

CONTINUOUS BASELINE STUDY

Project 1108-13

Progress Report 148

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

September 1, 1959

SCRAMBLED CODE LETTERS FOR PROGRESS REPORT 148.

PROJECT 1108-13, SEPTEMBER 1, 1959

Company - Mill	Code Letter
1. International Paper Company - Panama City	S
2. International Paper Company - Springhill	L
3. West Virginia Pulp and Paper Company	T
4. Union Bag-Camp Paper Corporation	B
5. Continental Can Company, Inc.	K
6. Owens-Illinois Glass Company - Jacksonville	G
7. St. Joe Paper Company	J
8. International Paper Company - Georgetown	C
9. Georgia Kraft Company - Macon	P
10. Chesapeake Corporation of Virginia	A
11. Gaylord Container Corporation	N
12. Southern Paperboard Corporation	M
13. Olin Mathieson Chemical Corporation	I
14. St. Regis Paper Company - Jacksonville	E
15. St. Regis Paper Company - Pensacola	Q
16. Owens-Illinois Glass Company - Valdosta	F
17. Kieckhefer Container Company (North Carolina Pulp Co.)	D
18. Rome Kraft Company	H
19. Container Corporation of America - Fernandina Beach	O

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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Project 1108-13

Progress Report 148

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

September 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 August, one hundred and six 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 August 1, 1958 to July 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	2
B	9
C	11
D	0
E	4
F	14
G	5
H	0
I	4
J	8
K	12
L	6
M	4
N	2
O	2
P	5
Q	0
S	10
T	8
Total	<hr/> 106

TABLE II
 SUMMARY OF COMPOSITE MILL AVERAGES--AUGUST 1 THROUGH AUGUST 31, 1959

Mill	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	In Machine Cross Machine	Elmendorf Tear, g./sheet
A	42.8	12.5	111	325	350
B	43.7	12.4	113	326	361
C	43.1	12.5	112	336	371
D	No samples submitted.				
E	44.3	14.0	108	340	385
F	43.6	12.9	107	377	399
G	43.2	12.1	110	350	403
H	No samples submitted.				
I	42.9	13.1	104	352	374
J	43.1	12.2	112	325	372
K	42.8	13.7	110	326	348
L	43.2	12.7	102	295	346
M	42.2	12.8	109	256	318
N	43.7	13.2	102	349	382
O	42.5	13.6	104	358	400
P	43.7	12.6	107	325	377
Q	No samples submitted.				
S	43.7	12.0	112	334	354
T	44.0	13.7	104	329	366
Current FXI Average:	43.3	12.9	108	331	369
Cumulative FXI Average:	43.4	12.7	111	329	374
FXI Index, %	99.8	101.6	97.3	100.6	98.7

