US EPA ARCHIVE DOCUMENT

108801 VALIDATION SHEET CRF #_____ PAGE 1 OF 1

FORMULATION:			IA	IB	T	FW	EC	R		
% a.i.	SC #	CHEMICAL NAME	Validator: Labuda					Date: 27 October, 1977		
Tech.		Metolachlor (CGA-24705)	Test Type: Aquatic Invertebrate Acute Toxicity							
			Test ID.# ESHI							

CITATION: Aquatic Environemntal Sciences
Union Carbide Corporation
Tarrytown, New York
26 May, 1976
"Acute Toxicity of CGA-24705 Technical to the Water Flea (*Daphnia magna*)"

RESULTS: 24-hr. LC_{50} > 32.0 mg/l
48-hr. LC_{50} = 25.1 mg/l (21.6-29.2)*
48-hr. no effect level = 5.6 mg/l

* 95% Confidence Interval.

VALIDATION CATEGORY: Core

VALIDATION CATEGORY RATIONALE: N.A.

CATEGORY REPAIRABILITY/RATIONALE: N.A.

Test Species Daphnia
Source Lab stock culture
Exp. Period 48-hour

PROBIT ANALYSIS WORK SHEET

Chemical Metolachlor (CGA-24705)
Date Tested
Analysis by: A.G. Vilkas (Name) Marine Tox. (Title) 26 May 1972 (Date)

Concentration	No. dead/ /No. tested	Observed % Mortality	Expected % Mortality	O-E	Contributions to Chi (Nomo #1)
56.0 mg/l	20/20	100 (98.4)	95	3.4	0.0235
32.0	15/20	75	69	6	0.0170
18.0	2/20	10	26	16	0.132
10.0	1/20	5	3.3	1.7	0.0092
5.6	0/20	0	0.13	0.13	0.0012
				Total	0.1829

Total Fish Tested = 100
Number of Doses (K) = 5
Degrees of freedom (K-2) = 3

Chi^2 = Total Cont. to Chi $\times \frac{\text{Total fish}}{K}$ = 3.658

Chi^2 (p=.05) for 3 deg of freedom = 7.82

DETERMINE fLC_{50}:

LC_{84} _____
LC_{50} _____
LC_{16} _____

$S = \frac{LC_{84}/LC_{50} + LC_{50}/LC_{16}}{2}$ = _____

N' (Fish used between 16% and 84% E) = _____
$\sqrt{N'}$ = _____
(Nomo. #2) = _____

$fLC_{50} = S^{2.77/\sqrt{N'}}$ = S _____

DETERMINE fS:

R (Largest/Smallest dose plotted) _____
S (As determined above) _____
A (Nomo. #3 using R and S) _____

$fS = A^{10(K-1)/K\sqrt{N'}}$ = A _____ (Nomo. #2) = _____

DETERMINE fLC_y:

$(fS)^x = fS^{2.33 \text{ or } 1.30}$ (Table 3 and Nomo. #2) = _____

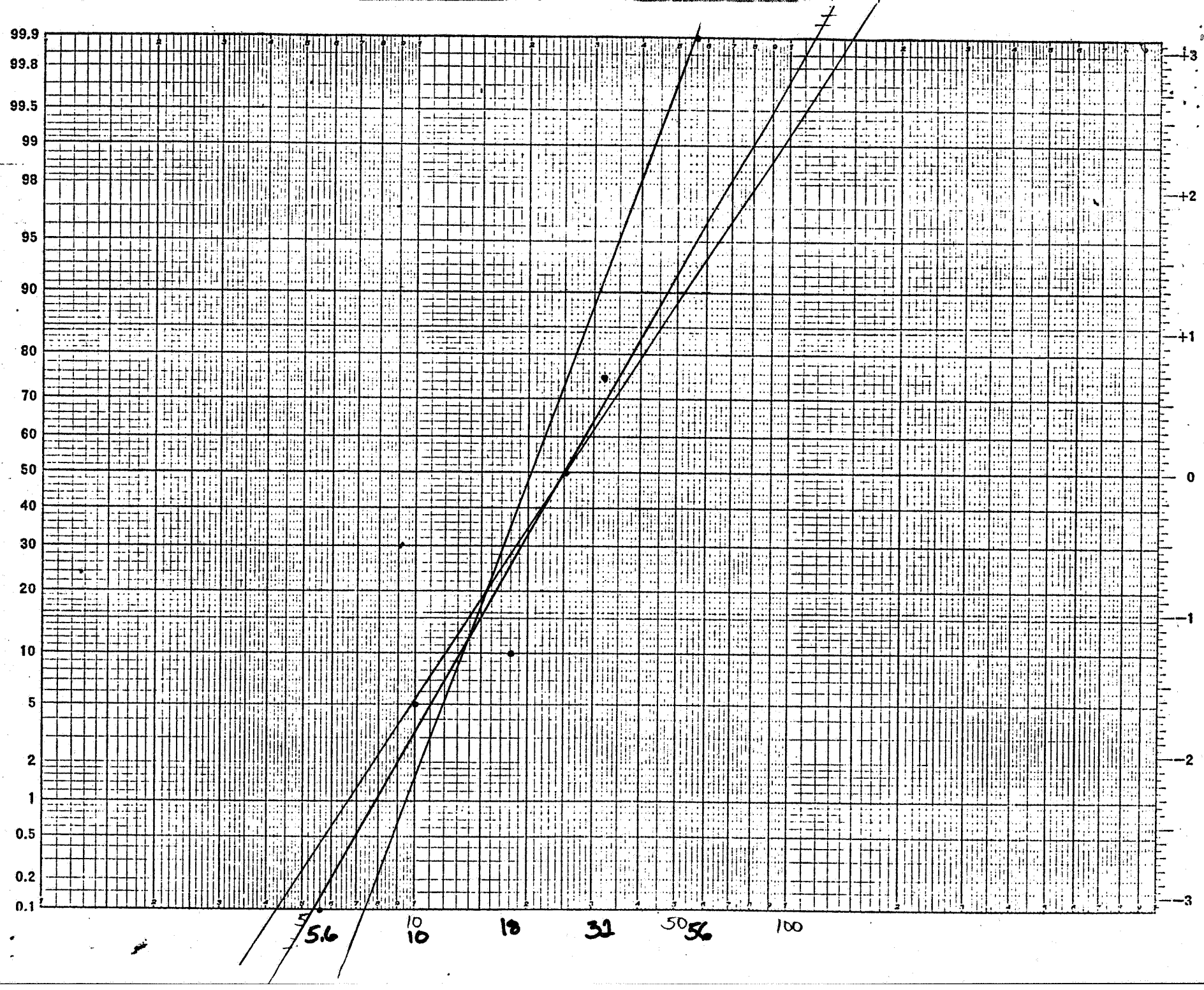
fLC_y (Nomo. #4 using $(fS)^x$ and fLC_{50}) = _____

RESULTS (LC_x and Confidence Limits at p = .05):

LC_1 = _____
Lower Limit (LC_1/LC_y) _____
Upper Limit ($LC_1 \times LC_y$) _____

LC_{50} = _____
Lower Limit (LC_{50}/fLC_{50}) _____
Upper Limit ($LC_{50} \times fLC_{50}$) _____

