

INSTITUTE OF
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Appleton Wisconsin

Institute of Paper Science and Technology
Central Files

CONTINUOUS BASELINE STUDY
Project 1108-13
Progress Report 146
to
FOURDRINIER KRAFT BOARD INSTITUTE, INC.
July 1, 1959

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

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Progress Report 146

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FOURDRINIER KRAFT BOARD INSTITUTE, INC.

July 1, 1959

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

PART I: PRESENTATION AND DISCUSSION OF RESULTS OBTAINED AT
THE INSTITUTE OF PAPER CHEMISTRY

In conjunction with the F.K.I. Continuous Baseline Study, The Institute of Paper Chemistry has been directed to identify the participating mills by means of a scrambled system of code letters. Under this system, which was initiated in Progress Report 105, each mill is identified by a code letter different from that used for the previous month.

During the month of June, ninety-five different sample lots of 42-lb. Fourdrinier kraft linerboard from sixteen different F.K.I. mills were processed at The Institute of Paper Chemistry. A tabulation of the number of samples classified according to mill may be seen in Table I.

These sample lots were tested for basis weight, caliper, bursting strength, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 5. In addition to a comparison of the mill averages for the various tests, Table II also shows the current F.K.I. averages, the cumulative F.K.I. averages, and the F.K.I. indexes. The cumulative F.K.I. average is based on the results for the previous twelve months excluding the current period. Hence, in the case of the current report, it covers the period from June 1, 1958 to May 31, 1959. The F.K.I. indexes are obtained as follows:

$$\frac{\text{current F.K.I. average}}{\text{cumulative F.K.I. average}} \times 100 = \text{F.K.I. index (\%)}$$

TABLE I
NUMBER OF SAMPLE LOTS SUBMITTED BY EACH MILL

Mill Code	Number
A	4
B	9
C	9
D	8
E	7
F	8
G	1
H	8
I	10
J	0
K	1
L	8
M	1
N	10
O	0
P	6
Q	2
S	0
T	<u>3</u>
Total	95

TABLE II

SUMMARY OF COMPOSITE MILL AVERAGES--JUNE 1 THROUGH JUNE 30, 1959

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	In Machine	Elmendorf Tear, g./sheet	Cross Machine
A	43.9	12.3	106	304	341	
B	43.5	12.2	112	326	356	
C	42.6	13.4	109	321	350	
D	43.7	12.8	106	366	403	
E	42.8	12.7	108	302	384	
F	43.1	11.6	117	318	377	
G	42.2	12.9	110	335	388	
H	43.5	13.0	109	352	384	
I	43.4	11.8	111	355	411	
J	No samples submitted.					
K	42.5	14.1	104	335	374	
L	44.1	13.0	107	323	361	
M	43.9	11.5	117	353	382	
N	43.2	12.7	111	269	338	
O	No samples submitted.					
P	44.1	13.7	106	337	382	
Q	43.7	12.4	112	346	370	
S	No samples submitted.					
T	41.7	12.2	112	331	395	
Current FKI Average:	43.2	12.7	110	330	375	
Cumulative FKI Average:	43.4	12.8	112	330	375	
FKI Index, %	99.5	99.2	98.2	100.0	100.0	100.0