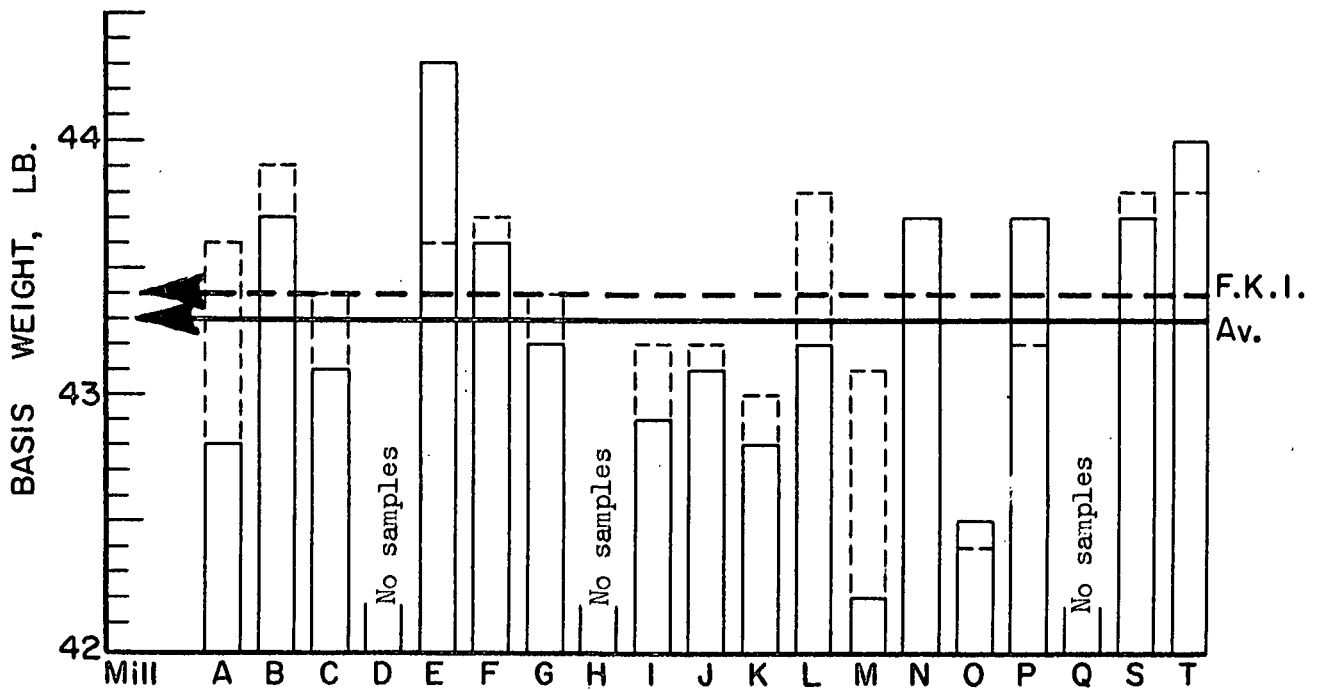


Figure 1

Comparison of Basis Weight Results for August, 1959

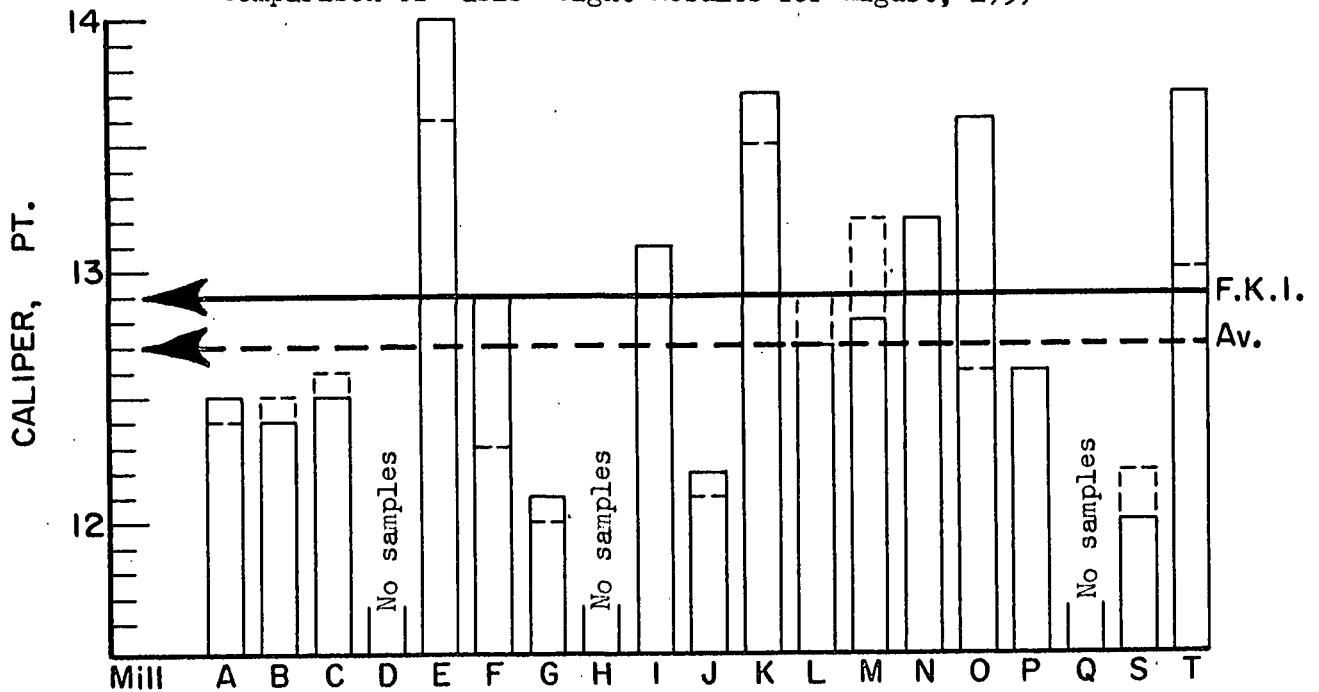


Figure 2

Comparison of Caliper Results for August, 1959

— Current mill average
 - - - Cumulative mill average

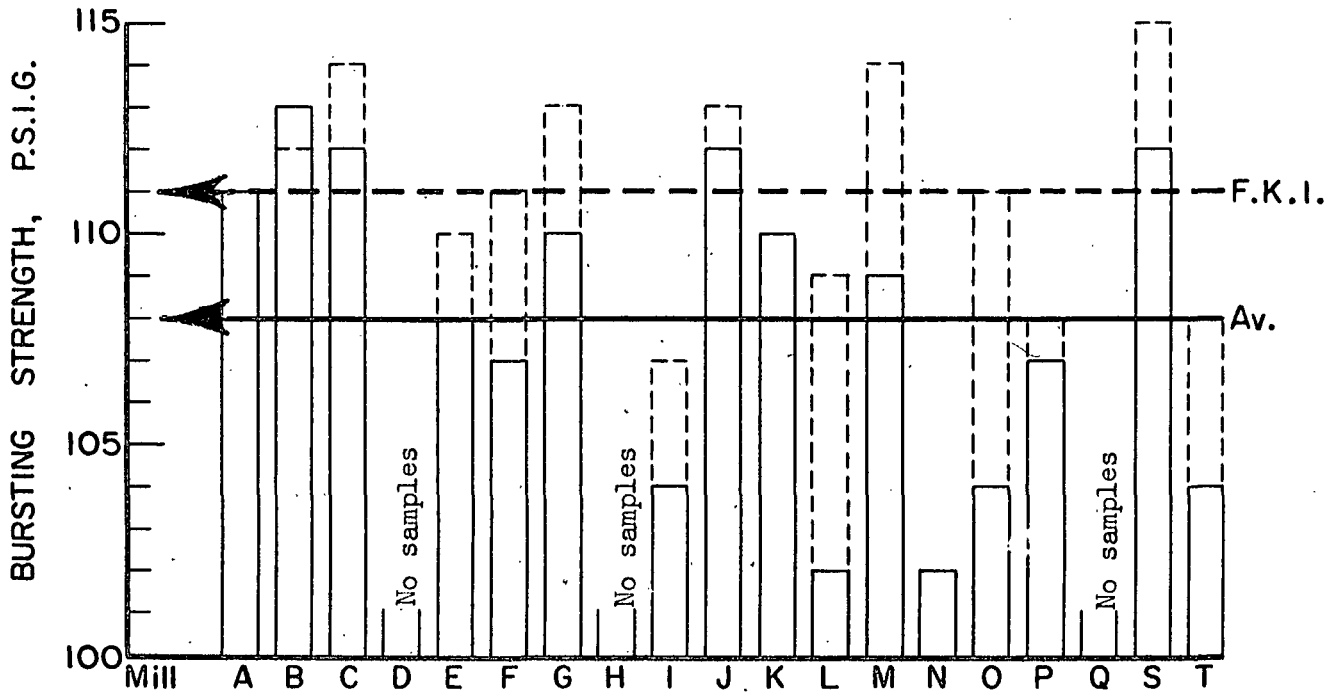


Figure 3

Comparison of Bursting Strength Results for August, 1959

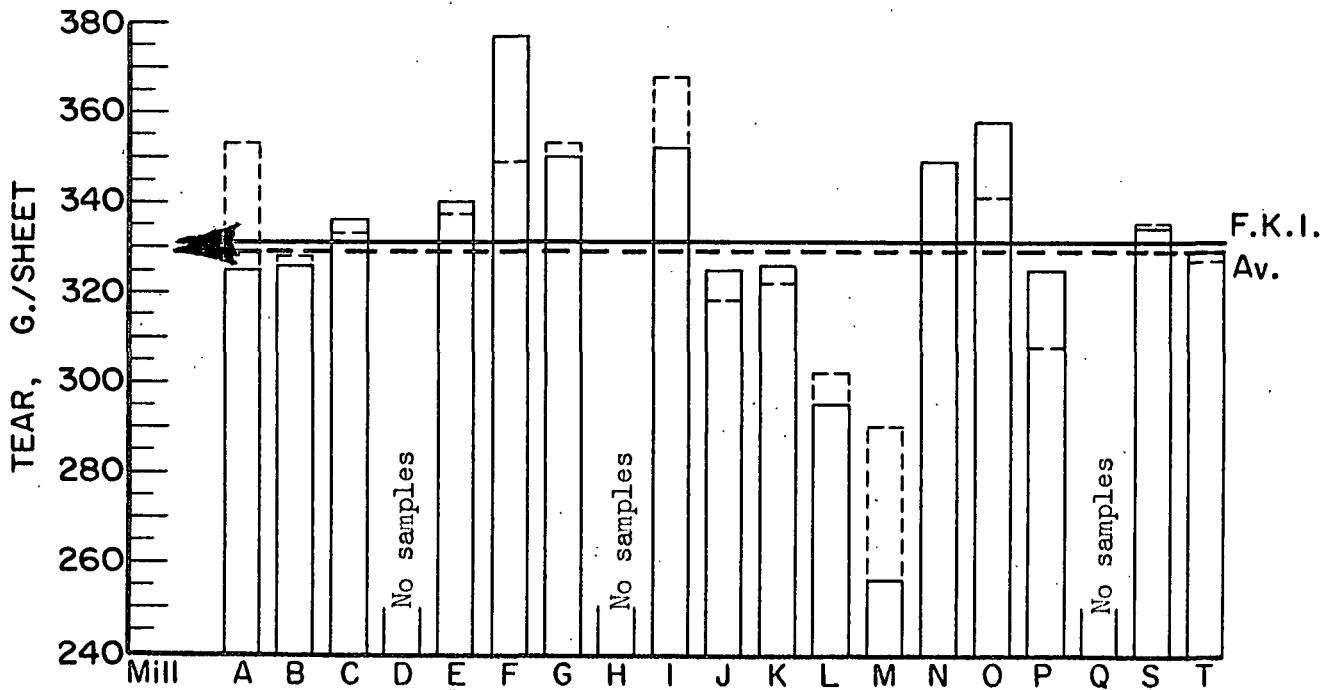


Figure 4

Comparison of Machine-Direction Tear Results for August, 1959

— Current mill average
 - - - Cumulative mill average

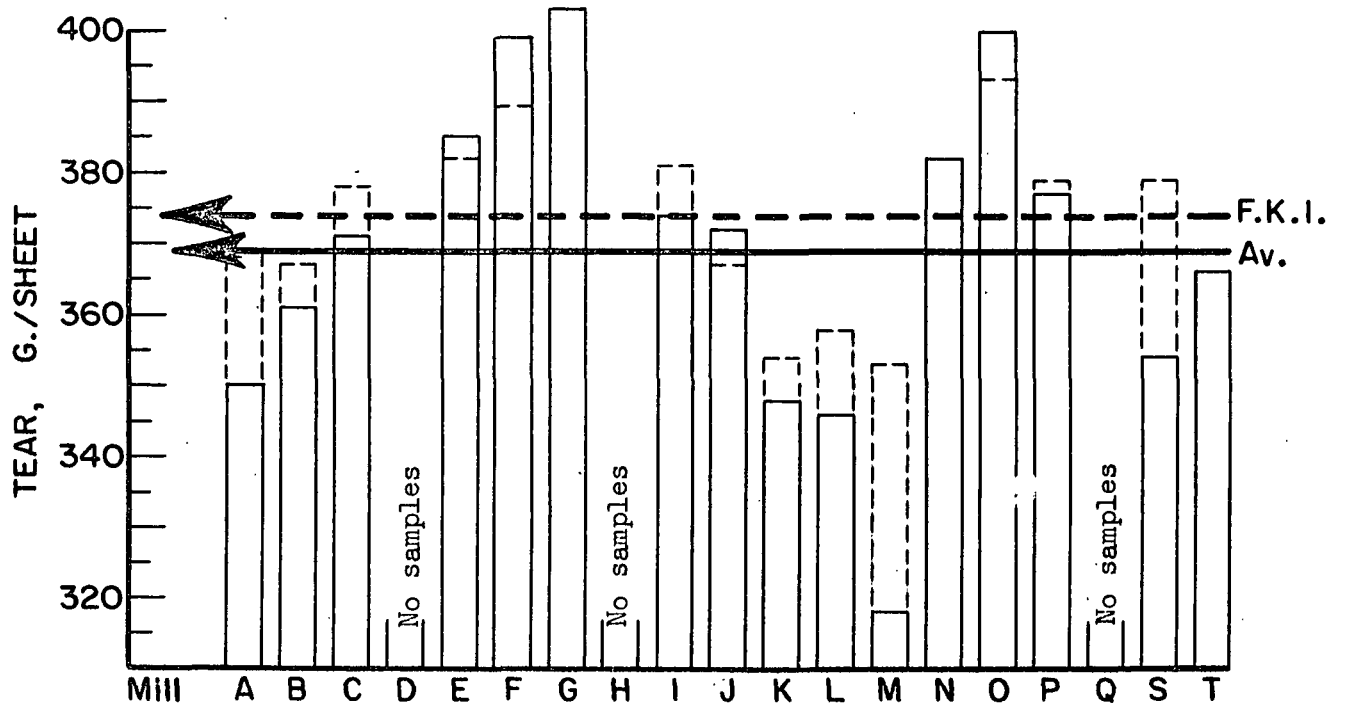


Figure 5

Comparison of Cross-Machine Direction Tear Results for August, 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 43.3 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 99.8 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 conform to the 42-lb. specification set forth in Rule 41. Mill E had the highest average basis weight of 44.3 lb. which was approximately 5.5% higher than the 42-lb. specification. The lowest average basis weight of 42.2 lb., which was 0.5% higher than the 42-lb. specification, was associated with Mill M.

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 remained constant at a level of 43.3 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 12.0 points for Mill S to a high of 14.0 points for Mill E. The current F.K.I. caliper average is 12.9 points, which is higher than the cumulative F.K.I. average of 12.7 points. The F.K.I. index for caliper is 101.6%.

