

PLAINTIFF'S EXHIBIT

GP-741

BESTWALL GYPSUM COMPANY

PLANT MANAGERS MEETING JAN. 22-23-24th
1962

K. W. Brown

SGP 0020836

BESTWALL GYPSUM COMPANY

For: Messrs. K. W. Brown - Acme
J. Di Lorenzo - Akron
C. R. Googe - Blue Rapids
M. M. Powers - Brunswick
H. J. Zelms - Fort Dodge
J. B. Moss - Grand Rapids
A. E. Edmondson - New Orleans
T. W. Richards - Sigurd
M. S. Jorgensen - Wilmington

January 12, 1962
Paoli Laboratory

Subj: PLANT MANAGERS' MEETING

C. G. Shuttleworth/md



* * * * *

CC: Messrs. O. F. Grieve - Paoli
G. A. Hoggatt - Paoli
E. B. Hollingsworth - Paoli
G. F. Wilson - Paoli
E. J. Cole - Paoli
Matt Fink - Paoli
H. C. Puckett - Paoli
J. Vander Hout - Paoli

You have seen Mr. Wilson's letter of Jan. 2nd, outlining the agenda for the 1962 Plant Managers' Meeting.

Attached is a tentative outline of the various subjects to be covered in the Quality portion of the program.

SGP 0020837



SGP 0020838

1962 PLANT MANAGERS' MEETING

AGENDA

MONDAY - January 22nd

- 10:15 A.M. - Report by Mr. Schram on results of the nationwide survey conducted on our board products versus competition, followed by demonstration of samples and discussion.
- 1:00 P.M. - Reports by Messrs. Brown, Di Lorenzo, and Googe on the quality picture at their plants and program for 1962 to improve the picture.
- 3:15 P.M. - Reports by Messrs. Powers, Zelms, and Moss on the quality picture at their plants and their 1962 program to improve the picture.

TUESDAY - January 23rd

- 8:30 A.M. - Reports by Messrs. Edmondson and Richards on quality picture at their plants and the 1962 program to improve the picture.
- 9:30 A.M. - Demonstration of control tests on stucco and plaster, and the reasons the tests are made. J. R. Watt and T. L. Ravins.
- 10:30 A.M. - Demonstration of control tests on board and lath and the reasons the tests are made - E. E. Schram.
- 11:30 A.M. - Summary and conclusions - C. G. Shuttleworth and O. F. Grieve.

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BESTWALL GYPSUM COMPANY

PAOLI, PA.

January 2, 1962

Re: PLANT MANAGERS' MEETING

G. E. Wilson/hm

gaw

TO: All Plant Managers

cc: Messrs. O. F. Grieve - Paoli
E. B. Hollingsworth - Paoli
G. A. Hoggatt - Paoli
C. G. Shuttlesworth - Paoli
E. J. Cole - Paoli
Matt Fink - Paoli
H. C. Puckett - Paoli
J. Vander Hout - Paoli

Attached is a copy of the agenda for the 1962 Plant Managers' Meeting.

A change has been made in our arrangements since our original letter, and the meeting will be held in Paoli rather than the Downingtown Motor Lodge. Also, reservations for rooms have been made at the Treadway Inn in Radnor instead of the Downingtown Motor Lodge. To reach the Treadway Inn, you should take the Paoli Local Train from 30th Street Station to Wayne and take a taxi to the Treadway Inn.

ATT.

*Treadway Inn -
Radnor -
Local from 30th to Wayne*

SGP 0020841



SGP 0020842

1962 PLANT MANAGERS' MEETING

PACLI - JANUARY 22, 23, AND 24TH

AGENDA

MONDAY - January 22nd

8:30 A.M.	-	Opening	O. F. Grieve
8:45 A.M.	-	Welcome and Comments	Malcolm Meyer
9:00 A.M.	-	Review of 1961	O. F. Grieve
9:30 A.M.	-	Our Quality Picture	C. G. Shuttleworth
10:00 A.M.	-	Break	
10:15 A.M.	-	Quality Discussions	
12:00 P.M.	-	Lunch	
1:00 P.M.	-	Quality Discussions	
3:00 P.M.	-	Break	
3:15 P.M.	-	Quality Discussions	
5:00 P.M.	-	End - first day	

TUESDAY - January 23rd

8:30 A.M.	-	Quality Discussions	
10:00 A.M.	-	Break	
10:15 A.M.	-	Quality Discussions	
12:00 P.M.	-	Lunch	
1:00 P.M.	-	Relationship of Quality to Costs-E. B. Hollingsworth	
3:00 P.M.	-	Break	
3:15 P.M.	-	Training Program	G. E. Wilson
4:30 P.M.	-	Summary	O. F. Grieve
5:00 P.M.	-	Closing	
6:30 P.M.	-	Plant Managers' Dinner	Treadway Inn

Agenda - PLAN MANAGERS' MEETING

WEDNESDAY - January 24th

8:30 A.M. - Group A to Wilmington

Group B - Paoli Conferences

1:00 P.M. - Group B to Wilmington

Group A - Paoli Conferences



SGP 0020845

BESTWALL GYPSUM COMPANY

PAOLI, PA.

December 22, 1961

Subject: PLANT MANAGERS' MEETING

G. E. Wilson/hm

TO: Mr. K. W. Brown - Acme
Mr. J. Di Lorenzo - Akron
Mr. C. R. Goege - Blue Rapids
Mr. M. M. Powers - Brunswick
Mr. H. J. Zelms - Fort Dodge
Mr. J. B. Moss - Grand Rapids
Mr. A. B. Edmondson - New Orleans
Mr. J. H. Burkhardt - Pryor
Mr. T. W. Richards - Sigurd
Mr. M. S. Jorgensen - Wilmington
Mr. J. W. Hart - Thorold

THIS COPY FOR

cc: Mr. O. F. Grieve - Paoli
Mr. E. B. Hollingsworth - Paoli
Mr. G. A. Hoggatt - Paoli
Mr. C. G. Shuttleworth - Paoli
Mr. E. J. Cole - Paoli
Mr. J. Vander Hout - Paoli

The 1962 Plant Managers' Meeting will be held at the Downingtown Motor Lodge in Downingtown, Pennsylvania, on January 22, 23, and 24. Reservations have been made in your name for arrival on Sunday, January 21st. We would ask each of you to advise us as soon as possible regarding your arrival schedule, and we in turn will advise you as to arrangements for transportation to the motor lodge.

"Quality and its relationship to Sales and Cost," has been selected as the theme of this meeting. You should be prepared to discuss this subject in all its aspects, along with your own objectives of process, equipment and personal improvements for quality control. Please advise us of any specific topics that you would like discussed at the meeting so that these can be included in the agenda.

SGP 0020846



SGP 0020847

SESTWALL GYPSUM COMPANY

PAOLI, PA.

November 29, 1961

Subject: PLANT MANAGERS' MEETING

G. E. Wilson/hm

John

TO: Mr. K. W. Brown - Acme ✓
Mr. J. Di Lorenzo - Akron
Mr. C. R. Googe - Blue Rapids
Mr. M. M. Powers - Brunswick
Mr. H. J. Zelms - Fort Dodge
Mr. J. B. Moss - Grand Rapids
Mr. T. W. Richards - Sigurd
Mr. J. H. Burkhart - Pryor
Mr. A. E. Edmondson - New Orleans
Mr. M. S. Jorgensen - Wilmington
Mr. J. W. Hart - Thorold

cc: Mr. O. F. Grieve - Paoli
Mr. E. B. Hollingsworth - Paoli
Mr. G. A. Hoggatt - Paoli
Mr. C. G. Shuttleworth - Paoli
Mr. E. J. Cole - Paoli

Plans are being formulated to hold a Plant Managers' Meeting in Paoli during January. You will be advised shortly as to exact dates. The main theme of the 1962 meeting will be quality, and you should be prepared for any discussions on this subject.

As in the past, you should bring along your annual review of plant performance concerning quality and costs. These will be discussed if time permits. Also, your cost savings program for 1962 should be prepared for submission at that same time.

We plan some minor changes in this program for next year and will advise you as to the details of the program in the very near future.

SGP 0020848



SGP 0020849

BESTWALL GYPSUM COMPANY

PAOLI, PA.

November 30, 1961

Subject: CONVERSION COSTS AND COST
SAVINGS PLAN

G. E. Wilson/hm

GEW

TO: Mr. K. W. Brown - Acme ✓
Mr. J. Di Lorenzo - Akron
Mr. C. R. Googe - Blue Rapids
Mr. H. J. Zelms - Fort Dodge
Mr. J. B. Moss - Grand Rapids
Mr. J. W. Hart - Thorold

cc: Mr. O. F. Grieve - Paoli

I am quite pleased to inform you that substantial gains have been realized in conversion costs during 1961, and that we were able to reverse the trend of rising manufacturing costs for the first time in several years. Contributions to this reduction have varied from plant to plant, and I am sure you are each aware of your contribution. Although these gains have been made, I feel that we have just scratched the surface of the potential and further improvements can be forthcoming during 1962. These again will vary from plant to plant, as the areas are more fertile for improvement at different locations.

You have been advised to submit a cost reduction program for 1962 when you come to the Plant Managers' Meeting. This is to be prepared on the basis of improvement in conversion cost items. As we did last year, we will set objective savings in the areas of Saleable Perfects, Machine Delays, Wet board and Grinding Waste, Machine Speeds and Board Weights.

In preparing your cost savings program, this should include enough items to offset wage and fringe increases and still produce conversion cost reductions at your plants. These should be the goals for conversion cost reductions at each plant:

Acme	- 4%
Akron	- 9%
Blue Rapids	- 10%
Fort Dodge	- 4%
Grand Rapids	- 8%
Thorold	- 10%

I would suggest that you calculate the amount of savings involved, based on 1961 volume, and in turn prorate this savings by departments, based on the areas of improvement in each phase of your operation. This will not be an easy job, but with the help and cooperation of all your supervisors, this can be accomplished.

SGP 0020850



SGP 0020851

JAN. 22-24, 1962

OPENING REMARKS

In the 1959 meeting at Brunswick, I pointed out that the gypsum business had changed from a seller's to a buyer's market, that there was plenty of productive capacity in the industry, and that quality would be of increasing importance in the future, in the ability to obtain our fair share of the market.

It is plainly evident that the analysis was correct, as we are now in a very competitive market; and one of the prime factors controlling sales is quality. This is why Mr. Grieve has set quality as the main theme of this meeting.

Our record in 1961, in general, was poor; although there are a few bright spots. Comparing 1961 with 1960 we find as follows:

		<u>1960</u>	<u>1961</u>	
Total Complaints		953	922	
Total Adjustments		\$62,928.46	\$74,607.93	
By Plants:				
Acme	- Number	168	130	Joint Cement
	Dollars	12,516.06	8,864.30	\$11,186.80
Akron	- Number	97	96	(\$20,051.10)
	Dollars	4,970.56	9,021.58	
*Blue Rapids	- Number	42	95	
	Dollars	2,457.49	13,992.70	
Brunswick	- Number	58	77	
	Dollars	3,767.17	3,020.87	
Fort Dodge	- Number	186	166	
	Dollars	5,700.97	5,798.20	
Grand Rapids	- Number	191	138	
	Dollars	7,689.60	5,031.82	
Sigurd	- Number	211	217	
	Dollars	25,826.61	17,691.66	

*Not comparable because of incomplete operating schedule ✓

On a defective basis, the record is as follows:

	Per Million Ft. of Board & Lath			
	1960		1961	
	Number	Dollars	Number	Dollars
Acme	0.253	22.84	0.398	19.73
Akron	0.497	19.76	0.584	27.29
Blue Rapids	-	-	2.851	290.15
Brunswick	0.256	21.87	0.130	9.78
Fort Dodge	0.355	30.99	0.373	26.73
Grand Rapids	0.821	69.20	0.839	44.08
New Orleans	-	-	0.435	21.77
Sigurd	1.042	120.61	12.49	94.22

	Per 1000 Tons of Plaster			
	1960		1961	
	Number	Dollars	Number	Dollars
Acme	0.931	157.26	0.747	322.06
Akron	0.836	8.59	0.861	31.74
Blue Rapids	-	-	1.047	168.85
Brunswick	0.531	14.34	0.691	27.64
Fort Dodge	0.733	40.18	0.574	34.73
Grand Rapids	2.897	60.34	1.222	13.75
New Orleans	-	-	1.647	184.25
Sigurd	1.202	203.11	1.252	57.07

On this basis, our biggest jobs are at Blue Rapids, Grand Rapids, and Sigurd on board and Acme and Blue Rapids on plaster. However, there are extenuating circumstances on Acme's record, which will be covered in more detail later.

As a result of this meeting, I hope we shall all have a better understanding of the problems we face and what can be done about them.

CS

December 15, 1961

Subject: PRODUCT SURVEY

E. E. Schreyer/as

Re: Mr. G. B. Stettinworth - Pauli

cc: Mr. C. F. Jowers - Pauli
Mr. E. E. Stettinworth - Pauli
Mr. G. B. Stettinworth - Pauli

In the various parts of the Manufacturing Department we have completed comparative tests on 1/2" ballhead, 1/2" ballhead from each of our 22 sales districts. For the most part the samples and ballheads are in good shape. Only one set arrived in an unusable condition and was immediately replaced. I believe we received fairly good representation samples from the portions of the country in which we have sales offices. The samples consisted of one each of 1/2" ballhead and the same from each of our 22 sales districts.

With the exception of the West Coast, our two major competitors are U. S. G. and National. They are and will be the major ones considered, although three other gypsum companies are located on the West Coast. The results of tests and observations are listed below:

COMPANY DATA

The average price of the three major companies were as follows:-

	Maximum	Minimum	Average
Bestall	2154	1966	2062 2.06-2
U. S. G.	2114	1923	2008
National	2100	1901	2002

The average price of the three major companies is practically all over the country. The only exception was the West Coast where our price was considerably higher than the competition. The average on the West Coast, including Salt Lake Sales, was as follows:-

	Maximum	Minimum	Average
Bestall	2154	1966	2062
U. S. G.	2114	1923	2008
National	2100	1901	2002

U. S. G. - 4 samples
Bestall - 2 samples
National - 1 sample

DIMENSIONS

The dimensions of all boards were within permissible tolerances except one from Los Angeles Sales (Postwall Sigurd board) that was 5/16" narrow.

The number of boards cut out of square and the amounts are listed below:-

Postwall	-	1	-	1/4 "
		1	-	1/8 "
		1	-	1/16 "
U. S. G.	-	2	-	1/16 "
National	-	5	-	1/8 "
		2	-	1/16 "

The caliper of all boards tested were within permissible tolerances although quite a few had high shoulders. This condition is noted in the individual analyses.

TRANSVERSE STRENGTH

The transverse strengths of all boards tested were fairly close and well within tolerances. Two samples were broken in each direction for each board tested. The average of the transverse strengths are as follows:

	NORTH GRAIN			CROSS GRAIN		
	Max.	Min.	Average	Max.	Min.	Average
Postwall	78	49	59 ✓	228	150	187 ✓
U. S. G.	68	48	57	227	156	185
National	69	46	58	219	163	188 lbs.

HARDNESS OF BOARD

The falling ball test is a function of both core density and rock purity and they varied considerably with board from all companies. No correlation between company board could be noted here.

Due to the fact that both U. S. G. and National make a hard edge board, their edge hardness was slightly better than ours, although not greatly so. Except in the few cases where an edge of the board was burned, penetrometer readings rarely were over 5.

EDGE FORMATION

Edge formation of practically all of the boards was good except the few cases mentioned in the individual analyses.

TAPERED EDGE FORMATION

The tapered edge of each board tested was checked for width and depth. The depths are listed below:-

	Maximum	Minimum	Average
Bestwall	.032"	.020"	.039"
U. S. G.	.015"	.012"	.038"
National	.030"	.012"	.048"

No average was computed on the taper width, but from observation it is noted that National has a much ~~water~~ *larger* variation than Bestwall or U. S. G.

END BUNDLING

End bundling was good on practically all board received, but from observations made it appeared that U. S. G. had a slightly tighter bundle than any of the other companies' boards. The balances looked approximately the same.

TEAR STRIPS

The samples arrived with tear strips 2/8", 1/2", 5/8", 3/4" and 7/8" wide. However, practically all of U. S. G. and National was 7/8" and Bestwall was 1/2". The tensile strength of these strips appeared to be primarily a function of the width as the calipers were quite uniform. One observation made was that the success or failure of a tear strip to perform satisfactorily was how it was centered in the twin mounting tape. If it was well centered, the tape would be torn in shear and it would tear off cleanly. If it was off center and the tape had to be torn in tension, the tear strip would break.

FACE MARKINGS

The only boards tested that had face markings were U. S. G. submitted from Kansas City and Omaha sales districts (board manufactured at Ft. Dodge, Iowa and Sperry, Iowa). The markings consisted of alternate K's and O's, 1/4" on center, 1/4" high, running lengthwise of the board 16" from each side.

BACK MARKING

All competitive board tested had code number only printed on back, with the following exceptions:-

1. Kaiser Gypsum had their trademark "K" on 1/4" centers.
2. U. S. G. board from New York Sales had islander number printed.
3. U. S. G. board from Kansas City, Omaha, and Houston had patent number 2,801,811. It referred to their patent to prevent split ply or peeling.

December 15, 1961

- 4 -

PRODUCT SURVEY

DRY & HUMID BOND

The dry bond was perfect in practically all cases. The humid bond results varied considerably, but in listing them all it appeared that Bestwall was slightly better than National and both considerably better than U. S. G.

FACE PAPER

In evaluating the board, face paper was not considered as we thought it to be a raw material and did not affect the quality of board products as manufactured by our gypsum plants. Samples of each board tested have been saved and will be painted both by brushing and rolling for comparison. A separate report will follow concerning this.

From observations made, it appears in most instances our face paper is not as smooth as that of competition. Samples of the roughest paper found have been saved.

We were also asked to rate the boards from each sales district as the best (1), next best (2), and worst (3). The results, in our opinion, are listed below:-

	<u>1</u>	<u>2</u>	<u>3</u>
Bestwall	8	5	9 *
U. S. G.	10	10	2
National	2	5	11
Blue Diamond	1		
Kaiser	1	2	

* One board made by Barrett, Edgewater, N. J.

Bestwall boards from individual plants were rated as follows:-

	<u>1</u>	<u>2</u>	<u>3</u>	<u>Total</u>
Acme	1	1		2
Akron	2	1	1	4
Blue Rapids		1		1
Brunswick	2			2
Ft. Dodge	3		1	4
Grand Rapids		1	2	3
New Orleans		1		1
Sigurd			1	1
Edgewater			1	1

The reasons for rating the boards as listed above is covered by sales districts in Appendix A.

SGP 0020857

APPENDIX A

CHICAGO

1. Bestwall - good board
2. U. S. G. - shoulder one side
3. National - narrow tapers (1-1/2" & 1-7/8")

WASHINGTON

1. U. S. G. - good board
2. Bestwall - fairly good board except small shoulder one side
3. National - high shoulders both sides. Narrow taper, 1/8" out of square.

SALT LAKE CITY

1. Blue Diamond - best of 3 but had one shallow taper and 1/16" out of square.
2. U. S. G. - high shoulders, narrow tapers
3. Bestwall - high shoulder both sides. Rounded edge. 1/8" out of square.

SAN FRANCISCO

1. U. S. G. - fairly good board but one taper shallow
2. Kaiser - very light board, 1/16" out of square
3. Bestwall - heavy board, 1-1/2" split on edges

SEATTLE

1. Kaiser - good board but small shoulder one side
2. U. S. G. - cupped taper, 1/2" split on one end
3. Bestwall - one edge burned 1-1/2", one taper 1-7/8" wide, 1/2" - 1" end split on one end

NEW YORK

1. U. S. G. - best of 3 but end grinding rough and had high shoulders
2. National - end grinding rough, face paper burred. High shoulders both sides.
3. Bestwall - end grinding rough, face paper burred. High shoulders. One edge rounded. Narrow tapers (1-3/8" & 1-5/8"). This board was made at Barrett's plant in Edgewater, N. J.

