

File

Shaugh. No. 081901

EFB Log Out Date: ~~8/5/83~~ 28 JUL 1983

Init.: RM

To: Jacoby/Beaver
Product Manager # 21
Registration Division (TS-767)

From: Carolyn K. Offutt *CKO*
Head, Environmental Processes and Guidelines Section
Exposure Assessment Branch, HED (TS-769)

Attached, please find the estimated environmental concentration review of:

Reg./File No.: 677-313

Chemical: Chlorothalonil

Type Product: F

Product Name: Bravo 500 ®

Company Name: Diamond Shamrock

Submission Purposes: EEC request from EEB

ZBB Code: ?

Action Code: 335

Date In: 6/8/83

EFB#: 3404

Date Completed: JUL 28 1983

TAIS (Level II) Days

62

4

Deferrals To:

☒ Ecological Effects Branch
☐ Residue Chemistry Branch
☐ Toxicology Branch

File

JUL 28 1983

MEMORANDUM

TO: Henry Jacoby/Diane Beavers
Product Manager Team #21
Registration Division (TS-767)

SUBJECT: Estimated Environmental Concentration for Bravo®500
(EPA Reg. #677-313)

THRU: Carolyn K. Offutt, Chief
Environmental Processes and Guidelines Section
Exposure Assessment Branch
Hazard Evaluation Division (TS-769)

Your request dated June 6, 1983 for the estimation of environmental concentrations (EEC) for the proposed uses of Bravo®500 (46.4% chlorothalonil a.i.) on almonds, rice and wheat cannot be completed by the Exposure Assessment Branch (EAB) at this time for the following reasons:

Chemical and physical environmental fate data gap

We have searched the published literature, registration files, and registration standard files for environmental fate data, such as octanol/water partition, hydrolysis, photolysis, vapor pressure, soil adsorption, soil degradation, and microbiological degradation. Unfortunately, we did not find the above fate data to our satisfaction to use as input data to SW288 (runoff model) and EXAMS 50 Mode-2 Exposure analysis model). We did obtain data on basic hydrolysis (30 days at pH 9), aerobic soil metabolism (1 to 2 weeks, at room temperature), and field dissipation (1 to 2 months in a sandy loam soil) from Samuel Howard of the Registration Standard Section of EAB. Mr. Howard stated that the evaluation and validity of these above data are pending until the first draft of the Registration Standard on chlorothalonil is received from the contractor (Enviro Control Inc) around the middle of August 1983.

We were aware that the Gulf Freeze Laboratory of EPA in Florida under an cooperative agreement with Gulf Coast Research Laboratory, Ocean Springs, Mississippi, has been conducting toxicity/fate tests on several pesticides. Therefore, we requested Environmental Research Laboratory of ORD/EPA at Gulf Freeze, Florida to send us fate data on Bravo 500®.

(TS-769) DATA: PH 7/27/83: 864815:557-7347

Telephone conversations with Dr. Bourquin at the Gulf Breeze Laboratory revealed that there are six environmental data gaps on chlorothalonil (Bravo 500®); however, a aquatic sterile water half-life of 10 days and a abiotic half life of 8-10 days are available. (Correspondence is attached for your information.) These available chemical and physical data are not adequate for running model analyses.

Use sites, rates and application dates

We obtained information on the sites (croplands), dates and rates of application of Bravo 500® on almonds, rice and wheat from Dr. E. Neil Pelletier, Science Support Branch/BUD (attached for your information). After careful consideration, we concluded that the existing basins covered in our currently routine use of the SWRRB runoff model and the experimental Toxi-Wasp model will not resemble the basins adjacent to croplands where these agricultural commodities (Almonds - California; rice - Louisiana and Arkansas; wheat - Dakotas, Northwest United States) are grown and Bravo 500®, as a fungicide, is used.

Model environmental basins (geology and hydrology) data gap

We understand that almonds (99% of total USA production) are grown in irrigated croplands in the Sacramento and San Joaquin Valleys of California. The geological and hydrological data in the basins (SWRRB model) and in the environmental data bases (EXAMS 50 - Mode 1 and 2 model) are not currently set up for irrigated croplands. We would need to develop model environments simulating the amount of irrigation water added and the return flows (surface or subsurface) in the irrigated fields.

It is known that rice fields are flooded from time to time during the growing season. Telephone conversations with Mr. Mulky and Mr. Carsel of the Environmental Research Laboratory /ORD/EPA in Athens, Georgia, who develops models for our use have revealed that the present modeling systems available to us (SWRRB, Toxi-Wasp, PRZM and EXAMS, etc.), do not account for flooding of a field; thus, runoff or exposure analysis cannot be done on rice-growing fields.

The wheat-growing areas are located in the Northwest region of the United States. At present, the available modeling systems (SWRRB, EXAMS, etc.) do not contain environmental basins or data bases for the northwest region. Therefore, we cannot estimate environmental concentrations (EEC) on any pesticides in the Northwest region of the United States.

In summary, the Environmental Assessment Branch, at present, is unable to provide you with EEC's for Bravo 500® on almonds, rice and wheat due to the environmental fate data gaps on chlorothalonil (Bravo 500®) and the unavailability of environmental data bases or basins similar to croplands where almonds, rice and wheat are grown in the United States.