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

Mill Code	Per Cent
A	+1.9
B	+4.0
C	+2.6
D	--
E	+5.5
F	+3.8
G	+2.9
H	--
I	+2.1
J	+2.6
K	+1.9
L	+2.9
M	+0.5
N	+4.0
O	+1.2
P	+4.0
Q	--
S	+4.0
T	+4.8

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 102 for Mills I and N to a high of 113 for Mill B. The current F.K.I. bursting strength average is 108 p.s.i. gage, which is lower than the cumulative F.K.I. average of 111 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 F had the highest machine direction tear average of 377 g./sheet, and Mill M had the lowest average of 256 g./sheet. It may be further noted in Table II that the highest cross-machine direction tear average of 403 g./sheet was obtained on the linerboard from Mill G and that the lowest average of 318 g./sheet was associated with Mill M. It may be observed also in Table II that the current F.K.I. average for machine direction Elmendorf tear is slightly higher than the cumulative F.K.I. average and the current F.K.I. average for cross-machine direction Elmendorf tear is slightly lower than the cumulative F.K.I. average.

A comparison of the F.K.I. indexes indicates that, for the current period, the current F.K.I. averages for basis weight, bursting strength, and cross-machine direction Elmendorf tear are slightly lower than their respective cumulative F.K.I. averages, and the current F.K.I. averages for caliper and machine direction Elmendorf tear are slightly higher than 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--AUGUST 1 THROUGH AUGUST 31, 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.	Av.	Max.	Av.	Max.	Av.	Max.	Av.	Max.	Av.				
182764	W.F.	8/3/59	7/24/59	-	44.2	42.6	13.2	12.2	12.7	138	90	111	360	296	330 ^a	384	328	346 ^a
182765	W.F.	8/3/59	7/24/59	-	43.0	41.0	12.7	11.9	12.3	130	91	110	352	304	319 ^a	376	328	355 ^a
Current Mill Average:						42.8			12.5		111				325			350
Cumulative Mill Average:						43.6			12.4		111				353			369
Mill Factor, %						98.2			100.8		100.0				92.1			94.9
Mill Index, %						98.6			98.4		100.0				98.8			93.6

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
182348	W.F.	8/10/59	7/29/59	-	45.0	43.2	44.0	13.0	12.0	12.4	128	95	109	352	288	321 ^a	416	320	354 ^a
182349	W.F.	8/10/59	7/30/59	-	45.6	43.6	44.5	12.7	11.2	12.1	131	90	117	376	296	333	408	336	379 ^a
182350	W.F.	8/10/59	7/31/59	-	44.4	43.0	43.5	12.2	11.7	12.0	130	99	116	400	280	331 ^a	384	320	353 ^a
182351	W.F.	8/10/59	8/5/59	-	44.2	42.4	43.4	13.2	12.8	13.0	120	90	107	384	304	353 ^a	392	304	347 ^a
182352	W.F.	8/10/59	8/6/59	-	44.0	42.8	43.5	13.0	12.3	12.6	131	85	106	400	288	326 ^a	384	336	358 ^a
182353	W.F.	8/10/59	8/7/59	-	44.0	43.0	43.5	13.0	12.3	12.6	125	86	109	368	304	329 ^a	416	304	359 ^a
183060	W.F.	8/21/59	8/12/59	-	44.2	42.4	43.6	13.2	10.7	12.7	137	89	112	384	256	318 ^a	416	320	376 ^a
183061	W.F.	8/21/59	8/13/59	-	43.8	42.6	43.5	12.6	11.7	12.2	134	98	117	352	248	306 ^a	400	312	357 ^a
183062	W.F.	8/21/59	8/14/59	-	44.8	43.8	44.2	12.7	11.8	12.1	140	99	118	360	288	315 ^a	408	328	370 ^a
Current Mill Average:					43.7			12.4			113			326			361		
Cumulative Mill Average:					43.9			12.5			112			328			367		
Mill Factor, %					99.5			99.2			100.9			99.4			98.4		
Mill Index, %					100.7			97.6			101.8			99.1			96.5		

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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. Range			Elmendorf Tear, g./sheet						
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	
182939	W.F.	8/10/59	7/2/59	2	44.4	42.8	43.6	13.7	13.0	13.3	121	72	104	448	312	368 ^a	416	312	369 ^a	
182840	W.F.	8/10/59	7/6/59	2	43.2	42.2	42.7	13.3	12.5	12.9	126	90	110	384	288	337	400	320	365 ^a	
182841	W.F.	8/10/59	7/7/59	2	43.8	42.6	43.4	13.2	12.6	12.9	144	91	117	376	288	348 ^a	408	328	382 ^a	
182890	W.F.	8/12/59	7/13/59	2	43.6	41.2	42.7	12.5	11.9	12.2	130	86	110	360	280	323	392	312	351 ^a	
182891	W.F.	8/12/59	7/14/59	2	44.0	42.4	43.3	12.5	11.9	12.2	135	88	116	368	296	329	424	320	385 ^a	
182943	W.F.	8/17/59	7/22/59	2	43.8	41.6	43.0	12.5	11.8	12.3	132	86	111	368	296	332	392	344	368 ^a	
182944	W.F.	8/17/59	7/23/59	2	43.6	42.4	42.9	12.6	12.0	12.2	142	89	117	352	312	333 ^a	440	336	381 ^a	
182945	W.F.	8/17/59	7/30/59	2	43.6	42.4	43.0	12.4	12.0	12.2	137	87	112	368	272	316 ^a	392	320	367 ^a	
182946	W.F.	8/17/59	7/31/59	2	43.8	42.4	43.1	12.5	12.0	12.2	134	99	114	368	304	333	424	336	391 ^a	
182985	W.F.	8/20/59	8/3/59	2	43.8	42.8	43.3	13.1	12.4	12.8	129	83	111	416	304	351	408	320	361 ^a	
182986	W.F.	8/20/59	8/4/59	2	43.6	42.6	43.1	13.0	12.3	12.7	130	94	114	384	256	329 ^a	400	328	361 ^a	
Current Mill Average:					43.1			12.5			112			336						371
Cumulative Mill Average:					43.4			12.6			114			333						378
Mill Factor, %					99.3			99.2			98.2			100.9						98.1
Mill Index, %					99.3			98.4			100.9			102.1						99.2

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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							
					Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Av.			
182838	WFLS	8/10/59	7/27/59	2	45.4	44.0	15.5	13.4	14.3	130	90	113	408	328	357 ^a	480	368	397 ^a
182913	WFLS	8/14/59	8/4/59	2	44.6	43.7	14.3	13.1	13.7	125	92	108	368	296	335 ^a	416	336	379 ^a
182940	WFLS	8/17/59	8/7/59	2	45.4	43.0	14.8	13.0	13.9	122	80	105	376	296	330 ^a	392	336	363 ^a
182972	WFLS	8/19/59	8/8/59	2	45.2	43.6	14.8	13.2	14.0	134	81	105	384	248	339	432	352	399 ^a
Current Mill Average:					44.3		14.0		108		340		385					
Cumulative Mill Average:					43.6		13.6		110		337		382					
Mill Factor, %					101.6		102.9		98.2		100.9		100.8					
Mill Index, %					102.1		110.2		97.3		103.3		102.9					

No samples submitted.

TABLE VII

MILL E -- 42-LB. LINERBOARD

182838	WFLS	8/10/59	7/27/59	2	45.4	44.0	15.5	13.4	14.3	130	90	113	408	328	357 ^a	480	368	397 ^a
182913	WFLS	8/14/59	8/4/59	2	44.6	43.7	14.3	13.1	13.7	125	92	108	368	296	335 ^a	416	336	379 ^a
182940	WFLS	8/17/59	8/7/59	2	45.4	43.0	14.8	13.0	13.9	122	80	105	376	296	330 ^a	392	336	363 ^a
182972	WFLS	8/19/59	8/8/59	2	45.2	43.6	14.8	13.2	14.0	134	81	105	384	248	339	432	352	399 ^a
Current Mill Average:					44.3		14.0		108		340		385					
Cumulative Mill Average:					43.6		13.6		110		337		382					
Mill Factor, %					101.6		102.9		98.2		100.9		100.8					
Mill Index, %					102.1		110.2		97.3		103.3		102.9					

