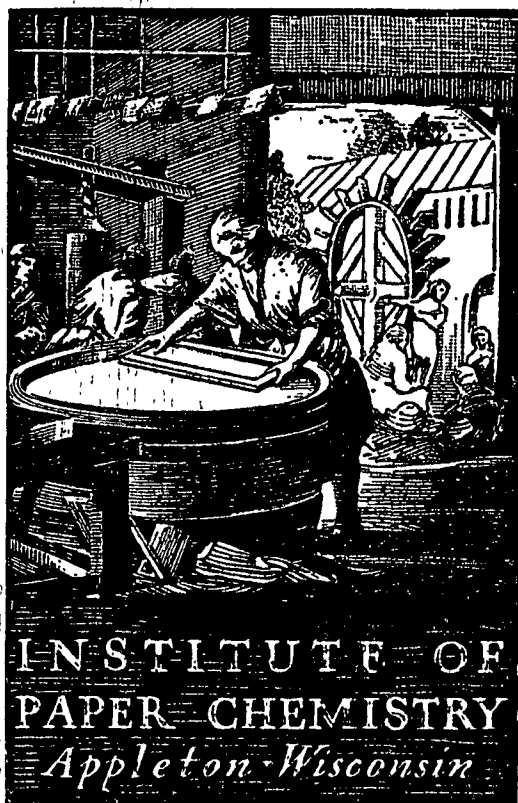




CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

Project 1108-17

Report 118

A Progress Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

April 1, 1966

CODE LETTERS FOR PROJECT 1108-17

Report 118

<u>Company - Mill</u>	<u>Machine No.</u>	<u>Code Letter</u>
The Chesapeake Corporation - West Point	1	--
Container Corporation of America - Circleville	5	M
Continental Can Company - Hopewell	1	P
- Hodge	1	AA
Crown Zellerbach Corporation - Baltimore	1	N
- Baltimore	2	Y
- Bogalusa	4	C
- Lebanon	2	H
Hoerner Boxes, Inc. - Ontonagon	1	D
International Paper Company - Bastrop	1	CC
- Bastrop	2	Q
- Georgetown	1	G
The Mead Corporation - Harriman	1	A
- Knoxville	1	K
- Lynchburg	2	O
- Sylva	1	X
- Sylva	2	S
Olin Mathieson Chemical Corporation - W. Monroe	1	--
- W. Monroe	2	--
Owens-Illinois, Inc. - Big Island	3	I
- Tomahawk	1	F
- Tomahawk	2	U
- Tomahawk	3	DD
Packaging Corporation of America - Filer City	1	B
- Filer City	2	R
St. Joe Paper Company - Port St. Joe	1	T
St. Regis Container Corporation - Coshocton	1	--
Union Bag-Camp Paper Corporation - Savannah	2	E
- Monroe	2	V
Waldorf Paper Products Company - St. Paul	5	Z
West Virginia Pulp & Paper Company - Covington	6	W
- Williamsburg	1	L
- Williamsburg	2	BB
Weyerhaeuser Company-N.C. Div. - Plymouth	3	J

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

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to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

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THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

CONTINUOUS EVALUATION OF CORRUGATING MEDIUM

INTRODUCTION

As requested by the Technical Division of the Fourdrinier Kraft Board Institute, Inc., the reports pertinent to the continuous evaluation of corrugating medium have been prepared by The Institute of Paper Chemistry on a bimonthly instead of monthly basis since August 1, 1961. The current report presents results obtained during the months of February and March, 1966, on 207 rolls of corrugating medium representing the production of thirty machines. Each of these 207 rolls of corrugating medium was evaluated for basis weight, caliper, Concora flat crush (conditioned after fluting), H. and D. flat crush on single-faced board, and runnability. The evaluation of runnability was initiated by corrugating each roll under standardized conditions on the Institute's corrugator into A-flute board at 600 feet per minute with minimum tension and recording the draw factor at this condition if the roll ran satisfactorily. If unsatisfactory runnability occurred at this speed, the corrugator was slowed down in increments of 25 f.p.m. until satisfactory runnability was obtained, i.e., no ruptured flutes. In this latter case the draw factor was recorded for the highest speed below 600 f.p.m. at which the roll ran satisfactorily. If the medium fabricated satisfactorily at 600 f.p.m. with minimum tension, further runs were made at higher tensions to determine when cracking occurred. The higher tensions used were 0.5, 1.0 and 1.5 lb. per inch. Flat crush was determined on the single-faced board obtained at a speed of 600 f.p.m. with minimum tension. The flat crush results, in addition to supplying information about quality, provide data which may be used by each participant to evaluate the relationship between Concora flat crush and combined board flat crush.

For each participating machine, test data for the current period are shown in Table I and presented graphically in Fig. 1 to 4. A tabulation of the number of rolls and type of medium evaluated is also given in Table I for each machine. The current machine test averages given in Table I are the means for each test property of the averages obtained on all rolls of corrugating medium evaluated from a given machine during the current period. In addition to the current machine test averages, Table I also presents the current F.K.I. averages, cumulative F.K.I. averages, and the F.K.I. indexes. The current F.K.I. average for each test property is the mean of the current machine averages for all machines participating in the study during a given period (excluding the current machine averages based on the evaluation of fewer than three rolls of corrugating medium as requested by the Technical Division). The cumulative F.K.I. average for each test property is the mean of the current F.K.I. averages for the previous twelve-month period excluding the average for the current period. The F.K.I. index for each test property is 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 for each test property provides a ready means of comparing the current quality with previous results. An index greater than 100% indicates that current quality is higher than the average result for the previous twelve periods; an index below 100% indicates that current quality is lower than the average result for the previous twelve periods.

The test results obtained on the rolls submitted from the production of individual machines during the current period are shown in Tables II through XXXI for Machines A through Z and Machines AA, BB, CC, and DD, respectively. The maximum, minimum and average results obtained on each roll are shown for all test

TABLE I
SUMMARY OF CURRENT MACHINE AVERAGES

February and March, 1966

Mill Code	No. of Rolls	Type of Medium	Basis Weight, lb.	Caliper, points	Concora Flat Crush, p.s.i.	Single-Face Flat Crush, p.s.i.
A	8	Semichemical	27.3	10.5	33.7	31.7
B	10	Semichemical	26.5	10.2	31.2	28.4
C	9	Semichemical	27.0	10.6	35.9	33.8
D	9	Semichemical	27.4	11.1	34.0	30.8
E	9	Semichemical	26.9	8.9	35.0	31.2
F	8	Semichemical	26.5	10.5	36.7	32.2
G	6	Semichemical	27.8	10.1	39.6	37.2
H	4	Semichemical	26.7	9.3	33.5	32.8
I	4	Semichemical	27.9	11.0	36.5	32.2
J	10	Semichemical	26.6	10.5	36.5	32.6
K	8	Semichemical	26.6	11.9	32.5	30.4
L	7	Semichemical	27.6	11.0	33.8	31.2
M	11	Semichemical	27.2	10.5	33.1	29.4
N	8	Bogus	29.3	10.3	36.1	30.7
O	8	Semichemical	26.5	10.9	36.6	31.5
P	8	Semichemical	27.7	10.8	35.7	32.8
Q	5	Semichemical	27.2	10.2	39.7	37.4
R	10	Semichemical	26.1	10.2	32.3	29.3
S	8	Semichemical	26.1	9.9	32.8	29.5
T	4	Kraft	28.7	8.8	33.2	33.0
U	8	Semichemical	26.5	10.6	36.7	33.2
V	4	Bogus	28.9	11.7	33.8	29.2
W	3	Semichemical	26.6	10.6	32.7	29.6
X	9	Semichemical	26.8	9.8	34.3	30.9
Y	8	Bogus	27.5	9.8	38.0	34.9
Z	2	Semichemical	Note ^a			
AA	4	Semichemical	27.4	10.7	34.3	33.2
BB	1	Semichemical	Note ^a			
CC	6	Semichemical	26.5	10.4	40.6	37.3
DD	8	Semichemical	26.9	10.9	34.4	30.2
Total	207					
Current F.K.I. average			27.2	10.4	35.1	32.0
Cumulative F.K.I. average			27.0	10.3	35.3	32.1
F.K.I. index, %			100.7	100.8	99.6	99.7

^a Current machine average has been omitted in compliance with the Technical Division's request that current machine averages based on evaluations of fewer than three rolls of medium should be excluded from the summary table and from the calculation of the current F.K.I. averages.

