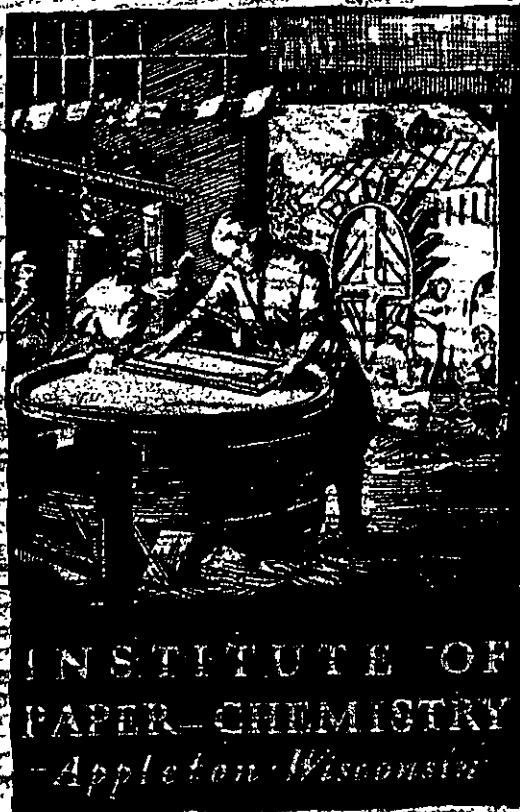


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CONTINUOUS BASELINE STUDY

Project 3108-B

Progress Report 79

in

FOURDRINER KRAFT BOARD INSTITUTE, INC.

February 1, 1954

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS BASELINE STUDY

Project 1108-B

Progress Report 79

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

February 1, 1954

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

In conjunction with the F.K.I. Continuous Baseline Study, ninety-six different sample lots of 42-lb. Fourdrinier kraft linerboard were submitted by thirteen different F.K.I. mills to The Institute of Paper Chemistry for testing during the period January 1 through January 31. In addition to the 42-lb. kraft linerboard, three samples of special drum stock and several samples of special linerboard were also submitted for evaluation by one of the participating mills. The results on the special stock are tabulated separately in this report. A tabulation of the number of samples classified according to mill may be seen in Table I.

TABLE I
DISTRIBUTION OF 42-LB. LINERBOARD SAMPLES

Mill Code	Samples Submitted
A	6
B	16
C	8
D	9
E	0
F	9
G	8
H	0
I	9
J	4
K	4
L	8
M	4
N	3
O	8
	96

These sample lots were tested for basis weight, caliper, bursting strength, G. E. puncture, and Elmendorf tear. The average strength results for each mill may be seen in Table II and are graphically presented in Figures 1 to 6. 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 includes all the results up to but not including the current period; the current period in the case of this report is January 1 through January 31. The F.K.I. indexes are obtained as follows:

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

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 43.0 lb., and the cumulative F.K.I. average basis weight is 43.1 lb. Hence, the index for basis weight determined in per cent as indicated above is 99.8. This signifies that the current average basis weight is slightly lower than the cumulative average, which in this case covered the period from July 25, 1947, through December 31, 1953.

A comparison of the results in Table II and Figure 1 shows that the average basis weight results for all mills except Mill O conform to the 42-lb. specification set forth in Rule 41. Mill M has the highest average basis weight, it being 44.0 lb. or approximately 4.8% higher than the 42-lb. specification. On the other hand, Mill O

has the lowest average basis weight, it being 41.9 lb., approximately 0.2% lower than the 42-lb. specification.

The amount by which the mills vary from the 42-lb. specification is as follows:

Mill Code	Per Cent
A	+2.9
B	+0.2
C	+3.3
D	+2.1
E	---
F	+2.9
G	+3.6
H	---
I	+0.7
J	+1.9
K	+3.6
L	+2.6
M	+4.8
N	+3.1
O	-0.2

A comparison of the average basis weight data for the previous period with the current F.K.I. average indicates that the basis weight results have decreased slightly.

A comparison of the average caliper values for the various mills (see Figure 2) shows that the mill averages vary from a low of 12.0 for Mill G to a high of 14.3 for Mill C, the average being 13.0 which is somewhat lower than the cumulative average of 13.8.

The average bursting strength values obtained for each mill are graphically presented in Figure 3. It may be observed in Table II that the average bursting strength values for the various mills range

from a low of 103 for Mill X to a high of 124 for Mill G. The current F.K.I. average bursting strength is 108, slightly higher than the cumulative average of 106.

The data of Table II and Figure 4 show that the average G. E. puncture result for all mills is 34 units. Mill F has the highest G. E. puncture average, 39 units; Mill B has the lowest average, 28 units. The current F.K.I. G. E. puncture average of 34 units is lower than the cumulative F.K.I. average of 36 units.

A graphic comparison of the Elmendorf tear results for the various mills is given in Figures 5 and 6. The data of Table II show that Mill M has the highest average machine direction tear value while Mill B has the lowest. Mill F has the highest average cross-machine direction tear value, whereas Mill B has the lowest value. It may be noted that the current F.K.I. average machine and cross-machine direction tear results are lower than the cumulative averages.

A comparison of the F.K.I. indexes indicate that, for the current period, the current F.K.I. averages for basis weight, caliper, G. E. puncture and Elmendorf tear are lower than the respective cumulative F.K.I. averages, whereas the current F.K.I. average for bursting strength is higher.

In order to compare the variation within a given mill, the test results for each particular mill have been tabulated in Tables III to XVII for Mills A to O, respectively. In addition to the current and cumulative averages, 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 up to, but not including, the current average. 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 serve as a ready means for comparing the current mill results either with the previous results for that particular mill or with the cumulative F.K.I. results. As the test data accumulate, the factors and indexes acquire added significance. The reports also contain a comparison of the test data obtained at the mills with test data obtained at The Institute of Paper Chemistry.

The results obtained on the special drum stock may be seen in Table XVIII.

It may be noted in Tables III through XVIII that the data have been separated on the basis of the sheet finish. The summarized results for the mills which submitted sample lots during the current period are as follows:

Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
A	6 ^a		
B	16 ^a		
C	8		
D	9		

(Continued on the next page.)

Mill Code	No. of Sample Lots		
	W.F.	D.F.	Misc.
E	1 ^b		2 ^{bc}
F	8		1 ^c
G	8		
I	2, 7 ^a		
J			4 ^d
K			4 ^c
L			8 ^c
M	4		
N	1, 1 ^a		1 ^c
O	8		

a One side only.

b Drum linerboard.

c Sheet finish not reported.

d Semi-water finish.

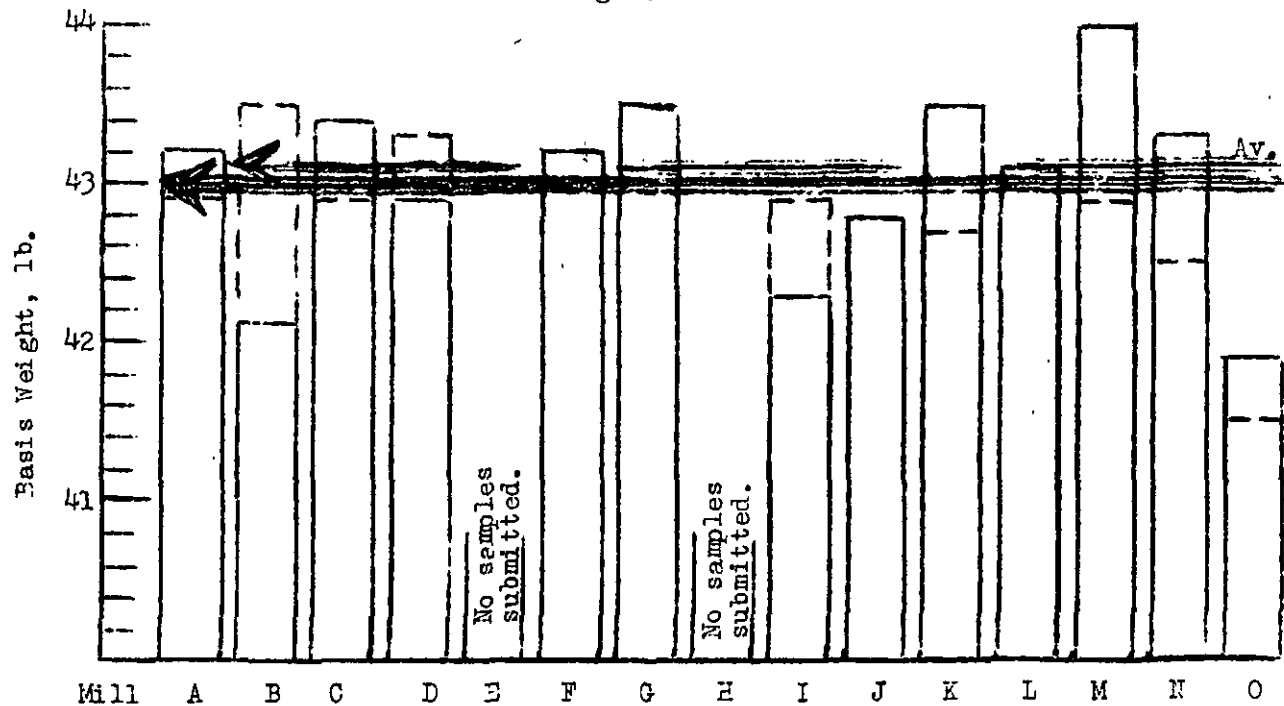
The results indicate that a majority of the mills are using
a water finish on their 42-lb. linerboard.

TABLE II

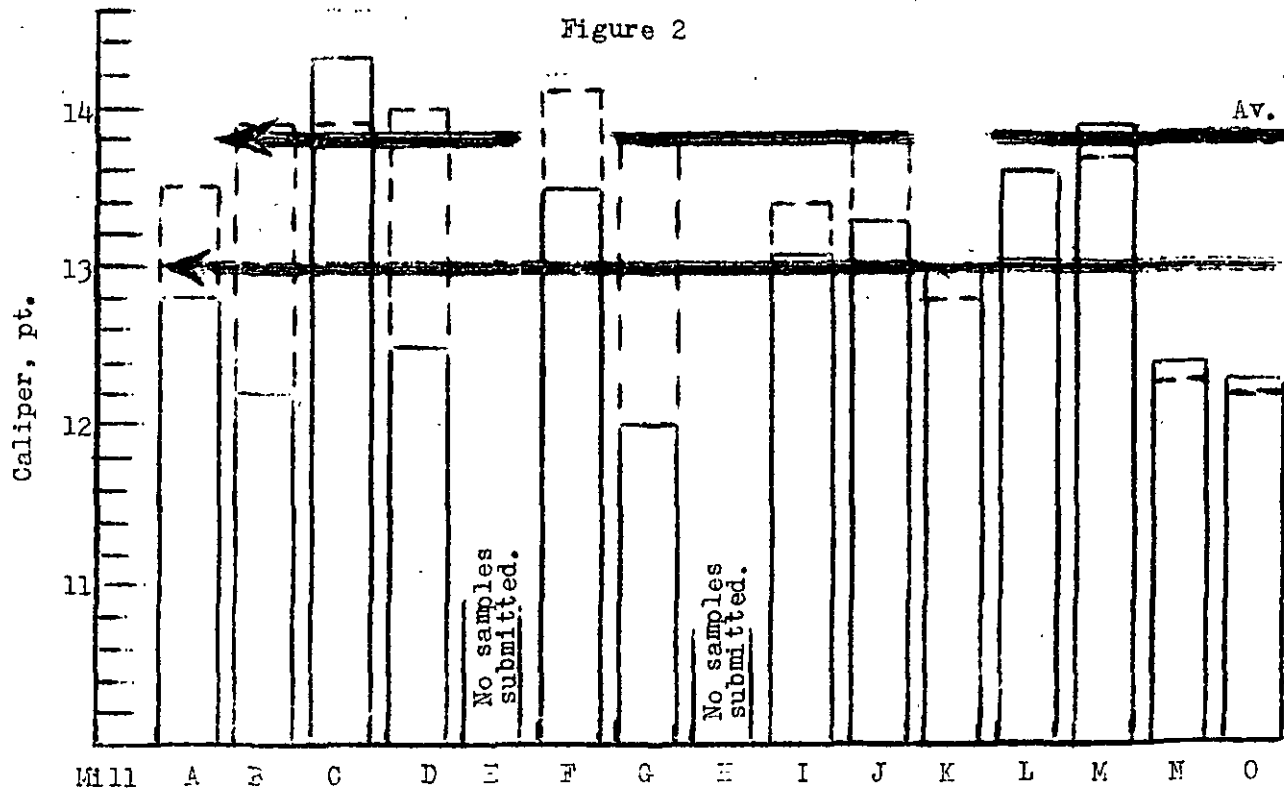
SUMMARY OF COMPOSITE MILL AVERAGES--JANUARY 1 THROUGH JANUARY 31, 1954

Code No.	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. gage	G. E. Puncture, units	In Direction	Elmendorf Tear, g./sheet	Across Direction
A	43.2	12.8	111	32	332		369
B	42.1	12.2	108	28	290		335
C	43.4	14.3	106	34	353		388
D	42.9	12.5	106	34	358		383
E	No samples submitted.						
F	43.2	13.5	106	39	392		428
G	43.5	12.0	124	33	359		388
H	No samples submitted.						
I	42.3	13.1	105	31	331		388
J	42.8	13.3	111	31	344		380
K	43.5	13.0	103	35	360		379
L	43.1	13.6	105	34	343		381
M	44.0	13.9	105	36	407		400
N	43.3	12.4	107	36	349		400
O	41.9	12.3	111	33	340		372
Current FXI Average:	43.0	13.0	108	34	351		384
Cumulative FXI Average:	43.1	13.8	106	36	370		403
FXI Index, %:	99.8	94.2	101.9	94.4	94.9		95.3