ATLANTA

1. Bestwall - good board
2. U. S. G. - heavy board, ~~4~~ 1/16" out of square
3. National - uneven caliper, one taper 1-7/8"

HOUSTON

1. Bestwall - good board except small shoulder one side
2. U. S. G. - end grinding rough, paper burred one end. One end split 1/2"
3. National - high shoulder one side. One narrow taper (1-1/2"). 1/8" out of square. 1/4" end split of face paper

LOS ANGELES

1. U. S. G. - good board
2. Kaiser - fairly good board except narrow tapers (1-1/2" & 1-5/8")
3. Bestwall - shoulder one side. One taper narrow (1-7/8"). 1/16" out of square. One end and one edge burnt 2". 5/16" narrow

CLEVELAND

1. Bestwall - best of 3 but edges slanting a little. Paper split 1/4"
2. U. S. G. - one high shoulder. Corners burnt. Light board
3. National - slanting edges, very heavy board. Tapers 1-7/8" wide

BUFFALO

1. Bestwall - best of 3 but one high shoulder. One taper cupped
2. U. S. G. - thick in middle. Shallow tapers. One taper cupped
3. National - uneven caliper. One edge and corners burnt. None of these boards were good

INDIANAPOLIS

1. National - best one but had high shoulder, narrow taper, slightly rounded edge
2. U. S. G. - edge and end burnt
3. Bestwall - edge and end burnt. None of these boards were good

BRUNSWICK

1. Bestwall - good board
2. U. S. G. - fairly good board but 1/2" paper split
3. National - slanting edges, narrow taper, 1" end split

CINCINNATI

1. National - good board except one taper narrow (1-3/4")
2. U. S. G. - shoulders both sides
3. Bestwall - end grinding rough. Paper badly burred. High shoulder one side. Very heavy board

KANSAS CITY

1. U. S. G. - good board except end grinding rough on one end. Face paper burred a little
2. Bestwall - Fairly good board except one edge slanting slightly
3. National - narrow taper, 1/16" out of square, high shoulders

DALLAS

1. U. S. G. - good board
2. Bestwall - one end burnt - 2" face split
3. National - large groove 1/2" from one edge 2-1/2" wide. Heavy board

SGP 0020860

PHILADELPHIA

1. U. S. G. - good board except one high shoulder
2. National - very thick shoulder, 1/8" out of square
3. Bestwall - one edge badly burnt. Pentrometer reading 12

OMAHA

1. U. S. G. - good board
2. National - one edge slightly rounded, 1/8" out of square
3. Bestwall - end grinding rough. Paper burred. Out of square 1/4"

NEW ORLEANS

1. U. S. G. - good board except small shoulders
2. Bestwall - edges rounded, small shoulders
3. National - end grinding rough, paper burred badly. High shoulder. One narrow taper (1-5/8"). One end calcined 1/4"

DETROIT

1. U. S. G. - good board except 1/16" out of square
2. Bestwall - end grinding rough. High shoulders
3. National - high shoulders. 1/16" out of square. One corner calcined badly.

ST. LOUIS

1. Bestwall - good board except 1/4" paper split one end
2. National - A little heavy, 1/8" out of square
3. U. S. G. - one edge slightly rounded. Thick shoulder. One edge badly burnt, 8" split along edge

TWIN CITIES

1. Bestwall - good board except heavy
2. National - heavy board - 1/2" paper split one end
3. U. S. G. - 1-1/2" split one end and edge (burnt)

12/162

Quantity -

Making records for records sake - Ctg.

Review of 1961-1960 picture on Quality: CQS.

Wall board quality eggs.

Competition picture & report -

Conduct Market Survey on a per quarter basis. E.W.

Report & Results Competitive tests

Job etc. wasted

Mygr's material formed.

Answers to Quiz Application

Our position or acceptance -

Quality, Size vs Bd. Dept. - (but on a complaint visit)

Non-orthogonal samples -

Handwritten: *Handwritten - edge paper to page 10*

Round edges - cuffed edges

Chen Rui

1/2000 1/1000 1/1000 1/1000

And the same of Paeon thus feed.

Help. King.

(Massachusetts) - Industrial (Tare)

Industrial Powertronics, Inc. 535 N. W. 11th Ave.
Portland 9, Ore.

Chickadee, downy woodpecker, blue bird, etc.

at Lake Umbagog.

to action of great good, & of great

AT Council get up to 2 1/2 hrs on board ship.



Send copies of quality reports to all other plants & Pacific.

let
ibby Correspondence on complaints
predicate letter with complaint #
received — dated —

Quality

Continuing quality audit - check into this with John & for use at Umea.
Captured it out to the other times.
Water loss problem as opportunity is ←

Equipment

Installation of killer top.
Page for glass cutting - plastic cut
14 Apr. in cutter.

Dodge

Check on glass in figure & edges bar.
Safety gates for killer.

Get next product request when after next time
product not in line.
Adjusting lining on chain side of dryer.

Grandstands

for in acid treatment -
B. In fact on 15th must be present to provide
or different in the result.

N.O.

will - new looking device on accelerator
black feet -

Grand

1/23/62



Paper

...Growth Super - to on look 1 for end split
- paper -

Plaster tests

Board tests -

Paper tests

Chet Alberg

70 ... plant on left margin

67 ... plant on left margin

14 ... plant on left margin

USG now 37% ... 37%

BWG - 12 1/2% -

... 27% -

... 1961 ... 61 ... Industry was about 100 ...

Quarter ... 1 ... 2 ... 3 ... 4 ... 5 ... 6 ... 7 ... 8 ... 9 ... 10 ... 11 ... 12 ...

145 ... 150 ... 160 ... 170 ... 180 ... 190 ... 200 ...

... trying to ... 10% ... 15% ... 20% ... 25% ... 30% ... 35% ... 40% ... 45% ... 50% ...

... 10 years ...

J-10 - 10y ...

(... to give ... 10% ... 15% ... 20% ... 25% ... 30% ... 35% ... 40% ... 45% ... 50% ...)

Do ... in ... 10% ... 15% ... 20% ... 25% ... 30% ... 35% ... 40% ... 45% ... 50% ...

1/23/62 AM

State Capital

ad

Oct 1891

719 760 for the collection - old & grand

April - 1950* board — at New Orleans

Book - 2 copies of quality, etc., + one for Parli-

These things are new additions to Science.
The 1st is Quadrant & Trigonometry.

74 - Summary

5

1960

	<u>Number of Rail L & D Claims Filed</u>	<u>Total Value</u>	<u>Average Loss</u>	<u>Cars shipped 12/1/59 to 12/1/60</u>	<u>Ratio Claims = Cars Shipped</u>
Grand Rapids	15	\$3610.80	\$240.72	1562	.0096
Ft. Dodge	22	913.36	41.51	4712	.0046
Akron	32	2119.10	66.22	1876	.0170
Acme	60	7297.50	121.62	6038	.0099
Blue Rapids	15	640.45	42.69	1226	.0122
Brunswick	20	830.45	41.52	4163	.0048
Totals	164	\$15411.66	\$ 93.97	19577	.0084

1961

	<u>Number of Rail L & D Claims Filed</u>	<u>Total Value</u>	<u>Average Loss</u>	<u>Cars shipped 12/1/60 to 12/1/61</u>	<u>Ratio Claims = Cars Shipped</u>
Grand Rapids	12	\$1446.00	\$120.50	1613	.0074
Ft. Dodge	51	2902.46	56.91	4915	.0103
Akron	12	522.87	43.57	1282	.0093
Acme	85	9421.36	110.84	5629	.0151
Blue Rapids	13	460.55	35.42	1905	.0068
Brunswick	20	1108.56	55.43	5939	.0033
New Orleans	1	113.36	113.36	580	.0017
Totals	194	\$15975.16	\$ 82.29	21863	.0088

A

RAIL LOSS & DAMAGE CLAIMS FILED ON GYPSUM PRODUCT SHIPMENTS

(Claims due to wrecks & fires excluded)

<u>Year</u>	<u>Number of Claims Filed</u>	<u>Total Value</u>	<u>Average Loss</u>	<u>Cars Shipped 12/1 to 12/1</u>	<u>Ratio of claims to cars shipped</u>
1961	194	\$ 15975.16	\$ 82.29	21863	.0088
1960	164	15411.66	93.97	19577	.0084
1959	203	14918.39	73.49	19435	.0104
1958	177	15148.78	85.58	18725	.0094
1957	220	19021.12	86.27	19074	.0115
1956	266	17794.44	66.89	24061	.0111

SGP 0020868

1/2

Handwritten notes:
addition
to the plan
of the

1932

QUALITY IMPROVEMENT PROGRAM

by

H. W. Brown

BOARD PLANT:

1. Improved tape printing --
rubber covered die rolls -- "Dycril" dies trial.
2. Installation of stucco feed recorder control,
(Hesterline Angus).
3. Installation of new 24" form roll for improved caliper --
better edges and taper.
4. Improved stucco feed for improved uniformity and board
weights.
5. Edge positioning equipment for improved edges, particularly
on T & G Sheathing.
6. Installation of paper tension device or dancer roll to
remove paper pull on machine.

JOINT SYSTEM:

1. Master batching of chemical additives to improve mixing
and final quality.
2. Improved palletizing and box loading.
3. Each plant to give copy of "complaints"
to Admin.

JOINT COMPLAINT SUMMARY
JOINT SYSTEM PLANT

The enclosed Complaint Summary indicates a general improvement in our Joint System quality. However, a direct comparison is not possible due to the fact that each of the other plants are now handling complaints on material shipped by them.

Under the category of Bond-Adhesion, the \$179.32 was paid on one complaint traced to a leaking gate below the blender. As the raw materials were fed to the blender, a quantity of the unproportioned material would leak by the gate. Recognizing that this possibly accounted for other previous complaints, we instituted additional sampling and testing to detect the severity of this condition. In the course of six months we detected 18 batches which would have previously been passed. We recognize that more positive sealing gates would be the answer to this problem.

Under the category of Shipping Errors, we have included two adjustments from the previous year and one in the year 1961 amounting to a total of \$460.53 which resulted from shipping a reject batch undetected by the Laboratory.

The \$480.00 policy payment was made against a 10 bag Sample Order of Laminating Compound which was used in an application which the material was not designed for; embedding of electrical heating wires.

In reviewing this summary, we note that the factors involve human and mechanical failure almost exclusively. Very few complaints have been made against the products themselves. This reflects the excellent quality of our present formulations and raw materials.

The Five Star complaints are included separately as they did not enter into the comparative picture.

Concerning the production summary, we would like to mention that the 1961 tonnage sets a new record over the year 1959 by 540 tons or 5.15%. Part of this may be attributed to the addition of Johns-Marville, Flintkote, and Big Horn, as well as the opening of our New Orleans, Blue Rapids, and Wilmington plants. We have also noted the increase of 0.79% in perfect production, especially in view of the increased quality standards mentioned previously. Much attention has been given to this matter over the past year, both from the quality and cost viewpoint, and we are extending our goals for the coming year in this direction. Four possibilities immediately in view are outlined as follows:

1. The addition of the Bulk Limestone System eliminates errors made in count of bags per ton. It also reduces the possibility of paper trash in the finished products. These two causes for rejects have been frequent in the past.

2. We have long contemplated an added operation to problem all of the small ingredients and weightings encountered in the manufacture of these products. By reducing the number of individual weightings we should be able to reduce the number of reject batches. In addition, we feel that a more uniform finished product would result from this operation. Means of accomplishing this are now available and we will institute an extended trial this year.
3. As already mentioned, more positive sealing gates would be desirable in our system and we will continue to work on this problem.
4. Additional automated equipment and interlocking controls would eliminate many causes of rejected production, as well as increase the total potential of our blending operation. However, our limiting production factor comes from the packaging operation. In this overall program, we are presently investigating means to increase our packaging rate in order to fully justify installation of such equipment.

COMPLAINT SUMMARY

	1960				1961			
	Rec'd	Adj.	Policy	Def.	Rec'd	Adj.	Policy	Def.
Lumping	5	2	.00	75.00	0	0	.00	.00
Photographing, Burning	14	3	92.00	.00	6	1	.00	.00
Beading, Distortion	1	1	492.00	.00	3	0	.00	.00
Bond, Adhesion	7	4	30.00	85.02	6	2	.00	179.32
Edge Cracking	1	0	.00	.00	0	0	.00	.00
Working Properties	4	1	.00	24.15	4	1	.00	38.57
Miscellaneous	5	0	.00	.00	1	1	480.00	.00
Shipping Errors	9	7	359.94	419.22	5	8	.00	616.33
Total	46	18	973.94	603.39	25	13	480.00	834.22
Five Star					13	15	500.00	9372.58

	1960	1961	Increase
Total Production	9,252 Tons	11,034 Tons	19.28%
% Perfect Production	97.25%	98.04%	0.79%

1961 YEARS 1961 QUALITY REPORT
BOARD & PLASTER

The enclosed Complaint Summary shows our Quality Performance for 1961 vs. 1960.

The summary indicates that our board shipments during 1961 were down by 5.4% over the previous year and our cost of board complaints during 1961 were down by 8.98%, showing that some quality improvements were realized during 1961. Cost of board complaints in 1961 was \$.019 per thousand sq. ft. of board while our cost in 1960 was \$.0202 per thousand.

Our greatest area of complaint cost for board was under heading #1, poor bond and clean peelers \$1,046.83 was paid to two accounts, \$654.72 to Construction Components of Vail, Arizona and \$392.11 to the Barnes Lumber Company of Dallas. In the second instance, the board shipped was found to be defective because of a kiln stoppage during a production run, but no absolute decision has been made as to the cause of the defective board found in Arizona, although it is thought that the defect was partially caused by wet board.

Under Item #2, core splits and blisters, a total of \$894.50 was paid out during 1961. We feel that the reduction of complaints under this heading was due mainly to the adoption of calcium chloride as an aridizing agent during the latter part of 1960. We still experience core splits to some extent, but for the most part, these are calcined core splits or wet core splits due mainly to our inability to hold a constant weight of board on the wet end.

Quite an appreciable increase in cost has been noted under Item #5, split ply paper. Pryor was notified of this condition at its inception, and has since made great improvements in the quality of the paper shipped to Acme. At the present time, split ply has been reduced to the point where almost all end-splitting is eliminated by our end grinding operation.

A large increase in cost also occurred under the category of off dimension board during 1961. No doubt all concerned will remember the complaints filed by our customers for "are cut" board. Of course, this is strictly an end grinding defect and an overhaul of the twin mounting equipment has minimized this defect somewhat, but "are cut" board is still a problem. We have instituted new methods of inspection which enable us to keep this board from our customers, but we feel that a complete rebuilding of our twin mounter will be the only way to eliminate this condition once and for all.

As can be seen from the summary, our greatest problem in the board plant is boards which suffer from the defects noted under headings 1 and 2. These defects are almost always due to calcined or wet board and we feel that these result from our inability to keep a more constant weight of board on the wet end. We have checked quite a few series of 100 boards each and find that weight variation in each series is about 100 lbs. with all controls in a constant position. We feel that if we could eliminate this variation, we could more closely control the weight of the board entering the kiln so that, in effect, we would have a more constant weight of board to dry from hour to hour in the kiln and thus eliminate overdry and over-wet board. We would also be able to lower the average weight of the board by installing this closer control of amount of stucco fed per thousand square feet.

Our only step in this direction that is now planned is the installation of a recording tachometer on the screw conveyor to the pin mixer. Our intention with this device is to determine whether the actual speed of the screw varies at a predetermined setting or whether we have different amounts of flooding of the screw from time to time.

We realize that a system for closer control of stucco would require a good deal of expense but the resultant lowering of the average weight of board and the elimination of reject boards due to calcination and wetness should more than pay for the system in a short period of time.

Although our total cost of complaints in the Plaster Packing & Shipping department shows a decided decrease in actual money spent by 20.9%, our plaster shipments have fallen off by 31.5% during 1961. In reality, then, we had a poorer performance in 1961 than in 1960. Cost of complaint per ton of plaster in 1960 was \$.323 per ton while in 1961 that cost rose to \$.334 per ton. 95.2% of all complaints filed in the Plaster Department and 51.8% of all money paid out in complaints during 1961 was due to a faulty formulation for acoustical plasters issued by the Paoli Laboratory. We are sure that all concerned will remember the complaints filed because of "light-sensitivity" was certainly the introduction of Santobrite fines into our formulation for acoustical plasters as a mold-preventative.

Cost of Shipping Errors in all departments is up by 56.4% over last year. Most of the complaints filed under this category were due to shortages which were traceable to miscounts in the board plant or to failure of the salesman to give proper loading instructions for loading of customer cars. Loading foremen have been instructed to check-count all loads before wrapping, so we are certain that we can look for a decrease in this category in the future.

It is our opinion that we have made quite an improvement in our board package during the past year. We have gone to better dies for our Tape Printing machine and have begun to use a much more satisfactory printing ink. We have also started to use a 3/8" tear tape in bundling of our 1/4" board and this has improved the appearance of our 1/4" package to a great degree.

In the beginning of 1961, quite a few complaints were registered for shallow tapers. Since that time we have narrowed our scoring cutters on all board products with the resultant deeper tapers preferred by the trade out of the Acme plant.

Our present plans for 1962 call for installation of multipoint recording thermometers in each of our calcining kettles in order to maintain a closer control on our calcining process.

Board and Plaster
Complaint Summary
1961 vs 1960

Dept.	Type of Complaint	1960			Cost	1961			Cost
		No. Rec'd	No. Adj.	% Total		No. Rec'd	No. Adj.	% Total	
Board Plans:									
1)	Poor Bond, Clean Faces	1	-	-	-	1	2	11.7	1,016.82
2)	Core Splits, Blisters	10	9	11.1	1,211.98	15	9	10.2	898.57
3)	Cracked, Broken	9	11	6.1	887.36	19	3	1.7	158.35
4)	Edge and Taper Formation	8	8	10.0	1,095.19	3	-	-	-
5)	Split Ply Paper	1	1	1.6	170.00	9	6	8.8	787.26
6)	Off Dimension	2	-	-	-	12	10	5.7	503.33
7)	Surface Imperfection	3	-	-	-	1	-	-	-
9)	Miscellaneous	14	10	4.8	524.66	8	4	1.8	152.05
TOTAL BOARD PLANS		48	39		3,892.47	68	34		3,543.00
Complaint Cost per M sq. ft.					.0202				.019
Plaster Mill:									
10)	Setting Time	5	3	3.0	330.65	9	1	.07	6.02
11)	Working Properties	6	2	21.7	5,685.64	2	2	2.5	225.00
12)	Soft, Weak	4	2	5.0	608.39	2	1	-	-
13)	Cracking	-	-	-	-	-	-	-	-
14)	Broken Bags	-	-	-	-	-	-	-	-
16)	Miscellaneous	8	5	2.3	229.75	10	5	51.8	4,603.58
TOTAL PLASTER		23	10		6,824.35	23	9		4,839.57
Complaint Cost per Ton					.323				.334
Quarry:									
	Cement Rock	-	-	-	-	-	-	-	-
Other Depts.									
23)	Shipping Errors	22	11	2.0	221.91	27	16	5.7	508.61
TOTAL COMPLAINTS FOR ALL DEPARTMENTS		93	60	100.0	10,938.73	118	56	99.8	8,891.21
TOTAL BOARD SHIPMENTS, IN M SQ. FT.					121,804				181,573
TOTAL PLASTER SHIPMENTS, IN TONS					21,102				14,163

BRUNSWICK PLANT

QUALITY - 1961

QUALITY - 1961

Following is the Brunswick Plant Annual Quality Report covering the first eleven months of operations during the year 1961.

