inspection of the screens which were removed revealed traces of tar on some of the screens. This is the first time that tar has been found on screens in this area.

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 265 MW power. The 265 MW data after the purge, June 6th data, were the lowest pressure drops reached after the purge. The pressure drop recoveries are given in Table III. These recoveries are about as expected for the shorter duration of purge.

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TABLE I
SAMPLE ROOM DATA
PRESSURE DROP - DEC. 21ST BASE TUBES

PSI Above Base

	Before Purge		After Purge	
	June 3	June 4	June 4	June 6
<u>Power Level-MW</u>	<u>265</u>	<u>0</u>	<u>0</u>	<u>265</u>
2575	26.0	22.0	3.4	7.5
2475	24.7	20.2	3.0	8.0
2475	24.1	20.7	5.1	4.7
2375	20.8	18.6	3.2	1.4
Average	24.0	20.4	3.7	4.0

PRESSURE DROP - APRIL 1ST BASE TUBES
 PSI Above Base

	Before Purge		After Purge	
	June 3	June 4	June 4	June 6
<u>Power Level-MW</u>	<u>265</u>	<u>0</u>	<u>0</u>	<u>265</u>
2483	18.8	9.1	0	-1.3
2473	17.6	7.9	-1.6	-2.0
2469	18.7	9.5	1.2	-2.3
2465	19.0	10.3	0.2	-2.2
Average	18.9	9.2	0	-2.1

TABLE II
PANELLET DATA
PRESSURE - PSI ABOVE JAN. 1ST BASES

	Orifice Zones			
	0.240"	0.200"	0.175"	0.140"
Before Purge (May 31st)	36	35	34	36
After Purge (June 6th)	11	6	15	21

TABLE III
PRESSURE DROP RECOVERY

	<u>% Recovery</u>
0.240" Orifice Zone	70
0.200" Orifice Zone	77
0.175" Orifice Zone	50
0.140" Orifice Zone	42
12/21/44 Base Pressure Drop Tubes	66

END

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