We will be glad to provide you with EEC's on Bravo 500® or any other pesticides when we fully develop the environmental data base and basins where these crops are grown and the fate data gaps are completed for the Registration Standard program by the registrant(s) of Bravo 500®.

Please feel free to contact me or Carolyn K. Offutt at 557-7347, if you have any questions.

P.R. Datta
Exposure Assessment Branch
Hazard Evaluation Division (TS-769)

EXPOSURE ASSESSMENT BRANCH ONE LINER

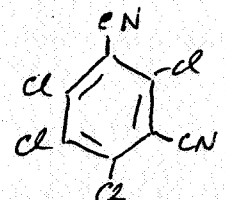
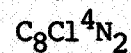
EAB FILE NO: _____ TYPE PESTICIDE: Fungicide

COMMON NAME: Bravor 500®

CHEMICAL NAME: Tetrachloroisophthalonitrile

TYPICAL USES _____

STRUCTURE



CHEMICAL PROPERTIES

<u>Molecular Wt.</u>	<u>Aqueous Solubility</u>	<u>Vapor Pressure</u>	<u>Partition Coeff.</u> <u>K_{ow}</u>
<u>265.9</u>	<u>0.6 ppm at 25°C</u>	_____	_____

Soil Adsorption Coefficient

<u>Soil Type</u>	<u>% Soil</u> <u>O. M.</u>	<u>K</u>	<u>K_{oc}</u>	<u>SOIL</u> <u>TLC R_f</u>	<u>Mobility</u> <u>Class</u>
_____	_____	_____	_____	_____	(1) Immobile
_____	_____	_____	_____	_____	(2) Low
_____	_____	_____	_____	_____	(3) Intermed.
_____	_____	_____	_____	_____	(4) Mobile
_____	_____	_____	_____	_____	(5) Very Mobile

Degradation

<u>Lab Half-life</u>	<u>Field half-life</u>
Soil	Soil
Aerobic: _____	_____
Anaerobic: _____	_____
Aquatic	Aquatic
Aerobic: _____	_____
Anaerobic: _____	_____

Hydrolysis (°)

pH T 1/2

Photolysis

T 1/2

Soil: _____
Water: _____

FOUND IN GROUND WATER? Y N

REENTRY INTERVAL ESTABLISHED

Site(s) _____ Level _____

ROTATIONAL CROP RESTRICTIONS

LEACHING POTENTIAL

Lab: Yes _____ No _____

Field: Yes _____ No _____



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

JUL 20 1983

MEMORANDUM

TO: Dr. Padma Datta, EAB
Hazard Evaluation Division (TS-769-C)

SUBJECT: Bravo 500 Use Rates, Use Locations and Application Periods
for Almonds, Rice, and Wheat

The information given below is submitted in response to your request of July 18.

I. Almonds

Use rates - 6 to 8 pints is equivalent to 3.12 to 4.16 pounds ai/acre.

Use locations - Sacramento Valley and San Joaquin Valley of California.

Application periods - two to three applications at seven to ten day intervals between February 10 to March 10,

II. Rice

Use rates - 2 to 3 pints is equivalent to 1.04 to 1.56 pounds ai/acre.

6

Rice (continued)

Use locations and approximate application periods - two applications at 14 day intervals during the periods for the locations as given below:

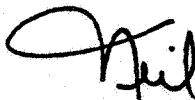
Mississippi - June 15 to August 20
Arkansas - June 10 to August 15
Louisiana - June 1 to August 5
Texas - May 20 to August 25
California - June 1 to August 25

III. Wheat

Use rates - 1.5 to 2.0 pints is equivalent to 0.78 to 1.04 pound ai/acre.

Use locations and approximated application periods - two applications at 14 day intervals during the periods for the locations as given below:

Washington - May 20 to July 1
Minnesota - June 20 to August 20
North Dakota - June 20 to August 20
South Dakota - June 10 to July 30
Montana - June 20 to August 10
Idaho - May 20 to August 10
Oregon - April 10 to July 10



E. Neil Pelletier, Ph.D.
Plant Pathologist
Science Support Branch
Benefits and Use Division (TS-768-C)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
ENVIRONMENTAL RESEARCH LABORATORY
SABINE ISLAND

GULF BREEZE, FLORIDA 32561

July 15, 1983

SUBJECT: Bravo Fate Data Request

FROM: Al W. Bourquin *Al Bourquin*
Chief, Processes and Effects Branch

TO: Padma R. Datta
EAB/HED/OPP (TS-769C)

THRU: Henry F. Enos *Henry F. Enos*
Laboratory Director

The data you requested was generated by Dr. Wm. Walker, Gulf Coast Research Laboratory, Ocean Springs, Mississippi, under a cooperative agreement with this laboratory. The test was done in a Fate Screen using natural estuarine water and sediment (500 mg/l) under sterile and nonsterile (active) conditions. A protocol for the Fate Screen is attached. There does not appear to be any significant increase in the degradation rate of the compound in the active system (no significant microbial degradation) since the abiotic rate is approximately the same.

The half-lives are listed below:

Bravo Fate Screen Test.

