COST OF RAPID PHASE-OUT - ALL CHLORINATED BIPHENYLS EXCEPT DIELECTRICS

1970

LOSS IN SALES - $ 5.4 M

LOSS IN GROSS PROFIT - $ 2.6 M

IN ADDITION COGS WOULD INCREASE GIVING

TOTAL LOSS IN GROSS PROFIT OF - $ 2.75 M.

1971

LOSS IN SALES - $ 12 M

TOTAL LOSS IN GROSS PROFIT - $ 6.1 M

PLUS POSSIBLE WRITE-OFF OF SOME $ 2.6 M

KRUMMRICH AROCLOR FACILITIES.

OBJECTIVE

TO MAINTAIN A PROFITABLE BUSINESS SERVING THE NEEDS OF FUNCTIONAL FLUIDS USERS AND THE CARBONLESS DUPLICATING PAPER INDUSTRY WHILST MINIMIZING THE ESCAPE OF NON-BIODEGRADABLE BIPHENYLS INTO THE ENVIRONMENT.

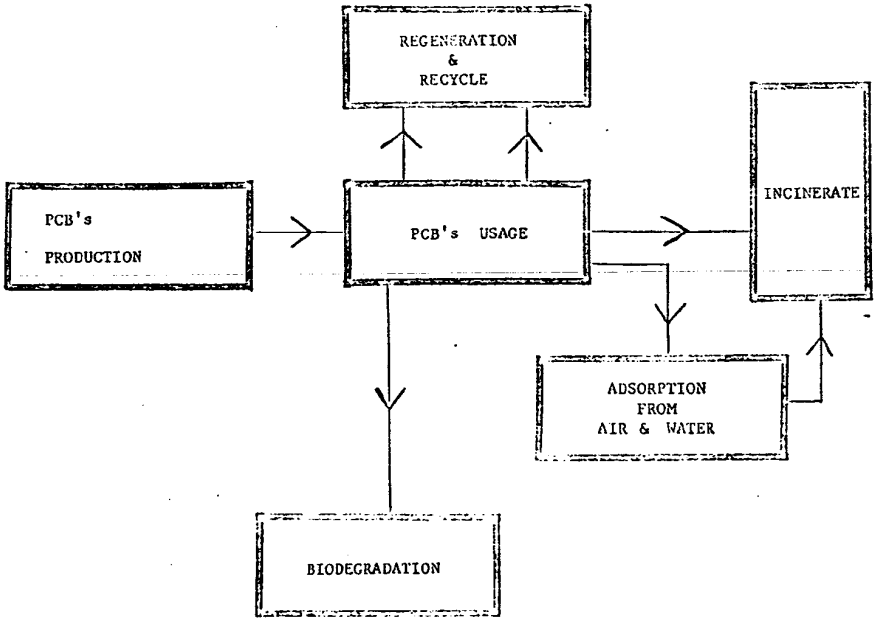
ACTION TO ACHIEVE OBJECTIVES

1) MARKET NON-BIODEGRADABLE CHLORINATED BIPHENYLS ONLY FOR CLOSED SYSTEM APPLICATIONS WHERE CONTROL IS POSSIBLE.

2) PHASE OUT OF ALL NON-CONTROLLABLE APPLICATIONS REPLACING WITH BIODEGRADABLE CHLORINATED BIPHENYLS OR OTHER SATISFACTORY PRODUCTS.

MONS 034061

THE CLOSED LOOP



DO WE HAVE THE CAPABILITY TO CLOSE

THE LOOP ?

BIODEGRADATION

1) GOOD PROGRESS AT BOTH RUADON AND ST. LOUIS.

2) LOWER CHLORINATED ISOMERS RESPONDING WELL, BUT 5 & 6 CHLORINE ISOMERS EITHER NOT RESPONDING OR VERY SLOW.

3) CRITICAL PRODUCT IS 1242, CONTAINS SOME 50 ISOMERS — GOOD RESPONSE ON 2, 3, & SOME 4 CHLORINE ISOMERS.

