St. Louis - General Offices

May 11, 1970 W. B. Papageorge

H. S. BERGEN
J. E. SPRINGGATE

Attached hereto are copies of charts I used in the presentation with the CMC this morning.

The CMC gave its approval for us to implement the plan as outlined on the two sheets marked "PRESENT PLAN".

We are required to report to the CMC should we make any major deviation from these plans and we are also required to make a progress report probably around the 1st of August. Would you please go ahead and take the necessary action within your individual business groups and keep me advised of progress.

JOHN MASON

Att.

PENGAD-Bayonne, N. J.
DEPOSITION EXHIBIT
Papageorge
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COST OF RAPID PHASE-OUT - ALL CHLORINATED BIPHENYLS EXCEPT DIELECTRICS

1970

LOSS IN SALES -

LOSS IN GROSS PROFIT -

IN ADDITION COGS WOULD INCREASE GIVING

TOTAL LOSS IN GROSS PROFIT OF -

1971

LOSS IN SALES -

TOTAL LOSS IN GROSS PROFIT -

PLUS POSSIBLE WRITE-OFF OF SOME

KRUMMRICH AROCLOR FACILITIES.

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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 Chlo- BIPHENYLS INTO THE ENVIRONMENT.

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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.

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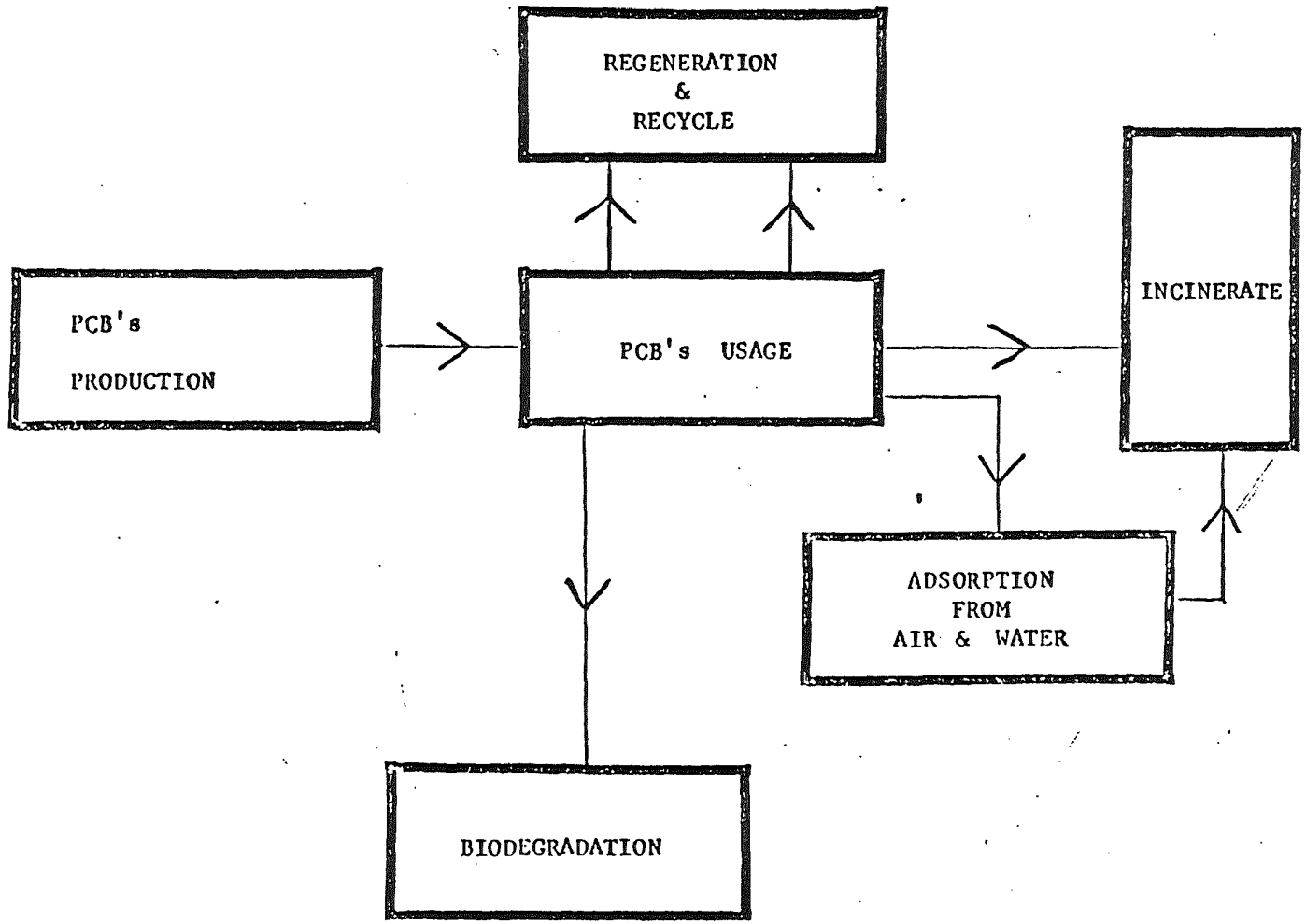
THE CLOSED LOOP