Treatment	Replicate	Half-life (days)
Active Sediment	1	1.9
" "	2	1.9
Active Water	1	8.1
" "	2	8.8
Sterile Sediment		5.0
Sterile Water		10

pH = 7.5

Salinity = 12⁰/oo

Apparent abiotic degradation are

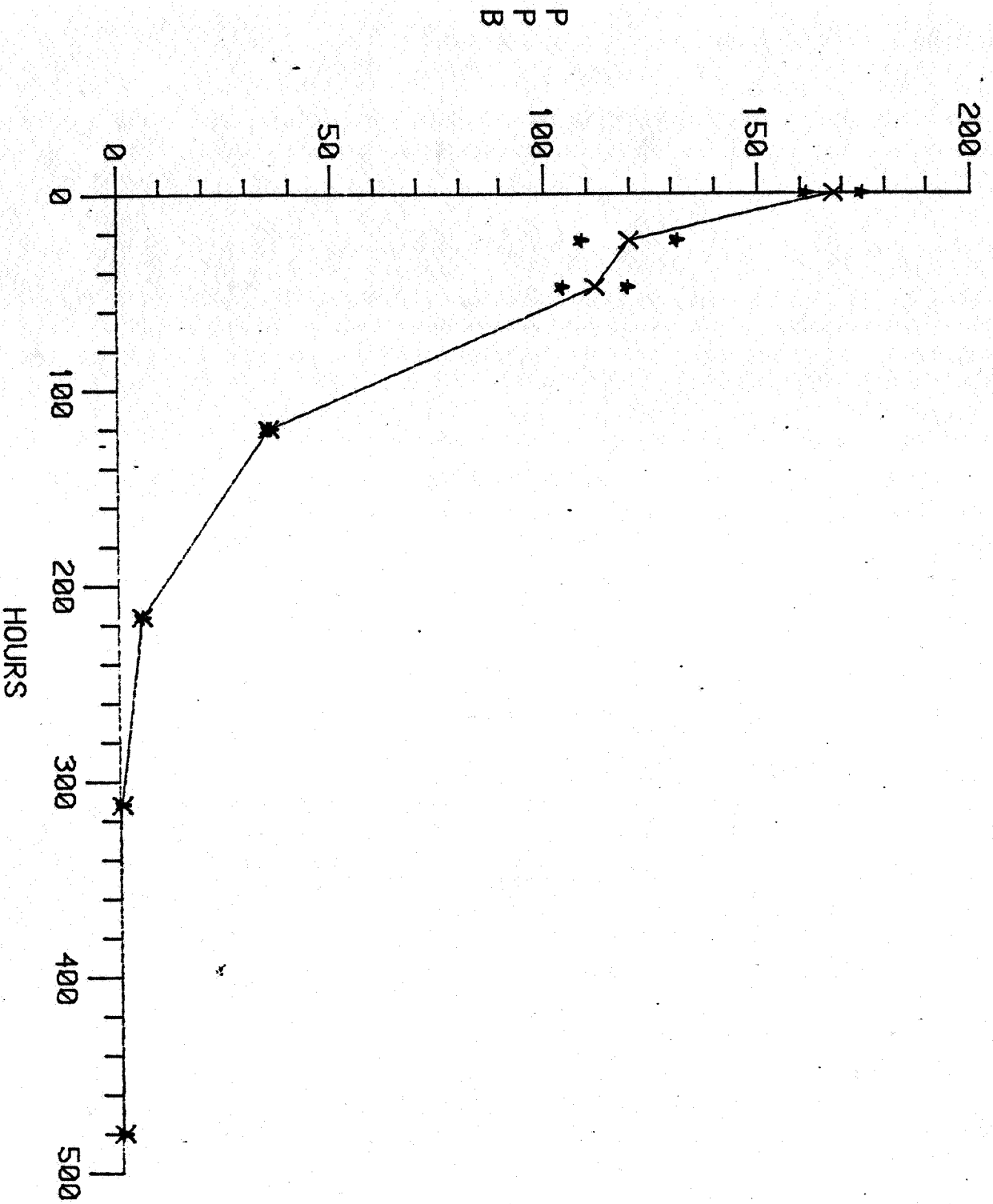
in water	8-10 day	1/2-life
in sed/H ₂ O	1-5 day	"

I have included copy of the graphed residue data for all four test systems.