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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, P.S.I. gage			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
182766	W.F.	8/3/59	7/14/59	-	44.6	41.8	42.7	13.5	12.0	13.0	127	84	103	416	320	357 ^a	432	320	389 ^a
182767	W.F.	8/3/59	7/17/59	-	45.0	41.8	43.0	13.5	12.0	12.9	130	90	110	448	320	375 ^a	464	352	395 ^a
182768	W.F.	8/3/59	7/20/59	-	44.8	42.8	43.5	13.3	12.3	12.9	131	81	108	440	312	369 ^a	448	352	407 ^a
182769	W.F.	8/3/59	7/23/59	-	44.2	42.2	43.5	13.2	12.5	12.9	146	88	107	424	280	368 ^a	472	328	405 ^a
182844	W.F.	8/10/59	7/26/59	-	44.2	42.2	43.5	13.2	12.0	12.8	128	95	109	392	328	361 ^a	416	328	388 ^a
182845	W.F.	8/10/59	7/31/59	-	44.6	42.2	43.3	13.6	12.5	13.1	130	82	109	464	344	386 ^a	464	360	416 ^a
182846	W.F.	8/10/59	8/3/59	-	45.2	43.0	43.9	13.6	12.7	13.1	122	76	108	472	344	395 ^a	432	352	397 ^a
182847	W.F.	8/10/59	8/4/59	-	45.6	42.8	44.1	13.4	12.3	12.9	120	74	105	464	344	419 ^a	432	344	378 ^a
182962	W.F.	8/19/59	8/6/59	-	44.4	42.2	43.2	13.6	12.2	12.8	126	80	110	400	312	351 ^a	456	368	409 ^a
182963	W.F.	8/19/59	8/10/59	-	44.0	42.4	43.6	13.2	12.2	12.6	125	88	110	456	320	365 ^a	456	344	403 ^a
182964	W.F.	8/19/59	8/13/59	-	45.0	43.2	44.2	13.3	11.8	12.6	140	76	102	448	328	385 ^a	432	304	386 ^a
183064	W.F.	8/24/59	8/14/59	-	45.4	43.6	44.6	13.8	12.2	13.1	120	89	104	464	384	418 ^a	480	352	413 ^a
183065	W.F.	8/24/59	8/17/59	-	44.2	42.4	43.7	13.1	11.3	12.3	142	87	112	400	304	358 ^a	416	336	389 ^a
183066	W.F.	8/24/59	8/18/59	-	45.2	42.6	44.1	13.6	12.4	13.1	130	80	106	432	328	372 ^a	480	336	409 ^a
Current Mill Average:					43.6			12.9			107			377			399		
Cumulative Mill Average:					43.7			12.3			111			349			389		
Mill Factor, %					99.8			104.9			96.4			108.0			102.6		
Mill Index, %					100.5			101.6			96.4			114.6			106.7		

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE IX
MILL G -- 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.
182770	W.B.	8/3/59	7/15/59	-	44.4	43.0	43.6	12.3	11.3	11.9	130	92	111	408	304	363	440	368	410 ^a
182984	W.B.	8/20/59	7/20/59	-	44.0	41.2	43.2	12.7	11.5	12.2	120	88	109	384	288	346	448	352	399 ^a
182771	W.B.	8/3/59	7/21/59	-	44.2	42.2	43.3	12.5	11.3	12.0	136	88	113	408	304	359 ^a	424	368	393 ^a
182869	W.B.	8/11/59	7/24/59	-	43.6	41.4	42.6	12.8	11.2	11.8	126	84	108	360	304	336 ^a	480	336	395 ^a
182870	W.B.	8/11/59	7/25/59	-	43.8	42.0	43.2	12.8	12.0	12.4	140	92	110	416	304	345	448	376	417 ^a
Current Mill Average:					43.2			12.1			110			350			403		
Cumulative Mill Average:					43.4			12.0			113			353			403		
Mill Factor, %					99.5			100.8			97.3			99.2			100.0		
Mill Index, %					99.5			95.3			99.1			106.4			107.8		

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE X

MILL H -- 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.	Av.	Max.	Min.	Av.

No samples submitted.

TABLE XI

MILL I -- 42-LB. LINERBOARD

182242	W.	8/10/59	8/2/59	2	44.6	41.4	42.9	14.0	13.0	13.6	126	65	102	440	320	367 ^a	424	336	380 ^a
182243	W.	8/10/59	8/3/59	2	44.0	41.6	42.6	14.0	13.0	13.5	123	80	103	440	312	359 ^a	440	368	413 ^a
183069	W.	8/24/59	8/6/59	4	43.8	42.2	43.1	12.4	11.3	11.8	121	100	110	376	320	349	400	320	361
183070	W.	8/24/59	8/10/59	2	43.8	42.0	42.9	14.2	13.1	13.7	118	83	99	368	304	335	368	320	343 ^a
Current Mill Average:							42.9		13.1	13.1			104			352			374
Cumulative Mill Average:							43.2		13.1	13.1			107			368			381
Mill Factor, %							99.3		100.0	100.0			97.2			95.7			98.2
Mill Index, %							98.8		103.1	103.1			93.7			107.0			100.0

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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.	Av.	Max.	Av.	Max.	Min.	Max.	Min.	Max.	Min.	Av.	
182935	W.F.	8/17/59	7/18/59	1	43.0	41.6	12.7	11.7	126	98	352	272	319	392	312	356 ^a
182936	W.F.	8/17/59	7/18/59	1	43.0	41.4	12.7	11.8	129	90	384	320	342	384	320	357 ^a
182937	W.F.	8/17/59	7/30/59	2	44.4	42.4	12.6	11.8	134	99	376	288	327	448	344	390 ^a
182938	W.F.	8/17/59	7/30/59	2	44.2	43.0	12.5	11.8	134	96	384	296	337	432	368	403 ^a
182973	W.F.	8/19/59	7/30/59	2	44.4	43.0	12.4	11.8	134	79	376	272	322	464	320	368 ^a
182974	W.F.	8/19/59	8/-7/59	2	44.0	42.6	12.5	11.7	125	98	344	264	319 ^a	440	344	370 ^a
182975	W.F.	8/19/59	8/ 7/59	2	44.0	42.4	13.0	11.8	131	85	368	280	323 ^a	408	328	358 ^a
182976	W.F.	8/19/59	8/ 7/59	2	44.2	43.0	12.6	12.0	124	98	376	232	310	424	336	375 ^a
Current Mill Average:					43.1		12.2		112		325		372			
Cumulative Mill Average:					43.2		12.1		113		318		367			
Mill Factor, %					99.8		100.8		99.1		102.2		101.4			
Mill Index, %					99.3		96.1		100.9		98.8		99.5			

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XIII
MILL K -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliber, points		Bursting Strength, p.s.i. gage		In		Across						
					Max.	Av.	Max.	Av.	Max.	Av.	Max.	Min.	Max.	Min.	Max.	Av.			
182753	WF1S	8/ 3/59	7/ 1/59	2	44.0	41.8	43.0	14.8	13.3	14.0	130	89	111	376	288	337 ^a	392	320	357 ^a
182754	WF1S	8/ 3/59	7/ 2/59	2	43.6	41.2	42.2	14.5	13.3	13.8	127	66	105	352	280	319 ^a	376	312	347 ^a
182755	WF1S	8/ 3/59	7/ 9/59	2	43.0	41.0	42.0	13.6	13.0	13.3	127	86	111	344	280	318 ^a	384	328	351 ^a
182886	WF1S	8/12/59	7/10/59	2	44.0	42.4	43.2	14.9	13.4	14.1	130	80	106	360	272	318 ^a	392	320	349 ^a
182887	WF1S	8/12/59	7/13/59	2	45.6	42.0	43.2	14.9	13.7	14.2	126	81	108	384	272	317 ^a	392	320	347 ^a
182888	WF1S	8/12/59	7/18/59	2	44.4	42.4	43.6	14.8	13.4	14.2	126	90	108	448	296	345 ^a	480	296	361 ^a
182889	WF1S	8/12/59	7/27/59	2	44.8	43.8	44.4	14.3	12.9	13.7	140	100	118	432	280	328 ^a	400	312	359 ^a
182967	WF1S	8/19/59	8/ 1/59	2	44.0	40.4	42.0	13.8	12.7	13.3	147	90	112	368	296	331 ^a	352	288	333 ^a
182968	WF1S	8/19/59	8/ 3/59	2	44.0	40.8	42.3	14.0	12.9	13.5	126	95	111	384	296	334 ^a	384	312	345 ^a
182969	WF1S	8/19/59	8/ 4/59	2	43.2	40.6	42.3	14.0	12.8	13.4	141	89	109	360	280	316 ^a	368	312	335 ^a
182970	WF1S	8/19/59	8/10/59	2	43.8	42.4	43.2	14.0	13.0	13.6	143	90	117	400	272	332 ^a	432	320	367 ^a
182971	WF1S	8/19/59	8/11/59	2	44.2	40.8	42.6	14.2	12.3	13.4	128	87	106	352	288	322 ^a	408	272	330 ^a
Current Mill Average:					42.8		13.7		110		326		348						
Cumulative Mill Average:					43.0		13.5		110		322		354						
Mill Factor, %					99.5		101.5		100.0		101.2		98.3						
Mill Index, %					98.6		107.9		99.1		99.1		93.0						

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
182772	W.F.	8/3/59	7/3/59	1	44.0	42.2	43.2	12.8	11.5	12.1	130	98	110	336	256	295 ^a	376	320	343 ^a
182835	W.F.	8/10/59	7/9/59	1	44.6	41.6	43.3	13.2	12.0	12.8	130	83	103	320	280	299 ^a	392	312	357 ^a
182885	W.F.	8/12/59	7/15/59	1	44.8	41.2	43.1	12.8	12.2	12.9	118	80	102	336	224	291	408	328	358 ^a
183071	W.F.	8/24/59	7/23/59	1	44.2	41.8	43.2	13.6	12.2	12.9	130	78	98	336	256	299	384	304	337 ^a
183072	W.F.	8/24/59	7/27/59	1	44.0	42.0	43.2	13.4	12.1	12.9	123	79	102	368	272	301	376	304	346 ^a
183073	W.F.	8/24/59	8/4/59	1	44.2	42.0	43.4	13.2	12.2	12.9	125	80	100	344	240	287	384	280	335 ^a
Current Mill Average:					43.2			12.7			102			295			346		
Cumulative Mill Average:					43.8			12.9			109			302			358		
Mill Factor, %					98.6			98.4			93.6			97.7			96.6		
Mill Index, %					99.5			100.0			91.9			89.7			92.5		