Figure 1



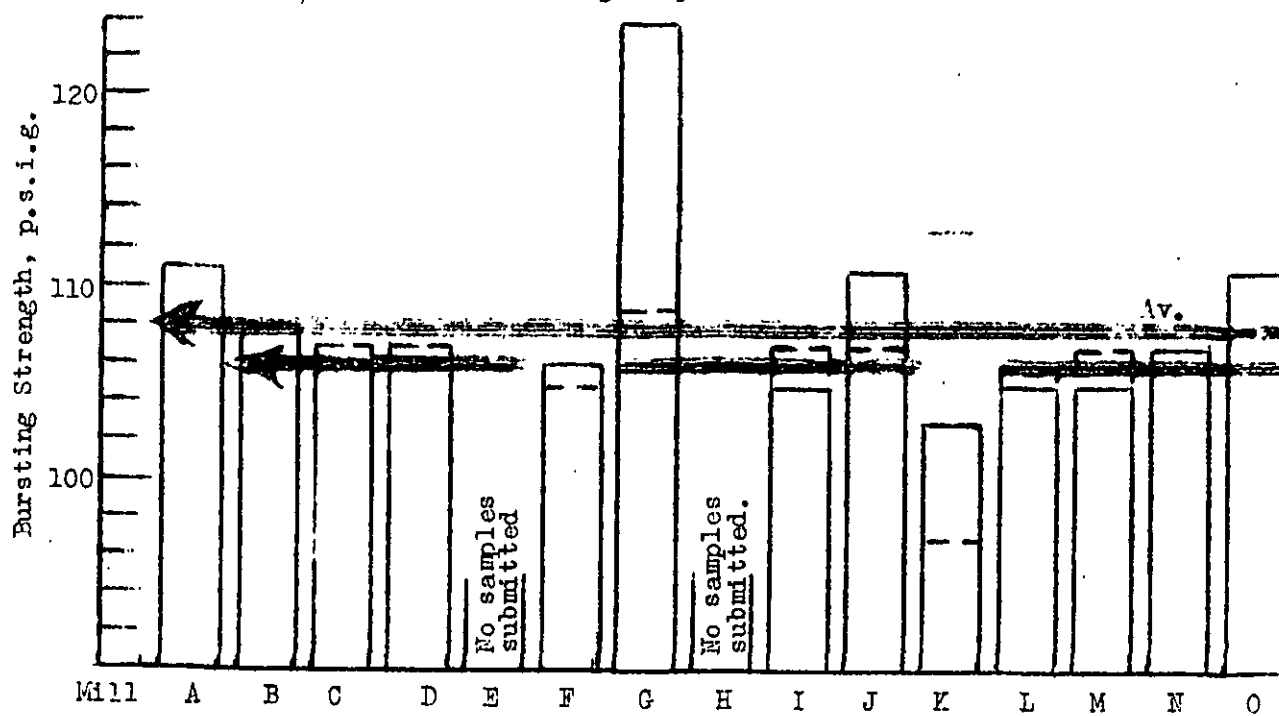
COMPARISON OF BASIS WEIGHT RESULTS
(Period January 1 - January 31)



COMPARISON OF CALIPER RESULTS
(Period January 1 - January 31)

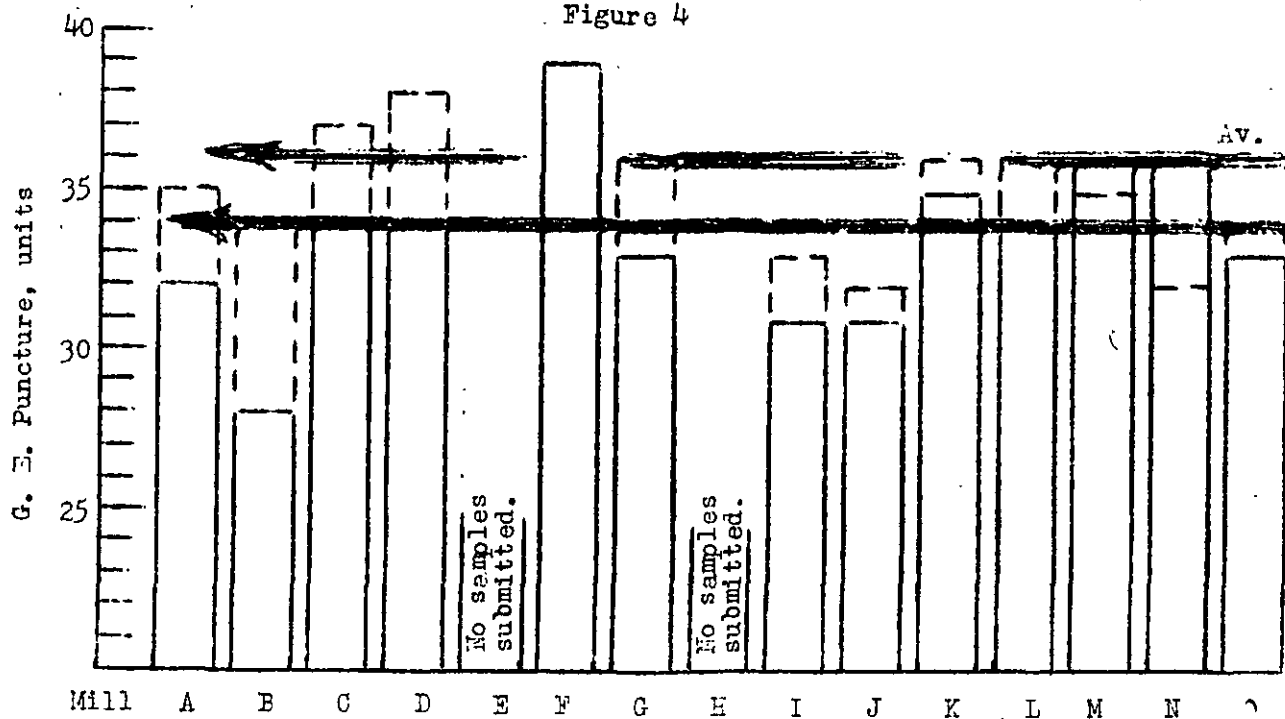
— Current mill average
- - - Cumulative mill average

Figure 3



COMPARISON OF BURSTING STRENGTH RESULTS
(Period January 1 - January 31)

Figure 4



COMPARISON OF G. E. PUNCTURE RESULTS
(Period January 1 - January 31)

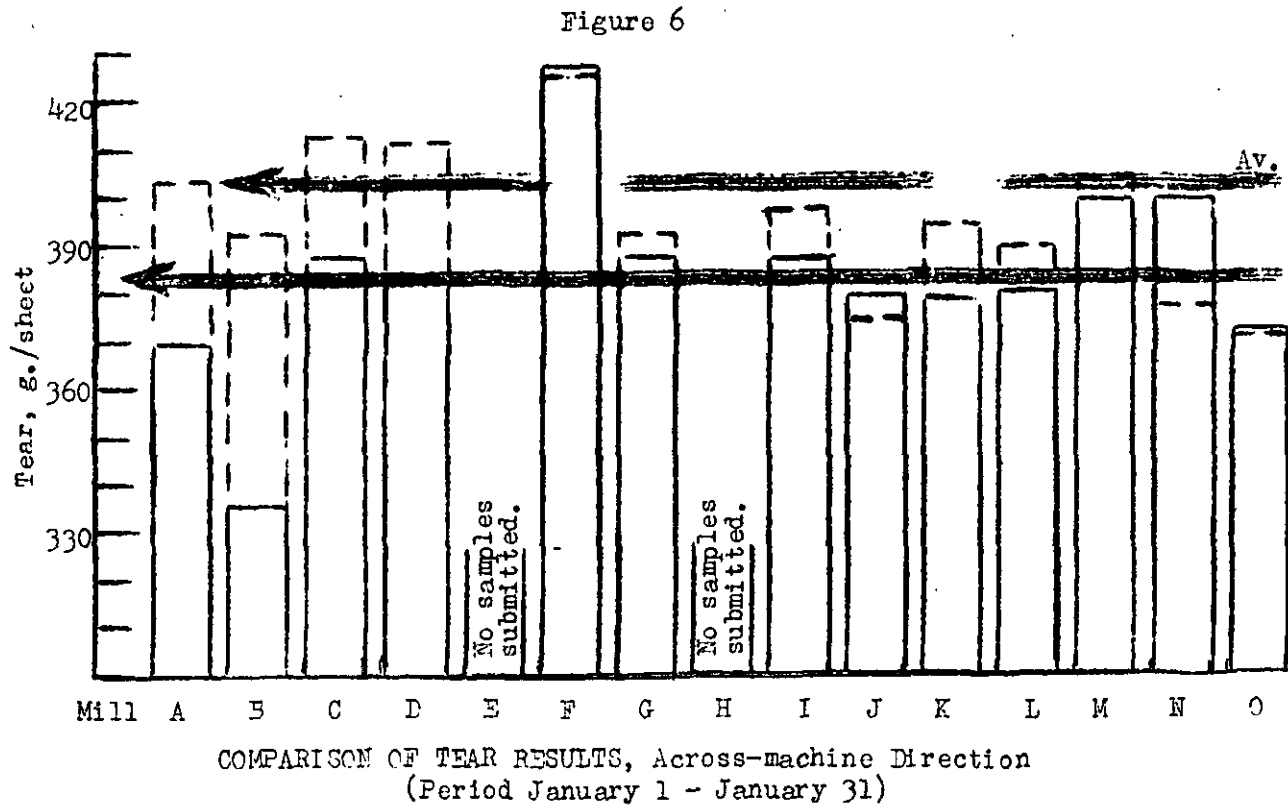
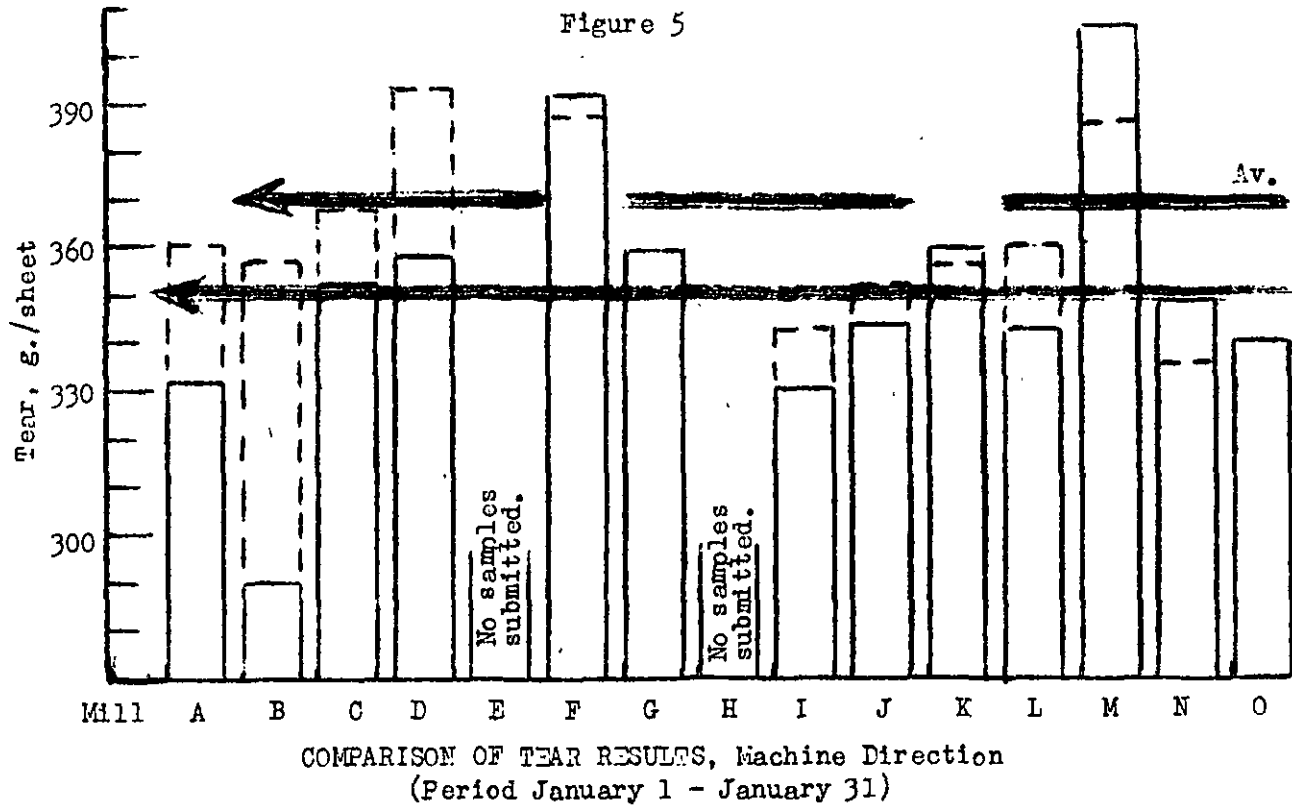


TABLE III

INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954

Weight, lb.	Caliper, points AV.	Bursting Strength, p.s.i. gage Max. Min. AV.		G. E. Puncture, units Max. Min. AV.		Elmendorf Tear, g./sheet In Across Max. Min. AV. Max. Min. AV.										
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.							
<u>Mill A--42-lb. Linerboard</u>																
2.0	42.8	13.1	12.2	12.7	133	90	108	32	27	30	352	272	314a	392	304	345a
1.6	43.0	13.2	12.3	12.8	130	87	108	34	28	31	408	272	327a	384	312	350a
3.2	43.8	14.3	12.2	13.4	131	73	108	37	30	34	424	320	376a	416	360	387a
2.4	43.6	14.1	12.2	13.0	123	92	109	37	31	35	432	288	345a	432	352	385a
2.2	43.2	12.8	12.0	12.4	148	93	115	35	29	32	336	288	313a	456	344	381a
2.2	43.0	12.8	12.0	12.4	146	88	118	34	30	32	352	280	316	416	336	369a
43.2				12.8		111			32				332			369
42.9				13.5		108			35				360			403
100.7				94.8		102.8			91.4				92.2			91.6
100.2				92.8		104.7			88.9				89.7			91.6

specimens which tore beyond the 3/8-inch limit.

