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BP Oil Company
200 Public Square
Cleveland, Ohio 44114-2375
(216) 586-4141

August 25, 1992

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Document Processing Center (TS-790)
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
401 M Street, S. W.
Washington, DC 20460

Attn: TSCA Section 8(e) Coordinator (CAP Agreement)

Re: EPA ID No. 8ECAP-0009

Dear Sir or Madam:

BP Oil, Inc. submits the attached study pursuant to the terms of the TSCA Section 8(e) Compliance Audit Program (CAP) and the BP America CAP Agreement:

Study Identification

A 48-Hour Aquatic Toxicity Study of 150 MC Bright Stock; Laboratory Project No. 1094; Final Report dated June 17, 1983 and Amendment No. 1 dated February 21, 1984.

BP Oil acquired this information from another company in 1985 as part of a corporate transaction.

Identity of Tested Chemical Substance/Mixture and CAS Number (if known)

Residual oils, petroleum, hydrotreated

CAS Number: 64742-57-0

Summary of Reportable Information

The objective of this study was to determine the median concentration (EC50) of 150 MC Bright Stock that produced D. magna immobilization or death during a 48-hour exposure.

The 48-hour EC50 for 150 MC Bright Stock was calculated to be 3.8 mg/l. This value assumes the test material to be completed soluble in water and that it

remains solubilized during the 48-hour exposure period. Actual water concentrations of the test material components were not determined.

Previous PMN or 8(e) Submissions by BPA: EPA Document Control Number(s)

None

Please direct any questions about this submission to BP America's Manager of Toxicology, Mr. Dale E. Strother, at 216-586-8262.

Sincerely,

Dennis R. Jonke
Manager, Health, Safety and
Environmental Quality
BP Oil, Inc.

COMPANY SANITIZED

Gulf Life Sciences Center
260 Kappa Drive
Pittsburgh, PA 15238-2874

REPORT AMENDMENT

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA
WITH 150 MCBRIGHT STOCK

PROJECT #1094

FEB 27 1984

AMENDMENT #1

1.0 SPONSOR: Gulf Refining and Marketing Co.
P.O. Box 2001, Houston, TX 77252

2.0 SPONSOR REPRESENTATIVE: Patrick D. Guiney, M.S.
Medical and Health Resources Division
Gulf Oil Corporation

3.0 STUDY DIRECTOR: Gary A. Rausina, M.S.

ITEM NO. 1

Section 5.0; replace the last two sentences in the conclusion with the following: Analyses of 150 McBright Stock in the test water were not performed. However, the method of test solution preparation should have resulted in maximum attainable concentrations of water-soluble components possible under the conditions of this test.

Reason For Change: This change was made to more clearly state the conclusion.

ITEM NO. 2

Sections 10.3 and 11.2 should be disregarded.

Reason For Change: The classification scheme referred to was not used to classify the test substance's hazard potential.

ITEM NO. 3

The following sentence should be added to the end of the second paragraph in Section 11.1: Calculations are based on nominal concentrations.

Reason For Change: All concentrations are expressed in terms of nominal concentrations.

REPORT AMENDMENT APPROVAL

Gary A. Rausina 2-21-84

Gary A. Rausina, M.S. Date
Study Director

GAR:pja
2/17/84

Gulf Life Sciences Center
260 Kappa Drive
Pittsburgh, PA 15238-2874

REPORT

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA WITH 150 MC Bright Stock

PROJECT #1094

1.0 SPONSOR: Gulf Oil Refining and Marketing Company
P.O. Box 2001, Houston, TX 77252

2.0 SPONSOR REPRESENTATIVE: Patrick D. Guiney, M.S.
Medical and Health Resources Division
Gulf Oil Corporation

3.0 STUDY DATES:

3.1 Initiation: December 7, 1982

3.2 Completion: December 9, 1982

3.3 Reported: June 17, 1983

4.0 OBJECTIVE:

To determine the 48-hour median effective concentration (48-hour EC50) of a test substance in terms of test animal immobilization or death.

5.0 CONCLUSION:

The 48-hour EC50 was 3.841-mg/l nominal concentration of 150 MC Bright Stock. Chemical analysis of the test water could not be performed. The results of the hexavalent chromium positive control study indicated all test parameters were within acceptable limits.

6.0 SIGNED: Linda S Glenn
Linda S. Glenn, B.S.
Toxicologist

Gary A. Rausina
Gary A. Rausina, M.S.
Study Director/Section Head
Acute & Environmental Toxicology

* * * * *

All raw data, required specimens, and the final report for this study are archived at the testing facility.

7.0 TEST AND CONTROL SUBSTANCES:

7.1 Test Substance:

7.1.1 Name: 150 MC Bright Stock

7.1.2 Life Sciences Center Code No.: T-131

MV175

7.1.3 CAS No.: 64742-57-0

7.1.4 Physical Description: Clear, light brown oil. The results of the analytical characterization of the test substance are available in the testing facility archives.

7.1.5 Stability: Stability information may be requested from the sponsor.

7.1.6 Purity: Purity information may be requested from the sponsor.

7.2 Control Substance:

7.2.1 Name: Potassium Dichromate (Hexavalent Chromium)

7.2.2 Life Sciences Center Code No.: C-17

7.2.3 CAS No.: 7778-50-9

7.2.4 Physical Description: Reddish, orange crystals

7.2.5 Stability: The stability of the laboratory-grade positive control substance was not determined.

7.2.6 Purity: 99.98%

8.0 TEST SYSTEM:

8.1 Test Animal: Daphnia, Daphnia magna

8.2 Source: Sea Plantations, Inc.
29 Congress Street
Salem, MA 01970

8.3 Date Animals Received: April 23, 1982

8.4 Procedure for Identification of Species: The animals were identified by the supplier. They were also identified as Daphnia magna, Straus, by our laboratory staff using a taxonomic key for cladocera that is found in Pennak.[1]

8.5 Maintenance:

8.5.1 The daphnia used in the study were derived from a clone of animals. A clone is a culture of organisms that are genetically identical having been parthenogenetically produced from a single organism.

8.6.2 Randomization of Bioassay Vessel: Each bioassay vessel on the table was assigned to a test concentration using computer-generated random numbers.

9.0 EXPERIMENTAL DESIGN:

9.1 Dose Levels: The following concentrations were tested in a definitive study.

Test Material	Nominal Concentration (mg/l) [a]	Number of Animals Per Test Level	Number of Bioassay Vessels Per Test Level [b]
Untreated Control 1	None	20	2
Untreated Control 2	None	20	2
150 MC Bright Stock (Test Substance)	1.0	20	2
	1.8	20	2
	3.2	20	2
	5.6	20	2
	10.0	20	2
Hexavalent Chromium (Positive Control Substance)	0.10	20	2
	0.18	20	2
	0.32	20	2
	0.56	20	2
	1.00	20	2

Note: Untreated Control 1 was tested with the test substance and Untreated Control 2 was tested with the positive control substance.