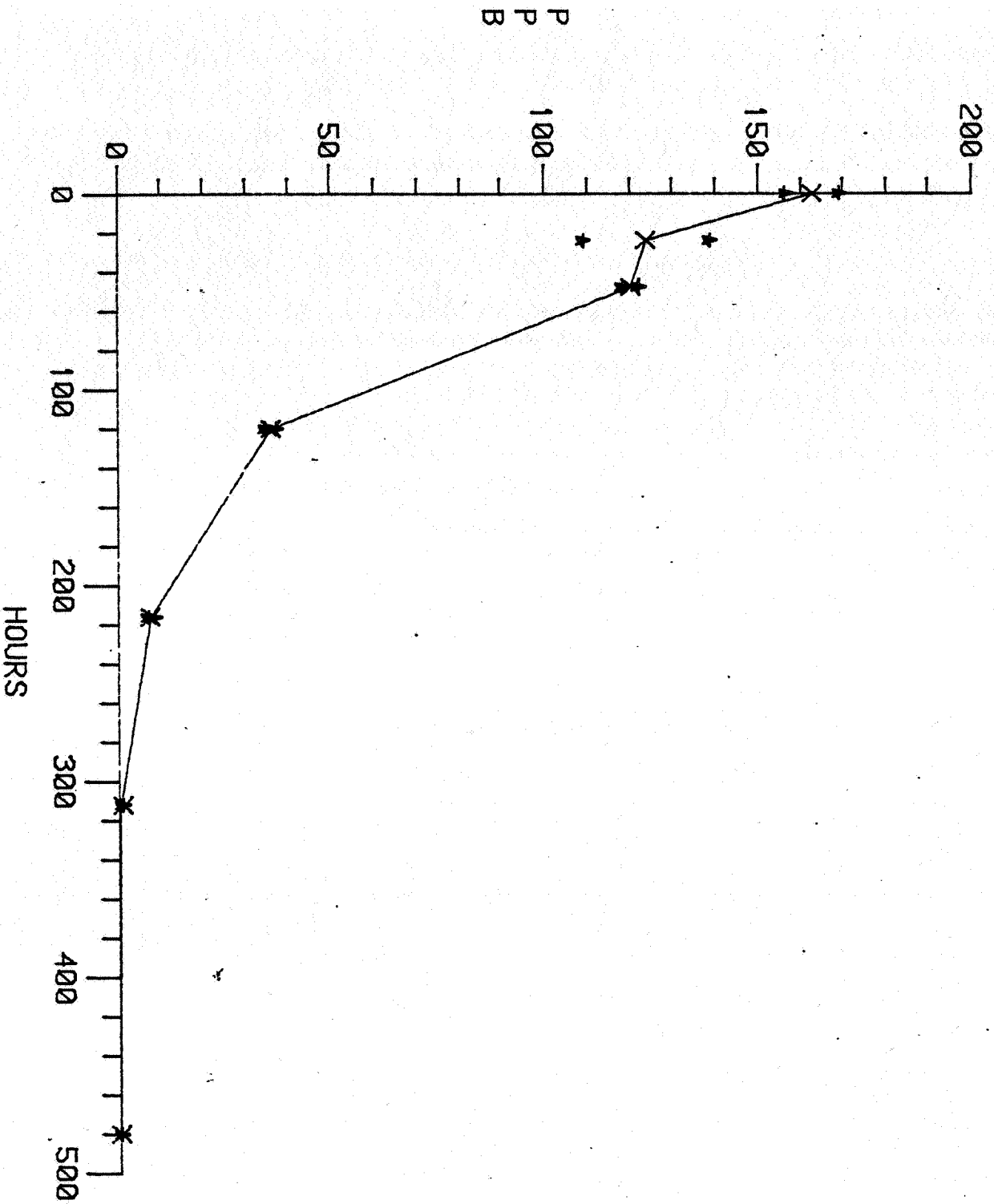
I hope this helps you for your assessment.