TABLE III

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points	Bursting Strength, p.s.i.		G. E. Puncture units					
						Max.	Min.		Max.	Min.		Max.	Min.			
<u>Mill A--42-lb. Linerboard</u>																
156601	A-509	WF1S	1/ 4/54	12/21/53	2	44.0	42.0	42.8	13.1	12.2	12.7	133	90	108	32	27
156602	A-510	WF1S	1/ 4/54	12/22/53	2	44.0	41.6	43.0	13.2	12.3	12.8	130	87	108	34	28
156644	A-511	WF1S	1/ 9/54	12/28/53	2	44.4	43.2	43.8	14.3	12.2	13.4	131	73	108	37	30
156645	A-512	WF1S	1/ 9/54	12/28/53	2	44.2	42.4	43.6	14.1	12.2	13.0	123	92	109	37	31
156693	A-513	WF1S	1/18/54	1/ 9/54	1	44.0	42.2	43.2	12.8	12.0	12.4	148	93	115	35	29
156694	A-514	WF1S	1/18/54	1/ 9/54	1	43.6	42.2	43.0	12.8	12.0	12.4	146	88	118	34	30
Current Mill Average:						43.2				12.8			111			
Cumulative Mill Average:						42.9				13.5			108			
Mill Factor, %:						100.7				94.8			102.8			
Mill Index, %:						100.2				92.8			104.7			

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

TABLE IV

INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Weight, b. Min.	Av.	Caliper, points		Av.	Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		Av.					
		Max.	Min.		Max.	Min.	Max.	Min.	Max.	Min.						
<u>Mill B--42-lb. Linerboard</u>																
42.2	43.1	13.2	11.6	12.4	134	87	106	33	28	30	328	272	309a	408	312	361a
41.8	42.8	12.9	11.8	12.3	126	91	110	31	27	29	352	248	299a	392	296	344a
41.8	42.8	13.1	11.4	12.2	131	85	111	32	27	29	360	256	301	400	328	359a
42.2	43.5	13.1	11.2	12.3	131	90	110	32	27	29	384	280	323a	400	344	367a
41.2	42.2	12.3	11.6	12.0	125	85	108	30	25	28	368	240	297	352	304	331a
41.2	42.0	12.3	11.5	11.9	127	85	106	29	25	27	328	240	290a	352	296	326a
41.6	42.2	12.3	11.5	11.9	129	90	111	30	26	28	328	264	302	376	280	323a
41.4	42.3	12.3	11.2	11.9	121	98	109	29	25	27	328	240	285	352	304	321a
41.2	41.8	13.0	11.8	12.3	125	84	106	31	26	29	336	240	287a	368	312	336a
40.8	41.6	13.0	11.9	12.4	127	91	109	29	25	27	336	240	289a	352	304	329a
40.8	41.6	12.9	11.9	12.3	123	84	107	30	26	28	320	248	289a	344	304	323a
41.0	41.8	12.9	12.0	12.3	123	91	109	30	25	28	344	248	297a	352	304	329a
41.0	41.7	13.0	12.0	12.4	125	80	106	29	25	27	288	248	266	352	296	324a
40.6	41.5	13.1	12.0	12.4	133	79	104	32	24	27	304	232	275	376	304	325a
40.4	41.6	13.1	11.8	12.3	121	93	107	28	25	27	304	232	259a	480	288	340a
40.4	41.5	13.0	12.0	12.4	120	87	103	28	24	27	320	240	272	368	272	318a
42.1				12.2			108		28				290			335
43.5				13.9			106		34				357			393
96.8				87.8			101.9		82.4				81.2			85.2
97.7				88.4			101.9		77.8				78.4			93.1

specimens which tore beyond the 3/8-inch limit.

TABLE IV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (cont.)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points	Bursting Strength, p.s.i.		G. E. Puncture, units					
						Max.	Min.		Max.	Min.						
Mill B--42-lb. Linerboard																
156564	B-927	WF1S	12/30/53	12/15/53	1	44.0	42.2	43.1	13.2	11.6	12.4	134	87	106	33	28
156565	B-928	WF1S	12/30/53	12/15/53	1	43.6	41.8	42.8	12.9	11.8	12.3	126	91	110	31	27
156566	B-929	WF1S	12/30/53	12/15/53	1	43.6	41.8	42.8	13.1	11.4	12.2	131	85	111	32	27
156567	B-930	WF1S	12/30/53	12/15/53	1	44.4	42.2	43.5	13.1	11.2	12.3	131	90	110	32	27
156592	B-931	WF1S	12/31/53	12/21/53	1	43.2	41.2	42.2	12.3	11.6	12.0	125	85	108	30	25
156593	B-932	WF1S	12/31/53	12/21/53	1	43.2	41.2	42.0	12.3	11.5	11.9	127	85	106	29	25
156594	B-933	WF1S	12/31/53	12/21/53	1	43.2	41.6	42.2	12.3	11.5	11.9	129	90	111	30	26
156595	B-934	WF1S	12/31/53	12/21/53	1	43.6	41.4	42.3	12.3	11.2	11.9	121	98	109	29	25
156621	B-935	WF1S	1/7/54	12/29/53	1	42.4	41.2	41.8	13.0	11.8	12.3	125	84	106	31	26
156622	B-936	WF1S	1/7/54	12/29/53	1	42.4	40.8	41.6	13.0	11.9	12.4	127	91	109	29	25
156623	B-937	WF1S	1/7/54	12/29/53	1	42.4	40.8	41.6	12.9	11.9	12.3	123	84	107	30	26
156624	B-938	WF1S	1/7/54	12/29/53	1	43.2	41.0	41.8	12.9	12.0	12.3	123	91	109	30	25
156650	B-939	WF1S	1/11/54	1/4/54	1	42.2	41.0	41.7	13.0	12.0	12.4	125	80	106	29	25
156651	B-940	WF1S	1/11/54	1/4/54	1	42.2	40.6	41.5	13.1	12.0	12.4	133	79	104	32	24
156652	B-941	WF1S	1/11/54	1/4/54	1	42.2	40.4	41.6	13.1	11.8	12.3	121	93	107	28	25
156653	B-942	WF1S	1/11/54	1/4/54	1	42.0	40.4	41.5	13.0	12.0	12.4	120	87	103	28	24
Current Mill Average:						42.1		12.2		108		28				
Cumulative Mill Average:						43.5		13.9		106		31				
Mill Factor, %:						96.8		87.8		101.9		87				
Mill Index, %:						97.7		88.4		101.9		77				

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

TABLE V

DUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

AV.	Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		In Across		AV.				
	Max.	Min.	AV.	Max. Min.	AV.	Max. Min.	AV.	Max. Min.	AV.	Max. Min.					
<u>Mill C--42-lb. Linerboard</u>															
4.5	15.1	14.2	14.6	123	95	111	38	33	36	456	320	367a	448	376	417a
4.4	15.3	14.0	14.5	127	86	108	38	33	35	416	320	364	472	376	405a
4.9	15.1	13.9	14.4	125	83	103	35	29	32	344	304	319a	376	336	357a
2.2	15.0	13.8	14.5	118	83	101	34	29	32	368	272	325a	400	328	357a
4.2	14.9	13.9	14.5	117	81	101	39	32	35	448	320	373a	424	336	383a
4.3	15.0	13.8	14.4	129	85	104	38	32	35	448	320	365a	432	384	406a
3.0	14.8	13.3	14.0	123	89	106	36	31	34	416	320	355a	416	352	389a
2.9	14.8	13.2	14.0	129	94	108	37	32	34	424	304	355	424	344	388a
3.4			14.3			106			34			353			388
2.9			13.9			107			37			368			413
.2			102.9			99.1			91.9			95.9			93.9
1.7			103.6			100.0			94.4			95.4			96.3

ns which tore beyond the 3/8-inch limit.

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TABLE V

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (cont)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight,		Caliper,		Bursting		G. E.					
						lb.	Max. Min.	points	Max. Min.	Strength, p.s.i.	Max. Min.	Puncture, units	Max. Min.				
Mill C--42-lb. Linerboard																	
156657	C-531	W.F.	1/11/54	1/4/54	1	46.2	43.6	44.5	15.1	14.2	14.6	123	95	111	38	33	36
156658	C-532	W.F.	1/11/54	1/4/54	1	46.2	43.6	44.4	15.3	14.0	14.5	127	86	108	38	33	35
156659	C-533	W.F.	1/11/54	1/5/54	1	42.4	41.2	41.9	15.1	13.9	14.4	125	83	103	35	29	32
156660	C-534	W.F.	1/11/54	1/5/54	1	43.0	41.4	42.2	15.0	13.8	14.5	118	83	101	34	29	32
156699	C-535	W.F.	1/18/54	1/8/54	1	45.6	42.4	44.2	14.9	13.9	14.5	117	81	101	39	32	35
156700	C-536	W.F.	1/18/54	1/8/54	1	45.4	43.0	44.3	15.0	13.8	14.4	129	85	104	38	32	35
156701	C-537	W.F.	1/18/54	1/11/54	1	43.8	42.2	43.0	14.8	13.3	14.0	123	89	106	36	31	34
156702	C-538	W.F.	1/18/54	1/11/54	1	43.6	42.0	42.9	14.8	13.2	14.0	129	94	108	37	32	34
Current Mill Average:						43.4		14.3		106		34					
Cumulative Mill Average:						42.9		13.9		107		37					
Mill Factor, %:						101.2		102.9		99.1		91.9					
Mill Index, %:						100.7		103.6		100.0		94.4					

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

TABLE VI

INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Dry Weight, lb.	Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet									
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	In	Across						
	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.						
<u>Mill D---42-lb. Linerboard</u>																
40.6	42.8	13.6	12.0	13.0	138	80	107	37	30	33	376	336	353a	432	336	372a
42.2	43.1	13.2	12.5	12.9	135	79	106	36	31	33	384	304	359a	432	360	386a
41.8	43.8	12.7	11.8	12.1	137	81	109	40	33	36	384	304	341a	392	344	373a
42.2	43.0	13.1	12.2	12.7	133	84	105	36	30	34	384	296	341a	416	344	372a
41.2	42.4	13.1	11.8	12.4	125	79	107	38	33	36	424	320	379a	443	336	392a
42.4	43.6	13.0	11.7	12.4	131	86	109	38	32	36	448	336	377a	480	336	412a
41.6	42.5	12.9	12.0	12.1	131	78	107	40	32	35	448	336	385a	432	336	393a
42.2	43.1	13.1	12.0	12.6	117	90	102	37	32	34	384	312	337a	416	336	371a
40.8	42.1	13.2	12.1	12.6	128	80	104	35	29	32	408	296	352a	392	336	371a

are specimens which tore beyond the 3/8-inch limit.

TABLE VII

Mill E--42-lb. Linerboard

No samples submitted.

TABLE VI

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (con

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units				
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
Mill D--42-lb. Linerboard																
156579	D-724	W.F.	12/30/53	12/21/53	4	44.0	40.6	42.8	13.6	12.0	13.0	138	80	107	37	30
156580	D-725	W.F.	12/30/53	12/22/53	4	43.8	42.2	43.1	13.2	12.5	12.9	135	79	106	36	31
156614	D-726	W.F.	1/ 6/54	1/ 1/54	4	45.2	41.8	43.8	12.7	11.8	12.1	137	81	109	40	33
156615	D-727	W.F.	1/ 6/54	1/ 2/54	4	44.0	42.2	43.0	13.1	12.2	12.7	133	84	105	36	30
156616	D-728	W.F.	1/ 6/54	1/ 3/54	4	43.4	41.2	42.4	13.1	11.8	12.4	125	79	107	38	33
156531	D-729	W.F.	1/ 8/54	1/ 4/54	4	44.6	42.4	43.6	13.0	11.7	12.4	131	86	109	38	32
156638	D-730	W.F.	1/ 9/54	1/ 5/54	4	43.8	41.6	42.5	12.9	12.0	12.1	131	78	107	40	32
156726	D-731	W.F.	1/22/54	1/19/54	4	43.8	42.2	43.1	13.1	12.0	12.6	117	90	102	37	32
156740	D-732	W.F.	1/25/54	1/20/54	4	43.6	40.8	42.1	13.2	12.1	12.6	128	80	104	35	29

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

TABLE VII

Mill E--42-lb. Linerboard

No samples submitted.

TABLE VIII

EST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Fourdrinier Kraft Board Institute, Inc.
Project 1108-B

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Caliper, points	Max. Min.	Av.	Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		In Across		Max. Min.	Av.		
			Max. Min.	Av.	Max. Min.	Av.	Max. Min.	Av.	Max. Min.	Av.				
1 F--42-lb. Linerboard														
13.4	11.7	12.8	152	89	109	40	35	37	464	352	385a	512	384	438a
12.9	10.8	12.1	130	86	106	37	32	35	400	312	363a	480	352	411a
14.7	12.8	13.9	115	79	100	44	38	41	448	352	392a	464	360	417e
14.2	13.0	13.6	118	84	102	43	35	39	448	344	386a	496	384	423a
15.2	12.9	14.0	134	88	108	44	36	39	488	328	412a	488	344	430a
14.9	12.1	14.0	125	72	95	43	38	40	448	376	399a	448	368	420a
14.0	12.3	13.2	137	85	113	39	35	37	424	344	377a	464	376	417a
14.8	13.2	14.1	125	94	109	44	38	41	496	376	417a	504	392	450a
14.2	12.8	13.6	127	87	108	43	37	40	432	368	399a	480	384	446a
		13.5		106			39				392			428
		14.1		105			39				388			426
		95.7		101.0			100.0				101.0			100.5
		97.8		100.0			108.3				105.9			106.2

which tore beyond the 3/8-inch limit.

