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INCORPORATED

WILMINGTON DELAWARE 19898

CHEMICALS AND PIGMENTS DEPARTMENT

May 11 1983

TO B H GARTH
B-6237

FROM G A SCHLENK *GA*
B-13255

A J EDISON *AE*
B-9248

COST-BY-GRADE UPDATE FOR QA PIGMENTS - 1982

In response to your needs for cost-by-grade information for QA pigments, an update of previous studies has been carried out to estimate 1982 grade costs for the QA product line. The data collected include 1982 sales volume, selling price, and variable and fixed cost of manufacture for each grade and group averages.

The quantitative estimates for the various classes of QA products are summarized in Exhibit II, where Exhibit I portrays productions and relationships among the various crude, semi-finishing and finishing production cost centers. The key to these Exhibits is

Exhibit I - Production and Process Relationships in QA Manufacturing - 1982

Exhibit II - 1982 Manufacturing Cost-By-Grade - Quinacridone Pigments

An effort to update the GCM cost-by-grade computer model would be costly. About 3-5 man-months of effort, evenly divided between Wilmington and the two plants would be needed for a special study or "one-time basis." In addition, technical and clerical effort to maintain the GCM process data base requires about two man-months per year. Therefore, we are reluctant to allocate resources to restart a GCM program. The present accounting system and special studies such as this one will hopefully satisfy your needs for product cost data.

N37143

Study Bases

The following previous studies and business records served as bases for estimating 1982 QA cost-by-grade

- Sales volume and selling price by grade were extracted from the Colored Pigments Sales and Transfers Summary Report No 34
- Newport and Newark plant cost sheets were used to collect group variable and fixed costs and to deduce the material flows shown as Exhibit I
- The No 1 - 1980 QA Cost-By-Grade Forecast prepared by R R Osgood (2/18/80) was used for existing products as an estimating tool for the current study
- Cost-by-grade for new products (RT-859-D, RT-343-D YT-915-D) was estimated based on current or anticipated processes and the writer's judgment of plant performance

In addition, production volumes shown in Exhibit I represent equilibrium conditions, i e , no inventory changes of in-process or finished products Since there was a concerted inventory reduction program in 1982, actual productions do not agree with those shown in Exhibit I

Results and Observations

Exhibit II provides the cost-by-grade data for Colored Pigments Division business planning The data may be useful in long-range product line or pricing strategy However where excess production capacity exists fixed cost comparisons by grade may not be meaningful, especially when evaluating spot sale opportunities Fixed costs represent comparative labor and investment intensiveness between products and may not be a good short-run decision-making tool

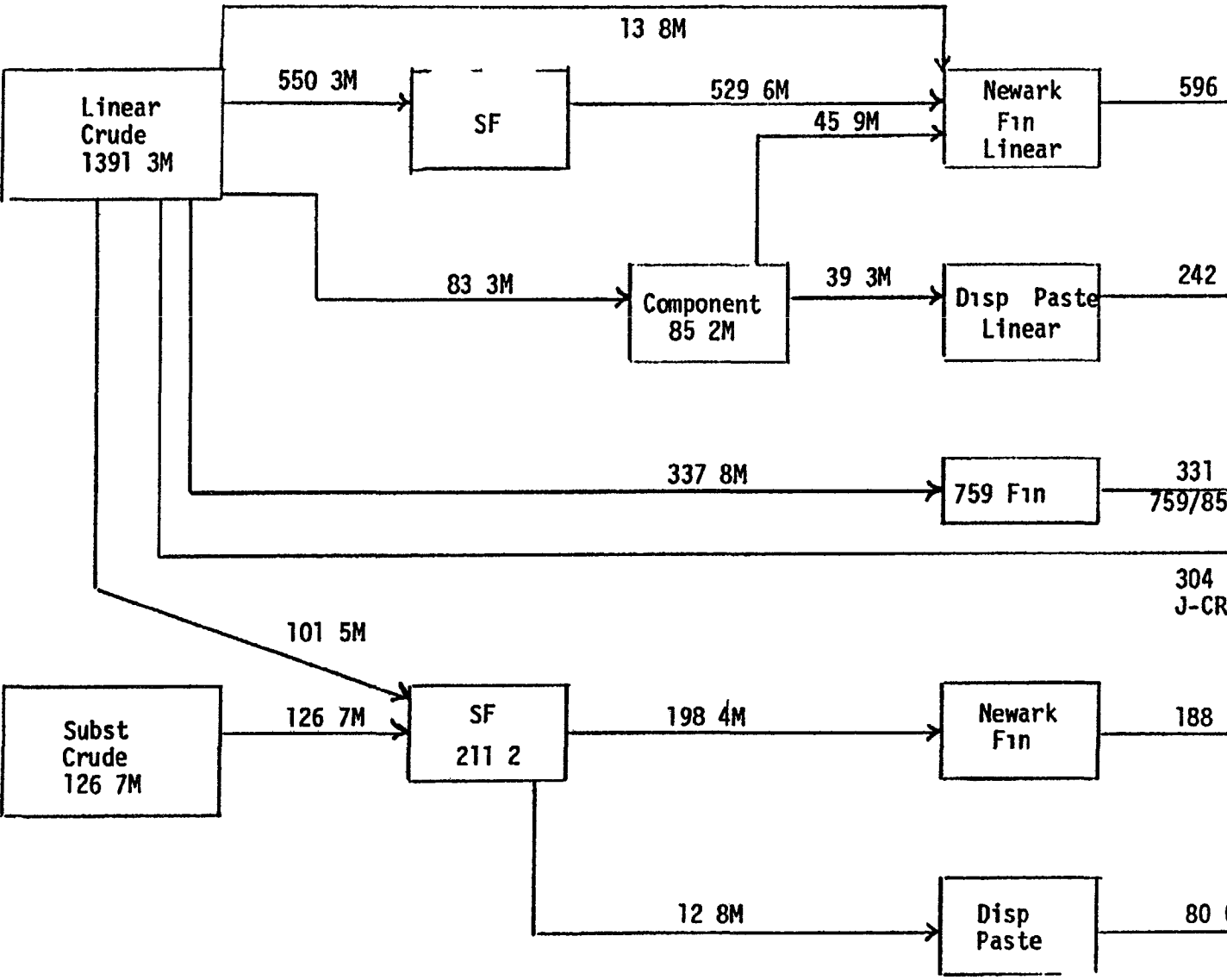
Because the data are extrapolations of past studies and because changes have occurred in our accounting system, product mix and plant capacity utilization, some comparisons of costs between members of different grade classes, e g , RW-767-P QA Dispersed Paste and RT-790-D Linear QA Finished Product, may not be valid Such comparisons would be better made in a specific study of these two products and processes Nevertheless the writers feel that grade costs reported here are within 5-10% of those that would be obtained from a costly updated GCM program

