



E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

WILMINGTON, DELAWARE 19898

CHEMICALS AND PIGMENTS DEPARTMENT
JACKSON LABORATORY

CC: S. W. Severance, B-6237
J. S. Thackrah, B-6237
P. A. Hopkins, B-17249-4
R. S. Weis, B-17202
F. B. Bredimus, C&P, Newport
J. M. Loether, C&P, Newark

April 7, 1982

J. P. Glas, B-17206
G. C. Tunis, B-6237
B. F. Kennedy, B-17249-2

COLORED PIGMENTS R&D:

PROCESS IMPROVEMENT/DOCUMENTATION

ACCOMPLISHMENT REVIEW

Attached are charts used at the review held on March 30.

Fluorid



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P. A. Wriede

PAW:jla

Attachment

P.a. wriede

NEWARK

PROGRAM REVIEW

D. GRAY 3/30/82

DUP050145444

N 25851.01

REVIEW ITEMS

- BACKGROUND INFORMATION
- DOCUMENTATION
- FACILITIES IMPROVEMENT

PRODUCTION TRAIN

BATCH

MAKING

SYNTHESIS/TREATMENT

ISOLATE/WASH

DRY

FINISHING

GRIND

PACK OUT

EVALUATE

FORMULATE MIX

BLEND

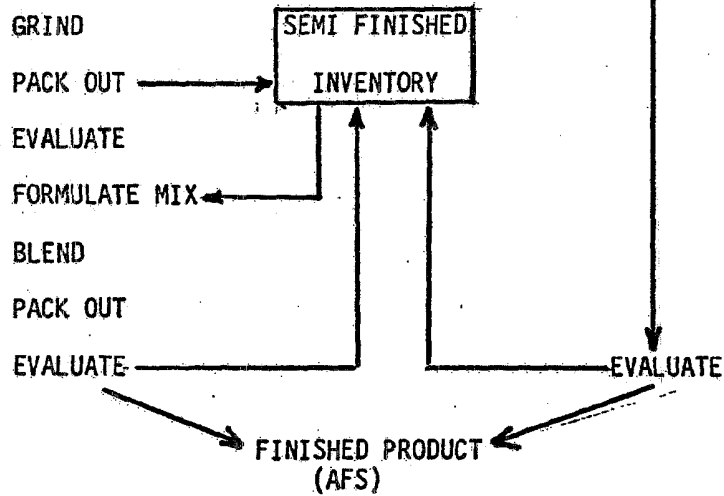
PACK OUT

EVALUATE

CONTINUOUS

MAKING

FINISHING



PROCESS DOCUMENTATION

PROBLEM

- MASTER TECHNICAL FILE INADEQUATE
- BATCH CARDS ARE CURRENT - NEED UPGRADING
 - EXPAND OPERATING INSTRUCTIONS
 - REQUIRES SKILLED OPERATOR
 - DEFINE CRITICAL PROCESS STEPS

PLANT ASSISTANCE

AREA CHEMIST/ENGINEER

APPROACH

- DOCUMENT CURRENT TECHNOLOGY
 - PRINCIPLE; REACTIONS; END USE
 - BASIS - PROCESS NOTES; PLANT TRIALS; BATCH CARDS
 - EQUIPMENT; MATERIAL OF CONSTRUCTION
 - CHEMICAL HAZARDS
 - BILL OF MATERIALS; SPECS; WASTES; YIELD
 - PROCESS STEPS; OPERATING PARAMETERS/LIMITS
- DRAFT - TECHNICAL AND MANUFACTURING REVIEW
- FINAL - OPERABLE/REPRODUCIBLE TO PROVIDE AFS
- EDIT BATCH CARD

