



**Hazardous Waste Aquatic Toxicity Screening Test Results for
One Soil Sample (Project #35235)**

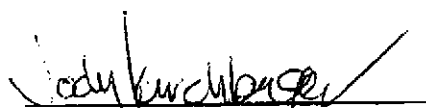
September 1997

**Prepared For:
Criselda Laluces
Chromalab, Inc.
1220 Quarry Lane
Pleasanton, CA 94566-4756**

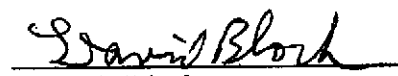
BES Sample #15360

**Prepared By:
Block Environmental Services, Inc.
2451 Estand Way
Pleasant Hill, CA 94523
(510) 682-7200**

September 3, 1997



Jody Kirchberger
Laboratory Scientist



David S. Block
Laboratory Scientist

BES

1. INTRODUCTION

The California Department of Substances Control has adopted regulations (R-45-78) which define criteria for the identification of hazardous wastes. These criteria are codified in Chapter 11, Article 3 of Title 22 of the California Code of Regulations. Toxicity to aquatic life, specifically fish, is one of the criteria used to gauge the hazardous potential of a waste. An acute 96-hour bioassay is used to determine the LC50 as defined in Section 66261.24(a)(6) of these regulations. This 96-hour LC50 value serves as the numerical indicator of the toxicity of a waste to aquatic life.

This report describes the procedures used and the results obtained for the hazardous waste aquatic toxicity screening test performed by Block Environmental Services (BES) for Chromalab, Inc. (Project #35235).

BES is an Environmental Laboratory Accreditation Program certified laboratory (#1812, expiration date - 10/31/98).

BES

2. MATERIALS AND METHODS

2.1 TEST ORGANISMS

Bioassay was performed using:

- Fathead Minnows, *Pimephales promelas*, obtained from Thomas Fish Company (Anderson, CA).

2.2 TEST PROCEDURES

A detailed procedure for this test is outlined in laboratory standard operating procedures (SOPs) kept at the BES laboratory. These SOPs are based upon the following references:

- California's Title 22 Code, Section #66261.24(a)(6); "*Static Acute Bioassay Procedures for Hazardous Waste Samples*", Polisini and Miller, 1988, California Department of Fish and Game
- "*Guidelines for Performing Static Acute Toxicity Fish Bioassays in Municipal and Industrial Waste Waters*", Kopperdahl, F.R., 1976, California Department of Fish and Game
- "*Standard Methods for the Examination of Water and Wastewater*", 18th Edition, American Public Health Association, 1992.

2.3 DATA ANALYSIS

All toxicity testing results will be analyzed using the Trimmed-Spearman Karber statistical method. This program determines a LC50 and the corresponding 95% confidence limits.

RUSH

BLOCK ENVIRONMENTAL SERVICES

Hazardous Waste Screening Test Data Sheet

Client: Chromalab
 Start Date/Time: 8.29.97, 1100

Client ID #: #4
 End Date/Time: 9.2.97, 1139

BES Sample #: 15360
 Test Material: solid

Species: P. promelas
 Control Water: CEW/DE

Common Name: Fathead
 Avg. Fish Length (mm): 29.1

Stock #: 082897 Pp
 Avg. Fish Weight (g): 0.183 g

Concentration (mg/L)	Survival		D.O.		pH		Temperature		Technician
	A	B	A	B	A	B	A	B	
Control	10	10	8.9	8.9	8.1	8.1	20.4	20.4	Tech: AF Date: 8/29/97 Time: 1100
250	10	10	8.9	9.0	8.2	8.2	20.4	20.4	
500	10	10	9.0	9.0	8.2	8.2	20.4	20.4	
750	10	10	9.0	9.0	8.2	8.2	20.4	20.4	
Control	10	10	6.6	7.3	7.6	7.6	20.2	20.2	Tech: DB Date: 8/31/97 Time: 1100
250	10	10	6.8	6.5	7.7	7.7	20.2	20.2	
500	10	10	6.7	6.6	7.6	7.7	20.2	20.2	
750	10	10	7.1	6.6	7.7	7.7	20.2	20.2	
Control	10	10	6.4	7.2	7.7	7.7	20.3	20.3	Tech: DB Date: 8/31/97 Time: 1128
250	10	10	7.0	6.6	7.7	7.7	20.3	20.3	
500	10	10	7.2	6.9	7.7	7.7	20.3	20.3	
750	10	10	7.2	6.5	7.7	7.7	20.3	20.3	
Control	9	10	5.3	7.0	7.2	7.3	20.3	20.2	Tech: KW Date: 7-1-97 Time: 1127
250	10	10	6.9	6.7	7.3	7.3	20.2	20.2	
500	10	10	6.9	7.0	7.3	7.4	20.1	20.1	
750	10	10	7.4	6.4	7.5	7.4	20.0	20.1	
Control	9	10	5.1	6.8	7.2	7.3	20.3	20.3	Tech: DB Date: 9-2-97 Time: 1139
250	10	10	6.9	6.3	7.3	7.3	20.3	20.2	
500	10	10	6.7	6.6	7.3	7.4	20.2	20.2	
750	10	10	7.2	6.2	7.5	7.4	20.1	20.1	

Chemistries:

	Initial		Final	
	Control	750 mg/L	Control	750 mg/L
Hardness (mg/L CaCO ₃)	46	44	48	54
Alkalinity (mg/L CaCO ₃)	40	40	44	52
Conductivity (uS)	236	242	199	212

Notes: max fish weight > 1.5 x min

96 hour LC50: NA > 750 mg/L
 95% Upper Confidence Limit: NA

LC50 Method: WA
 95% Lower Confidence Limit: NA

Test Supervisor: [Signature]

QA/QC Check: [Signature]

08323/145348

CHROMALAB, INC.

Environmental Services (SDB) (DOHS 1094)

ADD ON/CHANGE ORDER

New Submission No: 9708323

Order No: 35235

Original Submission Info

Client Name: KENETECH

Project Mgr: PAUL SMITH

Project Name: MUXF0076

Project No: _____

PO#: _____

Date Received: 8/15/97

Submission No: 9708173

Name of Caller: JEFF REILLY

Call Date: 8/27/97 Time: _____

Add on Due Date: 9/5/97 Date Sampled: 8/15/97

Comments: _____

SUBM #: 9708323 REP: PM
CLIENT: KENETECH
DUE: 09/05/97
REF #: 35235/9708173

ANALYSIS REPORT

SAMPLE ID	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel, TEPH (EPA 3510/5550, 8015)	PURCEABLE AROMATICS BTEX (EPA 602, 8020)	PURCEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/827, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, 8+6, 5+6)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)	LFT METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (ICLP, 51C)	NUMBER OF CONTAINERS
#4	8/15/97		S																		1

9-08-1997 12:38PM FROM