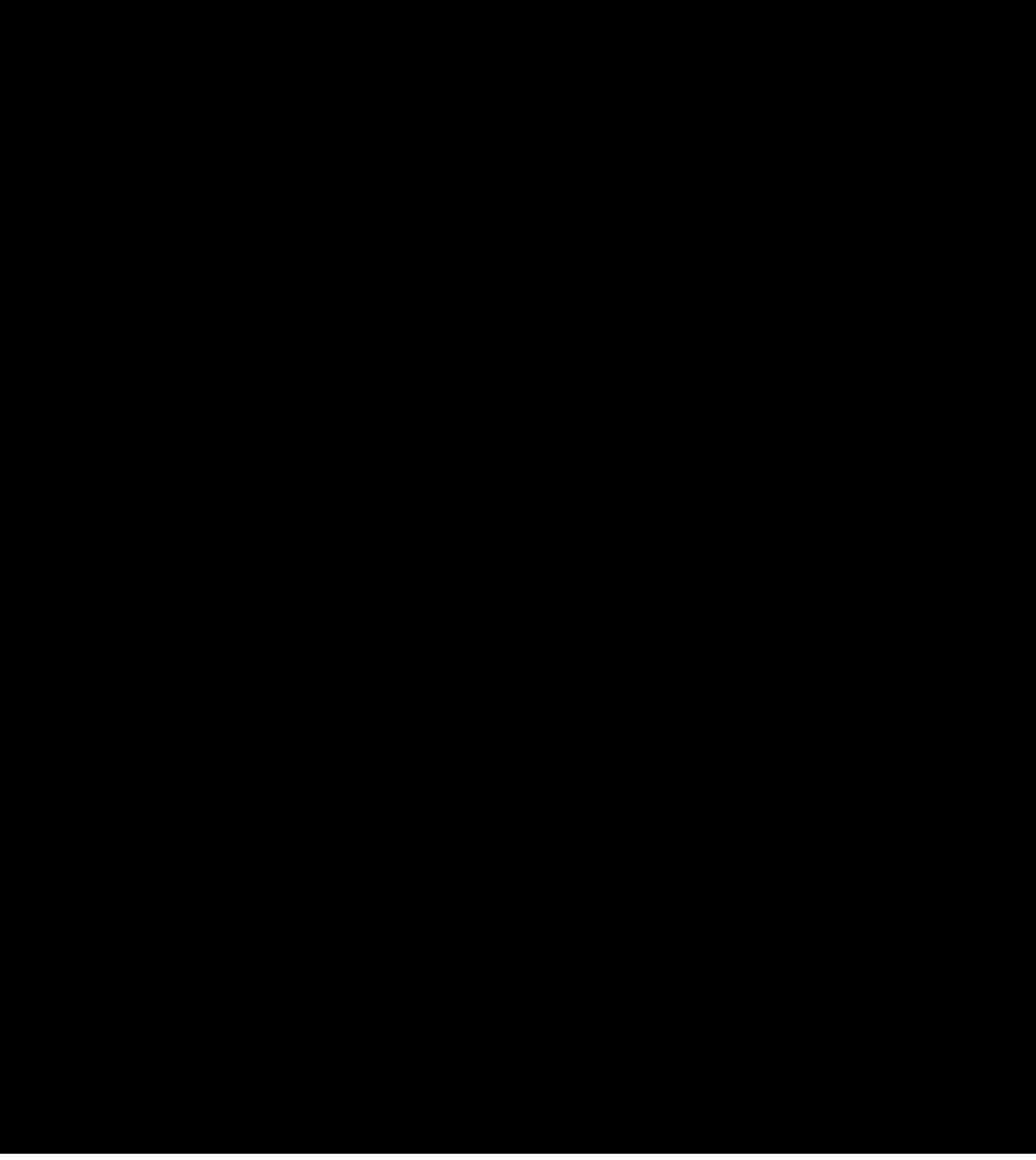




*refuse to attend for Dr. Kuperberg - NOCOT = 8/10/1*  
*Examiner by person*  
JAN 16 1953

Cleveland

Jan. 16, 1953

Mr. A. D. Duncan

1952 RESEARCH REPORT  
1953 BUDGET

Enclosed is the consolidated report of the Paint and Varnish Division Laboratories for 1952 with a brief review of the problems and progress for the year, as well as the estimated research budget and our plans for 1953.

We have made definite progress in regard to the patent situation this year and I would like to suggest the patent department be expanded so that Mr. Christensen could spend more time with us. As the technology of a given industry advances it is logical to expect patent work will also increase.

The formation of a polyester group under Walter Maker is a new method of approach to obtaining specialized industrial business. It is too early to report, but it looks as though this method will afford a means of expanding our business in new fields with the same degree of success that the smaller companies have in the marketing of specialized finishes.

Plans for the coming year are covered under the respective research problems, as well as a brief summary of last year's accomplishments and work.

The Operating Manual for the laboratory was started this year but not completed and further study will be given to it in the coming year.