RECAP OF COMPLAINTS WALLBOARD, LATH & SHEATHING

<u>NATURE</u>	<u>NO.</u>	<u>% OF COMPLAINTS</u>	<u>AMOUNT</u>	<u>% OF TOTAL</u>
Shipping Errors	12	25.0	\$ 81.78	3.6
Surface Imper- fections	10	20.8	331.13	14.6
Calclined	7	14.6	1118.90	49.5
Off Dimension	5	10.4	177.88	7.9
No Core Adhesive	1	2.1	140.98	6.2
Edge Taper, Edge Formation	2	4.2	155.00	6.9
Miscellaneous	<u>11</u>	<u>22.9</u>	<u>256.92</u>	<u>11.3</u>
TOTAL	48	100.0	2,262.59	100.0

WMP&S

<u>NATURE</u>	<u>NO.</u>	<u>% OF COMPLAINTS</u>	<u>AMOUNT</u>	<u>% OF TOTAL</u>
Setting Time	6	26.1	484.88	42.8
Contamination	3	13.0	170.13	15.2
Shipping Error	2	8.7	4.52	0.4
Acoustical Plaster Discoloration	3	13.0	446.63	39.3
Hose Plugging	2	8.7	0.00	0.0
Miscellaneous	<u>7</u>	<u>30.5</u>	<u>30.00</u>	<u>2.3</u>
TOTAL	23	100.0	1136.16	100.0

Total board product shipments in 1961 amounted to 210,407,473 square feet. Total bagged goods shipped during this same period amounted to 15,238.00 tons. Included in this tonnage is agricultural gypsum. This is an increase over 1960 shipments of 57,917,341 square feet of board products and 2,004 tons of bagged commodities. The total value of all complaints settled during the first eleven months of 1961, including policy and defective adjustment, amounted to \$3,398.75. The total adjustment for the same period in 1960 amounted to \$5,489.05.

In general, two wallboard defect categories, calcination and face imperfections, contributed to the total major dollar adjustment of \$1,450.03. All other wallboard defect categories accounted for adjustments totaling \$812.56.

Two Plaster defect categories, setting time and discoloration, accounted for \$951.51 of the total of \$1,136.16 momentary adjustments. In addition to this, two complaints will be settled for approximately \$450.00 on glass fibered pump application plaster manufactured and shipped towards the end of 1961 that resulted in plugged and burst hose.

SUMMARY OF QUALITY COMPLAINTS

1. MAILED/PAID DEPARTMENT

1. Shipping Errors

Twelve car loading and shipping errors were settled for \$81.78. The largest single error was a shortage of 30 pieces of Backer Board accounting for \$33.35. Two additional car shortages were settled for \$11.92. On two occasions, improper car loading methods in which the plant failed to comply with instructions contained on form 362 cost \$33.44. A number of Adjustments of reported car loading errors were disallowed due to extenuating circumstances; more particularly where specific loading instructions could not be followed without creating either an unsafe load situation or unusual arrangements of board products which could not arrive in good condition at destination. Total-\$81.78.

2. SURFACE IMPERFECTIONS

Two of the ten complaints received under this heading were due to asphalt spots in the ivory liner and were settled on a 50-50 policy --defective basis with the District Sales Office for an over all total adjustment of \$200.95. Had the applicator used a primer or wall sealer prior to finish painting, the asphalt spots would have been properly sealed in and would not have bled through the paint.

3. CHAIRMAN: I would like to ask

SGP 0020880

3. CALCINED BOARD & LATH (Cont'd.)

The next major single settlement of \$21,447 was credited to the Ted Lansing Supply in Richmond, Virginia and was due to end and edge calcination on 84 pieces of 1/2" board. Dial Builders Supply in Cullman, Alabama received 94 pieces of 1/2" board with end and edge calcination and the complaint was settled for \$285.67. The remaining four complaints involved minor calcination on several books of wallboard found in the field and were settled for small dollar amounts. Total-\$1,188.90.

4. OFF DIMENSIONS

Five formal complaints in this category were settled for \$177.88. One complaint involving 65 pieces of out-of-square 5/8" Firestop resulted in a single adjustment of \$138.96. This was settled on a 50-50 policy--defective basis with the District Sales Office since the customer scrapped the entire amount of board and it was generally conceded that a 50% salvage value was not unreasonable to expect from this situation. Four additional complaints involving wide lath were settled for \$38.92. Total-\$177.88.

5. NO CORE ADHESIVE

The single complaint in this category settled for \$140.98 was based on 80 pieces of J-M Firstard Board containing no core adhesive. As a result of this complaint the method of feeding

5. APPLICABLE PRODUCT (S) (S)

One incident in the group and/or Florida products was completely resolved and no further incidents of this type.

Total \$10.00.

6. APPLICABLE QUALIFICATION

Considerable product development in the North Georgia-Tennessee Area. Reviewed by the Atlanta District Sales Office with reference to depth and width of taper. Applicators in this area considered the standard taper defective unless it matched that of the U. S. Capital Company. This problem did not appear in any other of the various shipping areas of the plant. Pacific Lab. approved a tapered tape that caused to result in a deeper and wider taper. Board made with this revised specifications tape has appeared to resolve this problem. As a result of cooperating with the District Sales Office an adjustment of \$255.00 was allowed as a result of the above described difficulties.

7. MISCELLANEOUS

Eleven normal complaints in this category were settled for \$256.92. The largest of these was for \$241.80 in which the Plant absorbed \$75.35 on a reflective material basis and Sales allowed \$166.45 on a policy adjustment. The customer, Cedar Bros., of Tucker, Georgia complained of the presence of some air voids in 1/2" board used in his construction on some home. The nature of this situation prompted this

7. MISCELLANEOUS (Cont'd)

settlement. Two additional complaints involving substantiated slurry pockets were settled for \$15.12. Seven complaints were settled on a no allowance basis when the complaint could not be substantiated; such as brown spots appearing over painted walls six months after completion, and Backer Board failing to bond Hard-Cote Plaster. Total \$256.92.

ANALYSIS WALLBOARD COMPLAINTS

Two types of complaints experienced in the past year have been a source of concern. These are Calcined Board and Face Imperfections, in that order of importance. This cause for concern is not based on the fact that we have manufactured some calcined board and board with Face Imperfections but more important that inspection at the take-off area was not thorough enough to detect the defective material. There is always a possibility of manufacturing some defective board, however, it is inexcusable to ship this defective board to the customer.

An improvement in the over all inspection has been made with further improvements to be expected. Continual training, periodic review of inspection procedures, and the determining and placing of responsibility to the individual or individuals is the method that has been followed. The most important of these are regular and periodic reviews and short seminars in inspection procedures.

B. WHITE MILL PACK & SHIP

1. CONTAMINATION

Two complaints in this area were settled for \$170.13 and were due to a carry over of wood shavings in glass fibered plaster shipped to Adobe Brick & Supply in Hollywood, Florida during December of 1960. The major source of contamination was eliminated with the installation of a slide in the wood shavings feed screw leading to the mixer. Total - \$170.13

2. SETTING TIME

Six complaints involving setting time were settled for \$484.88. The largest single complaint involved slow setting gun plaster shipped to Emil Sodka in Charleston, S. C. and settled for \$320.00. The next largest complaint involving quick setting plaster shipped to Harrell E. Haywood in Ft. Lauderdale, Florida. One charge of regular fiber plaster was shipped un-retarded and without stabilizer. The cost in settling this complaint was \$113.97. Arnold & Dobson in Greenwood, S. C. were credited for \$36.48 when encountering Slow Set Lite Mix.

3. SHIPPING ERRORS

Two minor shipping errors were settled for \$4.52. One involved short bag weights and the other involved a shortage of several bags of plaster on a truck shipment. Total - \$4.52.

4. ACOUSTICAL PLASTER DISCOLORATION

Three complaints in this category, totalling \$446.63, were settled on a policy basis since the plant and the Paoli Lab. failed to establish a reasonable basis for an adjustment. These three complaints had one fact in common, a discoloration of the finished acoustical plaster taking the form of brown and yellow areas developing from six weeks to six months after the Acoustical plaster was applied. In all three cases, the Acoustical plaster was applied over concrete and there is a possibility that corrosion of the reinforcing steel could be the cause. Total - \$446.63.

5. HOSE PLUGGING

Two serious complaints in this area occurred in the Atlanta Metropolitan District and were settled for \$437.50. Since the complaints and the settlements occurred in late December 1961, these amounts were not entered in the Re-Cap of Complaints.

The two other complaints covered by this report were taken as warnings, in that the Spun Rovings did not perform in the same manner as Textile Rovings previously used. Actually the difficulties seem to have started with the use of Pittsburgh Plate Glass fiber, that on occasion tended to pack and looked in appearance in the hose more like angel hair rather than a definite fiber that dispersed well in the mix. As a result of this serious complaint in Atlanta we have discontinued the use of Pittsburgh Plate Glass fibers in plaster formulations.

MISCELLANEOUS

Seven complaints were entered in this category and six were closed on a no-allowance basis. A \$30.00 policy settlement on lumpy moulding was paid to Marion Hardware in Ocala, Florida. The plant did not allow this complaint on a defective basis since the material was six months old. The remaining six complaints varied from a minor case of plaster bag breakage to paint shiners produced when applying paint over a combination of Yeenes cement, Lime and Perlite.

ANALYSIS

Complacency brought about by the excellent quality complaint experience of 1960 was a big factor in the poor plaster quality complaint performance in 1961. Too much reliance on equipment performance in this department without applying daily checks and inspections resulted from this attitude. The belief that defective material simply could not be manufactured by the Brunswick Plaster Department, is a good way as any to describe this attitude. It is well to report that the poor quality plaster performance in the first half of 1961 was very humbling and that proper steps have been taken to completely reverse this trend. Plant Lab. procedures have been thoroughly reviewed. Continual checking of mixing procedures and mixing equipment is practiced. We can further state with considerable confidence that a definite improvement in the quality performance of this department is to be expected in the coming year.

CONCLUSION

A. QUALITY

A number of improvements have been initiated as a result of gaining further experience in the manufacture of board. One of the most important of these is the inauguration of regularly scheduled quality and safety meetings with shifts foremen, Lab and Leadmen and Technicians. Approximately once every three months, each shift, in turn, will be asked to review procedures and methods in their respec-

tive area of responsibility. This is done during a non-operating period. When a particularly bad run is experienced on the machine, that portion of the machine crew that is responsible, is brought in at the first convenient time and the whole experience is reviewed and a "Dry Run" is followed through.

The performance of each man on the machine is reviewed by the Plant Manager and that Department Supervisor and the potential of each employee on the machine is forecast. Previous forecasts are again reviewed to determine the best slot into which an employee may fit.

The establishing of responsibility for defective material out in the field is traced back to the employee or employees who may be responsible.

This is done in a constructive but a positive manner. Every department has a large Quality Bulletin Board; this includes the Plaster Department, Wallboard Department, the Wallboard Machine Wet-End Section, and the Wallboard Machine Take-Off Section.

These Bulletin Boards are used exclusively for the posting of quality, comments from Plant Management, Customers, and Sales Offices. All reports of complaints and final adjustment forms are investigated very thoroughly and are initialed by all personnel connected with the particular complaint. This procedure has resulted in a favorable quality experience.

The Foam System has been modified and expanded to include the use of tandem foam generators which permits the immediate change over from one generator to another should trouble develop.

CONCLUSION (Cont'd)

A glass cutter of improved design has been fabricated by the Maintenance Department. We are of the opinion that this present system is superior to the previous one since the cutting action and disbursement of fiber into screw conveyor is easily observed at all times. The use of a new plastic cot further results in excellent cutting of the glass fibers without the necessity of replacing cots at short intervals.

During the manufacture of Firestop board dry starch was fed by means of a Vibra-Screw unit. Since dry starch tends to arch and hold up, we have experienced incidents of interruption of proper starch feeding into the dry stucco screw conveyor. Unfortunately, when this fact was discovered board had been fabricated with no core adhesive. This problem has been eliminated by pre-mixing starch and water and forcing it through the asphalt emulsion equipment. This is a positive method and has adequately solved the problem of core adhesive feeding into Firestop products.

During 1961 the rapid deterioration of Coe Kiln bearings caused considerable difficulties. A crash program for bearing replacement has been in progress with 5000 bearings being replaced in the last half of 1961.

With the rapid wearing out of these bearings, rolls in various areas of the kiln tended to drop enough to cause problems in proper board tracking and the inability to properly butt the board. This condition also tended to cause some kiln jams. With the bearing replacement program currently in effect this problem has been generally resolved.

B. WALLBOARD WAREHOUSE (Cont'd)

No material is accepted by the warehouse from the machine unless it is a saleable perfect. Should material be found in the warehouse that is in any way defective, the board is immediately returned to the machine crew and reclassified. As a result of this arrangement, losses incurred through the warehouse have been quite moderate. One of the more significant problems in the wallboard warehouse is the matter of car shortages during the months when shipments are in excess of twenty million feet. As a result of these shortages, it is difficult to maintain an orderly loading schedule and orders have to be revised to fit available equipment. The Ardmore Traffic Department is intimately aware of this situation.

C. WHITE MILL PACK & SHIP DEPARTMENT

The basic cause of the unsatisfactory quality performance of this department was failure to apply the various checks and controls that are an integral part of formulating plaster products to strict specifications. Too much reliance in allegedly fool-proof devices on the mixer floor further contributed to the situation. The quality procedures were completely overhauled and revised. Additional training of all personnel was instigated and some personnel changes were made. We can state with some confidence that a significant improvement is expected during the coming year.

C. WHEAT MILL PACK & SHIP DEPARTMENT (Cont'd)

A number of improvements have been made in the Mill and Packing Department that will tend to improve the over all quality. Insulation of all kettle tops have been recently concluded. This greatly reduces build-up near the kettle tops and will tend to increase uniformity of kettle stucco setting time.

Installation of permanent airlines on the plaster packers facilitates the blowing out and cleaning of the equipment when changing plaster formulations. This arrangement has sharply reduced the incidents of the contamination of one product by another.

Installation of the remaining sections of the plaster collecting screw conveyors to enable the operator to empty both sides of the plaster bin, eliminates the dead leg of one bin and prevents surges of old plaster from contaminating finished material.

D. SHIP UNLOADING & ROCK HANDLING

Since the Gypsum Ore can be contaminated by salt in Bahama and also during transit by sea water, each ship hold is thoroughly inspected for signs of this contamination prior to unloading. Whether any contamination is evident or not, representative samples are secured from each hold and a quick salt analysis is made. In the past year this procedure has helped us anticipate and avoid problems in the Mill when salt contamination was evident. Continual blending of the Ore in the rock shed started in 1960 as standard procedure.

3. SHIF UNLOADING - ROCK HANDLING (Cont'd)

In a number of isolated cases the presence of unexpended blasting caps inadvertently were found by the customer of screened rock. An extensive investigation was made to see whether a non-ferrous metal detector could be installed to eliminate this hazard. None has been found to date primarily because of the nature of the material that is to be detected. The only solution to this problem is the application of a great deal of vigilance on the part of the warehouse personnel and the personnel handling the rock distribution at the Brunswick Plant.

4. GENERAL

A number of developments which will be brought to some conclusion during 1962 will tend to generate problems relative to board quality. The top belt speed of 133 FPM will be initially increased to 220 FPM to allow better speed control on 3/8" board and 3/8" lath since these two products are currently being manufactured at the absolute top limit of the belt line speed. When these changes are concluded it is only natural to expect that speed increases on these two products will be attempted and there is no evidence to indicate that these increases will not be a natural development. Tighter weight and overcrush control will become an absolute necessity for the proper drying of these two products. The recent approval for the installation of an Accuway unit on the wallboard line will certainly provide a most important control in the area of weight. No Kiln studies were

were made during 1961 due to a large number of personnel shifts in the plant. As stated in our 1961 report, assistance from the Pacific Lab will be required to properly execute a Kiln study. Since products quality is a matter of prime importance, all speed increases will have to be objectively scrutinized and only put into effect if the quality of the product remains at least equal to that is currently being produced.

(LOSS) ON GAIN BASED ON FIRST ELEVEN MONTHS, 1961
COMPARED TO FIRST ELEVEN MONTHS OF, 1960

TABLE 1

	Crushing	Grinding	Calclating	Tubing	Pecking & Loading	Repacking	Crushed Rock Loading	Board & Lath Htg.	Recut & Reclaiming	Board & Lath Loading	Total & Variance
Production	242,957	211,876	162,182	24,993	24,930	1,206	31,230	206,103	202,239	195,044	
Direct labor	24,334.11	5,085.02	1,459.64	(793.36)	4,121.74	1,081.78	468.45	65,128.55	23,864.20	48,956.04	163,706.15
Overhead	1,700.66	423.75	394.36	123.97	2,829.33	30.15	93.69	15,231.62	4,651.50	1,170.26	26,599.29
Provisions	405.90	211.88	(160.18)	(24.79)	244.51	12.06	-0-	1,236.62	404.48	585.13	2,993.61
Rep. S.	571.80	423.75	324.36	49.59	943.11	49.45	31.23	7,007.50	1,617.91	2,935.57	13,954.27
Competition Inc.	242.95	211.88	-0-	24.79	279.44	22.91	-0-	1,618.82	404.48	780.18	3,615.45
Repair Labor	3,007.22	1,906.88	162.18	1,165.27	11,212.53	44.62	31.23	36,140.23	-0-	-0-	54,890.16
Repair Material	(1,700.66)	423.75	2,757.09	371.90	3,807.37	-0-	-0-	11,335.67	-0-	390.09	17,385.21
Supplies	728.85	(211.88)	486.55	(24.79)	(1,991.01)	-0-	-0-	9,068.53	-0-	(39,984.02)	(31,927.77)
Rec7	-0-	(1,695.01)	(8,595.65)	-0-	-0-	-0-	-0-	824.12	-0-	-0-	(9,466.54)
Electric Power	571.80	423.75	2,108.37	(421.48)	279.44	-0-	-0-	9,038.02	-0-	-0-	11,399.90
Material Handling	-0-	-0-	-0-	-0-	943.61	-0-	-0-	2,619.34	-0-	9,557.16	13,179.61
Unloading Labor	-0-	-0-	-0-	-0-	803.39	1,240.97	-0-	1,236.62	-0-	-0-	3,280.98
TOTAL	21,622.64	7,203.77	(1,135.28)	471.08	23,472.96	2,481.94	624.60	159,935.64	30,942.57	23,990.41	269,610.32

Plant Overhead

1961	656,064.98
1960	639,152.34
1961 over 1960	16,912.64

BIIDE RAPIDS PLANT

QUALITY REPORT

1961

SGP 0020896

QUALITY REPORT
BLUE RAPIDS, KANSAS
1961

PLASTER PRODUCTS

<u>NATURE OF COMPLAINT</u>	<u>NUMBER OF COMPLAINTS</u>	<u>COMPLAINTS ADJUSTED</u>	<u>AMOUNT</u>
Setting Time	14	6	\$3,586.48
Working Properties	5	3	1,070.80
Soft, Weak	2	0	- - -
Cracking	0	-	- - -
Broken Bags	3	2	72.30
Miscellaneous	7	3	1,044.53
Shipping	<u>6</u>	<u>6</u>	<u>346.03</u>
TOTALS	37	20	\$6,120.14

Of the 37 plaster products complaints received over 54% have been settled with an average cost of approximately \$306.00 per complaint.

The table below will indicate the trouble areas showing a breakdown of the complaints vs costs.