TABLE VIII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (cont)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.			Caliper, points			Bursting Strength, p.s.i. gage			G. E. Puncture units		
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	
Mill F--42-lb. Linerboard																	
156596	F-87	W.F.	1/ 4/54	12/ 7/53	--	44.6	41.4	43.2	13.4	11.7	12.8	152	89	109	40	35	3
156597	F-88	W.F.	1/ 4/54	12/15/53	--	43.6	40.4	41.9	12.9	10.8	12.1	130	86	106	37	32	3
156598	F-89	W.F.	1/ 4/54	12/16/53	--	43.6	41.8	42.8	14.7	12.8	13.9	115	79	100	44	38	4
156599	F-90	W.F.	1/ 4/54	12/16/53	--	43.6	41.0	42.5	14.2	13.0	13.6	118	84	102	43	35	3
156600	F-91	W.F.	1/ 4/54	12/18/53	--	45.8	42.0	44.0	15.2	12.9	14.0	134	88	108	44	36	3
156684	F-92	W.F.	1/15/54	12/18/53	--	44.2	42.4	43.4	14.9	12.1	14.0	125	72	95	43	38	4
156685	F-93	W.F.	1/15/54	12/19/53	--	44.2	42.6	43.5	14.0	12.3	13.2	137	85	113	39	35	3
156686	F-94	W.F.	1/15/54	12/20/53	--	45.6	43.2	44.4	14.8	13.2	14.1	125	94	109	44	38	4
156687	F-95	---	1/15/54	12/30/53	--	43.8	42.2	43.2	14.2	12.8	13.6	127	87	108	43	37	4
Current Mill Average:						43.2		43.2			13.5		106				3
Cumulative Mill Average:						43.2		43.2			14.1		105				3
Mill Factor, %:						100.0		100.0			95.7		101.0				10
Mill Index, %:						100.2		100.2			97.8		100.0				10

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

TABLE IX

INDIVIDUAL TEST LOTS---JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Weight, AV.	Caliper, points		Bursting Strength, p.s.i. gag		G. E. Puncture, units		Elmendorf Tear, G./sheet		In		Across				
	Max.	Min.	AV.	Max.	Min.	AV.	Max.	Min.	AV.	Max.	Min.	AV.			
<u>Mill G--42-lb. Linerboard</u>															
45.0	12.6	11.8	12.2	148	112	131	38	31	35	432	328	380a	544	368	434a
46.2	13.4	12.5	13.0	156	100	122	40	34	36	464	352	401a	480	384	433a
43.5	12.7	11.7	12.1	153	120	130	36	31	35	384	320	353	424	360	385a
43.5	12.3	11.4	12.0	141	107	124	36	31	33	384	320	354a	440	328	379a
41.2	12.0	11.2	11.6	132	101	117	32	28	30	384	304	340a	400	296	350a
42.5	12.0	11.2	11.7	136	103	119	35	31	33	360	320	347a	392	320	363a
43.2	12.0	11.2	11.7	140	90	121	36	31	33	392	312	343a	424	352	379a
42.4	11.9	11.0	11.5	148	78	126	35	29	32	400	304	357a	456	336	379a
43.5			12.0			124		33				359			388
43.1			13.8			109		36				359			393
100.9			87.0			113.8			91.7			100.0			98.7
100.9			87.0			117.0			91.7			97.0			96.3

TABLE X

Mill H--42-lb. Linerboard

No samples submitted.

cimens which tore beyond the 3/8-inch limit.

TABLE IX

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (con

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points	Bursting Strength, p.s.i. gage		G. E. Puncture, units						
						Max.	Min.		Av.	Max.	Min.	Av.	Max.	Min.	Av.		
Mill G---42-lb. Linerboard																	
156577	G-550	W.F.	12/30/53	12/17/53	--	47.0	44.2	45.0	12.6	11.8	12.2	148	112	131	38	31	35
156578	G-551	W.F.	12/30/53	12/17/53	--	48.0	44.6	46.2	13.4	12.5	13.0	156	100	122	40	34	36
156605	G-552	W.F.	1/ 4/54	12/23/53	--	44.4	42.2	43.5	12.7	11.7	12.1	153	120	130	36	31	35
156606	G-553	W.F.	1/ 4/54	12/23/53	--	44.4	42.2	43.5	12.3	11.4	12.0	141	107	124	36	31	33
156689	G-554	W.F.	1/16/54	1/ 8/54	--	42.0	40.2	41.2	12.0	11.2	11.6	132	101	117	32	28	30
156690	G-555	W.F.	1/16/54	1/ 8/54	--	43.6	41.2	42.5	12.0	11.2	11.7	136	103	119	35	31	33
156711	G-558	W.F.	1/19/54	1/13/54	--	44.2	41.6	43.2	12.0	11.2	11.7	140	90	121	36	31	33
156712	G-559	W.F.	1/19/54	1/13/54	--	43.8	41.4	42.4	11.9	11.0	11.5	148	78	126	35	29	32
Current Mill Average:						43.5		12.0		124		33					
Cumulative Mill Average:						43.1		13.8		109		36					
Mill Factor, %:						100.9		87.0		113.8		91.					
Mill Index, %:						100.9		87.0		117.0		91.					

TABLE X

Mill H--42-lb. Linerboard

No samples submitted.

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

TABLE XI

VIBRAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

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Height, in.	Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet									
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.				
<u>Mill I--42-lb. Linerboard</u>																
.8	42.2	13.3	12.4	12.9	124	79	107	32	29	30	400	264	320a	416	336	376a
.8	42.1	13.5	12.4	13.0	108	76	97	32	28	30	376	304	324	416	352	383a
.8	42.5	13.4	12.4	12.9	128	95	108	33	29	31	368	288	318a	432	352	385a
.8	42.2	13.3	12.5	12.9	121	86	104	33	30	32	360	272	320a	416	352	391a
.6	42.2	13.6	12.4	13.0	115	85	103	35	30	32	368	304	332a	432	368	401a
.0	42.6	14.8	13.5	14.1	131	80	106	35	30	33	400	304	335a	480	360	406a
.8	42.3	14.7	13.0	13.9	132	79	107	36	30	32	432	288	354a	424	352	383a
.8	42.3	13.8	12.2	12.9	124	89	108	33	30	32	400	312	338a	416	352	385a
.4	42.0	13.4	12.4	12.8	124	94	107	33	28	31	368	320	341a	400	360	383a
	42.3			13.1			105		31				331			388
	42.9			13.4			107		33				343			398
	98.6			97.8			98.1		93.9				96.5			97.5
	98.1			94.9			99.1		86.1				89.5-			96.3

specimens which tore beyond the 3/8-inch limit.

TABLE II

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (cont)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units				
						Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
Mill I--42-lb. Linerboard																
156571	I-353	WF1S	12/30/53	12/17/53	1	42.8	41.8	42.2	13.3	12.4	12.9	124	79	107	32	29
156572	I-354	WF1S	12/30/53	12/18/53	1	42.8	41.8	42.1	13.5	12.4	13.0	108	76	97	32	28
156627	I-355	WF1S	1/ 7/54	12/20/53	1	43.4	41.8	42.5	13.4	12.4	12.9	128	95	108	33	29
156655	I-356	WF1S	1/11/54	1/ 5/54	1	42.6	41.8	42.2	13.3	12.5	12.9	121	86	104	33	30
156656	I-357	WF1S	1/11/54	1/ 5/54	1	43.2	41.6	42.2	13.6	12.4	13.0	115	85	103	35	30
I-358 -- Not received by Institute.																
I-359 -- Not received by Institute.																
156727	I-360	W.F.	1/22/54	1/14/54	1	43.6	42.0	42.6	14.8	13.5	14.1	131	80	106	35	30
156728	I-361	W.F.	1/22/54	1/14/54	1	43.0	41.8	42.3	14.7	13.0	13.9	132	79	107	36	30
156743	I-362	WF1S	1/25/54	1/20/54	1	43.4	41.8	42.3	13.8	12.2	12.9	124	89	108	33	30
156744	I-363	WF1S	1/25/54	1/21/54	1	42.4	41.4	42.0	13.4	12.4	12.8	124	94	107	33	28
Current Mill Average:								42.3			13.1			105		
Cumulative Mill Average:								42.9			13.4			107		
Mill Factor, %:								98.6			97.8			98.1		
Mill Index, %:								98.1			94.9			99.1		

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

TABLE XII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		Av.							
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	In	Across								
<u>Mill J--42-lb. Linerboard</u>																			
12/28/53	--	43.8	42.0	42.9	14.2	13.2	13.8	122	93	109	37	31	34	368	272	335a	432	344	390a
12/28/53	--	43.4	41.6	42.7	14.2	12.9	13.7	121	95	110	36	30	33	408	304	352a	432	352	389a
1/6/54	--	43.4	42.2	42.9	13.2	12.2	12.8	136	92	113	32	28	30	392	304	352a	416	328	375a
1/6/54	--	43.8	42.0	42.7	13.3	12.2	12.7	130	88	111	32	27	29	408	288	335a	464	336	365a
				42.8			13.3			111			31			344			380
				42.8			13.8			107			32			353			375
		100.0					96.4			103.7			96.9			97.5			101.3
		99.3					96.4			104.7			86.1			93.0			94.3

TABLE XIII

Mill K--42-lb. Linerboard

12/22/53	7	45.0	43.0	43.9	14.0	12.6	13.1	130	77	102	39	33	36	504	304	363a	432	320	405a
1/7/54	7	43.8	40.4	42.6	13.6	12.6	13.0	133	94	112	40	33	36	416	280	361a	408	352	376a
1/11/54	7	45.0	43.4	44.2	13.8	12.8	13.2	126	80	102	35	31	33	448	312	361a	432	328	381a
1/20/54	7	44.7	41.8	43.2	13.4	12.1	12.8	113	74	96	36	30	33	424	328	355a	408	312	353a
				43.5			13.0		103				35			360			379
				42.7			12.8		97				36			357			394
		101.9					101.6		106.2				97.2			100.8			96.2
		100.9					94.2		97.2				97.2			97.3			94.0

dings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		In Elm					
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.		Av.	Max.	Min.		
Mill J--42-lb. Linerboard																			
156647	J-465	B.F.	1/11/54	12/28/53	--	43.8	42.0	42.9	14.2	13.2	13.8	122	93	109	37	31	34	368	272
156648	J-466	B.F.	1/11/54	12/28/53	--	43.4	41.6	42.7	14.2	12.9	13.7	121	95	110	36	30	33	408	304
156716	J-467	B.F.	1/20/54	1/ 6/54	--	43.4	42.2	42.9	13.2	12.2	12.8	136	92	113	32	28	30	392	304
156717	J-468	B.F.	1/20/54	1/ 6/54	--	43.8	42.0	42.7	13.3	12.2	12.7	130	88	111	32	27	29	408	288
Current Mill Average:								42.8			13.3			111			31		
Cumulative Mill Average:								42.8			13.8			107			32		
Mill Factor, %:								100.0			96.4			103.7			96.9		
Mill Index, %:								99.3			96.4			104.7			86.1		

TABLE XIII

Mill K--42-lb. Linerboard

156568	K-13		12/30/53	12/22/53	7	45.0	43.0	43.9	14.0	12.6	13.1	130	77	102	39	33	36	504	304
156646	K-14		1/ 9/54	1/ 7/54	7	43.8	40.4	42.6	13.6	12.6	13.0	133	94	112	40	33	36	416	280
156679	K-15		1/14/54	1/11/54	7	45.0	43.4	44.2	13.8	12.8	13.2	126	80	102	35	31	33	448	312
156725	K-16		1/22/54	1/20/54	7	44.7	41.8	43.2	13.4	12.1	12.8	113	74	96	36	30	33	424	328
Current Mill Average:						43.5		13.0		103		35							
Cumulative Mill Average:						42.7		12.8		97		36							
Mill Factor, %:						101.9		101.6		106.2		97.2							
Mill Index, %:						100.9		94.2		97.2		97.2							

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

TABLE XIV

SUMMARY OF INDIVIDUAL TEST LOTS---JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		Across								
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	In	Max.		Min.							
Mill L--42-lb. Linerboard																				
12/ 8/53	1	43.6	41.0	42.2	14.0	12.5	13.4	118	88	105	38	34	35	392	336	357a	456	368	312	405a
12/10/53	1	44.0	42.2	43.2	13.4	11.8	12.7	119	84	103	35	31	32	344	304	319a	368	312	347a	
12/17/53	1	43.0	41.2	42.1	14.0	13.0	13.6	116	81	104	39	32	35	400	320	349a	416	368	393a	
12/18/53	1	43.6	42.4	42.8	13.8	12.2	13.1	121	87	106	33	30	32	368	304	337a	384	336	361a	
1/ 4/54	1	45.6	42.0	43.8	14.8	13.0	14.1	122	77	106	36	31	34	384	304	341a	448	360	394a	
1/ 8/54	1	44.2	42.2	43.6	14.9	12.8	14.0	121	82	105	37	31	33	416	328	356a	448	336	376a	
1/12/54	1	45.6	42.8	43.7	14.4	12.7	13.9	120	82	105	37	32	34	368	320	339a	416	352	384a	
1/17/54	1	44.4	42.2	43.6	14.6	12.7	14.1	121	82	105	40	32	35	400	304	349a	432	336	388a	
		43.1					13.6			105			34			343				381
		43.0					13.6			106			36			360				390
		100.2					100.0			99.1			94.4			95.3				97.7
		100.0					98.6			99.1			94.4			92.7				94.5

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

TABLE XIV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		
						Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
Mill L-42-lb. Linerboard														
156573	L-235		12/30/53	12/ 8/53	1	43.6	41.0	14.0	12.5	13.4	118	88	105	
156574	L-236		12/30/53	12/10/53	1	44.0	42.2	13.4	11.8	12.7	119	84	103	35
156575	L-237		12/30/53	12/17/53	1	43.0	41.2	14.0	13.0	13.6	116	81	104	32
156576	L-238		12/30/53	12/18/53	1	43.6	42.4	13.8	12.2	13.1	121	87	106	35
156695	L-239		1/18/54	1/ 4/54	1	45.6	42.0	14.8	13.0	14.1	122	77	106	32
156696	L-240		1/18/54	1/ 8/54	1	44.2	42.2	14.9	12.8	14.0	121	82	105	34
156738	L-241		1/23/54	1/12/54	1	45.6	42.8	14.4	12.7	13.9	120	82	105	33
156739	L-242		1/23/54	1/17/54	1	44.4	42.2	14.6	12.7	14.1	121	82	105	34
Current Mill Average:						43.1		13.6		105		34		
Cumulative Mill Average:						43.0		13.6		106		36		
Mill Factor, %:						100.2		100.0		99.1		94.4		
Mill Index, %:						100.0		98.6		99.1		94.4		

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

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Date Made	Mch. No.	Basis Weight, lb.		Caliper, points.		Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		In Across							
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Av.	Av.				
		Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.	Av.				
<u>Mill M--42-lb. Linerboard</u>																			
12/15/53	4	44.4	42.6	43.6	14.2	13.2	13.8	126	97	111.	39	33	36	448	368	403a	472	368	403a
12/16/53	2	44.4	42.4	43.6	14.2	13.4	13.9	127	72	100	36	31	34	448	360	404a	456	376	411a
1/ 5/54	4	45.4	44.0	44.8	15.2	14.0	14.7	125	77	101	39	33	37	432	384	411a	432	352	337a
1/ 8/54	4	44.6	43.0	44.1	13.9	12.7	13.2	125	88	108	39	34	37	432	368	409a	448	376	398a
				44.0			13.9		105				36			407			420
				42.9			13.7		107				35			387			404
				102.6			101.5		98.1				102.9			105.2			99.0
				102.1			100.7		99.1				100.0			110.0			99.3