Even in cases where facilities are operating near capacity a more detailed examination of the problem of optimizing product mix must be made Many analysts suggest a dollars profit per limiting machine hour comparison as a more meaningful decision tool than cost per pound or profit per pound

If Colored Pigments feels that QA offers real volume and profit growth potential, an analysis by Linear Programming or some other operations research procedure may be in order. Such programs have been prepared for TiO_2 ore planning and Planning and Intelligence can develop a QA model if Colored Pigments sees a need and is willing to support the development cost. Such a model could indicate optimal product mixes for improved profitability or market share.

GASchlenk/ktb
Attachment
5/11/83
(0061K)

EXHIBIT I - PRODUCTION AND PROCESS RELATIONSHIPS IN QA MANUFACTURING -



GASchlenk/ktb
5/9/83

EXHIBIT II

1982 MANUFACTURING COST-BY-GRADE - QUINACRIDONE PIGMENTS

	1982 Sales Volume M lb	1982 Selling Price \$/lb	1982 Cost of Manufacture		
			Variable \$/lb	Fixed, \$/lb	Total, \$/lb
<u>QA Crudes for Sale</u>					
RT-231-D					
RT-236-D	304 6	10 43	4 44	3 17	7 61
RT-238-D					
<u>Linear QA Finished Products</u>					
RT-201-D	43 2	19 67	5 80	6 42	12 22
RT-209-D	157 6	25 77	4 22	9 37	13 59
RT-733-D	10 2	6 77	4 81	17 21	22 02
RT-742-D	31 6	23 04	4 66	17 24	21 90
RT-759-D	315 6	19 77	4 60	4 62	9 22
RT-763-P	8 7	19 23	4 49	7 50	11 99
RT-790-D	35 2	21 99	5 53	7 32	12 85
RT-791-D	62 1	20 33	5 69	8 42	14 11
RT-792-D	115 4	25 12	4 06	10 02	14 08
RT-795-D	56 2	20 21	5 80	7 88	13 68
RT-796-D	101 1	21 16	5 64	6 77	12 41
RT-859-D	16 0	23 00	4 78	5 69	10 47
RT-887-D	67 4	21 08	5 68	7 40	13 08
RT-899-D	19 1	21 39	5 19	9 26	14 45
RT-959-D	0 02	17 13	4 60	4 62	9 22
YT-815-D	12 2	29 23	6 97	10 74	17 71
YT-823-D	26 8	24 89	2 86	9 19	12 05
YT-915-D	0 2	30 91	12 16	11 59	23 75
Group Avg	1078 6	21 83	4 85	7 62	12 47
<u>Substituted QA Finished Products</u>					
RT-203-D	01	33 60	12 69	18 95	31 64
RT-218-D	0 4	34 22	7 57	15 95	23 52
RT-229-D	5 4	27 27	7 99	18 32	26 31
RT-233-D	85 6	26 62	7 47	17 02	24 49
RT-235-D	3 7	29 33	9 47	15 11	24 58
RT-243-D	84 8	27 70	8 30	14 82	23 12
RT-273-P	0 3	25 89	7 26	13 97	21 23
RT-343-D	06	34 35	8 45	18 73	27 18
RT-787-D	7 9	26 40	7 15	11 47	18 62
Group Avg	188 2	27 19	7 88	15 79	23 67
<u>QA Dispersed Pastes</u>					
RW-252-P	80 0	5 70	1 42	2 31	3 73
RW-767-P	30 3	5 34	1 00	1 02	2 02
RW-768-P	211 9	5 46	0 98	1 03	3 45
Group Avg	322 2	5 51	1 09	1 34	2 43

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