4) WORK IN HAND ON FRACTIONATED 1242 GOOD PROGRESS TO DATE.

FIGURE 1

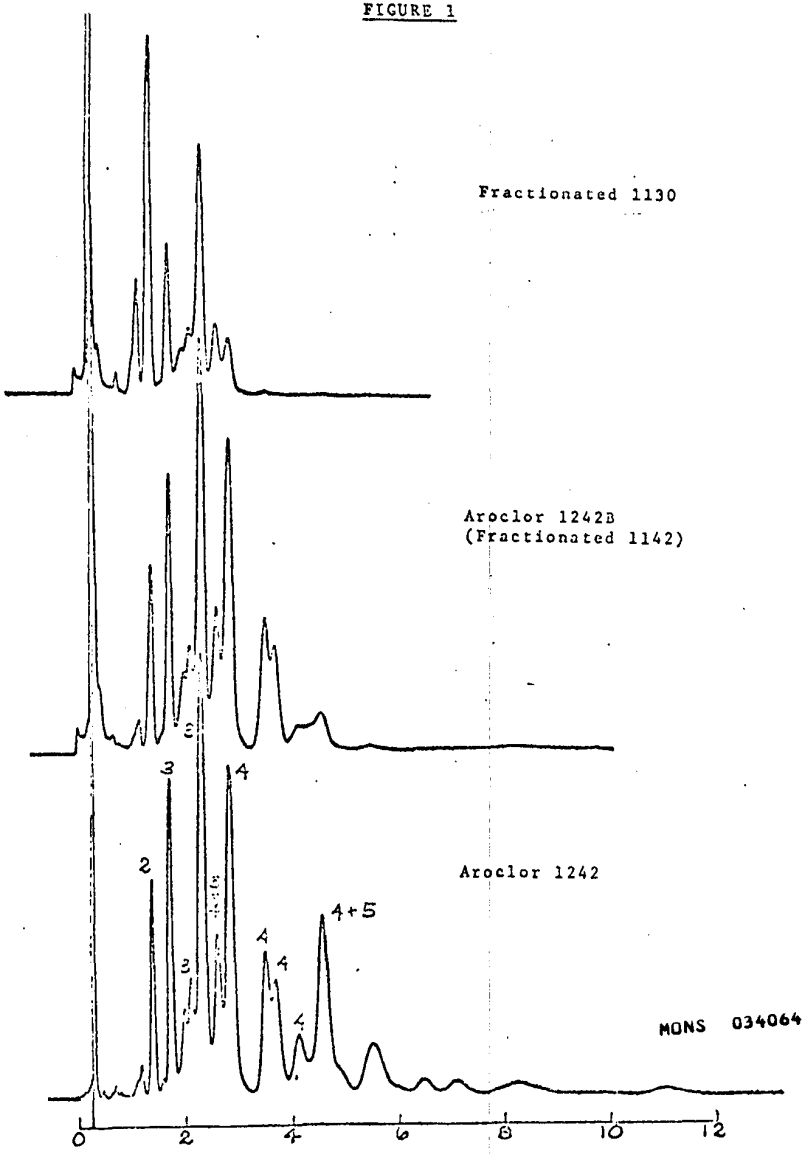
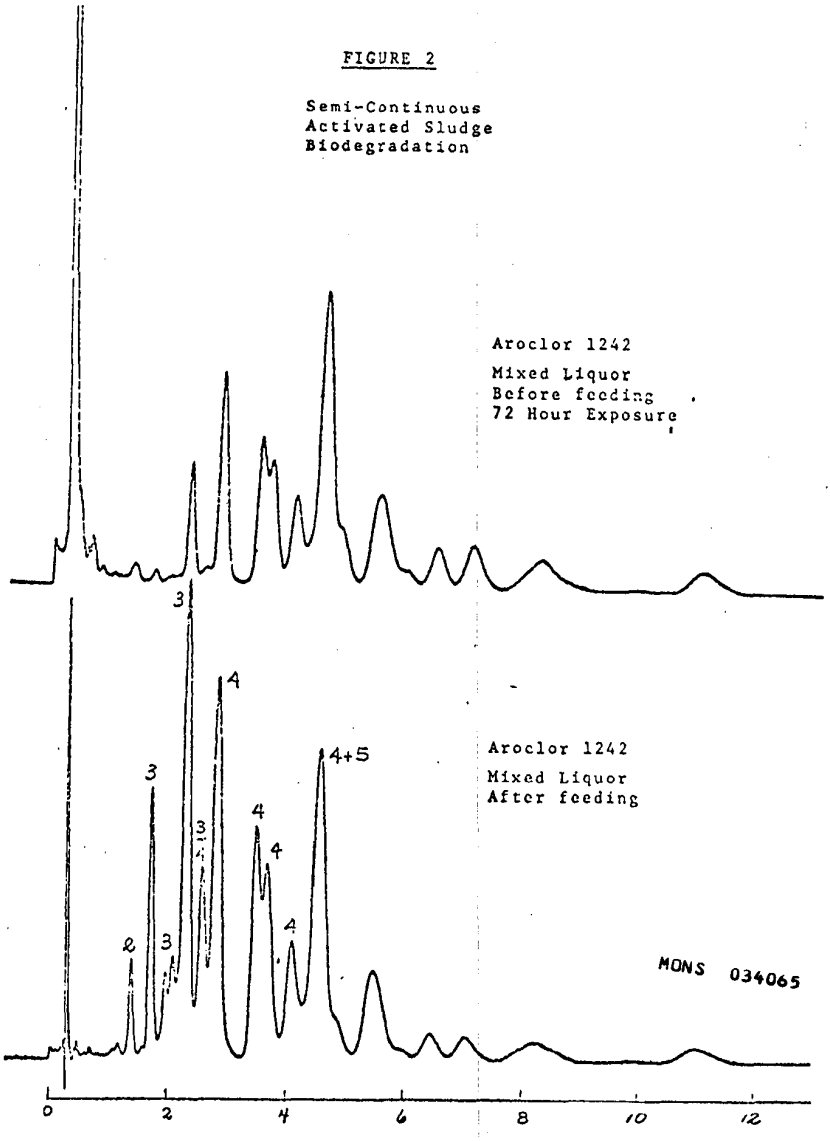