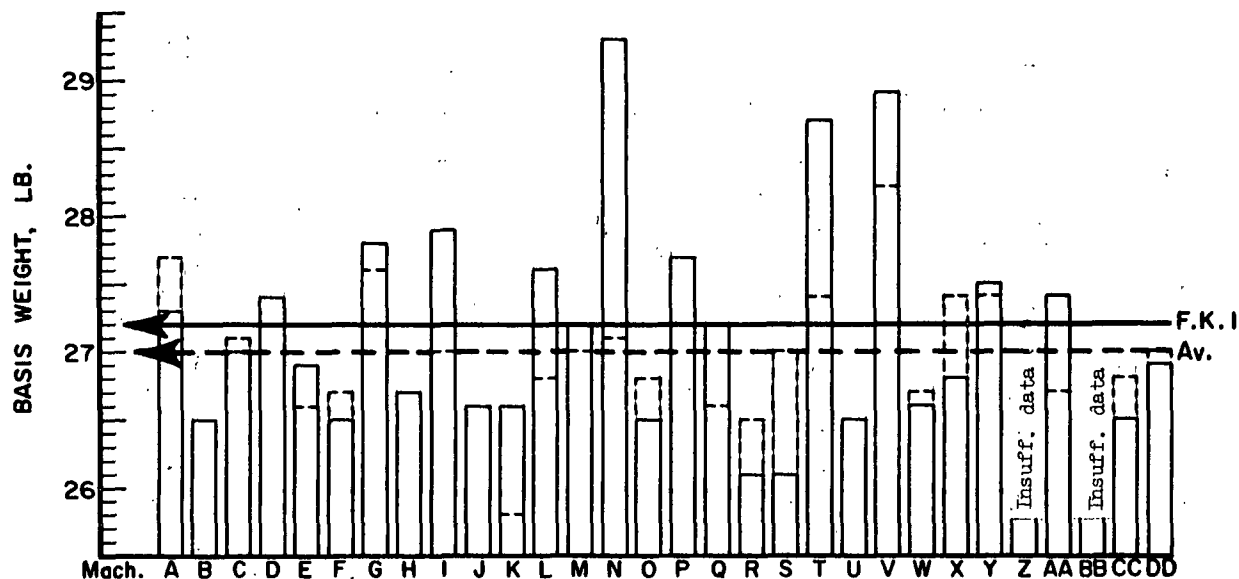


Figure 1. Comparison of Basis Weight Results

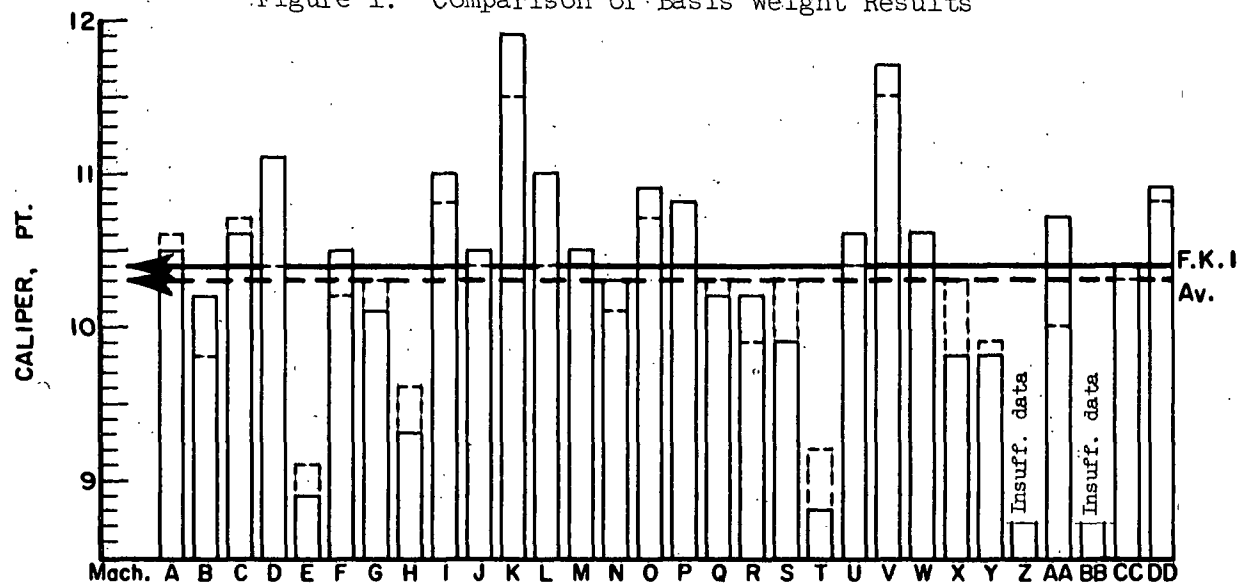


Figure 2. Comparison of Caliper Results

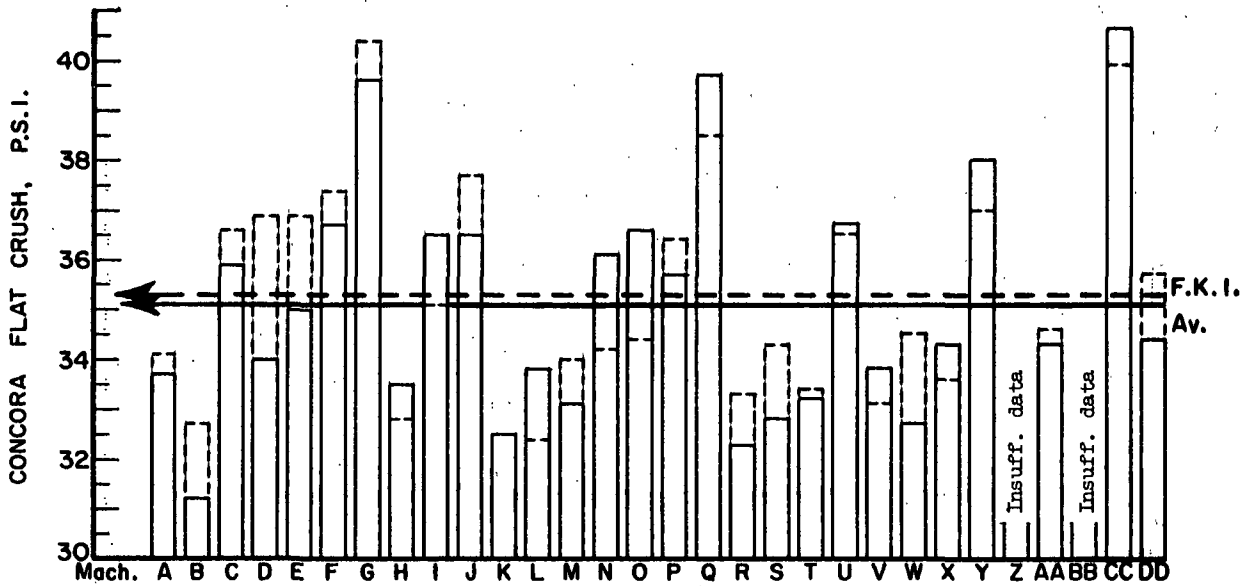


Figure 3. Comparison of Concora Flat Crush Results

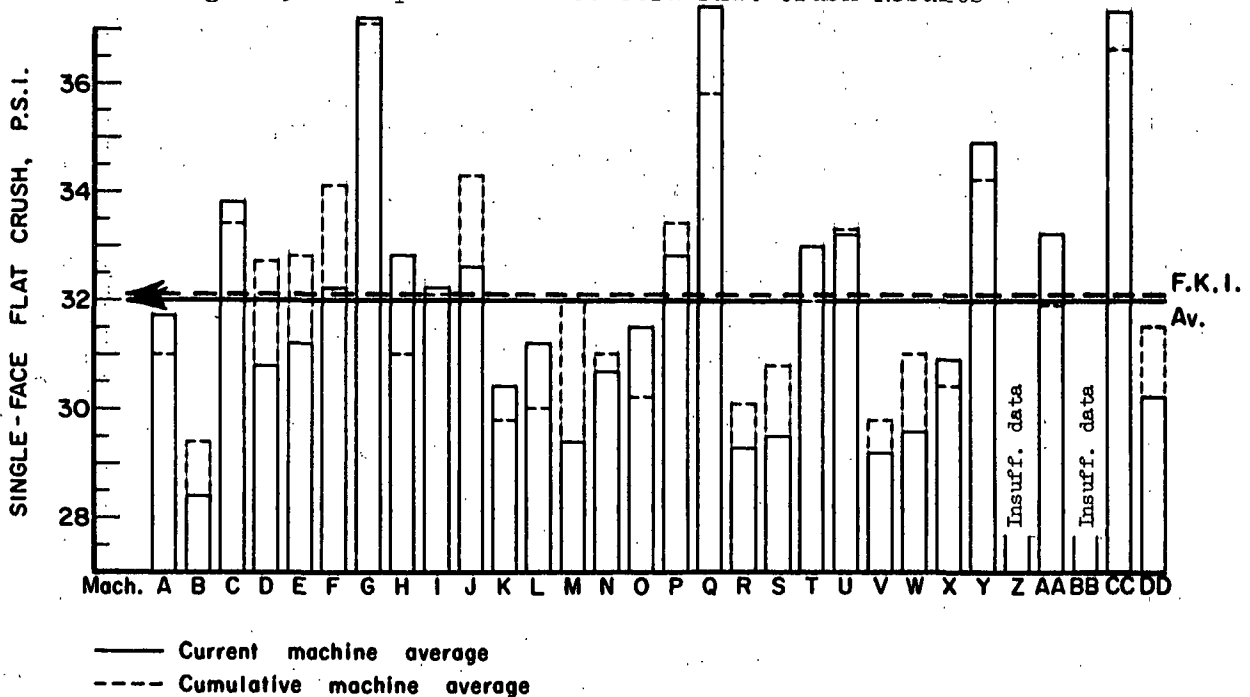


Figure 4. Comparison of Single-Face Flat Crush Results

TABLE II
SUMMARY OF TEST RESULTS FOR MACHINE A
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M.ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a	draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.		
A-1	1- 7-66	1-26-66	1492	26.6	10.9	10.3	10.6	28.8	31.6	27.6	Note ^c	1.545
A-2	1- 7-66	1-26-66	1493	27.3	10.7	10.2	10.4	35.4	32.4	31.2	Min.	1.552
A-3	2- 9-66	2-24-66	1500	27.8	11.5	10.8	11.1	36.0	31.6	29.8	Min.	1.557
A-4	2- 9-66	2-24-66	1501	27.4	11.2	10.6	11.0	34.8	34.0	30.8	1/2	1.556
A-5	2-24-66	3- 9-66	1508	27.0	10.3	10.0	10.1	34.8	33.7	31.8	Note ^d	1.546
A-6	2-24-66	3- 9-66	1509	26.8	10.0	9.1	9.6	36.6	32.4	30.8	Note ^e	1.546
A-7	3- 3-66	3-11-66	1516	27.6	11.0	10.2	10.5	38.4	34.2	32.4	Min.	1.552
A-8	3- 3-66	3-11-66	1517	27.5	11.0	10.4	10.8	37.2	34.6	32.0	Min.	1.550
Current machine average												
				27.3	10.5		33.7		31.7		1.550	
Cumulative machine average				27.7	10.6		34.1		31.0			
Machine factor, %				98.3	99.1		98.7		102.4			
Machine index, %				101.0	101.6		95.6		98.8			

TABLE III

SUMMARY OF TEST RESULTS FOR MACHINE B
February and March, 1966

(Type of medium: semichemical)

B-1	1-18-66	1-26-66	199	26.0	10.6	9.9	10.2	32.4	30.0	31.7	28.8	27.0	28.0	1-1/2	1.560
B-2	1-25-66	1-31-66	200	26.6	10.9	10.2	10.5	32.4	27.6	29.4	28.4	26.6	27.5	1/2	1.566
B-3	2- 1-66	2- 9-66	201	26.1	10.7	10.0	10.2	30.6	27.0	29.0	28.4	27.4	28.1	1	1.570
B-4	2-10-66	2-16-66	202	26.3	10.5	9.4	10.0	32.4	30.0	31.3	29.2	26.8	28.1	1-1/2	1.572
B-5	2-16-66	2-21-66	203	27.1	10.5	10.0	10.2	34.8	34.8	36.2	32.4	30.0	31.3	1-1/2	1.577
B-6	2-23-66	2-28-66	204	26.4	10.7	10.3	10.5	31.8	31.2	31.4	29.6	26.8	28.3	1-1/2	1.576
B-7	2-26-66	3- 4-66	205	26.7	10.6	10.0	10.2	33.6	29.4	31.9	28.6	27.6	28.8	1-1/2	1.570
B-8	3- 5-66	3-10-66	206	26.8	10.9	9.8	10.4	33.0	28.2	31.3	29.6	27.8	28.4	1-1/2	1.572
B-9	3-17-66	3-24-66	207	26.1	9.8	9.0	9.4	31.2	28.8	29.9	29.4	27.4	28.4	1-1/2	1.575
B-10	3-19-66	3-24-66	208	26.8	10.3	9.5	9.9	33.0	27.0	29.6	27.8	27.2	27.4	1-1/2	1.576
Current machine average				26.5			10.2			31.2			28.4		1.571
Cumulative machine average				26.5			9.8			32.7			29.4		
Machine factor, %				100.0			103.3			95.3			96.6		
Machine index, %				98.2			98.2			88.5			88.5		

^aMaximum tension at 600 f.p.m.

