

COLORED PIGMENTS - 1982 BUSINESS PLAN

R&D IMPLEMENTATION PLAN

STATUS REVIEW

JANUARY 29, 1982

R. S. WEIS

R&D IMPLEMENTATION PLAN

- MANPOWER ACTUAL vs FORECAST
- EXPENSE ACTUAL vs FORECAST
- 4Q81 ACCOMPLISHMENTS / 1Q82 OBJECTIVES
 - NEWARK
 - NEWPORT
 - JACKSON LABORATORY
- NEW PRODUCT DEVELOPMENT ACTIVITIES

RSW-1

R&D MANPOWER

<u>PERSONNEL</u>	<u>1/1/81 ACTUAL</u>	<u>1/1/82 FORECAST</u>	<u>1/1/82 ACTUAL</u>	<u>4/1/82 FORECAST</u>	<u>1/1/83 FORECAST</u>
EXEMPT	63	52	50	47	46
NON-EXEMPT	57	57	54	51	50
WAGEROLL	<u>19</u>	<u>16</u>	<u>17</u>	<u>17</u>	<u>16</u>
TOTAL	139	125	121	115	112
<u>CUMULATIVE REDUCTION</u>			13%		20%

RSW-2

R&D EXPENSE*
(\$ MM)

<u>SITE</u>	<u>1981 BUDGET</u>	<u>1981 ACTUAL</u>	<u>1982 BUDGET</u>
NEWARK	3.3	2.9	3.2
NEWPORT	3.0	2.4	2.7
JACKSON LAB	3.8	3.4	3.4
TOTAL	10.1	8.7	9.3

*EXCLUDES PROJECT ENGINEERING

RSW-3

NEWARK R&D PLAN

<u>PERSONNEL</u>	<u>1/1/82 FORECAST</u>	<u>1/1/82 ACTUAL</u>	<u>4/1/82 FORECAST</u>
EXEMPT			
PROCESS	10	10	10
CONT. LAB.	6	6	6
SUPERVISION	2	2	2
TOTAL	18	18	18
NON-EXEMPT / WAGEROLL	29	29	29
TOTAL	47	47	47

4Q81 ACCOMPLISHMENTS

- ESTABLISHED PROCESS IMPROVEMENT GROUP
- DEVELOPED PROCESS DOCUMENTATION SCHEDULE
- COMPLETED AUDIT OF TSCA INVENTORY
- SUBMITTED MEMBRANE PRESS PROJECT

1Q82 OBJECTIVES

- ACHIEVE PROCESS IMPROVEMENT OBJECTIVES
- COMPLETE BASIC DATA FOR WASTE TREATMENT.

RSW-4

PROCESS IMPROVEMENT PROGRAM

OBJECTIVES

- IMPROVE PROCESS TECHNOLOGY AND OPERATING FACILITIES TO ACHIEVE >90% BLENDABLE QUALITY WITHIN EACH CAMPAIGN OF A BATCH PROCESS AND >95% "OK STRAIGHT" IN A CONTINUOUS UNIT PROCESS.
- COMPLETE DOCUMENTATION OF EACH PROCESS BY 12/82.
- COMPLETE INSTALLATION OF IMPROVEMENT FACILITIES BY 6/84.

DOCUMENTATION SCHEDULE

	<u>1Q</u>	<u>2Q</u>	<u>3Q</u>	<u>4Q</u>	<u>TOTAL</u>
NEWARK	7	29	30	37	103
NEWPORT	5	4	9	10	28
TOTAL	<u>12</u>	<u>33</u>	<u>39</u>	<u>47</u>	<u>131</u>

RSW-5

NEWPORT R&D PLAN

<u>PERSONNEL</u>	<u>1/1/82 FORECAST</u>	<u>1/1/82 ACTUAL</u>	<u>4/1/82 FORECAST</u>
EXEMPT			
PROCESS	9	9	9
PROJ. ENG.	3	0	0
CONT. LAB.	2	2	2
SUPERVISION	2	2	2
TOTAL	16	13	13
NON-EXEMPT / WAGEROLL	28	26	26
TOTAL	44	39	39

4Q81 ACCOMPLISHMENTS

- REASSIGNED PROJECT ENGINEERING TO PRODUCTION
- ESTABLISHED PROCESS IMPROVEMENT GROUP
- DEVELOPED PROCESS DOCUMENTATION SCHEDULE
- STARTED UP NEW ECONOMIZER

1Q82 OBJECTIVES

- ACHIEVE PROCESS IMPROVEMENT OBJECTIVES

RSW-6

JACKSON LABORATORY PLAN

	<u>1/1/82 FORECAST</u>	<u>1/1/82 ACTUAL</u>	<u>4/1/82 FORECAST</u>
EXEMPT			
DIRECT	13	14	11
SUPPORT	2	2	2
SUPERVISION	3	3	3
TOTAL	<u>18</u>	<u>19</u>	<u>16</u>
NON-EXEMPT	16	16	13
TOTAL	<u>34</u>	<u>35</u>	<u>29</u>

4Q 81 ACCOMPLISHMENTS

- DEVELOPED PROCESS DOCUMENTATION SCHEDULE
- MET TIMETABLE FOR NEW PRODUCT DEVELOPMENTS
- ASSISTED LEGAL WITH KROLOR® SUIT IN JAPAN

1Q82 OBJECTIVES

- CONDUCT CONFIRMING PLANT TEST FOR NEW DEEP GOLD QA (XYT-915-D)
- NEGOTIATE ANILINOACRIDONE SUPPLY CONTRACT WITH BLACKMAN-UHLER