Mill N--42-lb. Linerboard

12/23/53	1	42.8	41.6	42.2	12.4	11.2	11.7	128	93	108	38	30	34	376	280	334a	432	352	339a
12/26/53	1	45.0	44.0	44.4	13.3	11.8	12.6	136	99	113	40	33	37	400	304	355	448	360	407a
12/28/53	1	43.8	42.2	43.2	13.3	12.0	12.8	125	81	99	42	36	38	416	296	358a	440	336	402a
			43.3				12.4		107				36			349		400	
			42.5				12.3		107				32			336		377	
			101.9				100.8		100.0				112.5			103.9		106.1	
			100.5				89.9		100.9				100.0			94.3		99.3	

findings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

File No.	Mill Code	Fin- Ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units							
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
<u>Mill M--42-lb. Linerboard</u>																			
156603	M-213	W.	1/ 4/54	12/15/53	4	44.4	42.6	43.6	14.2	13.2	13.8	126	97	111.	39	33	36	448	36
156604	M-214	W.	1/ 4/54	12/16/53	2	44.4	42.4	43.6	14.2	13.4	13.9	127	72	100	36	31	34	448	36
156682	M-215	W.	1/15/54	1/ 5/54	4	45.4	44.0	44.8	15.2	14.0	14.7	125	77	101	39	33	37	432	38
156683	M-216	W.	1/15/54	1/ 8/54	4	44.6	43.0	44.1	13.9	12.7	13.2	125	88	108	39	34	37	432	36
Current Mill Average:							44.0		13.9		105						36		
Cumulative Mill Average:							42.9		13.7		107						35		
Mill Factor, %:							102.6		101.5		98.1						102.9		
Mill Index, %:							102.1		100.7		99.1						100.0		

TABLE XVI

Mill N--42-lb. Linerboard

156617	N-52		1/6/54	12/23/53	1	42.8	41.6	42.2	12.4	11.2	11.7	128	93	108	38	30	34	376	28
156618	N-53	WFls	1/6/54	12/26/53	1	45.0	44.0	44.4	13.3	11.8	12.6	136	99	113	40	33	37	400	30
156619	N-54	W.F.	1/6/53	12/28/53	1	43.8	42.2	43.2	13.3	12.0	12.8	125	81	99	42	36	38	416	29
Current Mill Average:						43.3		43.4		12.4		107		107			36		
Cumulative Mill Average:						42.5		42.3		12.3		107		107			32		
Mill Factor, %:						101.9		100.8		100.8		100.0		100.0			112.5		
Mill Index, %:						100.5		89.9		89.9		100.9		100.9			100.0		

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

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

TABLE XVII

Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. Gage		G. E. Puncture, units		Elmendorf Tear, g./sheet									
		Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
Mill O--42-lb. Linerboard																			
12/19/53	3	43.8	40.4	42.3	13.2	12.2	12.8	125	98	108	38	31	34	352	288	326a	400	336	369a
12/19/53	3	43.8	40.6	42.2	12.9	11.7	12.6	129	86	105	35	28	33	368	304	333a	416	304	349a
1/ 1/54	3	43.0	40.0	41.9	12.9	11.8	12.3	137	91	121	36	31	33	360	296	333a	400	344	374a
1/ 1/54	3	44.2	40.2	42.0	13.0	11.8	12.2	138	97	122	37	30	33	424	296	336a	416	328	381a
1/ 7/54	3	43.8	41.6	42.4	12.6	11.6	12.1	132	93	114	35	30	33	416	280	341a	400	352	375a
1/ 7/54	3	42.6	40.2	41.4	12.3	11.6	11.9	126	91	113	34	27	31	408	288	328a	400	352	371a
1/16/54	3	41.8	40.0	40.9	13.0	11.8	12.2	117	82	102	39	31	35	432	312	365a	400	344	370a
1/16/54	3	43.2	40.6	42.0	12.8	11.6	12.2	127	84	102	37	32	35	432	288	353a	448	336	390a
				41.9			12.3			111			33			340			372
				41.5			12.2			108			34			340			371
				101.0			100.8			102.8			97.1			100.0			100.3
				97.2			89.1			104.7			91.7			91.9			92.3

TABLE XVIII

Mill E--44/46-lb. Drum Linerboard

1/4/54	2	48.8	47.6	48.0	16.3	14.6	15.5	125	90	109	45	36	40	440	360	397a	456	400	429a
1/20/54	2	49.6	47.4	48.1	16.4	14.9	15.5	115	73	98	43	37	41	480	352	429a	448	336	398a
1/21/54	2	49.2	47.0	48.1	15.7	13.4	14.6	128	102	112	41	36	39	480	368	421a	480	368	425a
				48.1			15.2		107				40			416			417
				47.2			14.4		101				39			435			417
				101.9			105.6		105.9				102.6			95.6			100.0

readings for one or more specimens which tore beyond the 3/8-inch limit.
as 47-lb. Drum Linerboard.

TABLE XVII

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elm ^a In	
						Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.		Av.
Mill O-42-lb. Linerboard															
156569	O-18	W.F.	12/30/53	12/19/53	3	43.8	40.4	42.3	13.2	12.2	12.8	125	98	352	288
156570	O-19	W.F.	12/30/53	12/19/53	3	43.8	40.6	42.2	12.9	11.7	12.6	129	86	368	304
156625	O-20	W.F.	1/ 7/54	1/ 1/54	3	43.0	40.0	41.9	12.9	11.8	12.3	137	91	360	296
156626	O-21	W.F.	1/ 7/54	1/ 1/54	3	44.2	40.2	42.0	13.0	11.8	12.2	138	97	424	296
156677	O-22	W.F.	1/13/54	1/ 7/54	3	43.8	41.6	42.4	12.6	11.6	12.1	132	93	416	280
156678	O-23	W.F.	1/13/54	1/ 7/54	3	42.6	40.2	41.4	12.3	11.6	11.9	126	91	408	288
156723	O-24	W.F.	1/22/54	1/16/54	3	41.8	40.0	40.9	13.0	11.8	12.2	117	82	432	312
156724	O-25	W.F.	1/22/54	1/16/54	3	43.2	40.6	42.0	12.8	11.6	12.2	127	84	432	288
Current Mill Average:						41.9		41.9	12.3		12.3	111		33	
Cumulative Mill Average:						41.5		41.5	12.2		12.2	108		34	
Mill Factor, %:						101.0		101.0	100.8		100.8	102.8		97.1	
Mill Index, %:						97.2		97.2	89.1		89.1	104.7		91.7	

TABLE XVIII

Mill E-44/46-lb. Drum Linerboard

156654	E-53 ^b	W.F.	1/11/54	1/ 4/54	2	48.8	47.6	48.0	16.3	14.6	15.5	125	90	360
156741	E-55 ^b	—	1/25/54	1/20/54	2	49.6	47.4	48.1	16.4	14.9	15.5	115	73	352
156742	E-56	—	1/25/54	1/21/54	2	49.2	47.0	48.1	15.7	13.4	14.6	128	102	368
Current Mill Average:						48.1		48.1	15.2		15.2	107		40
Cumulative Mill Average:						47.2		47.2	14.4		14.4	101		39
Mill Factor, %:						101.9		101.9	105.6		105.6	105.9		102.6

^a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.^b This sample was identified as 47-lb. Drum Linerboard.

TABLE XVIII (Continued)
SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet									
		Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.						
<u>Miscellaneous</u>																			
<u>Mill E--28-lb. Linerboard</u>																			
1/13/54	2	30.0	27.6	28.8	10.6	9.1	10.0	89	68	79	20	16	18	240	192	240	192	219a	
<u>Mill E--69-lb. Linerboard</u>																			
1/30/53	2	74.4	71.4	73.3	21.3	19.9	20.6	160	115	143	80	72	76	736	608	676a	824	648	745a
<u>Mill G--51-lb. Linerboard</u>																			
1/11/54	--	53.8	52.4	53.0	14.8	13.6	14.3	179	101	146	47	38	43	512	400	462a	520	424	475a
1/11/54	--	53.4	52.0	52.7	14.8	13.9	14.2	180	106	144	47	39	43	544	376	464a	544	448	509a

ings for one or more specimens which tore beyond the 3/8-inch limit.

TABLE XVIII (Continued)

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

File No.	Mill Code	Fin- ish	Date Recd.	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points	Bursting Strength, p.s.i.		G. E. Puncture, units		Ir						
						Max.	Min.		Max.	Min.	Max.	Min.		Max.	Min.				
Miscellaneous																			
<u>Mill E--28-lb. Linerboard</u>																			
156691	E-54		1/16/54	1/13/54	2	30.0	27.6	28.8	10.6	9.1	10.0	89	68	79	20	16	18	240	192
<u>Mill E--69-lb. Linerboard</u>																			
156620	E-52		1/ 6/54	12/30/53	2	74.4	71.4	73.3	21.3	19.9	20.6	160	115	143	80	72	76	736	608
<u>Mill G--51-lb. Linerboard</u>																			
156697	G-556	WF1S	1/18/54	1/11/54	--	53.8	52.4	53.0	14.8	13.6	14.3	179	101	146	47	38	43	512	400
156698	G-557	WF1S	1/18/54	1/11/54	--	53.4	52.0	52.7	14.8	13.9	14.2	180	106	144	47	39	43	544	376

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

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. As may be noted in Table XIX, the atmospheric conditions used prior to and during the testing period varied considerably.

TABLE XIX

Mill Code	Preconditioning			Conditioning		
	R.H., %	Temp., ° F.	Time, hr.	R.H., %	Temp., ° F.	Time, hr.
A		None		51-60	76-80	--
B	30-46	64-70	0.5	50	70	24-48
C	50	72-73	48-72	50	72-73	48-72
D	31	77-78	8	49-53	72-73	16
E			No samples submitted.			
F		None		44-54	71-74	48-96
G		None		50	73	24-60
H			No samples submitted.			
I		None		46-53	69-86	--
J		None		50	73	0.5
K	42-62	66-73	24-48	46-60	65-71	--
L		None		42-53	64-84	--
M		None		32-44	73-78	--
N		None		50-53	72-74	24
O		None		50	73	2
E*		None		43-74	74-78	--

* Drum linerboard.

A summary of the mill comparisons for the current period as compared with the previous period may be seen in Tables XX and XXI, respectively. The comparison for the various mills is given in Tables XXII to XXXVI, for the 42-lb. liner samples. A comparison of the special drum stock is given in Table XXXVII. In all the comparisons

given in Tables XX to XXXVII, the Institute's test values have been used as the reference line.

A comparison of the test data in Tables XX and XXI indicates that in the majority of cases there is good agreement between the mill and Institute data. Table XX shows the average difference encountered in the comparison of Institute and mill results for the sample lots submitted by each mill for the current period, as well as the maximum difference encountered in comparing the Institute and mill test results for a given sample lot. In Table XXI, the average differences shown for each test in Table XX 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.

It may be noted in Table XXI that the maximum variation between the average basis weight results of the Institute and those of a given mill on corresponding samples is four per cent for the current period. This percentage variation is considerably greater than the variations for the other mills. Further, it may be noted that the average basis weight results for Mills D and J are higher than those for the Institute, whereas the results for Mills B and G are the same and the results for the other mills are lower. In general, the agreement between Institute and mill basis weight results is very good.

The maximum variation in caliper for the current period is seven per cent. Compared with the values for the Institute, the average result for Mill A is higher while the average results for Mills D, I, and J are the same, and the average results for the other mills are

lower. The accord between Institute and mill caliper values is good with the exception of Mills L, M, and N.

It may be noted in Table XXI that the bursting strength results exhibit a maximum variation of seven per cent for the current period. The average results for Mills A, F, I, K, L, M, and N are higher than those for the Institute, whereas the results for Mills D, G, J, and O are lower and the results for Mills B and C are the same. The agreement in bursting strength results is good with the exception of Mills M and N.

The G. E. puncture results exhibit a maximum variation of nineteen per cent for the current period. Compared with the values for the Institute, the results for Mills A, I, and J are higher, whereas the results for Mills B, C, F, G, and M are lower. The agreement between the Institute and mill results is good for all mills except A and M.

It may be seen in Tables XX and XXI that the average machine direction tear results for Mills D and I are higher than those for the Institute whereas the results for the other mills are lower. The maximum variation for the current period is nineteen per cent. The differences encountered for Mills C, K, and L appear to be excessive.

With regard to the cross-machine direction tear results, it may be noted that the average results for Mills B, I, I, J, and N are higher than those for the Institute whereas the average results for the other mills are lower. The maximum variation for the current

period is nine per cent. Only the differences for Mills M and N appear to be somewhat excessive.

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

No. Samples Compared	A	B	C	D	Mills*							N	O
					F	G	I	J	K	L	E		
6	16	8	9	9	8	9	4	4	8	4	3	8	
<u>Basis Weight</u>													
Institute	43.2	42.1	43.4	42.9	43.2	43.5	42.3	42.8	43.5	43.1	44.0	43.3	41.9
Mill	43.0	42.1	43.2	43.1	42.9	43.5	42.2	43.1	43.3	42.3	42.2	43.2	41.8
Av. Diff.**	-0.2	0.0	-0.2	+0.2	-0.3	0.0	-0.1	+0.3	-0.2	-0.8	-1.8	-0.1	-0.1
Max. Diff.***	-0.5	+0.3	-0.7	+0.8	-0.6	+0.7	-0.5	+0.5	-0.6	-1.3	-2.1	-0.2	-0.8
<u>Caliber</u>													
Institute	12.8	12.2	14.3	12.5	13.5	12.0	13.1	13.3	13.0	13.6	13.9	12.4	12.3
Mill	12.9	12.1	13.9	12.5	13.0	11.9	13.1	13.3	12.7	12.9	12.9	11.8	12.1
Av. Diff.**	+0.1	-0.1	-0.4	0.0	-0.5	-0.1	0.0	0.0	-0.3	-0.7	-1.0	-0.6	-0.2
Max. Diff.***	+0.2	-0.3	-0.8	-0.3	-0.7	-0.2	+0.6	+0.1	-0.4	-1.0	-1.3	-0.6	-0.4
<u>Bursting Strength</u>													
Institute	111	108	106	106	106	124	105	111	103	105	105	107	111
Mill	113	108	106	101	111	123	107	108	105	108	112	115	108
Av. Diff.**	+2	0	0	-5	+5	-1	+2	-3	+2	+3	+7	+8	-3
Max. Diff.***	+5	+5	+5	-9	+8	-5	+9	-5	+6	+7	+12	+13	-6
<u>G. E. Puncture</u>													
Institute	32	28	34	34	39	33	31	31	35	34	36	36	33
Mill	35	26	33	—	38	31	32	32	—	—	29	—	—
Av. Diff.**	+3	-2	-1	—	-1	-2	+1	+1	—	—	-7	—	—
Max. Diff.***	+3	-4	+2	—	-3	-3	+2	+2	—	—	-8	—	—

(Continued on next page.)