DOCUMENTATION

SCHEDULE/STATUS

• STATUS

	IIQ82		FINAL			TOTAL
	DRAFT	FINAL	II	III	IV	
SCHEDULE	29	7	29	30	37	103
ACTUAL	35	10				

• TECHNOLOGY IMPROVEMENT IDENTIFIED

CYCLE TIME

SOLUTION MAKE UP
WASH TIME
DRYING TIME
CRUDE ACCEPTANCE TEST

RAW MATERIAL SAVINGS

QUALIFY NEW SOURCES

* ELIMINATE CONTAMINATION SOURCES

AZO PIGMENTS

- PRODUCTS

DALAMAR YELLOW

WATCHUNG/BON RED

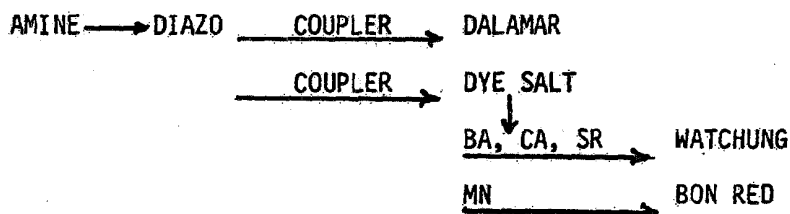
1982
F/C M LBS

613

1248

1861 = 87% OF TOTAL AZO'S

- PROCESS



- CLARIFICATION

CLARIFICATION



- PROGRAM

QUALIFY NEW SOURCE RAW MATERIALS

ELIMINATE CARBON

DULLING IMPURITY

CYCLE TIME/LABOR

YIELD LOSS

FACILITIES UPGRADING

*GRINDING EQUIPMENT

PROCESS CONTROL EQUIPMENT

MATERIAL HANDLING AND PACK OUT

FACILITIES UPGRADING

- CONTINUOUS UNIT F/C 16MM LBS 1982

- 8 WEEK CYCLE

- PROCESS

STRIKE → ISOLATE → DRY → **GRIND** → PACKOUT

GRIND - 3 MILLS; 2 - SALES GRADES: 1 - COMPONENT

- PROGRAM

- REPLACE MILLS

- MAINTENANCE

- DUST SOURCE

- UTILITY

- STATUS

- BAUER MILL - \$110M, 108% NROI

- CHARACTERIZATION TO DATE

- 5 OF 9 PRODUCTS TESTED

- EXCELLENT RESULTS

- COMPLETE TESTING BY 6/82

SUMMARY

- DOCUMENTATION - ON SCHEDULE
- BENEFITS
 - CYCLE TIME REDUCTION
 - RAW MATERIAL SAVINGS
 - ELIMINATE PIT FALLS
 - TIME DELAYS
 - CONTAMINATION
- FACILITIES UPGRADING
 - CONTINUOUS UNIT - GRINDER
 - FINISHING - PACKERS

NEWPORT PRODUCTIVITY IMPROVEMENT PROGRAM

I Q - 82 REVIEW

S. A. DOMBCHIK
3/30/82

DUP050145453

PROCESS IMPROVEMENT/DOCUMENTATION

I Q COMMITMENT - 5

CIRCULATED - 6

APPROVED - 5*

DIANILINODIHYDROTEREPHTHALATE (QA)

N-7643 (RT-899)

N-7531 = QAAF

SUCCINYL SUCCINIC ESTER (QA)

QUINACRIDONEQUINONE (II Q) - ANTICIPATED*

EXCEPTION - 1 (TO APRIL)

N-7102 (RT-790)

PROCESS APPROVED THROUGH SR. SUPR. PRODUCTION

LAST CAMPAIGN YELLOW & INTENSE TINT

NEED TO ASSURE BLENDABILITY TO RT-790

WIDEN SPECIFICATIONS

II Q COMMITMENT - 4 (+ N-7102)

DIHYDRO-QA (QA) - DRAFTED/UNDER REVIEW

N-8510 - DRAFTED; PLANT WORK COMPLETE; LAB

QUINACRIDONEQUINONE - APPROVED*

N-7609-LAB WORK COMPLETE; BEING WRITTEN

(N-8803, N-8700, LC CRUDE EARLY)

SPECIFICATIONS

GOAL: ALL COMPLETE BY YEAR END (117)

I Q GOAL-77 (16/QUARTER RATE)

APPROVED-78

UNDER

REVIEW -13

N-CODE SPECIFICATIONS FOR NEWARK

TOTAL - 32

APPROVED - 21

UNDER

REVIEW - 8

• TWO LEVELS OF ACCEPTABILITY

• TEMPORARY SPECIFICATIONS (IF UNCERTAINTY)