^b600 f.p.m., minimum tension.

^cMaximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

^dMaximum speed at which this roll could be corrugated with minimum tension was 475 f.p.m.

^eMaximum speed at which this roll could be corrugated with minimum tension was 450 f.p.m.

TABLE IV
SUMMARY OF TEST RESULTS FOR MACHINE C
February and March, 1966

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a	draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.		
C-1	1-11-66	2-1-66	1	28.4	13.5	12.0	12.7	37.8	36.6	33.0	Note ^c	1.539
C-2	1-16-66	2-1-66	2	26.9	11.4	10.8	11.1	35.4	32.0	28.0	Note ^c	1.546
C-3	1-24-66	2-7-66	3	27.0	10.9	9.9	10.4	36.0	35.4	32.6	Min.	1.556
C-4	2-2-66	2-14-66	4	26.0	10.2	9.0	9.8	38.4	36.7	32.6	Note ^d	1.541
C-5	2-9-66	2-22-66	5	26.7	11.0	9.9	10.4	40.8	37.9	34.6	1-1/2	1.566
C-6	2-17-66	3-7-66	6	26.8	10.7	9.0	9.6	35.4	33.1	30.0	1-1/2	1.568
C-7	2-20-66	3-7-66	7	26.8	11.2	9.2	10.1	42.6	38.8	35.8	1/2	1.552
C-8	3-5-66	3-21-66	8	26.8	11.0	10.0	10.4	38.4	35.4	32.8	Min.	1.548
C-9	3-9-66	3-21-66	9	27.4	11.1	10.3	10.7	37.2	35.2	31.8	1/2	1.549
Current machine average												
				27.0				35.9			33.8	1.552
Cumulative machine average				27.1				36.6			33.4	
Machine factor, %				99.7				98.0			101.0	
Machine index, %				100.0				101.7			105.1	

TABLE V
SUMMARY OF TEST RESULTS FOR MACHINE D
February and March, 1966

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a	draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.		
D-1	1-22-66	1-27-66	66	27.4	11.2	10.3	10.7	38.4	35.3	31.0	Min.	1.559
D-2	1-30-66	2-8-66	67	27.6	11.0	10.4	10.6	39.0	36.6	34.4	Note ^c	1.558
D-3	2-1-66	2-8-66	68	27.7	10.9	10.0	10.4	38.4	37.3	32.6	Min.	1.559
D-4	2-11-66	2-22-66	69	26.8	11.2	10.3	11.0	34.8	32.8	29.6	1/2	1.562
D-5	2-16-66	2-22-66	70	27.4	11.3	10.5	10.9	35.4	33.4	29.4	Min.	1.558
D-6	2-23-66	3-1-66	71	27.5	11.8	11.0	11.4	36.0	33.2	27.6	1-1/2	1.571
D-7	3-1-66	3-7-66	72	27.7	12.0	11.3	11.8	32.4	31.7	26.6	1	1.569
D-8	3-13-66	3-22-66	73	26.6	11.2	10.5	10.9	33.6	32.9	27.6	1/2	1.563
D-9	3-15-66	3-22-66	74	28.4	12.0	11.7	11.8	35.4	33.2	28.0	1/2	1.562
Current machine average												
				27.4				34.0			30.8	1.562
Cumulative machine average				27.4				36.9			32.7	
Machine factor, %				100.0				92.2			94.2	
Machine index, %				101.8				96.5			96.1	

^aMaximum tension at 600 f.p.m.

^b600 f.p.m., minimum tension.

^cMaximum speed at which this roll could be corrugated with minimum tension was 450 f.p.m.

^dMaximum speed at which this roll could be corrugated with minimum tension was 550 f.p.m.

TABLE VI
SUMMARY OF TEST RESULTS FOR MACHINE E
February and March, 1966
(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a	draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.		
E-1	1-15-66	1-27-66	671	26.3	9.4	8.3	33.6	31.2	30.4	25.6	1-1/2	1.571
E-2	1-22-66	2-7-66	672	26.4	9.2	8.1	37.2	34.8	32.4	29.0	1-1/2	1.575
E-3	2-2-66	2-11-66	673	26.1	10.6	8.0	34.8	31.8	31.8	28.0	1/2	1.572
E-4	2-7-66	2-21-66	674	26.6	9.8	8.8	37.2	34.2	34.2	30.4	1-1/2	1.575
E-5	2-12-66	2-25-66	675	26.9	9.6	8.0	40.2	33.6	33.6	32.4	1-1/2	1.572
E-6	2-19-66	3-7-66	676	27.4	9.0	8.6	40.8	34.2	33.6	30.8	1	1.566
E-7	2-27-66	3-17-66	677	26.9	8.7	8.1	40.2	34.2	33.0	29.6	1-1/2	1.569
E-8	3-12-66	3-21-66	678	27.6	9.5	9.0	38.4	33.6	35.2	32.2	1/2	1.555
E-9	3-17-66	3-24-66	679	27.7	9.0	8.5	34.2	30.6	29.4	28.4	1-1/2	1.569
Current machine average												
				26.9	8.9		35.0		31.2		1.569	
Cumulative machine average				26.6	9.1		36.9		32.8			
Machine factor, %				101.1	97.8		94.9		94.9			
Machine index, %				99.6	85.7		99.2		97.1			

TABLE VII
SUMMARY OF TEST RESULTS FOR MACHINE F
February and March, 1966
(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a	draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.		
F-1	1-26-66	2-28-66	--	26.9	10.5	10.0	38.4	34.8	35.4	33.2	1-1/2	1.568
F-2	2-13-66	2-28-66	--	26.3	10.7	10.4	37.2	34.8	34.4	32.4	1-1/2	1.564
F-3	2-17-66	2-28-66	--	26.3	11.0	10.7	40.8	32.4	31.4	29.4	1-1/2	1.568
F-4	2-22-66	2-28-66	--	26.5	10.8	10.2	36.6	34.2	32.2	30.2	1-1/2	1.574
F-5	3-5-66	3-22-66	--	26.3	11.0	10.2	37.2	36.0	31.8	30.8	1-1/2	1.569
F-6	3-9-66	3-22-66	--	26.4	10.8	10.4	38.4	35.4	32.8	30.6	1-1/2	1.569
F-7	3-12-66	3-22-66	--	26.9	10.9	10.5	40.2	37.8	34.8	32.2	1-1/2	1.570
F-8	3-13-66	3-22-66	--	26.5	10.5	10.4	38.4	36.0	33.0	30.6	1-1/2	1.572
Current machine average												
				26.5	10.5		36.7		32.2		1.569	
Cumulative machine average				26.7	10.2		37.4		34.1			
Machine factor, %				99.1	103.2		98.3		94.4			
Machine index, %				98.3	101.9		104.1		100.2			

^aMaximum tension at 600 f.p.m.
^b600 f.p.m. minimum tension.

TABLE VIII

SUMMARY OF TEST RESULTS FOR MACHINE G
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft.	Caliper, pt.		Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			lb./in. ^a	Runnability, draw factor ^b	
					Max.	Min.	Max.	Min.	Av.	Max.	Min.	Av.			
G-1	12-8-65	2-4-66	616	26.4	10.5	9.8	10.0	43.2	34.8	38.6	39.0	36.4	37.3	1/2	1.559
G-2	12-11-65	2-4-66	617	26.3	10.4	9.7	10.1	41.4	35.4	37.2	37.8	33.6	35.1	1/2	1.560
G-3	12-18-65	3-1-66	618	28.6	11.0	10.3	10.6	43.8	37.8	41.0	39.0	36.4	38.0	Min.	1.559
G-4	12-20-65	3-1-66	619	28.3	10.7	10.0	10.2	45.0	36.6	40.3	40.4	37.8	38.8	1/2	1.559
G-5	1-5-66	3-9-66	620	28.2	10.2	10.0	10.1	42.0	39.0	40.6	39.2	36.8	37.7	Min.	1.549
G-6	1-13-66	3-9-66	621	28.7	10.1	9.8	10.0	41.4	38.4	40.1	37.2	35.8	36.3	Min.	1.537
Current machine average				27.8			10.1			39.6			37.2		1.554
Cumulative machine average				27.6			10.3			40.4			37.1		
Machine factor, %				100.6			98.4			98.2			100.3		
Machine index, %				102.9			98.2			112.4			115.9		

TABLE IX

SUMMARY OF TEST RESULTS FOR MACHINE H
February and March, 1966

(Type of medium: semichemical)

H-1	1-18-66	2-4-66	A-1	26.2	10.4	9.2	9.7	34.8	31.2	32.6	32.0	30.4	31.4	Noted ^c	1.552
H-2	1-18-66	2-4-66	A-2	26.7	9.4	9.0	9.1	36.6	31.2	34.0	36.8	29.8	32.9	Note ^d	1.547
H-3	1-18-66	2-4-66	A-3	27.3	9.5	9.0	9.2	35.4	30.0	32.5	37.6	30.8	33.9	Note ^e	1.545
H-4	1-18-66	2-4-66	A-4	26.8	9.2	8.7	9.0	37.8	32.4	34.8	33.6	32.4	32.9	Note ^e	1.548
Current machine average															1.548
Cumulative machine average				26.7			9.3			33.5			32.8		
Machine factor, %				26.7			9.6			32.8			31.0		
Machine index, %				100.0			96.9			102.2			105.6		
				99.2			89.5			95.0			102.0		

^aMaximum tension at 600 f.p.m.