TABLE XX (Cont.)

No. Samples Compared	A	B	C	D	Mills*								N	
					F	G	I	J	K	L	M			
	6	16	8	9	9	8	9	4	4	4	8	4	3	8
				<u>Tearing Strength, in</u>										
Institute	332	290	353	358	392	359	331	344	360	343	407	349	340	
Mill	308	279	303	383	363	334	350	318	313	279	373	342	325	
Av. Diff.**	-24	-11	-50	+25	-30	-25	+19	-26	-47	-64	-34	-7	-15	
Max. Diff.***	-56	-34	-73	+49	-58	-46	+56	-33	-72	-90	-75	-26	-36	
				<u>Tearing Strength, across</u>										
Institute	369	335	388	383	428	388	388	380	379	381	400	400	372	
Mill	360	342	368	408	407	375	414	401	357	360	364	433	371	
Av. Diff.**	-9	+7	-20	+25	-21	-13	+26	+21	-22	-21	-36	+33	-1	
Max. Diff.***	-24	+36	-43	+68	-37	-38	+50	+26	-57	-63	-60	+46	-25	

* Comparison based on averages involves 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 average for any sample submitted by that particular mill.

TABLE XXI

COMPARISON OF INSTITUTE-MILL DIFFERENCES BY PERIODS

	Basis Weight	Caliper	Average Differences, %			
			Bursting Strength	G. E. Puncture	Tearing in	Strength across
Mill A						
Current period	-0.5	+0.8	+2	+9	-7	-2
78th period	-2	-2	+0.9	+9	-8	-3
77th period	-0.7	-0.8	0	+3	+4	-2
Mill B						
Current period	0	-0.8	0	-7	-4	+2
78th period	-2	-2	+0.9	-7	-7	-3
77th period	0	-2	-0.9	-3	+1	+3
Mill C						
Current period	-0.5	-3	0	-3	-14	-5
78th period	-0.7	-2	0	+3	-5	+3
77th period	+0.2	-3	0	+6	-4	+3
Mill D						
Current period	+0.5	0	-5	-	+7	+7
78th period	-0.2	-0.8	-5	-	+1	+5
77th period	+1	-2	-2	-	+3	+11
Mill E						
Current period	--	--	--	--	--	--
78th period	0	-8	-3	+3	-12	-8
77th period	+0.5	-5	-3	+6	-8	+0.3
Mill F						
Current period	-0.7	-4	+5	-3	-6	-5
78th period	-2	-5	+4	-3	-10	-6
77th period	-1	-5	+5	-8	-10	-6
Mill G						
Current period	0	-0.8	-0.8	-6	-7	-3
78th period	-0.7	-2	+0.8	-9	-5	-3
77th period	-0.2	-2	+0.8	-9	-4	-5
Mill H						
Current period	--	--	--	--	--	--
78th period	+0.2	-2	-0.9	0	-7	-8
77th period	+1	0	-2	0	-5	-7
Mill I						
Current period	-0.2	0	+2	+3	+6	+7
78th period	-0.7	+2	-0.9	+3	+8	+11
77th period	-0.5	-2	0	0	+7	+10
Mill J						
Current period	+0.7	0	-3	+3	-8	+6
78th period	+0.2	+2	-0.9	+6	0	+10
77th period	+2	-0.7	-3	+3	-4	-1
Mill K						
Current period	-0.5	-2	+2	--	-13	-6
78th period	--	--	--	--	--	--
77th period	--	--	--	--	--	--
Mill L						
Current period	-2	-5	+3	--	-19	-6
78th period	-2	-5	+1	--	-10	-3
77th period	-1	-7	+0.9	--	-12	-6
Mill M						

78th period	-2	-2	+0.9	-7	-4	+2
77th period	0	-2	-0.9	-3	-7	-3
Mill C					+1	+3
Current period	-0.5	-3	0	-3	-14	-5
78th period	-0.7	-2	0	+3	-5	+3
77th period	+0.2	-3	0	+6	-4	+3
Mill D						
Current period	+0.5	0	-5	—	+7	+7
78th period	-0.2	-0.8	-5	—	+1	+5
77th period	+1	-2	-2	—	+3	+11
Mill E						
Current period	—	—	—	—	—	—
78th period	0	-8	-3	+3	-12	-8
77th period	+0.5	-5	-3	+6	-8	+0.3
Mill F						
Current period	-0.7	-4	+5	-3	-8	-5
78th period	-2	-5	+4	-3	-10	-6
77th period	-1	-5	+5	-8	-10	-6
Mill G						
Current period	0	-0.8	-0.8	-6	-7	-3
78th period	-0.7	-2	+0.8	-9	-5	-3
77th period	-0.2	-2	+0.8	-9	-4	-5
Mill H						
Current period	—	—	—	—	—	—
78th period	+0.2	-2	-0.9	0	-7	-8
77th period	+1	0	-2	0	-5	-7
Mill I						
Current period	-0.2	0	+2	+3	+6	+7
78th period	-0.7	+2	-0.9	+3	+8	+11
77th period	-0.5	-2	0	0	+7	+10
Mill J						
Current period	+0.7	0	-3	+3	-8	+6
78th period	+0.2	+2	-0.9	+6	0	+10
77th period	+2	-0.7	-3	+3	-4	-1
Mill K						
Current period	-0.5	-2	+2	—	-13	-6
78th period	—	—	—	—	—	—
77th period	—	—	—	—	—	—
Mill L						
Current period	-2	-5	+3	—	-19	-6
78th period	-2	-5	+1	—	-10	-3
77th period	-1	-7	+0.9	—	-12	-6
Mill M						
Current period	-4	-7	+7	-19	-8	-9
78th period	-4	-8	+8	-11	+1	-0.5
77th period	-3	-8	+9	-14	-2	-0.2
Mill N						
Current period	-0.2	-5	+7	—	-2	+8
78th period	-1	-3	-2	—	-2	+7
77th period	-0.5	-3	0	—	-3	+8
Mill O						
Current period	-0.2	-2	-3	—	-4	-0.3
78th period	—	—	—	—	—	—
77th period	+0.7	-2	-4	—	-7	+2

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954

Institute Data versus Mill Data

[illegible]

egs for one or more specimens which tore beyond the 3/8-inch limit.

data are calculated from the totals of the individual readings.

TABLE XXII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, Points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf				
					IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	In	IPC	Mill Diff.	g./shee	
Mill A — 42-lb. Linerboard																	
156601	A-509	WFIS	12/21/53	2	42.8	42.7 -0.1	12.7	12.9 +0.2	108	112 + 4	30	33	+ 3	314 ^a	305	- 9	34
156602	A-510	WFIS	12/22/53	2	43.0	43.0 0.0	12.8	12.8 0.0	108	112 + 4	31	34	+ 3	327 ^a	318	- 9	35
156644	A-511	WFIS	12/28/53	2	43.8	43.3 -0.5	13.4	13.4 0.0	108	113 + 5	34	36	+ 2	376 ^a	320	-56	38
156645	A-512	WFIS	12/28/53	2	43.6	43.2 -0.4	13.0	13.0 0.0	109	111 + 2	35	35	0	345 ^a	308	-37	38
156693	A-513	WFIS	1 / 9/54	1	43.2	42.7 -0.5	12.4	12.6 +0.2	115	113 - 2	32	35	+ 3	313 ^a	304	- 9	38
156694	A-514	WFIS	1 / 9/54	1	43.0	42.9 -0.1	12.4	12.6 +0.2	118	115 - 3	32	35	+ 3	316	294	-22	36
Current Mill Average:					43.2	43.0 -0.2	12.8	12.9 +0.1	111	113 + 2	32	35	+ 3	332	308	-24	36

^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.

TABLE XXIII

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet									
	IPC Mill Diff.		IPC Mill Diff.		IPC Mill Diff.		IPC Mill Diff.		IPC Mill Diff.									
	In		In		In		In		Across									
<u>Mill B--42-lb. Linerboard</u>																		
1	43.1	43.3	+0.2	12.4	12.2	-0.2	106	109	+ 3	30	29	- 1	309 ^a	306	- 3	361 ^a	364	+ 3
1	42.8	42.7	-0.1	12.3	12.2	-0.1	110	110	0	29	29	0	299 ^a	320	+21	344 ^a	380	+36
1	42.8	42.7	-0.1	12.2	12.3	+0.1	111	110	- 1	29	29	0	301 ^a	322	+21	359 ^a	366	+ 7
1	43.5	43.5	0.0	12.3	12.3	0.0	110	110	0	29	29	0	323 ^a	316	- 7	367 ^a	383	+16
1	42.2	42.0	-0.2	12.0	11.7	-0.3	108	111	+ 3	28	26	- 2	297 ^a	263	-34	331 ^a	320	-11
1	42.0	42.1	+0.1	11.9	11.7	-0.2	105	111	+ 5	27	24	- 3	290 ^a	267	-23	326 ^a	324	- 2
1	42.2	41.9	-0.3	11.9	11.7	-0.2	111	110	- 1	28	25	- 3	302	277	-25	323 ^a	323	0
1	42.3	42.1	-0.2	11.9	11.6	-0.3	109	108	- 1	27	24	- 3	285 ^a	277	- 8	321 ^a	341	+20
1	41.8	41.5	-0.3	12.3	12.3	0.0	106	111	+ 5	29	25	- 4	287 ^a	261	-26	336 ^a	325	-11
1	41.6	41.5	-0.1	12.4	12.3	-0.1	109	109	0	27	25	- 2	289 ^a	259	-30	329 ^a	329	0
1	41.6	41.6	0.0	12.3	12.2	-0.1	107	109	+ 2	28	25	- 3	289 ^a	265	-24	323 ^a	332	+ 9
1	41.8	41.7	-0.1	12.3	12.3	0.0	109	110	+ 1	28	25	- 3	297 ^a	276	-21	329 ^a	338	+ 9
1	41.7	41.8	+0.1	12.4	12.3	-0.1	106	103	- 3	27	25	- 2	266	262	- 4	324 ^a	337	+14
1	41.5	41.8	+0.3	12.4	12.3	-0.1	104	103	- 1	27	25	- 2	275	260	-15	325 ^a	331	+ 5
1	41.6	41.9	+0.3	12.3	12.4	+0.1	107	105	- 2	27	25	- 2	259 ^a	261	+ 2	340 ^a	329	-11
1	41.5	41.8	+0.3	12.4	12.4	0.0	103	103	0	27	26	- 1	272	273	+ 1	318 ^a	349	+31
	42.1	42.1	0.0	12.2	12.1	-0.1	108	108	0	28	26	- 2	290	279	-11	335	342	+ 7

ings for one or more specimens which tore beyond the 3/8-inch limit.
ge" data are calculated from the totals of the individual readings.

TABLE XXIII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (contd.)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmende g./s	
					IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.		In Mill Diff.
Mill B--42-lb. Linerboard														
156564	B-927	WF1S	12/15/53	1	43.1	43.3 +0.2	12.4	12.2 -0.2	106	109 + 3	30	29	309 ^a 306 - 3	
156565	B-928	WF1S	12/15/53	1	42.8	42.7 -0.1	12.3	12.2 -0.1	110	110	0	29	299 ^a 320 +21	
156566	B-929	WF1S	12/15/53	1	42.8	42.7 -0.1	12.2	12.3 +0.1	111	110	- 1	29	301 ^a 322 +21	
156567	B-930	WF1S	12/15/53	1	43.5	43.5 0.0	12.3	12.3 0.0	110	110	0	29	323 ^a 316 - 7	
156592	B-931	WF1S	12/21/53	1	42.2	42.0 -0.2	12.0	11.7 -0.3	108	111 + 3	28	26	297 ^a 263 -34	
156593	B-932	WF1S	12/21/53	1	42.0	42.1 +0.1	11.9	11.7 -0.2	105	111 + 5	27	24	290 ^a 267 -23	
156594	B-933	WF1S	12/21/53	1	42.2	41.9 -0.3	11.9	11.7 -0.2	111	110	- 1	28	302 ^a 277 -25	
156595	B-934	WF1S	12/21/53	1	42.3	42.1 -0.2	11.9	11.6 -0.3	109	108	- 1	27	285 ^a 277 -8	
156621	B-935	WF1F	12/29/53	1	41.8	41.5 -0.3	12.3	12.3 0.0	106	111 + 5	29	25	287 ^a 261 -26	
156622	B-936	WF1S	12/29/53	1	41.6	41.5 -0.1	12.4	12.3 -0.1	109	109	0	27	289 ^a 259 -30	
156623	B-937	WF1S	12/29/53	1	41.6	41.6 0.0	12.3	12.2 -0.1	107	109 + 2	28	25	289 ^a 265 -24	
156624	B-938	WF1S	12/29/53	1	41.8	41.7 -0.1	12.3	12.3 0.0	109	110 + 1	28	25	297 ^a 276 -21	
156650	B-939	WF1S	1 / 4/54	1	41.7	41.8 +0.1	12.4	12.3 -0.1	106	103	- 3	27	266 262 -4	
156651	B-940	WF1S	1 / 4/54	1	41.5	41.8 +0.3	12.4	12.3 -0.1	104	103	- 1	27	275 260 -15	
156652	B-941	WF1S	1 / 4/54	1	41.6	41.9 +0.3	12.3	12.4 +0.1	107	105	- 2	27	259 ^a 261 + 2	
156653	B-942	WF1S	1 / 4/54	1	41.5	41.8 +0.3	12.4	12.4 0.0	103	103	0	27	272 273 + 1	
Current Mill Average:					42.1	42.1 0.0	12.2	12.1 -0.1	108	108	0	28	26	290 279 -11

^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.