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XV

MILL M -- 42-LB. LINERBOARD

File No.	Finish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, P.S.I. Page			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
182898	W.F.	8/13/59	7/8/59	1	44.4	41.4	42.4	13.8	12.3	12.8	125	95	109	304	224	257	360	280	313 ^a
182899	W.F.	8/13/59	7/14/59	1	43.2	41.8	42.5	13.3	12.0	12.5	127	90	110	304	224	258	376	296	333 ^a
182900	W.F.	8/13/59	7/19/59	1	42.6	41.0	41.9	13.8	12.8	13.1	123	88	107	280	208	247	320	288	304 ^a
182901	W.F.	8/13/59	7/23/59	1	42.6	40.6	42.1	13.3	12.5	13.0	122	74	108	288	232	259 ^a	384	304	324 ^a
Current Mill Average:							42.2			12.8		109			256				318
Cumulative Mill Average:							43.1			13.2		114			290				353
Mill Factor, %							97.9			97.0		95.6			88.3				90.1
Mill Index, %							97.2			100.8		98.2			77.8				85.0

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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. gage			Elmendorf Tear, g./sheet						
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	
122236	S.F.	8/10/59	8/5/59	7	44.2	42.2	43.3	13.8	12.5	13.1	128	89	107	392	304	341 ^a	464	352	392 ^a	
122959	S.F.	8/21/59	8/17/59	7	44.8	43.4	44.1	13.9	12.8	13.3	134	68	98	440	304	357 ^a	400	328	371 ^a	
Current Mill Average:						43.7		13.2		102					349				382	
Cumulative Mill Average:						----		----		----						----				----
Mill Factor, %						----		----		----						----				----
Mill Index, %						100.7		103.9		91.9					106.1				102.1	

TABLE XVII

MILL O -- 42-LB. LINERBOARD

122263	W.F.S	8/11/59	8/5/59	2	44.0	40.4	42.5	14.2	12.9	13.8	124	80	102	424	320	365	448	320	393 ^a	
122929	----	8/17/59	8/7/59	2	43.6	41.0	42.4	14.0	12.8	13.4	130	70	105	440	296	351 ^a	440	368	407 ^a	
Current Mill Average:						42.5		13.6		104					358				400	
Cumulative Mill Average:						42.4		12.6		111					341					393
Mill Factor, %						100.2		107.9		93.7					105.0					101.8
Mill Index, %						97.9		107.1		93.7					108.8					107.0

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XVIII

MILL P -- 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.				
182942	WFLS	8/17/59	8/10/59	1	44.2	43.0	13.0	12.1	12.5	125	84	109	360	296	326	416	344	378 ^a
182941	WFLS	8/17/59	8/11/59	1	43.8	42.6	12.9	11.8	12.4	133	88	109	392	272	309	432	344	388 ^a
182954	WFLS	8/18/59	8/12/59	1	44.2	42.4	13.3	12.2	12.8	124	88	110	352	232	298	448	344	382 ^a
183057	WFLS	8/24/59	8/17/59	1	44.8	43.8	13.0	12.1	12.6	116	87	102	384	304	343 ^a	440	328	385 ^a
183068	WFLS	8/24/59	8/18/59	1	44.2	43.4	13.1	12.1	12.6	126	86	107	400	304	347	384	320	353 ^a
Current Mill Average:					43.7				12.6		107		325		308		379	
Cumulative Mill Average:					43.2				12.6		108		308		105.5		99.5	
Mill Factor, %					101.2				100.0		99.1		105.5		98.8		100.8	
Mill Index, %					100.7				99.2		96.4		98.8		100.8		100.8	

TABLE XIX

MILL Q -- 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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XI

MILL S -- 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.			
182756	W.F.	8/3/59	7/22/59	2	44.0	42.8	43.4	12.5	11.5	12.0	122	86	105	368	304	333 ^a	368	328	347 ^a
182757	W.F.	8/3/59	7/22/59	2	44.2	43.6	44.0	12.0	11.3	11.6	130	85	109	352	304	326 ^a	400	304	348 ^a
182824	W.F.	8/7/59	7/26/59	2	44.4	42.6	43.5	12.3	11.9	12.1	137	92	110	384	280	342 ^a	384	336	361 ^a
182825	W.F.	8/7/59	8/2/59	2	44.2	43.0	43.5	12.3	11.7	12.0	130	89	109	392	304	338 ^a	400	336	353 ^a
182837	W.F.	8/10/59	8/3/59	2	44.4	44.0	44.1	12.3	11.6	11.9	132	99	112	432	296	349 ^a	392	328	367 ^a
182912	W.F.	8/14/59	7/26/59	2	45.6	43.8	44.6	12.7	11.8	12.1	133	90	114	440	272	337 ^a	415	328	359 ^a
182965	W.F.	8/19/59	8/13/59	2	44.2	43.4	43.8	12.7	12.0	12.3	132	75	112	392	320	345 ^a	384	344	362 ^a
182966	W.F.	8/19/59	8/13/59	2	43.4	41.2	42.5	12.3	11.6	12.0	145	90	112	408	288	325 ^a	384	328	357 ^a
183057	W.F.	8/21/59	8/17/59	2	44.0	42.2	43.3	12.2	11.3	11.8	132	99	115	368	288	327 ^a	360	296	326 ^a
183058	W.F.	8/21/59	8/17/59	2	44.8	43.4	44.2	13.0	12.2	12.6	131	100	117	344	288	313 ^a	400	320	357 ^a
Current Mill Average:					43.7			12.0			112			334			354		
Cumulative Mill Average:					43.8			12.2			115			335			379		
Mill Factor, %					99.8			98.4			97.4			99.7			93.4		
Mill Index, %					100.7			94.5			100.9			101.5			94.7		

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

SUMMARY OF INSTITUTE DATA--AUGUST 1 THROUGH AUGUST 31, 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. gage			Elmendorf Tear, g./sheet					
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.
122327	W.F.	8/10/59	7/10/59	1	45.0	42.0	44.0	14.4	13.2	13.8	116	81	100	368	248	319	400	328	360 ^a
122328	W.F.	8/10/59	7/17/59	1	45.8	44.0	44.6	15.1	13.9	14.6	121	69	98	400	288	347 ^a	432	336	391 ^a
122329	W.F.	8/10/59	7/13/59	1	46.0	44.0	45.0	14.5	13.6	14.2	114	80	101	456	280	339 ^a	416	336	370 ^a
122330	W.F.	8/10/59	7/31/59	1	44.0	41.2	42.9	14.0	12.8	13.4	130	80	110	376	272	314	400	336	365 ^a
122331	W.F.	8/10/59	7/24/59	1	45.4	42.4	43.8	14.3	13.3	13.7	120	84	103	352	240	314 ^a	400	320	355 ^a
122332	W.F.	8/10/59	7/21/59	1	45.4	42.4	44.1	14.1	12.7	13.6	122	90	109	416	296	327 ^a	408	296	371 ^a
122333	W.F.	8/10/59	7/23/59	1	45.6	42.8	44.1	14.0	13.0	13.5	131	88	106	440	272	333 ^a	392	328	361 ^a
122334	W.F.	8/10/59	7/21/59	1	44.0	42.4	43.3	13.2	12.4	12.8	125	73	105	408	288	342 ^a	392	304	357 ^a
Current Mill Average:					44.0			13.7			104			329			366		
Cumulative Mill Average:					43.8			13.0			108			327			366		
Mill Factor, %					100.5			105.4			96.3			100.6			100.0		
Mill Index, %					101.4			107.9			93.7			100.0			97.9		

^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	2		
B	9		
C	11		
D	No samples submitted.		
E		4	
F	14		
G	5		
H	No samples submitted.		
I	4		
J	8		
K		12	
L	6		
M	4		
N			2(S.F.)
O		1	1 ^a
P		5	
Q	No samples submitted.		
S	10		
T	8		
Totals	81	22	3

^aUnidentified.