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DO WE HAVE THE CAPABILITY TO CLOSE

THE LOOP ?

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BIODEGRADATION

1) GOOD PROGRESS AT BOTH RUABON 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.

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FIGURE 2

Semi-Continuous
Activated Sludge
Biodegradation

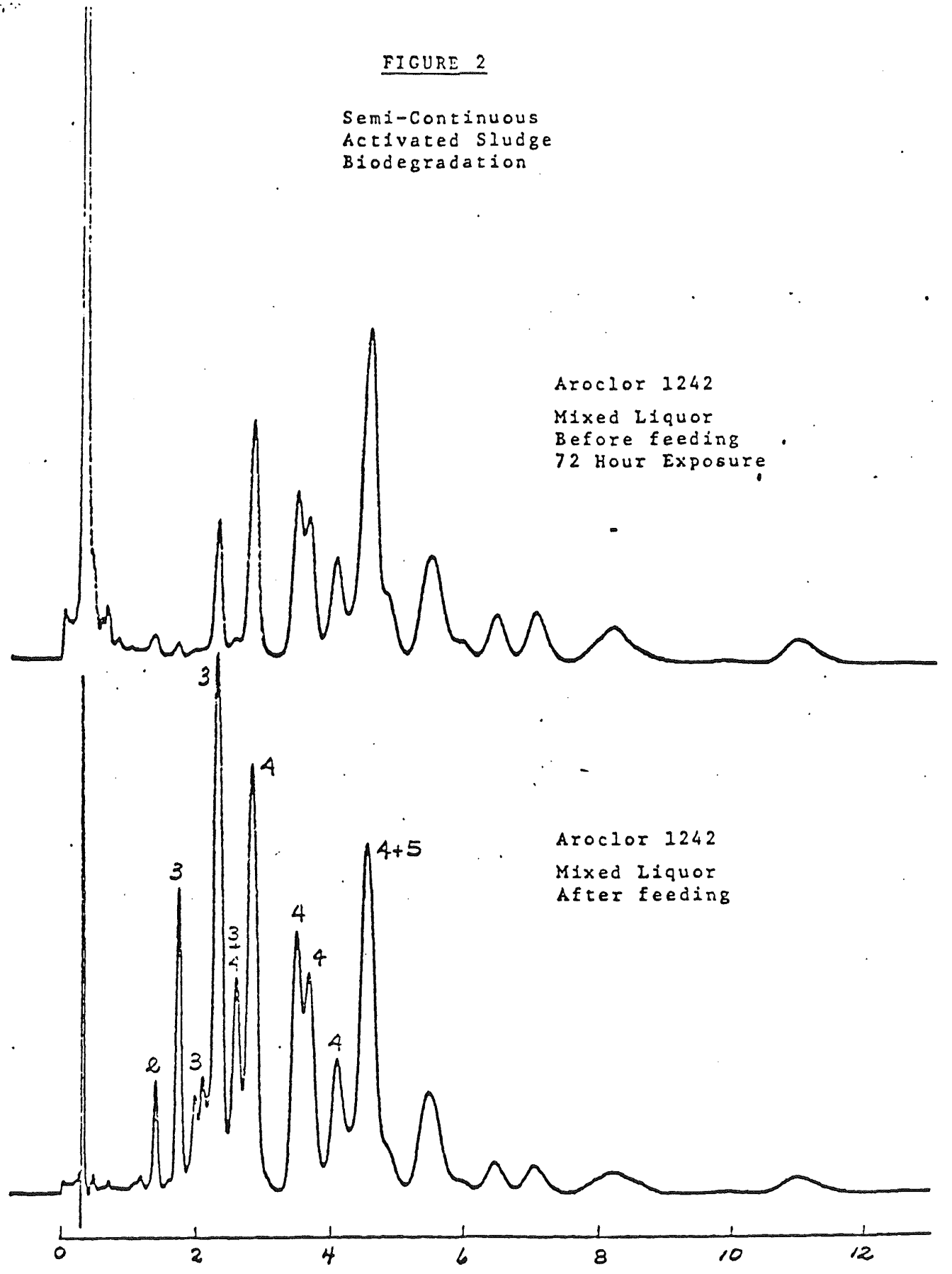

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FIGURE 3

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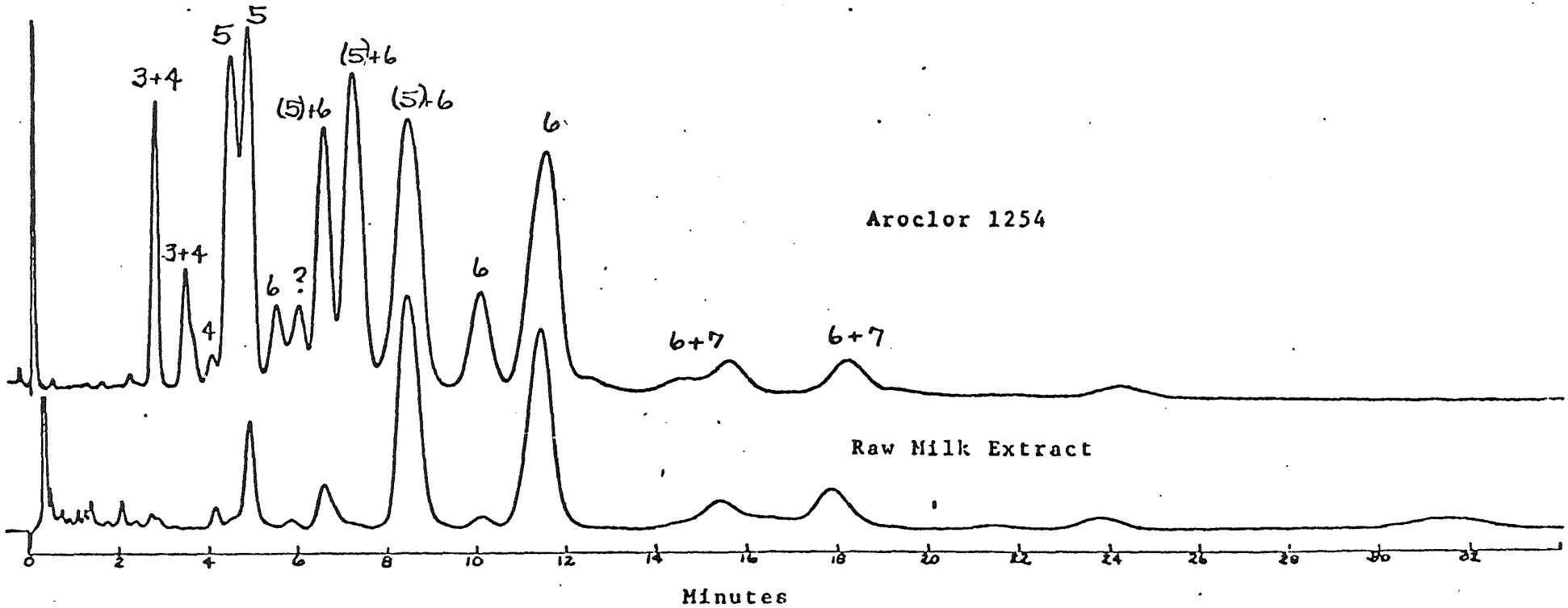