RSW-7

NEW PRODUCT DEVELOPMENT ACTIVITIES

<u>PROGRAM</u>	<u>EARNINGS CONTRIBUTION '82-'86 (\$ MM)</u>	<u>TIMING</u>	<u>RESOURCES</u>		<u>PROBABILITY OF SUCCESS</u>
			<u>EFFORT (\$ MM)</u>	<u>INVEST. (\$ MM)</u>	
QA FOR HIGH SOLIDS ENAMELS	4.4	4Q82	0.8	0.6	HIGH - DEMON. IN SEMI-WORKS

4Q81 ACCOMPLISHMENTS

- SUBMITTED SAMPLES OF XRT-343-D TO 18 CUSTOMERS WORLDWIDE
- COMPLETED BASIC DATA FOR ACETONE MILLING PROJECT
- COMPLETED PLANT TEST OF PREMILLING STEP OF XRT-343-D PROCESS

1Q82 OBJECTIVES

- DEFER PLANT TEST OF ACETONE MILLING STEP OF XRT-343-D PROCESS
- DEVELOP SCOPE AND ESTIMATE FOR INTERIM ACETONE MILLING FACILITIES
- DEVELOP THRU THE SEMI-WORKS STAGE AN ALTERNATE AQUEOUS MILLING PROCESS FOR LOW RHEOLOGY QA'S

RSW-8

QA FOR HIGH SOLIDS ENAMELS
ALTERNATE PRODUCTION FACILITIES

	ACETONE PROCESS		AQUEOUS PROCESS
	PERMANENT	INTERIM	
INVESTMENT, \$M	600	300	100
CAPACITY, M LBS. / YR.	300	150	300
NUMBER MILLS	2	1	2
ACETONE RECOVERY	DU PONT	CONTRACTOR	NONE
COST	BASE	HIGHER	LOWER
PRODUCTS	XRT-343-D XRT-353-D	XRT-343-D XRT-353-D	XRT-343-D
QUALITY	EXCELLENT	EXCELLENT	GOOD
RISK	LOW	MEDIUM	HIGH

RSW-9

NEW PRODUCT DEVELOPMENT ACTIVITIES

<u>PROGRAM</u>	<u>EARNINGS CONTRIBUTION '82-'86 (\$ MM)</u>	<u>TIMING</u>	<u>RESOURCES</u>		<u>PROBABILITY OF SUCCESS</u>
			<u>EFFORT (\$ MM)</u>	<u>INVEST. (\$ MM)</u>	
EASY DISPERSING CPC FOR PLASTICS	2.0	1Q82	0.1	0	HIGH - AMPACET APPROVED QUAL- ITY.

4Q81 ACCOMPLISHMENTS

- COMPLETED PLANT TEST OF HIGHER RESIN CONTENT (45%) CPC BLUE

1Q82 OBJECTIVES

- COMMERCIALIZE XBP-565-D, A RESINATED CPC BLUE, BY SHIPPING 8.5M LBS. TO AMPACET.
- PREPARE SAMPLES FOR OTHER PLASTICS CUSTOMERS.

RSW-10

NEW PRODUCT DEVELOPMENT ACTIVITIES

<u>PROGRAM</u>	<u>EARNINGS CONTRIBUTION '82-'86 (\$ MM)</u>	<u>TIMING</u>	<u>RESOURCES</u>		<u>PROBABILITY OF SUCCESS</u>
			<u>EFFORT (\$ MM)</u>	<u>INVEST. (\$ MM)</u>	
DALAMAR® HIGH SOLIDS DISPERSIONS FOR TRADE SALES PAINTS	2.4	2Q82	0.2	0.2	HIGH - COMMER- CIALIZED FIVE PRODUCTS

4Q81 ACCOMPLISHMENTS

- COMPLETED PLANT TEST OF YW-958-P.

1Q82 OBJECTIVES

- RUN CONFIRMING PLANT TEST OF YW-911-P
- DEVELOP ALTERNATE PRODUCTION CAPABILITY

RSW-II

PROCESS REPRODUCIBILITY IMPROVEMENTS

PRODUCT	1982 SALES (M LBS.)	% OK STRAIGHT			PROCESS IMPROVEMENTS - DATE
		1979	1980	1981	
QA					
RT-201-D	43	65	76	89	IMPROVED FLOW, ΔT, AND ACID CON- CENTRATION CONTROL - 1980
RT-887-D	129	73	81	85	
RT-233-D	119	71	11	83	DEFINED DIMETHYL QA/QA RATIOS; IMPROVED CYCLE TIME CONTROL - 1980
RT-791-D	111	68	54	82	IDENTIFIED CRITICAL CPC CONTENT; IMPROVED CYCLE TIME CONTROL - 1980
RT-243-D	78	75	56	89	IMPROVED CYCLE TIME CONTROL; RE- ESTABLISHED STANDARD - 1980
RT-759-D	386	90	86	95	IMPROVED DOWTHERM QUALITY - 1979; DEFINED PROCESS VARIABLES - 1980
INORGANICS					
YE-698-D	2743	61	57	85 (91)	IMPLEMENTED TIGHTER PROCESS CONTROL & IN-PROCESS TESTING - 1980, 1981
DALAMAR®					
YT-858-D	76	34	64	80 (96)	DEFINED CRITICAL VARIABLES - 1980
YT-820-D	42	47	59	75 (100)	ESTABLISHED RAW MATERIAL SPECIFICATIONS - 1981

() = LAST SIX MONTHS

RSW-12