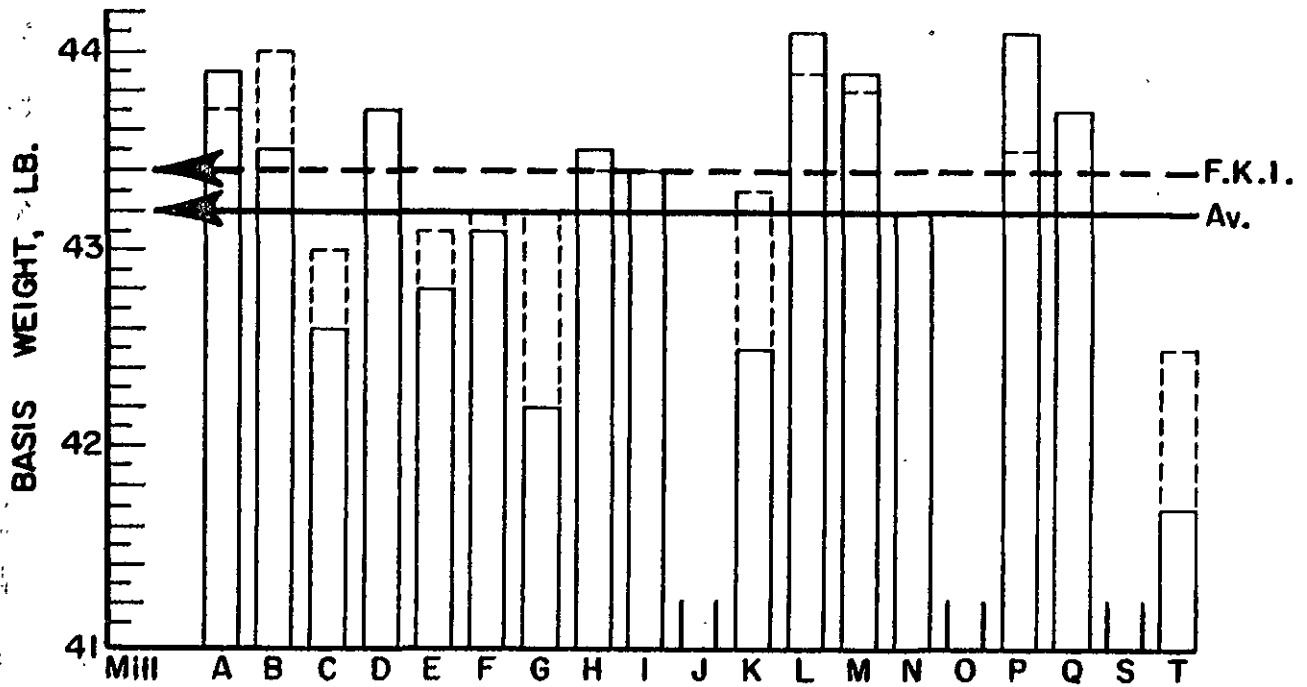


Figure 1

Comparison of Basis Weight Results for June, 1959

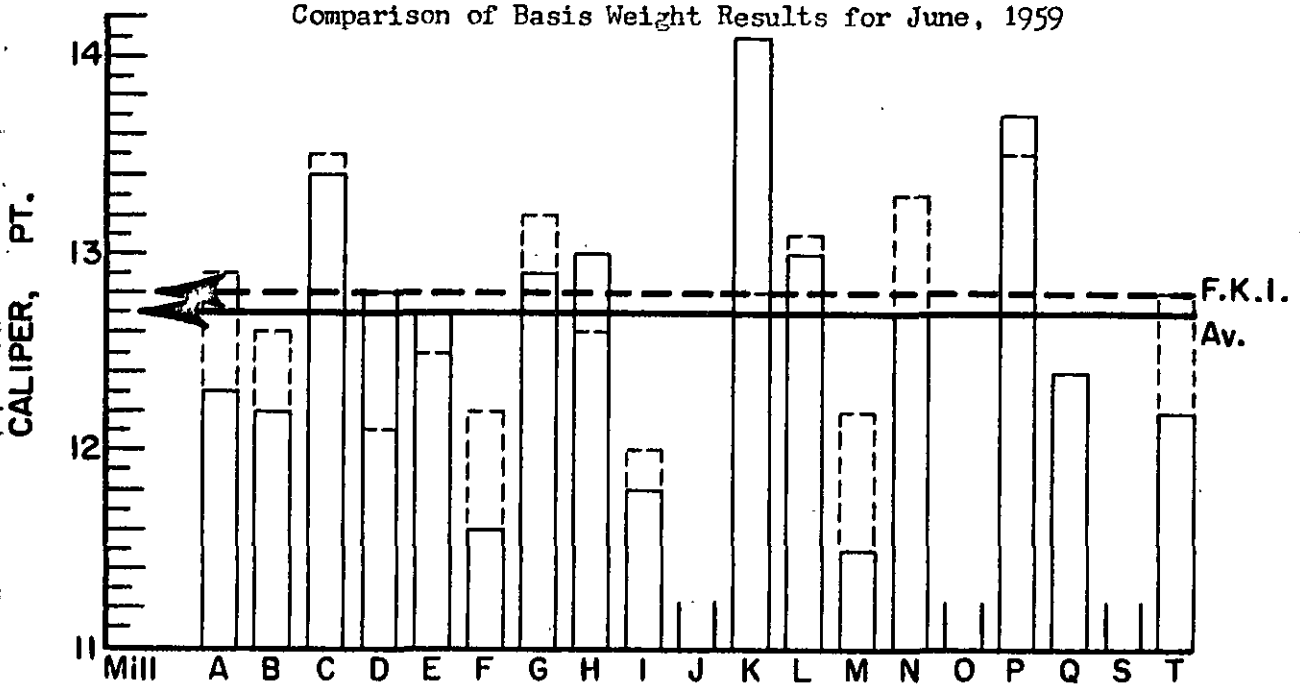


Figure 2

Comparison of Caliper Results for June, 1959

— Current mill average
 - - - Cumulative mill average

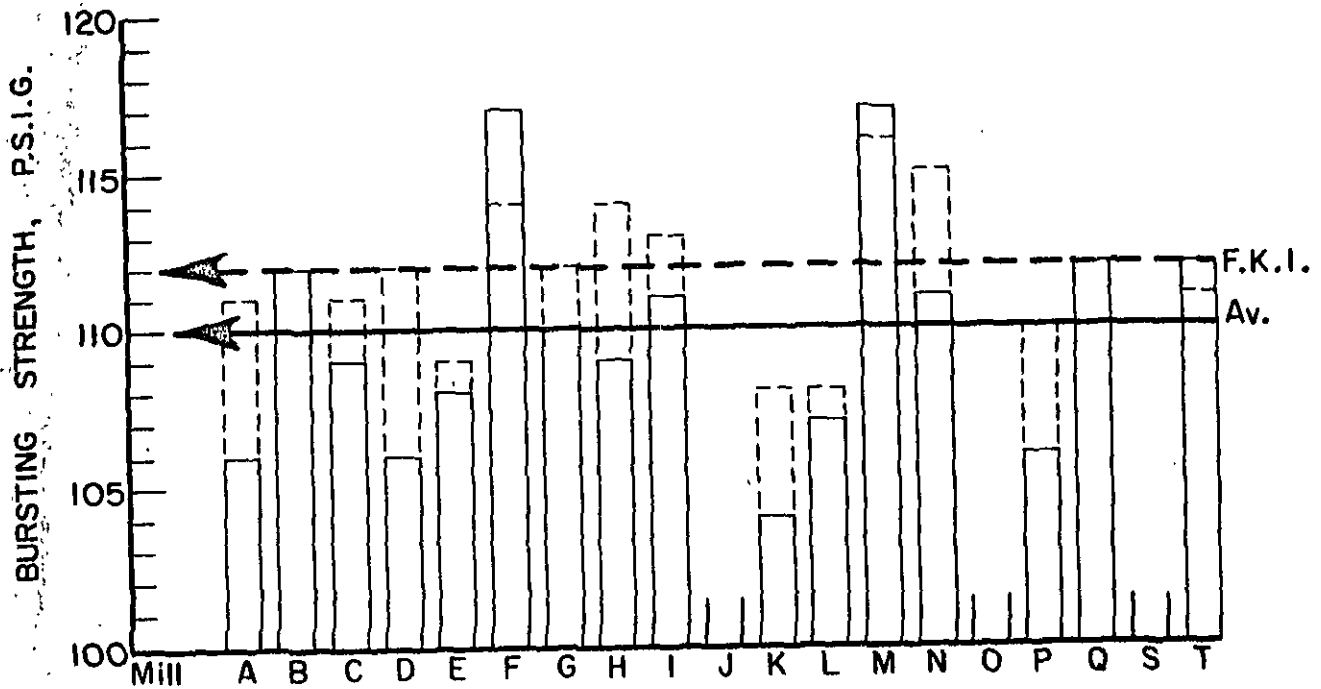


Figure 3

Comparison of Bursting Strength Results for June, 1959

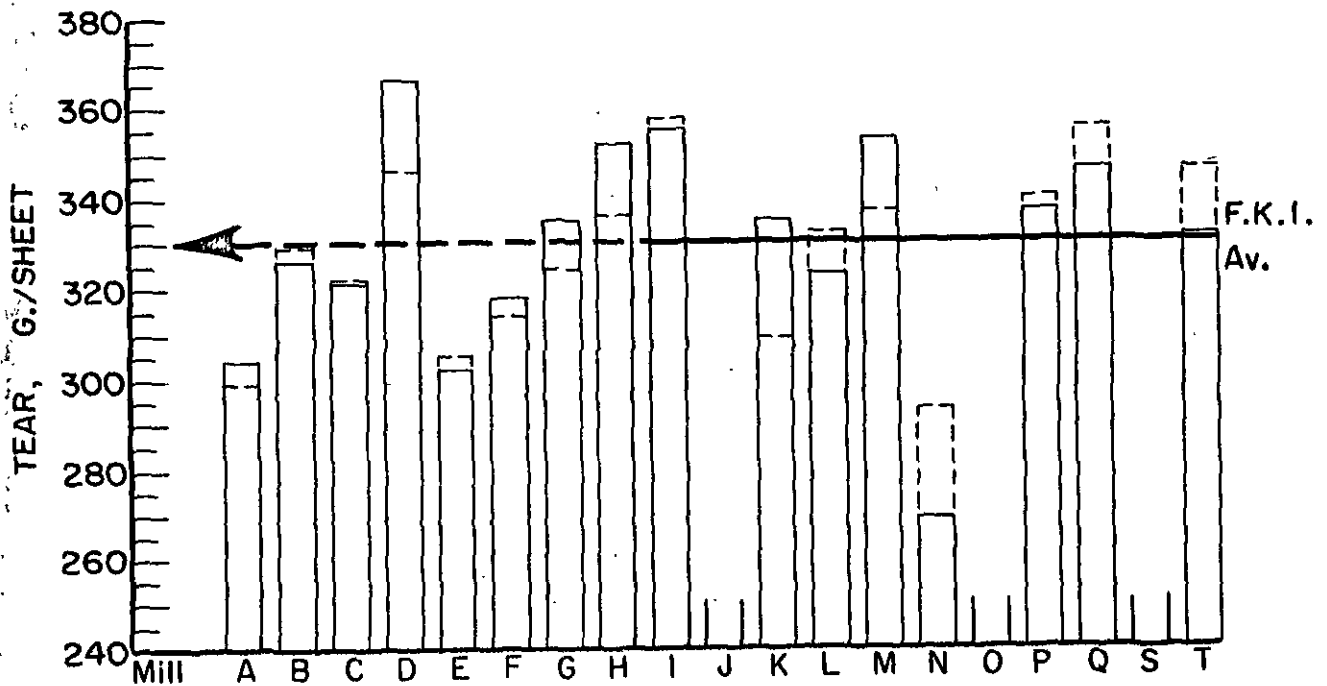


Figure 4

Comparison of Machine-Direction Tear Results for June, 1959

— Current mill average
 - - - Cumulative mill average

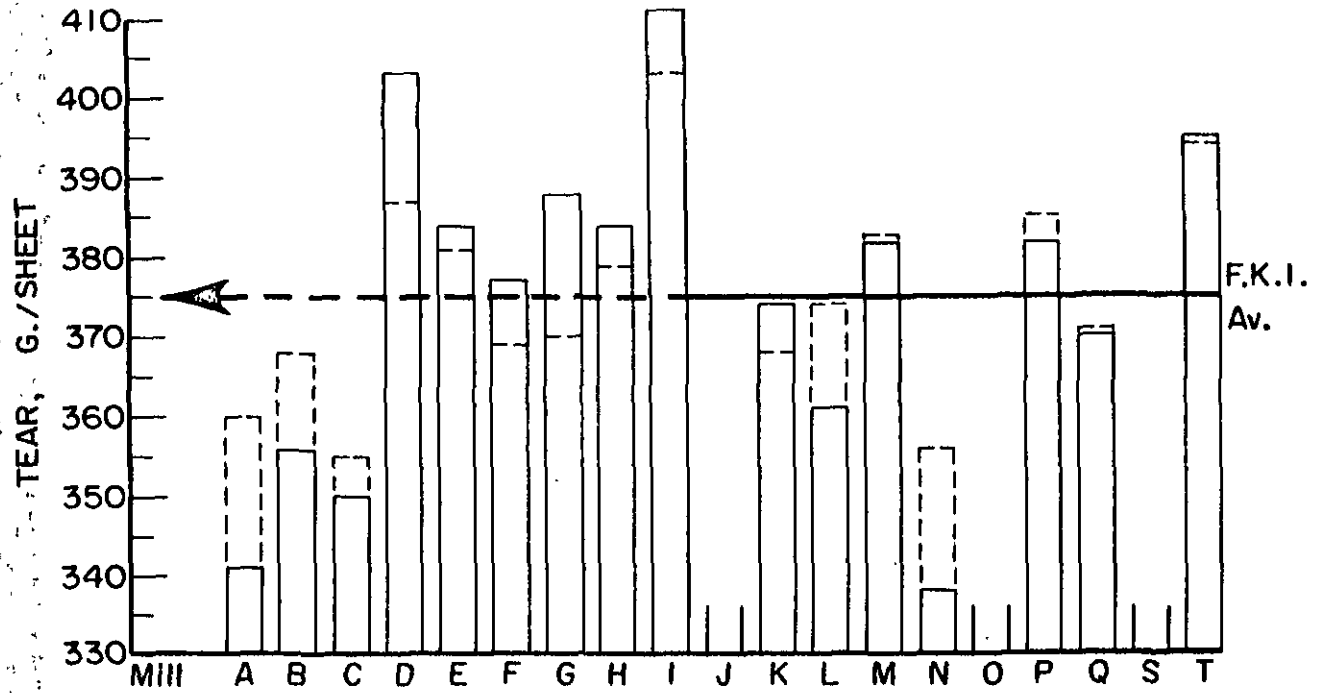


Figure 5

Comparison of Cross-Machine Direction Tear Results for June, 1959

———— Current mill, average
----- Cumulative mill average

The F.K.I. index provides a ready means of comparing the current quality with previous results. For example, the current F.K.I. average basis weight is 43.2 lb., and the cumulative F.K.I. average basis weight is 43.4 lb. Hence, the F.K.I. index for basis weight determined in percent as indicated above is 99.5 and signifies that the current F.K.I. average basis weight is slightly lower than the cumulative F.K.I. average.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all mills except Mill T conform to the 42-lb. specification set forth in Rule 41. Mills L and P shared the highest average basis weight of 44.1 lb. which was approximately 5.0% higher than the 42-lb. specification. The lowest average basis weight of 41.7 lb., which was approximately 0.7% lower than the 42-lb. specification, was associated with Mill T.