^b600 f.p.m., minimum tension.

^cMaximum speed at which this roll could be corrugated with minimum tension was 300 f.p.m.

^dMaximum speed at which this roll could be corrugated with minimum tension was 325 f.p.m.

^eMaximum speed at which this roll could be corrugated with minimum tension was 350 f.p.m.

SUMMARY OF TEST RESULTS FOR MACHINE I

February and March, 1966

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		lb./in. ^a	Runnability, draw b factor				
	Max.	Min.			Max.	Min.	Max.	Min.	Max.	Min.						
I-1	2- 7-66	3-14-66	1386	28.0	11.1	10.9	11.0	38.4	32.4	36.1	33.2	31.0	32.5	1/2	1.559	
I-2	2- 8-66	3-14-66	1653	28.0	11.0	10.7	10.9	37.8	34.2	36.1	32.4	30.6	31.4	1/2	1.562	
I-3	3- 3-66	3-14-66	564	27.8	11.1	10.8	11.0	38.4	33.6	36.6	33.0	30.8	32.0	1/2	1.560	
I-4	3- 5-66	3-14-66	898	27.9	11.1	10.8	11.0	38.4	34.2	37.1	33.8	32.0	32.9	1/2	1.563	
Current machine average													11.0	36.5	32.2	1.561
Cumulative machine average													10.8	35.1	32.1	
Machine factor, %													102.0	104.0	100.3	
Machine index, %													106.1	103.5	100.3	

SUMMARY OF TEST RESULTS FOR MACHINE J

[illegible]

^cMaximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XII

SUMMARY OF TEST RESULTS FOR MACHINE K
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, Pt. Max. Min. Av.	Concora Flat Crush, p.s.i. Max. Min. Av.	Single-Face Flat Crush, p.s.i. Max. Min. Av.	Runnability, lb./in. ^a	draw factor ^b
K-1	2-4-66	2-11-66	271	25.8	13.2 11.0 11.8	32.4 30.0 31.3	31.0 29.0 29.8	1	1.564
K-2	2-4-66	2-11-66	272	25.7	12.6 11.2 11.9	37.2 30.0 32.4	30.0 27.4 28.9	1-1/2	1.567
K-3	2-7-66	2-14-66	279	26.0	12.2 10.9 11.6	38.4 31.2 33.1	36.8 27.0 31.4	1-1/2	1.566
K-4	2-7-66	2-14-66	280	26.0	12.5 10.4 11.2	34.8 28.2 32.3	29.6 26.8 28.6	1-1/2	1.566
K-5	2-21-66	2-24-66	287	26.5	12.0 11.5 11.9	33.6 30.6 31.8	29.6 27.6 29.0	1-1/2	1.569
K-6	2-22-66	2-24-66	288	26.5	12.0 11.0 11.6	33.6 30.0 31.3	31.6 29.6 30.8	1-1/2	1.566
K-7	3-9-66	3-17-66	295	28.1	13.1 12.0 12.8	36.0 30.0 32.9	32.8 30.6 31.2	1	1.563
K-8	3-9-66	3-17-66	296	28.2	13.3 12.2 12.8	40.8 30.0 35.0	35.0 31.8 33.1	1-1/2	1.565
Current machine average				26.6	11.9	32.5	30.4		1.566
Cumulative machine average				25.8	11.5	32.5	29.8		
Machine factor, %				103.2	103.6	100.0	101.8		
Machine index, %				98.6	115.5	92.2	94.5		

TABLE XIII

SUMMARY OF TEST RESULTS FOR MACHINE L
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, Pt. Max. Min. Av.	Concora Flat Crush, p.s.i. Max. Min. Av.	Single-Face Flat Crush, p.s.i. Max. Min. Av.	Runnability, lb./in. ^a	draw factor ^b
L-1	1-7-66	2-14-66	89	27.3	10.2 9.7 10.0	38.4 31.8 34.9	33.4 32.0 32.6	Min.	1.558
L-2	1-13-66	2-14-66	90	27.8	11.1 10.7 10.9	34.8 32.4 33.2	31.6 29.4 30.5	Min.	1.550
L-3	1-20-66	2-14-66	91	26.9	12.2 11.4 11.9	34.8 31.2 32.8	30.4 28.6 29.8	Min.	1.558
L-4	1-26-66	2-14-66	92	27.5	11.2 10.5 10.9	34.2 33.0 33.5	29.8 29.2 29.6	Min.	1.556
L-5	2-10-66	3-15-66	93	28.3	11.0 10.8 11.0	37.2 32.4 34.7	33.0 31.6 32.2	1/2	1.551
L-6	2-17-66	3-15-66	94	27.8	11.5 11.0 11.1	36.0 33.6 34.7	33.0 31.0 32.1	1/2	1.555
L-7	2-24-66	3-15-66	95	27.6	11.1 10.8 11.0	34.8 30.0 32.9	32.6 30.4 31.6	1/2	1.554
Current machine average				27.6	11.0	33.8	31.2		1.555
Cumulative machine average				26.8	10.4	32.4	30.0		
Machine factor, %				102.8	105.8	104.3	104.1		
Machine index, %				102.3	106.1	95.9	97.2		

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

TABLE XIV
SUMMARY OF TEST RESULTS FOR MACHINE M
February and March, 1966
(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		lb./in. ^a	Runnability, draw ^b factor
					Max.	Min.	Max.	Min.	Max.	Min.		
M-1	2-3-66	2-14-66	118	27.5	11.3	10.6	10.9	36.0	34.7	31.2	30.0	1/2
M-2	2-3-66	2-14-66	119	27.1	11.2	10.0	10.6	37.2	34.8	31.8	30.6	Min.
M-3	2-5-66	2-14-66	120	27.1	11.0	10.0	10.4	36.0	31.1	29.6	28.9	Min.
M-4	3-1-66	3-17-66	121	27.5	10.6	10.1	10.2	34.2	32.6	30.6	29.0	1
M-5	3-1-66	3-17-66	122	27.6	11.2	10.3	10.8	37.2	34.3	29.8	29.2	1/2
M-6	3-1-66	3-17-66	123	27.6	10.9	10.2	10.6	34.8	33.0	29.4	28.8	1/2
M-7	3-1-66	3-17-66	124	26.9	10.8	10.3	10.5	33.6	31.7	29.8	28.4	1
M-8	3-5-66	3-21-66	125	26.7	10.5	9.6	10.1	34.8	33.0	32.0	31.2	1/2
M-9	3-5-66	3-21-66	126	27.0	10.6	10.0	10.2	35.4	31.8	29.6	29.6	1/2
M-10	3-5-66	3-21-66	127	26.6	11.0	10.4	10.6	35.4	33.8	28.4	27.8	1/2
M-11	3-5-66	3-21-66	128	27.6	11.1	10.7	10.9	34.2	33.5	29.6	28.9	1/2
Current machine average												
				27.2	10.5		33.1		34.7		29.4	
Cumulative machine average				27.0	10.5		34.0		32.0		32.0	
Machine factor, %				100.7	100.0		97.3		91.9			
Machine index, %				100.8	102.0		93.9					

TABLE XV
SUMMARY OF TEST RESULTS FOR MACHINE N
February and March, 1966
(Type of medium: bogus)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		lb./in. ^a	Runnability, draw ^b factor
					Max.	Min.	Max.	Min.	Max.	Min.		
N-1	1-10-66	2-15-66	308	30.2	11.8	10.7	11.2	34.2	32.4	29.0	27.6	1-1/2
N-2	1-20-66	2-15-66	309	34.2	11.9	10.9	11.2	49.2	47.6	38.4	37.2	1-1/2
N-3	1-21-66	2-15-66	310	28.9	10.8	9.8	10.2	39.0	36.7	29.6	27.9	1-1/2
N-4	1-28-66	2-15-66	311	27.1	10.3	9.4	10.0	39.0	35.8	32.4	31.5	1-1/2
N-5	2-7-66	3-15-66	312	27.7	10.2	10.0	10.0	35.4	33.8	31.8	30.4	1-1/2
N-6	2-10-66	3-15-66	313	27.8	10.0	9.2	9.5	36.6	34.2	34.8	33.8	1-1/2
N-7	2-21-66	3-15-66	314	27.6	10.2	9.3	9.9	33.0	30.5	26.6	25.4	1-1/2
N-8	2-23-66	3-15-66	315	30.9	11.1	9.9	10.4	38.4	36.7	33.0	32.1	1-1/2
Current machine average												
				29.3	10.3		36.1		30.7		1.576	
Cumulative machine average				27.1	10.1		34.2		31.0			
Machine factor, %				108.3	102.3		105.5		99.3			
Machine index, %				108.6	100.0		102.4		95.7			

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

TABLE XVI
SUMMARY OF TEST RESULTS FOR MACHINE O
February and March, 1966
(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
O-1	2-17-66	3-3-66	265	26.0	11.2	10.5	11.0	36.0	37.6	36.0	32.8	34.2	1.565
O-2	2-9-66	2-17-66	266	26.3	11.1	10.3	10.8	31.8	34.1	29.4	28.0	28.6	1.568
O-3	2-9-66	2-17-66	273	26.9	11.4	11.0	11.2	33.0	34.7	29.6	28.6	29.1	1.570
O-4	2-9-66	2-17-66	274	26.8	11.4	10.7	11.0	33.0	35.3	29.0	27.8	28.6	1.570
O-5	2-17-66	3-3-66	281	26.5	11.5	11.0	11.2	36.0	38.4	35.0	33.4	34.3	1.565
O-6	2-17-66	3-3-66	282	26.5	11.8	11.0	11.3	36.6	38.6	34.6	32.0	33.0	1.569
O-7	3-2-66	3-14-66	289	26.4	10.9	10.0	10.5	36.6	37.8	33.2	31.4	32.5	1.569
O-8	3-2-66	3-15-66	290	26.3	10.8	10.1	10.4	32.4	36.7	33.0	30.8	31.8	1.569
Current machine average													
Cumulative machine average													
Machine factor, %													
Machine index, %													
				26.5			10.9		36.6			31.5	1.568
				26.8			10.7		34.4			30.2	
				98.8			102.4		106.7			104.3	
				98.1			105.7		103.9			98.1	

