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5/16/67
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REMOVAL OF CHLORACBENZENS BY FILTRATION

I RECOMMEND THAT INVESTIGATIONS TO REMOVE CHLORACBENZENS FROM TCR BY SINGLE STAGE FILTRATION BE CURTAILED. PRIORITY SHOULD BE GIVEN TO ADSORPTION BY CHARCOAL SINCE THIS APPEARS TO SHOW MORE PROMISE AT THE PRESENT TIME.

THE ATTACHED DATA AND CURVES SHOW THAT FILTRATION RATES AND CHLORACBENZEN REMOVAL IS UNSATISFACTORY WHEN A SINGLE PASS IS SENT THROUGH A 20 μ FILTER. FILTRATION DEVELOPED WITH COMPONENTS 1, 5, AND 6 AND POSSIBLY 3 AND 7, AND YET THEIR REMOVAL IS NOT ADEQUATE. COMPONENT 2 IS THE MOST ACTIVE CHLORACBENZEN. THE PLOT SHOWS THAT ONLY AD- OR ADSORPTION DEVELOPED, NOT FILTRATION; ALSO THE REMOVAL WAS INADEQUATE AND ITS RATE DIMINISHES TOO QUICKLY.

THE REMOVAL WITH A 75 μ

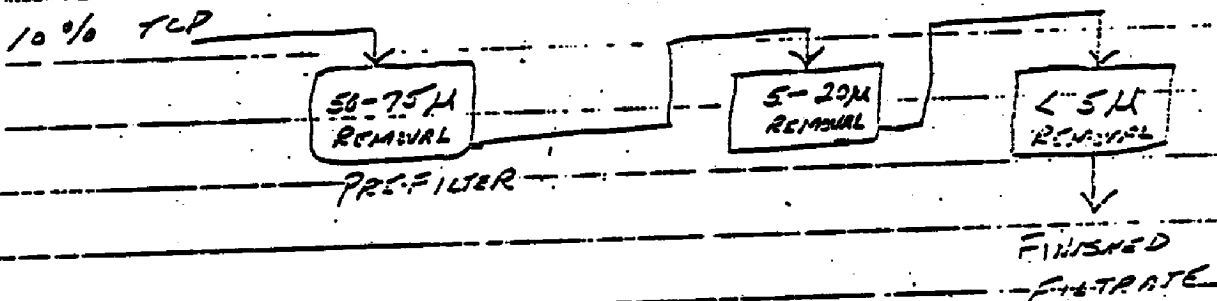
FILTER WAS MUCH MORE SUPERIOR THAN THE 20 μ FILTER.

A FILTER AID PRESCAT ON A 20 μ FILTER MAY BE BENEFICIAL.

A "LAST RESORT" TEST WILL BE MADE TO SEE THE EFFECTS. HOWEVER,

IT APPEARS THAT TO INCREASE FILTRATION RATES AND TO PROVIDE BETTER CHLOROPHENOL REMOVAL WOULD BE TOO MUCH TO EXPECT.

FUTURE FILTRATION STUDIES, IF RESUMED, SHOULD ^{PROBABLY} EMPLOY FILTRATION IN SERIES AS ILLUSTRATED:



EXACT POROSITIES WOULD HAVE TO BE DETERMINED.

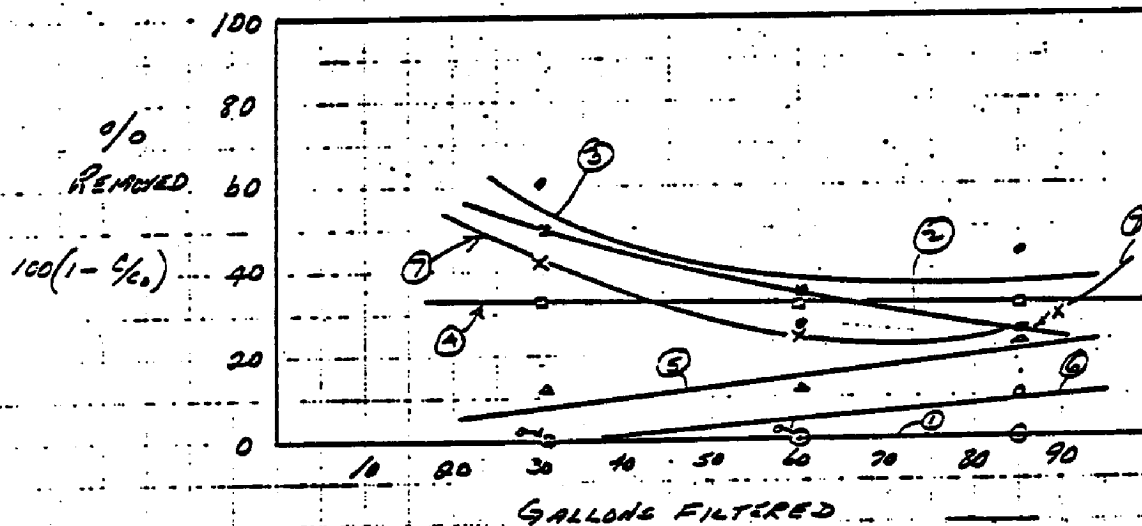
A. R. Glenn

REMOVAL OF CHLORACHEGENS FROM 10% TCP BY FILTRATION

TEST I - 20 μ FILTER, 1 CARTRIDGE - 10" (CFL-# 515110)

COMPONENT	1	2	3	4	5	6	7
STARTING CONC, ppm	41	56	18	3	800	500	2400
C/C ₀ FOR INDICATED COMPONENT							
GAL FILTERED	1	2	3	4	5	6	7
31	1.0	0.50	0.39	0.67	0.88	1.11	0.58
6.0	4.0	0.66	0.72	0.67	0.88	1.00	0.75
85	1.0	0.73	0.56	0.67	0.75	0.89	0.75

PH = 10.0
TEMP = 22-26 °C



NOTE -
WITH FILTRATION
SLOPE IS 0
OR POSITIVE,
NEGATIVE
SLOPE
INDICATES
AD OR ABSORPTION

A16 FILTRATION = 19 GPH
ΔP = 14-17 PSI

- LEGEND
- , 1 = 2, 3, 7, 9 TETRACHLORO DI BENZO-PARA-DIOXIN
 - , 2 = 2, 3, 7, 8 " " " "
 - , 3 = 2, 2', 4, 4', 5 PENTACHLORO-S-METHOXY DI BENZO-DIOXIN
 - + 2, 3, 7 TRICHLORO 8 METHOXY DI BENZO-PARA-DIOXIN
 - , 4 = DIOXIN RELATED UNKNOWN
 - △, 5 = TRICHLORO ANISOLE
 - , 6 = ANISOLE RELATED UNKNOWN
 - x, 7 = 1, 5 DIMETHOXY 2, 4 DICHLORO BENZENE

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REMOVAL OF CHLORACENEIS FROM 10% TCP
BY FILTRATION

TEST II 75µM FILTER, 1. CARTRIDGE - 10" (CFC-210R10)

COMPONENT	1	2	3	4	5	6	7
STARTING CONC, ppm	41	56	18	3	800	910	2900

GAL FILTERED	C/CO FOR INDICATED COMPONENT						
	1	2	3	4	5	6	7
10	1.0	1.00	1.0	1.0	1.0	0.89	0.67
126	↓	↓	↓	↓	↓	↓	↓
286	↓	↓	↓	↓	↓	↓	↓
412	↓	↓	↓	↓	↓	↓	↓

AVG FILTRATION RATE = 140 GPH

ΔP = 8-11 PSI

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