<u>NATURE OF COMPLAINT</u>	<u>PER CENT OF TOTAL COMPLAINTS</u>	<u>PER CENT OF TOTAL COSTS</u>
Setting Time	37.8%	58.6%
Working Properties	13.5%	17.5%
Soft, Weak	5.4%	- - -
Cracking	- - -	- - -
Broken Bags	8.2%	1.2%
Shipping	16.2%	5.6%
Miscellaneous	18.9%	17.2%

DISTRIBUTION OF COMPLAINTS BY SALES DISTRICTS

<u>SALES DISTRICT</u>	<u>NUMBER OF COMPLAINTS SUBMITTED</u>	<u>PER CENT OF TOTAL COMPLAINTS SUBMITTED</u>
Kansas City	6	16.2%
Atlanta	3	8.1%
St. Louis	6	16.2%
Dallas	1	2.7%
Cleveland	7	19.0%
Philadelphia	3	8.1%
Salt Lake City	2	5.4%
Buffalo	1	2.7%
New York	1	2.7%
Omaha	6	16.2%
Los Angeles	1	2.7%

SETTING TIME

Using the number of complaints received as a guide, setting time control was the most difficult problem encountered at this location during 1961. Setting time complaints number 14 for this year, an improvement of four complaints or six per-cent over last year. Three of these setting time complaints were closed with no settlement being required.

These 14 setting time complaints are on several of our different products as shown in the following table.

MATERIAL	NO. OF COMPLAINTS	AMOUNT
Plate Glass Stucco	1	\$2594.00
Wallplaster	3	No Settlement To Date
Pottery Plaster	2	\$992.48
Densite	2	No Settlement Required
Statuary	1	No Settlement Required
Impression Plaster	1	No Settlement To Date
Molding Plaster	1	No Settlement To Date
Gauging Plaster	1	No Settlement To Date
Lite-Mix	1	No Settlement To Date
Metro-Mix	1	No Settlement To Date
TOTALS	14	\$3586.48

The largest single settlement in the setting time complaint category was filed by the Libbey-Owens-Ford Glass Company of Toledo, Ohio. This complaint covers three cars of Plate Glass Stucco shipped to this account during the months of June and July of 1961.

This complaint settlement was held up for sometime in an effort to determine the problems encountered by this account. It was never clearly established just exactly what caused the problems encountered. It was thought that aging entered into their problems. We have been able to combat this aging problem by setting a minimum amount of accelerator that can be added to obtain the proper setting time.

The second largest settlement in this area was made to the Lapp Insulator Company of Lakay, New York. This was a settlement of \$964.00 and since this did not prove to be defective material this settlement was made on a policy basis.

The largest number of complaints received under this heading of Setting Time Complaints involved three shipments of wall plaster. Two of these complaints are from the Omaha Sales District and the other one from the Kansas City District. The quality department is doing extensive work along with the Pacifi Laboratory to control this setting time problem. We feel that it is of significance to note that one of these complaints is in November and the other two in December of 1961. These setting time problems may be a result of the winter months and our inexperience regarding the amounts of retarder required at this time of the year.

As indicated by the above table the two Densite complaints required no settlement. The Metro-Mix complaint on setting time could not be justified on the basis of samples received and should require no settlement on a defective basis. This is also true of the Lite-Mix complaint. Since this complaint was entered in June of 1961 and could not be substantiated by the samples submitted we would assume no adjustment would be required.

This department feels that when the proposed dust collection system is completed and we are able to vent all of the bins, elevators, screens, and conveyors we will not experience the erratic setting time problems we are now confronted with. This venting will also allow us to fill our wallplaster bins to capacity instead of having to operate the tube mill each time we need to fill an order. Under the present circumstances a full bin of wallplaster will sweat out so badly there is an ever present danger of ruining the entire bin of material.

SHIPPING ERRORS

We received six shipping error complaints in 1961 against three for 1960. These shipping error complaints have all been adjusted for a total of \$346.03. The majority of these complaints involved plaster products that were included in wallboard orders. A better system of communications between the board plant shipping department and the plaster shipping department should be established in order to control this situation.

WORKING PROPERTIES

This complaint area accounts for a total of five complaints in 1961 against two for 1960. One working properties complaint on Densite was settled for \$569.10 on a policy basis. Again the claim could not be substantiated. Another complaint in this area involved a car of wallplaster shipped into Denver, Colorado. This material did not work in the same manner as the wallplaster being shipped from our Sigurd plant. We did not learn of this difference until the complaint was filed. We now have a special formula for the Denver area that has been tried and proven to be acceptable. One working properties complaint was received on Lite-Mix involving coverage and required a settlement of \$28.70. The other two complaints in this category list one on gauging plaster and the other on laboratory plaster. The one on laboratory plaster will require no settlement and the gauging plaster complaint has had no settlement to date.

MISCELLANEOUS

We list seven complaints in this category for 1961 against 16 for 1960. This involves such items as bag weights, bag breakage, packaging, etc.

GENERAL

Several changes in equipment operations for 1962 should result in lowering the complaint rate in plaster products. The planned market survey to be started soon will acquaint the plant with area requirements and expectations. As stated above the dust collection system will probably be the greatest single help in quality improvement in our plaster products.

2. Defective Complaints

	<u>Per Million ft. of Board & Lath</u>	<u>Per 1000 Tons of Plaster</u>
Acme	0.3 (0.398)	0.8 (1.671)
Akron	0.4 (0.584)	0.8 (1.222)
Blue Rapids	0.6 (2.851)	0.5 (1.047)
Brunswick	0.2 (0.209)	0.5 (0.691)
Fort Dodge	0.3 (0.373)	0.5 (0.574)
Grand Rapids	0.6 (0.839)	0.8 (1.222)
New Orleans	0.25 (0.435)	0.8 (1.647)
Sigurd	0.6 (1.249)	0.8 (1.252)
Wilmington	0.4 -	0.8 -

Shipping Complaints

Acme	.10 (.144)	.10 (.134)
Akron	.05 (.04)	(0) (0)
Blue Rapids	.15 (.428)	.2 (.248)
Brunswick	.02 (.024)	0 (0)
Fort Dodge	.1 (.122)	.15 (.218)
Grand Rapids	.1 (.132)	.2 (.285)
New Orleans	.15 (.311)	.2 (1.647)
Sigurd	.15 (.434)	.2 (.312)
Wilmington	.15 -	.15 -

The figures in parenthesis represent 1961 performance.

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QUALITY REPORT
BLUE RAPIDS, KANSAS
1961
BOARD PRODUCTS

<u>NATURE OF COMPLAINT</u>	<u>NUMBER OF COMPLAINTS</u>	<u>COMPLAINTS ADJUSTED</u>	<u>AMOUNTS</u>
Poor bond, clean peelers	16	8	\$1,197.85
Core splits, core blisters	2	2	313.20
Cracked, broken	1	1	477.02
Edge taper, edge formation	8	7	937.11
Split ply paper, end splits	8	8	1,848.01
Off dimension	3	2	84.00
Surface imperfections	4	1	36.37
Joint system	2	2	66.00
Shipping errors	10	7	343.01
Miscellaneous	<u>13</u>	<u>10</u>	<u>1,560.47</u>
TOTALS	67	48	\$6,863.04

As a further breakdown on some of the factors involved in our board complaints it should be noted that almost 72% of the board complaints received for 1961 have been settled. Of the 48 complaints adjusted the average cost per complaint settled was approximately \$148.00.

The table below will indicate the trouble areas showing a breakdown of the complaints vs costs.

<u>NATURE OF COMPLAINT</u>	<u>PER CENT OF TOTAL COMPLAINTS</u>	<u>PER CENT OF TOTAL COSTS</u>
<i>Splitters</i> Poor bond, clean peelers	23.9%	17.5%
Core splits, core blisters	3.0%	4.6%
Cracked, broken	1.5%	7.0%
Edge taper, edge formation	11.4%	13.7%
Split ply paper, and splits	11.4%	26.9%
Off dimension	4.5%	1.2%
Surface imperfections	6.0%	0.5%
Joint System	3.0%	1.0%
Shipping errors	15.9%	5.0%
Miscellaneous	19.4%	22.6%

Of these complaints listed above over 61% are out of the Kansas City Sales District. The Omaha District was next having entered 22% of the total number of board complaints. The balance of the board complaints were entered as follows: St. Louis - 9%, Salt Lake City Sales - 4 1/2%, and Johns-Manville complaints - 3%.

POOR BOND - SOFT EDGES - CALCINED BOARD

This one area of defective board accounted for more complaints than any other single complaint area and was second highest in cost. Soon after the start up it was thought that operating the machine at speeds above the limitations of the kiln was a major cause of this problem. In fact it may yet be a contributing factor. Also the fact that at times we make change overs from one product to another resulting in two different sizes of material in the kiln at the same time may be a contributing factor to this problem area.

Later this year it was determined that we had an unbalanced condition existing in our kiln resulting in a board that was very dry, even over dry on one edge and damp on the other. This resulted in a bow in the board that was quite evident in lengths of ten feet or over. Several baffles have been placed in the kiln in an attempt to obtain a more even balance in the air flow. This baffle installation has been successful in stopping the bow problem however we still have one or two decks that do not dry the board as dry as the balance of the kiln.

SPLIT PLY PAPER

This complaint area was not one of the largest in number of complaints but was largest in a matter of cost, accounting for almost 27% of the total board complaint costs to date. We ran into split ply paper in both face and back paper about the middle of the year. Our more recent shipments of paper are much improved regarding ply separation and it has been nearly three months since we have received a complaint of this nature.

SHIPPING ERRORS

This complaint area was the second highest in number of complaints received and accounts for nearly 16% of the total board complaints; however these complaints

account for a very small portion of our total complaint costs in board products, accounting for only 5% of the total costs. Improper loading and shipping either wrong material or wrong amounts dominated the complaints in this area. To date we have only one complaint on file involving damaged board due to load shifting and this will probably be closed with no cost to the plant.

OTHER COMPLAINTS

Core splits, core blisters, cracked or broken board, off dimension, and surface imperfections have not been major problems this past year. All of these conditions have accounted for 15% of the total complaints and 16% of the total costs to date. There are only four complaints outstanding involved in these four areas.

The complaints listed under Miscellaneous rated second highest in number accounting for more than 19% of the total number of board complaints and also second highest in costs, accounting for over 22% of our total costs. The majority of these complaints have involved grayback paper rollers. This problem has lessened to a great extent since we have had a better paper supplied, have installed another talc applicator, and have had better kiln control.

GENERAL COMMENTS

We have had very few problems with customer service. In most cases we have been able to work out our service problems with Sales resulting in good customer relations. In most cases car shortages were involved in these service problems. One problem involved in this service area that we have had no control over is the problem of maintaining the various products not manufactured at this location such as foil board, pinhole lath, etc. We have increased our lines somewhat to combat this problem by adding such items as

punched lath and 1/4" wallboard and will add pinhole lath to our line sometime in 1962. The proposed construction of an addition to our warehouse will reduce this problem considerably.

There will be several innovations made in some of our board plant equipment in 1962 that should result in a better quality board and relieve many of our complaint problems. Such items as changing our water softener equipment over to an automatic system should improve our foam control considerably. Also the completion of the constant head water flow tank will be a big aid in controlling the weight fluctuation in our board products that we are now experiencing. This constant head water flow also should relieve the problem of the machine man having to alter the speed of the machine in order to control the head at the forming rolls which in turn will result in a more even drying of our finished board products.

The installation of the new equipment on the levelator has resulted in improved appearance of our warehouse and carloads of material shipped.

The quality control department has discussed each of the complaints involving the board plant with the foremen and crews. In the future we plan to augment this by holding monthly quality meetings with each of the shifts and discussing any quality problems and complaints that may exist at that time.

1962 QUALITY PROGRAM

Blue Rapids, Kansas

SCOPE: This program will be utilized by all plant personnel as a guide toward improving the overall quality of products shipped from this plant.

I. TRAINING PROGRAM

A. Hold monthly meetings in all departments with operators.

1. The following subjects to be covered in these meetings as deemed necessary by the Quality Supervisor and each department head:

- a. Specifications
- b. Equipment
- c. Complaints - Cause and Correction
- d. Raw Materials
- e. Evaluate Current Production
- f. Market Survey Results

B. Report to Plant Manager on each quality meeting.

C. Follow up by supervisors.

II. CAPITAL EXPENDITURES

The following Job Orders or A.F.E.'s will be submitted or completed to correct known existing quality problems.

- A. Board Plant water surge tank
- B. Plaster Mill & Packing venting and dust collecting system
- C. Board Plant stucco re-handling system
- D. Densite filter system
- E. Semi-automatic water softener for Board Plant foam system
- F. Board Plant lighting to improve inspection

III. QUALITY INSPECTION

The Quality Supervisor will make the following checks to ascertain the quality performance in each department:

- A. Daily quality check list
- B. Quarterly quality audits as follows:

1. Densite and Mill - 1st Quarter
2. Packing and Board Mfg. - 2nd Quarter
3. Densite and Mill - 3rd Quarter
4. Pack and Board Mfg. - 4th Quarter

IV. COMPETITIVE TESTING

Principal competitive products will be tested on the following schedule:

January - Wallplaster and Lath
March - Industrial Plasters
May - Wallboard and Densite
July - Wallplaster and Lath
September - Sheathing
November - Wallboard and Densite

V. MARKET SURVEYS

The Quality Supervisor and/or departmental supervisors shall arrange with the Sales Department to make market checks for the purpose of evaluating the performance of the plants products in the field.

The following schedule of market surveys will be followed:

February - Kansas City District
May - Denver District
August - Omaha District

Further checks will be made should the need arise.

NEW ORLEANS PLANT QUALITY REPORT
1961

The New Orleans Plant operated a total of 96 days in 1961. During this time, fourteen complaints were received by the plant. The following is a summary of these complaints

BOARD

<u>Type of Complaint</u>	<u>No. of Complaints 1961</u>	<u>No. of Adj. 1961</u>	<u>Amount</u>
Cracked - Broken	4	-	-
Surface Imperfections	1	1	\$113.19
Shipping Errors	5	1	214.27
Miscellaneous	2	2	<u>31.00</u>
Total			\$358.46

PLASTER

Setting Time	1	1	\$ 36.39
Shipping Errors	<u>1</u>	<u>1</u>	<u>75.45</u>
Total	2	2	\$111.84
Grand Total	<u>14</u>	<u>6</u>	<u>\$470.30</u>

In order to more clearly show the plant complaint situation, a brief explanation of each particular type of complaint will follow. Included with this explanation will be the measures taken by the plant to correct any difficulty.

Board

Cracked - Broken

Cracked board accounted for the largest number of defective material complaints received. Of the four complaints, three were Johns-Manville. Although the type of cracking varied, all four complaints were on 1/2" x 4' x 12' wallboard.

In one of the complaints the cracking was established to have been due to fork truck and strapping pressure on the tapers. To help deter recurrence of this complaint, the railroad tracks were raised so that the fork lift trucks are on level with the car during loading. Also, the tapers are reinforced with paper at the point where the strapping is applied, the loading personnel were cautioned about this type of damage, and the cars are carefully inspected for this type of damage.

Of the three remaining complaints on cracked board, only one was investigated by the plant. It was obvious on this complaint, that the board was being mishandled by the dealer. Although it was established that the board was not handled properly, the pulp content of our long length boards was increased to 15#/M in order to make our board more rugged and less subject to breakage, even though it is mistreated.

It is felt that the precautions taken will greatly reduce, if not eliminate cracking problems.

Surface Imperfections - Blisters

One complaint was received on blisters in 1961. Although we received very little information, we believe the use of vibrators at the forming table has eliminated any change of blisters or voids in the board.

Miscellaneous

Both miscellaneous complaints were on bundles of board sticking together. This complaint occurred as a result of hand bundling with regular twin mounting tape and glue. We have now received an are using regular hand bundling tapes.

Shipping Errors

All of the shipping errors received in 1961 were on shortages. Of the five complaints received, three of these involved a total of nine bundles of board. In order to help prevent all shipping mistakes, more careful checking has been initiated in all phases of shipping.

Plaster

Setting Time

One complaint was received in 1961 on plaster setting time. The plaster complained of was actually plaster which had been previously rejected but was included in the car by mistake. A better system for disposal of reject material was instituted and is now being used.

Shipping Errors

One complaint was received on plaster shortage. This complaint could not be verified by plant investigation.

Improvements & Plans

Several improvements were made in 1961 to help us produce the highest quality products.

On the board machine, the scoring cutters were completely reworked so that a better and more consistent edge was possible. The cutters and arbors were trued so that there would be a more accurate cut. Also, the spacers on the cutters were moved from the inside to the outside so that a thickness change could be made by simply changing the scoring cutters and not resetting the entire apparatus.

Shims were made for setting the forming rolls so that it is possible to change thicknesses with accuracy. A head tank and pump was installed for the mixer water. This gives a more reliable and consistent flow of water to the pin mixer.

Electrical timers were installed on the kiln pull-in-section to replace the mechanical switches. This enables the operator to accurately space the boards going into the kiln and eliminates the varying gaps from deck to deck. This helps prevent the possibility of calcined ends on board as well as allowing more accurate speed settings in the dryer.

During 1961, a survey of plant loading operations was made by the Signode Steel Strapping Co. In the course of his visit, the Signode field engineer gave the plant personnel many valuable pointers on how to improve our loading and strapping techniques. During the survey, modern and more efficient strapping equipment was introduced which will make our operation more efficient. Included in the new equipment was an electric tying machine which will enable us to have more uniform tension on the straps and thus reduce the possibility of damage from strapping.

Although there have been very few complaints on plaster, very little plaster has been produced. This lack of production is, in itself, our greatest plaster problem. Stucco which remains in bins, screws, hoppers, and elevators between shipments, is subjected to the high humidity conditions of the area and thus becomes quick set. Due to this idleness of the plaster packing equipment between shipments, we have experienced quite a bit of difficulty in stabilizing the setting time of both semi-finished and finished products.

In order to help offset these erratic setting times, the tube mill is now being operated for an hour before starting production. In addition, the first bit of production is being discarded. This procedure has eliminated the quick set material from the tube mill and has given us somewhat more uniform setting time.

Careful sampling and testing of each individual batch of plaster produced assures us that the plaster is of the correct setting time before it leaves the plant.

At the New Orleans plant we are now working on improving our board mix in order to lower the evaporation and to lower our board weights. This lower evaporation will enable us to dry the board easier and thus have a higher quality board. This will also enable us to raise our belt speeds which will result in higher production as well as savings in natural gas costs for the dryer. At this same time, we expect to lower our board weights significantly and thus have the savings in freight as a result.

The first step in improving the mix will be the installation of a metering device for the stucco feed. This will allow us to make very accurate changes in the stucco feed as well as enabling us to preset the stucco feed in thickness changes. This will also help us in metering the correct amount of water for the quantity of stucco being used.

Work also will be done on the board core ingredients in order to obtain the best possible mixture.

We have experienced quite a bit of difficulty with wavy edges at this plant. In order to help correct this problem we plan the installation of infra-red heaters over our present strip heaters. This should make it possible to remove the moisture from the paper in the short time available.

In the plaster packing department we plan to continue work on our plaster setting time.

Chutes are being installed on the dust collection equipment. This will allow us to clean out the material which was collected during the "clean-up" charge without introducing this material back into the packing system.

Vibrators are to be installed on the weight hoppers, mixers and packers so that this equipment may be thoroughly cleaned between plaster shipments. The vibrators, along with the dust collector clean-out chutes, should help cut down on the amount of accelerating material which would accumulate in the packing equipment between shipments.

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To keep our high standards of quality for the coming years, we plan to initiate a monthly quality audit of all plant operations. This would involve a monthly inspection of all equipment and testing apparatus. A report will be made to the plant manager covering the general quality situation and a summary of plant testing and inspection results for the month.

BESTWALL PLANT MANAGERS' MEETING

PAOLI, PENNSYLVANIA

JANUARY 22, 23, AND 24TH.