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 XXIII
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	S	T	
No. of Samples Compared	2	9	11	0	4	14	5	0	4	8	12	6	4	2	2	5	0	10	8	
	<u>Basis Weight</u>																			
Institute	42.8	43.7	43.1	44.3	43.2	43.6	43.2	42.9	42.9	43.1	42.8	43.2	42.2	43.7	42.5	43.7	43.7	44.0		
Mill	42.2	43.4	43.2	43.7	42.8	43.1	42.8	42.7	42.7	43.3	43.2	42.7	42.1	43.3	41.9	42.6	43.5	43.4		
Av. Diff.**	-0.6	-0.3	+0.1	-0.6	-0.4	-0.5	-0.4	-0.2	-0.2	+0.2	+0.4	-0.5	-0.1	-0.4	-0.6	-1.1	-0.2	-0.6		
Max. Diff.***	-0.8	-0.9	-0.5	-1.0	-0.8	-1.1	-0.8	-0.3	-0.3	+0.5	+1.3	-0.8	-0.5	-0.6	-0.8	-1.4	-1.1	-0.8		
	<u>Caliber</u>																			
Institute	12.5	12.4	12.5	14.0	12.9	12.9	12.1	13.1	12.5	12.2	13.7	12.7	12.8	13.2	13.6	12.6	12.0	13.7		
Mill	12.2	12.1	12.2	13.3	12.9	12.9	11.6	12.5	12.5	12.0	13.5	12.5	12.6	12.9	12.9	12.4	11.9	13.1		
Av. Diff.**	-0.3	-0.3	-0.3	-0.7	0.0	-0.5	-0.5	-0.6	-0.2	-0.2	-0.2	-0.2	-0.2	-0.3	-0.7	-0.2	-0.1	-0.6		
Max. Diff.***	-0.3	-0.6	-0.9	-0.9	+0.3	+0.3	-0.7	-0.8	-0.3	-0.3	-0.4	-0.4	-0.4	-0.3	-1.1	-0.2	-0.5	-0.8		
	<u>Bursting Strength</u>																			
Institute	111	113	112	108	107	107	110	104	104	112	110	102	109	102	104	107	112	104		
Mill	108	113	111	106	106	106	113	106	106	106	107	106	106	109	102	107	114	105		
Av. Diff.**	-3	0	-1	-2	-1	-1	+3	+2	+2	-6	-3	+4	-3	+7	-2	0	+2	+1		
Max. Diff.***	-3	+6	-6	-7	-6	-6	+5	+4	+4	-11	-10	+8	-4	+7	-2	-5	+7	+6		
	<u>Tearing Strength, in</u>																			
Institute	325	326	336	340	377	377	350	352	352	325	326	295	256	349	358	325	334	329		
Mill	331	296	343	360	410	410	380	352	352	326	326	308	265	355	--	339	363	328		
Av. Diff.**	+6	-30	+7	+20	+33	+33	+30	0	0	+1	0	+13	+9	+6	--	+14	+29	-1		
Max. Diff.***	+8	-52	+19	+55	+68	+67	+67	+5	+5	+18	-42	+22	+30	+13	--	+39	+91	-16		
	<u>Tearing Strength, across</u>																			
Institute	350	361	371	385	399	399	403	374	374	372	348	346	318	382	400	377	354	366		
Mill	367	340	333	444	412	412	418	378	378	376	379	371	340	415	--	407	400	390		
Av. Diff.**	+17	-21	+17	+59	+13	+13	+15	+4	+4	+4	+31	+25	+22	+33	--	+30	+46	+24		
Max. Diff.***	+21	-39	+36	+93	+57	+57	+64	-41	-41	+24	+57	+32	+49	+44	--	+48	+100	+46		

* Comparison 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
 Average Difference, per cent

Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in across	Average Difference, per cent	Mill	Period	Basis Weight	Caliper	Bursting Strength	Tear, in across	Average Difference, per cent	
													Basis Weight	Caliper
A	Current	-1	-2	-3	+2	+5	K	Current	-0.9	-1	-3	0	+9	
	147th	-2	-0.8	-0.9	-13	-5		147th	+1	-1	-5	-0.6	+4	
	146th	-2	-3	-2	-3	+2		146th	+0.7	-3	-3	-0.3	+9	
B	Current	-0.7	-2	0	-9	-6	L	Current	-1	-2	+4	+4	+7	
	147th	-0.9	-2	+4	-10	-8		147th	-0.9	-4	+4	+3	+7	
	146th	-1	-2	0	-7	-3		146th	-0.7	-2	+0.9	+4	+7	
C	Current	+0.2	-2	-0.9	+2	+5	M	Current	-0.2	-2	-3	+4	+7	
	147th	-0.5	-3	-2	+2	+5		147th	-2	-2	-0.9	-5	+2	
	146th	+0.2	-5	0	+4	+5		146th	-2	-0.8	-3	-13	-9	
D	Current	--	--	--	--	--	N	Current	-0.9	-2	+7	+2	+9	
	147th	+0.5	-5	-2	+32	+5		147th	--	--	--	--	--	
	146th	0	-3	-3	-8	+0.3		146th	--	--	--	--	--	
E	Current	-1	-5	-2	+6	+15	O	Current	-1	-5	-2	--	--	
	147th	-2	-4	-2	-2	+9		147th	-2	-3	+0.9	--	--	
	146th	-0.9	-4	+2	+0.6	+14		146th	-2	-2	-4	--	--	
F	Current	-1	0	-0.9	+9	+3	P	Current	-3	-2	0	+4	+8	
	147th	-2	-0.8	+0.9	+5	+5		147th	-2	-0.8	+6	+7	+10	
	146th	-0.9	-0.8	0	+4	+2		146th	-0.7	-2	+4	+16	+6	
G	Current	-0.9	-4	+3	+9	+4	Q	Current	--	--	--	--	--	
	147th	-1	-3	+3	+9	+4		147th	--	--	--	--	--	
	146th	+0.5	-2	+4	+6	+10		146th	--	--	--	--	--	
H	Current	--	--	--	--	--	S	Current	-0.5	-0.8	+2	+9	+13	
	147th	-0.2	-2	+1	+20	+14		147th	-0.5	-0.8	0	+10	+13	
	146th	+0.7	0	0	+10	+10		146th	-2	0	-3	-3	+0.8	
I	Current	-0.5	-5	+2	0	+1	T	Current	-1	-4	+1	-0.3	+7	
	147th	-2	-4	+4	-4	+5		147th	-2	-2	+3	-5	+3	
	146th	--	--	--	--	--		146th	-1	-3	+0.9	-5	+3	
J	Current	+0.5	-2	-5	+0.3	+1		Current						
	147th	+0.2	-2	-3	-3	+3		147th						
	146th	-0.5	0	-6	+0.6	+2		146th						

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 three per cent. By comparison, the largest average difference (per cent) noted for the previous two periods was two per cent. Further, it may be noted that the average basis weight results for Mills C, J, and K were higher than those for the Institute, and the average results for the other mills were lower. In general, agreement was 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 result for Mill F was the same and the average test results for the other mills were lower. The variation of five per cent for Mills E, I, and O appears to be excessive. Otherwise, agreement was good.

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

It may be seen in Tables XXIII and XXIV that the average machine direction tear results for Mills A, C, E, F, G, J, L, M, N, P, and S were higher than those for the Institute, the average results for Mills I and K were the same, and the average results for the other mills were lower. The maximum

variation for the current period was nine per cent compared with a maximum variation of thirty-two per cent for the two preceding periods. Agreement between the Institute and mill results was good.

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

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--AUGUST 1 THROUGH AUGUST 31, 1959

TABLE XXV
 MILL A -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. Page		In Elmendorf Tear, g./sheet		Across						
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.			
182764	W.F.	7/24/59	-	43.4	42.6	-0.8	12.7	12.4	-0.3	111	108	-3	330 ^a	338	+8	346 ^a	367	+21
182765	W.F.	7/24/59	-	42.2	41.8	-0.4	12.3	12.1	-0.2	110	108	-2	319 ^a	324	+5	355 ^a	367	+12
Current Mill Average				42.8	42.2	-0.6	12.5	12.2	-0.3	111	108	-3	325	331	+6	350	367	+17

^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--AUGUST 1 THROUGH AUGUST 31, 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		Across						
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182848	W.F.	7/29/59	-	44.0	43.1	-0.9	12.4	12.1	-0.3	109	108	-1	321 ^a	300	-21	354 ^a	335	-19
182849	W.F.	7/30/59	-	44.5	43.7	-0.8	12.1	12.0	-0.1	117	121	+4	333	300	-33	379 ^a	364	-15
182850	W.F.	7/31/59	-	43.5	43.0	-0.5	12.0	11.9	-0.1	116	117	+1	331 ^a	279	-52	353 ^a	316	-37
182851	W.F.	8/ 5/59	-	43.4	43.2	-0.2	13.0	12.8	-0.2	107	113	+6	353 ^a	304	-49	347 ^a	353	+6
182852	W.F.	8/ 6/59	-	43.5	43.5	0.0	12.6	12.1	-0.5	106	110	+4	326 ^a	288	-38	358 ^a	331	-27
182853	W.F.	8/ 7/59	-	43.5	43.6	+0.1	12.6	12.1	-0.5	109	112	+3	329 ^a	301	-28	359 ^a	323	-36
183060	W.F.	8/12/59	-	43.6	43.2	-0.4	12.7	12.1	-0.6	112	109	-3	318 ^a	293	-25	376 ^a	337	-39
183061	W.F.	8/13/59	-	43.5	43.2	-0.3	12.2	11.9	-0.3	117	111	-6	306 ^a	297	-9	357 ^a	341	-16
183062	W.F.	8/14/59	-	44.2	44.1	-0.1	12.1	11.8	-0.3	118	113	-5	315 ^a	303	-12	370 ^a	356	-14
Current Mill Average:				43.7	43.4	-0.3	12.4	12.1	-0.3	113	113	0	326	296	-30	361	340	-21