The amount by which the mills vary from the 42-lb. specification is shown in Table II-A.

A comparison of the current F.K.I. basis weight average for this period with that for the previous period shows that basis weight has decreased slightly from 43.3 to 43.2 lb.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the current mill averages varied from a low of 11.5 points for Mill M to a high of 14.1 points for Mill K. The current F.K.I. caliper average is 12.7 points, which is slightly lower than the cumulative F.K.I. average of 12.8 points. The F.K.I. index for caliper is 99.2%.

TABLE II-A
PERCENTAGE DEVIATION FROM 42-LB. BASIS WEIGHT
SPECIFICATION

Mill Code	Per Cent
A	+4.5
B	+3.6
C	+1.4
D	+4.0
E	+1.9
F	+2.6
G	+0.5
H	+3.6
I	+3.3
J	--
K	+1.2
L	+5.0
M	+4.5
N	+2.9
O	--
P	+5.0
Q	+4.0
S	--
T	-0.7

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed in Table II and Figure 3 that the current mill averages for bursting strength ranged from a low of 104 for Mill K to a high of 117 for Mills F and M. The current F.K.I. bursting strength average is 110 p.s.i. gage, which is slightly lower than the cumulative F.K.I. average of 112 p.s.i. gage.

The Elmendorf tear results shown in Table II for the various mills are presented graphically in Figures 4 and 5. These presentations show that Mill D had the highest machine direction tear average of 366 g./sheet, and Mill N had the lowest average of 269 g./sheet. It may be further noted in Table II that the highest cross-machine direction tear average of 411 g./sheet was obtained on the linerboard from Mill I and that the lowest average of 338 g./sheet was associated with Mill N. It may be observed also in Table II that the current F.K.I. averages for both machine direction and cross-machine direction Elmendorf tear are the same as their respective cumulative F.K.I. averages.

A comparison of the F.K.I. indexes indicates that, for the current period, the current F.K.I. averages for basis weight, caliper, and bursting strength are slightly lower than their respective cumulative F.K.I. averages, and the current F.K.I. averages for machine direction and cross-machine direction Elmendorf tear are the same as their respective cumulative F.K.I. averages.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XXI for Mills A through T, respectively.

In addition to the current and cumulative average, the mill factor and mill index are given for each mill. The cumulative mill average is the average test result obtained on the samples submitted by the particular mill for the previous twelve months excluding the current period. The mill factor and the mill index are obtained as follows:

$$\frac{\text{current mill average}}{\text{cumulative mill average}} \times 100 = \text{mill factor } (\%)$$

$$\frac{\text{current mill average}}{\text{cumulative F.K.I. average}} \times 100 = \text{mill index } (\%)$$

The mill factor and the mill index are a convenient means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. The reports also present a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry. These test data are presented and discussed on subsequent pages of this report.

It may be noted in Tables III through XXI that the test data include information about the sheet finish. The summarized results for the mills which submitted sample lots during the current period are shown in Table XXI-A.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959

TABLE III

MILL A -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			Elmendorf Tear, g./sheet							
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
182266	M.F.	6/ 2/59	4/13/59	1	44.8	43.0	43.8	12.8	12.0	12.3	125	87	105	344	256	305	424	328	348 ^a		
182267	M.F.	6/ 2/59	4/23/59	1	44.4	42.4	43.8	13.0	11.9	12.4	120	89	109	368	288	317 ^a	384	312	351 ^a		
182298	M.F.	6/ 8/59	4/29/59	1	44.6	43.0	44.0	12.8	12.0	12.3	128	90	106	336	256	297	332	320	329 ^a		
182299	M.F.	6/ 8/59	5/ 9/59	1	44.2	43.6	44.0	12.7	12.0	12.3	120	90	104	328	272	298	360	320	335 ^a		
Current Mill Average:							43.9		12.3				106		304				341		
Cumulative Mill Average:							43.7		12.9				111		299					360	
Mill Factor, %							100.5		95.3				95.5		101.7					94.7	
Mill Index, %							101.2		96.1				94.6		92.1						90.9

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE IV
MILL B -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
					Max.	Av.	Max.	Av.	Max.	Av.	Max.	Av.	Max.	Av.					
182257	M.F.	6/1/59	5/27/59	-	44.0	42.2	43.4	12.4	12.0	12.1	130	84	112	368	272	322	392	320	349 ^a
182258	M.F.	6/1/59	5/28/59	-	43.2	42.2	42.7	12.2	11.6	12.0	126	100	116	312	264	294 ^a	376	312	343 ^a
182259	M.F.	6/1/59	5/29/59	-	44.0	43.0	43.4	12.4	11.5	11.9	142	103	116	352	280	328 ^a	376	328	358 ^a
182291	M.F.	6/8/59	6/3/59	-	44.2	43.0	43.8	12.9	12.0	12.5	127	102	113	360	280	316	408	328	363 ^a
182292	M.F.	6/8/59	6/4/59	-	44.0	42.6	43.2	12.3	11.5	12.0	132	108	118	400	272	336	368	320	349 ^a
182293	M.F.	6/8/59	6/5/59	-	44.0	43.0	43.7	12.9	12.0	12.5	118	90	105	400	288	339	376	336	357 ^a
182386	M.F.	6/17/59	6/10/59	-	44.4	44.0	44.2	12.5	12.0	12.2	128	97	111	336	272	307	368	304	340 ^a
182387	M.F.	6/17/59	6/11/59	-	44.0	42.8	43.6	13.0	12.0	12.4	125	83	107	416	320	360 ^a	400	344	375
182388	M.F.	6/17/59	6/12/59	-	44.0	43.8	43.9	12.6	12.0	12.3	123	95	110	384	288	333	416	336	367 ^a
Current Mill Average:							43.5	12.2	11.2	326	356								
Cumulative Mill Average:							44.0	12.6	112	329	368								
Mill Factor, %							98.9	96.8	100.0	99.1	96.7								
Mill Index, %							100.2	95.3	100.0	98.8	94.9								

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE V
MILL C -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. $\frac{1}{32}$ in.			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
182281	WF1S	6/4/59	5/3/59	2	43.6	41.4	42.6	13.6	12.8	13.2	120	86	107	360	280	326 ^a	384	312	347 ^a
182282	WF1S	6/4/59	5/7/59	2	44.0	41.6	42.7	13.5	12.7	13.1	121	84	103	384	304	344 ^a	392	320	353 ^a
182283	WF1S	6/4/59	5/11/59	2	43.4	40.6	42.0	13.9	12.8	13.6	127	80	104	328	280	307 ^a	384	296	342 ^a
182284	WF1S	6/4/59	5/13/59	2	44.4	42.4	43.3	14.2	13.2	13.7	122	90	105	344	272	303 ^a	400	296	345 ^a
182285	WF1S	6/4/59	5/14/59	2	43.8	41.8	42.5	14.2	12.4	13.3	135	96	120	392	288	327 ^a	400	320	352 ^a
182286	WF1S	6/4/59	5/15/59	2	43.6	41.6	42.7	14.2	12.8	13.4	126	85	108	360	304	329 ^a	416	304	345 ^a
182287	WF1S	6/4/59	5/16/59	2	43.8	41.8	42.4	13.9	12.9	13.4	126	88	110	352	272	311 ^a	416	328	357 ^a
182426	WF1S	6/24/59	6/1/59	2	43.8	41.8	42.4	13.5	12.9	13.1	135	92	114	344	296	315 ^a	384	328	359 ^a
182427	WF1S	6/24/59	6/2/59	2	43.8	42.0	43.0	13.8	12.9	13.3	126	94	108	352	296	325 ^a	400	320	355 ^a
Current Mill Average:							42.6			13.4			109		321			350	
Cumulative Mill Average:							43.0			13.5			111		322			355	
Mill Factor, %							99.1			99.3			98.2		99.7			98.6	
Mill Index, %							98.2			104.7			97.3		97.3			93.3	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE VI

MILL D -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet		Across Min.	Across Av.	Across Max.			
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				Max.		
182351	W.F.	6/12/59	5/9/59	-	47.0	43.6	13.0	12.4	12.8	132	83	112	448	320	385 ^a	432	360	391 ^a
182352	W.F.	6/12/59	5/20/59	-	44.0	42.0	13.3	12.2	12.6	123	79	106	400	304	347 ^a	440	336	391 ^a
182353	W.F.	6/12/59	5/22/59	-	45.2	42.8	13.4	12.5	12.9	122	87	104	400	320	362 ^a	456	352	391 ^a
182354	W.F.	6/12/59	5/26/59	-	45.0	43.0	13.5	12.5	13.1	129	74	103	416	328	366 ^a	448	368	407 ^a
182361	W.F.	6/15/59	5/27/59	-	45.8	43.0	13.2	12.1	12.9	117	90	105	448	336	391 ^a	464	352	410 ^a
182362	W.F.	6/15/59	5/29/59	-	45.0	42.8	13.2	12.4	13.0	135	88	107	368	304	345 ^a	464	352	401 ^a
182363	W.F.	6/15/59	5/28/59	-	44.4	42.4	13.1	12.2	12.9	137	79	103	424	336	369 ^a	464	400	427 ^a
182364	W.F.	6/15/59	5/31/59	-	44.2	42.8	13.0	12.2	12.5	127	88	107	416	304	361	456	384	404 ^a
Current Mill Average:					43.7		12.8		12.8		106		366		403			
Cumulative Mill Average:					43.7		12.1		12.1		112		346		387			
Mill Factor, %					100.0		105.8		105.8		94.6		105.8		104.1			
Mill Index, %					100.7		100.0		100.0		94.6		110.9		107.5			