Fractionated 1130
Aroclor 1242B
(Fractionated 1142)
Aroclor 1242
2
3
4
4+5
MONS 034064
0
2
4
6
8
10
12

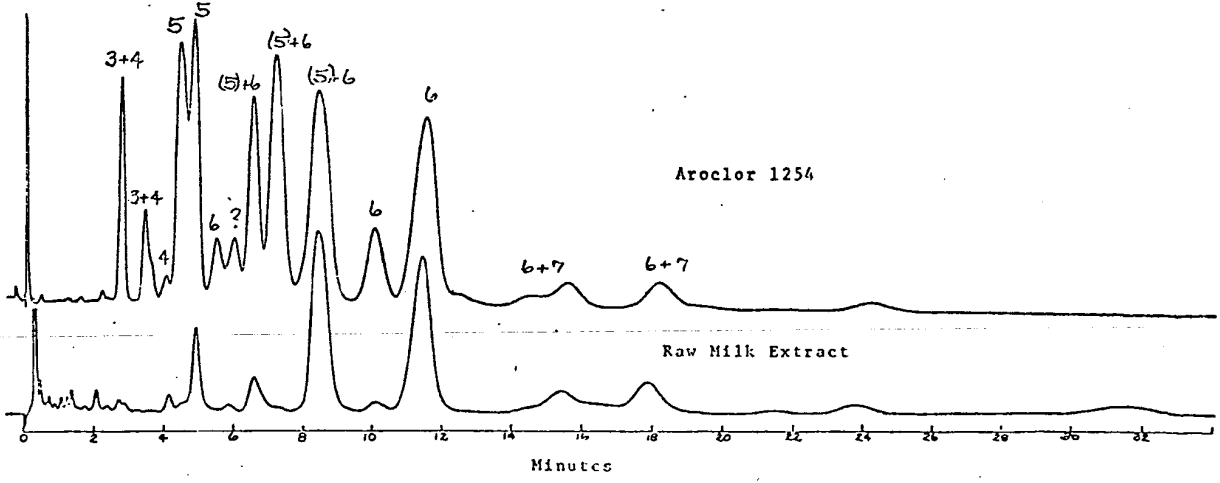
FIGURE 2

Semi-Continuous
Activated Sludge
Biodegradation



MONS 034065

FIGURE 3



MONS 034066

REPLACEMENT PRODUCTS

1) 1242B SHOWS GOOD PROPERTIES AS CAPACITOR DIELECTRIC - NOW MAKING 500 GALS. AT DAYTON FOR CUSTOMER TRIALS. - ALSO WORKING ON 1230B.

2) GOOD PROGRESS ON PHOSPHATE ESTER REPLACEMENTS FOR HYDRAULIC FLUID APPLICATIONS. — TCP — CDP — TBP — NONYL PHENYL/CONYL PHENYL DIPHENYL PHOSPHATE.

3) HEAT TRANSFER FLUIDS — USING MAINLY ESTABLISHED PRODUCTS, E.G. HB-40 — EXAMINING POSSIBLE ENTRY INTO DIPHENYL OXIDE PRODUCTION EITHER OWN PROCESS OR LICENSING.

TOXICITY

1) NO CHANGE SINCE LAST REPORT - HAVE DISCUSSED RESULTS WITH DR. BURGER, EXECUTIVE OFFICE OF THE PRESIDENT.

2) WE HAVE ANALYZED AROCLORS 1248 AND 1254 FOR OCTOCHLORO DIBENZO p-DIOXIN -- NONE FOUND.

3) CENTRAL INSTITUTE FOR NUTRITION AND FOOD RESEARCH, ZEIST, HOLLAND -- EXAMINED BAYER, PRODELAC AND MONSANTO CHLORINATED BIPHENYLS FOR DIBENZO FURANS -- NONE FOUND IN MONSANTO MATERIAL.