TABLE XVII
SUMMARY OF TEST RESULTS FOR MACHINE P
February and March, 1966
(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
P-1	1-14-66	2-25-66	538	27.3	11.2	10.7	11.0	36.6	34.8	33.8	30.8	32.4	1.562
P-2	1-20-66	2-25-66	539	28.4	11.5	10.1	10.9	36.0	34.6	33.4	31.6	32.8	1.560
P-3	1-28-66	2-25-66	540	29.0	11.2	10.6	10.9	35.4	34.6	34.8	31.8	33.9	1.557
P-4	2-4-66	3-8-66	541	27.4	10.9	10.2	10.6	37.8	35.9	33.8	32.4	33.2	1.561
P-5	2-11-66	3-8-66	542	27.7	10.9	10.5	10.7	39.0	36.8	34.6	33.4	33.8	1.559
P-6	2-17-66	3-21-66	543	27.0	11.1	10.7	10.9	37.2	35.5	31.6	29.4	30.3	1.555
P-7	2-24-66	3-21-66	544	27.1	10.9	10.4	10.6	37.2	34.2	31.8	30.0	31.2	1.562
P-8	3-3-66	3-21-66	545	27.5	11.4	10.5	11.0	40.8	39.2	36.2	34.6	35.2	1.563
Current machine average													
Cumulative machine average													
Machine factor, %													
Machine index, %													
				27.7			10.8		35.7			32.8	1.560
				27.7			10.8		36.4			33.4	
				100.0			100.0		98.1			98.4	
				102.6			104.8		101.3			102.3	

^a Maximum tension at 600 f.p.m.
^b 600 f.p.m., minimum tension.

TABLE XVIII
SUMMARY OF TEST RESULTS FOR MACHINE Q
February and March, 1966

(Type of medium: semichemical)													
Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a draw factor ^b		
					Max.	Min.	Max.	Min.	Max.	Min.			
Q-1	1-27-66	2-8-66	439	26.8	11.0	9.1	10.2	41.4	37.2	35.8	37.2	Min.	1.563
Q-2	2-3-66	2-11-66	440	27.4	11.0	8.4	10.0	40.2	36.6	36.2	37.0	1	1.564
Q-3	2-14-66	2-24-66	441	26.8	12.0	9.4	10.6	40.2	36.0	34.6	35.2	Min.	1.559
Q-4	2-21-66	3-8-66	442	27.4	10.7	9.2	9.9	43.2	39.6	40.4	39.5	1	1.562
Q-5	3-7-66	3-15-66	443	27.4	10.9	9.9	10.3	44.4	39.6	37.8	38.3	1	1.559
Current machine average				27.2			10.2		39.7		37.4		1.561
Cumulative machine average				26.6			10.3		38.5		35.8		
Machine factor, %				102.0			98.6		103.2		104.6		
Machine index, %				100.7			98.7		112.7		116.5		

TABLE XIX
SUMMARY OF TEST RESULTS FOR MACHINE R
February and March, 1966

(Type of medium: semichemical)														
R-1	1-18-66	1-26-66	199	25.7	10.8	10.1	10.3	31.2	26.4	27.8	24.8	26.7	1/2	1.566
R-2	1-25-66	1-31-66	200	25.9	10.9	10.0	10.2	28.8	27.6	26.8	25.6	26.3	1/2	1.565
R-3	2-1-66	2-9-66	201	25.7	11.4	9.9	10.5	32.4	28.8	28.8	27.4	27.8	1	1.570
R-4	2-10-66	2-16-66	202	26.9	10.6	9.8	10.0	35.4	31.8	33.4	30.0	31.5	1-1/2	1.572
R-5	2-16-66	2-21-66	203	26.5	11.0	9.8	10.2	36.0	34.2	34.9	30.6	31.7	1-1/2	1.574
R-6	2-23-66	2-28-66	204	26.3	10.8	10.0	10.3	34.2	29.4	29.8	27.8	29.0	1-1/2	1.576
R-7	2-26-66	3-4-66	205	26.3	11.5	9.5	10.4	34.8	32.4	33.2	30.8	32.0	1-1/2	1.566
R-8	3-5-66	3-10-66	206	26.8	10.9	10.0	10.5	35.4	30.0	33.8	29.0	30.3	1-1/2	1.572
R-9	3-18-66	3-24-66	207	25.7	10.5	8.8	9.4	36.6	30.0	33.8	28.0	29.4	1-1/2	1.573
R-10	3-19-66	3-24-66	208	25.6	10.1	9.1	9.7	34.2	31.2	32.6	27.6	28.1	1-1/2	1.577
Current machine average				26.1			10.2		32.3			29.3		1.571
Cumulative machine average				26.5			9.9		33.3			30.1		
Machine factor, %				98.7			102.3		97.1			97.3		
Machine index, %				96.9			98.2		91.6			91.2		

^a Maximum tension at 600 f.p.m.
^b 600 f.p.m. minimum tension.

TABLE XX

SUMMARY OF TEST RESULTS FOR MACHINE S
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			lb./in. ^a	Runnability, draw ^b factor ^c
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
S-1	1-14-66	1-31-66	39	25.7	10.2	9.6	9.9	34.8	30.0	32.2	28.8	26.8	27.6	Note ^c	1.562
S-2	1-27-66	2-14-66	41	26.1	10.5	9.5	10.0	36.6	25.8	32.3	32.8	29.6	30.9	Min.	1.552
S-3	2-2-66	2-18-66	42	25.6	10.3	8.9	9.7	34.8	32.4	33.8	29.8	27.0	28.3	1/2	1.560
S-4	2-18-66	3-9-66	43	26.5	10.1	9.7	10.0	36.6	32.4	33.8	32.2	28.8	30.1	1/2	1.564
S-5	2-24-66	3-17-66	44	26.3	10.1	9.9	10.0	36.6	31.2	34.0	31.4	28.8	30.2	1/2	1.560
S-6	3-2-66	3-14-66	45	25.7	10.1	9.9	10.0	38.4	27.6	32.0	31.4	28.8	30.0	1/2	1.564
S-7	3-8-66	3-22-66	46	25.4	10.1	9.3	9.8	34.2	27.0	30.5	29.6	27.2	28.1	1/2	1.566
S-8	3-17-66	3-25-66	47	27.1	10.0	9.5	9.8	34.8	31.8	33.6	31.0	30.0	30.4	1-1/2	1.567
Current machine average															
Cumulative machine average															
Machine factor, %															
Machine index, %															
9.9															
10.3															
96.4															
95.7															
32.8															
34.3															
95.7															
93.0															

TABLE XXI

SUMMARY OF TEST RESULTS FOR MACHINE T
February and March, 1966

(Type of medium: kraft)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.			Concora Flat Crush, p.s.i.			Single-Face Flat Crush, p.s.i.			lb./in. ^a	Runnability, draw ^b factor ^c
					Max.	Min.	Av.	Max.	Min.	Av.	Max.	Min.	Av.		
T-1	1-27-66	2-28-66	1	28.7	9.0	8.5	8.8	36.0	31.8	33.6	37.2	33.8	35.0	1-1/2	1.567
T-2	1-27-66	2-28-66	2	28.9	9.2	8.7	8.9	36.6	32.4	34.7	36.6	33.0	34.9	1-1/2	1.572
T-3	1-27-66	2-25-66	3	28.4	9.2	8.1	8.7	34.8	29.4	32.3	34.0	29.4	31.1	1	1.557
T-4	1-27-66	2-25-66	4	28.6	9.2	8.7	9.0	33.0	30.6	32.0	32.4	29.6	30.8	1-1/2	1.567
Current machine average															
Cumulative machine average															
Machine factor, %															
Machine index, %															
8.8															
9.2															
96.2															
85.6															
33.2															
33.4															
99.1															
94.0															

^aMaximum tension at 600 f.p.m.

^b600 f.p.m., minimum tension.

^cMaximum speed at which this roll could be corrugated with minimum tension was 500 f.p.m.

TABLE XXII
SUMMARY OF TEST RESULTS FOR MACHINE U
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b	
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
U-1	1-26-66	2-28-66	--	26.1	11.1	10.7	10.9	38.4	33.6	35.6	33.0	34.1	1-1/2	1.565
U-2	2-12-66	2-28-66	--	26.9	11.5	11.0	11.2	38.4	34.8	35.8	32.4	34.2	1/2	1.559
U-3	2-17-66	2-28-66	--	26.9	10.7	10.0	10.5	41.4	37.2	39.5	32.6	34.2	1	1.567
U-4	2-28-66	3-22-66	--	26.3	11.0	10.6	10.8	37.8	34.2	36.6	31.8	33.3	1	1.562
U-5	3-5-66	3-22-66	--	26.0	10.4	9.8	10.0	36.6	33.6	35.3	31.6	30.5	1	1.567
U-6	3-9-66	3-22-66	--	26.8	11.0	10.6	10.8	39.0	34.2	37.1	31.4	32.4	1-1/2	1.564
U-7	3-10-66	3-22-66	--	26.4	11.0	10.0	10.5	37.2	33.0	35.4	32.6	34.0	1/2	1.564
U-8	3-12-66	3-22-66	--	26.3	10.3	10.0	10.1	39.0	35.4	37.4	31.4	32.7	1-1/2	1.565
Current machine average				26.5			10.6			36.7		33.2		1.564
Cumulative machine average				26.5			10.4			36.5		33.3		
Machine factor, %				100.0			101.7			100.3		99.7		
Machine index, %				98.1			102.6			104.0		103.4		

TABLE XXIII
SUMMARY OF TEST RESULTS FOR MACHINE V
February and March, 1966

(Type of medium: bogus)														
V-1	12-28-65	3- 3-66	79	28.3	12.0	10.3	11.3	31.2	26.4	28.9	27.2	25.4	26.4	1-1/2
V-2	1-17-66	3- 3-66	80	28.6	13.0	11.7	12.2	34.8	28.2	31.7	28.0	25.6	26.7	1-1/2
V-3	2- 9-66	3- 3-66	81	31.3	12.0	10.9	11.6	43.8	37.8	41.2	34.0	32.8	33.3	1-1/2
V-4	2-23-66	3- 3-66	82	27.4	12.0	11.0	11.5	34.8	31.2	33.2	31.0	29.0	30.2	1-1/2
Current machine average														
Cumulative machine average				28.9		11.7				33.8			29.2	1.563
Machine factor, %				28.2		11.5				33.1			29.8	
Machine index, %				102.6		101.3				102.1			98.0	
				107.1		112.7				95.7			90.8	