[a] The nominal concentration is the calculated amount of test material that is required to achieve the desired test level. This value assumes the test material is completely soluble in water and that it remains in the water at a stable concentration during the time the animals are exposed.

[b] Each bioassay vessel contained 10 daphnia.

9.2 Stock Solution Preparation:

9.2.1 Test Substance: Each day a 100-mg/l nominal test concentration of 150 MC Bright Stock was prepared by vigorously mixing 1.60 ml of test substance into 14.4 l of water. The stock solution was continuously stirred while it was dispensed into the flow-through proportional diluter system. Dilutions of the stock solution were produced in the proportional diluter system to achieve the desired test concentrations.

9.2.2 Positive Control Substance: Each day a 10-mg/l nominal test concentration of hexavalent chromium was prepared by vigorously mixing 407.5 mg of potassium dichromate into 14.4 l of water. The stock solution was continuously stirred while it was dispensed into the flowthrough proportional diluter system. Dilutions of the stock solution were produced in the proportional diluter system to achieve the desired test concentrations.

9.3 A peristaltic pump dispensed approximately 25 ml of the stock solution into the flowthrough system during each 2.5 minutes/cycle. At this flowrate, 14.4 l of the preparation was dispensed into the system every 24 hours.

9.4 The flowthrough system was calibrated to deliver 100 ml of test water to each test level every 2.5 minutes/cycle. Thus, approximately 50 ml of test water flowed into each duplicate of each test level. Since the capacity of each test vessel was approximately 3.0 l, the turnover rate (the number of times a vessel was filled in 24 hours) was 9.6 tank changes per day.

9.5 In each bioassay vessel, the test animals were placed into a floating polypropylene container that had a mesh bottom. The mesh allowed water to pass into the container but kept the daphnia from escaping. Use of the 8 cm x 8 cm cylindrical container resulted in easier observation of the test animals and kept them from being accidentally discharged at the overflow standpipe.

10.0 OBSERVATIONS:

10.1 Daily records were kept for the number of immobilized and dead animals that were found in each test vessel. The observation intervals were 6, 24, and 48 hours. A 1-hour observation interval was not attempted in the bioassay. The Study Director considered an attempt to do so would have resulted in an unnecessary disturbance of the test animals that may have significantly altered the study results.

10.1.1 Since the animals were not tagged, a numerical value indicating the number found immobilized or dead versus the total number of animals exposed was recorded.

10.1.2 The results from each duplicate vessel and the composite data for the test levels were tabulated.

10.2 Statistical Analysis of Mortality Data: A statistical analysis of the data was conducted as follows:

10.2.1 At the end of the study, the dose-response data at 24 and 48 hours were analyzed to permit calculation of the EC50's using the probit analysis program that is part of the SAS Computer System.[2] An EC50 was calculated using the composite data from the test concentrations.

10.2.2 A Chi-square test was performed on each dose-response curve to insure the data was nonheterogeneous and the dose-response curve was a good fit. This substantiates the validity of the EC50 calculation.

10.3 After completion of the study, the calculated 48-hour EC50 values of the test and positive control substances were used to classify their potential for acute environmental hazard. The Gulf Toxicology Department's Classification Scheme for Acute Environmental Hazard Assessment is presented in Appendix 2b.

10.4 Water temperature, dissolved oxygen concentration, pH, total alkalinity, total hardness, and specific conductance were measured and recorded during the first 6 hours and again at 48 hours in each bioassay vessel.

10.5 Water samples were taken on Day 0 and at 48 hours from each bioassay vessel. These samples were to be chemically analyzed to determine the actual concentrations of test or positive control substance that were present in the water, however in the case of the test substance, a suitable method was not found.

10.6 Analytical Methods Used for Detection of Test/Positive Control Substances:

10.6.1 Test Substance: Chemical analysis to confirm the actual concentration of 150 MC Bright Stock in each test level could not be determined. A suitable method of analysis was not found.

10.6.2 Positive Control Substance: Hexavalent chromium, in the form of potassium dichromate, was detected in the water samples by atomic absorption. The instrument's detection range was set at a wavelength of 357.5 nm (slit width 0.7 nm) and an air/acetylene flame was used. The instrument was calibrated at 0.1, 0.3, 0.7, and 1.0 mg/l.

10.8 Daily flowthrough system calibration and examination records were kept.

11.0 RESULTS:

11.1 Dose-response curves were established for both the test substance and positive control. The test results as well as the 24- and 48-hour EC50 calculations and Chi-square test results for each curve are presented in Appendices 3a through 3j.

The results of the calculations are as follows:

150 MC Bright Stock

24-Hour EC50 = 38.303 mg/l
95% Fiducial Limits = 10.315 mg/l - Not Determined

48-Hour EC50 - 3.841 mg/l
95% Fiducial Limits = 2.922 - 5.151 mg/l

Hexavalent Chromium

24-Hour EC50 = 0.331 mg/l
95% Fiducial Limits = 0.270 - 0.410 mg/l

48-Hour EC50 = 0.210 mg/l
95% Fiducial Limits = 0.172 mg/l - 0.255 mg/l

In both the test substance and positive control studies, the dose-response data for the duplicates were relatively similar. These results are found in the raw data.

The results from the study with the positive control substance conforms with data found in the literature (EPA Water Quality Criteria Data Book) pertaining to the acute toxic responses of freshwater invertebrates that were exposed to hexavalent chromium.[3] The results, therefore, confirm that all test parameters, i.e., health of organisms, water quality, etc., were all within acceptable limits.

11.2 Usually the study results are applied to the Gulf Toxicology Department's Acute Hazard Classification Scheme for Environmental Testing (Appendix 2a). However, because the actual water-soluble concentrations of test substance were not determined, this rating scheme was not used for 150 MC Bright Stock.

11.3 Mean water-characteristic measurements that were recorded in each test level are presented in Appendices 4a and 4b.

There were no dose-response changes in any of the water-characteristic measurements that were determined throughout the 150 MC Bright Stock and positive control studies.

11.4 Analytical Chemistry Results: The analytical chemistry results for the actual test concentrations of the positive control substance found in the test water are presented in Appendix 5.

The analysis of the hexavalent chromium positive control test water indicated that the nominal concentrations of this substance were achieved in the flowthrough proportional diluter system.

11.5 Daily Flowthrough System Calibration/Examination Observations: Daily flowthrough system calibration/examination records are found in the raw data.

11.5.1 Test Substance: Calibrated test water volumes remained relatively constant throughout the study. The flowthrough system's cycle speed was relatively constant. The system provided 102% of the cycles that it was calibrated to achieve during the study.