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE VII
MILL E -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Kch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		In		Across						
					Max.	Av.	Max.	Av.	Max.	Min.	Av.	Max.	Min.	Av.					
182269	WFIS	6/ 2/59	5/12/59	1	43.6	40.8	41.9	13.2	11.9	12.6	120	98	108	352	264	294 ^a	408	352	379 ^a
182270	WFIS	6/ 2/59	5/15/59	1	44.0	42.4	43.4	13.8	12.0	13.1	136	82	110	360	264	307	504	344	394 ^a
182271	WFIS	6/ 2/59	5/22/59	1	44.0	42.0	43.1	13.5	12.2	12.8	126	89	109	344	232	292 ^a	416	352	375 ^a
182272	WFIS	6/ 2/59	5/23/59	1	44.0	42.0	43.1	13.4	12.4	13.0	127	95	107	344	232	303 ^a	448	352	386 ^a
182416	WFIS	6/23/59	6/ 5/59	1	44.2	42.2	43.3	13.2	12.3	12.7	126	88	107	360	296	334 ^a	480	360	409 ^a
182417	WFIS	6/23/59	6/ 8/59	1	43.0	42.0	42.4	13.2	12.2	12.6	122	88	104	320	264	293	448	336	376 ^a
182418	WFIS	6/23/59	6/ 9/59	1	43.0	41.6	42.2	12.9	11.7	12.2	129	94	107	360	232	291	464	312	370 ^a
Current Mill Average:							42.8			12.7		108			302				384
Cumulative Mill Average:							43.1			12.5		109			305				381
Mill Factor, %							99.3			101.6		99.1			99.0				100.8
Mill Index, %							98.6			99.2		96.4			91.5				102.4

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE VIII
MILL F -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, D.S.I. Gage		Elmendorf Tear, g./sheet								
					Max.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	In	Across	Max.	Min.	Av.		
182314	M.F.	6/10/59	5/9/59	2	43.8	42.2	43.1	12.0	11.5	11.7	138	91	118	336	288	311	464	328	377 ^a
182315	M.F.	6/10/59	5/9/59	2	44.0	42.4	43.2	12.0	11.3	11.7	130	106	120	376	280	328	416	336	367 ^a
182316	M.F.	6/10/59	5/14/59	2	43.2	42.0	42.6	12.0	11.0	11.6	135	87	118	344	264	301	416	344	370 ^a
182317	M.F.	6/10/59	5/14/59	2	44.0	42.2	43.0	12.0	11.4	11.7	135	104	120	400	280	327	440	352	391 ^a
182318	M.F.	6/10/59	5/30/59	2	44.0	42.4	43.2	12.1	11.2	11.7	140	92	114	368	256	317	432	352	386 ^a
182319	M.F.	6/10/59	5/30/59	2	44.0	42.2	43.6	12.0	11.2	11.7	133	95	114	368	288	328	432	352	384 ^a
182320	M.F.	6/10/59	5/30/59	2	44.0	42.8	43.2	12.0	11.0	11.6	131	102	117	400	264	326 ^a	432	336	384 ^a
182360	M.F.	6/15/59	6/11/59	2	43.8	42.0	42.6	11.9	11.1	11.4	128	95	112	360	272	309 ^a	400	328	361 ^a
Current Mill Average:							43.1		11.6		117		117	318		318			377
Cumulative Mill Average:							43.2		12.2		114		114	314		314			369
Mill Factor, %							99.8		95.1		102.6		102.6	101.3		101.3			102.2
Mill Index, %							99.3		90.6		104.5		104.5	96.4		96.4			100.5

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE IX
TABLE G -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, p.s.i. Edge		Elmendorf Tear, g./sheet								
					Max.	Av.	Max.	Av.	Max.	Min.	Av.	Max.	Min.	Av.					
182394	WFLS	6/18/59	6/15/59	1	43.2	41.6	42.2	14.2	12.0	12.9	124	88	110	384	312	335	416	352	388a
Current Mill Average:							42.2			12.9			110			335			388
Cumulative Mill Average:							43.2			13.2			112			324			370
Mill Factor, %							97.7			97.7			98.2			103.4			104.9
Mill Index, %							97.2			100.8			98.2			101.5			103.5

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE X

MILL H -- 42-LB. LINERSOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
					Max.	Av.	Max.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
182294	N.F.	6/ 8/59	5/22/59	2	44.0	42.6	43.1	12.7	12.1	12.5	140	81	111	368	288	373	440	328	380 ^a
182295	N.F.	6/ 8/59	5/23/59	2	43.0	42.2	42.7	13.1	12.5	12.8	134	87	108	368	288	322 ^a	416	376	368 ^a
182296	N.F.	6/ 8/59	5/26/59	2	44.2	42.8	43.6	13.5	12.6	13.2	133	70	111	432	352	381 ^a	496	396	397 ^a
182297	N.F.	6/ 8/59	5/27/59	2	44.0	43.0	43.8	13.5	12.8	13.2	134	87	112	384	264	338 ^a	408	360	363 ^a
182368	N.F.	6/15/59	6/ 1/59	2	44.2	42.8	43.6	13.2	12.9	13.1	133	85	110	392	320	343 ^a	432	368	399 ^a
182369	N.F.	6/15/59	6/ 2/59	2	44.2	43.2	44.0	13.2	12.9	13.1	130	71	108	464	320	377 ^a	424	344	368 ^a
182389	N.F.	6/17/59	6/ 7/59	2	44.0	42.6	43.4	13.1	12.8	13.0	135	80	108	400	304	355	400	344	375 ^a
182390	N.F.	6/17/59	6/ 8/59	2	44.0	43.2	43.8	13.6	13.0	13.3	121	85	108	432	288	361	400	352	382 ^a
Current Mill Average:					43.5		13.0		109		352				384				
Cumulative Mill Average:					43.4		12.6		114		336				379				
Mill Factor, %					100.2		103.2		95.6		104.8				101.3				
Mill Index, %					100.2		101.6		97.3		106.7				102.4				

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XI

MILL I -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. gage		Elmendorf Tear, g./sheet		Across Max. Min. Av.					
					Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.		Max.	Min.	Av.		
182303	M.B.	6/9/59	4/27/59	-	44.2	42.0	43.5	12.0	11.0	11.6	140	88	109	408	365	448	368	406 ^a
182304	M.B.	6/9/59	5/6/59	-	45.0	42.6	43.9	12.0	10.3	11.4	132	83	111	384	357	456	352	408 ^a
182305	M.B.	6/9/59	5/9/59	-	45.0	43.0	44.0	12.5	11.4	11.9	132	80	110	400	296	448	384	406 ^a
182370	M.B.	6/15/59	5/21/59	-	43.8	41.0	42.8	12.1	11.2	11.9	140	97	119	384	357	480	360	406 ^a
182371	M.B.	6/15/59	5/30/59	-	44.2	41.2	43.0	12.5	12.0	12.2	138	86	115	384	355	520	376	440 ^a
182372	M.B.	6/15/59	5/31/59	-	44.0	42.0	43.1	12.0	11.2	11.7	126	85	111	416	320	464	400	420 ^a
182410	M.B.	6/23/59	6/5/59	-	44.8	42.0	43.5	12.3	11.7	12.0	142	85	109	392	359	456	360	413 ^a
182411	M.B.	6/23/59	6/6/59	-	45.4	41.6	43.7	12.8	12.0	12.3	127	77	102	392	336	440	376	397 ^a
182412	M.B.	6/23/59	6/8/59	-	44.2	42.4	43.4	11.9	10.5	11.4	127	94	116	376	296	448	376	409 ^a
182413	M.B.	6/23/59	6/9/59	-	44.2	40.6	42.8	11.8	10.7	11.5	126	78	106	376	296	432	376	407 ^a
Current Mill Average:							43.4		11.8				111		355		411	
Cumulative Mill Average:							43.4		12.0				113		357		403	
Mill Factor, %							100.0		98.3				98.2		99.4		102.0	
Mill Index, %							100.0		92.2				99.1		107.6		109.6	

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XII

MILL J -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet									
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.						
1E2398	WFLS	6/22/59	6/3/59	1	43.8	41.2	42.5	14.9	13.5	14.1	121	83	104	400	288	335	400	352	374 ^a	
Current Mill Average:							42.5		14.1				104		335				374	
Cumulative Mill Average:							43.3		12.8				108		309					368
Mill Factor, %							98.2		110.2				96.3		108.4					101.6
Mill Index, %							97.9		110.2				92.9		101.5					99.7

No samples submitted.