^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--AUGUST 1 THROUGH AUGUST 31, 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								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182839	W.F.	7/ 2/59	2	43.6	43.6	0.0	13.3	13.0	-0.3	104	103	-1	368a	355	-13	369a	391	+22
182840	W.F.	7/ 6/59	2	42.7	43.1	+0.4	12.9	12.0	-0.9	110	113	+3	337	343	+6	365a	401	+36
182841	W.F.	7/ 7/59	2	43.4	42.9	-0.5	12.9	12.3	-0.6	117	113	-4	348a	351	+3	382a	390	+8
182890	W.F.	7/13/59	2	42.7	42.8	+0.1	12.2	12.0	-0.2	110	108	-2	323	342	+19	351a	382	+31
182891	W.F.	7/14/59	2	43.3	43.2	-0.1	12.2	12.0	-0.2	116	114	-2	329	344	+15	385a	390	+5
182943	W.F.	7/22/59	2	43.0	43.2	+0.2	12.3	11.9	-0.4	111	113	+2	332	341	+9	368a	383	+15
182944	W.F.	7/23/59	2	42.9	42.8	-0.1	12.2	12.1	-0.1	117	111	-6	333a	340	+7	381a	388	+7
182945	W.F.	7/30/59	2	43.0	43.0	0.0	12.2	11.8	-0.4	112	112	0	316a	326	+10	367a	395	+28
182946	W.F.	7/31/59	2	43.1	43.2	+0.1	12.2	12.0	-0.2	114	113	-1	333	338	+5	391a	385	-6
182985	W.F.	8/ 3/59	2	43.3	43.5	+0.2	12.8	12.5	-0.3	111	113	+2	351	346	-5	361a	383	+22
182986	W.F.	8/ 4/59	2	43.1	43.5	+0.4	12.7	12.4	-0.3	114	113	-1	329a	344	+15	361a	385	+24
Current Mill Average:				43.1	43.2	+0.1	12.5	12.2	-0.3	112	111	-1	336	343	+7	371	388	+17

*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--AUGUST 1 THROUGH AUGUST 31, 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. gage		Elmendorf Tear, g./sheet	
				IPC Mill	Diff.	IPC Mill	Diff.	IPC Mill	Diff.	In Mill	Diff.

No samples submitted

TABLE XXIX

MILL E -- 42-LB. LINERBOARD

182838	WFLS	7/27/59	2	44.6	44.7	+0.1	14.3	13.4	-0.9	113	106	-7	357 ^a	346	-11	397 ^a	490	+93
182913	WFLS	8/4/59	2	43.7	42.9	-0.8	13.7	13.1	-0.6	108	107	-1	335 ^a	336	+1	379 ^a	447	+68
182940	WFLS	8/7/59	2	44.4	43.4	-1.0	13.9	13.1	-0.8	105	104	-1	330 ^a	385	+55	363 ^a	414	+51
182972	WFLS	8/8/59	2	44.4	43.8	-0.6	14.0	13.5	-0.5	105	106	+1	339	373	+34	399 ^a	427	+28
Current Mill Average:				44.3	43.7	-0.6	14.0	13.3	-0.7	108	106	-2	340	360	+20	385	444	+59

^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--AUGUST 1 THROUGH AUGUST 31, 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		Across						
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182766	W.F.	7/14/59	-	42.7	43.0	+0.3	13.0	13.1	+0.1	103	105	+2	357a	411	+54	389a	411	+22
182767	W.F.	7/17/59	-	43.0	42.7	-0.3	12.9	13.1	+0.2	110	108	-2	375a	405	+30	395a	415	+20
182768	W.F.	7/20/59	-	43.5	43.0	-0.5	12.9	13.2	+0.3	108	104	-4	369a	391	+22	407a	403	-4
182769	W.F.	7/23/59	-	43.5	42.4	-1.1	12.9	13.1	+0.2	107	109	+2	368a	436	+68	405a	392	-13
182844	W.F.	7/26/59	-	43.5	42.4	-1.1	12.8	12.7	-0.1	109	105	-4	361a	393	+32	388a	366	-22
182845	W.F.	7/31/59	-	43.3	42.7	-0.6	13.1	13.2	+0.1	109	106	-3	386a	448	+62	416a	431	+15
182846	W.F.	8/ 3/59	-	43.9	42.8	-1.1	13.1	13.0	-0.1	108	109	+1	395a	425	+30	397a	429	+32
182847	W.F.	8/ 4/59	-	44.1	43.5	-0.6	12.9	12.7	-0.2	105	103	-2	419a	391	-28	378a	435	+57
182962	W.F.	8/ 6/59	-	43.2	42.3	-0.9	12.8	12.9	+0.1	110	104	-6	351a	419	+68	409a	436	+27
182963	W.F.	8/10/59	-	43.6	43.0	-0.6	12.6	12.6	0.0	110	106	-4	365a	413	+48	403a	407	+4
182964	W.F.	8/13/59	-	44.2	44.2	0.0	12.6	12.6	0.0	102	104	+2	385a	427	+42	386a	415	+29
183064	W.F.	8/14/59	-	44.6	43.5	-1.1	13.1	13.0	-0.1	104	106	+2	418a	400	-18	413a	395	-18
183065	W.F.	8/17/59	-	43.7	43.5	-0.2	12.3	12.0	-0.3	112	112	0	358a	391	+33	389a	389	0
183066	W.F.	8/18/59	-	44.1	44.2	+0.1	13.1	13.2	+0.1	106	106	0	372a	397	+25	409a	449	+40
Current Mill Average:				43.6	43.1	-0.5	12.9	12.9	0.0	107	106	-1	377	410	+33	399	412	+13

^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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XXXI

MILL G -- 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.			
182770	W.B.	7/15/59	-	43.6	42.8	-0.8	11.9	11.4	-0.5	111	114	+3	363	427	+64	410 ^a	347	-63
182984	W.B.	7/20/59	-	43.2	42.8	-0.4	12.2	11.8	-0.4	109	114	+5	346	364	+18	399 ^a	445	+46
182771	W.B.	7/21/59	-	43.3	43.2	-0.1	12.0	11.3	-0.7	113	114	+1	359 ^a	337	-22	393 ^a	411	+18
182869	W.B.	7/24/59	-	42.6	42.5	-0.1	11.8	11.4	-0.4	108	112	+4	336 ^a	361	+25	395 ^a	407	+12
182870	W.B.	7/25/59	-	43.2	42.9	-0.3	12.4	12.0	-0.4	110	110	0	345	412	+67	417 ^a	481	+64
Current Mill Average:				43.2	42.8	-0.4	12.1	11.6	-0.5	110	113	+3	350	380	+30	403	418	+15

TABLE XXXII

MILL H -- 42-LB. LINERBOARD

No samples submitted

^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--AUGUST 1 THROUGH AUGUST 31, 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		In Elmendorf Tear, g./sheet		Across						
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182842	W.	8/ 2/59	2	42.9	42.7	-0.2	13.6	12.9	-0.7	102	106	+ 4	367 ^a	365	- 2	380 ^a	380	0
182843	W.	8/ 3/59	2	42.6	42.3	-0.3	13.5	12.9	-0.6	103	106	+ 3	359 ^a	364	+ 5	413 ^a	372	-41
183069	W.	8/ 6/59	4	43.1	43.1	0.0	11.8	11.1	-0.7	110	109	- 1	349	345	- 4	361	387	+26
183070	W.	8/10/59	2	42.9	42.6	-0.3	13.7	12.9	-0.8	99	103	+ 4	335	332	- 3	343 ^a	371	+28
Current Mill Average:				42.9	42.7	-0.2	13.1	12.5	-0.6	104	106	+ 2	352	352	0	374	378	+ 4

TABLE XXXIV

MILL J -- 42-LB. LINERBOARD

182935	W.F.	7/18/59	1	42.4	42.5	+0.1	12.2	12.0	-0.2	113	105	- 8	319	337	+18	356 ^a	359	+ 3
182936	W.F.	7/18/59	1	42.1	42.5	+0.4	12.1	12.0	-0.1	110	104	- 6	342	326	-16	357 ^a	350	- 7
182937	W.F.	7/30/59	2	43.2	43.7	+0.5	12.2	12.1	-0.1	116	112	- 4	327	342	+15	390 ^a	400	+10
182938	W.F.	7/30/59	2	43.6	43.8	+0.2	12.1	12.1	0.0	115	111	- 4	337	343	+ 6	403 ^a	397	- 6
182973	W.F.	7/30/59	2	43.6	43.6	0.0	12.1	12.0	-0.1	109	104	- 5	322	309	-13	368 ^a	375	+ 7
182974	W.F.	8/ 7/59	2	43.4	43.5	+0.1	12.2	12.1	-0.1	113	102	-11	319 ^a	315	- 4	370 ^a	368	- 2
182975	W.F.	8/ 7/59	2	43.2	43.3	+0.1	12.3	12.0	-0.3	110	105	- 5	323 ^a	314	- 9	358 ^a	382	+24
182976	W.F.	8/ 7/59	2	43.6	43.2	-0.4	12.2	12.1	-0.1	111	104	- 7	310	323	+13	375 ^a	378	+ 3
Current Mill Average:				43.1	43.3	+0.2	12.2	12.0	-0.2	112	106	- 6	325	326	+ 1	372	376	+ 4