11.5.2 Positive Control Substance: Calibrated test water volumes remained relatively constant throughout the study. The flowthrough system's cycle speed was relatively constant. The system provided 103% of the cycles that it was calibrated to achieve.

12.0 STUDY PERSONNEL:

The following supervisory personnel were involved in the conduct of this study:

12.1 Study Director: Gary A. Rausina, M.S.

12.2 Study Monitor: Linda S. Glenn, B.S.

12.3 Other Personnel: David S. Boyer, B.S.

13.0 REFERENCES:

[1]PENNAK, R. W. (1978). Freshwater Invertebrates of the United States. 2nd Ed. John Wiley & Sons. New York.

2DELONG, D. M. AND GOODNIGHT, J. H. (1982). The PROBIT Procedure. In SAS User's Guide: Statistics. (A. Ray, ed.). pp. 287-291, SAS Institute, Inc., Cary, NC

[3]UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (1971). Effects of Chemical on Aquatic Life. Water Quality Criteria Data Book. Vol 3. U.S. Gov. Printing Office, Washington, DC 20402.

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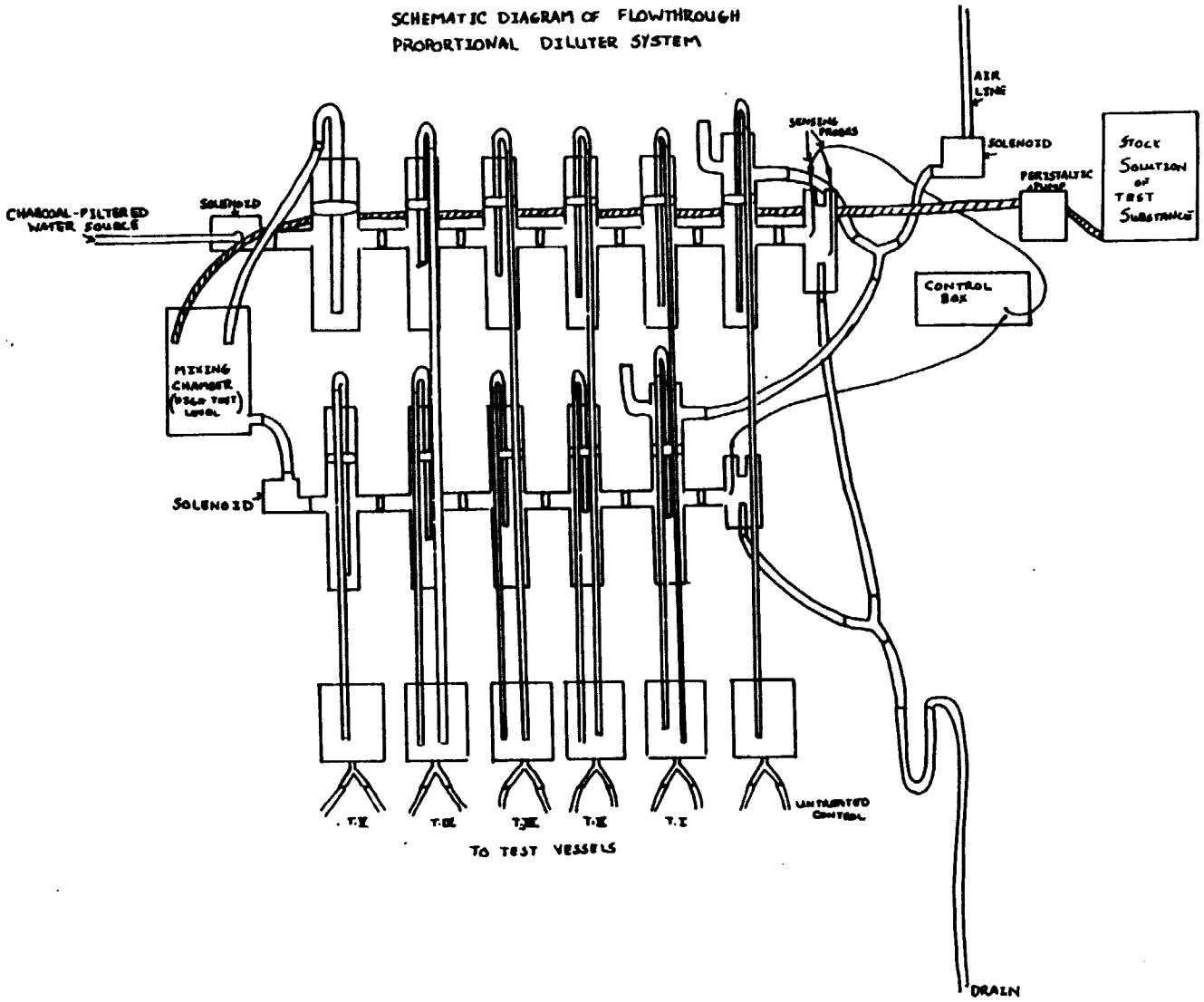
APPENDIX 1

PROTOCOL AMENDMENTS

All protocol amendments are incorporated in the body of the report.

APPENDIX 2a


SCHEMATIC DIAGRAM OF FLOWTHROUGH
PROPORTIONAL DILUTER SYSTEM
AIR LINE
SENSING PROBES
SOLENOID
PERISTALTIC PUMPS
STOCK SOLUTION OF TEST SUBSTANCE
CHARCOAL-FILTERED WATER SOURCE
SOLENOID
CONTROL BOX
MIXING CHAMBER
SOLENOID
T.E
T.E
T.E
T.E
T.E
UNTREATED CONTROL
TO TEST VESSELS
DRAIN

APPENDIX 2b

GULF TOXICOLOGY DEPARTMENT

ACUTE HAZARD CLASSIFICATION SCHEME FOR ENVIRONMENTAL TESTING

Rating Scale	Test Concentration EC50 or LC50*	Acute Hazard Classification
0	$\geq$ 100 mg/l	Practically Nontoxic
1	10 < 100 mg/l	Slightly Toxic
2	1 < 10 mg/l	Moderately Toxic
3	<1 mg/l	Highly Toxic

*The time intervals that are applied to the classification scheme in each acute study are listed below.