We appreciate very much the help the executives and respective department's have given us as we definitely feel any results which are obtained are only accomplished through teamwork.

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E. Schulte

c/c Mr. Dwight P. Joyce  
Mr. P. E. Sprague  
Mr. B. W. Maxey  
Mr. G. H. Mutersbaugh

GLD37077

visit them in September. We were pleased to learn from Mr. Herzog of the interest which is being shown in Satin in these countries and the success these companies are having in the marketing of Satin and also their new and novel approach. Apparently Becker train all their dealers in the proper use of their products before they allow them to handle the product.

Ripolin of England also expressed a decided interest in Satin which was good to hear since we apparently have not had too much success with Ripolin, France. We understand Glazebrooks plan to start manufacturing Satin early in 1953.

According to Mr. Herzog's trip notes on vinyl acetate emulsion paints there is still a great deal of room for improvement. Some of the success may be due to differences in home structure. There is always the question of how much influence would butadiene-styrene type of latex have had on the growth of vinyl acetate paints if it had been available.

In our own experimental work, particularly on exterior emulsions, we are not overlooking any possibility in regard to the use of any of the vinyl acetate polymers.

It might be well to point out again that the latex used in our present Satin is somewhat similar to a varnish in that it takes up oxygen and hardens on drying and thus its resistance to greases and solvents improves with age as well as adhesion. It also converts from a thermoplastic to a hard film similar to varnish. On the other hand, polyvinyl acetate and polyvinyl chloride are saturated polymers which are not subject to oxidation and consequently if they are thermoplastic they retain their thermoplasticity and if they are soluble in solvents they retain their solubility. A plasticizer is necessary for flexibility and the plasticizer may or may not have a tendency to sweat out in the film. This is the reason the emulsion laboratory believes an internal plasticized polymer of polyvinyl acetate or polyvinyl chloride would be more suitable.

In regard to important developments in the past year, possibly the most outstanding developments in the trade sales line would be the alkyd flat, a new house paint tint base, and an improved house paint primer through the use of rutile pigment as well as conversion of our Speed-Wall Semi-Gloss to an alkyd base. In the emulsion line, the expansion of Satin and shortage of latex took a great deal of laboratory work. We are now in the introductory stage of Spred Gloss and exposure tests are out on various types of exterior emulsions.

In the industrial field possibly one of our major accomplishments this year has been transferring our formulations on chemical resistant modified silicone, Nubelon S, Glidpol (polyesters) into the manufacturing stage and into utilization in volume by customers. The acceptance and use of Nubelon S by Martin Steel indicates the practicability of the formulation.

#### 47-11 BAKELITE CONTRACT cont'd

uses of vinyl who could work both with our laboratory people and with our sales people to promote their sale.

New resins may not necessarily reach their greatest consumption in regular coating fields but very often seek new fields and which offer an opportunity for expansion.

From interviewing these candidates, most of whom have been connected with Carbide and Carbon at one time, it was learned specialized outfits have the greatest success in the development of vinyl finishes. It was also learned that these outfits depend a great deal upon the Mellon Institute for guidance. Therefore, I believe it would be advisable we make periodic trips to Mellon Institute and contact them more frequently on our problems. If we do this on definite time periods the program will be carried through. To start this Mr. Nusser has requested permission to go to Mellon Institute in January and arrangements are being made. I would also suggest it might be advisable to have Dr. Quarles of Mellon address one of our future sales meetings.

|                   |              |          |
|-------------------|--------------|----------|
| 47-12 TRADE SALES | \$ 14,651.60 | \$15,000 |
|-------------------|--------------|----------|

HOUSE PAINT - Since rutile is now available our Base Coat has been improved in hiding and in durability. It has been definitely shown that rutile in the primer materially improves the durability of the top coats. This has also given us increased hiding (approximately 10 per cent).

After four years of experimentation and exterior tests, our tint base is now based on rutile titanium pigment along with lead and

47-12 TRADE SALES cont'd

zinc. This has proven to hold color much better than our previous combination and also has better hiding, approximately 40 per cent. Color retention is particularly important since tinted house paints are being used much more widely than they had been in previous years. Our difficulty in Dallas with the spotting of gray Endurance was overcome with the new rutile tint base.

In regard to exterior paint, it has been desirable to reduce the chalking tendencies of our Y-1800 and for this purpose 10 per cent of rutile was introduced into the formula to retard the chalking of the anatase titanium.

The Armstrong Company introduced a low luster house paint last year and our exposure tests show that it is not as durable as our tints, either in color retention or in film integrity.

In regard to our fumeproof Y-1850 there has been a great deal of discussion in the past because we have had some lead drier present in the formula. During the year it was changed to eliminate the lead entirely so as to have maximum fume resistant properties.

It is hoped that the improvements we have made in house paint will help to overcome the decrease in volume, particularly since house paint is a good profit item now where in former years it has been a low profit item. As a matter of information we have over 200 exposure tests out on House Paint.

Treated soya oil has continued to be used in our formulations.

Based on our 10 months production period it looks as though we have saved about \$46,000 by the use of our own treated soya bean oil.

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