TABLE XIII

MILL K -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	Elmendorf Tear, g./sheet												
1E2398	WFLS	6/22/59	6/3/59	1	43.8	41.2	42.5	14.9	13.5	14.1	121	83	104	400	288	335	400	352	374 ^a	
Current Mill Average:							42.5		14.1				104		335				374	
Cumulative Mill Average:							43.3		12.8				108		309					368
Mill Factor, %							98.2		110.2				96.3		108.4					101.6
Mill Index, %							97.9		110.2				92.9		101.5					99.7

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XIV

MILL L -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet									
					Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.	Av.	In	Across	Max.	Min.	Av.		
182321	V.F.	6/10/59	5/7/59	1	44.8	42.8	43.8	13.5	12.5	13.0	130	87	108	336	272	315	384	320	356 ^a	
182322	V.F.	6/10/59	5/19/59	1	43.2	41.8	42.6	13.5	11.6	12.5	115	95	107	320	272	297	392	288	327 ^a	
182323	V.F.	6/10/59	5/8/59	1	46.0	43.2	44.6	13.7	12.0	13.0	127	83	105	400	272	335 ^a	432	336	376 ^a	
182324	V.F.	6/10/59	5/8/59	1	46.0	44.0	44.8	13.4	12.4	13.0	128	90	109	368	304	331 ^a	400	352	372 ^a	
182325	V.F.	6/10/59	5/25/59	1	46.2	43.8	44.7	13.2	12.1	12.8	127	91	108	376	272	347	448	336	374 ^a	
182326	V.F.	6/10/59	5/26/59	1	46.0	43.4	44.3	14.1	13.0	13.6	120	80	103	360	272	309	384	320	347 ^a	
182327	V.F.	6/10/59	5/27/59	1	46.0	43.0	44.1	13.5	13.0	13.2	132	97	109	384	304	356	400	336	375 ^a	
182328	V.F.	6/10/59	5/30/59	1	45.8	41.2	43.6	13.9	12.7	13.2	127	91	106	368	272	313 ^a	400	336	365 ^a	
Current Mill Average:					44.1		13.0		107		323		361							
Cumulative Mill Average:					43.9		13.1		108		332		374							
Mill Factor, %					100.5		99.2		99.1		97.3		96.5							
Mill Index, %					101.6		101.6		95.5		97.9		96.3							

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLS XV
 MILL M -- 42-LB. LINERBOARD

File No.	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. Gage		Elmendorf Tear, g./sheet								
				Max.	Av.	Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.	Av.				
182254	6/1/59	5/19/59	2	44.2	43.6	43.9	11.9	11.1	11.5	132	96	117	416	328	353 ^a	432	328	382 ^a
Current Mill Average:						43.9			11.5			117			353			382
Cumulative Mill Average:						43.8			12.2			116			337			383
Mill Factor, %						100.2			94.3			100.9			104.7			99.7
Mill Index, %						101.2			89.8			104.5			107.0			101.9

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XVI

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. Range		Elmendorf Tear, g./sheet								
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
182255	N.F.	6/1/59	5/5/59	1	43.6	42.2	42.6	12.8	12.1	12.5	127	85	109	296	224	256	376	296	323a
182256	N.F.	6/1/59	5/8/59	1	44.0	42.0	43.4	13.7	13.0	13.2	123	88	106	328	224	263a	360	296	319a
182306	N.F.	6/9/59	5/11/59	1	45.0	43.0	44.0	13.8	12.8	13.2	136	85	113	344	240	296	376	304	344a
182307	N.F.	6/9/59	5/14/59	1	44.0	42.6	43.4	13.0	12.0	12.5	133	88	111	304	240	267	360	304	337a
182308	N.F.	6/9/59	5/19/59	1	44.2	42.2	43.8	13.1	12.8	13.0	141	98	119	320	240	281	424	320	366a
182309	N.F.	6/9/59	5/23/59	1	44.0	42.0	43.3	13.1	12.2	12.8	146	91	115	320	224	265	416	320	352a
182399	N.F.	6/22/59	5/26/59	1	43.0	42.0	42.4	12.8	12.2	12.4	140	95	121	304	240	268	352	312	332a
182400	N.F.	6/22/59	5/29/59	1	43.0	42.0	42.4	12.7	12.0	12.4	124	89	109	312	232	261	368	312	336a
182428	N.F.	6/25/59	6/1/59	1	43.8	42.2	43.2	13.3	11.9	12.5	125	85	107	296	232	267a	360	312	334a
182429	N.F.	6/25/59	6/4/59	1	44.0	42.4	43.3	13.4	11.4	12.8	131	80	105	328	224	270a	360	304	333a
Current Mill Average:					43.2		12.7		111		269				338				
Cumulative Mill Average:					43.2		13.3		115		293				356				
Mill Factor, %					100.0		95.5		96.5		91.8				94.9				
Mill Index, %					99.5		99.2		99.1		81.5				90.1				

a-This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XVII

MILL C -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Kch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmsdorf Tear, g./sheet							
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
182268	WFLS	6/2/59	5/20/59	2	46.6	44.4	45.6	13.1	14.4	134	85	108	344	304	332 ^a	400	344	367 ^a
182290	WFLS	6/5/59	5/26/59	2	44.0	42.0	42.8	14.4	12.8	137	120	89	368	272	327	416	320	363 ^a
182366	WFLS	6/15/59	6/1/59	2	45.2	43.4	44.2	14.8	13.9	123	78	102	400	320	364 ^a	440	320	389 ^a
182367	WFLS	6/15/59	6/3/59	2	44.0	42.6	43.3	14.0	12.9	114	95	104	400	320	352 ^a	456	344	385 ^a
182414	WFLS	6/23/59	6/12/59	2	44.4	42.6	43.9	13.5	12.8	124	88	108	384	296	331 ^a	456	360	396 ^a
182415	WFLS	6/23/59	6/13/59	2	45.6	43.6	44.6	13.0	13.8	126	85	105	360	280	317	448	360	395 ^a

No samples submitted.

TABLE XVIII

MILL P -- 42-LB. LINERBOARD

Current Mill Average:	44.1	13.7	106	337	382
Cumulative Mill Average:	43.5	13.5	110	340	385
Mill Factor, %	101.4	101.5	96.4	99.1	99.2
Mill Index, %	101.6	107.0	94.6	102.1	101.9

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XIX

MILL C -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. Edge		Elmendorf Tear, g./sheet									
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
182288	N.F.	6/ 5/59	5/25/59	-	44.2	43.6	44.0	12.9	12.0	12.5	136	85	111	400	304	348 ^a	424	336	376 ^a	
182289	N.F.	6/ 5/59	5/25/59	-	44.2	42.4	43.4	12.7	12.0	12.3	129	89	112	384	320	343	384	336	363 ^a	
Current Mill Average:					43.7		12.4		112		346								370	
Cumulative Mill Average:					43.7		12.4		112		355								371	
Mill Factor, %					100.0		100.0		100.0		97.5								99.7	
Mill Index, %					100.7		96.9		100.0		104.8								98.7	

TABLE XI

MILL S -- 42-LB. LINERBOARD

No samples submitted.

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

SUMMARY OF INSTITUTE DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXI

MILL T -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gauge		Elmendorf Tear, g./sheet								
					Max.	Av.	Max.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
182273	----	6/ 3/59	5/22/59	1	42.0	40.8	41.5	12.8	11.3	12.0	144	91	114	360	296	322	432	376	402 ^a
182302	----	6/ 9/59	6/ 4/59	2	43.0	40.6	41.8	13.1	11.5	12.3	134	100	117	368	296	333 ^a	472	384	415 ^a
182365	----	6/15/59	6/ 8/59	1	43.8	41.0	41.8	12.8	12.0	12.3	123	82	105	400	304	337 ^a	408	344	369 ^a
Current Mill Average:							41.7		12.2		112		112		331				395
Cumulative Mill Average:							42.5		12.6		111		111		346				394
Mill Factor, %							98.1		95.3		100.9		100.9		95.7				100.3
Mill Index, %							96.1		95.3		100.0		100.0		100.3				105.3

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XXI-A
 SUMMARY OF SHEET FINISH DATA

Mill Code	Number of Sample Lots		
	Water Finish	Water Finish One Side	Other
A	4		
B	9		
C		9	
D	8		
E		7	
F	8		
G		1	
H	8		
I	10		
J		No samples submitted.	
K		1	
L	8		
M	1		
N	10		
O		No samples submitted.	
P		6	
Q	2		
S		No samples submitted.	
T			3 ^a
Totals	68	24	3

^a Unidentified.

PART II: COMPARISON OF RESULTS OBTAINED AT
THE INSTITUTE OF PAPER CHEMISTRY WITH THOSE OBTAINED AT THE MILLS

As a supplementary part of the Continuous Baseline Study, comparisons of the mill test results with those obtained at The Institute of Paper Chemistry on corresponding samples have been included in this report. Mill test conditions are shown in Table XXII, where it may be noted that the atmospheric conditions used prior to and during the testing period were relatively uniform for the mills which reported this information. However, the preconditioning and conditioning time periods varied considerably.

A summary of the Institute and mill test results for the current period is shown in Table XXIII, and a comparison of differences between Institute and mill test results is given in Table XXIV for the current period and the two previous periods.

A comparison of the test data in Tables XXIII and XXIV reveals the level of agreement between mill and Institute data for basis weight, caliper, bursting strength, and Elmendorf tear. Table XXIII shows the over-all average difference between Institute and mill results for each of these tests based on the data for all sample lots submitted by each mill for the current period. In addition, the maximum difference encountered in comparing the Institute and mill test results for a given sample lot is shown. In Table XXIV, the over-all average differences shown for each test in Table XXIII have been calculated on a percentage basis for each mill. In addition, for purposes of comparison, the average percentage differences for the preceding two periods are shown.