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

TABLE XXIV

SUMMARY OF TEST RESULTS FOR MACHINE W
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b		
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.			
W-1	2-24-66	3-17-66	34	26.5	10.9	10.0	10.4	33.6	28.8	31.8	30.0	27.8	28.8	1/2	1.556
W-2	2-24-66	3-17-66	35	26.4	11.1	10.3	10.7	37.8	28.8	33.1	32.4	30.6	31.5	1/2	1.553
W-3	3-4-66	3-17-66	36	26.9	11.0	10.1	10.6	36.6	31.2	33.2	30.0	27.6	28.6	1/2	1.559
Current machine average															
				26.6			10.6			32.7			29.6		1.556
Cumulative machine average				26.7			10.6			34.5			31.0		
Machine factor, %				99.5			100.0			94.8			95.8		
Machine index, %				98.6			102.2			92.8			92.3		

TABLE XXV

SUMMARY OF TEST RESULTS FOR MACHINE X
February and March, 1966

(Type of medium: semichemical)

X-1	1-14-66	1-27-66	47	28.9	10.4	9.6	10.0	40.2	32.4	36.5	37.2	35.6	36.2	Min.	1.558
X-2	1-27-66	2-14-66	49	26.5	10.0	9.7	9.9	36.6	31.2	33.1	32.8	28.0	29.6	Min.	1.561
X-3	2-2-66	2-18-66	50	27.1	10.6	9.5	10.1	37.2	32.4	34.3	29.8	27.2	29.1	1/2	1.566
X-4	2-11-66	2-25-66	51	25.7	10.1	9.6	9.9	35.4	30.0	32.8	34.0	29.0	31.0	1-1/2	1.570
X-5	2-16-66	3-9-66	52	26.9	10.5	10.0	10.2	36.6	32.4	35.4	33.4	31.0	32.5	1	1.564
X-6	2-24-66	3-17-66	53	28.0	9.5	8.8	9.0	37.2	34.2	36.2	32.2	30.0	30.9	1-1/2	1.565
X-7	3-2-66	3-14-66	54	26.5	9.9	9.2	9.6	36.0	30.0	34.6	34.6	32.8	33.6	1/2	1.561
X-8	3-11-66	3-22-66	55	25.7	10.2	9.0	9.8	34.8	30.6	33.0	28.2	27.2	27.7	1-1/2	1.571
X-9	3-17-66	3-25-66	56	26.3	9.8	9.1	9.5	36.0	27.6	32.8	28.4	27.6	28.0	1-1/2	1.569
Current machine average															
Cumulative machine average				26.8			9.8			34.3			30.9		1.565
Machine factor, %				27.4			10.3			33.6			30.4		
Machine index, %				98.0			94.7			102.1			101.9		
				99.5			94.5			97.3			96.4		

^a Maximum tension at 600 f.p.m.
^b 600 f.p.m., minimum tension.

TABLE XXVI
SUMMARY OF TEST RESULTS FOR MACHINE Y
February and March, 1966
(Type of medium: bogus)

(Type of medium: bogus)																
Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		lb./in. ^a	Runnability, draw ^b factor				
					Max.	Min.	Max.	Min.	Max.	Min.						
Y-1	1-10-66	2-15-66	408	27.4	10.7	9.2	9.8	42.0	38.4	40.7	36.6	34.8	35.8	1-1/2	1.567	
Y-2	1-14-66	2-15-66	409	27.6	10.8	9.5	10.2	39.0	36.0	37.4	36.6	33.6	34.8	1-1/2	1.565	
Y-3	1-21-66	2-15-66	410	27.9	9.1	8.7	8.9	45.6	35.4	41.2	42.4	39.6	40.8	1-1/2	1.554	
Y-4	1-27-66	2-15-66	411	27.0	10.0	9.1	9.6	38.4	36.0	36.6	35.6	32.0	33.8	1-1/2	1.555	
Y-5	2-7-66	3-15-66	412	25.8	10.0	9.1	9.7	36.6	32.4	34.4	30.8	29.2	30.0	1-1/2	1.575	
Y-6	2-16-66	3-15-66	413	27.6	11.0	10.2	10.7	40.8	34.8	37.6	34.0	32.2	33.4	1-1/2	1.551	
Y-7	2-22-66	3-15-66	414	27.1	10.0	9.5	9.9	37.8	33.6	36.0	34.4	32.6	33.5	1-1/2	1.554	
Y-8	2-23-66	3-15-66	415	29.5	10.0	9.0	9.5	43.2	37.8	40.4	37.4	36.2	36.9	1-1/2	1.545	
Current machine average															34.9	1.558
Cumulative machine average															34.2	
Machine factor, %															102.0	
Machine index, %															108.6	

TABLE XXVII
SUMMARY OF TEST RESULTS FOR MACHINE Z
February and March, 1966
(Type of medium: semichemical)

(Type of medium: semichemical)														
Z-1	1-24-66	2-3-66	--	26.9	11.2	10.7	11.0	34.8	31.8	33.0	31.6	28.8	30.0	Min.
Z-2	2-18-66	2-21-66	--	26.6	11.3	10.6	10.9	37.8	32.4	34.6	30.4	27.8	29.1	1
Current machine average														
Cumulative machine average														
Machine factor, %														
Machine index, %														
				26.8			10.9			33.8			29.5	
				26.7			9.8			31.8			28.6	
				100.2			111.1			106.2			103.2	
				99.3			105.6			95.8			91.9	
														1.570

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

TABLE XXVIII

SUMMARY OF TEST RESULTS FOR MACHINE AA
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concora Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		lb./in. ^a	Runnability, draw ^b factor		
					Max.	Min.	Max.	Min.	Max.	Min.				
AA-1	1-22-66	2- 9-66	155	26.7	10.9	10.0	10.3	37.2	31.8	34.6	33.8	34.1	1	1.566
AA-2	1-22-66	2- 9-66	156	26.7	11.4	10.0	10.4	35.4	33.0	36.0	32.8	34.1	1	1.568
AA-3	2- 6-66	2-21-66	157	28.0	11.4	11.0	11.2	36.0	30.0	33.0	31.4	32.2	1-1/2	1.561
AA-4	2- 6-66	2-21-66	158	28.2	11.5	10.6	11.0	37.2	32.4	34.6	31.8	32.6	1-1/2	1.565
Current machine average				27.4			10.7			34.3		33.2		1.565
Cumulative machine average				26.7			10.0			34.6		31.9		
Machine factor, %				102.7			107.2			98.9		104.0		
Machine index, %				101.6			103.8			97.2		103.5		

TABLE XXIX

SUMMARY OF TEST RESULTS FOR MACHINE BB
February and March, 1966

(Type of medium: semichemical)

BB-1	3- 4-66	3-15-66	96	26.7	11.5	11.0	11.2	33.6	30.0	31.6	29.8	28.6	29.3	1	1.555
Current machine average															
Cumulative machine average															
Machine factor, %															
Machine index, %															

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

TABLE XXX

SUMMARY OF TEST RESULTS FOR MACHINE CC
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concord Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
CC-1	1-21-66	2-11-66	755	26.7	10.7	9.8	10.3	38.4	36.6	35.0	36.0	1	1.565
CC-2	1-24-66	2-8-66	756	26.3	10.7	10.0	10.3	37.2	37.0	35.0	36.2	1 1/2	1.566
CC-3	2-3-66	2-11-66	757	26.9	11.0	10.0	10.7	37.8	39.2	38.0	38.6	1	1.560
CC-4	2-21-66	3-8-66	758	26.5	10.6	9.9	10.3	37.8	39.6	36.6	38.1	1	1.563
CC-5	2-28-66	3-15-66	759	26.4	11.2	10.1	10.6	37.2	38.6	35.8	37.3	Min.	1.544
CC-6	3-7-66	3-15-66	760	26.4	11.0	10.0	10.2	40.2	38.6	36.4	37.5	1-1/2	1.564
Current machine average													
				26.5			10.4		40.6				1.560
Cumulative machine average				26.8			10.3		39.9				36.6
Machine factor, %				99.1			100.8		101.8				101.8
Machine index, %				98.4			100.6		115.3				116.1

TABLE XXXI

SUMMARY OF TEST RESULTS FOR MACHINE DD
February and March, 1966

(Type of medium: semichemical)

Code	Date Made	Date Received	Mill Roll No.	Basis Weight, lb./M ft. ²	Caliper, pt.		Concord Flat Crush, p.s.i.		Single-Face Flat Crush, p.s.i.		Runnability, lb./in. ^a		draw factor ^b
					Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
DD-1	1-26-66	2-28-66	--	26.9	11.0	10.4	10.8	38.4	34.8	32.8	33.6	1	1.565
DD-2	2-12-66	2-28-66	--	27.1	11.2	10.8	11.0	34.8	32.2	30.8	31.4	1 1/2	1.562
DD-3	2-13-66	2-28-66	--	27.0	10.9	10.4	10.7	40.8	39.4	38.4	33.4	1 1/2	1.560
DD-4	2-28-66	3-22-66	--	26.9	11.5	11.0	11.2	37.8	36.0	35.0	29.0	1 1/2	1.560
DD-5	3-1-66	3-22-66	--	26.9	11.5	10.7	11.0	34.8	32.0	28.8	28.2	1	1.565
DD-6	3-2-66	3-22-66	--	26.8	11.5	10.7	11.0	38.4	30.0	27.2	28.7	1 1/2	1.559
DD-7	3-3-66	3-22-66	--	26.8	11.3	10.8	11.0	37.8	33.1	29.8	28.4	1 1/2	1.563
DD-8	3-10-66	3-22-66	--	26.8	11.0	10.5	10.8	35.4	33.5	29.0	28.5	1	1.565
Current machine average													
				26.9			10.9		34.4				1.562
Cumulative machine average				27.0			10.8		35.7				31.5
Machine factor, %				99.6			101.3		96.5				95.8
Machine index, %				99.8			105.8		97.6				93.9

^aMaximum tension at 600 f.p.m.
^b600 f.p.m., minimum tension.

properties except basis weight for which only the average is shown; in addition, the overall average result for all rolls submitted for a given machine is shown for each test property. The latter overall averages are reported as "current machine averages." A cumulative machine average for each test property is also shown and represents the mean of the current machine averages for the previous twelve periods (excluding the current period). Also shown for each machine and for each test property in Tables II to XXXI are the machine factor and machine index which are defined as follows:

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

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

The machine factor and machine index provide a means for comparing the current machine average for each test property with either the previous results for the particular machine or with the cumulative results for all machines, i.e., the cumulative F.K.I. average.