Attachments

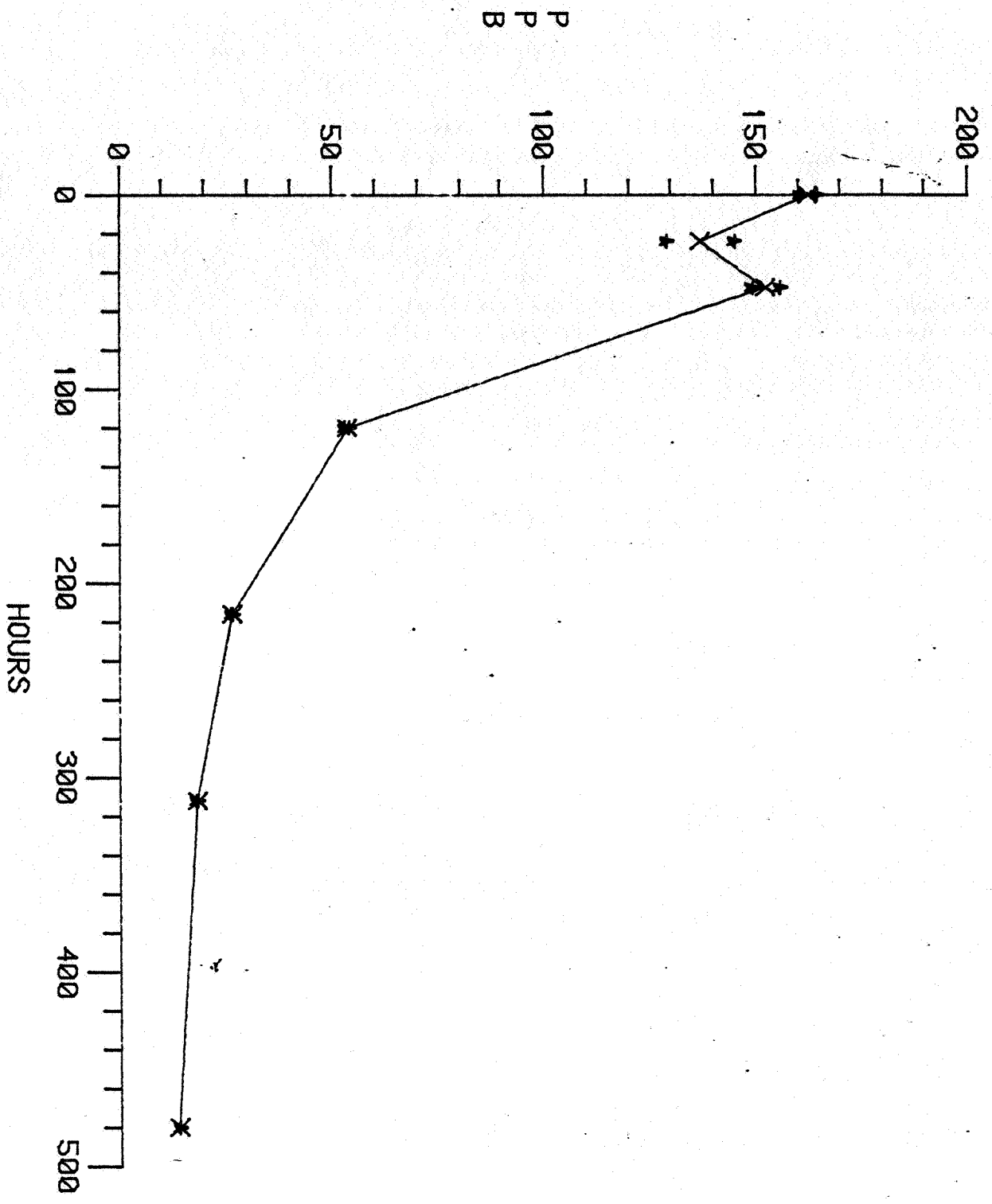
BRAVO FATE SCREEN TEST
ACTIVE SEDIMENT REPLICATE 1



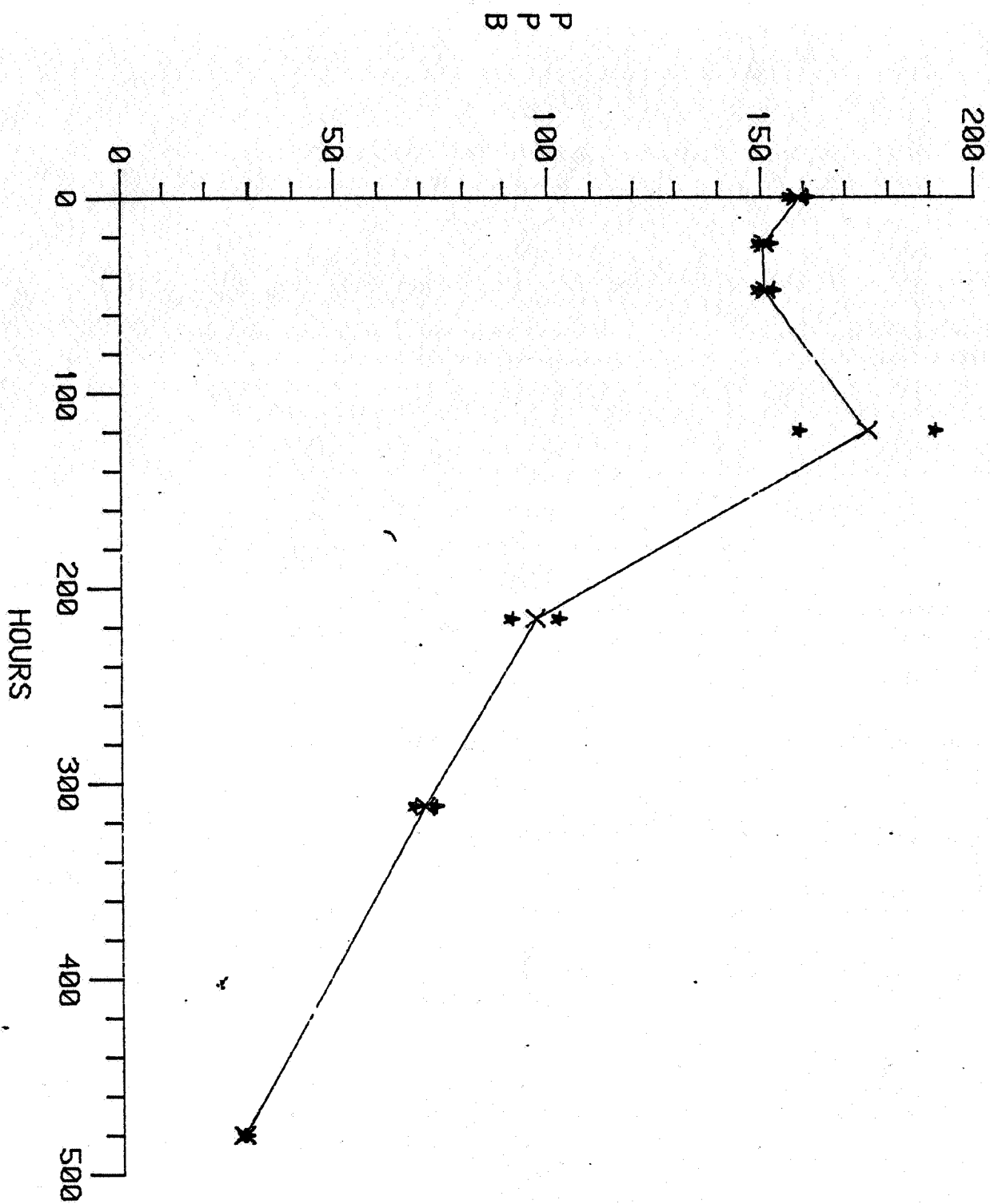
BRAVO FATE SCREEN TEST
ACTIVE SEDIMENT REPLICATE 2



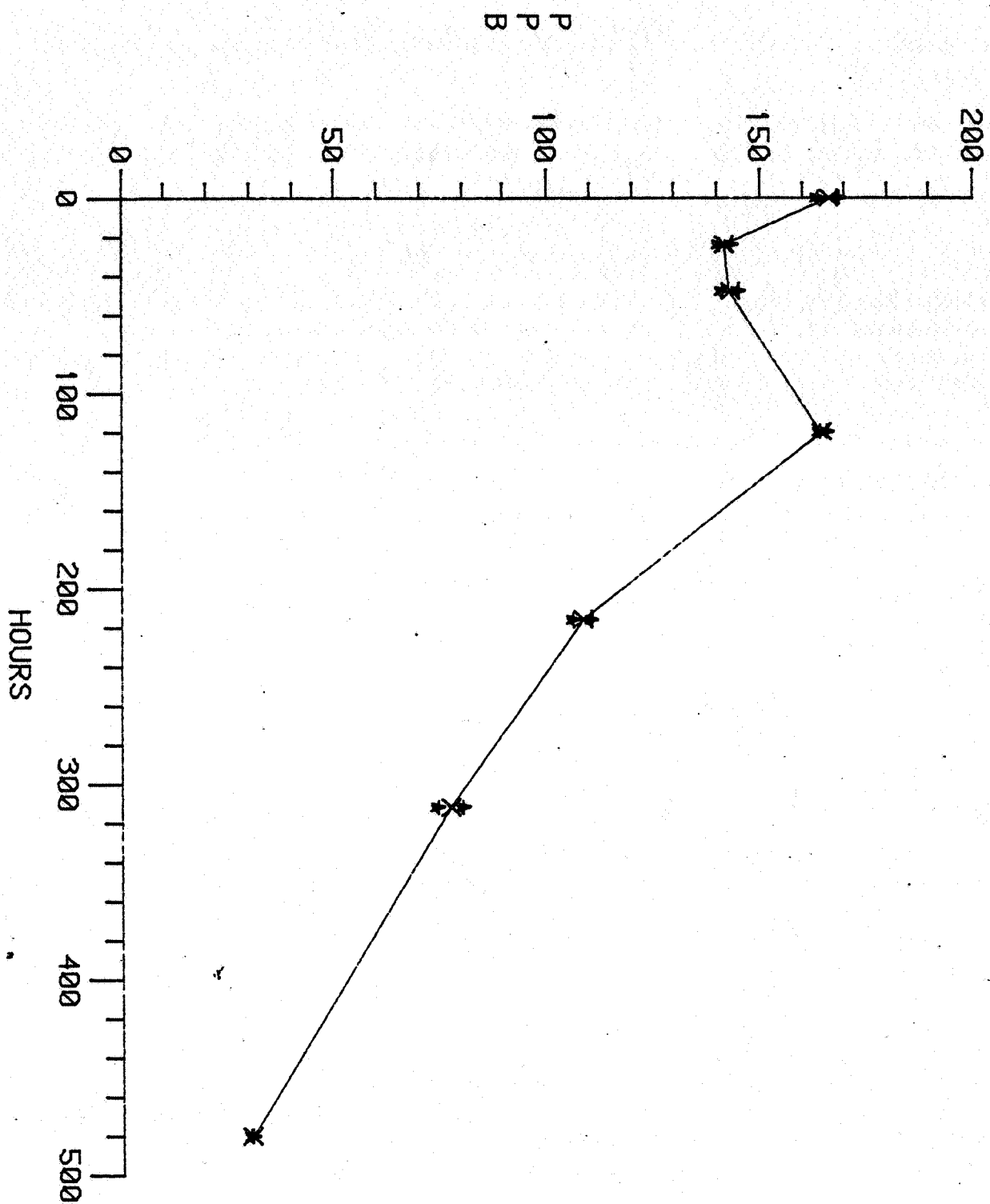
BRAVO FATE SCREEN TEST
STERILE SEDIMENT



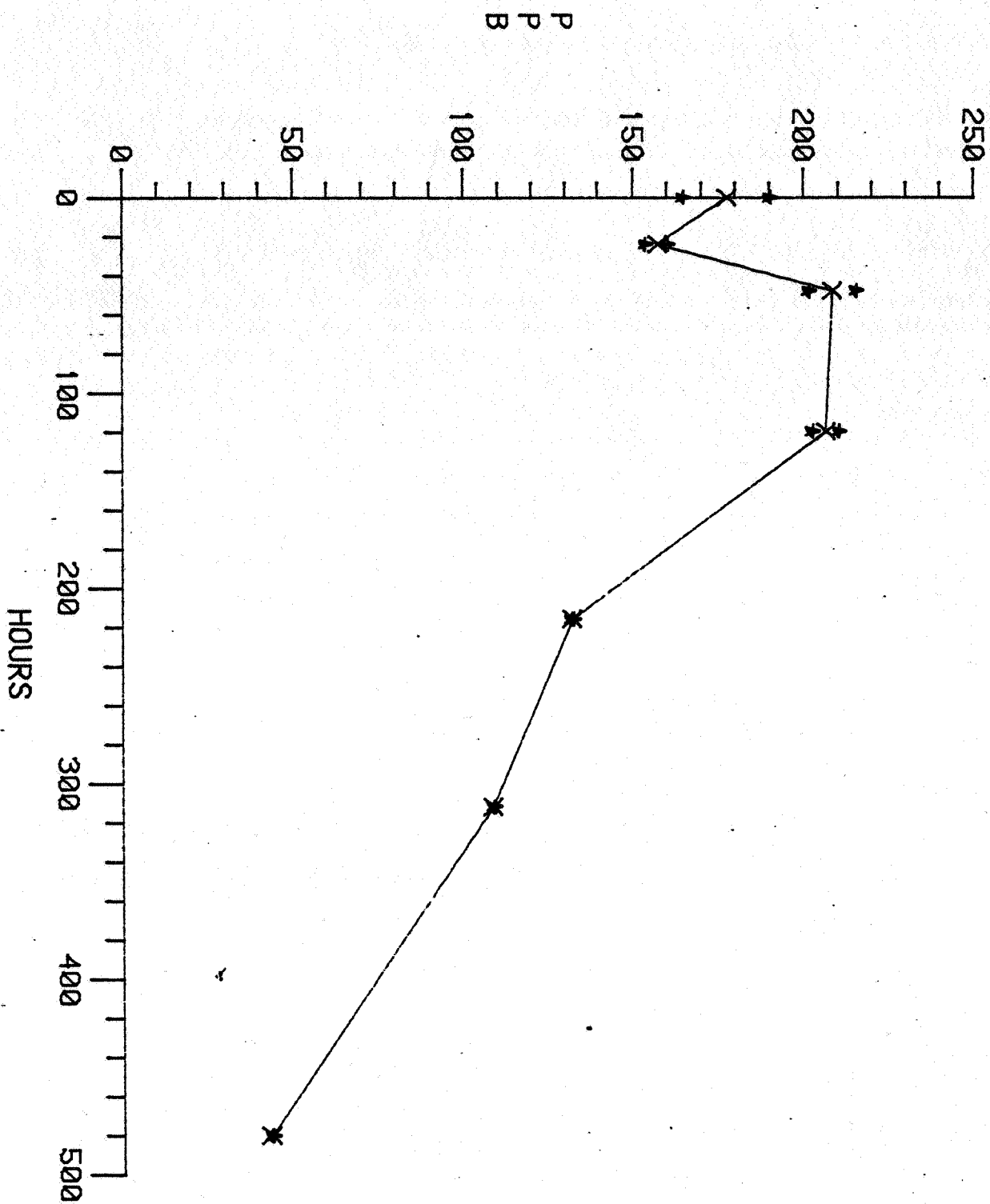
BRAVO FATE SCREEN TEST ACTIVE WATER REPLICATE 1



BRAVO FATE SCREEN TEST
ACTIVE WATER REPLICATE 2



BRAVO FATE SCREEN TEST STERILE WATER





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MEMORANDUM: JUN 6 1983

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

TO: Henry Jacoby
Product Manager 21
Registration Division (TS-767)

THRU: Norm Cook, Section Head
Section 1, Ecological Effects Branch
Hazard Evaluation Division

THRU: Clayton Bushong, *for* Chief *Dpm*
Ecological Effects Branch
Hazard Evaluation Division

SUBJECT: Request for Estimated Environmental
concentration for Bravo 500 (EPA Reg. #
677-313)