TABLE XXIV

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

Basis Weight, lb.	Caliper, points	Bursting Strength, - p.s.i. gage	G. E. Puncture, units	Elmendorf Tear,
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff		

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

ta are calculated from the totals of the individual readings.

TABLE XXIV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continue)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		In Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
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^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.

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

Basis Weight,		Caliper,	Bursting		G. E.		Elmendorf Tear,								
lb.		points	Strength,	Puncture,	units	In	Across								
IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.								
<u>Mill D -- 42-lb. Linerboard</u>															
2.8	43.3	+0.5	13.0	12.8	-0.2	107	103	- 4	33	353 ^a	361	+ 8	372 ^a	406	+34
3.1	43.9	+0.8	12.9	12.8	-0.1	106	101	- 5	33	359 ^a	404	+45	386 ^a	431	+45
3.8	43.5	-0.3	12.1	12.0	-0.1	109	103	- 6	36	341 ^a	390	+49	373 ^a	408	+35
3.0	42.6	-0.4	12.7	12.6	-0.1	105	102	- 3	34	341 ^a	383	+42	372 ^a	440	+68
2.4	42.0	-0.4	12.4	12.5	+0.1	107	103	- 4	36	379 ^a	391	+12	392 ^a	415	+23
3.6	43.8	+0.2	12.4	12.5	+0.1	109	100	- 9	36	377 ^a	405	+28	412 ^a	433	+21
2.5	43.2	+0.7	12.1	12.1	0.0	107	101	- 6	35	385 ^a	399	+14	393 ^a	405	+12
3.1	43.3	+0.2	12.6	12.3	-0.3	102	98	- 4	34	337 ^a	355	+18	371 ^a	361	-10
2.1	42.5	+0.4	12.6	12.5	-0.1	104	101	- 3	32	352 ^a	362	+10	371 ^a	370	- 1
2.9	43.1	+0.2	12.5	12.5	0.0	106	101	- 5	34	358	383	+25	383	408	+25

for one or more specimens which tore beyond the $3/8$ -inch limit.

data are calculated from the totals of the individual readings.

TABLE XXVI

Mill E - 42-lb. Linerboard
No samples submitted.

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight,		Caliper,		Bursting		G. E.		IPC Mill D			
					lb.	IPC	lb.	IPC	points	IPC	Strength, p.s.i.	Puncture, units		IPC	Diff.	
Mill D -- 42-lb. Linerboard																
156579	D-724	W.F.	12/21/53	4	42.8	43.3	+0.5	13.0	12.8	-0.2	107	103	-4	33	353 ^a	361
156580	D-725	W.F.	12/22/53	4	43.1	43.9	+0.8	12.9	12.8	-0.1	106	101	-5	33	359 ^a	404
156614	D-726	W.F.	1 / 1/54	4	43.8	43.5	-0.3	12.1	12.0	-0.1	109	103	-6	36	341 ^a	390
156615	D-727	W.F.	1 / 2/54	4	43.0	42.6	-0.4	12.7	12.6	-0.1	105	102	-3	34	341 ^a	383
156616	D-728	W.F.	1 / 3/54	4	42.4	42.0	-0.4	12.4	12.5	+0.1	107	103	-4	36	379 ^a	391
156631	D-729	W.F.	1 / 4/54	4	43.6	43.8	+0.2	12.4	12.5	+0.1	109	100	-9	36	377 ^a	405
156638	D-730	W.F.	1 / 5/54	4	42.5	43.2	+0.7	12.1	12.1	0.0	107	101	-6	35	385 ^a	399
156726	D-731	W.F.	1 / 19/54	4	43.1	43.3	+0.2	12.6	12.3	-0.3	102	98	-4	34	337 ^a	355
156740	D-732	W.F.	1 / 20/54	4	42.1	42.5	+0.4	12.6	12.5	-0.1	104	101	-3	32	352 ^a	362
Current Mill Average:					42.9	43.1	+0.2	12.5	12.5	0.0	106	101	-5	34	358	383

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.

TABLE XXVI

MILL E - 42-lb. Linerboard
No samples submitted.

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

[illegible]

ings for one or more specimens which tore beyond the 3/8-inch limit.

data are calculated from the totals of the individual readings.

TABLE XXVII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Diff.	Bursting Strength, p.s.i. gage		G. E. Puncture, units	Elm. g.						
					IPC	Mill Diff.	IPC	Mill Diff.		IPC	Mill Diff.								
Mill F-42-lb. Linerboard																			
156596	F-87	W.F.	12/7/53	--	43.2	42.9	-0.3	12.8	12.3	-0.5	109	117	+ 8	37	38	+ 1	385a	367	-18
156597	F-88	W.F.	12/15/53	--	41.9	41.9	0.0	12.1	11.9	-0.2	106	112	+ 6	35	35	0	363a	341	-22
156598	F-89	W.F.	12/16/53	--	42.8	42.2	-0.6	13.9	13.2	-0.7	100	106	+ 6	41	39	- 2	392a	361	-31
156599	F-90	W.F.	12/16/53	--	42.5	42.1	-0.4	13.6	13.1	-0.5	102	110	+ 8	39	37	- 2	386a	355	-31
156600	F-91	W.F.	12/18/53	--	44.0	44.1	+0.1	14.0	13.5	-0.5	108	113	+ 5	39	40	+ 1	412a	376	-36
156684	F-92	W.F.	12/18/53	--	43.4	42.8	-0.6	14.0	13.5	-0.5	95	103	+ 8	40	38	- 2	399a	341	-58
156685	F-93	W.F.	12/19/53	--	43.5	43.1	-0.4	13.2	12.9	-0.3	113	115	+ 2	37	35	- 2	377a	359	-18
156686	F-94	W.F.	12/20/53	--	44.4	43.8	-0.6	14.1	13.6	-0.5	109	116	+ 7	41	38	- 3	417a	369	-48
156687	F-95	--	12/30/53	--	43.2	43.3	+0.15	13.6	13.0	-0.6	108	109	+ 1	40	41	+ 1	399a	388	-11
Current Mill Average:					43.2	42.9	-0.3	13.5	13.0	-0.5	106	111	+ 5	39	38	- 1	392	363	-30

^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.

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data															
Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet		In		Across			
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	
<u>Mill G--42-lb. Linerboard</u>															
45.0	12.2	12.1	-0.1	131	129	-2	35	33	-2	380a	359	-21	434a	396	-38
46.2	13.0	12.8	-0.2	122	119	-3	36	35	-1	401a	355	-46	433a	409	-24
43.5	12.1	11.9	-0.2	130	125	-5	33	32	-1	353	339	-14	385a	383	-2
43.5	12.0	12.1	+0.1	124	124	0	33	32	-1	354a	343	-11	379a	375	-3
41.2	11.6	11.6	0.0	117	117	0	30	28	-2	340a	305	-35	350a	341	-9
42.5	11.7	11.6	-0.1	119	122	+3	33	30	-3	347a	327	-20	363a	372	+9
43.2	11.7	11.6	-0.1	121	124	+3	33	31	-2	343a	317	-26	379a	358	-21
42.4	11.5	11.5	0.0	126	124	-2	32	30	-2	357a	325	-32	379a	361	-18
43.5	12.0	11.9	-0.1	124	123	-1	33	31	-2	359	334	-25	388	375	-13

Mill H--42-lb. Linerboard

No samples submitted.

for one or more specimens which tore beyond the 3/8-inch limit. a are calculated from the totals of the individual readings.

TABLE XXVIII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill. Ccde	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elm g In Mill D						
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill		Diff.					
					<u>Mill G--42-lb. Linerboard</u>														
156577	G-550	W.F.	12/17/53	--	45.0	45.0	0.0	12.2	12.1	-0.1	131	129	- 2	35	33	- 2	380a	359	-
156578	G-551	W.F.	12/17/53	--	46.2	46.0	-0.2	13.0	12.8	-0.2	122	119	- 3	36	35	- 1	401a	355	-
156605	G-552	W.F.	12/23/53	--	43.5	43.3	-0.2	12.1	11.9	-0.2	130	125	- 5	33	32	- 1	353	339	-
156606	G-553	W.F.	12/23/53	--	43.5	43.4	-0.1	12.0	12.1	+0.1	124	124	0	33	32	- 1	354a	343	-
156689	G-554	W.F.	1/ 8/54	--	41.2	41.2	0.0	11.6	11.6	0.0	117	117	0	30	28	- 2	340a	305	-
156690	G-555	W.F.	1/ 8/54	--	42.5	42.3	-0.2	11.7	11.6	-0.1	119	122	+ 3	33	30	- 3	347a	327	-
156711	G-558	W.F.	1/13/54	--	43.2	43.3	+0.1	11.7	11.6	-0.1	121	124	+ 3	33	31	- 2	343a	317	-
156712	G-559	W.F.	1/13/54	--	42.4	43.1	+0.7	11.5	11.5	0.0	126	124	- 2	32	30	- 2	357a	325	-
Current Mill Average:					43.5	43.5	0.0	12.0	11.9	-0.1	124	123	- 1	33	31	- 2	359	334	-

TABLE XXIX

Mill H--42-lb. Linerboard

No samples submitted.

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.

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

[illegible]

Mill I--42-lb. Linerboard																	
42.2	42.2	0.0	12.9	12.7	-0.2	107	106	- 1	30	31	+ 1	320a	311	- 9	376a	391	+15
42.1	42.0	-0.1	13.0	12.6	-0.4	97	106	+ 9	30	30	0	324	318	- 6	383a	398	+15
42.5	42.4	-0.1	12.9	13.4	+0.5	108	106	- 2	31	33	+ 2	318a	343	+25	385a	414	+29
42.2	42.3	+0.1	12.9	12.8	-0.1	104	108	+ 4	32	33	+ 1	320a	376	+56	391a	412	+21
42.2	42.2	0.0	13.0	12.7	-0.3	103	105	+ 2	32	33	+ 1	332a	372	+40	401a	406	+ 5
stitute	42.3		13.1			109			29				348			399	
stitute	42.3		13.2			107			28				305			370	
42.6	42.1	-0.5	14.1	13.7	-0.4	106	109	+ 3	33	31	- 2	335a	367	+32	406a	413	+ 7
42.3	42.0	-0.3	13.9	13.6	-0.3	107	111	+ 4	32	30	- 2	354a	378	+24	383a	431	+48
42.3	42.2	-0.1	12.9	13.4	+0.5	108	105	- 3	32	32	0	338a	348	+10	385a	426	+41
42.0	42.2	+0.2	12.8	13.4	+0.6	107	106	- 1	31	32	+ 1	341a	339	- 2	383a	433	+50
42.3	42.2	-0.1	13.1	13.1	0.0	105	107	+ 2	31	32	+ 1	331	350	+19	388	414	+26

Mill J-42-lb. Linerboard

[illegible]

ings for one or more specimens which tore beyond the 3/8-inch limit.

' data are calculated from the totals of the individual readings.

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data																	
File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight,		IPC	Caliper,		IPC	Diff.	IPC	Diff.	P.s.i. gage	Puncture, units	C. E.	Elmer's g In
					lb.	Diff.		points	Diff.								
<u>Mill I--42-lb. Linerboard</u>																	
156571	I-353	WFLS	12/17/53	1	42.2	42.2	0.0	12.9	12.7	107	106	- 1	30	31			311
156572	I-354	WFLS	12/18/53	1	42.1	42.0	-0.1	13.0	12.6	97	106	+ 9	30	30			318
156627	I-355	WFLS	12/20/53	1	42.5	42.4	-0.1	12.9	13.4	108	106	- 2	31	33			343
156655	I-356	WFLS	1/ 5/54	1	42.2	42.3	+0.1	12.9	12.8	104	108	+ 4	32	33			376
156656	I-357	WFLS	1/ 5/54	1	42.2	42.2	0.0	13.0	12.7	103	105	+ 2	32	33			372
	I-358--	Not received by Institute				42.3			13.1		109			29			348
	I-359--	Not received by Institute				42.3			13.2		107			28			305
156727	I-360	W.F.	1/ 14/54	1	42.6	42.1	-0.5	14.1	13.7	106	109	+ 3	33	31	- 2		335a
156728	I-361	W.F.	1/ 14/54	1	42.3	42.0	-0.3	13.9	13.6	107	111	+ 4	32	30	- 2		354a
156743	I-362	WFLS	1/20/54	1	42.3	42.2	-0.1	12.9	13.4	108	105	- 3	32	32	0		338a
156744	I-363	WFLS	1/21/54	1	42.0	42.2	+0.2	12.8	13.4	107	106	- 1	31	32	+ 1		341a
Current Mill Average:					42.3	42.2	-0.1	13.1	13.1	105	107	+ 2	31	32	+ 1		331
																	350
																	+19

Mill J--42-1b. Linerboard

	J-465	B.F.	12/28/53	--	42.9	42.9	0.0	13.8	13.8	0.0	109	106	- 3	34	33	- 1	335a	331	- 4
156647	J-466	B.F.	12/28/53	--	42.7	43.1	+0.4	13.7	13.7	0.0	110	105	- 5	33	34	+ 1	352a	320	-32
156716	J-467	B.F.	1/ 6/54	--	42.9	43.2	+0.3	12.8	12.8	0.0	113	111	- 2	30	31	+ 1	352a	319	-33
156717	J-468	B.F.	1/ 6/54	--	42.7	43.2	+0.5	12.7	12.8	+0.1	111	110	- 1	29	31	+ 2	335a	302	+33
Current Mill Average:					42.8	43.1	+0.3	13.3	13.3	0.0	111	108	- 3	31	32	+ 1	344	318	-26

^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.