48-Hour EC50 in the Acute Daphnia Study
96-Hour EC50 in the Acute Algal Study
96-Hour LC50 in the Acute Fish and Mysid Shrimp Studies

APPENDIX 3a

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA

Tabulation of the Number of Affected* Animals Found in Each Test Level

Test Substance	Nominal Test Concentration** (mg/l)	Duplicate	Cumulative Number of Affected* Animals at the Following Observation Intervals: 6-Hr	24-Hr	48-Hr	Dose Level Totals: Number Affected* / Number Tested	Percent Affected
Untreated Control	None	1	0	0	0	0/20	0%
		2	0	0	0		
150 MC Bright Stock	1.0	1	0	1	1	1/20	5%
		2	0	0	0		
	1.8	1	0	3	2	6/20	30%
		2	1	2	4		
	3.2	1	1	2	4	7/20	35%
		2	1	2	3		
	5.6	1	0	1	9b	16/23	70%
		2	0	2	7		
	10.0	1	0	6a	12	18/22	82%
		2	3	2	6		

* Affected animals are daphnia that are either immobilized or dead.
**The nominal concentration is a theoretical amount of test substance required to achieve the desired test volume. This value assumes complete solubility of the test substance.
a Two additional daphnia were found in this duplicate during the observation interval.
b Three additional daphnia were found in this duplicate during the observation interval.

APPENDIX 3b
STUDY NUMBER 1004
TEST SUBSTANCE RESULTS
24-HOUR STUDY

PROBIT ANALYSIS ON LOG10(DOSE)

ITERATION	INTERCEPT	SLOPE	MU	SIGMA
0	3.63919602	3.90034653	1.51193625	1.11105367
1	3.74162686	3.74324270	1.5[illegible]6365[illegible]6	1.26044922
2	3.73877492	3.70661178	1.5[illegible]23678	1.2553160[illegible]
3	3.73877276	3.70661437	1.[illegible]23435	1.25531252

COVARIANCE MATRIX

	INTERCEPT	SLOPE
INTERCEPT	0.07749251	-0.09914533
SLOPE	-0.09914533	0.17241369

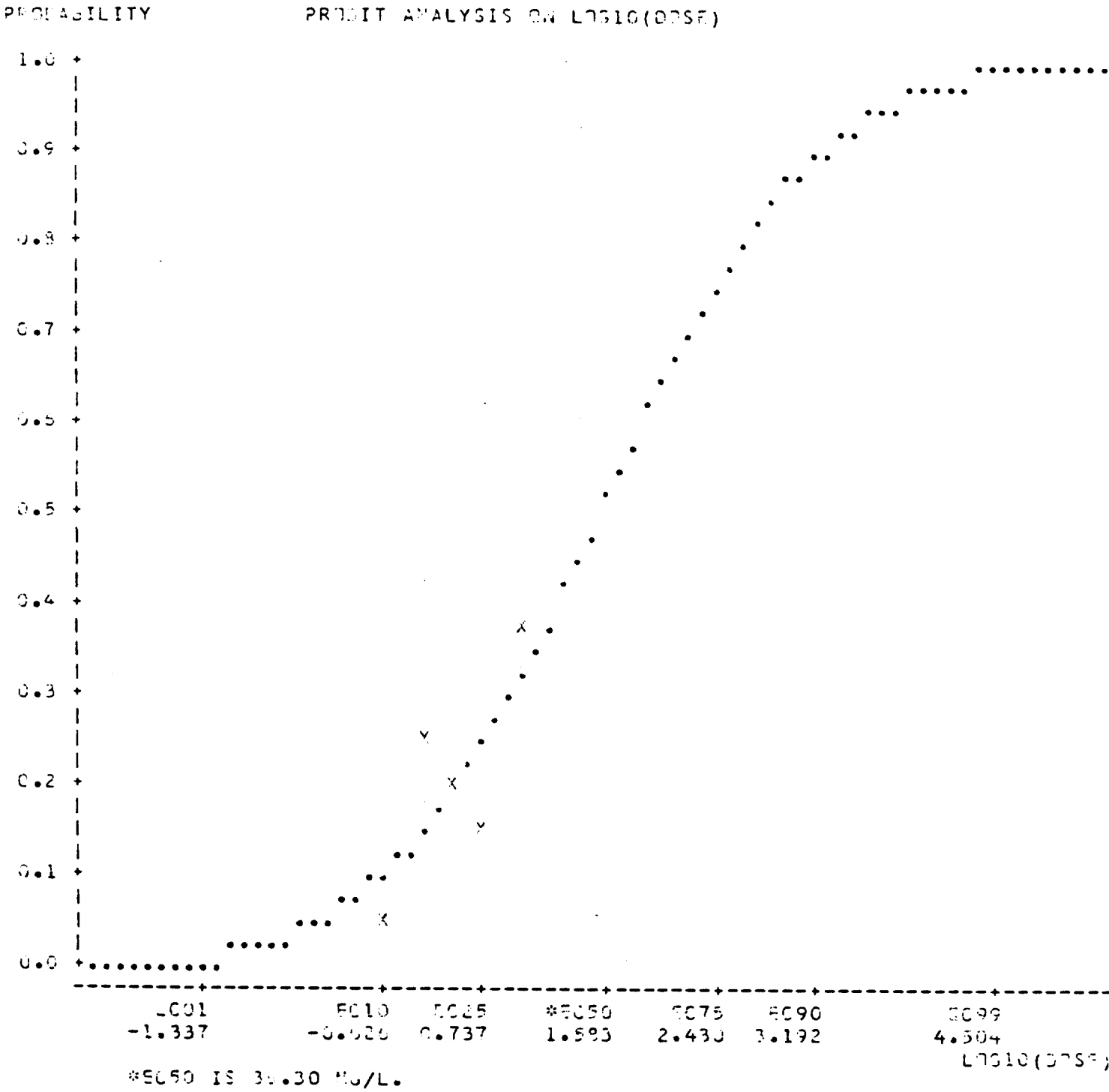
COVARIANCE MATRIX

	MU	SIGMA
MU	0.30042932	0.34384904
SIGMA	0.34384904	0.42213349

CHI-SQ. = 3.7024 WITH 3 DF PROB > CHI-SQ = 0.2954

NOTE: SINCE THE CHI-SQUARE IS SMALL (P > 0.05), FIDUCIAL LIMITS WILL BE COMPUTED USING A T VALUE OF 1.96 .

APPENDIX 3c
STUDY NUMBER 1004
TEST SUBSTANCE RESULTS
24-HOUR STUDY



*.050 IS 3[illegible].30 MG/L.