DISCUSSION OF RESULTS

Shown below from Table I are the maximum and minimum current machine averages noted for each test property during the current period (February and March, 1966). Also shown below for each test property is the current F.K.I. average which represents the mean of the current machine averages for the current period and, hence, is indicative of the test level being maintained by the industry as a whole to the extent that the industry is represented by the participating machines. Also given below for each test property is the cumulative F.K.I. average which represents the mean of the current F.K.I. averages for the previous twelve months.

	Max. Current Machine Av.	Min. Current Machine Av.	Current F.K.I. Average	Cumulative F.K.I. Average
Basis wt., lb.	29.3	26.1	27.2	27.0
Caliper, pt.	11.9	8.8	10.4	10.3
Concora flat crush, p.s.i.	40.6	31.2	35.1	35.3
Single-face flat crush, p.s.i.	37.4	28.4	32.0	32.1

The runnability data for the 207 rolls evaluated during the current period are summarized as follows:

Runnability	Number of Rolls	Percentage of Total Rolls	Cumulative Percentage
Less than 600 f.p.m. with minimum tension	14	6.8	100.0
600 f.p.m. - minimum tension	30	14.5	93.2
600 f.p.m. - 1/2 lb. per in. tension	53	25.6	78.7
600 f.p.m. - 1 lb. per in. tension	29	14.0	53.1
600 f.p.m. - 1-1/2 lb. per in. tension	81	39.1	39.1

Supplementary to the runnability data described above, draw factors were determined for each roll of medium at 600 f.p.m. with minimum tension (or, for rolls with poor runnability, at the maximum speed runnable with minimum tension) and are given in Tables II through XXXI for Machines A to Z and Machines AA, BB, CC, and DD, respectively.

In Table XXXII a comparison of Institute and mill Concora flat crush test results obtained on conditioned specimens is given for each machine for the current period. The inclusion of these comparisons is made possible by the fact that interested participants submit their Concora flat crush test results to The Institute of Paper Chemistry (on data sheets obtainable from the Institute). This affords each participant the opportunity to review the level of agreement noted for his data with the levels noted for the other participants. Comparisons of this kind are a helpful adjunct to other calibration procedures. Shown in Table XXXII are (1) the Institute and mill Concora averages for each roll included in these comparisons, (2) the difference between the roll average based on Institute data and that based on mill data, (3) the Institute and mill averages based on all rolls included in the comparison, and (4) the difference between these overall averages.

The Concora flat crush data shown in Table XXXII are summarized in Part I of Table XXXIII where for each machine the following information is given: (1) Current machine average based on Institute data, (2) current machine average based on mill data, (3) the average differences - that is, the difference between the current machine average based on Institute data and that based on mill data, and (4) the maximum difference encountered in comparing Institute and mill test averages for individual rolls. In Part II of Table XXXIII the average differences given in Part I have been converted to percent. Comparative data from the previous two reports are also included in Part III of Table XXXIII.

TABLE XXXIII

INSTITUTE AND MILL CONCORDA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR FEBRUARY AND MARCH, 1966

Machine A					Machine B					Machine C				
Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.	
			Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a
A-1	1492	1-7-66	31.3	-3.1	B-1	199	1-18-66	31.7	-0.1	C-1	1	1-11-66	36.6	-1.1
A-2	1493	1-7-66	32.8	+0.2	B-2	200	1-25-66	29.4	0.0	C-2	2	1-16-66	33.2	-0.4
A-3	1500	2-9-66	33.4	+1.4	B-3	201	2-1-66	29.0	+2.6	C-3	3	1-24-66	35.5	-1.2
A-4	1501	2-9-66	33.5	+1.3	B-4	202	2-10-66	31.3	+2.3	C-4	4	2-2-66	36.7	-2.9
A-5	1508	2-24-66	33.7	-1.5	B-5	205	2-16-66	36.2	+1.6	C-5	5	2-9-66	37.9	+0.6
A-6	1509	2-24-66	34.6	-2.8	B-6	204	2-23-66	31.4	+1.8	C-6	6	2-17-66	33.1	-1.1
A-7	1516	3-3-66	36.0	-1.3	B-7	205	2-26-66	31.9	+0.7	C-7	7	2-20-66	38.8	-1.5
A-8	1517	3-3-66	34.6	+0.2	B-8	206	3-5-66	31.3	+3.3	C-8	8	3-5-66	35.8	+0.1
					B-9	207	3-17-66	29.9	+6.1	C-9	9	3-9-66	35.2	0.0
					B-10	208	3-19-66	29.6	+6.6					
Current machine av.			33.7	-0.7	Current machine av.			31.2	+2.5	Current machine av.			35.9	-0.9
Machine E					Machine F					Machine G				
Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.	
			Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a
E-1	671	1-15-66	32.8	+0.5	F-1	--	1-26-66	36.6	+0.5	G-1	616	12-8-65	38.6	+0.8
E-2	672	1-22-66	35.9	+1.7	F-2	--	2-13-66	36.1	+1.2	G-2	617	12-11-65	37.2	+1.2
E-3	673	2-2-66	33.0	+0.9	F-3	--	2-17-66	35.3	+0.8	G-3	618	12-18-65	41.0	+1.7
E-4	674	2-7-66	35.2	+2.7	F-4	--	2-22-66	35.4	+1.7	G-4	619	12-20-65	40.3	+2.8
E-5	675	2-12-66	36.7	+0.8	F-5	--	3-9-66	36.8	-0.9	G-5	620	1-5-66	40.6	-0.6
E-6	676	2-19-66	37.2	+1.8	F-6	--	3-9-66	37.0	-1.8	G-6	621	1-13-66	40.1	-1.9
E-7	677	2-27-66	36.2	+1.3	F-7	--	3-12-66	38.8	+1.2					
E-8	678	3-12-66	35.6	0.0	F-8	--	3-13-66	37.7	-0.5					
E-9	679	3-17-66	32.2	+1.5										
Current machine av.			35.0	+1.2	Current machine av.			36.7	+0.3	Current machine av.			40.3	+0.7
Machine H					Machine I					Machine J				
Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.		Code	Roll No.	Date Made	Concorda Flat Crush, p.s.i.	
			Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a				Insti- tute	Diff- erence ^a
H-1	A-1	1-18-66	32.6	+2.1	I-1	1386	2-7-66	36.1	+0.9	J-1	325	1-10-66	39.8	-2.6
H-2	A-2	1-18-66	34.0	-0.4	I-2	1653	2-8-66	36.1	-0.5	J-2	682	1-21-66	37.8	-0.2
H-3	A-3	1-18-66	32.5	+0.4	I-3	564	3-3-66	36.6	-2.0	J-3	855	1-27-66	37.8	-0.5
H-4	A-4	1-18-66	34.8	-0.1	I-4	898	3-5-66	37.1	-1.2	J-4	177	2-7-66	37.0	-3.9
										J-5	451	2-16-66	35.2	+0.3
										J-6	729	2-25-66	35.9	-1.7
										J-7	28	2-28-66	35.2	+0.9
										J-8	201	3-8-66	34.9	+0.7
										J-9	282	3-11-66	35.9	-1.2
										J-10	495	3-17-66	35.6	-0.2
Current machine av.			33.5	+0.5	Current machine av.			36.5	-0.7	Current machine av.			36.5	-0.8

TABLE XXXII (Continued)

Machine K					Machine L					Machine M				
Concora Flat Crush,					Concora Flat Crush,					Concora Flat Crush,				
Code	Date Made	Mill Roll No.	P.s.i.		Code	Date Made	Mill Roll No.	P.s.i.		Code	Date Made	Mill Roll No.	P.s.i.	
			Insti-tute	Differ-ence				Insti-tute	Differ-ence				Insti-tute	Differ-ence
K-1	2- 4-66	271	31.3	+13.5	L-1	1- 7-66	89	34.9	+1.0	M-1	2- 3-66	118	35.9	+1.2
K-2	2- 4-66	272	32.4	+7.4	L-2	1-13-66	90	33.2	+2.0	M-2	2- 3-66	119	36.4	+1.6
K-3	2- 7-66	279	33.1	+8.4	L-3	1-20-66	91	32.8	+1.6	M-3	2- 5-66	120	32.5	+1.4
K-4	2- 7-66	280	32.3	+9.2	L-4	1-26-66	92	33.5	+3.3	M-4	3- 1-66	121	35.4	+2.8
K-5	2-21-66	287	31.8	+9.7	L-5	2-10-66	93	34.7	+0.1	M-5	3- 1-66	122	34.3	0.0
K-6	2-22-66	288	31.3	+10.0	L-6	2-17-66	94	34.7	+3.1	M-6	3- 1-66	123	33.0	+0.8
K-7	3- 9-66	295	32.9	+9.2	L-7	2-24-66	95	32.9	+2.5	M-7	3- 1-66	124	34.7	+3.0
K-8	3- 9-66	296	35.0	+4.6						M-8	3- 5-66	125	34.0	+1.0
Current machine av.			32.5	+9.0	Current machine av.			33.8	+2.0	Current machine av.			34.5	+1.4
Machine N					Machine O					Machine P				
N-1	1-10-66	308	32.4	-2.3	O-1	2-17-66	265	37.6	+1.5	P-1	1-14-66	538	38.0	+3.2
N-2	1-20-66	309	47.6	-10.8	O-2	2- 9-66	266	34.1	-0.6	P-2	1-20-66	539	37.2	+2.6
N-3	1-21-66	310	36.7	+1.9	O-3	2- 9-66	273	34.7	-0.5	P-3	1-28-66	540	38.6	+4.0
N-4	1-28-66	311	35.8	-1.2	O-4	2- 9-66	274	35.3	-1.7	P-4	2- 4-66	541	37.3	+1.4
N-5	2- 7-66	312	33.8	-0.9	O-5	2-17-66	281	38.4	+0.5	P-5	2-11-66	542	37.7	+0.9
N-6	2-10-66	313	35.4	-0.8	O-6	2-17-66	282	38.6	-1.4	P-6	2-17-66	543	39.1	+3.6
N-7	2-21-66	314	30.5	-3.9	O-7	3- 2-66	289	37.8	-0.7	P-7	2-24-66	544	36.6	+2.4
N-8	2-23-66	315	36.7	-2.9	O-8	3- 2-66	290	36.7	+1.1	P-8	3- 3-66	545	41.2	+2.0
Current machine av.			36.1	-2.6	Current machine av.			36.6	-0.2	Current machine av.			38.2	+2.5
Machine Q					Machine R					Machine S				
Q-1	1-27-66	439	39.2	-1.4	R-1	1-18-66	199	29.5	+0.4	S-1	1-14-66	39	32.4	+0.2
Q-2	2- 3-66	440	38.4	+0.4	R-2	1-25-66	200	28.3	+2.3	S-2	1-27-66	41	29.0	+3.3
Q-3	2-14-66	441	37.8	0.0	R-3	2- 1-66	201	30.8	+2.3	S-3	2- 2-66	42	31.6	-2.2
Q-4	2-21-66	442	41.0	-0.7	R-4	2-10-66	202	33.6	+2.2	S-4	2-18-66	43	34.1	+0.3
Q-5	3- 7-66	443	42.2	-2.7	R-5	2-16-66	203	34.9	+5.1	S-5	2-24-66	44	30.8	-3.2
					R-6	2-23-66	204	31.6	+1.4	S-6	3- 2-66	45	33.2	+1.2
					R-7	2-26-66	205	33.8	+0.9	S-7	3- 8-66	46	33.1	+2.6