1962

2

QUALITY REPORT

PRIOR, OKLAHOMA

J. H. BURKHART

A) PAPER COMPLAINT RECAP - ALL BOARD PLANTS:

1) COMPLAINTS - FREQUENCY:

<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1961 - % DECREASE</u>
153	163	123	25%

2) DEFECTS - BY TYPE - FREQUENCY:

	<u>1959</u>	<u>1960</u>	<u>1961</u>	<u>1961-% CHANGE</u>
1. Slime, surface defects, holes:	46	58	44	- 24
2. Cockles, wet streaks, crush, wavy edges:	26	29	26	- 12
3. Split ply:	7	15	12	- 20
4. Telescoping, winding:	12	13	21	+ 54
5. Off Width:	-	7	3	- 57
6. All others (less than 5 in any specific classification):	62	41	17	- 58
Total	153	163	123	- 25

3) DEFECTS BY TYPE - SEVERITY:

	<u>REJECTS BOARD FT²</u>		<u>BOARD PLT. DELAY</u> <u>MINUTES</u>		<u>BOARD PLT. PAPER</u> <u>REJECTS #</u>	
	<u>1960</u>	<u>1961</u>	<u>1960</u>	<u>1961</u>	<u>1960</u>	<u>1961</u>
1. Cockles, wavy edges:	205,324	161,100	-	23	200	14,467
2. Surface, slime:	73,858	108,600	25	-	5,515	3,600
3. Split ply, bond:	116,149	229,300	-	-	-	5,500
4. Splices:	-	2,700	15	9	3,440	-
5. Cores, plugs:	-	500	-	-	-	-
6. Winding, Telescoping:	19,372	36,100	26	42	3,800	18,537
7. Misc., slitting, etc.	6,400	4,400	61	10	8,000	26,223
8. Pin holes:	200,806	5,000	-	-	65,035	-
9. Crushes - Spots T.L.:	24,256	103,200	-	-	18,700	8,115
10. Tensile:	-	-	-	-	-	-
11. Damage:	-	-	-	-	2,560	-
12. Thin Liner	101,056	5,600	-	-	-	-
Total	747,221	656,500	127	84	107,250	76,482

4) APPROXIMATE COST OF PAPER DEFECTS:

	<u>1960</u>	<u>1961</u>	<u>% CHANGE</u>
a) Reject board	\$ 10,834	\$ 8,810	\$ - 18.7
b) Delays	209	250	+ 19.6
c) Reject paper - Ivory	4,580	1,626	- 64.5
Gray	49	268	+ 446.9
Lath	136	640	+ 370.6
Sheathing	264	683	+ 158.7
Total	\$ 16,072	\$ 12,277	- 32.7
d) Tons	54	38	- 29.6
e) % of approximate delivered cost of paper	0.54	0.32	

a) COCKLES AND WAVY EDGES:

The majority of these troubles are primarily at Ft. Dodge, however more plants did encounter these troubles more in 1961 than 1960. Tendency to run finished paper above recommended moisture content of 6% to increase production contributed to the wavy edges. Less moisture (5%) content and more even moisture across sheet has tended to decrease this condition. The more absorbent 70# Lath has increase complaints of cockles as it has a tendency to pick-up more outside moisture from storage here at Pryor and Board plant storage.

b) SURFACE DEFECTS:

Asphalt contamination was held to one complaint from Board Mill. However we did run Grayback if found in Filler furnish until asphalt spots ceased and then return to Ivory top. Better cleaning at shut downs and reject at Pryor prevented this type complaint, also the use of double pulping of Top Liner for Ivory has minimized the colored spots from milk carton stock in Top Liner of Ivory. Better cleaning of Filler furnish on Ivory has contributed to less surface defects.

c) PIN HOLES:

Less pin hole contamination has been noted in 1961 as better clean-up procedure have been established and cleaner filler stock and test procedures at start of runs has kept this type complaint at minimum.

d) SPLIT PLY:

This has been a major problem during the middle months of 1961 but has been corrected with the use of cooked starch in #8-7 and #1 and #2 cylinders while running Ivory face paper. The use of Kymene in #1 and #2 cylinders while running 75# Ivory has corrected split ply especially noted at Sigurd where the problem was always acute. We are continuing with the above procedures as a safety factor in elimination of split ply at Board plants.

e) CRUSHES:

Crushes were a major problem especially on Ivory face paper. Even loading and adjustments in vats and reduced speeds on Ivory face paper have tended to reduce this type complaint. Running a drier sheet tends to eliminate some of the gobbiness of top liner encountered.

This is a problem which must be worked on in a different manner on each run of Ivory, as machine conditions, stock, etc., are changing to a varied degree each run.

f) THIN TOP LINER:

This has not been a problem in 1961 as we are running 006-007 points of top liner on Ivory which appears to give best results for coverage.

g) SLITTING - WINDING:

Slitting troubles were confined to narrow width roll products. Slitters would ride occasionally causing paper to not be cut through, and off widths, both causing trouble at Board plants). The winder is equipped with a special valve arrangement which is supposed to prevent this condition, but timing of the action was checked and it was found that it did not always prevent the problem. Special air flow adjustments were made to the cylinders actuating the slitters and the condition was corrected. The use of National starch Resyn as a calender treatment for Grayback did cause some loose winding as it caused a slicker sheet at the rewinder. We are now using this material in with regular starch treatment and winding of Grayback has become better.

h) MISCELLANEOUS:

Splices, cores, plugs, and other items not mentioned such as strength, weight, scuffing, folding, transit damage, densometer, and sizing were not a significant source of trouble during 1961.

1961 FELT QUALITY DISCUSSION

Generally 1961 was a satisfactory year from a quality standpoint. Strength of felt was good, with occasional trouble from holes, and cracking. New laying line equipment was installed making wider lines. Brightness of lines has been a problem but it is believed to be corrected now. Very little loading damage was reported with cars being received at Dallas and Kansas City.

No outside felt shipments were made to Ruberoid as previous year. However we did send 7 cars to W. R. Meadow at Elgin, Illinois of 27 x 51" felt. Loading is a problem on this type package.

New overflow pump was installed which helped formation the latter part of year. A separate broke chest was installed but not put in operation until 1962. This is to feed broke evenly to stock at all times when available, to reduce furnish variation.

Telescoping of 27 felt was a big problem during the first part of year. Corrections were immediately instigated such as better brake bands and grinding reel drums for more friction. Finally a new positive drive and lagging of winder drums corrected this situation in the latter part of the year and telescoping has been practically eliminated.

1961

QUALITY REPORT

THOROLD, ONTARIO

J.W.HART

SGP 0020922

I. PLASTERBOARD PAPERS

(A) IVORY:

1. Gyproc (G.L.A.)

Generally good, and on a par with 1960. Surface defects in finished gypsum board caused claims for value of rejected board, rather than the value of the faulty paper alone. In one instance, drips at the calenders was reported about 3 months after shipment, due to high customer inventory, and remedial measures were not effectively applied on interim production. It is believed that customer surveillance is more critical than ever before, and that some of the claims would not have been made in previous years. Top liner sizing was lowered in May 1961 and appeared to be satisfactory until soft surface complaints out of kiln developed early in 1962, and higher sizing was restored. Liner quality was improved as to cleanliness, through reduction of Newsblanks by increasing groundwood, and improving control of groundwood cleanliness.

2. Atlantic Gypsum

Specifications for weight and tensile were lowered from 76-30 to 72-26, in order to obtain lower customer paper costs. Early in year, low tensile problems were followed by overweight paper. Minor surface defects were not a problem, but unequal expansion of Face and Back papers requires an excessive amount of water on back of board. Gray has normally been made on No. 1 Machine, whereas Ivory is made on No. 2 Machine. Experiments to improve "match" of paper expansions is scheduled for 1962, with weight, sizing, and change of Gray production to No. 2 Machine, if necessary, modifications under consideration.

(B) GRAY:

1. Gyproc (G.L.A.)

One serious complaint at Caledonia in August involved a hard spot which affected the Ivory side. Trouble was attributed to calenders which were reground, and related reel building difficulties. One Montreal complaint involved "split-bond", a narrow edge ply separation, or blow.

(B) GRAY (Continu

2. Atlantic

One serious complaint of cracking was attributed to spreader bar at stack being improperly positioned. Weight and tensile problems existed, but were not as severe as on Ivory.

(C) LATH:

1. Gyproc (G.L.A.)

Adequate tensile at proper weight was a continuing problem. In particular, low tensile was experienced with Manitoba paper, when a Miami Jordan was taken off Filler and tried on Top Liner on the other machine. Return of unit, helped tensile, but business is apparently being lost to "integrations".

2. Atlantic

First two runs were made during year, with requirements probably previously furnished entirely by Gair and a small Maritime mill. Surface absorbency of first run was not up to desired level, and second run was further softened with lime in top liner. Customer findings are not yet available.

(D) BLACK SHEATHING:

1. Gyproc

Montreal business was lost ostensibly due to having too hard and stiff a sheet. A trial run on No. 1 Machine produced a sheet customer said worked well, and some return business is expected. It is understood that National Gypsum has supplied oiled paper, and while it works well with "rag-like" properties, clean-up after a run is a major problem.

(E) OTHER

1. Bestwall

Ran Ivory, Gray, and Lath, in August. Quality was considered good except for Akron comment on low tensile Lath.

II. PLAIN CHIP

Several curl complaints from May to July. New Top Liner pulper enabled better stock preparation, and Paracol wax in filler helped curl. Trouble with unbeaten stock and uniformity of color helped by increasing use of news. Complaints on off-size sheets were reduced by closer control inspection, although cutter is old and worn, and it is difficult to maintain sheet dimensions.

III. WHITE VAT LINED

Orders for chip-back and screenings-back were mostly trial runs and involved a lot of trouble, primarily due to the very short runs. Sales is attempting to improve tonnages per run.

IV. PATENT-COATED (KELLOGGS & SHREDDED WHEAT)

The most serious difficulty occurred the latter part of 1960, and was not diagnosed and remedied until February of 1961. Flakes on surface were attributed to the presses, and a water bath at each press provided correction.

Cracking complaint in September was corrected by increasing sulphite, changing refining (to Morden), and increasing moisture.

Caliper variation on the edge of 14 5/8" trim was corrected by eliminating production as a "side trim".

V. LAMINATOR

No adjustments on complaints.

VI. COST SUMMARY

(A) Gypsum Papers: 18,913 tons = \$0.22/ton

(Continued)

VI. COST SUMMARY

(A) Gypsum Papers(continued)

IVORY

	<u>CUSTOMER</u>	<u>DEFECT</u>	<u>SETTLEMENT</u>
Jan.1961)			
July 1961)	GYPROC Caledonia	Made Nov., Dec., 1960 -- Water Drops	\$ 600.00
May 1961	Manitoba	Made Mar. 1961 -- Dry Edge	100.00
July 1961)	Caledonia	Surface defects -- "flour" -- water drops,	
to)		water streaks--scratch mark (spread bar)	
Dec. 1961)	(8 complaints)	etc.,	986.00
	Montreal 1 Complaint.		
Oct. 1961	Montreal	Made Sept. 27 -- Wrinkle	223.00

GRAY

May 1961	GYPROC Manitoba	Made March -- Splitters (low bond sizing)	90.00
Aug. 1961	Montreal	Made July -- Split bond (ply)	274.00
Oct. 1961	Caledonia	Made August -- Wave (Hard Spot)	1,222.00
Oct. 1961	ATLANTIC GYPSUM	Made August 3rd -- Crack (spread bar)	488.00

LATH

May 1961	GYPROC Manitoba	Made Oct. 1960 -- Soft sized bond	<u>100.00</u>
TOTAL			<u>\$ 4,083.00</u>

* * * * *

(B) Boxboard Papers: 5,214 tons -- \$2.33/ ton

<u>CUSTOMER</u>	<u>DEFECT</u>	<u>SETTLEMENT</u>	<u>TOTAL</u>
<u>WHITE VAT LINED (255 tons)</u>			
Ingersoll	Low caliper	\$ <u>451.00</u>	\$ 451.00
<u>PLAIN CHIP</u>			
National (2408 tons)	Wavy. $\frac{1}{2}$ amount resold (freight)	900.00	
Somerville	High moisture	55.00	
Schaefer-Ross	Wave and warp	<u>78.00</u>	\$ 1,033.00
<u>PATENT COATED (2551 tons)</u>			
Kelloggs Dec. 1960	Crumbs (settlement Jan. 1961)	7,235.00	
Jan. 1961	Crumbs	1,600.00	
Feb.	Crumbs	1,165.00	
March	Crumbs	210.00	
May	Crumbs and asphalt	100.00	
June	Split bond	105.00	
August	Crumbs	25.00	
August	Caliper variation	<u>215.00</u>	10,655.00
TOTAL BOARD			<u>\$ 12,139.00</u>

(C) Laminator Board - 3,876 tons - \$0/ ton

No adjustments.

(E) All production:

Total Tons	=	28,000
Total Adjustments	=	\$16,217.
Total Cost per ton	=	\$ 0.58

VII. PLANS FOR 1962

1. Trial of a spreader roll, in place of spreader bar, at calender stacks, to eliminate surface defects due to bar scraping and droppings.
2. Improve tensile-weight relationships through better preservation of waste paper stocks. (Lower inventories, faster turn-over, and urging of provision for adequate covered storage.
3. Use of cooked starch through jet-cooker, to improve effectiveness and decrease costs.
4. Reduce fresh water consumption to improve system temperatures, improving stock preparation, water removal, and chemical effectiveness and losses.
5. Continue Hercules study and implementation of findings on more efficient sizing.
6. Improve consistency control through routine testing for control purposes.
7. Find a satisfactory chemical defoamer, to eliminate use of fuel oil and its adverse effect on formation and sizing.

QUALITY PROGRAM 1962

SIGURD PLAN T

OBJECTIVE

To reduce overall complaint costs due to defects and errors by at least 50%.
Also to reduce complaints received by 50%.

INTENTION

This is a working plan for all supervisors to refer to and enable them to have a planned approach to quality and service in each department.

QUARRY

1. Stripping will be carried out in advance of drilling to insure removal of clays and organic material.
2. Drill hole cuttings will be analyzed in the lab for purity, salt and anhydrite.
3. Head tester or quality supervisor will visit quarry with plant manager a minimum of twice per month to check rock faces, stripping and correlate drill hole information on map.
4. A map will be kept in the laboratory and a log of drill holes to maintain a record of rock quality.
5. A daily inspection of blending operation will be made by the Quality Dept. to insure uniformity of blending and that percentage purity set for particular periods is maintained.
6. A minimum of two grab samples per day will be taken from conveyor feeding the Raymond supply bins. This is to keep a close check on board plant stucco purity, results to be plotted graphically.

KEMNES

1. Sized rock from quarry to be loaded in kiln. Rocks larger than 16" will be jack hammered to insure uniform size.
2. All thermostats on beehive kilns to be checked once each quarter to insure their accuracy.
3. Samples from each batch will be tested in lab. Culled material will be sprayed blue and used for bricking up or sealing kiln only.
4. All material to be stored on the floor in two dumps for each batch. Dumps will be numbered and test information slips attached to respective dumps.

MILL

1. Test all kettles for T. C. and setting time.

A. All kettles under 66 T. C. to be sent to board plant and board plant notified of such high T. C. stucco with location of same.

B. Salt treatment will be left to operator's discretion with a maximum of 5 1/2 gallons per kettle for board plant stucco. Should calciner require further instructions in particular situations, the quality dept. will advise on such matters subject to testing raw material.

C. Kettle operators to report all findings as to T. C., calcining time and other pertinent data. Sheets must also be signed by calciner before leaving shift.

2. A log of cycle times will be kept by the Mill Superintendent. This log will be used to help prevent dragging of cycle times. When cycles begin lengthening, kettle grates will be changed.

3. At least 2 samples will be checked per day from each kettle for % purity and % calcination.

4. Standard testing procedures will be carried out on all plasters being manufactured.

PERLITE

1. Maintain a standard sample for color comparison in terms of whiteness.

2. Maintain a regular check on raw ore and watch for discrepancies in screen analysis from supplier.

PACKING

1. Standard testing and quality control on all plaster shipments.

2. Laboratory Dept. will pick up orders from general office and pass these on to Mill with formula #'s, retarder and other pertinent data for material required.

3. Mill Superintendent will check each carload to eliminate shipping errors.

4. Packing report will be signed each day by head bagger, this to be an indication that he has checked the count of material shipped and verified it as correct.

5. Mill Superintendent will check all cars for count and correctness and sign packing report to this effect.

BOARD PLANT

1. Maintain paper control program to reduce waste of #1 paper.

A. Close inspection of paper on arrival to insure proper claims against carrier.

2. Standard testing of paper and stucco to insure uniform materials for manufacture of board.

A. Control records from new control equipment at wet end will be forwarded to plant manager for his review and filed by the laboratory.

3. Continue preventive maintenance program to reduce delays. Machine shut downs contribute to wet waste, kiln gaps and formation problems. Wherever possible planned delays will be taken to avoid such problems.

4. Maintain program for reduction of waste in board plant operation.

5. Continue use of pallet tags at stacker. Tags to be signed by each inspector and at least four bundles per lift checked each end with penetrometer. Results to be recorded on pallet tags and Board Plant Control Sheet.

6. Any questionable board at stacker will be blue tagged by inspector. If board is obviously defective it can be placed into the dunnage pile immediately. If the quality is only slightly questionable, however, it may be held for re-inspection by Quality Supervisor and Board Plant Superintendent.

7. Warehouse will be checked daily for warehouse damage; board will be date stamped and removed from warehouse ultimately when found to be damaged. Record will be kept of this and a goal of 50% reduction for 1962 set.

8. All loaders will be required to sign loading diagrams for material placed on cars by them. Warehouse foremen will check loads, count, correctness of procedure, etc., and sign diagram in appropriate space.

9. Full coverage of loading operation will be expected of warehouse foreman on each shift and they will also make out a report on loading and shipping each day the department operates. Any damaged board will be removed before covering and banding.

10. Further check of loading operation will be carried out by Quality Supervisor.

11. Pictures will be taken wherever requested or deemed necessary to verify shipping condition and especially with regard to pool cars including plaster and joint system products.

12. Loading dunnage to be sprayed blue without exception before placing on car.

13. With the installation of the new warehouse it is hoped we can give 1 day service on mixed carloads. The Board Plant and Mill will have to exchange information on this matter to insure a 1 day service on mixed carloads. This will be the responsibility of the order expeditor.

14. The new warehouse will also mean a 2 shift loading operation which will insure 100% supervision on loading crews. This supervision must be exercised to the fullest to eliminate shipping errors and damaged material on cars.

QUALITY - PLANT GENERAL

1. Quality meetings to be held once per month with all salaried personnel and include as many hourly personnel as practicable. Meeting to cover complaints received during month and particularly acute complaint areas so that these may be cleaned up and re-occurrence prevented.
2. Hold quality meetings with all operating crews each quarter. With the aid of graphs and diagrams the quality picture will be outlined for hourly personnel and areas which show poor quality or personal errors will be emphasized with a view to eliminating such problems.
3. Whenever applicable quality and shipping complaints will be posted on the bulletin board with samples or pictures if available.
4. Posting of monthly complaint summary on all bulletin boards comparing 1962 to 1961 complaint occurrence and cost picture.
5. Quality Supervisor will review program monthly with plant manager at quality meetings.
6. Personal contacts by foremen with hourly personnel to explain the importance of high quality standards to our customers and applicators.
7. Order expeditor will be re-located in the general office to improve communications between order service and billing department.
8. Each complaint will be reviewed by Plant Manager with department concerned and Quality Supervisor after formal investigation by quality department.

All other standard testing and laboratory work will be carried out as normal; the reason this is not included here is because it would entail too much detail.

QUALITY REPORT

Sigurd 1961

The complaint experience at the Sigurd Plant has been somewhat better in 1961 than the previous year; however, we still found ourselves confronted with sizeable complaints on material shipped in 1960. These complaints are shown against the 1961 record since they were entered in that year.

Notably among these was the series of complaints on high shoulder board shipped into the Denver Market. Curiously enough we continued to get occasional "high shoulder" complaints whenever requested to ship board into Denver; this we found rather singular since the problem was eliminated in the early part of 1961 and no complaints of high shoulder were received from any other area. This series of complaints in the Denver Market alone cost over \$4,000, the major portion of the material being shipped in 1960.

The second complaint of this nature concerned acoustical plaster which was unaccountably streaked or discolored after application and drying. Since the walls were already painted, this proved to be an expensive job entailing almost \$900 to correct the situation.