APPENDIX 3d
STUDY NUMBER 1094
TEST SUBSTANCE RESULTS
48-HOUR STUDY

PROBIT ANALYSIS ON LOG10(DOSE)

ITERATION	INTERCEPT	SLOPE	MU	SIGMA
0	3.53640490	2.45502794	0.59374382	0.40567491
1	3.61838835	2.36437463	0.59434739	0.42274483
2	3.61674250	2.36656452	0.59449981	0.42255345
3	3.61674283	2.36656543	0.59449980	0.42255329

COVARIANCE MATRIX

	INTERCEPT	SLOPE
INTERCEPT	0.07780937	-0.10560124
SLOPE	-0.10560124	0.14340094

COVARIANCE MATRIX

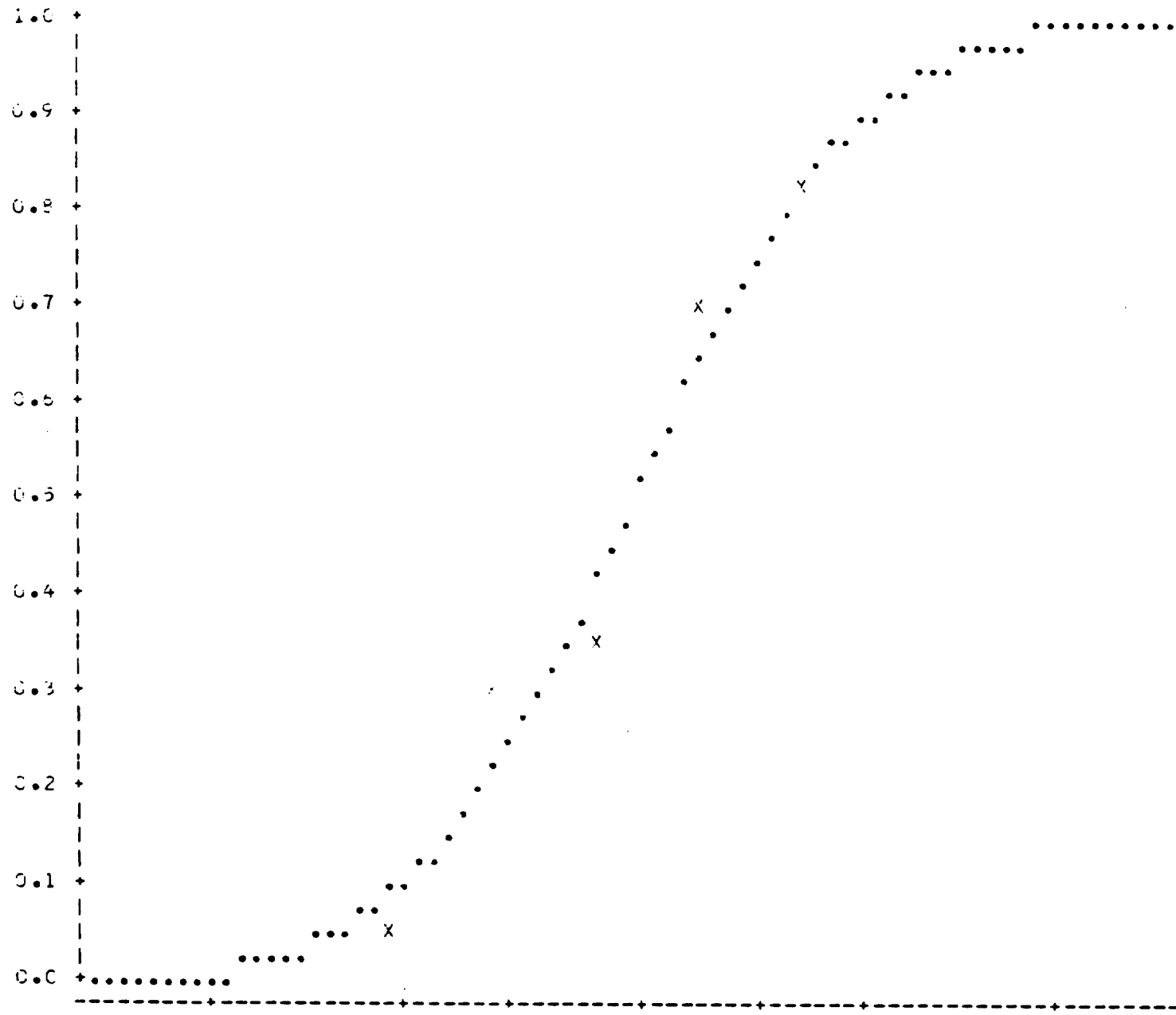
	MU	SIGMA
MU	0.00342396	0.00041406
SIGMA	0.00041406	0.00607009

CHI-SQ = 1.8097 WITH 3 DF PROB > CHI-SQ = 0.6129

NOTE: SINCE THE CHI-SQUARE IS SMALL (P > 0.05), FIDUCIAL LIMITS WILL BE COMPUTED USING A T VALUE OF 1.96 .

APPENDIX 3e
STUDY NUMBER 1094
TEST SUBSTANCE RESULTS
48-HOUR STUDY

PROBABILITY PROBIT ANALYSIS ON LOG10(DOSE)



EC01	EC10	EC25	*EC50	EC75	EC90	EC99
-0.399	0.043	0.299	0.534	0.870	1.126	1.563

LOG10(DOSE)

*EC50 IS 3.341 MG/L.

APPENDIX 3f

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA

Tabulation of the Number of Affected* Animals Found in Each Test Level

Test Substance	Nominal Test Concentration** (mg/l)	Duplicate	Cumulative Number of Affected* Animals at the Following Observation Intervals: 6-Hr	24-Hr	48-Hr	Dose Level Totals: Number Affected* / Number Tested	Percent Affected
Untreated Control	None	1	0a	0	0		
		2	0	0	0	0/22	0%
Hexavalent Chromium (Positive Control)	0.10	1	0	0	1		
		2	0	1	1	2/20	10%
	0.18	1	0	1	4		
		2	0	3	4	8/20	40%
	0.32	1	0	4	6		
		2	0	3	8	14/20	70%
	0.56	1	4	9	10		
		2	1	7	10	20/20	100%
	1.00	1	10	10	10		
		2	9	10	10	20/20	100%

* Affected animals are daphnia that are either immobilized or dead.
**The nominal concentration is a theoretical amount of test substance required to achieve the desired test volume. This value assumes complete solubility of the test substance.
a Two additional animals were added to this duplicate vessel.