TABLE XXXII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i.	G. E. Puncture, units	IPC	Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	IPC	Mill Diff.	Elmendorf Tear, g./sheet	
																In	Across
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
<u>Mill K-42-lb. Linerboard</u>																	
43.9	43.5	-0.4	13.1	12.8	-0.3	102	107	+ 5	36	363a	296	-67	405a	348	-57		
42.6	43.0	+0.4	13.0	12.6	-0.4	112	106	+ 6	36	361a	350	-11	376a	387	+11		
44.2	43.6	-0.6	13.2	12.8	-0.4	102	107	+ 5	33	361a	289	-72	381a	335	-46		
43.2	43.1	-0.1	12.8	12.6	-0.2	96	102	+ 6	33	355a	316	-39	353a	357	+ 4		
43.5	43.3	-0.2	13.0	12.7	-0.3	103	105	+ 2	35	360	313	-47	379	357	-22		

TABLE XXXIII

Mill L--42-lb. Linerboard

42.2	41.6	-0.6	13.4	12.7	-0.7	105	107	+ 2	35	357a	269	-88	405a	342	-63
43.2	42.4	-0.8	12.7	12.4	-0.3	103	106	+ 3	32	319a	304	-15	347a	382	+35
42.1	41.6	-0.5	13.6	12.7	-0.9	104	108	+ 4	35	349a	266	-83	393a	338	-55
42.8	42.4	-0.4	13.1	12.5	-0.6	106	106	0	32	337a	304	-33	361a	386	+25
43.8	42.5	-1.3	14.1	13.1	-1.0	106	108	+ 2	34	341a	270	-71	394a	362	-32
43.6	42.5	-1.1	14.0	13.1	-0.9	105	108	+ 3	33	356a	266	-90	376a	355	-21
43.7	42.4	-1.3	13.9	13.1	-0.8	105	109	+ 4	34	339a	265	-74	384a	350	-34
43.6	42.6	-1.0	14.1	13.5	-0.6	105	112	+ 7	35	349a	285	-64	388a	362	-26
43.1	42.3	-0.8	13.6	12.9	-0.7	105	108	+ 3	34	343	279	-64	381	360	-21

ings for one or more specimens which tore beyond the 3/8-inch limit.

data are calculated from the totals of the individual readings.

TABLE XXII

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Diff.	Bursting Strength, p.s.i. gage		G. E. Puncture, units		In Mill
					IPC	Diff.	IPC	Diff.		IPC	Diff.	IPC	Diff.	
<u>Mill K--42--lb. Linerboard</u>														
156568	K-13		12/22/53	7	43.9	-0.4	13.1	12.8	-0.3	102	107	+ 5	36	363a 296
156646	K-14		1/ 7/54	7	42.6	+0.4	13.0	12.6	-0.4	112	106	+ 6	36	361a 350
156679	K-15		1/11/54	7	44.2	-0.6	13.2	12.8	-0.4	102	107	+ 5	33	361a 289
156725	K-16		1/20/54	7	43.2	-0.1	12.8	12.6	-0.2	96	102	+ 6	33	355a 316
Current Mill Average:					43.5	-0.2	13.0	12.7	-0.3	103	105	+ 2	35	360 313

TABLE XXIII

Mill L--42-lb. Linerboard

156573	L-235		12/ 8/53	1	42.2	-0.6	13.4	12.7	-0.7	105	107	+ 2	35	357a 269
156574	L-236		12/10/53	1	43.2	-0.8	12.7	12.4	-0.3	103	106	+ 3	32	319a 304
156575	L-237		12/17/53	1	42.1	-0.5	13.6	12.7	-0.9	104	108	+ 4	35	349a 266
156576	L-238		12/18/53	1	42.8	-0.4	13.1	12.5	-0.6	106	106	0	32	337a 304
156695	L-239		1/ 4/54	1	43.8	-1.3	14.1	13.1	-1.0	106	108	+ 2	34	341a 270
156696	L-240		1/ 8/54	1	43.6	-1.1	14.0	13.1	-0.9	105	108	+ 3	33	356a 266
156738	L-241		1/12/54	1	43.7	-1.3	13.9	13.1	-0.8	105	109	+ 4	34	339a 265
156739	L-242		1/17/54	1	43.6	-1.0	14.1	13.5	-0.6	105	112	+ 7	35	349a 285
Current Mill Average:					43.1	-0.8	13.6	12.9	-0.7	105	108	+ 3	34	343 279

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.

TABLE XXXIV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

Basis Weight, lb.	Caliper, points	Bursting Strength,		G. E. Puncture, units	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.	IPC Mill Diff.
		IPC	p.s.i. gage					
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.
<u>Mill M--42-lb. Linerboard</u>								
43.6	41.5	-2.1	13.8	12.8	-1.0	111	114	+ 3
						36	28	-8
43.6	41.9	-1.7	13.9	13.0	-0.9	100	112	+12
						34	28	-6
44.8	43.2	-1.6	14.7	13.4	-1.3	101	107	+ 6
						37	29	-8
44.1	42.4	-1.7	13.2	12.5	-0.7	108	117	+ 9
						37	31	-6
44.0	42.2	-1.8	13.9	12.9	-1.0	105	112	+ 7
						36	29	-7
						407	373	-34
						400	364	-36
						403a	369	-34
						404a	329	-75
						411a	389	-12
						387a	399	-14
						398a	365	-33

TABLE XXXV

Mill N--42-lb. Linerboard

42.2	42.0	-0.2	11.7	11.1	-0.6	108	106	- 2	34	334a	336	+ 2	389a	424	+35
44.4	44.3	-0.1	12.6	12.0	-0.6	113	126	+13	37	355	329	-26	407a	427	+20
43.2	43.3	+0.1	12.8	12.2	-0.6	99	111	+12	38	358a	360	+ 2	402a	448	+46
43.3	43.2	-0.1	12.4	11.8	-0.6	107	115	+ 8	36	349	342	- 7	400	433	+33

ings for one or more specimens which tore beyond the 3/8-inch limit.
data are calculated from the totals of the individual readings.

TABLE XXXIV

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight,		Caliper, points	Bursting Strength,		G. E. Puncture, units									
					lb.	IPC		IPC	P.S.I. gage										
					Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.							
<u>Mill M--42-lb. Linerboard</u>																			
156603	M-213	W.	12/15/53	4	43.6	41.5	-2.1	13.8	12.8	-1.0	111	114	+ 3	36	28	-8	403a	369	-34
156604	M-214	W.	12/16/53	2	43.6	41.9	-1.7	13.9	13.0	-0.9	100	112	+12	34	28	-6	404a	329	-75
156682	M-215	W.	1/ 5/54	4	44.8	43.2	-1.6	14.7	13.4	-1.3	101	107	+ 6	37	29	-8	411a	399	-12
156683	M-216	W.	1/ 8/54	4	44.1	42.4	-1.7	13.2	12.5	-0.7	108	117	+ 9	37	31	-6	409a	395	-14
Current Mill Average:					44.0	42.2	-1.8	13.9	12.9	-1.0	105	112	+ 7	36	29	-7	407	373	-34

TABLE XXXV

Mill N--42-lb. Linerboard

156617	N-52		12/23/53	1	42.2	42.0	-0.2	11.7	11.1	-0.6	108	106	- 2	34			334a	336	+ 2
156618	N-53	W.F.S	12/26/53	1	44.4	44.3	-0.1	12.6	12.0	-0.6	113	126	+13	37			355	329	-26
156619	N-54	W.F.	12/28/53	1	43.2	43.3	+0.1	12.8	12.2	-0.6	99	111	+12	38			358a	360	+ 2
Current Mill Average:					43.3	43.2	-0.1	12.4	11.8	-0.6	107	115	+ 8	36			349	342	- 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.

SUMMARY OF INDIVIDUAL TEST LOTS—JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		Elmendorf Tear, g./sheet								
IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill	Diff.	In	Across	IPC	Mill	Diff.			
<u>Mill O--42-lb. Linerboard</u>																
42.3	42.8	+0.5	12.8	12.5	-0.3	108	105	- 3	34		326a	336	+10	369a	369	0
42.2	42.5	+0.3	12.6	12.4	-0.2	105	104	- 1	33		333a	332	- 1	349a	367	+18
41.9	41.9	0.0	12.3	11.9	-0.4	121	116	- 5	33		333a	319	-14	374a	373	- 1
42.0	41.8	-0.2	12.2	12.0	-0.2	122	119	- 3	33		336a	308	-28	381a	356	-25
42.4	42.2	-0.2	12.1	12.0	-0.1	114	114	0	33		341a	335	- 6	375a	388	+13
41.4	41.5	+0.1	11.9	11.9	0.0	113	109	- 4	31		328a	319	- 9	371a	385	+14
40.9	40.5	-0.4	12.2	11.9	-0.3	102	96	- 6	35		365a	329	-36	370a	355	-15
42.0	41.2	-0.8	12.2	12.0	-0.2	102	104	+ 2	35		353a	325	-28	390a	373	-17
41.9	41.8	-0.1	12.3	12.1	-0.2	111	108	- 3	33		340	325	-15	372	371	- 1

TABLE XXXVII
Mill E-44/46-lb. Drum Linerboard

48.0	48.1	+0.1	15.5	14.3	-1.2	109	116	+ 7	40	40	0	397a	332	-65	429a	397	-32	
48.1	48.8	+0.7	15.5	14.5	-1.0	98	103	+ 5	41	40	- 1	429a	431	+ 2	398a	437	+39	
48.1	48.8	+0.7	14.6	14	-0.6	112	120	+ 8	39	40	+ 1	421a	437	+26	425a	450	+25	
48.1	48.6	+0.5	15.2	14.3	-0.9	107	113	+ 6	40	40	0	416	403	-13	417	428	+11	

for one or more specimens which tore beyond the 3/8-inch limit.
Drum Linerboard.

are calculated from the totals of the individual readings.

TABLE XXXVI

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (continued)

Institute Data versus Mill Data

File No.	Mill Code	Fin- ish	Date Made	Mch. No.	Basis Weight, lb.		Caliper, points		Bursting Strength, p.s.i. gage		G. E. Puncture, units		In Mill			
					IPC	Mill	Diff.	IPC	Mill	Diff.	IPC	Mill		Diff.		
<u>Mill O--42-lb. Linerboard</u>																
156569	O-18	W.F.	12/19/53	3	42.3	42.8	+0.5	12.8	12.5	-0.3	108	105	- 3	34	326a	336
156570	O-19	W.F.	12/19/53	3	42.2	42.5	+0.3	12.6	12.4	-0.2	105	104	- 1	33	333a	332
156625	O-20	W.F.	1/ 1/54	3	41.9	41.9	0.0	12.3	11.9	-0.4	121	116	- 5	33	333a	319
156626	O-21	W.F.	1/ 1/54	3	42.0	41.8	-0.2	12.2	12.0	-0.2	122	119	- 3	33	336a	308
156677	O-22	W.F.	1/ 7/54	3	42.4	42.2	-0.2	12.1	12.0	-0.1	114	114	0	33	341a	335
156678	O-23	W.F.	1/ 7/54	3	41.4	41.5	+0.1	11.9	11.9	0.0	113	109	- 4	31	328a	319
156723	O-24	W.F.	1/16/54	3	40.9	40.5	-0.4	12.2	11.9	-0.3	102	96	- 6	35	365a	329
156724	O-25	W.F.	1/16/54	3	42.0	41.2	-0.8	12.2	12.0	-0.2	102	104	+ 2	35	353a	325
Current Mill Average:					41.9	41.8	-0.1	12.3	12.1	-0.2	111	108	- 3	33	340	325

TABLE XXXVII

Mill E-44/46-lb. Drum Linerboard

156654	E-53	W.F.	1/ 4/54	2	48.0	48.1	+0.1	15.5	14.3	-1.2	109	116	+ 7	40	40	0	397a	332
156741	E-55 ^b	---	1/20/54	2	48.1	48.8	+0.7	15.5	14.5	-1.0	98	103	+ 5	41	40	- 1	429a	431
156742	E-56	---	1/21/54	2	48.1	48.8	+0.7	14.6	14	-0.6	112	120	+ 8	39	40	+ 1	421a	437
Current Mill Average:					48.1	48.6	+0.5	15.2	14.3	-0.9	107	113	+ 6	40	40	0	416	403

^a This average includes the readings for one or more specimens which tore beyond the 3/8-inch limit.^b This sample was identified as 47-lb. Drum Linerboard.

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

TABLE XXXVII (Continued)
SUMMARY OF INDIVIDUAL TEST LOTS---JANUARY 1 THROUGH JANUARY 31, 1954 (Continued)

Institute Data versus Mill Data																	
Basis Weight, lb.	IPC Mill Diff.	Caliper, points	IPC Mill Diff.	Bursting Strength,		G. E. Puncture, units	IPC Mill Diff.	Elmendorf Tear, g./sheet		IPC Mill Diff.	IPC Mill Diff.						
				p.s.i.	gage			In	across								
<u>Miscellaneous</u>																	
<u>Mill E--28-lb. Linerboard</u>																	
28.8	28.2	-0.6	10.0	8.8	-1.2	79	74	- 5	18	15	- 3	212	131	-81	219a	159	-60
<u>Mill E--69-lb. Linerboard</u>																	
73.3	74.5	+1.2	20.6	20.3	-0.3	143	158	+15	76	80	+ 4	676a	615	-61	745a	697	-48
<u>Mill G--51-lb. Linerboard</u>																	
53.0	52.7	-0.3	14.3	14.5	+0.2	146	147	+ 1	43	40	- 3	462a	423	-39	475a	453	-22
52.7	52.6	-0.1	14.2	14.5	+0.3	144	147	+ 3	43	41	- 2	464a	425	-39	509a	467	-42

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

SUMMARY OF INDIVIDUAL TEST LOTS--JANUARY 1 THROUGH JANUARY 31, 1954 (Continued)

Institute Data versus Mill Data

File No.	Mill Code	Finish	Date Made	Mch. No.	Basis Weight, lb.	IPC Mill Diff.	Caliper, points	Bursting		IPC Mill Diff.	IPC Mill	Diff.	IPC Mill					
								Strength,	G. E. Puncture, units									
<u>Miscellaneous</u>																		
<u>Mill E--28-lb. Linerboard</u>																		
156691	E-54		1/13/54	2	28.8	28.2	-0.6	10.0	8.8	-1.2	79	74	- 5	18	15	- 3	212	131
<u>Mill E--69-lb. Linerboard</u>																		
156620	E-52		12/30/53	2	73.3	74.5	+1.2	20.6	20.3	-0.3	143	158	+15	76	80	+ 4	676a	615
<u>Mill G--51-lb. Linerboard</u>																		
156697	G-556	WF1S	1/11/54	--	53.0	52.7	-0.3	14.3	14.5	+0.2	146	147	+ 1	43	40	- 3	462a	423
156698	G-557	WF1S	1/11/54	--	52.7	52.6	-0.1	14.2	14.5	+0.3	144	147	+ 3	43	41	- 2	464a	425

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