The Ecological Effects Branch requires an estimation of environmental concentrations (EEC) from the Exposure Assessment Branch (EAB) for Bravo 500. Bravo 500 is 40.4%, Chlorothalonil and is proposed for registration on almonds, rice and wheat. The following are needed to complete our risk assessment for non-target fish and aquatic invertebrates.

1. EEC's for Bravo 500 on almonds based on the maximum application rate (2 applications at 4 lbs a.i. per acre).
2. EEC's for Bravo 500 on rice based on maximum application rate (2 application at 1.5 lbs a.i. per acre) and considering the 7 days holding period mentioned on the label.
3. EEC's for Bravo 500 on wheat based on maximum application rate (3 application at 3 lbs a.i. per acre).

The above are needed for both lentic and lotic environments, with the parent compound only.

These EEC's are needed no later than July 22, 1983 to meet existing EEB deadlines. Please send EAB the appropriate proposed labels for almonds, rice and wheat. Your cooperation is greatly appreciated.

557-7666
Daniel Rieder
Ecological Effects Branch
Hazard Evaluation Division

cc: Les Touart

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Page _____ is not included in this copy.

Pages 16 through 19 are not included.

The material not included contains the following type of information:

- ____ Identity of product inert ingredients.
 - ____ Identity of product impurities.
 - ____ Description of the product manufacturing process.
 - ____ Description of quality control procedures.
 - ____ Identity of the source of product ingredients.
 - ____ Sales or other commercial/financial information.
 - ____ A draft product label.
 - ____ The product confidential statement of formula.
 - ____ Information about a pending registration action.
 - ____ FIFRA registration data.
 - ____ The document is a duplicate of page(s) _____.
 - ____ The document is not responsive to the request.
-

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

REGISTRATION DIVISION DATA REVIEW RECORD

Confidential Business Information - Does Not Contain National Security Information (E.O. 12065)