APPENDIX 3g
STUDY NUMBER 1094
POSITIVE CONTROL RESULTS
24-HOUR STUDY

PROBIT ANALYSIS ON LOG10(DOSE)

ITERATION	INTERCEPT	SLOPE	MU	SIGMA
0	6.46597235	3.16853850	-0.46266515	0.31560297
1	6.76968294	3.63509257	-0.47958009	0.27509614
2	6.76957624	3.68763693	-0.47986725	0.27117637
3	6.76991405	3.68824101	-0.47983016	0.27113190
4	6.76991411	3.68824159	-0.47983016	0.27113189

COVARIANCE MATRIX

	INTERCEPT	SLOPE
INTERCEPT	0.11396243	0.17728030
SLOPE	0.17728030	0.35791634

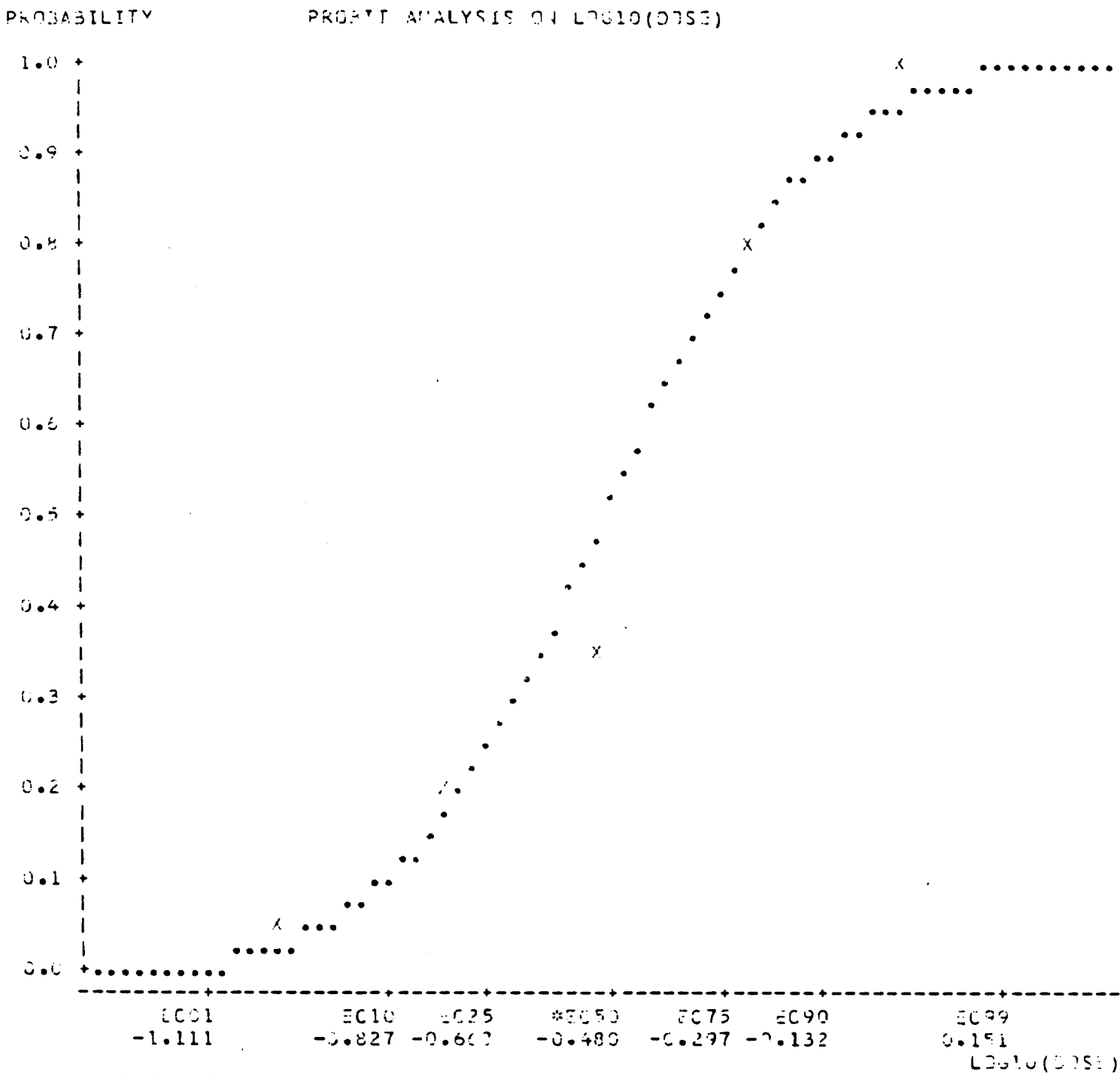
COVARIANCE MATRIX

	MU	SIGMA
MU	0.00192886	0.00011005
SIGMA	0.00011005	0.00193422

CHI-SQUARE = 2.6733 WITH 3 DF PROB > CHI-SQ = 0.4440

NOTE: SINCE THE CHI-SQUARE IS SMALL (P > 0.05), FIDUCIAL LIMITS WILL BE COMPUTED USING A T VALUE OF 1.96 .

APPENDIX 3h
STUDY NUMBER 1094
POSITIVE CONTROL RESULTS
24-HOUR STUDY



*EC50 IS 0.3312 MG/L.

APPENDIX 3i
STUDY NUMBER 1094
POSITIVE CONTROL RESULTS
48-HOUR STUDY

PROBIT ANALYSIS ON LOG10(DOSE)

ITERATION	INTERCEPT	SLOPE	MU	SIGMA
0	7.33327376	3.57671006	-0.65235194	0.27958554
1	7.78748097	4.13546245	-0.67404335	0.24181091
2	7.88911093	4.26899443	-0.67676615	0.23424720
3	7.89292548	4.27405917	-0.67685509	0.23396907
4	7.89293040	4.27407585	-0.67685520	0.23396871