Another large complaint, the magnitude of which we were quite unaware of until confronted with the adjustment report, was a cracked board complaint from the Salt Lake City Sales District. The complaint report indicated that the problem was not serious at all, but the final adjustment amounted to \$978.00. While adding to our overall cost, this is reported here on the basis of a 1960 complaint.

In analyzing our complaint picture for 1961 we feel there are several major areas for improvement:

1. SHIPPING ERRORS

Though not the most costly of complaint reasons, the figure established in this area has, nevertheless, been quite expensive. At the start of 1962 a two-shift operation began in the board plant warehouse and we aim to increase the efficiency and accuracy of our shipping department with individual supervisors designated to the task of correct loading procedures on each shift. Compared to 1960 complaints on shipping, errors were reduced by some \$700.

2. CRACKED AND BROKEN BOARD

We continued to receive this type of complaint in the first half of 1961, but after installing special support arms with rubber pads at the wet-end transfer, this complaint area was virtually eliminated.

3. MISCELLANEOUS

This accounted for the largest proportion of our complaint costs and is probably the most difficult one to combat. The biggest complaint in this group was one of brittle board in the early part of the year. After reducing the weight of our board while still maintaining the quality, brittle board complaints were drastically reduced as to be almost negligible.

SGP 0020932

PAGE TWO
QUALITY REPORT
SIGURD 1961

In order of occurrence rather than severity, we must necessarily record a "lack of talc on board" complaint next. In the latter part of the year this, too, has lessened appreciably. Other complaints in this category include damp board, nail pops, complaints on shifted loads, high shoulder board, butt ends not finished properly, soft core, torn visqueen covers and for lath, a lack of end clips and poor suction.

Many of these we have already eliminated and the others are being worked on fastidiously.

Noticeably there were no complaints on poor bond or clean peelers in 1961; we feel this was a big improvement over the previous year when a total of 11 complaints cost over \$7,000 in this area. Core splits and blisters were more apparent in 1961, but we feel this problem can be solved with the blending operation of the front end loader and the new stucco system currently being installed.

Plaster quality has shown very great improvement, the major part of this coming from a complaint on acoustical plaster mentioned previously in this report and listed under Miscellaneous.

The Keenes Department too has an excellent record with only one adjusted complaint which involved a shortage of 10 bags of material.

Although the actual occurrence rate of complaints greatly increased in 1961, the number of adjustments dropped considerably involving a total savings of \$10,658.71 in complaint costs. We feel that we can do even better than this in the year 1962.

COMPLAINTS 1961

BOARD PRODUCTS	NO. OF COMPLAINTS	NO. ADJUSTED	TOTAL
Poor bond - clean peelers	-	-	\$ -
Core splits - core blisters	21	12	1145.41
Cracked - broken	39	27	2589.07
Edge taper - Edge formation	5	4	1182.02
Split ply paper - end splits	11	6	880.35
Off dimensions	10	3	1508.15
Surface imperfections	1	-	-
Miscellaneous	46	12	3956.64
PLASTER PRODUCTS			
Setting Time	11	2	31.72
Working Properties	7	-	-
Broken Bags	1	-	-
Cracking	2	-	-
Miscellaneous	9	3	1403.61
Keenes Cement	2	1	19.20
Shipping Errors (all divisions)	58	29	1114.17
Johns-Manville Complaints	<u>31</u>	<u>4</u>	<u>1062.65</u>
TOTAL:	259	81	\$11922.99
1960 Complaints adjusted in 1961			<u>2613.98</u>
			\$17536.97
Complaints 1960	167	101	\$28195.68

1961

cost reports

E. W. Brown

The year 1961 was a fairly good year with respect to cost reduction, with substantial savings made in the following areas:

DIRECT LABOR - Efforts were made throughout the plant, to streamline crews, to bring them in line with current business levels. Some unnecessary jobs were eliminated, and for the most part, this trimming was done without further capital expenditures. The net result of streamlining the board warehouse crews was a \$22,000. savings in direct labor for the entire plant.

OVERTIME LABOR - Additional savings in overtime were made, particularly in the board manufacturing and board warehouse departments, resulting in an \$8,000. plant savings.

SOCIAL SECURITY & COMP. INSURANCE - As a direct result of streamlining the crews as outlined above, an additional \$4,000. savings was made in Social Security costs and Compensation Insurance.

SUPPLIES AND EXPLOSIVES:- The elimination of the 2nd. shift stripping operation in the quarry; the changing of the shot pattern and the use of a lower cost explosive; the purchase of pole-pallets in carload lots for the Joint System department, saving approximately \$600 freight on several truck load shipments; the elimination of corrugated pulp sheets in board loading and reduced usage of bracing lumber and steel strapping, all amounted to a total savings for the plant of \$16,000.

PLANT OVERHEAD - Reduced salaries charged to mechanical overhead and Plant office, together with savings on salaried overtime payments, savings on repair material and repair labor, and lower depreciation costs, offset losses on other overhead items and resulted in net savings of \$2400 for the plant.

This total savings was reduced by the wage increase in the new Union Contract; by higher costs in repair materials used in the Grinding, Galvanizing and Bead Manufacturing Departments; by higher fuel and electrical power costs in all departments, and by higher costs in Material handling, but still amounted to an overall savings of \$19,000.

The gains and losses listed above, are brought out in detail in the attached reports and the losses experienced, while substantial, point out areas where we can work toward further improvement in 1962.

SUBJECT: COST COMPARISON 1961 ACTUAL VS.
1960 AVERAGE - 11 MONTHS CUM.

K. W. Brown - OR

PRODUCTION		COSTS				Gain or Loss
11 Mos. 1960	11 Mos. 1961	% 1961 vs. 1960	1960 Actual	1961 Actual	1961 Average	
Quarry	216,733	89.278	260,178	217,861	217,861	14,428
Grinding	195,472	90.518	68,266	61,793	61,793	6,473
Calclining	156,098	90.586	144,567	130,957	130,957	13,610
Regrinding	5,523	27.557	10,407	2,871	2,871	7,536
Tubing	13,514	81.249	16,508	8,570	8,570	7,938
Plaster Packing	19,538	67.177	85,504	57,439	57,439	28,065
Joint System	8,628 (1)	118.071	142,654	168,433	168,433	25,779
Crushed Rock Loading	15,144	123.270	1,148	1,415	1,415	267
Bulk Plaster Loading	2,263	21.918	426	92	92	334
Block Manufacturing	123,691	113.493	11,016	12,505	12,505	1,489
Block Loading	70,454	92.641	2,673	2,476	2,476	217
Board & Lath Mfg.	190,382	93.889	746,399	700,787	700,787	45,612
Laminating	1,483	39.649	5,174	2,051	2,051	3,123
Wrapping	1,286	60.824	2,919	1,192	1,192	1,727
Recut & Reclaim	178,729	96.344	19,616	19,092	19,092	824
Warehouse & Loading	177,695	95.064	435,818	414,306	414,306	21,512
Silicate Laminating	=	=	545	545	545	=
TOTAL	=	=	1,939,427	1,816,813	1,799,495	17,312

(1) Includes totals of Departments 21 and 22.

**COST COMPARISON 1961 ACTUAL VS 1960 AVERAGE
11 MONTHS CUMULATIVE**

RECAPITULATION

	QUARRY		GRINDING		CALCINING	
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	32,789	36,538	3,749	20,746	19,433	1,313
Overtime	5,023	6,088	1,065	1,789	1,942	153
Vacations	3,817	3,800	17	1,789	1,463	326
Social Security	2,017	2,379	362	913	896	17
Comp. Insurance	1,502	1,579	77	347	329	18
Repair Labor	15,380	16,133	753	1,745	836	909
Repair Material	40,117	40,955	838	4,556	1,904	2,652
Service & Supplies	13,968	16,150	2,182	196	19	177
Explosives	14,964	16,388	1,424			
Fuel						
Electric Power	7,203	5,675	1,528	21,201	19,629	1,572
Royalties						
Mat'l Handling						
Unloading Labor						
Total Direct	136,780	145,685	8,905	53,284	46,351	6,933
Overhead	81,084	86,597	5,513	15,951	15,742	209
Total	217,864	232,282	14,418	69,235	62,093	7,142

	REGRINDING		TUBING		PACKING	
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	1,156	1,009	147	2,437	2,255	182
Overtime	42	207	164	208	197	11
Vacations	130	91	39	207	210	3
Social Security	60	56	4	110	132	22
Comp. Insurance	24	21	3	40	47	7
Repair Labor	425	257	168	161	606	507
Repair Material		64	64	72	62	12
Service & Supplies						
Explosives						
Fuel						
Electric Power	608	428	180	630	623	7
Royalties						
Material Handling						
Unloading Labor						
Total Direct	2,446	2,133	313	5,865	4,195	1,670
Overhead	2,446	738	1,708	5,065	4,375	690
Total	4,892	2,871	2,021	10,930	8,570	2,360

SGP 0020939

	JOINT SYSTEM			CRUSHED ROCK			BULK PLASTER		
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	85,856	83,520	2,336	1,436	1,102	334	95	80	15
Overtime	8,456	4,707	3,749	35	1	34	-	2	2
Vacations	7,100	6,349	751	114	83	31	9	6	3
Social Security	3,685	3,812	127	58	48	10	3	4	1
Comp. Insurance	1,426	1,378	48	21	17	4	2	1	1
Repair Labor	3,768	4,768	1,000	6	36	30	-	-	-
Repair Mat'l	3,198	4,645	1,447	19	-	19	-	-	-
Services & Supplies	9,186	13,284	4,098	18	57	39	-	-	-
Explosives	-	-	-	-	-	-	-	-	-
Fuel	-	-	-	-	-	-	-	-	-
Electric Power	1,320	1,322	2	83	71	12	-	-	-
Royalties	1,544	1,137	407	-	-	-	-	-	-
Material Handling	5,236	6,909	1,673	-	-	-	-	-	-
Unloading Labor	130,883	132,031	1,148	1,790	1,415	375	109	93	16
Total Direct	39,612	36,408	3,204	-	-	-	-	-	-
Overhead	170,495	168,439	2,056	1,790	1,415	375	109	93	16
Total									

	BLOCK MANUFACTURING			BLOCK LOADING			BOARD MANUFACTURING		
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	8,465	8,067	398	2,205	1,862	343	235,696	234,639	1,057
Overtime	364	110	254	264	69	195	25,835	31,547	5,712
Vacations	702	619	83	168	159	9	20,667	18,751	1,916
Social Security	376	386	10	95	94	1	10,885	11,013	128
Comp. Insurance	127	133	6	32	33	1	4,107	4,324	217
Repair Labor	781	424	357	-	259	259	24,455	26,056	1,601
Repair Mat'l	741	169	572	-	-	-	44,207	37,715	6,492
Services & Supplies	753	746	7	-	-	-	7,008	10,615	3,607
Explosives	-	-	-	-	-	-	-	-	-
Fuel	-	-	-	-	-	-	-	-	-
Electric Power	-	-	-	-	-	-	77,411	79,036	1,625
Royalties	-	-	-	-	-	-	46,508	43,162	3,346
Material Handling	-	-	-	-	-	-	-	-	-
Unloading Labor	-	-	-	-	-	-	7,602	4,180	3,422
Total Direct	12,249	10,654	1,595	2,763	2,476	287	509,949	507,618	2,331
Overhead	1,649	1,851	202	-	-	-	186,611	193,169	6,558
Total	13,898	12,505	1,393	2,763	2,476	287	696,560	700,787	4,227

3GP 0020940

COST COMPARISON 1961 ACTUAL VS 1960 AVERAGE
11 MONTHS CUMULATIVE

	LAMINATING			WRAPPING			RECUR & RECLAIM		
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	1,895	1,529	366	1,634	983	651	11,046	15,976	4,930
Overtime	272	44	228	102	44	58	1,011	961	50
Vacations	154	121	33	126	73	53	885	1,160	275
Social Security	80	69	11	60	45	15	463	682	219
Comp. Insurance	30	25	5	25	16	9	175	251	76
Repair Labor	67	149	82	-	31	31	49	62	13
Repair Material	-	-	-	-	-	-	-	-	-
Services & Supplies	22	-	22	-	-	-	-	-	-
Explosives	-	-	-	-	-	-	-	-	-
Fuel	-	-	-	-	-	-	-	-	-
Electric Power	-	-	-	-	-	-	-	-	-
Royalties	-	-	-	-	-	-	-	-	-
Material Handling	-	-	-	-	-	-	-	-	-
Unloading Labor	-	-	-	-	-	-	-	-	-
Total Direct	2,520	1,937	583	1,934	1,192	742	13,629	19,092	5,463
Overhead	368	114	254	-	-	-	-	-	-
Total	2,888	2,051	837	1,947	1,192	755	13,629	19,093	5,463

	WAREHOUSE & LOADING			SILICATE LAMINATING			TOTAL BOARD & LATH		
	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss	1961 Actual	1960 Avg.	Gain or Loss
Direct Labor	167,756	187,741	19,985	1,257	484	773	419,284	441,352	22,068
Overtime	14,484	20,020	5,536	47	1	46	41,751	52,617	10,866
Vacations	13,437	13,709	272	96	35	61	35,365	33,849	1,516
Social Security	6,980	8,552	1,572	51	18	33	18,520	21,184	2,664
Comp. Insurance	2,648	3,118	470	18	7	11	7,003	7,731	728
Repair Labor	1,047	2,026	979	-	-	-	25,618	28,324	2,706
Repair Material	2,093	2,581	488	-	-	-	46,300	40,296	6,004
Services & Supplies	81,594	87,066	5,472	-	-	-	88,624	97,681	9,057
Explosives	-	-	-	-	-	-	-	-	-
Fuel	-	-	-	-	-	-	-	-	-
Electric Power	-	-	-	-	-	-	77,411	79,036	1,625
Royalties	-	-	-	-	-	-	46,508	43,162	3,346
Material Handling	1,940	2,109	169	316	-	316	2,256	2,109	147
Unloading Labor	9,657	5,377	4,280	-	-	-	17,259	9,557	7,702
Total Direct	301,636	332,299	30,663	1,785	545	1,240	831,400	862,683	31,217
Overhead	79,356	82,007	2,651	-	-	-	266,335	275,290	8,955
Total	380,992	414,306	33,314	1,785	545	1,240	1,097,801	1,137,973	40,172

COST COMPARISON 1961 ACTUAL VS 1960 AVERAGE
11 MONTHS CUMULATIVE

RECAPITULATION

TOTAL PLANT			
	1961	1960	Gain or
	Actual	Average	Loss
Direct Labor	625,872	647,156	20,174
Overtime	64,832	72,209	7,377
Vacations	51,607	51,267	340
Social Security	28,580	31,826	3,246
Compensation Insurance	11,560	12,313	753
Repair Labor	61,154	64,067	2,913
Repair Material	109,609	97,106	12,503
Services & Supplies	116,263	131,034	14,821
Explosives	14,964	16,388	1,424
Fuel	122,542	117,559	4,983
Electric Power	80,602	73,817	6,785
Royalties	2,256	2,109	147
Material Handling	20,547	11,341	9,206
Unloading Labor	12,609	13,690	1,081
Total Direct	1,325,797	1,347,322	15,125
Overhead	472,698	474,891	2,193
Total	1,799,495	1,816,613	17,316

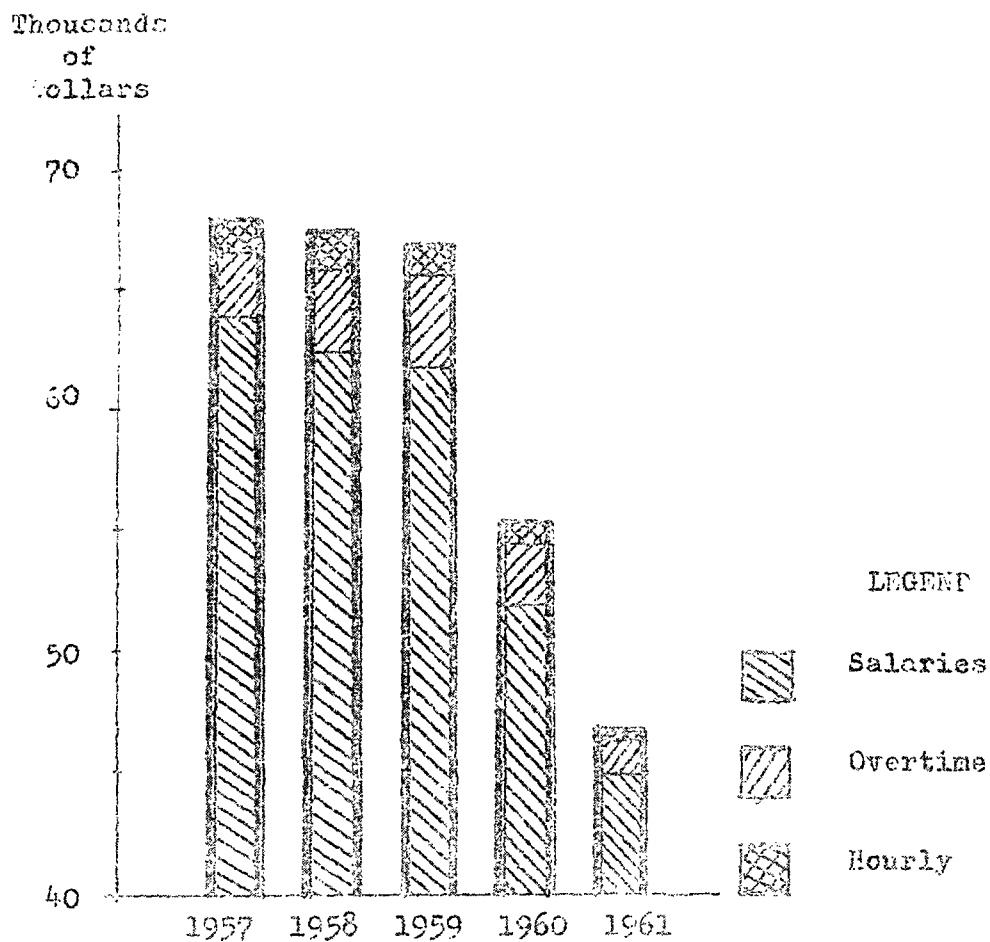
CONTROLLABLE EXPENDITURES

	12 Mos. 1960	12 Mos. 1961	Gain or (Loss)	Projected to Annual
SALARIES: Plant Laboratory	\$ 7570	\$ 11935	\$ (4365)	\$ (4762)
Mechanical O. H.	10242	8070	2172	2369
Gen'l. Plant	38678	47475	(13797)	(15052)
Plant Office	40411	41075	5336	5821
HOURLY: Auto Trucks	8002	8398	604	659
Plant Laboratory	14886	18087	(1201)	(1310)
Mechanical O. H.	13451	13550	(99)	(108)
Gen'l. Plant	32939	32438	521	568
Rehandling	2196	1383	813	887
Plant Office	420	132	288	314
OTHERS: Salaried	2413	615	1798	1961
Hourly	8168	8327	(159)	(173)
VACATIONS	5722	6118	(396)	(432)
SOC. SEC. TAXES	7718	7273	440	480
COMP. INSURANCE	2795	2906	(111)	(121)
REPAIR LABOR	4195	2802	1393	1520
REPAIR MATERIAL	17508	6122	9406	10260
SV. & SUPPLIES	9267	7204	1063	1160
STATIONERY	4725	2722	2003	2183
POSTAGE	1241	1493	(252)	(275)
FUEL	853	139	424	463
WATER	2132	2297	(167)	(182)
ELECTRIC POWER	6528	6463	65	71
TELEPHONE	11942	10804	1058	1154
TELEGRAPH	3694	3310	384	419
SUPPLY MONEY	773	32	746	814
CONTRIBUTIONS	150	150	-	-
DUES & SUBSCRIPTIONS	124	122	(2)	(4)
TRAVEL	2441	3970	(1529)	(1668)
CHANGING LOCATIONS	1663	1102	-	-
SUNDRY	(144)	173	(317)	(346)
TOTAL CONTROLLABLE	\$268136	\$259260	\$ 8876	\$ 9683

COMPARISON - PLANT OFFICE EXPENSE

	by Years					(1)
	1957	1958	1959	1960	1961	
Plant Office - Salaries	\$ 62896	\$ 62107	\$ 61782	\$ 51992	\$ 48510	
" " - Overtime	1440	2863	3840	2683	889	
" " - Hourly	610	727	732	614	144	
Stationery	3097	3408	3856	4911	2969	
Postage	1132	1262	1370	1345	1629	
Telephone	6112	2534	11808	12678	11873	
Telegraph	5701	3821	3584	3977	3611	
Sub-Total	<u>\$ 78990</u>	<u>\$ 83962</u>	<u>\$ 86900</u>	<u>\$ 78200</u>	<u>\$ 65925</u>	

(1) Eleven month costs, projected to an annual basis.