6374
615153

1. CHEMICAL NAME

Chlorotrifluoromethane

2. IDENTIFYING NUMBER

677-313

3. ACTION CODE

335

4. ACCESSION NUMBER

—

TO BE COMPLETED BY PM

5. RECORD NUMBER

96384

6. REFERENCE NUMBER

33

7. DATE RECEIVED (EPA)

4/21/83

8. STATUTORY DUE DATE

9. PRODUCT MANAGER (PM)

Jocelyn Beavers

10. PM TEAM NUMBER

21

14. CHECK IF APPLICABLE

☐ Public Health/Quarantine

☐ Minor Use

☐ Substitute Chemical

☐ Part of IPM

☐ Seasonal Concern

☒ Review Requires Less Than 4 Hours

TO BE COMPLETED BY PCB

11. DATE SENT TO HED/TSS

6-8-83

12. PRIORITY NUMBER

45

13. PROJECTED RETURN DATE

8/8/83

15. INSTRUCTIONS TO REVIEWER

- A. HED ☐ Total Assessment - 3(c)(5)
☐ Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977.
- B. SPRD (Send Copy of Form to SPRD PM)
☐ Chemical Undergoing Active RPAR Review
☐ Chemical Undergoing Active Registration Standards Review

- C. ☐ BPSD
D. ☐ TSS/RD
E. ☐ Other

F. INSTRUCTIONS

Received from EEB attached.

4 ask track - no data

16. RELATED ACTIONS

3F2375

17. 3(c)(1)(D)

- ☐ Use Any or All Available Information ☐ Use Only Attached Data
☐ Use Only the Attached Data for Formulation and Any or All
☐ Available Information on the Technical or Manufacturing Chemical.

18. REVIEWS SENT TO

- ☐ TB ☐ EEB ☐ EF ☐ PL
☐ RCB ☐ EFB ☐ CH ☐ BPSD

19. To	TYPE OF REVIEW	NUMBER OF ACTIONS							
		Registration	Petition	EUP	SLN	Sec. 18	Inert	MNR. USE	Other
HED	TOXICOLOGY								
	ECOLOGICAL EFFECTS								
	RESIDUE CHEMISTRY								
	ENVIRONMENTAL DATA	1							
RD/TSS	CHEMISTRY								
	EFFICACY								
	PRECAUTIONARY LABELING								
BPSD	ECONOMIC ANALYSIS								

20. ☐ Label Submitted with Application Attached

21. ☐ Confidential Statement of Formula

22. ☐ Representative Labels Showing Accepted Uses

23. Date Returned to RD (to be completed by HED)

24. Include an Original and 4 (four) Copies of This Completed Form for Each Branch Checked for

REGISTRATION DIVISION DATA REVIEW RECORD

Confidential Business Information - Does Not Contain National Security Information (E.O. 12065)

6374
6/8/83

1. CHEMICAL NAME

Chlorothalonil

2. IDENTIFYING NUMBER

677-313

3. ACTION CODE

335

4. ACCESSION NUMBER

—

TO BE COMPLETED BY PM

5. RECORD NUMBER

196835/13

6. REFERENCE NUMBER

133

7. DATE RECEIVED (EPA)

4/21/83

8. STATUTORY DUE DATE

9. PRODUCT MANAGER (PM)

Quincy Rivers

10. PM TEAM NUMBER

21

14. CHECK IF APPLICABLE

☐ Public Health/Quarantine

☐ Minor Use

☐ Substitute Chemical

☐ Part of IPM

☐ Seasonal Concern

☒ Review Requires Less Than 4 Hours

TO BE COMPLETED BY PCB

11. DATE SENT TO HED/TSS

6-8-83

12. PRIORITY NUMBER

45

13. PROJECTED RETURN DATE

8/8/83

15. INSTRUCTIONS TO REVIEWER

A. HED

☐ Total Assessment - 3(c)(6)

☐ Incremental Risk Assessment - 3(c)(7) and/or E.L. Johnson memo of May 12, 1977

B. SPRD (Send Copy of Form to SPRD PM)

☐ Chemical Undergoing Active RPAR Review

☐ Chemical Undergoing Active Registration Standards Review

C. ☐ BFSD

D. ☐ TSS/RD

E. ☐ Other

F. INSTRUCTIONS

Request from EEB attached.

Fast track - no data.

16. RELATED ACTIONS

3F2875

17. 3(c)(1)(D)

☐ Use Any or All Available Information ☐ Use Only Attached Data
☐ Use Only the Attached Data for Formulation and Any or All
☐ Available Information on the Technical or Manufacturing Chemical.

18. REVIEWS SENT TO

☐ TB

☐ EEB

☐ EF

☐ PL

☐ RCB

☒ EFB

☐ CH

☐ BFSD

19. To TYPE OF REVIEW

NUMBER OF ACTIONS

Registration Petition EUP SLN Sec. 18 Inert MNR. USE Other

HED	TOXICOLOGY								
	ECOLOGICAL EFFECTS								
	RESIDUE CHEMISTRY								
	ENVIRONMENTAL DATA	<i>1</i>							
RD/TSS	CHEMISTRY								
	EFFICACY								
	PRECAUTIONARY LABELING								
BFSD	ECONOMIC ANALYSIS								

20. ☒ Label Submitted with Application Attached

21. ☐ Confidential Statement of Formula

22. ☐ Representative Labels Showing Accepted Uses Attached

23. Date Returned to RD (to be completed by HED)

24. Include an Original and 4 (four) Copies of This Completed Form for Each Branch Checked for Review