TABLE XXII
 PRECONDITIONING AND CONDITIONING DATA FOR MILL TESTS

Mill Code	R.H., %	Preconditioning Temperature, °F.	Time, hr.	R.H., %	Conditioning Temperature, °F.	Time, hr.
A	42-53	69-76	0.5	50	73	24-72
B	34-35	78-79	8	48-52	71-72	16
C	50	72	24	50	None	48+
D	50-52	73-75	24-48+		73	
E		None		49-53	70-73	--
F	50	73	24	50	73	24
G		None		57	88	--
H		None		50	73	24
I		None		54-55	72-73	48
J				No samples submitted.		
K	50	73	72	50	73	2
L	50	73	24	50	73	24
M		None		50	73	24
N		None		61-75	81-92	--
O				No samples submitted.		
P	50-54	70-74	120	50-54	70-74	120
Q		None		50	73	0.5
S		None		No samples submitted.		
T		None		50	73	24-48

TABLE XVIII
SUMMARY OF TEST RESULT COMPARISONS (Average Mill and Institute Results)

Mills*	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
No. of Samples Compared	4	9	9	8	7	9	1	8	10	0	1	8	1	10	0	6	2	0	3	
Institute	43.9	43.5	42.6	43.7	42.9	43.1	42.2	43.5	43.4		42.5	44.1	43.9	43.2		44.1	43.7		41.7	
Mill	43.6	43.0	42.9	43.3	42.5	42.9	42.5	43.6	43.6		42.5	43.5	43.2	42.3		43.7	42.8		41.0	
Av. Diff.**	-0.3	-0.5	+0.3	-0.4	-0.3	-0.2	+0.3	+0.1	+0.2		0.0	-0.6	-0.7	-0.9		-0.4	-0.9		-0.7	
Max. Diff.***	-0.8	-1.3	+1.3	-0.7	-0.9	-0.4	+0.3	+0.4	+0.3		0.0	-1.0	-0.7	-1.4		-0.5	-1.0		-0.8	
<u>Basis Weight</u>																				
Institute	12.3	12.2	13.4	12.8	12.7	11.6	12.9	13.0	11.8		14.1	13.0	11.5	12.7		13.7	12.4		12.2	
Mill	12.0	12.0	13.0	12.7	12.4	11.6	12.9	12.3	11.6		13.7	12.6	11.5	12.6		13.2	12.0		11.9	
Av. Diff.**	-0.3	-0.2	-0.4	-0.1	-0.3	0.0	0.0	-0.7	-0.2		-0.4	-0.4	0.0	-0.1		-0.5	-0.4		-0.3	
Max. Diff.***	-0.4	-0.4	-0.6	-0.4	-0.9	-0.2	0.0	-0.9	-0.3		-0.4	-0.7	0.0	+0.5		-0.7	-0.5		-0.6	
<u>Caliber</u>																				
Institute	106	112	109	106	108	117	110	109	111		104	107	117	111		106	112		112	
Mill	107	112	106	106	112	110	110	109	115		101	108	114	108		108	110		108	
Av. Diff.**	+1	0	-3	0	+4	-7	0	0	+4		-3	+1	-3	-3		+2	-2		-4	
Max. Diff.***	+5	-9	-9	-6	+8	-10	0	-3	+8		-3	-4	-3	-10		+5	-2		-7	
<u>Bursting Strength</u>																				
Institute	304	326	321	366	302	318	335	352	355		335	323	353	269		337	346		331	
Mill	315	303	320	382	351	320	369	365	377		309	307	343	235		339	337		--	
Av. Diff.**	+11	-23	-1	+16	+49	+2	+34	-13	+22		-25	-16	-10	-34		+2	-9		--	
Max. Diff.***	-21	-58	+41	+46	+111	+25	+34	+56	+45		-26	-51	-10	-85		+36	-10		--	
<u>Tearing Strength, in</u>																				
Institute	341	356	350	403	384	377	388	384	411		374	361	382	338		382	370		395	
Mill	364	344	380	410	407	386	425	403	452		375	373	385	307		436	376		--	
Av. Diff.**	+23	-12	-30	+7	+23	+9	+37	+19	+41		+1	+12	+3	-31		+54	+5		--	
Max. Diff.***	+31	-30	+62	+33	+65	+47	+37	+43	+62		-1	+35	+3	-66		+77	-10		--	

* Comparator based on averages involved only those samples on which mill test data were submitted.
 ** Average difference is the difference between the Institute mill average and the mill average based on mill test data.
 *** Maximum difference encountered in comparing the Institute average and the mill averages for any sample submitted by that particular mill.

TABLE XXIV
COMPARISON OF INSTITUTE-MILL DIFFERENCES BY PERIODS

Mill	Period	Basis Weight	Caliper	Bursting Strength	Average Difference, per cent		Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in across	Tear, in across	
					Tear, in across	Tear, in across								
A	Current	-0.7	-2	+0.9	+4	+7	K	Current	0	-3	-3	-8	+0.3	
	145th	-0.2	-3	+4	+3	+9		145th	0	-3	+3	-8	-6	-6
	144th	-3	-0.8	+4	+0.7	-2		144th	-0.7	-4	+0.9	-11	-0.6	-0.6
B	Current	-1	-2	0	-7	-3	L	Current	-1	-3	+0.9	-5	+3	-0.6
	145th	-0.9	0	+3	-8	-6		145th	-1	-3	+3	-6	-8	-8
	144th	0	-2	+2	-5	-2		144th	-2	-2	+2	-8	+2	+2
C	Current	+0.7	-3	-5	-0.3	+9	M	Current	-2	0	-3	-3	+0.8	
	145th	+2	-2	-5	+0.3	+8		145th	-0.7	-2	-3	+6	+8	+8
	144th	+1	-3	-4	+3	+6		144th	-0.7	-2	0	+3	+5	+5
D	Current	-0.9	-0.8	0	+4	+2	N	Current	-2	-0.8	-3	-13	-9	
	145th	-0.7	-0.8	0	+7	+6		145th	-2	-2	-7	-27	-15	
	144th	-2	0	+2	-4	-1		144th	-3	-2	-3	-25	-15	
E	Current	-0.7	-2	-4	+16	+6	O	Current	--	--	--	--	--	
	145th	0	-2	+0.9	+14	+13		145th	-0.2	-5	+3	+4	-1	
	144th	-2	-0.8	-0.9	+10	+7		144th	0	-3	-5	+4	-4	
F	Current	-0.5	0	-6	+0.6	+2	P	Current	-0.9	-4	+2	-0.5	+14	
	145th	-0.2	-0.8	-7	-15	-5		145th	-0.7	-5	-2	-4	+10	
	144th	+0.2	-2	-5	-14	-7		144th	-2	-3	-2	-4	+2	
G	Current	-0.7	0	0	+10	+10	Q	Current	-2	-3	-2	-3	+2	
	145th	--	--	--	--	--		145th	-0.9	-2	-3	-6	-6	
	144th	-0.7	-2	-3	+4	+2		144th	-1	-2	-4	-8	+2	
H	Current	+0.2	-5	0	+4	+5	S	Current	--	--	--	--	--	
	145th	-0.2	-2	0	+2	+5		145th	--	--	--	--	--	
	144th	-1	-2	-3	+9	+0		144th	--	--	--	--	--	
I	Current	-0.5	-2	-4	+6	+10	T	Current	-2	-2	-4	--	--	
	145th	0	-3	+2	+6	+8		145th	-1	-2	0	--	--	
	144th	0	-2	-0.9	+4	+5		144th	-2	-3	0	--	--	
J	Current	--	--	--	--	--		Current	--	--	--	--	--	
	145th	--	--	--	--	--		145th	--	--	--	--	--	
	144th	--	--	--	--	--		144th	--	--	--	--	--	

It may be noted in Table XXIV that for the current period the largest average difference (per cent) between the average basis weight results of the Institute and those of a given mill on corresponding samples was two per cent. By comparison, the largest average difference (per cent) noted for the previous two periods was three per cent. Further, it may be noted that the average basis weight results for Mills C, G, H, and I were higher than those for the Institute, the average result for Mill K was the same, and the average results for the other mills were lower. In general, agreement was very good.

The maximum variation in caliper for the current period was five per cent. This was the same as the maximum variation for the previous two periods. Compared with the Institute's results, the average test results for Mills F, G, and M were the same, and the average test results for the other mills were lower. The variation of five per cent for Mill H appears to be excessive.

It may be noted in Table XXIV that the bursting strength results exhibited a maximum variation of six per cent for the current period. The maximum variation for the two preceding periods was seven per cent. The average results for Mills A, E, I, L, and P were higher than those for the Institute, the average results for Mills B, D, G, and H were the same, and the average results for the other mills were lower. The variation of six per cent noted for Mill F may be excessive.

It may be seen in Tables XXIII and XXIV that the average machine direction tear results for Mills A, D, E, F, G, H, I, and P were higher than those for the Institute, and the average results for the other mills

were lower. The maximum variation for the current period was sixteen per cent compared with a maximum variation of twenty-seven per cent for the two preceding periods. Agreement between the Institute and mill results was good in most cases. However, several mills--namely, E and N, were associated with differences greater than ten per cent which may be excessive.

With regard to the cross-machine direction tear results, it may be noted that the average results for Mills A, C, D, E, F, G, H, I, K, L, M, P, and Q were higher than those for the Institute, and the average results for the other mills were lower. The maximum variation for the current period was fourteen per cent, whereas the maximum variation for the two preceding periods was fifteen per cent. As in the case of the machine direction results, agreement between Institute and mill results was good. The only difference greater than ten per cent was associated with Mill P.