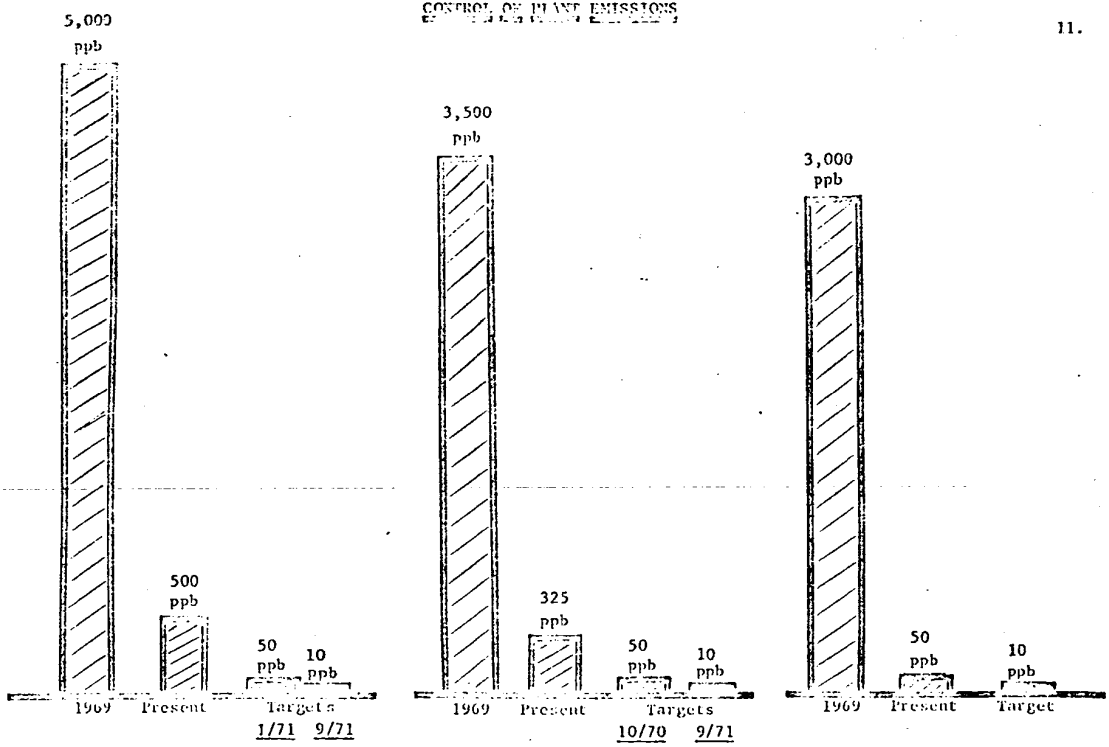
INCINERATION

1) SUCCESSFUL TRIAL AT JOHN ZINC CO., TULSA. 1242, 1260, 1254 DESTROYED AT 2000° F. -- OFF GAS HCl. ENGINEERING WORK NOW IN HAND TO BUILD SUITABLE INCINERATOR. ESTIMATED COST $250,000 M.

2) INTEND TO CARRY OUT FURTHER TRIALS ON STILL BOTTOMS.

3) INCINERATOR PROBABLY LOCATED AT KRUMRICH.

CONTROL OF PLANT EMISSIONS



ANNISTON - 5 lbs./day

KRUPPICH - 200 lbs./day

NEWPORT - 0.5 lbs.

MDNS 034070

CLOSING THE LOOP FOR INDIVIDUAL BUSINESSES.

MONS 034071

TRANSFORMER & CAPACITOR DIELECTRICS

1) RESPONSIBLE INDUSTRIES USING 1254 AND 1242.

2) FIRE RESISTANCE EXTREMELY IMPORTANT.

3) COLLECTION AND RETURN OF SPENT AND ARCED FLUID.

4) REGENERATION AND RECYCLE.

5) TRIALS PLANNED FOR 1242B AND 1230B IF SATISFACTORY.

6) LABELLING OF ASKAREL TRANSFORMERS.

HEAT TRANSFER FLUIDS

1) EDUCATION OF USERS WHERE FIRE RESISTANCE IS OBLIGATORY -- MAJOR INDUSTRIAL CORPORATIONS -- E.G. GOODYEAR AND CHEMICAL COMPANIES.

2) PHASE OUT OF ALL FOOD APPLICATIONS -- LETTERS WILL BE SENT OUT MAY 15th -- NO SALES AFTER AUGUST 15th -- WILL COLLECT AND DESTROY OLD FLUID.

3) INSTITUTION OF REGULAR COLLECTION REGENERATION OR INCINERATION SERVICE.

4) PHASING IN NEW PRODUCTS WHERE CONTROL NOT POSSIBLE.

HYDRAULIC FLUIDS

1) RECOGNIZE THAT CONTROL OF SPILLAGE AND PUMP LEAKAGE MAKES THE USE OF NON-BIODEGRADABLE CHLORINATED BIPHENYLS UNDESIRABLE.

2) ALREADY REFORMULATED PYDRAUL 625, ACWG, 280 and F9 — REPLACEMENT COMPLETE BY AUGUST 1

3) OTHER PRODUCTS IN INTERIM STAGES (E.G. PYDRAUL AC FORMULATION ON COMPRESSOR TEST AT JFQ).

4) AIM TO COMPLETE 90% PHASE-OUT BY DECEMBER, 1970.

N. C. R.

1) U.K. HAS APPROVED HB-40, NOW PLACED REGULAR ORDERS — EXPECT COMPLETE PHASE-OUT BY 1st JULY.