1962

GOST SAVINGS PROGRAM

by

K. W. Brown

SGP 0020945

Savings

1. Increased Output of Machinery:		
1,835 x \$2200 x 12 months.		\$ 48312.00
2. Reduced Machine Downtime:		
3. Increased Machine Speeds:		
2,005 x \$396 x 12 months.		9564.00
4. Lower Board Weights:		
602472 x \$.57/0wt. x 12 months.		46752.00
5. Wet Board & Grinding Waste:		
302 x \$25 x 12 months.		312.00
6. Operate Bulk Movement System:		
6,975 tons x \$2.00/ton	\$13950.00	
10,000 hours/year @ 189 1/2	18950.00	
		32900.00
7. 800 Ton Rock Storage Bin:		
Eliminate one man in mill, on 2-shifts.		10000.00
8. Install Switchgear & Air Cuts in Calcining Department:		
Eliminate one man on 3-shifts.		15000.00
9. Crew Reduction on Board Machine:		
One man on 3-shifts.		15000.00
One man on 2-shifts.		10000.00
10. Install Bulk Emulsion System:		
		7500.00
11. Crew Reduction in Quarry:		
One man on 2-shifts.		5000.00
TOTAL CREDITS:		\$ 200280.00

BRUNSWICK PLANT

COST REPORT

1961

ELEVEN MONTHS 1961

VS

ELEVEN MONTHS 1960

COST REPORT AND ANALYSIS

BRUNSWICK PLANT

The following is the cost analysis and variations for the first eleven months of 1960 versus 1961 together with comments covering various items as shown on attached table.

Direct Labor

A General labor increase of 3% was granted July 1, 1961, which affected 782,901 hours through November 1961, amounting to \$14,395.20. All Departments showed gains in varying amounts which allowed the labor increase to be absorbed and show a savings of \$163,706.15.

Crushing and Grinding

Direct labor savings amounted to \$19,419.13. A reduction in labor costs of \$7,587.10 is noted in these departments. Volume increased by 24.69% in crushing and 21.72% in grinding.

Calcinig and Tubing

Direct labor savings amounted to \$666.26. Through a volume increase of 18.64% in calcining, increase in total dollar amount of \$4,036.89 was successfully offset. In tubing we suffered a volume loss of 1.29%. During part of 1961 we miscoded labor charges to tubing which has now been corrected.

Packing and Loading

Direct labor savings of \$4,121.74 is shown in P&L. Total labor for this department is higher in 1961 by \$688.75 but a volume increase of 14% allows the gain shown in unit cost.

Wing Loading

Direct labor savings of \$1,681.78 is shown. This is reflected in a volume increase of 28,686.

Forward Look Loading

Direct labor savings of \$1,081.15 is shown. Volume on this item increased 15.15% during comparison period, allowing a total dollar decrease of \$771.36 to be absorbed for the gain shown.

Boat and Lute

Direct labor reduction of \$65,123.55 was effected. A production increase of 25.05% was shown which enabled us to absorb the hourly increase of 3% and show above gain.

Boat and Lute Loading

Direct labor savings of \$23,361.20 is shown. A volume increase of 13.6% is noted for this department.

Boat and Lute Loading

Direct labor savings of \$46,956.04 was effected through a department volume increase of 28.43%. Actual dollar labor costs increased during the comparison period in the amount of \$8,326.92, of which \$3,034.26 was due to labor increase granted in July 1961.

Overtime

Savings of \$26,129.79 is reflected due to increased volume in all departments. A three shift operation was started in the boat plant in July 1961 which further reduced the overall overtime account.

Vacations

Savings of \$2,950.31 is reflected here.

Broken Machinery Parts and Compensation Expenses

Savings of \$11,405.73 is reflected by increase in production in all departments.

Repair Labor

Savings of \$54,890.16 is shown. Increased production and newness of the plant are the contributing factors.

Repair Materials

Savings of \$17,385.21 is reflected. The loss of \$1,700.66 in crushing is caused by repair to the rock shed in 1961. The substantial volume increase in all departments is responsible for the savings noted.

A.O. 209 Cost of Rock Shed Repairs \$1,612.60.

A.O. 239-246-599 Bearings for Mills 68,333.98.

Supplies

A loss of \$31,927.77 is reflected--Grinding loss of \$211.88 is reflected in purchase of aluminum paint for painting.

Crushing and loading loss of \$1,991.01 is reflected in purchases of paint, roller cups, spring bolts and rotary blades and hubs.

Wirehouse and loading loss of \$39,986.62 is reflected in damage runs of 3,000,916 square feet in 1961 for car loadings. During 1960 only 107,946 square feet of damage was run, due to availability of damage from an above car loading source.

Oil

A loss of \$9,464.54 is reflected.

The remaining a loss of \$1,695.01 is accounted for due to not showing oil usage in the early part of 1960, plus increases in oil price.

The \$8,550.00 loss in oil burning is due to price increase of Bunker 100 oil from \$2.37 per barrel to \$2.70.

Machinery Repair

A gain of \$1,599.80 is reflected, resulting from business increases in all departments except tubing. A tubing loss of \$421.48 is the result of under loading errors.

Material Handling

A gain of \$13,172.51 is recorded which results from volume increases of 15% in W&L, 25.4% in Board & Lath and 28.43% in Board and Lath loading.

Production Labor

A gain of \$3,280.98 is reflected in increased volume.

Plant Overhead

Increased business activity, has some bearing on increased overhead expenses. For the period we show increased expenditures of \$16,912.64.

Telephone

A gain of \$1,312.30.

Wages and Salaries

A loss of \$1,000.00 per year amount is reflected in wage increases from \$1.00 to \$1.01 plus additional hours worked in 1961 of 1827 hours due to promotion and job classifications.

Repair Labor and Repair Material

Is down by \$1,380.52 due to reduction in force and revised work week of mechanics.

Telephones

Up \$2,281.64 due to increased collect calls from customers and salesmen.

Supplies

Up \$5,118.91 due largely to damage Materials made.

Group Insurance

Up \$4,948.00.

Rent

Up \$12,156.34.

Services Purchased

Up \$13,844.13.

Depreciation

Up \$3,185.76.

General Comments

During 1961 a number of job classifications were eliminated; one paper hanger helper and one utility man was removed from each wallboard shift and the 2nd. shift crushing and rock handling crew was discontinued. Manpower needs are constantly reviewed in order to control labor usage.

COST SAVINGS PLAN

COST SAVINGS PLAN

1962

SGP 0020953

COST SAVINGS PLAN

1962

2. W/BOARD MACHINE SPEED INCREASES

At the start of 1961, the established machine speeds for the three major products were:

3/8" Lath	-	175 F.P.M.
3/8" Board	-	175 F.P.M.
1/2" Board	-	140 F.P.M.

At the close of 1961, these machine speeds were:

3/8" Lath	-	183 F.P.M.
3/8" Board	-	180 F.P.M.
1/2" Board	-	140 F.P.M.

The top limit on the speed of the machine is 183 F.P.M. The 1961 experience indicates good control of weights and other quality aspects of board products produced at the above speeds. Consequently it appears reasonable to bring the machine speeds to a level somewhat beyond current experience. This would be executed in two steps:

(a) Studies by Ekram Mfg. Company during 1961 revealed the fact that the speed of W/B machine can be increased to a maximum of 220 F.P.M. by electrical modifications. The cost of labor and material to accomplish these changes is approximately \$3,500.

Changes and modifications to complimentary equipment attached to or servicing the board machine will cost an additional \$5,500.

(b) At the current lath speed of 183 F.P.M. the Coe Lath stacker is operating at speeds which have affected its reliability.

2. WEIGHT CONTROL OF BOARD PRODUCTS

Approval has been received for the lease and installation of an Accuracy Process Control Equipment. By means of this equipment a very tight control can be maintained on board weight variations with the final result expected of lower overall weights. Savings are based on lower freight costs annually of \$13,000.00 and material savings annually of \$10,000.00.

INVESTMENT -- \$18,330.00

SAVINGS -- \$23,000.00 per year.

3. BERGE SHIPMENT OF BOARD PAPER

The practicability of barge unloading of Weyerhaeuser paper at the plant has been generally accepted. Engineering studies indicate that a bridge type traveling hoist can be purchased and installed immediately East of the present paper storage building at a cost not to exceed \$58,000.00. The savings that could be enjoyed by this arrangement are two-fold: (a) An allowance of \$2.25 per ton from the C. G. Willis Inc., barge line, in consideration for utilizing their barges for this type movement and (b) a net savings of \$1.40 per ton in freight rates of barge over rail movements.

Savings are based on 1961 Weyerhaeuser paper usage of 15,700 tons.

INVESTMENT -- \$58,000.00

SAVINGS -- \$57,305.00 per year.

In addition to the Capital Investment Savings herein enumerated there is a continuing opportunity for savings in various areas of machine performance. An evaluation of the 1961 performance relative to these items seems indicated.

4. WET BOARD & GRINDING WASTE

November to date 1960 performance indicated an experience of 1.58%, with a forecast at that time of reducing this figure to 1%.

November to date 1961 results indicate an actual experience for the period of 0.87%.

5. MACHINE DELAYS

The forecast last year of accomplishing major reductions in this category were well intentioned but the results indicated an unqualified failure to meet these goals. Service requirements have a bearing on this matter but are not necessarily the basic cause. Paper breaks have been a factor however. More stringent effort will be directed in this area to realize a respectable improvement during 1962.

6. MACHINE SPEEDS

Major machine speed increases were accomplished during the 4th quarter of 1960 with moderate speed increases successfully accomplished during 1961. Any additional speed increases can be accomplished only with electrical and mechanical modifications to the machine outlined under Item #1 of this report.

7. BOARD WEIGHTS

A weight reduction and weight variation control program was instituted late in 1960. The initial phase of this objective has been successfully accomplished with further refinements expected in 1962 as outlined in Item #2 of this section of the report.

8. SALEABLE PERFECTS

Indications are that Saleable Perfects to Kiln Production were improved from a 92% in 1960 to 97.84% in 1961. A good part of the 1960 performance does represent a portion of start-up experience and outside board storage losses. Our initial objective for 1962 has been set at 98.00% Saleable to Kiln Production.

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BOARD AND LATH SHIPMENTS

<u>PLANT</u>	<u>ANNUAL SHIPMENTS - MSF</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	165,952	198,177	228,143	182,143	169,974
Akron	82,762	87,810	95,706	98,622	100,983
Blue Rapids	-	-	-	-	21,046
Brunswick	-	-	8,975	152,172	210,441
Fort Dodge	169,266	178,225	139,906	154,854	163,444
Grand Rapids	114,776	124,923	129,397	101,119	113,211
New Orleans	-	-	-	7,709	27,163
Sigurd	81,446	96,649	118,438	115,115	112,889
Total Company	614,202	685,784	770,565	811,734	919,151

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PLASTER SHIPMENTS

<u>PLANT</u>	<u>ANNUAL SHIPMENTS - TONS</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	34,837	27,424	33,472	23,629	14,957
Akron	50,108	47,564	52,707	51,460	41,630
Blue Rapids	57,426	44,841	53,179	33,700	36,280
Brunswick	-	-	951	32,006	37,623
Fort Dodge	62,414	60,515	58,837	60,001	50,518
Grand Rapids	37,746	37,688	37,633	26,929	24,559
New Orleans	-	-	-	-	607
Sigurd	<u>27,968</u>	<u>32,276</u>	<u>34,977</u>	<u>29,941</u>	<u>25,567</u>
Total Company	<u>270,499</u>	<u>250,308</u>	<u>271,756</u>	<u>257,666</u>	<u>231,741</u>

<u>PLANT</u>	<u>PAPER SHIPMENTS</u>				
	<u>ANNUAL SHIPMENTS - TONS</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Pryor Paper	33,690	35,387	39,455	35,408	40,747
Pryor Felt	21,501	22,948	25,842	24,331	26,703
Thorold Paper	36,250	45,938	50,547	36,958	27,946
Thorold Newsprint	33,205	30,486	30,531	35,409	36,141

BOARD COMPLAINT COSTS

<u>PLANT</u>	<u>COST PER 1,000,000 SQ. FT.</u>		
	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$ 28.34 /	\$ 22.84 /	\$ 19.73 /
Akron	\$ 47.70	\$ 19.76	\$ 27.20
Blue Rapids	\$ -	\$ -	\$290.15
Brunswick	\$ -	\$ 21.87	\$ 9.78
Fort Dodge	\$ 74.81	\$ 30.99	\$ 26.73 /
Grand Rapids	\$130.97	\$ 69.20	\$ 44.08 /
New Orleans	\$ -	\$ -	\$ 21.77
Sigurd	<u>\$ 54.05</u>	<u>\$120.61</u>	<u>\$ 94.22</u>
TOTAL COMPANY	<u>\$ 63.18</u>	<u>\$ 43.42</u>	<u>\$ 37.89</u>

PLASTER COMPLAINT COSTS

<u>PLANT</u>	<u>COST PER 1000 TONS</u>		
	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$ 61.21	\$157.26	\$322.06
Akron	\$ 11.16	\$ 8.59	\$ 31.74
Blue Rapids	\$ -	\$ -	\$168.85
Brunswick	\$ -	\$ 14.34	\$ 26.74
Fort Dodge	\$ 40.45	\$ 40.18	\$ 34.73
Grand Rapids	\$ 22.80	\$ 60.34	\$ 13.75
New Orleans	\$ -	\$ -	\$184.25
Sigurd	\$ <u>7.02</u>	\$ <u>203.11</u>	\$ <u>57.07</u>
TOTAL COMPANY	\$ <u>28.00</u>	\$ <u>65.79</u>	\$ <u>73.22</u>

PAPER COMPLAINT COSTS

<u>PLANT</u>	<u>COST PER 1000 TONS SHIPPED</u>	
	<u>1960</u>	<u>1961</u>
Pryor	\$ <u>325.08</u>	\$ <u>301.90</u>
Thorold	\$ <u>164.74</u>	\$ <u>634.84</u>
Total Paper	\$ <u>243.19</u>	\$ <u>444.27</u>

CALCULATING RATES

<u>PLANT</u>	<u>TONS PER KETTLE HOUR</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	5.85	6.26	6.30	6.42	6.38
Aaron	8.53	8.54	8.87	8.92	8.67
Blue Rapids	3.57	3.49	3.45	3.58	5.39
Brunswick	-	-	7.43	7.76	8.03
Fort Dodge	6.22	6.28	6.27	6.10	6.35
Grand Rapids	7.85	7.84	7.85	7.63	7.63
New Orleans	-	-	-	-	7.42
Sigurd	6.32	6.46	6.55	6.63	6.43

3/8" BOARD PRODUCTION RATES

<u>PLANT</u>	<u>KILN PRODUCTION PER GROSS MACHINE HOUR</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	28,716	31,178	33,361	34,581	34,992
Akron	13,879	15,338	15,700	16,028	16,080
Blue Rapids	-	-	-	-	10,224
Brunswick	-	-	17,393	34,637	39,990
Fort Dodge	29,611	29,753	31,354	33,797	35,692
Grand Rapids	17,963	19,926	20,450	21,361	21,997
New Orleans	-	-	-	-	22,450
Sigurd	16,684	17,782	18,106	18,746	19,742

1/2" BOARD PRODUCTION RATES

<u>PLANT</u>	<u>KILN PRODUCTION PER GROSS MACHINE HOUR</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	23,836	26,050	28,430	29,001	29,524
Akron	9,797	11,218	11,376	11,876	11,831
Blue Rapids	-	-	-	-	8,596
Brunswick	-	-	20,530	28,548	32,203
Fort Dodge	24,350	24,920	26,304	26,207	26,951
Grand Rapids	13,724	15,178	15,720	16,536	16,559
New Orleans	-	-	-	-	16,740
Sigurd	13,899	14,537	14,698	15,697	16,555

3/8" LATH PRODUCTION RATES

<u>PLANT</u>	<u>KILN PRODUCTION PER GROSS MACHINE HOUR</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	20,778	23,449	22,267	21,265	23,131
Akron	14,912	16,419	17,137	17,570	17,129
Blue Rapids	-	-	-	-	8,103
Brunswick	-	-	16,292	29,376	39,095
Fort Dodge	31,485	30,939	29,914	33,923	39,057
Grand Rapids	20,115	21,151	21,480	23,461	23,186
New Orleans	-	-	-	-	-
Sigurd	16,191	17,055	17,771	18,464	19,222

PAPER PRODUCTION RATES

<u>PLANT</u>	<u>TONS PER DAY</u>				
	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Pryor Paper	91.8	101.9	106.1	110.2	120.6
Pryor Felt	72.2	73.9	80.6	81.6	82.4
Thorold Paper #1	79.1	81.0	83.6	84.2	85.0
Thorold Paper #2	85.5	91.2	95.2	92.5	92.0
Thorold Paper #3	108.8	111.4	113.4	115.6	115.4

MACHINE EFFICIENCY RATINGS

<u>PLANT</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	89.90%	90.01%	92.55%
Akron	89.30%	92.43%	92.76%
Blue Rapids	-	-	82.22%
Brunswick	-	82.30%	91.51%
Fort Dodge	87.77%	89.13%	91.92%
Grand Rapids	87.54%	83.34%	91.07%
New Orleans	-	-	89.22%
Sigurd	<u>90.04%</u>	<u>90.25%</u>	<u>90.00%</u>
Total Gypsum	87.86%	88.17%	91.42%
Pryor	-	85.65%	89.68%

<u>PLANT</u>	<u>TOTAL ROCK COSTS</u>			
	<u>DIRECT COST PER TON</u>			
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$.748	\$.645	\$.735	\$.705
Akron	\$ 3.093	\$ 2.958	\$ 2.872	\$ 3.100
Blue Rapids	\$ 1.413	\$ 1.384	\$ 1.544	\$ 1.088
Fort Dodge	\$.997	\$.958	\$.912	\$.737
Grand Rapids	\$ 1.361	\$ 1.501	\$ 1.690	\$ 1.347
Sigurd	\$.913	\$.820	\$.799	\$.754

STUCCO CONVERSION COSTS

<u>PLANT</u>	<u>DIRECT COST PER TON</u>			
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$.869	\$.887	\$ 1.026	\$ 1.180
Akron	\$ 2.014	\$ 1.931	\$ 2.058	\$ 2.331
Blue Rapids	\$ 1.551	\$ 1.521	\$ 1.531	\$ 1.184
Brunswick	\$ -	\$ 2.127	\$ 1.215	\$ 1.175
Fort Dodge	\$ 1.173	\$ 1.345	\$ 1.304	\$ 1.354
Grand Rapids	\$ 2.004	\$ 2.127	\$ 2.270	\$ 2.227
New Orleans	\$ -	\$ -	\$ -	\$ 1.488
Sigurd	\$ 1.163	\$ 1.269	\$ 1.342	\$ 1.323