The comparisons of Institute and mill data for individual sample lots are given in Tables XXV to XLIII for the various mills. In all the comparisons given in Tables XXV to XLIII, the Institute's test values have been used as the reference line.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959

TABLE XXV

MILL A -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Kch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.					
182266	W.F.	4/13/59	1	43.8	44.0	+0.2	12.3	12.0	-0.3	105	110	+5	305	321	+16	348 ^a	367	+19
182267	W.F.	4/23/59	1	43.8	43.0	-0.8	12.4	12.2	-0.2	109	107	-2	317 ^a	314	-3	351 ^a	366	+15
182298	W.F.	4/29/59	1	44.0	43.6	-0.4	12.3	12.0	-0.3	106	106	0	297	306	+9	322 ^a	360	+31
182299	W.F.	5/ 9/59	1	44.0	43.7	-0.3	12.3	11.9	-0.4	104	105	+1	298	319	+21	335 ^a	365	+30
Current Mill Average:				43.9	43.6	-0.3	12.3	12.0	-0.3	106	107	+1	304	315	+11	341	364	+23

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXVI

MILL B -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet							
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across				
182257	W.F.	5/27/59	-	43.4	43.3	-0.1	12.1	11.9	-0.2	112	115	+3	322	288	347	349 ^a	-2
182258	W.F.	5/28/59	-	42.7	41.4	-1.3	12.0	11.6	-0.4	116	109	-7	294 ^a	287	322	343 ^a	-21
182259	W.F.	5/29/59	-	43.4	42.7	-0.7	11.9	11.9	0.0	116	111	-5	328 ^a	316	328	358 ^a	-30
182291	W.F.	6/ 3/59	-	43.8	43.3	-0.5	12.5	12.1	-0.4	113	113	0	316	296	359	363 ^a	-4
182292	W.F.	6/ 4/59	-	43.2	42.5	-0.7	12.0	12.0	0.0	118	111	-7	336	315	339	349 ^a	-10
182293	W.F.	6/ 5/59	-	43.7	43.0	-0.7	12.5	12.1	-0.4	105	108	+3	339	281	329	357 ^a	-28
182386	W.F.	6/10/59	-	44.2	43.7	-0.5	12.2	12.0	-0.2	111	108	-3	307	300	356	340 ^a	+16
182387	W.F.	6/11/59	-	43.6	43.4	-0.2	12.4	12.5	+0.1	107	116	+9	360 ^a	341	367	375	-8
182388	W.F.	6/12/59	-	43.9	43.8	-0.1	12.3	12.1	-0.2	110	117	+7	333	304	353	367 ^a	-14
Current Mill Average:				43.5	43.0	-0.5	12.2	12.0	-0.2	112	112	0	326	303	356	344	-12

^aThis average includes the readings for one or more specimens which tore beyond the 3/9-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA---JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXVII
 MILL C -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet		Across				
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Diff.	IPC	Mill Diff.	IPC	Mill Diff.	
182281	WFLS	5/ 3/59	2	42.6	42.6	0.0	13.2	13.2	107	104	-3	326a	318	347a	383	+36
182282	WFLS	5/ 7/59	2	42.7	43.4	+0.7	13.1	13.0	103	108	+5	344a	346	353a	404	+51
182283	WFLS	5/11/59	2	42.0	43.3	+1.3	13.6	13.3	104	104	0	307a	315	342a	404	+62
182284	WFLS	5/13/59	2	43.3	43.3	0.0	13.7	13.5	105	104	-1	303a	344	345a	372	+27
182285	WFLS	5/14/59	2	42.5	43.0	+0.5	13.3	13.0	120	112	-8	327a	336	352a	400	+48
182286	WFLS	5/15/59	2	42.7	42.5	-0.2	13.4	12.8	108	105	-3	329a	303	345a	356	+11
182287	WFLS	5/16/59	2	42.4	42.4	0.0	13.4	12.8	110	104	-6	311a	309	357a	339	-18
182426	WFLS	6/ 1/59	2	42.4	42.0	-0.4	13.1	12.8	114	105	-9	315a	287	359a	369	+10
182427	WFLS	6/ 2/59	2	43.0	43.2	+0.2	13.3	13.0	108	105	-3	325a	323	355a	391	+36
Current Mill Average:				42.6	42.9	+0.3	13.4	13.0	109	106	-3	321	320	350	380	+30

a- This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

b- Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXVIII

MILL D -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. Edge		Elmerdorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.					
182351	W.F.	5/9/59	-	44.6	44.2	-0.4	12.8	12.6	-0.2	112	106	-6	385 ^a	389	+4	391 ^a	403	+12
182352	W.F.	5/20/59	-	42.6	42.5	-0.1	12.6	12.5	-0.1	106	109	+3	347 ^a	365	+18	391 ^a	404	+13
182353	W.F.	5/22/59	-	43.9	43.4	-0.5	12.9	12.8	-0.1	104	104	0	362 ^a	355	-7	391 ^a	413	+22
182354	W.F.	5/26/59	-	44.0	43.8	-0.2	13.1	12.9	-0.2	103	103	0	366 ^a	356	-10	407 ^a	385	-22
182361	W.F.	5/27/59	-	44.0	43.5	-0.5	12.9	12.7	-0.2	105	106	+1	391 ^a	437	+46	410 ^a	405	-5
182362	W.F.	5/29/59	-	43.7	43.3	-0.4	13.0	12.9	-0.1	107	107	0	345 ^a	380	+35	401 ^a	405	+4
182363	W.F.	5/28/59	-	43.4	42.9	-0.5	12.9	12.5	-0.4	103	107	+4	369 ^a	369	0	427 ^a	427	0
182364	W.F.	5/31/59	-	43.6	42.9	-0.7	12.5	12.3	-0.2	107	109	+2	361	401	+40	404 ^a	437	+33
Current Mill Average:				43.7	43.3	-0.4	12.8	12.7	-0.1	106	106	0	366	382	+16	403	410	+7

^a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXIX

MILL E -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet		Across				
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	
182269	WFIS	5/12/59	1	41.9	+0.4	12.6	-0.3	108	109	+1	294 ^a	330	+36	379 ^a	392	+13
182270	WFIS	5/15/59	1	43.4	-0.9	13.1	-0.9	110	109	-1	307	307	0	394 ^a	381	-13
182271	WFIS	5/22/59	1	43.1	-0.4	12.8	-0.4	109	113	+4	292 ^a	335	+43	375 ^a	403	+28
182272	WFIS	5/23/59	1	43.1	-0.3	13.0	-0.4	107	114	+7	303 ^a	349	+46	386 ^a	415	+29
182416	WFIS	6/ 5/59	1	43.3	-0.5	12.7	12.8	107	114	+7	334 ^a	334	0	409 ^a	401	-8
182417	WFIS	6/ 8/59	1	42.4	0.0	12.6	12.5	104	112	+8	293	398	+105	376 ^a	425	+49
182418	WFIS	6/ 9/59	1	42.2	+0.1	12.2	11.9	107	110	+3	291	402	+111	370 ^a	435	+65
Current Mill Average:				42.8	-0.3	12.7	12.4	108	112	+4	302	351	+49	384	407	+23

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXX

MILL F -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, P.S.I. Gage		Elmendorf Tear, g./sheet								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182314	W.F.	5/ 9/59	2	43.1	42.9	-0.2	11.7	11.7	0.0	118	112	- 6	311	336	+25	377 ^a	403	+26
182315	W.F.	5/ 9/59	2	43.2	42.9	-0.3	11.7	11.7	0.0	120	113	- 7	328	329	+ 1	367 ^a	399	+32
182316	W.F.	5/14/59	2	42.6	42.7	+0.1	11.6	11.6	0.0	118	108	-10	301	304	+ 3	370 ^a	417	+47
182317	W.F.	5/14/59	2	43.0	42.9	-0.1	11.7	11.7	0.0	120	110	-10	327	321	- 6	391 ^a	374	-17
182318	W.F.	5/30/59	2	43.2	43.0	-0.2	11.7	11.7	0.0	114	110	- 4	317	328	+11	386 ^a	382	- 4
182319	W.F.	5/30/59	2	43.6	43.2	-0.4	11.7	11.6	-0.1	114	109	- 5	328	329	+ 1	384 ^a	387	+ 3
182320	W.F.	5/30/59	2	43.2	43.1	-0.1	11.6	11.6	0.0	117	110	- 7	326 ^a	328	+ 2	384 ^a	388	+ 4
182360	W.F.	6/11/59	2	42.6	42.5	-0.1	11.4	11.2	-0.2	112	110	- 2	309 ^a	285	-24	361 ^a	336	-25
Current Mill Average:				43.1	42.9	-0.2	11.6	11.6	0.0	117	110	- 7	318	320	+ 2	377	386	+ 9

TABLE XXXI

MILL G -- 42-LB. LINERBOARD

182394	W.F.S	6/15/59	1	42.2	42.5	+0.3	12.9	12.9	0.0	110	110	0	335	369	+34	388 ^a	425	+37
Current Mill Average:				42.2	42.5	+0.3	12.9	12.9	0.0	110	110	0	335	369	+34	388	425	+37

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXXII

MILL H -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i., gage		In		Elmendorf Tear, g./sheet		Across				
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
182294	W.F.	5/22/59	2	43.1	43.0	-0.1	12.5	12.2	-0.3	111	112	+1	333	354	+21	380 ^a	404	+24
182295	W.F.	5/23/59	2	42.7	42.8	+0.1	12.8	12.2	-0.6	108	109	+1	322 ^a	378	+56	368 ^a	411	+43
182296	W.F.	5/26/59	2	43.6	43.5	-0.1	13.2	12.3	-0.9	111	111	0	381 ^a	362	-19	397 ^a	406	+9
182297	W.F.	5/27/59	2	43.8	43.6	-0.2	13.2	12.4	-0.8	112	109	-3	338 ^a	384	+46	383 ^a	424	+41
182368	W.F.	6/1/59	2	43.6	43.7	+0.1	13.1	12.5	-0.6	110	111	+1	348 ^a	370	+22	399 ^a	400	+1
182369	W.F.	6/2/59	2	44.0	44.3	+0.3	13.1	12.4	-0.7	108	109	+1	377 ^a	373	-4	388 ^a	401	+13
182389	W.F.	6/7/59	2	43.4	43.8	+0.4	13.0	12.4	-0.6	108	105	-3	355	349	-6	375 ^a	380	+5
182390	W.F.	6/8/59	2	43.8	43.8	0.0	13.3	12.4	-0.9	108	106	-2	361	350	-11	382 ^a	399	+17
Current Mill Average:				43.5	43.6	+0.1	13.0	12.3	-0.7	109	109	0	352	365	+13	384	403	+19