2) U.S. RUNNING TRIALS ON M.I.B.P., EXPECT DECISION 22nd MAY — PRELIMINARY INTERIUM PRODUCTION OF 40 M POUNDS PER MONTH TARGETED FOR 30th AUGUST — PLANNING FULL SCALE PLANT 10 $\overline{M}$ LBS. PER ANNUM ON STREAM END JANUARY 1971 — ESTIMATED NFC $1 - 1.2 $\overline{M}$.

PLASTICIZER & MISCELLANEOUS APPLICATIONS

1) DISTRIBUTORS ALREADY ADVISED NO MORE SALES AFTER 30th AUGUST. (200 CUSTOMERS)

2) LETTERS TO 661 CUSTOMERS WILL BE SENT OUT 27th MAY ADVISING NO MORE SALES AFTER 30th AUGUST — DISPOSAL INSTRUCTIONS WILL BE GIVEN.

3) IN CONTACT WITH U.S.D.A. THROUGH AG DIVISION ON SILO PAINT PROBLEM.

4) BY 30th AUGUST ALL BUSINESS IN THIS AREA WILL BE PHASED OUT.

MONS 034076

PRESENT PLAN

1) TERMINATE SALES OF ALL NON-BIODEGRADABLE CHLORINATED BIPHENYLS TO NON-CONTROLLABLE END USES.

COMPLETE - AUGUST 30th, 1970.

2) DISCONTINUE SALE OF AROCLOR 1242 TO NOR AND REPLACE WITH HB-40 IN U.K., AND MIBP IN U.S.A.

COMPLETE - U.K. -- JULY 1st, 1970

COMPLETE - U.S. -- JANUARY 30th, 1971

3) CLOSE THE LOOP ON HEAT TRANSFER APPLICATIONS WHERE P/R IS VITAL AND REPLACE WITH ALTERNATES IN OTHER CASES.

COMPLETE - DECEMBER 30th, 1970

4) REPLACE ALL NON-BIODEGRADABLE CHLORINATED BIPHENYLS IN HYDRAULIC APPLICATIONS.

COMPLETE 20% - AUGUST 1st, 1970

" 40% - NOVEMBER 1st, 1970

" 100% - DECEMBER 30th, 1970

5) CLOSE THE LOOP ON ALL NON-BIODEGRADABLE CHLORINATED BIPHENYLS IN TRANSFORMER APPLICATIONS.

COMPLETE - AUGUST 1st, 1970

6) CLOSE THE LOOP ON CAPACITORS AS FAR AS POSSIBLE AND REPLACE 1242 WITH 1242B.

COMPLETE - DECEMBER 31st, 1970

(18

NEW CAPITAL NEEDED

HS-40 EXPANSION - ANNISTON	-	$ 275,000
SANTOMAR R REFINING - ANNISTON	-	$ 250,000
HS-40 CAPACITY - NEWPORT	-	$ 1,000,000
HSLP CAPACITY - ANNISTON ?	-	$ 1,200,000
CUMYL/NONYL PHENYL DIPHENYL PHOSPHITE - JFQ	-	$ 575,000
INCINERATOR/RECLAIMING EQUIPMENT	-	$ 285,000
TOTAL NEW FIXED CAPITAL	=	$ 3,585,000

MONS 034079

PROFITABILITY FORECAST

1971

	EXISTING ARCOLOR BUSINESS	ARCOLOR & NEW [illegible]
SALES	$ 22.0 $\bar{X}$	$ 20.0 $\bar{X}$
C. P.	$ 8.5 $\bar{X}$	$ 8.0 $\bar{X}$
N.I.A.T.	$ 2.9 $\bar{X}$	$ 2.7 $\bar{X}$
GROSS INVESTMENT	$ 25.4 $\bar{X}$	$ 29.0 $\bar{X}$
R.O.I.	11.5%	9.5%

MONS 034080