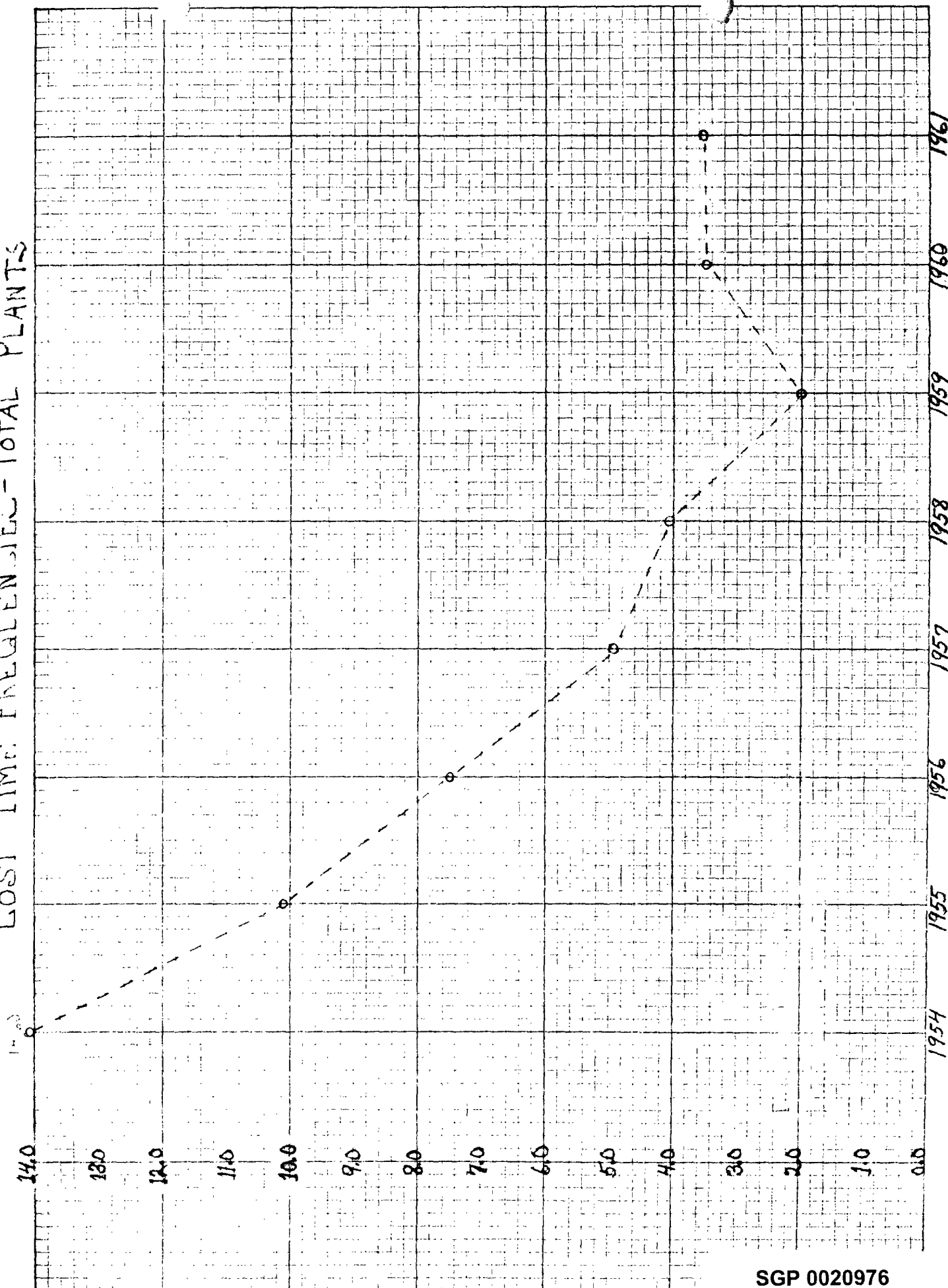
PLASTER LOADING COSTS

<u>PLANT</u>	<u>DIRECT COST PER TON</u>			
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$ 2.742	\$ 2.314	\$ 2.726	\$ 2.847
Akron	\$ 1.971	\$ 2.212	\$ 2.411	\$ 2.385
Blue Rapids	\$ 1.959	\$ 2.016	\$ 2.160	\$ 2.396
Brunswick	\$ -	\$13.092	\$ 2.443	\$ 1.733
Fort Dodge	\$ 1.642	\$ 1.874	\$ 1.835	\$ 1.979
Grand Rapids	\$ 1.765	\$ 1.719	\$ 2.460	\$ 2.031
New Orleans	\$ -	-	-	\$ 8.194
Sigurd	\$ 1.460	\$ 1.734	\$ 1.736	\$ 1.536

BOARD MANUFACTURING COSTS

<u>PLANT</u>	<u>DIRECT COST PER MSF</u>			
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$ 2.760	\$ 2.776	\$ 2.815	\$ 2.854
Akron	\$ 4.935	\$ 5.509	\$ 5.800	\$ 5.873
Blue Rapids	\$ -	\$ -	\$ -	\$ 5.729
Brunswick	\$ -	\$ 6.891	\$ 3.996	\$ 3.244
Fort Dodge	\$ 3.036	\$ 3.436	\$ 3.191	\$ 3.017
Grand Rapids	\$ 4.650	\$ 4.844	\$ 5.425	\$ 5.349
New Orleans	\$ -	\$ -	\$ -	\$ 5.122
Sigurd	\$ 4.028	\$ 4.234	\$ 4.000	\$ 4.047

LOST TIME FREQUENCIES-TOTAL PLANTS



BOARD LOADING COSTS

<u>PLANT</u>	<u>DIRECT COST PER MSF</u>			
	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
Acme	\$ 1.584	\$ 1.790	\$ 1.966	\$ 1.785
Akron	\$ 1.823	\$ 2.141	\$ 1.844	\$ 1.852
Blue Rapids	\$ -	\$ -	\$ -	\$ 1.564
Brunswick	\$ -	\$ 2.664	\$ 1.851	\$ 1.707
Fort Dodge	\$ 1.832	\$ 1.920	\$ 1.890	\$ 1.730
Grand Rapids	\$ 1.179	\$ 1.424	\$ 1.918	\$ 1.611
New Orleans	\$ -	\$ -	\$ -	\$ 2.143
Sigurd	\$ 2.034	\$ 2.109	\$ 2.122	\$ 2.193

PLANT MANAGERS' MEETING

JAN. 22-24, 1962

CLOSING REMARKS

I, personally, am convinced that the most important factor in obtaining quality is people. Whether or not a plant puts out a quality product depends almost entirely upon the desire of all of the people involved, all the way from Mr. Malcolm Meyer to the cleanup man in the plant. If the desire is great enough, means will be found to correct faulty equipment, faulty materials, bad processing - or whatever else may be the cause of poor quality. Of all the people involved, it seems to me that the most important ones are those who actually make the products. They must be provided with the proper equipment and materials and, above all, a desire to make an outstanding product. This means leadership extending all the way to the top but is particularly important at the plant manager and quality supervisor level.

A strong quality department at the plant level is vital. On this phase, I again strongly urge that the plant quality department be adequately staffed so that the quality supervisor has time to work on and solve in-plant quality problems, and to make frequent market surveys and studies without seriously affecting the normal plant control process. This requires that the quality supervisor be backed up by a plant chemist or chief tester - or whatever you want to call him - who is capable of looking after all of the routine quality problems in the plant.

As a prime example of this, I refer to the former setup where Dale Greve was quality supervisor at Brunswick and Walter Wagner was plant chemist. This set up worked extremely well and should be the pattern for all plants, in my opinion. I say this, all the while realizing that quality supervisors of the caliber of Dale do not come along every day.

To accomplish our task, we need to consider all of the basic processing, such as control of grind, kettle calcination, tube milling, mixing, feeding and processing, etc. To that end, the Laboratory will provide as much assistance as possible.

It is recognized that in wallboard manufacture, the quality of the paper is very important; and Messrs. Burkhart, Hart, and Haworth are working very hard on these problems. Much has been accomplished but much more must be done, especially in the area of finish of the heavy paper.

In order to have a target for 1962, I would like to suggest the following goals:

1. Reduction in total overall complaint adjustments of 20% or about \$15,000 including policy.

CONCLUSION

1962 COST SAVINGS SUMMARY

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>INVESTMENT</u>	<u>SAVINGS</u>
1	W/B Machine Speeds	\$ 29,000.00	\$ 47,000.00
2	Weight Control	18,330.00	23,000.00
3	Barge Paper Shipments	<u>58,000.00</u>	<u>57,205.00</u>
	TOTALS	\$105,330.00	\$127,305.00

PREMIUM BASED ON \$100.00 PAYROLL

	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>1961</u>
<u>ACME</u>						
Retro-Standard	\$2.91	\$2.84	\$2.22	\$1.71	\$1.73	\$1.70
Actual	1.81	1.63	1.04			
<u>AKRON</u>						
Retro-Standard	3.29	3.53	3.08	2.90	2.45	2.06
Actual	2.00	2.66	2.49			
<u>BLUE RAPIDS</u>						
Retro-Standard	2.15	2.17	2.09	2.14	2.11	1.41
Actual	1.05	1.14	0.00			
<u>FORT DODGE</u>						
Retro-Standard	1.07	1.10	0.56	0.80	0.79	0.70
Actual	0.95	0.41	0.00			
<u>GRAND RAPIDS</u>						
Retro-Standard	1.47	1.40	1.40	1.40	1.40	1.54
Actual	1.24	1.17	1.39			
<u>PRYOR</u>						
Retro-Standard	2.98	2.24	2.13	1.81	1.99	2.09
Actual	2.07	1.07	2.03			
<u>SIGURD</u>						
Retro-Standard	2.77	1.38	1.48	1.38	1.11	0.90
Actual	2.28	0.90	1.05			
<u>TOTAL PLANTS</u>						
Retro-Standard	2.29	2.14	1.83	1.68	1.53	1.41
Total	1.61	1.40	1.23	1.05		

Retro-Standard Rate based on 20% Manual Rates / 80% experience. Experience of 3 years determine rating, i.e. 1958, 1959 and 1960 establish 1962 retro.

1959 Plant breakdown will not be completed until 3/1/1962.

1958, \$0.00 Actual Blue Rapids and Fort Dodge due to return of reserves carried over when Bestwall established own premium.

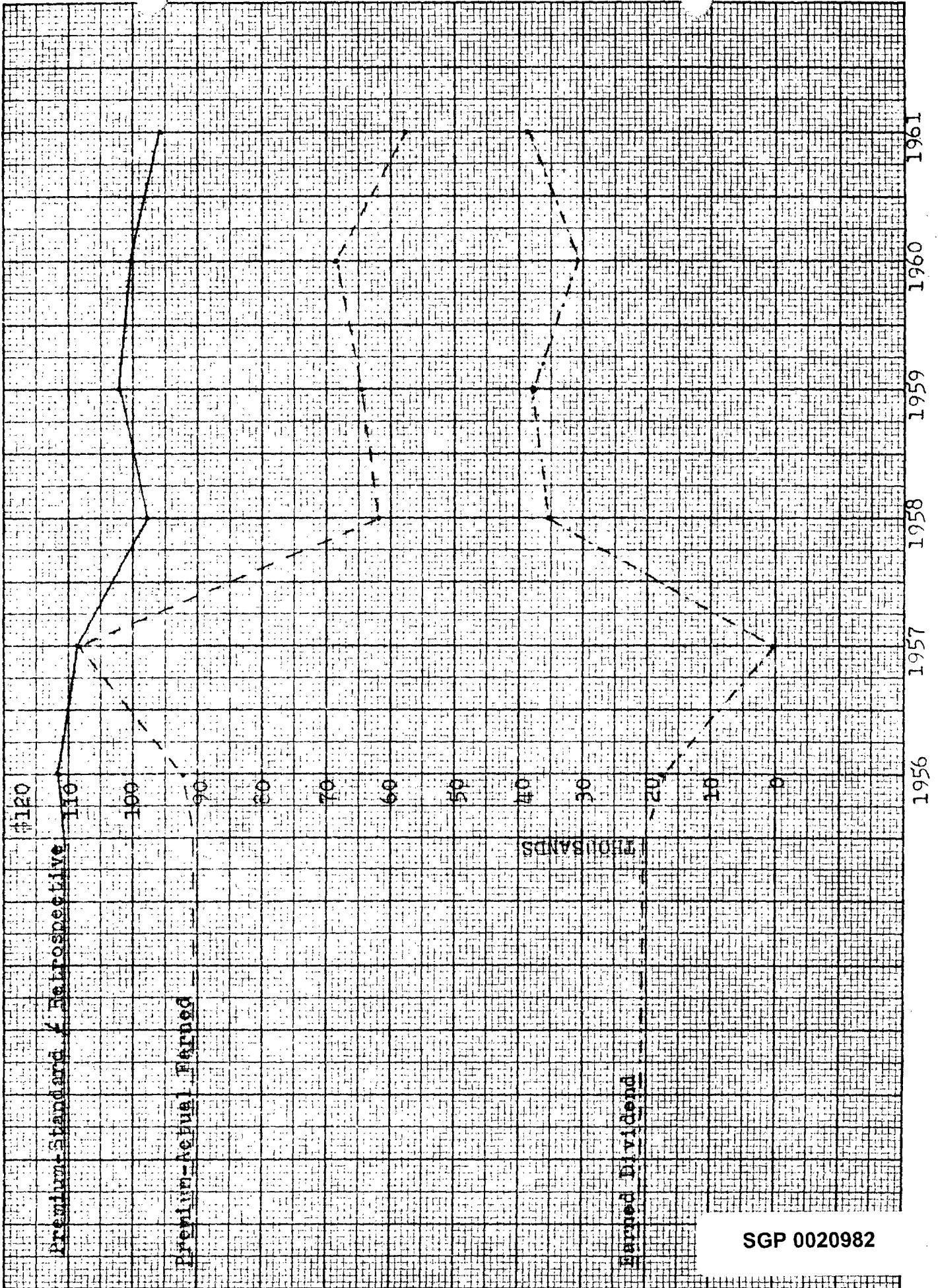
Grand Rapids \$1.40 is minimum. 9% increase in manual rates effective 1961.

MONTH OF NOVEMBER 1961 - ACTUAL - VS - STANDARD

	<u>Machine Hours Operated</u>	<u>Standard Crew</u>	<u>Standard Man Hours</u>	<u>Actual Dir.Lab.Hrs. Nov. 1961</u>	<u>Hours Over Under</u>	<u>Crew Over Under</u>
<u>ACME</u>						
Other	444.25	16.0	7108			
Sheathing	35.75	21.0	751	9258	1399	2.9 Men
	<u>480.00</u>		<u>7859</u>			
<u>AKRON</u>						
Other	523	15.3	8018			
Lath - Long Lath	91.25	16.3	1490	9717	207	.3 Men
	<u>614.25</u>		<u>9508</u>			
<u>BLUE RAPIDS</u>						
Other	256	10.0	2560			
Sheathing	56	11.0	616	2984	192	.6 Men
	<u>312</u>		<u>3176</u>			
<u>FORT DODGE</u>						
Other	441.75	17.67	7806			
Lath & Pinhole Lath	97.25	20.67	2010			
Long Lath	11.5	19.67	226	10545	503	.9 Men
	<u>550.5</u>		<u>10042</u>			
<u>GRAND RAPIDS</u>						
Other	395.75	15.0	5936			
Formboard & Lath	68	16.0	1088	6990	34	.1 Men
	<u>463.75</u>		<u>7024</u>			
<u>SIGURD</u>						
Other	503.75	11.67	5879			
Lath & 2' backer	84.25	14.67	1236	7909	794	1.3 Men
	<u>588.0</u>		<u>7115</u>			
<u>BRUNSWICK</u>						
Other	445.25	17.3	7716			
Sheathing	21.75	21.3	464			
Lath	125.75	19.3	2431			
Tile Board	15.25	20.3	310	12069	1148	1.9 Men
	<u>608</u>		<u>10921</u>			
<u>NEW ORLEANS</u>						
Reg. Board	224.0	12.0	2688	3575	887	3.9 Men

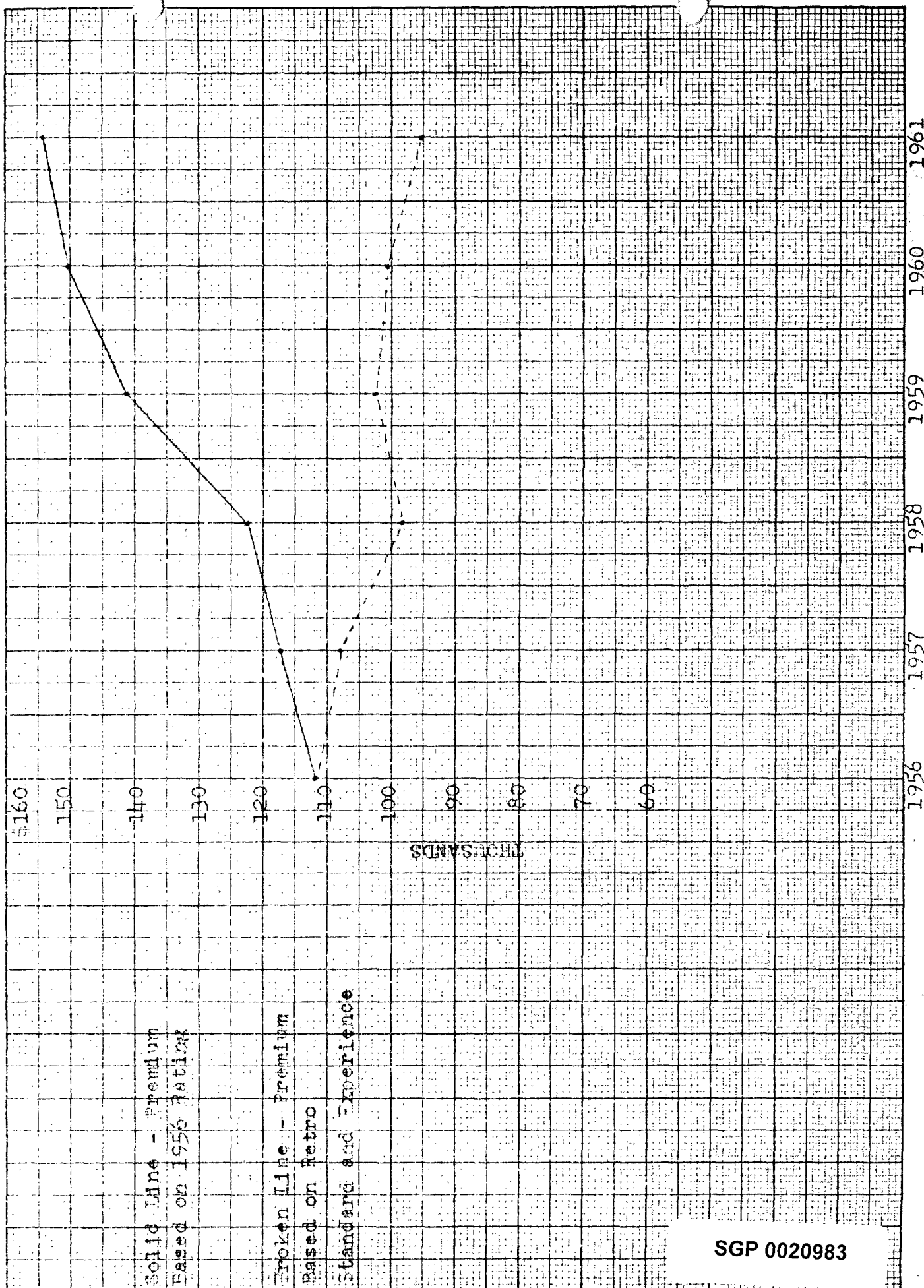
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ACTUAL PREMIUMS AND DIVIDENDS
ALL PLANTS - THEORETICAL EXCEPTED (PROVINCIAL RATING)



PROJECTED DEBT - BASED ON 1956 RETRO-STANDARD

PART ON THE \$100 PAYROLL



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