^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--AUGUST 1 THROUGH AUGUST 31, 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.	In	Across	IPC	Mill Diff.		
182753	WFIS	7/ 1/59	2	43.0	+1.3	14.0	14.0	111	106	337 ^a	344	357 ^a	404	+47	
182754	WFIS	7/ 2/59	2	42.2	+0.8	13.8	13.5	105	102	319 ^a	316	347 ^a	400	+53	
182755	WFIS	7/ 9/59	2	42.0	+0.4	13.3	13.0	111	106	318 ^a	307	351 ^a	384	+33	
182866	WFIS	7/10/59	2	43.2	+0.5	14.1	13.8	106	103	318 ^a	337	349 ^a	406	+57	
182887	WFIS	7/13/59	2	43.2	+0.3	14.2	13.8	108	106	317 ^a	342	347 ^a	357	+10	
182888	WFIS	7/18/59	2	43.6	+0.5	14.2	13.8	108	107	345 ^a	303	361 ^a	389	+28	
182889	WFIS	7/27/59	2	44.4	-0.4	13.7	13.8	118	108	328 ^a	322	359 ^a	403	+44	
182957	WFIS	8/ 1/59	2	42.0	+1.0	13.3	13.0	112	106	331 ^a	341	333 ^a	366	+33	
182962	WFIS	8/ 3/59	2	42.3	+0.4	13.5	13.6	111	104	334 ^a	318	345 ^a	357	+12	
182969	WFIS	8/ 4/59	2	42.3	-0.3	13.4	13.3	109	104	316 ^a	308	335 ^a	353	+18	
182970	WFIS	8/10/59	2	43.2	+1.1	13.6	13.2	117	118	332 ^a	346	367 ^a	381	+14	
182971	WFIS	8/11/59	2	42.6	+0.2	13.4	13.2	106	108	322 ^a	328	330 ^a	353	+23	
Current Mill Average:				42.8	+0.4	13.7	13.5	110	107	- 3	326	326	348	379	+31

^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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XXXVI

MILL L -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Calliper, points		Bursting Strength, p.s.i. gage		Elmendorf Tear, g./sheet								
				IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.			
182772	W.F.	7/ 3/59	1	43.2	43.2	0.0	12.1	11.9	-0.2	110	105	-5	295 ^a	311	+16	343 ^a	368	+25
182835	W.F.	7/ 9/59	1	43.3	42.7	-0.6	12.8	12.6	-0.2	103	108	+5	299 ^a	311	+12	357 ^a	372	+15
182885	W.F.	7/15/59	1	43.1	42.8	-0.3	12.9	12.8	-0.1	102	107	+5	291	305	+14	358 ^a	385	+27
183071	W.F.	7/23/59	1	43.2	42.4	-0.8	12.9	12.6	-0.3	98	106	+8	299	302	+3	337 ^a	369	+32
183072	W.F.	7/27/59	1	43.2	42.7	-0.5	12.9	12.5	-0.4	102	104	+2	301	311	+10	346 ^a	369	+23
183073	W.F.	8/ 4/59	1	43.4	42.8	-0.6	12.9	12.6	-0.3	100	105	+5	287	309	+22	335 ^a	363	+28
Current Mill Average:				43.2	42.7	-0.5	12.7	12.5	-0.2	102	106	+4	295	308	+13	346	371	+25

TABLE XXXVII

MILL M -- 42-LB. LINERBOARD

182898	W.F.	7/ 8/59	1	42.4	42.3	-0.1	12.8	12.6	-0.2	109	107	-2	257	249	-8	313 ^a	337	+24
182899	W.F.	7/14/59	1	42.5	42.0	-0.5	12.5	12.3	-0.2	110	106	-4	258	252	-6	333 ^a	319	-14
182900	W.F.	7/19/59	1	41.9	41.8	-0.1	13.1	12.7	-0.4	107	104	-3	247	277	+30	304 ^a	353	+49
182901	W.F.	7/23/59	1	42.1	42.2	+0.1	13.0	12.7	-0.3	108	108	0	259 ^a	281	+22	324 ^a	352	+28
Current Mill Average:				42.2	42.1	-0.1	12.8	12.6	-0.2	109	106	-3	256	265	+9	318	340	+22

^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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XXXVIII

MILL N -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength P.s.i. Edge		Elmendorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Across	IPC	Mill Diff.					
182836	S.F.	8/ 5/59	7	43.3	43.1	-0.2	13.1	12.8	-0.3	107	113	+6	341 ^a	354	357 ^a	392 ^a	414	+22
183059	S.F.	8/17/59	7	44.1	43.5	-0.6	13.3	13.0	-0.3	98	105	+7	357 ^a	356	356	371 ^a	415	+44
Current Mill Average:				43.7	43.3	-0.4	13.2	12.9	-0.3	102	109	+7	349	355	355	382	415	+33

TABLE XXXIX

MILL O -- 42-LB. LINERBOARD

182268	W.F.S	8/ 5/59	2	42.5	42.1	-0.4	13.8	13.4	-0.4	102	101	-1	365	393 ^a
182939	----	8/ 7/59	2	42.4	41.6	-0.8	13.4	12.3	-1.1	105	103	-2	351 ^a	407 ^a
Current Mill Average:				42.5	41.9	-0.6	13.6	12.9	-0.7	104	102	-2	358	400

^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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XI

MILL P -- 42-LB. LINERBOARD

File No.	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, D.S.I. Page		Elmendorf Tear, g./sheet								
				IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	Diff.	IPC	Mill Diff.	Across	Mill Diff.			
182942	WF1S	8/10/59	1	43.6	42.6	-1.0	12.5	12.3	-0.2	109	108	-1	326	344	+18	378 ^a	411	+33
182941	WF1S	8/11/59	1	43.5	42.5	-1.0	12.4	12.2	-0.2	109	104	-5	309	340	+31	388 ^a	409	+21
182954	WF1S	8/12/59	1	43.4	42.6	-0.8	12.8	12.6	-0.2	110	107	-3	298	337	+39	382 ^a	410	+28
183067	WF1S	8/17/59	1	44.1	42.7	-1.4	12.6	12.4	-0.2	102	106	+4	343 ^a	335	-8	385 ^a	401	+16
183068	WF1S	8/18/59	1	43.9	42.8	-1.1	12.6	12.5	-0.1	107	111	+4	347	336	-11	353 ^a	401	+48
Current Mill Average:				43.7	42.6	-1.1	12.6	12.4	-0.2	107	107	0	325	339	+14	377	407	+30

TABLE XII

MILL Q -- 42-LB. LINERBOARD

No samples submitted

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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XLIII

MILL S -- 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.			
122756	W.F.	7/22/59	2	43.4	43.5	+0.1	12.0	11.6	-0.4	105	112	+7	333 ^a	353	+20	347 ^a	390	+43
122757	W.F.	7/22/59	2	44.0	43.7	-0.3	11.6	11.5	-0.1	109	112	+3	326 ^a	354	+28	348 ^a	394	+46
122224	W.F.	7/26/59	2	43.5	43.4	-0.1	12.1	12.0	-0.1	110	112	+2	342 ^a	329	-13	361 ^a	370	+9
122225	W.F.	8/ 2/59	2	43.5	43.5	0.0	12.0	12.0	0.0	109	115	+6	338 ^a	360	+22	353 ^a	396	+43
122337	W.F.	8/ 3/59	2	44.1	43.3	-0.8	11.9	12.0	+0.1	112	116	+4	349 ^a	338	-11	367 ^a	390	+23
122312	W.F.	7/26/59	2	44.6	44.0	-0.6	12.1	12.0	-0.1	114	115	+1	337 ^a	340	+3	359 ^a	385	+26
122955	W.F.	8/13/59	2	43.8	42.7	-1.1	12.3	12.1	-0.2	112	115	+3	345 ^a	374	+29	362 ^a	415	+53
122966	W.F.	8/13/59	2	42.5	43.4	+0.9	12.0	12.1	+0.1	112	109	-3	325 ^a	416	+91	357 ^a	457	+100
122957	W.F.	8/17/59	2	43.3	43.4	+0.1	11.8	11.6	-0.2	115	113	-2	327 ^a	406	+79	326 ^a	398	+72
122958	W.F.	8/17/59	2	44.2	43.8	-0.4	12.6	12.1	-0.5	117	118	+1	313 ^a	362	+49	357 ^a	403	+46
Current Mill Average:				43.7	43.5	-0.2	12.0	11.9	-0.1	112	114	+2	334	363	+29	354	400	+46

Basis 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--AUGUST 1 THROUGH AUGUST 31, 1959 (continued)

TABLE XLIII
 MILL T -- 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.			
182827	W.F.	7/10/59	1	44.0	43.3	-0.7	13.8	13.2	-0.6	100	104	+4	319	332	+13	360a	398	+38
182828	W.F.	7/17/59	1	44.6	44.2	-0.4	14.6	14.1	-0.5	98	104	+6	347a	338	-9	391a	408	+17
182829	W.F.	7/18/59	1	45.0	44.7	-0.3	14.2	13.5	-0.7	101	103	+2	339a	353	+14	370a	416	+46
182830	W.F.	7/31/59	1	42.9	42.2	-0.7	13.4	12.8	-0.6	110	107	-3	314	298	-16	365a	360	-5
182831	W.F.	7/24/59	1	43.8	43.0	-0.8	13.7	12.9	-0.8	103	104	+1	314a	312	-2	355a	363	+8
182832	W.F.	7/21/59	1	44.1	43.5	-0.6	13.6	13.2	-0.4	109	108	-1	327a	324	-3	371a	403	+32
182833	W.F.	7/23/59	1	44.1	43.8	-0.3	13.5	12.7	-0.8	106	105	-1	333a	340	+7	361a	391	+30
182834	W.F.	7/21/59	1	43.3	42.7	-0.6	12.8	12.2	-0.6	105	105	0	342a	330	-12	357a	383	+26
Current Mill Average:				44.0	43.4	-0.6	13.7	13.1	-0.6	104	105	+1	329	328	-1	366	390	+24

^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.

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