LC_{99} = _____
Lower Limit (LC_{99}/LC_y) _____
Upper Limit ($LC_{99} \times LC_y$) _____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98
95
90
80
70
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50
40
30
20
10
5
2
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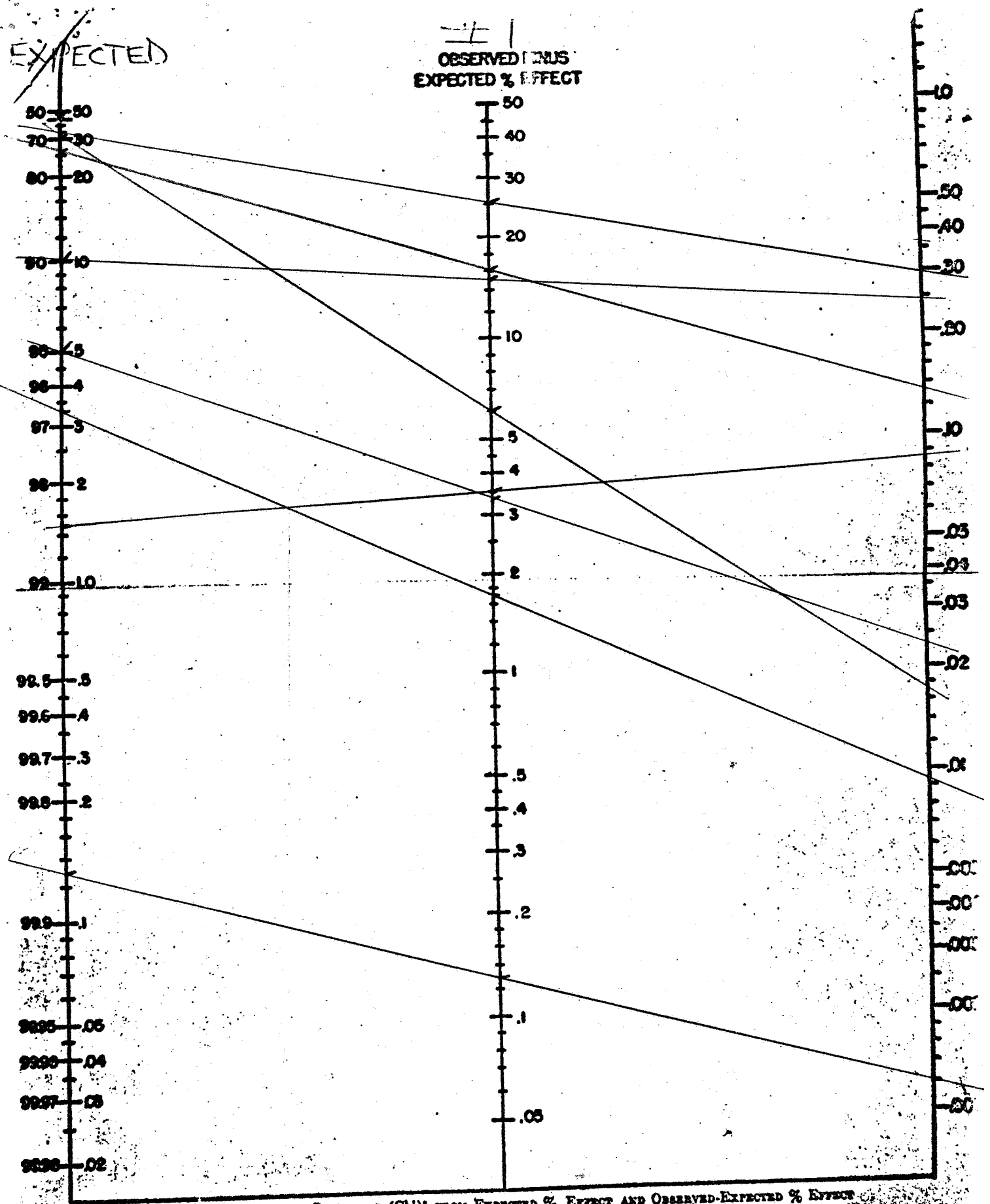
0.5
0.2
0.1
+3
+2
+1
0
-1
-2
-3
5
5.6
10
10
18
32
50
56
100



No. 1. Nomograph for Obtaining (Chi)² from Expected % Effect and Observed-Expected % Effect