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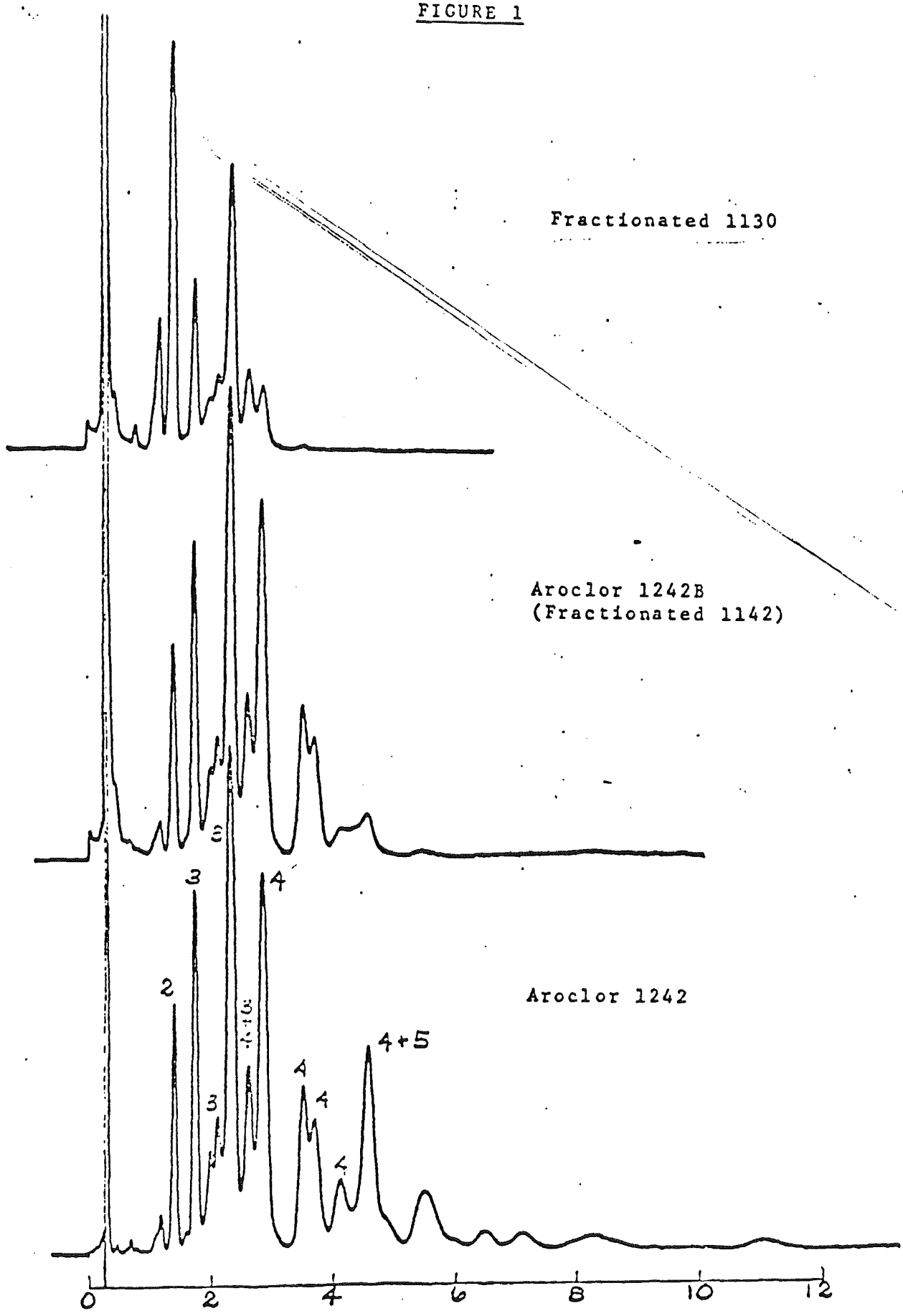
FIGURE 1



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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/COMYL 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.

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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.

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INCINERATION

1) SUCCESSFUL TRIAL AT JOHN ZINC CO., TULSA. 1242, 1260, 1254 DESTROYED AT 2000° F. -- OFF GAS HC1. 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 KRUMMRICH.

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CLOSING THE LOOP FOR INDIVIDUAL BUSINESSES.

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TRANSFORMER & CAPACITOR DIELECTRICS

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HEAT TRANSFER FLUIDS

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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.

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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 NCR 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

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

COMPLETE 20% - AUGUST 1st, 1970

" 40% - NOVEMBER 1st, 1970

" 100% - DECEMBER 30th, 1970

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NEW CAPITAL NEEDED

HB-40 EXPANSION - ANNISTON

SANTOMAN R REFINING - ANNISTON

HB-40 CAPACITY - NEWPORT

MIBP CAPACITY - ANNISTON ?

CUMYL/NONYL PHENYL DIPHENYL PHOSPHATE
JFQ

INCINERATOR/RECLAIMING EQUIPMENT

TOTAL NEW FIXED CAPITAL

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(19)

PROFITABILITY FORECAST

1971

	EXISTING AROCLOR BUSINESS	AROCLORS & NEW PRODUCTS
SALES		
G. P.		
N.I.A.T.		
GROSS INVESTMENT		
R.O.I.		

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