• TEST DEVELOPMENT

• NEW STANDARDS

• INSTRUMENTAL COLOR (N-7500, N-7102/4, N-8510)

FACILITIES - IQ COMMITMENTS

<u>ITEM</u>	<u>BASIC DATA COMMITMENT</u>	<u>STATUS</u>
WATER SOFTENER (QA)	1/82	COMPLETE; TWO UNITS ORDERED
ELIMINATE 903 SCRUBBER	2/82	COMPLETE; < \$10M VS. > \$50M MCN - II Q
DOWTHERM SAVINGS		
- MIXING	3/82	COMPLETE; MCN TBD >200% NROI ON \$50M
- COALESCER	3/82	COMPLETE; MCN TBD ~116% NROI ON \$40M

CPC WASTE STREAM CONTROL

SUMMARY

DELAWARE RECLAMATION PLANT (DRP) START UP FORECASTED FOR
IV Q- 82 USING AIR DRIED SLUDGE FROM CURRENT LAGOON INVENTORIES.

NEWPORT R&D WILL MONITOR SLUDGE TO ASSURE ACCEPTABLE CPC
LEVELS (APRIL)

BIRD TESTING INITIATED (250/500 PPD); RESULTS IN JUNE

I Q 82 CPC LOSS 540 PPD

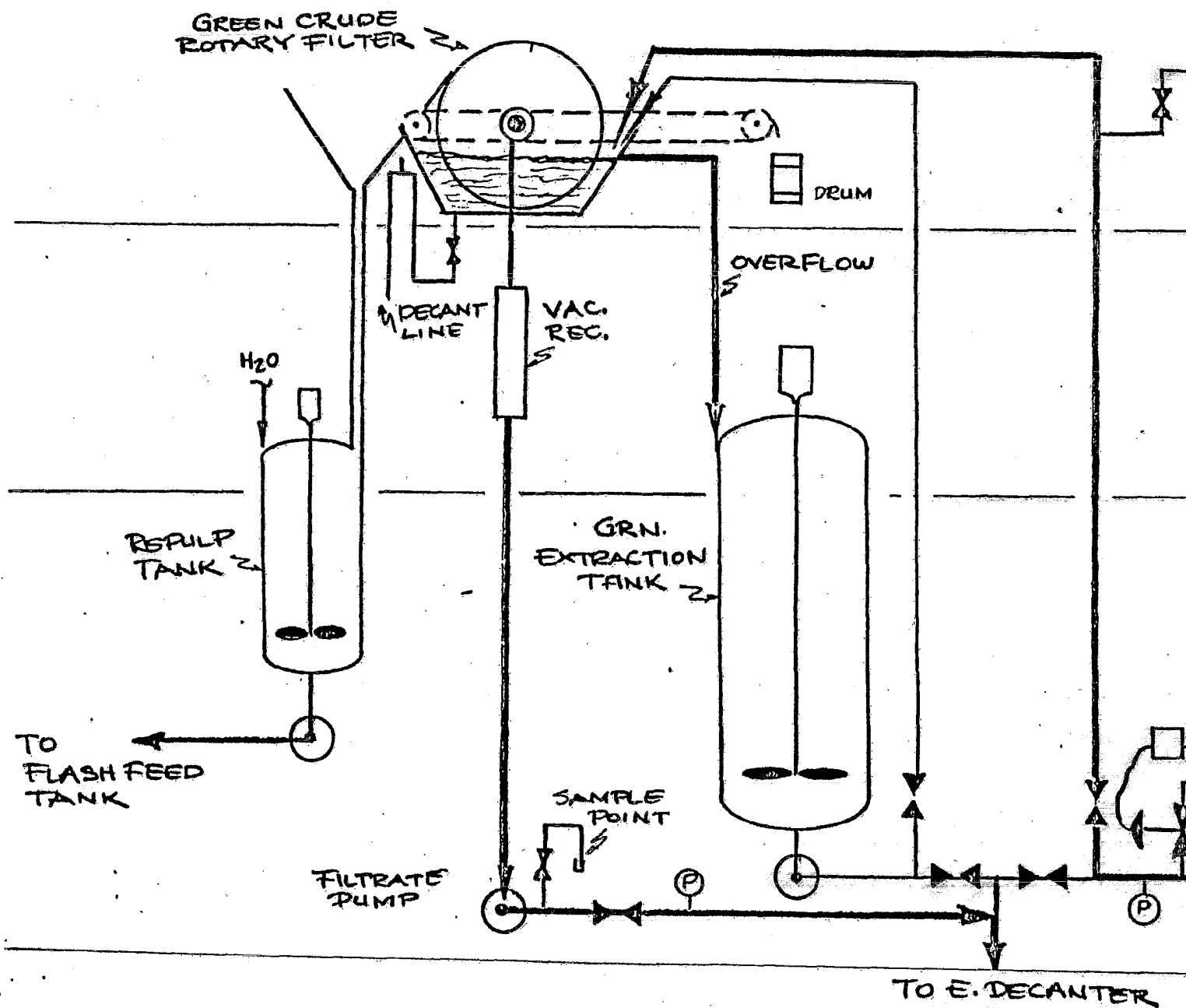
- 83% OF IV Q 81
- LOW PRODUCTION

MAJOR LOSS POINT IDENTIFIED

- CPC CRUDE MGF. AT EAST KEROSENE DECANter
- 50% OF TOTAL LOSS
- FILTRATION OF LUWA DRYER CONDENSATE TO CONTAIN
PIGMENT STARTED UP - RESULTS MIXED (RESOLVE IN APRIL).

OTHER LOSS REDUCTION PROGRAMS PROGRESSING ON/AHEAD OF SCHEDULE

FILTRATION OF LUWA CONDENSER EFFLUENT



CPC WASTE STREAM CONTROL

ESTABLISH GATE LOSS SPECIFICATIONS (6/82)

- BIRD TESTING INITIATED
- BI WEEKLY DRP DIGESTER SAMPLING INITIATED