^a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Notes: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXXIII

MILL I -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet						
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.			
182303	W.B.	4/27/59	-	43.5	+0.3	11.6	11.5	-0.1	109	116	+7	365	391	406 ^a	465	+59
182304	W.B.	5/6/59	-	43.9	+0.2	11.4	11.3	-0.1	111	117	+6	357	363	408 ^a	439	+31
182305	W.B.	5/9/59	-	44.0	+0.3	11.9	11.7	-0.2	110	111	+1	360 ^a	367	406 ^a	432	+26
182370	W.B.	5/21/59	-	42.8	+0.1	11.9	11.6	-0.3	119	123	+4	357	361	406 ^a	455	+49
182371	W.B.	5/30/59	-	43.0	+0.3	12.2	11.9	-0.3	115	121	+6	355	375	440 ^a	461	+21
182372	W.B.	5/31/59	-	43.1	+0.1	11.7	11.4	-0.3	111	113	+2	355	383	420 ^a	447	+27
182410	W.B.	6/5/59	-	43.5	+0.3	12.0	11.9	-0.1	109	111	+2	359	404	413 ^a	475	+62
182411	W.B.	6/6/59	-	43.7	0.0	12.3	12.2	-0.1	102	109	+7	361	385	397 ^a	439	+42
182412	W.B.	6/8/59	-	43.4	+0.1	11.4	11.3	-0.1	116	119	+3	342	371	409 ^a	449	+40
182413	W.B.	6/9/59	-	42.8	+0.2	11.5	11.4	-0.1	106	114	+8	344	373	407 ^a	461	+54
Current Mill Average:				43.4	+0.2	11.8	11.6	-0.2	111	115	+4	355	377	411	452	+41

TABLE XXXIV

MILL J -- 42-LB. LINERBOARD

No samples submitted

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXXV

MILL K -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.					
182398	W.F.S	6/ 3/59	1	42.5	42.5	0.0	14.1	13.7	-0.4	104	101	-3	335	309	-26	374 ^a	375	+ 1
Current Mill Average:				42.5	42.5	0.0	14.1	13.7	-0.4	104	101	-3	335	309	-26	374	375	+ 1

TABLE XXXVI

MILL L -- 42-LB. LINERBOARD

182321	W.F.	5/ 7/59	1	43.8	43.3	-0.5	13.0	12.6	-0.4	108	111	+3	315	318	+ 3	356 ^a	373	+17
182322	W.F.	5/19/59	1	42.6	41.9	-0.7	12.5	12.1	-0.4	107	108	+1	297	301	+ 4	327 ^a	362	+35
182323	W.F.	5/ 8/59	1	44.6	44.0	-0.6	13.0	12.4	-0.6	105	108	+3	335 ^a	284	-51	376 ^a	367	- 9
182324	W.F.	5/ 8/59	1	44.8	44.6	-0.2	13.0	12.7	-0.3	109	110	+1	331 ^a	315	-16	372 ^a	384	+12
182325	W.F.	5/25/59	1	44.7	44.0	-0.7	12.8	12.5	-0.3	108	108	0	347	322	-25	374 ^a	373	- 1
182326	W.F.	5/26/59	1	44.3	43.6	-0.7	13.6	13.1	-0.5	103	107	+4	309	305	- 4	347 ^a	373	-26
182327	W.F.	5/27/59	1	44.1	43.8	-0.3	13.2	12.8	-0.4	109	107	-2	336	313	-23	375 ^a	377	+ 2
182328	W.F.	5/30/59	1	43.6	42.6	-1.0	13.2	12.5	-0.7	106	108	+2	313 ^a	300	-13	365 ^a	373	+ 8
Current Mill Average:				44.1	43.5	-0.6	13.0	12.6	-0.4	107	108	+1	323	307	-16	361	373	+12

^a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXXVII

MILL M -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet						
				IPC	Diff.	IPC	Diff.	IPC	Diff.	IPC	Diff.	IPC	Diff.			
182254	W.F.	5/19/59	2	43.9	-0.7	11.5	0.0	117	114	-3	353 ^a	343	-10	382 ^a	385	+3
Current Mill Average:				43.9	-0.7	11.5	0.0	117	114	-3	353	343	-10	382	385	+3

TABLE XXXVIII

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet							
				IPC	Diff.	IPC	Diff.	IPC	Diff.	IPC	Diff.	IPC	Diff.				
182255	W.F.	5/ 5/59	1	42.6	-0.7	12.5	12.2	-0.3	109	106	-3	256	233	-23	323 ^a	302	-21
182256	W.F.	5/ 8/59	1	43.4	-0.5	13.2	12.8	-0.4	106	107	+1	263 ^a	178	-85	319 ^a	253	-66
182256	W.F.	5/11/59	1	44.0	-1.4	13.2	13.0	-0.2	113	108	-5	296	223	-73	344 ^a	316	-28
182257	W.F.	5/14/59	1	43.4	-1.4	12.5	12.4	-0.1	111	106	-5	267	232	-35	337 ^a	319	-18
182258	W.F.	5/19/59	1	43.8	-0.9	13.0	12.9	-0.1	119	119	0	281	246	-35	366 ^a	317	-49
182259	W.F.	5/23/59	1	43.3	-1.3	12.8	12.8	0.0	115	107	-8	265	234	-31	357 ^a	306	-51
182259	W.F.	5/26/59	1	42.4	-0.2	12.4	12.9	+0.5	121	111	-10	268	204	-64	332 ^a	285	-47
182260	W.F.	5/29/59	1	42.4	-0.5	12.4	12.2	-0.2	109	106	-3	261	233	-28	336 ^a	302	-34
182261	W.F.	6/ 1/59	1	43.2	-0.9	12.5	12.5	0.0	107	104	-3	267 ^a	268	+1	334 ^a	326	-8
182262	W.F.	6/ 4/59	1	43.3	-1.1	12.8	12.4	-0.4	105	106	+1	270 ^a	281	+11	333 ^a	345	+12
Current Mill Average:				43.2	-0.9	12.7	12.6	-0.1	111	108	-3	269	235	-34	338	307	-31

Note: This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.
Note: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XXXIX

MILL O -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight,		Caliper,		Bursting Strength,		Elmendorf Tear,	
				lb.	IPC Mill Diff.	points	IPC Mill Diff.	p.s.i. Page	IPC Mill Diff.	In	g./sheet

No samples submitted

TABLE XL

MILL P -- 42-LB. LINERBOARD

182268	WF1S	5/20/59	2	45.6	-0.5	14.4	14.0	-0.4	108	107	-1	332 ^a	322	-10	367 ^a	422	+55
182290	WF1S	5/26/59	2	42.8	-0.5	13.7	13.0	-0.7	105	103	-2	327	334	+7	363 ^a	416	+53
182366	WF1S	6/1/59	2	44.2	-0.2	13.9	13.2	-0.7	102	107	+5	364 ^a	353	-11	389 ^a	428	+39
182357	WF1S	6/3/59	2	43.3	-0.3	13.3	12.8	-0.5	104	107	+3	352 ^a	332	-20	385 ^a	420	+35
182424	WF1S	6/12/59	2	43.9	-0.4	13.2	12.7	-0.5	108	113	+5	331 ^a	340	+9	396 ^a	461	+65
182415	WF1S	6/13/59	2	44.6	0.0	13.8	13.8	0.0	105	110	+5	317	353	+36	395 ^a	472	+77
Current Mill Average:				44.1	-0.4	13.7	13.2	-0.5	106	108	+2	337	339	+2	382	436	+54

^aThis average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Notes: All "current mill average" data are calculated from the totals of the individual readings.

COMPARISON OF INSTITUTE AND MILL DATA--JUNE 1 THROUGH JUNE 30, 1959 (continued)

TABLE XLI

MILL Q -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Diff.	IPC	Mill Diff.	Across	Mill Diff.			
182288	W.F.	5/25/59	-	44.0	43.2	-0.8	12.5	12.0	-0.5	111	111	0	348 ^a	341	-7	376 ^a	386	+10
182289	W.F.	5/25/59	-	43.4	42.4	-1.0	12.3	12.0	-0.3	112	110	-2	343	333	-10	363 ^a	365	+2
Current Mill Average:				43.7	42.8	-0.9	12.4	12.0	-0.4	112	110	-2	346	337	-9	370	376	+6

TABLE XLII

MILL S -- 42-LB. LINERBOARD

No samples submitted

TABLE XLIII

MILL T -- 42-LB. LINERBOARD

182273	----	5/22/59	1	41.5	40.9	-0.6	12.0	11.4	-0.6	114	108	-6	322			402 ^a
182272	----	6/4/59	2	41.8	41.0	-0.8	12.3	12.0	-0.3	117	110	-7	333 ^a			415 ^a
182265	----	6/8/59	1	41.8	41.2	-0.6	12.3	12.2	-0.1	105	107	+2	337 ^a			369 ^a
Current Mill Average:				41.7	41.0	-0.7	12.2	11.9	-0.3	112	108	-4	331			395

This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.

Note: All "current mill average" data are calculated from the totals of the individual readings.

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