TABLE XXXII (Continued)
INSTITUTE AND MILL CONCORDA FLAT CRUSH TEST RESULTS ON INDIVIDUAL ROLLS FOR FEBRUARY AND MARCH, 1966

Machine T				Machine U				Machine V					
Concora Flat Crush,				Concora Flat Crush,				Concora Flat Crush,					
Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence	Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence		
T-1	1	1-27-66	33.6	32.5	-1.1	U-1	--	1-26-66	35.4	36.8	+1.4		
T-2	2	1-27-66	34.7	34.9	+0.2	U-2	--	2-12-66	36.6	37.9	+1.3		
T-3	3	1-27-66	32.3	31.9	-0.4	U-3	--	2-17-66	39.5	36.1	-3.4		
T-4	4	1-27-66	32.0	31.6	-0.4	U-4	--	2-28-66	36.6	37.6	+1.0		
Current machine av.				33.2	32.7	-0.5	U-5	--	3- 5-66	35.3	36.2	+0.9	
Machine W				U-6	--	3- 9-66	37.1	36.1	-1.0				
				U-7	--	3-10-66	35.4	37.6	+2.2				
				U-8	--	3-12-66	37.4	36.4	-1.0				
Current machine av.				36.7	36.8	+0.1	Current machine av.				33.8	34.9	+1.1
Machine Z				Machine X				Machine Y					
Concora Flat Crush,				Concora Flat Crush,				Concora Flat Crush,					
Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence	Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence		
Z-1	--	1-24-66	33.0	34.2	+1.2	X-1	47	1-14-66	36.5	33.8	-2.7		
Z-2	--	2-18-66	34.6	31.8	-2.8	X-2	49	1-27-66	33.1	27.5	-5.6		
Current machine av.				33.8	33.0	-0.8	X-3	50	2- 2-66	34.3	31.2	-3.1	
Machine BB				33.8	33.0	-0.8	X-4	51	2-11-66	32.8	34.3	+1.5	
							X-5	52	2-16-66	35.4	36.5	+1.1	
Machine BB				33.8	33.0	-0.8	X-6	53	2-24-66	36.2	32.2	-4.0	
							X-7	54	3- 2-66	34.6	37.0	+2.4	
				X-8	55	3-11-66	33.0	35.5	+2.5				
				X-9	56	3-17-66	32.8	30.4	-2.4				
Current machine av.				34.3	33.2	-1.1	Current machine av.				38.0	37.6	-0.4
Machine BB				Machine CC				Machine DD					
Concora Flat Crush,				Concora Flat Crush,				Concora Flat Crush,					
Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence	Code	Mill Roll No.	Date Made	Insti- tute	p.s.i. Mill	Differ- ence		
BB-1	96	3- 4-66	31.6	34.6	+3.0	CC-1	755	1-21-66	40.9	40.3	-0.6		
Current machine av.				31.6	34.6	+3.0	CC-2	756	1-24-66	39.2	38.6	-0.6	
							CC-3	757	2- 3-66	40.9	43.3	+2.4	
Machine BB				31.6	34.6	+3.0	CC-4	758	2-21-66	40.2	41.2	+1.0	
							CC-5	759	2-28-66	40.7	40.4	-0.3	
				CC-6	760	3- 7-66	41.9	39.2	-2.7				
Current machine av.				31.6	34.6	+3.0	Current machine av.				40.6	40.5	-0.1

TABLE XXIII
PART I: A COMPARATIVE SUMMARY FOR EACH MACHINE OF THE CONCORDA FLAT CRUSH AVERAGES BASED ON INSTITUTE DATA AND THOSE BASED ON MILL DATA
FOR THE CURRENT PERIOD (FEBRUARY AND MARCH, 1966)

Machine code	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD		
Number of rolls compared	8	10	9	0	9	8	6	4	4	10	8	7	11	8	8	8	5	10	8	4	8	4	3	9	8	2	0	1	6	8		
Concorda flat crush, p.s.i.																																
Current machine av. (Institute) ^a	33.7	31.2	35.9	--	35.0	36.7	39.6	33.5	36.5	36.5	32.5	33.8	33.1	36.1	36.6	35.7	39.7	32.3	32.8	33.2	36.7	33.8	32.7	34.3	38.0	33.8	--	31.6	40.6	34.4		
Current machine av. (Mill) ^a	33.0	33.7	35.0	--	36.2	37.0	40.3	34.0	35.8	35.7	41.5	35.8	34.5	33.5	36.4	38.2	38.8	35.2	32.3	32.7	36.8	34.9	36.0	33.2	37.6	33.0	--	34.6	40.5	35.2		
Average difference ^b	-0.7	+2.5	-0.9	--	+1.2	+0.3	+0.7	+0.5	-0.7	-0.8	+9.0	+2.0	+1.4	-2.6	-0.2	+2.5	-0.9	+2.9	-0.5	-0.5	+0.1	+1.1	+3.3	-1.1	-0.4	-0.8	--	+3.0	-0.1	+0.8		
Maximum difference ^c	-3.1	+6.6	-2.9	--	+2.7	-1.8	+2.8	+2.1	-2.0	-3.9	+13.5	+3.3	+3.0	-10.8	-1.7	+4.0	-2.7	+6.0	+3.3	-1.1	-3.4	+4.6	+3.8	-5.5	-6.8	-2.8	--	+3.0	-2.7	+3.0		

PART II: A TABULATION FOR EACH MACHINE OF THE AVERAGE DIFFERENCE (PERCENT) BETWEEN THE CONCORDA FLAT CRUSH
BASED ON INSTITUTE DATA AND THAT BASED ON MILL DATA

Average difference, % ^d	Current report (Feb.-March)	117th Report (Dec.-Jan.)	116th Report (Oct.-Nov.)
	-2.1	+8.0	-2.5
	+0.6	0.0	-1.4
	+1.8	-1.5	0.0
	+3.4	+0.8	+1.5
	-2.3	-2.5	-3.4
	+1.0	+1.5	+1.3
	-1.9	-2.2	-2.7
	+5.9	+5.9	+5.9
	-5.1	-5.1	-5.1
	+5.9	+5.9	+5.9
	-7.3	-7.3	-7.3
	+5.1	+5.1	+5.1
	-7.2	-7.2	-7.2
	-0.5	-0.5	-0.5
	+7.0	+7.0	+7.0
	+4.2	+4.2	+4.2
	-2.6	-2.6	-2.6
	-7.6	-7.6	-7.6
	+4.3	+4.3	+4.3
	-0.9	-0.9	-0.9
	+1.5	+1.5	+1.5
	-1.1	-1.1	-1.1
	+10.1	+10.1	+10.1
	-3.2	-3.2	-3.2
	-1.1	-1.1	-1.1
	+3.3	+3.3	+3.3
	-3.9	-3.9	-3.9
	-6.3	-6.3	-6.3
	-1.8	-1.8	-1.8
	-2.4	-2.4	-2.4
	-0.3	-0.3	-0.3
	--	--	--
	+9.5	+9.5	+9.5
	-0.2	-0.2	-0.2
	+1.5	+1.5	+1.5
	-2.0	-2.0	-2.0
	+1.4	+1.4	+1.4

^a Comparisons based on current machine average include only those rolls for which mill data were submitted.
^b Average difference is the difference between the current machine average based on Institute test results and that based on mill test results with the Institute test results used as the reference. See Table XXIII.
^c Maximum difference is the greatest difference encountered in comparing Institute and mill test averages for individual rolls. See Table XXIII.
^d Average difference (percent) is computed by dividing the average difference in p.s.i. (shown above in Part I of this table) by the Institute current machine average and multiplying the result by 100.

In Table XXXIV a summary of the agreement between Institute and mill Concora flat crush data is given for the current period; comparative data from the previous bimonthly period are also included. The data shown for the current period indicate that agreement between Institute and mill Concora data was good but, at most levels of comparison, not quite as good as the agreement for the previous period.

TABLE XXXIV

SUMMARY OF AGREEMENT BETWEEN INSTITUTE AND MILL
CONCORA FLAT CRUSH DATA

Average Percentage Difference Between Institute and Mill Concora Flat Crush Test Results ^a	Percentage of All Machines Included Within the Indicated Range	
	Previous Period ^b	Current Period ^c
+ 1.0	23.1	14.3
+ 2.5	53.8	57.1
+ 5.0	84.6	71.4
+ 10.0	96.2	92.9
Max.	100.0 ^d	100.0 ^e

^aThe average obtained at the Institute was used as the reference in the calculation of the percentage differences.

^bDecember, 1965 and January, 1966.

^cFebruary and March, 1966.

^dMaximum percentage difference was +33.9.

^eMaximum percentage difference was +27.7.

Note: Lack of conditioning after fluting may be responsible for the large maximum differences reported above in Notes ^d and ^e.

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