- ESD COMPUTER MODEL FOR PEAK LOSS IMPACT (APRIL)

REDUCE CPC LOSSES TO ACCEPTABLE LEVEL

(200-300 PPD RATE)

- LOSS POINTS AND MAGNITUDE (1/82)

COMPLETE (EAST DECANTER, MEMBRANE PRESS, POINT SOURCE)

- EAST DECANTER (2/82)
- WEST DECANTER (2/82)

VISUAL ON ROTARY FILTER STREAMS

- BGD ROTARY FILTERS (6/82)

BACKUP FILTER ON ORDER (DUE NOW)

- CAKED MILLS (3/82)

SCHEME DEVELOPED - TOTE MODIFIED

STARTUP APRIL (NEED 243 TANK)

CPC WASTE STREAM CONTROL (CONTD.)

- SEPARATED BATCHES (DEFINE 3/82)
 - BB PROCESS SUCCESSFULLY MODIFIED
 - RECOVERY SCHEME DEVELOPED/MINI FLASH FABRICATED/START UP APRIL
 - RECYCLE FEASIBILITY IN APRIL
- PRESS ISOLATION (DEFINE 1/82)
 - MONITOR PLATE & FRAME
 - RECOVERY SYSTEM-MEMBRANE (APRIL)
- SPILL CONTAINMENT (DEFINE 3/82)
 - TANK OVERFLOW
 - LINE BREAKS
 - PRESS BREAKOUTS
- GRADE CHANGE FLUSHOUTS (6/82)
- COMMUNICATION (NEW)
 - PRODUCTION COMMITMENT/MANPOWER
 - WEEKLY REVIEW
 - SHIFT MEETINGS
- IMPLEMENT ACROSS SITE ≤ III Q/82

II Q FORECAST

PROCESS IMPROVEMENT/DOCUMENTATION - ON SCHEDULE

SPECIFICATIONS - ON SCHEDULE

FACILITIES - NOTHING FORECASTED

CPC WASTE STREAM CONTROL

- DEFINE ALLOWED GATE LOSS
- KEY TO SUCCESS FOR REMOVAL (EAST DECANTER)
- MANAGE USE OF SLUDGE BY DRP

KEROSENE - ACTIVE (REPORT NEXT TIME)