COVARIANCE MATRIX

	INTERCEPT	SLOPE
INTERCEPT	0.27579063	0.37213123
SLOPE	0.37213123	0.96445247

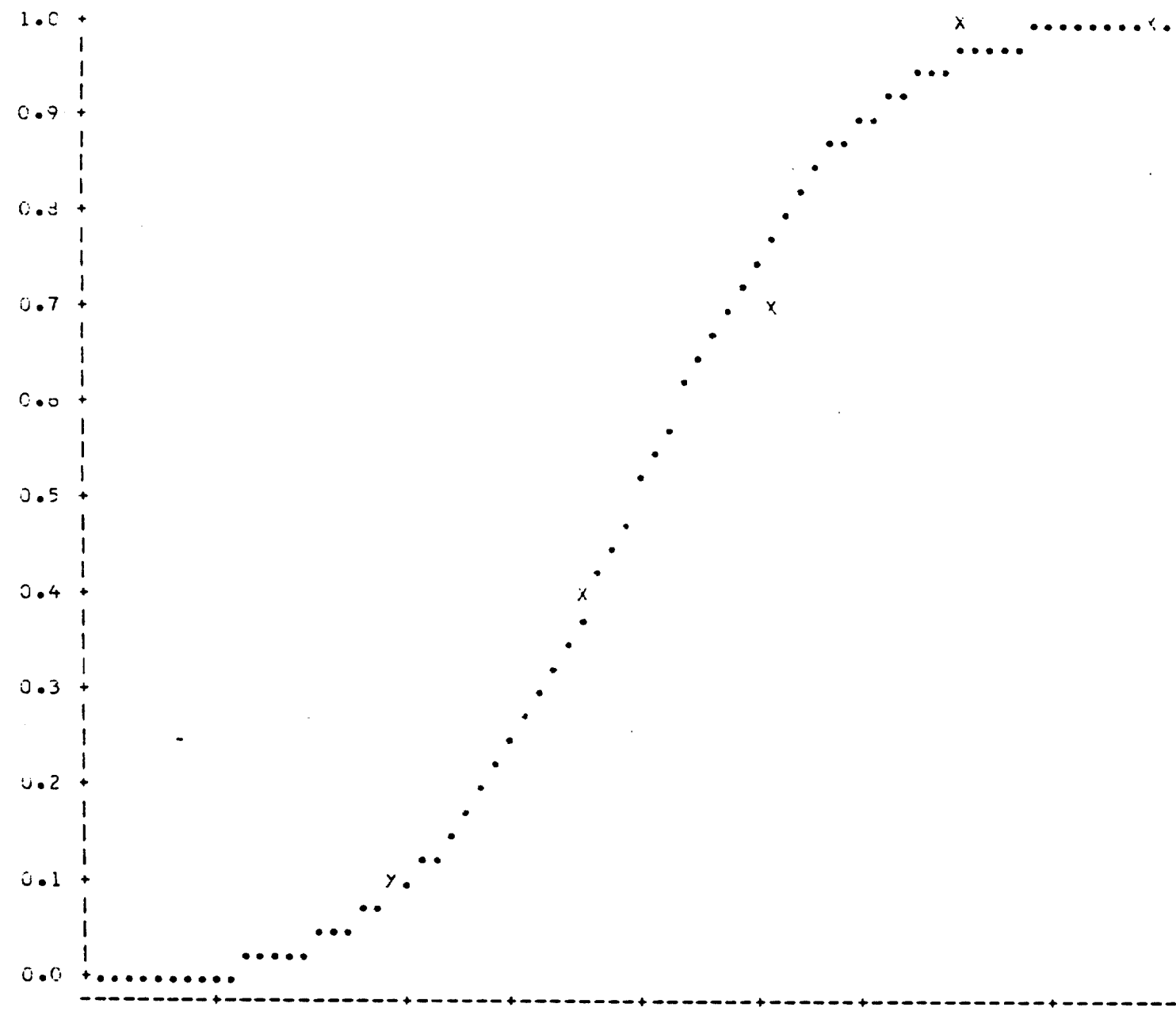
COVARIANCE MATRIX

	MU	SIGMA
MU	0.00167656	-0.00012707
SIGMA	-0.00012707	0.00169145

CHI-SQ = 1.6247 WITH 3 DF PROB > CHI-SQ = 0.6538

NOTE: SINCE THE CHI-SQUARE IS SMALL (P > 0.05), FIDUCIAL LIMITS WILL BE COMPUTED USING A T VALUE OF 1.96 .

APPENDIX 3j
STUDY NUMBER 1094
POSITIVE CONTROL RESULTS
48-HOUR STUDY



*EC50 IS 0.2104 MG/L.

APPENDIX 4a

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA

Mean Chemical Characteristics of the Test Water

Test Substance	Nominal Test Conc.* (mg/l)	Duplicate	Temperature (°C)	Dissolved Oxygen Conc. (mg/l)	Hydrogen Ion Conc. (pH)	Total Alkalinity (mg/l as $CaCO_3$)	Total Hardness (mg/l as $CaCO_3$)	Specific Conductance (umhos/cm)
Untreated Control	None	1	21.6	10.4	8.3	38	91	316
		2	21.0	10.2	7.8	38	89	322
150 MC Bright Stock	0.10	1	21.8	10.3	8.0	38	86	319
		2	21.0	10.0	7.9	38	87	322
	0.18	1	21.8	10.6	8.1	38	88	322
		2	20.8	9.9	8.0	38	85	322
	0.32	1	21.2	10.0	7.8	38	86	319
		2	22.1	10.0	8.1	38	86	322
	0.56	1	21.8	10.2	8.0	38	87	324
		2	21.6	10.0	8.0	38	89	324
	1.00	1	22.2	9.9	8.0	38	89	322
		2	22.2	10.0	8.1	38	88	324

*The nominal concentration is a theoretical amount of test substance required to achieve the desired test level. This value assumes complete solubility of the test substance.

APPENDIX 4b

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA

Mean Chemical Characteristics of the Test Water

Test Substance	Nominal Test Conc.* (mg/l)	Duplicate	Temperature (°C)	Dissolved Oxygen Conc. (mg/l)	Hydrogen Ion Conc. (pH)	Total Alkalinity (mg/l as $CaCO_3$)	Total Hardness (mg/l as $CaCO_3$)	Specific Conductance (umhos/cm)
Untreated Control	None	1	21.2	10.4	8.6	36	85	380
		2	20.5	9.8	8.2	37	86	376
Hexavalent Chromium (Positive Control)	0.10	1	21.2	10.0	8.4	36	86	376
		2	20.8	9.9	8.2	36	85	376
	0.18	1	22.2	9.8	8.7	36	85	379
		2	20.6	10.1	8.2	36	86	376
	0.32	1	21.8	9.4	8.6	36	86	380
		2	21.1	9.8	8.4	36	86	379
	0.56	1	21.8	9.8	8.6	36	86	379
		2	21.3	9.9	8.3	36	86	379
	1.00	1	20.8	9.6	8.0	36	86	379
		2	22.0	9.6	8.4	36	86	382

*The nominal concentration is a theoretical amount of test substance required to achieve the desired test level. This value assumes complete solubility of the test substance.

APPENDIX 5

48-HOUR AQUATIC TOXICITY STUDY IN DAPHNIA

Analytical Chemistry Results

Positive Control: Hexavalent Chromium

Nominal Test Concentration (mg/l)	Mean Analytically Determined Test Concentration (mg/l)
Untreated Control (None)	0.00
0.10	0.07
0.18	0.17
0.32	0.31
0.56	0.58
1.00	1.13
Stock Solution 10.0	12.0

QUALITY ASSURANCE SECTION FINAL REPORT STATEMENT

Gulf Project Number 1094

Study Title 48-Hour Aquatic Toxicity Study
(150 MC Bright Stock)

The Quality Assurance Section has conducted the inspections listed below on this study. The inspections are a part of an on-going program outlined by the Environmental Protection Agency's Good Laboratory Practice Regulations 772.110-1 (c)(4)(ii)(G) and 772.110-1 (J)(1)(i)(N), and the Quality Assurance Section's Standard Operating Procedures. In accordance with these regulations and procedures, Inspection Summaries were submitted to the Study Director and the Toxicology Department's Management.

Date of Inspection	Type of Inspection	Date of Submission of the Inspection Summaries	
12/3/82	Protocol Review	Study Director	12/6/82
		Management	12/14/82
-----	Monitor	Study Director	------
		Management	------

NOTE: An audit of this study report was not conducted. In accordance with a Toxicology Department managerial decision, only selected study reports are being audited.

Prepared by Richard M. Liconolfi Date 6/23/83

Reviewed by _____ Date _____

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

Dennis R. Jonke
Manager, Health, Safety and Environmental Quality
BP Oil, Inc.
BP Oil Company
200 Public Square
Cleveland, Ohio 44114-2375

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

FEB 27 1995

EPA acknowledges the receipt of information submitted by your organization under Section 8(e) of the Toxic Substances Control Act (TSCA). For your reference, copies of the first page(s) of your submission(s) are enclosed and display the TSCA §8(e) Document Control Number (e.g., 8EHQ-00-0000) assigned by EPA to your submission(s). Please cite the assigned 8(e) number when submitting follow-up or supplemental information and refer to the reverse side of this page for "EPA Information Requests".

All TSCA 8(e) submissions are placed in the public files unless confidentiality is claimed according to the procedures outlined in Part X of EPA's TSCA §8(e) policy statement (43 FR 11110, March 16, 1978). Confidential submissions received pursuant to the TSCA §8(e) Compliance Audit Program (CAP) should already contain information supporting confidentiality claims. This information is required and should be submitted if not done so previously. To substantiate claims, submit responses to the questions in the enclosure "Support Information for Confidentiality Claims". This same enclosure is used to support confidentiality claims for non-CAP submissions.

Please address any further correspondence with the Agency related to this TSCA 8(e) submission to:

Document Processing Center (7407)
Attn: TSCA Section 8(e) Coordinator
Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
Washington, D.C. 20460-0001

EPA looks forward to continued cooperation with your organization in its ongoing efforts to evaluate and manage potential risks posed by chemicals to health and the environment.

Sincerely,

Terry R. O'Bryan

Terry R. O'Bryan
Risk Analysis Branch

Enclosure 12849A

Triage of 8(e) Submissions

Date sent to triage: FEB 15 1995

Submission number: 12849A

NON-CAP (CAP)

TSCA Inventory: (Y) N D

Study type (circle appropriate):

Group 1 - Dick Clements (1 copy total)

ECO (AQUATO)

Group 2 - Ernie Falke (1 copy total)

ATOX SBTOX SEN w/NEUR

Group 3 - Elizabeth Margosches (1 copy each)

STOX CTOX EPI RTOX GTOX

STOX/ONCO CTOX/ONCO IMMUNO CYTO NEUR

Other (FATE, EXPO, MET, etc.): _____

Notes:

THIS IS THE ORIGINAL 8(e) SUBMISSION; PLEASE REFILE AFTER TRIAGE DATABASE ENTRY

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entire document: 0 1 2 **pages** 1,2 **pages** 1,2, tab

Notes:

Contractor reviewer : LPS **Date:** 1/5/95

CECATS\TRIAGE TRACKING DBASE ENTRY FORM

CECATS DATA:
Submission # 8EHQ-0892-12849 SEQ. A

TYPE: (INT) SUPP FLWP

SUBMITTER NAME: BP Oil Company

SUB. DATE: 08/25/92 OTS DATE: 08/28/92 CSRAD DATE: 09/09/94

INFORMATION REQUESTED: FLWP DATE:
0501 NO INFO REQUESTED
0502 INFO REQUESTED (TECH)
0503 INFO REQUESTED (VOL. ACTIONS)
0504 INFO REQUESTED (REPORTING RATIONALE)

DISPOSITION:
(0639) REFER TO CHEMICAL SCREENING
(0678) CAP NOTICE

VOLUNTARY ACTIONS:
(0401) NO ACTION REPORTED
0402 STUDIES PLANNED/UNDERWAY
0403 NOTIFICATION OF WORKERS/OTHERS
0404 LABEL/MSDS CHANGES
0405 PROCESS/HANDLING CHANGES
0406 APP./USE DISCONTINUED
0407 PRODUCTION DISCONTINUED
0408 CONFIDENTIAL

CHEMICAL NAME: 150 mc Bright Stock

CAS#: 64742-57-0

INFORMATION TYPE:		P F C	INFORMATION TYPE:		P F C	INFORMATION TYPE:		P F C
0201	ONCO (HUMAN)	01 02 04	0216	EPI/CLIN	01 02 04	0241	IMMUNO (ANIMAL)	01 02 04
0202	ONCO (ANIMAL)	01 02 04	0217	HUMAN EXPOS (PROD CONTAM)	01 02 04	0242	IMMUNO (HUMAN)	01 02 04
0203	CELL TRANS (IN VITRO)	01 02 04	0218	HUMAN EXPOS (ACCIDENTAL)	01 02 04	(0243)	CHEM/PHYS PROP	01 02 04
0204	MUTA (IN VITRO)	01 02 04	0219	HUMAN EXPOS (MONITORING)	01 02 04	0244	CLASTO (IN VITRO)	01 02 04
0205	MUTA (IN VIVO)	01 02 04	(0220)	ECO/AQUA TOX	01 (02) 04	0245	CLASTO (ANIMAL)	01 02 04
0206	REPRO/TERATO (HUMAN)	01 02 04	0221	ENV. OCCC/REL/FATE	01 02 04	0246	CLASTO (HUMAN)	01 02 04
0207	REPRO/TERATO (ANIMAL)	01 02 04	0222	EMER INCI OF ENV CONTAM	01 02 04	0247	DNA DAM/REPAIR	01 02 04
0208	NEURO (HUMAN)	01 02 04	0223	RESPONSE REQEST DELAY	01 02 04	0248	PROD/USE/PROC	01 02 04
0209	NEURO (ANIMAL)	01 02 04	(0224)	PROD/COMP/CHEM ID	01 02 04	0251	MSDS	01 02 04
0210	ACUTE TOX. (HUMAN)	01 02 04	0225	REPORTING RATIONALE	01 02 04	0299	OTHER	01 02 04
0211	CHR. TOX. (HUMAN)	01 02 04	0226	CONFIDENTIAL	01 02 04			
0212	ACUTE TOX. (ANIMAL)	01 02 04	0227	ALLERG (HUMAN)	01 02 04			
0213	SUB ACUTE TOX (ANIMAL)	01 02 04	0228	ALLERG (ANIMAL)	01 02 04			
0214	SUB CHRONIC TOX (ANIMAL)	01 02 04	0239	METAB/PHARMACO (ANIMAL)	01 02 04			
0215	CHRONIC TOX (ANIMAL)	01 02 04	0240	METAB/PHARMACO (HUMAN)	01 02 04			

TRIAGE DATA:	NON-CBI INVENTORY	ONGOING REVIEW	SPECIES	TOXICOLOGICAL CONCERN:	USE:	PRODUCTION:
	(YES)	YES (DROP/REFER)	D. Magna	LOW		
CAS SR	NO	NO (CONTINUE)		MED		
	DETERMINE	REFER:		HIGH		

COMMENTS: