-6175-6323-

February 26, 1987

RAW ANALYTICAL DATA
PART 2, REMEDIAL INVESTIGATIVE WORK
ON-SITE GROUNDWATER SAMPLING
PHASE 1
NONTROSE SITE
TORRANCE, CALIFORNIA

HARGIS+ASSOCIATES, INC.
Consultants in Hydrogeology

Tucson/Phoenix/San Diego

HARGIS + ASSOCIATES, INC.
Consultants in Hydrogeology

2223 Avenida De la Playa, Suite 302
La Jolla, California 92037
(619) 454-0165

February 26, 1987

VIA FEDERAL EXPRESS

Ms. Therese Gioia
Environmental Protection Specialist
ENVIRONMENTAL PROTECTION AGENCY (T-4-2)
Toxics and Waste Management Division
215 Fremont Street
San Francisco, CA 94105

RE: Submission of Raw Analytical Data and Laboratory QA/QC Backup Data; Part 2 On-Site Groundwater Investigation, Phase 1; Montrose Site, Torrance, California

Dear Ms. Gioia:

Per the terms of Appendix A, Part III, B, 6, of Consent Order 85-04, Montrose is submitting three (3) copies of the raw analytical data, and one (1) copy of the laboratory backup QA/QC data for the on-site groundwater sampling recently conducted at the Montrose site, near Torrance, California. Also included with this submittal, per the terms of the order, is a description of deviations from protocols presented in the sampling plan and the QAPP. No difficulties were encountered during the monitor well sampling.

Quality Assurance/Quality Control backup data submitted by the laboratory are included with the submittal. The QA/QC backup data consists of calibration data, sample logs, chromatograms from 624 and 608 analyses and laboratory internal quality control analyses.

If you have any questions concerning this data submittal, please do not hesitate to contact me.

Sincerely,

HARGIS + ASSOCIATES, INC.

Edward A. Nemecek

Edward A. Nemecek bm
Senior Associate

Enclosures

cc: See Attached List

EAN/bm

HARGIS + ASSOCIATES, INC.

MONTROSE CARBON COPY LIST:

Ms. Therese B. Gioia
EPA Coordinator (T-4-2)
US Environmental Protection Agency, Region IX
215 Fremont Street
San Francisco, CA 94105

Mr. Robert P. Ghirelli
Executive Officer
Regional Water Quality Control Board
107 S. Broadway, Room 4027
Los Angeles, CA 90012

Mr. Angelo Bellomo
Chief, Southern California Section
Toxic Substances Control Division
Department of Health Services
107 S. Broadway, Room 7128
Los Angeles, CA 90012

Mr. Dan Greeno
Montrose Chemical Corporation
Nyalia Farm Road
Westport, CT 06881

Karl S. Lytz, Esq.
Latham & Watkins
701 B Street
Suite 2100
San Diego, CA 92101

HARGIS + ASSOCIATES, INC.

RAW ANALYTICAL DATA
PART 2, REMEDIAL INVESTIGATIVE WORK
ON-SITE GROUNDWATER SAMPLING
PHASE I
MONTROSE SITE
TORRANCE, CALIFORNIA

TABLE OF CONTENTS

ILLUSTRATIONS

Figure

1 LOCATION OF MONITOR WELLS

APPENDICES

Appendix

A CROSS REFERENCE TABLE, HARGIS + ASSOCIATES SAMPLE ID TO BROWN AND CALDWELL SAMPLE LOG NUMBER, JANUARY 7TH, 8TH, AND 9TH, 1987 GROUNDWATER SAMPLING ROUND

B RAW ANALYTICAL RESULTS, JANUARY 7TH, 8TH, AND 9TH, 1987 GROUNDWATER SAMPLING ROUND

C CROSS REFERENCE TABLE, HARGIS + ASSOCIATES SAMPLE ID TO BROWN AND CALDWELL SAMPLE LOG NUMBER, JANUARY 12TH, 13TH, AND 14TH, 1987 GROUNDWATER SAMPLING ROUND

D RAW ANALYTICAL RESULTS, JANUARY 12TH, 13TH, AND 14TH, 1987 GROUNDWATER SAMPLING ROUND

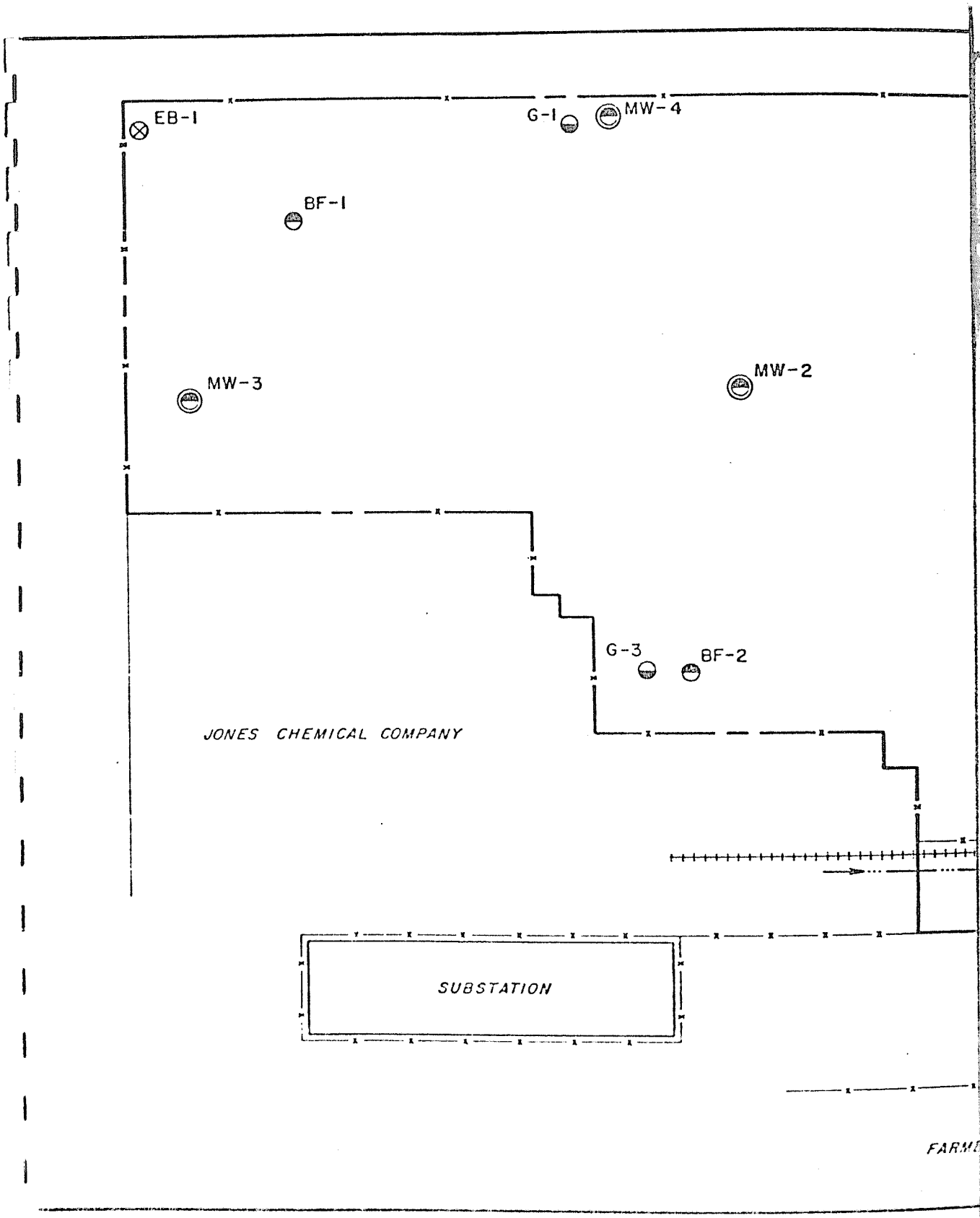
E IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

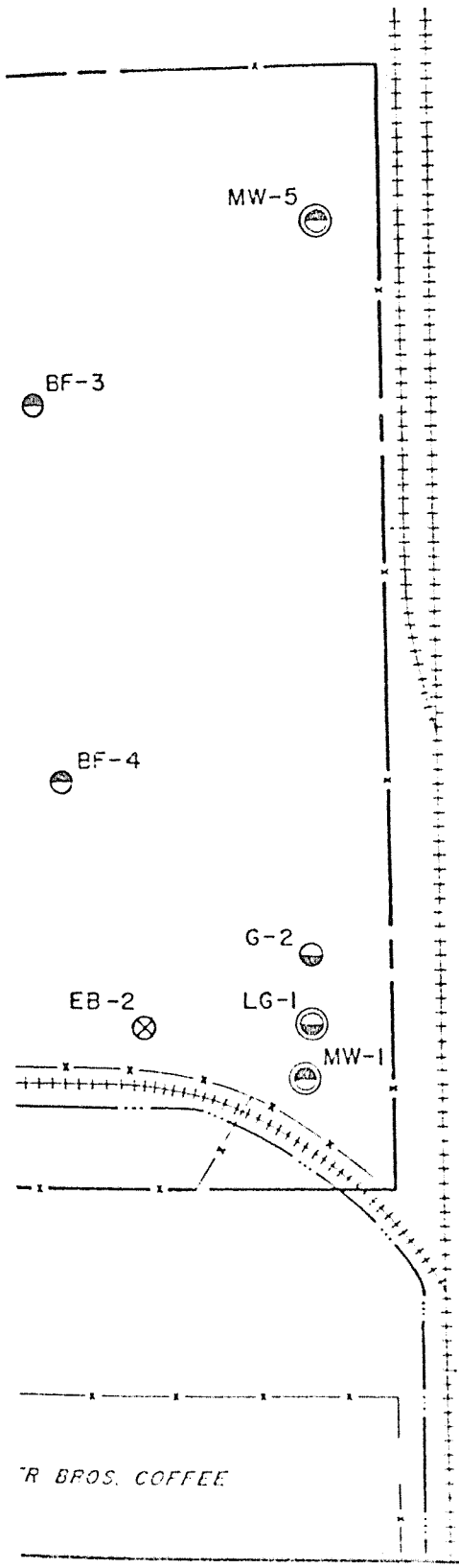
F DEVIATIONS FROM SAMPLING PLAN AND QAPP PROTOCOLS

6179

Illustrations

BOE-C6-0183060


EB-1
G-1
MW-4
BF-1
MW-3
MW-2
G-3
BF-2
JONES CHEMICAL COMPANY
SUBSTATION
FARM



EXPLANATION

EB-1 — EXPLORATION BOREHOLE

MW-2 — UPPER BELLFLOWER AQUITARD MONITOR WELL (CONSTRUCTED IN SPRING 1985)

BF-3 — BELLFLOWER AQUITARD MONITOR WELL

G-1 — UPPER GAGE AQUIFER MONITOR WELL

LG-1 — LOWER GAGE AQUIFER MONITOR WELL

RAILROAD TRACKS

DRAINAGE DITCH

FENCE (approximate)

-N-

0 100 200

FEET

MONTROSE SITE
TORRANCE, CALIFORNIA

LOCATION OF MONITOR WELLS

HARGIS + ASSOCIATES, INC.
Consultants in Hydrogeology 2/87
San Diego, California FIGURE 1

PREPARED BY REVIEWED BY

BOE-C6-0183063

HARGIS + ASSOCIATES, INC.

APPENDIX A

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES, INC.

APPENDIX A

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND

TABLE OF CONTENTS

Page	
A-1	UPPER BELLFLOWER WELLS
A-1	BELLFLOWER WELLS
A-1	GAGE WELLS
A-1	LOWER GAGE WELL
A-2	SPLIT SAMPLES
A-3	FIELD BLANKS
A-4	BROWN AND CALDWELL QUALITY CONTROL ANALYTICAL RESULTS

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
UPPER BELLFLOWER WELLS		
MW-1	01-09-87	P87-01-122-1
MW-2	01-09-87	P87-01-122-2
MW-3	01-09-87	P87-01-122-3
MW-4	01-09-87	P87-01-122-4
MW-5	01-09-87	P87-01-122-5
BELLFLOWER WELLS		
BF-1	01-08-87	P87-01-095-3
BF-2	01-07-87	P87-01-070-4
BF-3	01-08-87	P87-01-095-4
BF-4	01-08-87	P87-01-095-5
GAGE WELLS		
G-1	01-08-87	P87-01-095-1
G-2	01-07-87	P87-01-070-1
G-3	01-07-87	P87-01-070-2
LOWER GAGE WELL		
LG-1	01-07-87	P87-01-070-3

BOE-C6-0183066

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

SPLIT SAMPLES

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
BF-200 (Split of BF-2)	01-07-87	P87-01-070-5
G-100 (Split of G-1)	01-08-87	P87-01-095-2
MW-500 (Spit of MW-5)	01-09-87	P87-01-122-6

BOE-C6-0183067

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

FIELD BLANKS

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
WB-1	01-07-87	P87-01-070-6
WB-1	01-08-87	P87-01-095-6
WB-1	01-09-87	P87-01-122-7

BOE-C6-0183068

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

BROWN AND CALDWELL QUALITY CONTROL
ANALYTICAL RESULTS

SAMPLE ID	BROWN AND CALDWELL LOG NUMBER
BF-4 BC/QC Duplicate	P87-01-095-7
BF-4 BC/QC Spike	P87-01-095-8
Reagent Blank	P87-01-095-9
Laboratory Control Standard	P87-01-095-10
MW-2 BC/QC Duplicate	P87-01-122-8
MW-2 BC/QC Spike	P87-01-122-9
Reagent Blank	P87-01-122-10
Laboratory Control Standard	P87-01-122-11

BOE-C6-0183070

HARGIS + ASSOCIATES, INC.

APPENDIX B

ANALYTICAL RESULTS
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES, INC.

APPENDIX B

ANALYTICAL RESULTS
JANUARY 7TH, 8TH, AND 9TH, 1987
GROUNDWATER SAMPLING ROUND

TABLE OF CONTENTS

REPORT LOG NO: P87-01-070

REPORT LOG NO: P87-01-095

REPORT LOG NO: P87-01-122

RECEIVED

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LA JOLLA, CA

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: P87-01-070

AMENDED REPORT

Received: 08 JAN 87
Reported: 29 JAN 87

2/19/87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-1	G-2	07 JAN 87
01-070-2	G-3	07 JAN 87
01-070-3	LG-1	07 JAN 87
01-070-4	BF-2	07 JAN 87
01-070-5	BF-200	07 JAN 87

PARAMETER	01-070-1	01-070-2	01-070-3	01-070-4	01-070-5
Alkalinity					
Carbonate Alk (as CaCO3), mg/L	<20	<20	39	<20	<20
Bicarb Alk (as CaCO3), mg/L	100	160	67	190	190
Hydroxide Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Total Alkalinity (as CaCO3), mg/L	100	160	106	190	190
Calcium (EDTA Titration), mg/L	41	49	9	95	100
Magnesium, mg/L	15	9.8	4.5	23	20
Chloride, mg/L	86	48	30	110	110
Copper, mg/L	<0.03	<0.03	<0.03	<0.03	<0.03
Surfactants, mg/L	0.3	<0.1	0.1	0.8	0.74
Iron, mg/L	<0.03	<0.03	<0.03	<0.03	<0.03
Manganese, mg/L	<0.004	0.006	0.006	0.65	0.64
pH, Units	8.4	8.4	9.5	7.3	7.4
Potassium, mg/L	6.3	4.4	6.1	5.8	5.4
Sodium, mg/L	69	60	67	82	82
Sulfate, mg/L	70	43	14	120	120
Specific Conductance, umhos/cm	640	520	340	970	970
Filterable Residue (TDS), mg/L	400	330	200	630	600
Zinc, mg/L	<0.08	<0.08	<0.08	<0.08	<0.08
Nitrate (as NO3), mg/L	<0.4	0.4	<0.4	0.6	<0.4
Ion Balance, .	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.13	0.18	0.15	0.24	0.26
Fluoride, mg/L	0.2	0.2	0.4	0.2	0.2

LOG NO: P87-01-070

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-1	G-2	07 JAN 87
01-070-2	G-3	07 JAN 87
01-070-3	LG-1	07 JAN 87
01-070-4	BF-2	07 JAN 87
01-070-5	BF-200	07 JAN 87

PARAMETER	01-070-1	01-070-2	01-070-3	01-070-4	01-070-5
Nitric Acid Digestion, Date	01/13/87	01/13/87	01/13/87	01/13/87	01/13/87
DDT Metabolites and BHCs					
Date Extracted	01/09/87	01/09/87	01/09/87	01/09/87	01/09/87
Date Analyzed	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87
Dilution Factor, Times 1	1	1	1	1	1
Total BHC Isomers, ug/L	0.02	0.02	<0.01	1.2	1.3
Total DDT Metabolites, ug/L	<0.02	<0.02	<0.02	0.20	0.24
BHC, alpha isomer, ug/L	0.02	0.02	<0.005	0.72	0.80
BHC, beta isomer, ug/L	<0.01	<0.01	<0.01	0.11	0.11
BHC, delta isomer, ug/L	<0.01	<0.01	<0.01	0.16	0.18
BHC, gamma isomer (Lindane), ug/L	<0.01	<0.01	<0.01	0.23	0.25
p,p'-DDD, ug/L	<0.01	<0.01	<0.01	0.17	0.17
p,p'-DDE, ug/L	<0.01	<0.01	<0.01	0.03	0.02
p,p'-DDT, ug/L	<0.02	<0.02	<0.02	<0.02	0.05
o,p'-DDD, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
o,p'-DDE, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
o,p'-DDT, ug/L	<0.02	<0.02	<0.02	<0.02	<0.02

LOG NO: P87-01-070

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-1	G-2	07 JAN 87
01-070-2	G-3	07 JAN 87
01-070-3	LG-1	07 JAN 87
01-070-4	BF-2	07 JAN 87
01-070-5	BF-200	07 JAN 87

PARAMETER	01-070-1	01-070-2	01-070-3	01-070-4	01-070-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<200	<5	<1	<200	<200
1,3-Dichlorobenzene, ug/L	<200	<5	<1	<200	<200
1,4-Dichlorobenzene, ug/L	<200	<5	<1	<200	<200
Acetone, ug/L	<2000	<50	<10	<2000	<2000

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-1	G-2	07 JAN 87
01-070-2	G-3	07 JAN 87
01-070-3	LG-1	07 JAN 87
01-070-4	BF-2	07 JAN 87
01-070-5	BF-200	07 JAN 87

PARAMETER	01-070-1	01-070-2	01-070-3	01-070-4	01-070-5
Vol.Pri.Poll. (EPA-624)					
Extraction	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87
Dilution Factor, Times 1	200	5	1	200	200
1,1,1-Trichloroethane, ug/L	<200	<5	<1	<200	<200
1,1,2,2-Tetrachloroethane, ug/L	<200	<5	<1	<200	<200
1,1,2-Trichloroethane, ug/L	<200	<5	<1	<200	<200
1,1-Dichloroethane, ug/L	<200	<5	<1	<200	<200
1,1-Dichloroethylene, ug/L	<200	<5	<1	<200	<200
1,2-Dichloroethane, ug/L	<200	<5	<1	<200	<200
1,2-Dichloropropane, ug/L	<200	<5	<1	<200	<200
1,3-Dichloropropene, ug/L	<200	<5	<1	<200	<200
2-Chloroethylvinylether, ug/L	<200	<5	<1	<200	<200
Acrolein, ug/L	<2000	<50	<10	<2000	<2000
Acrylonitrile, ug/L	<2000	<50	<10	<2000	<2000
Bromodichloromethane, ug/L	<200	<5	<1	<200	<200
Bromomethane, ug/L	<200	<5	<1	<200	<200
Benzene, ug/L	<200	<5	<1	<200	<200
Chlorobenzene, ug/L	20,000	310	110	16,000	13,000
Carbon Tetrachloride, ug/L	<200	<5	<1	<200	<200
Chloroethane, ug/L	<200	<5	<1	<200	<200
Bromoform, ug/L	<200	<5	<1	<200	<200
Chloroform, ug/L	<200	<5	<1	<200	<200
Chloromethane, ug/L	<200	<5	<1	<200	<200

LOG NO: P87-01-070

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Roger Niemeyer
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-1	G-2	07 JAN 87
01-070-2	G-3	07 JAN 87
01-070-3	LG-1	07 JAN 87
01-070-4	BF-2	07 JAN 87
01-070-5	BF-200	07 JAN 87

PARAMETER	01-070-1	01-070-2	01-070-3	01-070-4	01-070-5
Dibromochloromethane, ug/L	<200	<5	<1	<200	<200
Ethylbenzene, ug/L	<200	<5	<1	<200	<200
Methylene Chloride, ug/L	<200	<5	<1	<200	<200
Tetrachloroethylene, ug/L	<200	<5	<1	<200	<200
Trichloroethylene, ug/L	<200	<5	<1	<200	<200
Trichlorofluoromethane, ug/L	<200	<5	<1	<200	<200
Toluene, ug/L	<200	<5	<1	<200	<200
Vinyl Chloride, ug/L	<200	<5	<1	<200	<200
trans-1,2-Dichloroethylene, ug/L	<200	<5	<1	<200	<200
trans-1,3-Dichloropropene, ug/L	<200	<5	<1	<200	<200
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---

LOG NO: P87-01-070

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Roger Niemeyer
Hargis & Associates, Inc.
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-6	WB-1	07 JAN 87

PARAMETER	01-070-6
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: F87-01-070

Received: 08 JAN 87
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Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-6	WB-1	07 JAN 87

PARAMETER	01-070-6
Vol.Pri.Poll. (EPA-624)	01/19/87
Extraction	1
Dilution Factor, Times 1	<1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<10
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<1
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	9
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-070

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-070-6	WB-1	07 JAN 87

PARAMETER	01-070-6
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	4
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

Jane E Freeman FOR

Edward Wilson, Laboratory Director

AMENDED REPORT

2-17-87

BROWN AND CALDWELL

ANALYTICAL LABORATORIES

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-1	G-1	08 JAN 87
01-095-2	G-100	08 JAN 87
01-095-3	BF-1	08 JAN 87
01-095-4	BF-3	08 JAN 87
01-095-5	BF-4	08 JAN 87

PARAMETER	01-095-1	01-095-2	01-095-3	01-095-4	01-095-5
Alkalinity					
Carbonate Alk (as CaCO3), mg/L	20	30	<20	<20	<20
Bicarb Alk (as CaCO3), mg/L	<20	<20	160	230	210
Hydroxide Alk (as CaCO3), mg/L	120	120	<20	<20	<20
Total Alkalinity (as CaCO3), mg/L	140	150	160	230	210
Calcium (EDTA Titration), mg/L	42	43	85	160	120
Magnesium, mg/L	0.46	0.36	19	32	2.7
Chloride, mg/L	53	56	210	200	120
Copper, mg/L	<0.04	<0.04	<0.04	<0.04	<0.04
Surfactants, mg/L	<0.1	<0.1	<0.1	2.1	1.5
Iron, mg/L	0.03	<0.03	0.05	0.06	<0.03
Manganese, mg/L	<0.003	<0.003	0.26	0.75	0.18
pH, Units	11	11	7.5	7.3	7.4
Potassium, mg/L	7.7	7.6	5.1	6.6	6.3
Sodium, mg/L	67	67	73	91	75
Sulfate, mg/L	48	48	30	200	170
Specific Conductance, umhos/cm	910	870	980	1400	1100
Filterable Residue (TDS), mg/L	340	340	590	1000	760
Zinc, mg/L	<0.08	<0.08	0.09	0.10	<0.08
Nitrate (as NO3), mg/L	0.5	0.6	0.5	<0.4	<0.4
Ion Balance, .	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.09	0.15	0.22	0.24	0.18
Fluoride, mg/L	0.3	0.3	0.3	0.2	0.2

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

Roger Niemeyer
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2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-1	G-1	08 JAN 87
01-095-2	G-100	08 JAN 87
01-095-3	BF-1	08 JAN 87
01-095-4	BF-3	08 JAN 87
01-095-5	BF-4	08 JAN 87

PARAMETER	01-095-1	01-095-2	01-095-3	01-095-4	01-095-5
Nitric Acid Digestion, Date	01/12/87	01/12/87	01/12/87	01/12/87	01/12/87
DDT Metabolites and BHCs					
Date Extracted	01/12/87	01/12/87	01/12/87	01/12/87	01/12/87
Date Analyzed	01/14/87	01/15/87	01/15/87	01/15/87	01/15/87
Dilution Factor, Times 1	1	10	1	10	10
Total BHC Isomers, ug/L	<0.01	<0.10	0.08	1.5	5.3
Total DDT Metabolites, ug/L	0.13	<0.20	0.38	0.43	0.32
BHC, alpha isomer, ug/L	<0.005	<0.05	0.08	0.72	5.0
BHC, beta isomer, ug/L	<0.01	<0.1	<0.01	<0.1	<0.1
BHC, delta isomer, ug/L	<0.01	<0.1	<0.01	0.29	0.11
BHC, gamma isomer (Lindane). ug/L	<0.01	<0.1	<0.01	0.46	0.15
p,p'-DDD, ug/L	0.04	<0.1	0.14	<0.1	0.08
p,p'-DDE, ug/L	0.06	<0.1	0.04	<0.1	0.16
p,p'-DDT, ug/L	0.03	<0.20	0.06	0.43	<0.1
o,p'-DDD, ug/L	<0.01	<0.1	<0.01	<0.1	<0.1
o,p'-DDE, ug/L	<0.01	<0.1	<0.01	<0.1	<0.1
o,p'-DDT, ug/L	<0.02	<0.20	0.14	<0.2	0.08

LOG NO: P87-01-095

Received: 08 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-1	G-1	08 JAN 87
01-095-2	G-100	08 JAN 87
01-095-3	BF-1	08 JAN 87
01-095-4	BF-3	08 JAN 87
01-095-5	BF-4	08 JAN 87

PARAMETER	01-095-1	01-095-2	01-095-3	01-095-4	01-095-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<10	<10	<10	<200	<200
1,3-Dichlorobenzene, ug/L	<10	<10	<10	<200	<200
1,4-Dichlorobenzene, ug/L	<10	<10	<10	<200	<200
Acetone, ug/L	<100	<100	<100	<2000	<2000

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-1	G-1	08 JAN 87
01-095-2	G-100	08 JAN 87
01-095-3	BF-1	08 JAN 87
01-095-4	BF-3	08 JAN 87
01-095-5	BF-4	08 JAN 87

PARAMETER	01-095-1	01-095-2	01-095-3	01-095-4	01-095-5
Vol.Pri.Poll. (EPA-624)	01/20/87	01/20/87	01/20/87	01/20/87	01/20/87
Extraction	10	10	10	200	200
Dilution Factor, Times 1	<10	<10	<10	<200	<200
1,1,1-Trichloroethane, ug/L	<10	<10	<10	<200	<200
1,1,2,2-Tetrachloroethane, ug/L	<10	<10	<10	<200	<200
1,1,2-Trichloroethane, ug/L	<10	<10	<10	<200	<200
1,1-Dichloroethane, ug/L	<10	<10	<10	<200	<200
1,1-Dichloroethylene, ug/L	<10	<10	<10	<200	<200
1,2-Dichloroethane, ug/L	<10	<10	<10	<200	<200
1,2-Dichloropropane, ug/L	<10	<10	<10	<200	<200
1,3-Dichloropropene, ug/L	<10	<10	<10	<200	<200
2-Chloroethylvinylether, ug/L	<100	<100	<100	<2000	<2000
Acrolein, ug/L	<100	<100	<100	<2000	<2000
Acrylonitrile, ug/L	<10	<10	<10	<200	<200
Bromodichloromethane, ug/L	<10	<10	<10	<200	<200
Bromomethane, ug/L	<10	<10	<10	<200	<200
Benzene, ug/L	570	580	420	16,000	38,000
Chlorobenzene, ug/L	<10	<10	<10	<200	<200
Carbon Tetrachloride, ug/L	<10	<10	<10	<200	<200
Chloroethane, ug/L	<10	<10	<10	<200	<200
Bromoform, ug/L	<10	<10	<10	<200	<200
Chloroform, ug/L	<10	<10	<10	<200	<200
Chloromethane, ug/L					

LOG NO: P87-01-095

Received: 08 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-1	G-1	08 JAN 87
01-095-2	G-100	08 JAN 87
01-095-3	BF-1	08 JAN 87
01-095-4	BF-3	08 JAN 87
01-095-5	BF-4	08 JAN 87

PARAMETER	01-095-1	01-095-2	01-095-3	01-095-4	01-095-5
Dibromochloromethane, ug/L	<10	<10	<10	<200	<200
Ethylbenzene, ug/L	<10	<10	<10	<200	<200
Methylene Chloride, ug/L	<10	<10	<10	<200	<200
Tetrachloroethylene, ug/L	<10	<10	<10	<200	<200
Trichloroethylene, ug/L	<10	<10	<10	<200	<200
Trichlorofluoromethane, ug/L	<10	<10	<10	<200	<200
Toluene, ug/L	<10	<10	<10	2000	<200
Vinyl Chloride, ug/L	<10	<10	<10	<200	<200
trans-1,2-Dichloroethylene, ug/L	<10	<10	<10	<200	<200
trans-1,3-Dichloropropene, ug/L	<10	<10	<10	<200	<200
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-6	WB-1	08 JAN 87

PARAMETER	01-095-6
DDT Metabolites and BHCs	
Date Extracted	01/12/87
Date Analyzed	01/14/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	0.01
Total DDT Metabolites, ug/L	0.05
BHC, alpha isomer, ug/L	0.01
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	0.05
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-095

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Reported: 29 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-6	WB-1	08 JAN 87

PARAMETER	01-095-6
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	5
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-095

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-6	WB-1	08 JAN 87

PARAMETER	01-095-6
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	7
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-095

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-7	BF-4 BC/QC DUP	08 JAN 87

PARAMETER	01-095-7
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	UTD
Bicarb Alk (as CaCO3), mg/L	UTD
Hydroxide Alk (as CaCO3), mg/L	UTD
Total Alkalinity (as CaCO3), mg/L	UTD
Calcium (EDTA Titration), mg/L	120
Magnesium, .	UTD
Chloride, mg/L	140
Copper, mg/L	<0.04
Surfactants, mg/L	UTD
Iron, mg/L	1.3
Manganese, mg/L	0.17
pH, Units	7.4
Potassium, mg/L	9.9
Sodium, mg/L	71
Sulfate, mg/L	UTD
Specific Conductance, umhos/cm	1100
Filterable Residue (TDS), mg/L	UTD
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	<0.4
Ion Balance, .	ATTACHED
Boron, mg/L	0.22
Fluoride, mg/L	0.2
Nitric Acid Digestion, Date	01/16/87

LOG NO: P87-01-095

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-7	BF-4 BC/QC DUP	08 JAN 87

PARAMETER	01-095-7
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<200
1,3-Dichlorobenzene, ug/L	<200
1,4-Dichlorobenzene, ug/L	<200
Acetone, ug/L	<2000

LOG NO: P87-01-095

Received: 08 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-7	BF-4 BC/QC DUP	08 JAN 87

PARAMETER	01-095-7
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	200
1,1,1-Trichloroethane, ug/L	<200
1,1,2,2-Tetrachloroethane, ug/L	<200
1,1,2-Trichloroethane, ug/L	<200
1,1-Dichloroethane, ug/L	<200
1,1-Dichloroethylene, ug/L	<200
1,2-Dichloroethane, ug/L	<200
1,2-Dichloropropane, ug/L	<200
1,3-Dichloropropene, ug/L	<200
2-Chloroethylvinylether, ug/L	<200
Acrolein, ug/L	<2000
Acrylonitrile, ug/L	<2000
Bromodichloromethane, ug/L	<200
Bromomethane, ug/L	<200
Benzene, ug/L	<200
Chlorobenzene, ug/L	38,000
Carbon Tetrachloride, ug/L	<200
Chloroethane, ug/L	<200
Bromoform, ug/L	<200
Chloroform, ug/L	<200
Chloromethane, ug/L	<200
Dibromochloromethane, ug/L	<200
Ethylbenzene, ug/L	<200
Methylene Chloride, ug/L	<200
Tetrachloroethylene, ug/L	<200

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-7	BF-4 BC/QC DUP	08 JAN 87

PARAMETER	01-095-7
Trichloroethylene, ug/L	<200
Trichlorofluoromethane, ug/L	<200
Toluene, ug/L	<200
Vinyl Chloride, ug/L	<200
trans-1,2-Dichloroethylene, ug/L	<200
trans-1,3-Dichloropropene, ug/L	<200
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-8	BP-4 BC/QC SPK	08 JAN 87

PARAMETER	01-095-8
Alkalinity	UTD
Carbonate Alk (as CaCO3), mg/L	UTD
Bicarb Alk (as CaCO3), mg/L	UTD
Hydroxide Alk (as CaCO3), mg/L	UTD
Total Alkalinity (as CaCO3), mg/L	102
Calcium (EDTA Titration), Percent	98
Magnesium, Percent	88
Chloride, Percent	89
Copper, Percent	UTD
Surfactants, Percent	82
Iron, Percent	87
Manganese, Percent	N/A
pH, Percent	103
Potassium, Percent	94
Sodium, Percent	UTD
Sulfate, Percent	N/A
Specific Conductance, Percent	UTD
Filterable Residue (TDS), Percent	93
Zinc, Percent	108
Nitrate (as NO3), Percent	ATTACHED
Ion Balance, -	99
Boron, Percent	100
Fluoride, Percent	01/16/87
Nitric Acid Digestion, Date	

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-095-8	BF-4 BC/QC SPK	08 JAN 87

PARAMETER	01-095-8
Additional Compounds	
1,3-Dichlorobenzene, Percent	N/A
1,4-Dichlorobenzene, Percent	N/A
Acetone, Percent	N/A
Other Additional Compounds	---
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
1,1,2-Trichloroethane, Percent	108
1,1-Dichloroethane, Percent	116
1,1-Dichloroethylene, Percent	119
1,2-Dichloropropane, Percent	113
2-Chloroethylvinylether, Percent	102
Chlorobenzene, Percent	120
Carbon Tetrachloride, Percent	147
Chloroform, Percent	113
Dibromochloromethane, Percent	116
Methylene Chloride, Percent	96
Tetrachloroethylene, Percent	124
Trichloroethylene, Percent	124
Trichlorofluoromethane, Percent	112
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-095-9	Reagent Blank	

PARAMETER	01-095-9
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	<20
Calcium (EDTA Titration), mg/L	<1
Magnesium, mg/L	<0.07
Chloride, mg/L	<3
Copper, mg/L	<0.04
Surfactants, mg/L	<0.1
Iron, mg/L	0.03
Manganese, mg/L	0.007
pH, Units	5.4
Potassium, mg/L	0.13
Sodium, mg/L	0.2
Sulfate, mg/L	<1
Specific Conductance, umhos/cm	0.39
Filterable Residue (TDS), mg/L	<5
Zinc, mg/L	<0.008
Nitrate (as NO3), mg/L	<0.4
Ion Balance,	ATTACHED
Boron, mg/L	<0.05
Fluoride, mg/L	<0.1
Nitric Acid Digestion, Date	01/16/87

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-095-9	Reagent Blank	

PARAMETER	01-095-9
DDT Metabolites and BHCs	
Date Extracted	01/12/87
Date Analyzed	01/14/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-095

Received: 08 JAN 87
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-095-9	Reagent Blank	

PARAMETER	01-095-9
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	5
Chlorobenzene, ug/L	4
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	5
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-095

Received: 08 JAN 87
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-095-9	Reagent Blank	

PARAMETER	01-095-9
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	2
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-095

Received: 08 JAN 87
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2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-095-10	Laboratory Control Standard	

PARAMETER	01-095-10
Alkalinity	
Bicarb Alk (as CaCO3), Percent	95
Total Alkalinity (as CaCO3), Percent	95
Other Alkalinity	---
Calcium (EDTA Titration), Percent	96
Magnesium, Percent	98
Chloride, Percent	99
Copper, Percent	100
Surfactants, Percent	112
Iron, Percent	102
Manganese, Percent	102
pH, Percent	100
Potassium, Percent	115
Sodium, Percent	103
Sulfate, Percent	100
Specific Conductance, Percent	99
Filterable Residue (TDS), Percent	100
Zinc, Percent	94
Nitrate (as NO3), Percent	103
Ion Balance, .	ATTACHED
Boron, Percent	101
Fluoride, Percent	104
Nitric Acid Digestion, Date	01/16/87

LOG NO: P87-01-095

Received: 08 JAN 87
Reported: 29 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-095-10	Laboratory Control Standard	

PARAMETER	01-095-10
DDT Metabolites and BHCs	
Date Analyzed	01/15/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	80
BHC, beta isomer, Percent	92
BHC, gamma isomer (Lindane), Percent	110
p,p'-DDE, Percent	110
o,p'-DDD, Percent	120
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, Percent	117
1,3-Dichlorobenzene, Percent	96
1,4-Dichlorobenzene, Percent	112
Acetone, Percent	63

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-095-10	Laboratory Control Standard	

PARAMETER	01-095-10
Trichlorofluoromethane, Percent	107
Toluene, Percent	113
Vinyl Chloride, Percent	85
trans-1,2-Dichloroethylene, Percent	117
trans-1,3-Dichloropropene, Percent	108
Other Vol.Pri.Poll. (EPA-624)	---

UTD = Unable to determine; insufficient sample.
N/A=Not Analyzed; QC Spike not applicable to the conductance measurement. The ion balance on samples "G-1" and "G-4" does not agree due to the high pH values found in these samples.
P87-01-095-2 (608 analysis) was also analyzed undiluted, but showed higher background interference than P87-01-095-1 (608). Dilution resolved the background. 2/17/87. --J. Freemyer.

Robert Peak for
Edward Wilson, Laboratory Director

AMENDED REPORT

2-17-87

BROWN AND CALDWELL

ANALYTICAL LABORATORIES

LOG NO: P87-01-122

Received: 09 JAN 87
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2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-1	MW-1	09 JAN 87
01-122-2	MW-2	09 JAN 87
01-122-3	MW-3	09 JAN 87
01-122-4	MW-4	09 JAN 87
01-122-5	MW-5	09 JAN 87

PARAMETER	01-122-1	01-122-2	01-122-3	01-122-4	01-122-5
Alkalinity					
Carbonate Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Bicarb Alk (as CaCO3), mg/L	610	520	460	610	670
Hydroxide Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Total Alkalinity (as CaCO3), mg/L	610	520	460	610	670
Calcium (EDTA Titration), mg/L	580	580	160	450	510
Magnesium, mg/L	170	580	45	100	120
Chloride, mg/L	1300	2400	230	830	770
Copper, mg/L	<0.03	<0.03	<0.03	<0.03	<0.03
Surfactants, mg/L	1.2	66	<0.1	0.3	11
Iron, mg/L	0.08	2.9	0.32	<0.03	0.06
Manganese, mg/L	1.6	28	1.0	0.16	3.6
pH, Units	6.7	6.3	6.9	6.6	6.6
Potassium, mg/L	16	23	6.6	15	16
Sodium, mg/L	490	2400	110	160	190
Sulfate, mg/L	790	4500	20	79	330
Specific Conductance, umhos/cm	6000	14,000	1300	3600	3900
Filterable Residue (TDS), mg/L	4100	13,000	900	2600	3000
Zinc, mg/L	<0.08	0.19	<0.08	<0.08	<0.08
Nitrate (as NO3), mg/L	<0.4	0.6	1.5	57	6.6
Ion Balance, .	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.56	0.74	0.25	0.52	0.35
Fluoride, mg/L	0.2	7.7	0.2	0.1	0.1

LOG NO: P87-01-122

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-1	MW-1	09 JAN 87
01-122-2	MW-2	09 JAN 87
01-122-3	MW-3	09 JAN 87
01-122-4	MW-4	09 JAN 87
01-122-5	MW-5	09 JAN 87

PARAMETER	01-122-1	01-122-2	01-122-3	01-122-4	01-122-5
Nitric Acid Digestion, Date	01/15/87	01/15/87	01/15/87	01/15/87	01/15/87
DDT Metabolites and BHCs					
Date Extracted	01/14/87	01/14/87	01/14/87	01/14/87	01/14/87
Date Analyzed	01/23/87	01/23/87	01/24/87	01/24/87	01/24/87
Dilution Factor, Times 1	100	100	10	10	100
Total BHC Isomers, ug/L	120	260	<0.1	<0.1	60
Total DDT Metabolites, ug/L	4.6	30	4.2	1.0	5.0
BHC, alpha isomer, ug/L	39	260	<0.05	<0.05	48
BHC, beta isomer, ug/L	13	<1	<0.1	<0.1	<1
BHC, delta isomer, ug/L	16	<1	<0.1	<0.1	7.1
BHC, gamma isomer (Lindane), ug/L	53	1.5	<0.1	<0.1	4.6
p,p'-DDD, ug/L	2.2	3	1.6	0.35	1.7
p,p'-DDE, ug/L	<1	11	0.2	<0.1	<1
p,p'-DDT, ug/L	2.4	11	2.4	0.65	3.3
o,p'-DDD, ug/L	<1	2.0	<0.1	<0.1	<1
o,p'-DDE, ug/L	<1	<1	<0.1	<0.1	<1
o,p'-DDT, ug/L	<1	3	<0.2	<0.1	<2

LOG NO: P87-01-122

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-1	MW-1	09 JAN 87
01-122-2	MW-2	09 JAN 87
01-122-3	MW-3	09 JAN 87
01-122-4	MW-4	09 JAN 87
01-122-5	MW-5	09 JAN 87

PARAMETER	01-122-1	01-122-2	01-122-3	01-122-4	01-122-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<100	<2500	<25	<50	<1000
1,3-Dichlorobenzene, ug/L	<100	<2500	<25	<50	<1000
1,4-Dichlorobenzene, ug/L	<100	<2500	<25	<50	<1000
Acetone, ug/L	<1000	<25,000	<250	<500	<10,000

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-1	MW-1	09 JAN 87
01-122-2	MW-2	09 JAN 87
01-122-3	MW-3	09 JAN 87
01-122-4	MW-4	09 JAN 87
01-122-5	MW-5	09 JAN 87

PARAMETER	01-122-1	01-122-2	01-122-3	01-122-4	01-122-5
Vol.Pri.Poll. (EPA-624)					
Extraction	01/20/87	01/20/87	01/20/87	01/20/87	01/20/87
Dilution Factor, Times 1	100	2500	25	50	1000
1,1,1-Trichloroethane, ug/L	<100	<2500	<25	<50	<1000
1,1,2,2-Tetrachloroethane, ug/L	<100	<2500	<25	<50	<1000
1,1,2-Trichloroethane, ug/L	<100	<2500	<25	<50	<1000
1,1-Dichloroethane, ug/L	<100	<2500	<25	<50	<1000
1,1-Dichloroethylene, ug/L	<100	<2500	<25	<50	<1000
1,2-Dichloroethane, ug/L	<100	<2500	<25	<50	<1000
1,2-Dichloropropane, ug/L	<100	<2500	<25	<50	<1000
1,3-Dichloropropene, ug/L	<100	<2500	<25	<50	<1000
2-Chloroethylvinylether, ug/L	<100	<2500	<25	<50	<1000
Acrolein, ug/L	<1000	<25,000	<250	<500	<10,000
Acrylonitrile, ug/L	<1000	<25,000	<250	<500	<10,000
Bromodichloromethane, ug/L	<100	<2500	<25	<50	<1000
Bromomethane, ug/L	<100	<2500	<25	<50	<1000
Benzene, ug/L	9900	<2500	<25	<50	2000
Chlorobenzene, ug/L	23,000	440,000	<25	340	200,000
Carbon Tetrachloride, ug/L	220	<2500	<25	<50	<1000
Chloroethane, ug/L	<100	<2500	<25	<50	<1000
Bromoform, ug/L	<100	<2500	<25	<50	<1000
Chloroform, ug/L	6300	7500	580	4300	45,000
Chloromethane, ug/L	<100	<2500	<25	<50	<1000

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-1	MW-1	09 JAN 87
01-122-2	MW-2	09 JAN 87
01-122-3	MW-3	09 JAN 87
01-122-4	MW-4	09 JAN 87
01-122-5	MW-5	09 JAN 87

PARAMETER	01-122-1	01-122-2	01-122-3	01-122-4	01-122-5
Dibromochloromethane, ug/L	<100	<2500	<25	<50	<1000
Ethylbenzene, ug/L	<100	<2500	<25	<50	<1000
Methylene Chloride, ug/L	<100	<2500	<25	<50	<1000
Tetrachloroethylene, ug/L	2900	<2500	<25	1400	<1000
Trichloroethylene, ug/L	<100	<2500	50	<50	<1000
Trichlorofluoromethane, ug/L	<100	<2500	<25	<50	<1000
Toluene, ug/L	<100	<2500	<25	<50	<1000
Vinyl Chloride, ug/L	<100	<2500	<25	<50	<1000
trans-1,2-Dichloroethylene, ug/L	<100	<2500	<25	<50	<1000
trans-1,3-Dichloropropene, ug/L	<100	<2500	<25	<50	<1000
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---
Semi-Quantified Results **					
Butane, ug/L	---	---	250	---	---
Xylene Isomers, ug/L	100	---	---	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-6	MW-500	09 JAN 87

PARAMETER	01-122-6
Alkalinity	<20
Carbonate Alk (as CaCO3), mg/L	670
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	670
Total Alkalinity (as CaCO3), mg/L	510
Calcium (EDTA Titration), mg/L	110
Magnesium, mg/L	770
Chloride, mg/L	<0.03
Copper, mg/L	11
Surfactants, mg/L	<0.03
Iron, mg/L	3.6
Manganese, mg/L	6.6
pH, Units	16
Potassium, mg/L	180
Sodium, mg/L	330
Sulfate, mg/L	3800
Specific Conductance, umhos/cm	2600
Filterable Residue (TDS), mg/L	<0.08
Zinc, mg/L	6.9
Nitrate (as NO3), mg/L	ATTACHED
Ion Balance,	0.31
Boron, mg/L	0.1
Fluoride, mg/L	01/15/87
Nitric Acid Digestion, Date	

LOG NO: P87-01-122

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-6	MW-500	09 JAN 87

PARAMETER	01-122-6
DDT Metabolites and BHCs	
Date Extracted	01/14/87
Date Analyzed	01/24/87
Dilution Factor, Times 1	100
Total BHC Isomers, ug/L	99
Total DDT Metabolites, ug/L	7.2
BHC, alpha isomer, ug/L	79
BHC, beta isomer, ug/L	1.1
BHC, delta isomer, ug/L	11
BHC, gamma isomer (Lindane), ug/L	8.0
p,p'-DDD, ug/L	2.4
p,p'-DDE, ug/L	<1
p,p'-DDT, ug/L	4.8
o,p'-DDD, ug/L	<1
o,p'-DDE, ug/L	<1
o,p'-DDT, ug/L	<2
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<100
1,3-Dichlorobenzene, ug/L	<100
1,4-Dichlorobenzene, ug/L	<100
Acetone, ug/L	<10,000

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-6	MW-500	09 JAN 87

PARAMETER	01-122-6
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1000
1,1,1-Trichloroethane, ug/L	<1000
1,1,2,2-Tetrachloroethane, ug/L	<1000
1,1,2-Trichloroethane, ug/L	<1000
1,1-Dichloroethane, ug/L	<1000
1,1-Dichloroethylene, ug/L	<1000
1,2-Dichloroethane, ug/L	<1000
1,2-Dichloropropane, ug/L	<1000
1,3-Dichloropropene, ug/L	<1000
2-Chloroethylvinylether, ug/L	<1000
Acrolein, ug/L	<10,000
Acrylonitrile, ug/L	<10,000
Bromodichloromethane, ug/L	<1000
Bromomethane, ug/L	<1000
Benzene, ug/L	2000
Chlorobenzene, ug/L	220,000
Carbon Tetrachloride, ug/L	<1000
Chloroethane, ug/L	<1000
Bromoform, ug/L	<1000
Chloroform, ug/L	48,000
Chloromethane, ug/L	<1000
Dibromochloromethane, ug/L	<1000
Ethylbenzene, ug/L	<1000
Methylene Chloride, ug/L	<1000
Tetrachloroethylene, ug/L	<1000

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-6	MW-500	09 JAN 87

PARAMETER	01-122-6
Trichloroethylene, ug/L	<1000
Trichlorofluoromethane, ug/L	<1000
Toluene, ug/L	<1000
Vinyl Chloride, ug/L	<1000
trans-1,2-Dichloroethylene, ug/L	<1000
trans-1,3-Dichloropropene, ug/L	<1000
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-122

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-7	WB-1	09 JAN 87

PARAMETER	01-122-7
DDT Metabolites and BHCs	
Date Extracted	01/14/87
Date Analyzed	01/24/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	0.07
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	0.07
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-7	WB-1	09 JAN 87

PARAMETER	01-122-7
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	2
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-7	WB-1	09 JAN 87

PARAMETER	01-122-7
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: F87-01-122

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-8	MW-2 BC/QC DUP	09 JAN 87

PARAMETER	01-122-8
Alkalinity	<20
Carbonate Alk (as CaCO3), mg/L	526
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	526
Total Alkalinity (as CaCO3), mg/L	590
Calcium (EDTA Titration), mg/L	670
Magnesium, mg/L	2400
Chloride, mg/L	<0.03
Copper, mg/L	64
Surfactants, mg/L	5.2
Iron, mg/L	28
Manganese, mg/L	6.3
pH, Units	18
Potassium, mg/L	2400
Sodium, mg/L	4500
Sulfate, mg/L	14,000
Specific Conductance, umhos/cm	13,000
Filterable Residue (TDS), mg/L	0.19
Zinc, mg/L	0.6
Nitrate (as NO3), mg/L	ATTACHED
Ion Balance, .	0.57
Boron, mg/L	7.4
Fluoride, mg/L	01/15/87
Nitric Acid Digestion, Date	

LOG NO: P87-01-122

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-8	MW-2 BC/QC DUP	09 JAN 87

PARAMETER	01-122-8
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<2500
1,3-Dichlorobenzene, ug/L	<2500
1,4-Dichlorobenzene, ug/L	<2500
Acetone, ug/L	<25,000

LOG NO: P87-01-122

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-8	MW-2 BC/QC DUP	09 JAN 87

PARAMETER	01-122-8
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	2500
1,1,1-Trichloroethane, ug/L	<2500
1,1,2,2-Tetrachloroethane, ug/L	<2500
1,1,2-Trichloroethane, ug/L	<2500
1,1-Dichloroethane, ug/L	<2500
1,1-Dichloroethylene, ug/L	<2500
1,2-Dichloroethane, ug/L	<2500
1,2-Dichloropropane, ug/L	<2500
1,3-Dichloropropene, ug/L	<2500
2-Chloroethylvinylether, ug/L	<2500
Acrolein, ug/L	<25,000
Acrylonitrile, ug/L	<25,000
Bromodichloromethane, ug/L	<2500
Bromomethane, ug/L	<2500
Benzene, ug/L	<2500
Chlorobenzene, ug/L	390,000
Carbon Tetrachloride, ug/L	<2500
Chloroethane, ug/L	<2500
Bromoform, ug/L	<2500
Chloroform, ug/L	7000
Chloromethane, ug/L	<2500
Dibromochloromethane, ug/L	<2500
Ethylbenzene, ug/L	<2500
Methylene Chloride, ug/L	<2500
Tetrachloroethylene, ug/L	<2500

LOG NO: P87-01-122

Received: 09 JAN 87
Reported: 29 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-8	MW-2 BC/QC DUP	09 JAN 87

PARAMETER	01-122-8
Trichloroethylene, ug/L	<2500
Trichlorofluoromethane, ug/L	<2500
Toluene, ug/L	<2500
Vinyl Chloride, ug/L	<2500
trans-1,2-Dichloroethylene, ug/L	<2500
trans-1,3-Dichloropropene, ug/L	<2500
Other Vol.Pri.Poll. (EPA-624)	---

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Roger Niemeyer
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-9	MW-2 BC/QC SPK	09 JAN 87

PARAMETER	01-122-9
Alkalinity	103
Bicarb Alk (as CaCO3), Percent	103
Total Alkalinity (as CaCO3), Percent	---
Other Alkalinity	98
Calcium (EDTA Titration), Percent	107
Magnesium, Percent	2800
Chloride, mg/L	100
Copper, Percent	96
Surfactants, Percent	97
Iron, Percent	75
Manganese, Percent	N/A
pH, Units	103
Potassium, Percent	80
Sodium, Percent	105
Sulfate, Percent	NA
Specific Conductance, umhos/cm	14,000
Filterable Residue (TDS), mg/L	100
Zinc, Percent	90
Nitrate (as NO3), Percent	ATTACHED
Ion Balance, .	101
Boron, Percent	96
Fluoride, Percent	01/15/87
Nitric Acid Digestion, Date	

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-122-9	MW-2 BC/QC SPK	09 JAN 87

PARAMETER	01-122-9
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	2500
1,1,1-Trichloroethane, Percent	89
1,1,2,2-Tetrachloroethane, Percent	87
1,2-Dichloroethane, Percent	91
1,3-Dichloropropene, Percent	89
Bromodichloromethane, Percent	94
Benzene, Percent	90
Bromoform, Percent	108
Ethylbenzene, Percent	105
Toluene, Percent	99
trans-1,2-Dichloroethylene, Percent	110
trans-1,3-Dichloropropene, Percent	91
Other Vol.Pri.Poll. (EPA-624)	---

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-122-10	Reagent Blank	

PARAMETER	01-122-10
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	<20
Calcium (EDTA Titration), mg/L	<1
Magnesium, mg/L	<0.07
Chloride, mg/L	<3
Copper, mg/L	<0.03
Surfactants, mg/L	<0.1
Iron, mg/L	0.06
Manganese, mg/L	<0.004
pH, Units	5.8
Potassium, mg/L	0.06
Sodium, mg/L	<0.2
Sulfate, mg/L	<1
Specific Conductance, umhos/cm	0.44
Filterable Residue (TDS), mg/L	<5
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	<0.4
Ion Balance, .	ATTACHED
Boron, mg/L	<0.05
Fluoride, mg/L	<0.1
Nitric Acid Digestion, Date	01/15/87

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Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-122-10	Reagent Blank	

PARAMETER	01-122-10
DDT Metabolites and BHCs	
Date Extracted	01/14/87
Date Analyzed	01/23/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o.p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-122-10	Reagent Blank	

PARAMETER	01-122-10
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	3
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	2
Tetrachloroethylene, ug/L	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-122-10	Reagent Blank	

PARAMETER	01-122-10
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	2
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-122-11	Laboratory Control Standard	

PARAMETER	01-122-11
Alkalinity	
Bicarb Alk (as CaCO3), Percent	96
Total Alkalinity (as CaCO3), Percent	96
Other Alkalinity	---
Calcium (EDTA Titration), Percent	96
Magnesium, Percent	98
Chloride, Percent	99
Copper, Percent	101
Surfactants, Percent	123
Iron, Percent	104
Manganese, Percent	101
pH, Percent	100
Potassium, Percent	118
Sodium, Percent	98
Sulfate, Percent	100
Specific Conductance, umhos/cm	1400
Filterable Residue (TDS), Percent	100
Zinc, Percent	102
Nitrate (as NO3), mg/L	103
Ion Balance, .	ATTACHED
Boron, Percent	103
Fluoride, Percent	106
Nitric Acid Digestion, Date	01/15/87

LOG NO: P87-01-122

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Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-122-11	Laboratory Control Standard	

PARAMETER	01-122-11
DDT Metabolites and BHCs	
Date Analyzed	01/23/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	90
BHC, beta isomer, Percent	97
BHC, delta isomer, Percent	90
BHC, gamma isomer (Lindane), Percent	100
p,p'-DDD, Percent	82
p,p'-DDE, Percent	100
p,p'-DDT, Percent	100
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, Percent	115
1,3-Dichlorobenzene, Percent	108
1,4-Dichlorobenzene, Percent	110
Acetone, Percent	86

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-122-11	Laboratory Control Standard	

PARAMETER	01-122-11
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, Percent	108
1,1,2,2-Tetrachloroethane, Percent	106
1,1,2-Trichloroethane, Percent	110
1,1-Dichloroethane, Percent	118
1,1-Dichloroethylene, Percent	114
1,2-Dichloroethane, Percent	104
1,2-Dichloropropane, Percent	114
1,3-Dichloropropene, Percent	109
2-Chloroethylvinylether, Percent	106
Acrolein, Percent	97
Acrylonitrile, Percent	117
Bromodichloromethane, Percent	112
Bromomethane, Percent	96
Benzene, Percent	124
Chlorobenzene, Percent	128
Carbon Tetrachloride, Percent	116
Chloroethane, Percent	100
Bromoform, Percent	120
Chloroform, Percent	116
Chloromethane, Percent	72
Dibromochloromethane, Percent	116
Ethylbenzene, Percent	116
Methylene Chloride, Percent	110
Tetrachloroethylene, Percent	118

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-122-11	Laboratory Control Standard	

PARAMETER	01-122-11
Trichloroethylene, Percent	118
Trichlorofluoromethane, Percent	106
Toluene, Percent	112
Vinyl Chloride, Percent	89
trans-1,2-Dichloroethylene, Percent	116
trans-1,3-Dichloropropene, Percent	113
Other Vol.Pri.Poll. (EPA-624)	---

N/A=Not Analyzed; QC Spike not applicable to the conductance measurement. 1/29/87.
--J. Freemyer.

Robert Peck for
Edward Wilson, Laboratory Director

5247

BOE-C6-0183128

HARGIS + ASSOCIATES, INC.

APPENDIX C

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES, INC.

APPENDIX C

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND

TABLE OF CONTENTS

Page	
C-1	UPPER BELLFLOWER WELLS
C-1	BELLFLOWER WELLS
C-1	GAGE WELLS
C-1	LOWER GAGE WELL
C-2	SPLIT SAMPLES
C-3	FIELD BLANKS
C-4	BROWN AND CALDWELL QUALITY CONTROL ANALYTICAL RESULTS

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
UPPER BELLFLOWER WELLS		
MW-1	01-12-87	P87-01-177-2
MW-2	01-13-87	P87-01-185-2
MW-3	01-14-87	P87-01-203-1
MW-4	01-13-87	P87-01-185-3
MW-5	01-12-87	P87-01-177-3
BELLFLOWER WELLS		
BF-1	01-13-87	P87-01-185-4
BF-2	01-13-87	P87-01-185-5
BF-3	01-13-87	P87-01-185-6
BF-4	01-13-87	P87-01-185-7
GAGE WELLS		
G-1	01-13-87	P87-01-185-9
G-2	01-12-87	P87-01-177-4
G-3	01-13-87	P87-01-185-10
LOWER GAGE WELL		
LG-1	01-12-87	P87-01-177-5

BOE-C6-0183131

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

SPLIT SAMPLES

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
LG-100 (Split of LG-1)	01-12-87	P87-01-177-6
BF-100 (Split of BF-1)	01-13-87	P87-01-185-8

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

FIELD BLANKS

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
WB-1	01-12-87	P87-01-177-1
WB-1	01-13-87	P87-01-185-1
WB-1	01-14-87	P87-01-203-2

BOE-C6-0183133

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND
(continued)

BROWN AND CALDWELL QUALITY CONTROL
ANALYTICAL RESULTS

SAMPLE ID	BROWN AND CALDWELL LOG NUMBER
MW-1 BC/QC Duplicate	P87-01-177-7
MW-1 BC/QC Spike	P87-01-177-8
Reagent Blank	P87-01-177-9
Laboratory Control Standard	P87-01-177-10
G-3 BC/QC Duplicate	P87-01-185-11
G-3 BC/QC Spike	P87-01-185-12
Reagent Blank	P87-01-185-13
Laboratory Control Standard	P87-01-185-14

Appendix D

BOE-C6-0183135

HARGIS + ASSOCIATES, INC.

APPENDIX D

ANALYTICAL RESULTS
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND

HARGIS + ASSOCIATES, INC.

APPENDIX D

ANALYTICAL RESULTS
JANUARY 12TH, 13TH, AND 14TH, 1987
GROUNDWATER SAMPLING ROUND

TABLE OF CONTENTS

REPORT LOG NO: P87-01-177

REPORT LOG NO: P87-01-185

REPORT LOG NO: P87-01-203

AMENDED REPORT

2-17-87

BROWN AND CALDWELL

ANALYTICAL LABORATORIES

LOG NO: P87-01-177

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-1	WB-1	12 JAN 87

PARAMETER	01-177-1
DDT Metabolites and BHCs	
Date Extracted	01/13/87
Date Analyzed	01/15/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	0.07
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	0.07
o,p'-DDD, ug/L	<0.01
o,p'-DDE. ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-1	WB-1	12 JAN 87

PARAMETER	01-177-1
Vol.Pri.Poll. (EPA-624)	
Extraction	01/21/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane. ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-1	WB-1	12 JAN 87

PARAMETER	01-177-1
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	2
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-2	MW-1	12 JAN 87
01-177-3	MW-5	12 JAN 87
01-177-4	G-2	12 JAN 87
01-177-5	LG-1	12 JAN 87
01-177-6	LG-100	12 JAN 87

PARAMETER	01-177-2	01-177-3	01-177-4	01-177-5	01-177-6
Alkalinity					
Carbonate Alk (as CaCO3), mg/L	<20	<20	<20	40	40
Bicarb Alk (as CaCO3), mg/L	600	660	130	80	80
Hydroxide Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Total Alkalinity (as CaCO3), mg/L	600	660	130	120	120
Calcium (EDTA Titration), mg/L	590	510	66	12	12
Magnesium, mg/L	180	110	15	5.3	5.4
Chloride, mg/L	1400	800	96	30	33
Copper, mg/L	<0.03	<0.03	<0.03	<0.03	<0.03
Surfactants, mg/L	1.36	12	0.3	<0.1	<0.1
Iron, mg/L	0.11	<0.03	<0.03	<0.03	<0.03
Manganese, mg/L	1.6	3.7	0.005	<0.004	<0.004
pH, Units	7.1	6.8	8.4	9.3	9.3
Potassium, mg/L	17	17	7.6	6.1	6.1
Sodium, mg/L	520	190	58	54	53
Sulfate, mg/L	810	310	74	12	12
Specific Conductance, umhos/cm	6200	4000	700	340	350
Filterable Residue (TDS), mg/L	4000	2500	450	210	210
Zinc, mg/L	<0.08	<0.08	<0.08	<0.08	<0.08
Nitrate (as NO3), mg/L	<0.4	7.0	<0.4	<0.4	0.6
Ion Balance,	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.62	0.44	0.18	0.14	0.17
Fluoride, mg/L	0.1	0.1	0.3	0.4	0.4

LOG NO: P87-01-177

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-2	MW-1	12 JAN 87
01-177-3	MW-5	12 JAN 87
01-177-4	G-2	12 JAN 87
01-177-5	LG-1	12 JAN 87
01-177-6	LG-100	12 JAN 87

PARAMETER	01-177-2	01-177-3	01-177-4	01-177-5	01-177-6
Nitric Acid Digestion, Date	01/15/87	01/15/87	01/15/87	01/15/87	01/15/87
DDT Metabolites and BHCs					
Date Extracted	01/14/87	01/13/87	01/13/87	01/13/87	01/13/87
Date Analyzed	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87
Dilution Factor, Times 1	100	100	1	1	1
Total BHC Isomers, ug/L	170	220	<0.01	0.03	0.06
Total DDT Metabolites, ug/L	5.8	1.0	<0.02	<0.02	<0.02
BHC, alpha isomer, ug/L	140	90	<0.005	0.01	0.02
BHC, beta isomer, ug/L	2.4	15	<0.01	0.02	0.04
BHC, delta isomer, ug/L	16	18	<0.01	<0.01	<0.01
BHC, gamma isomer (Lindane), ug/L	13	100	<0.01	<0.01	<0.01
p,p'-DDD, ug/L	2.7	0.73	<0.01	<0.01	<0.01
p,p'-DDE, ug/L	<1	<1	<0.01	<0.01	<0.01
p,p'-DDT, ug/L	3.1	0.28	<0.02	<0.02	<0.02
o,p'-DDD, ug/L	<1	<1	<0.01	<0.01	<0.01
o,p'-DDE, ug/L	<1	<1	<0.01	<0.01	<0.01
o,p'-DDT, ug/L	<2	<2	<0.02	<0.02	<0.02

LOG NO: P87-01-177

Received: 13 JAN 87
Reported: 30 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-2	MW-1	12 JAN 87
01-177-3	MW-5	12 JAN 87
01-177-4	G-2	12 JAN 87
01-177-5	LG-1	12 JAN 87
01-177-6	LG-100	12 JAN 87

PARAMETER	01-177-2	01-177-3	01-177-4	01-177-5	01-177-6
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<100	<1000	<200	<1	<1
1,3-Dichlorobenzene, ug/L	<100	<1000	<200	<1	<1
1,4-Dichlorobenzene, ug/L	160	<1000	<200	<1	<1
Acetone, ug/L	2400	<10,000	<2000	<10	<10

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-2	MW-1	12 JAN 87
01-177-3	MW-5	12 JAN 87
01-177-4	G-2	12 JAN 87
01-177-5	LG-1	12 JAN 87
01-177-6	LG-100	12 JAN 87

PARAMETER	01-177-2	01-177-3	01-177-4	01-177-5	01-177-6
Vol.Pri.Poll. (EPA-624)					
Extraction	01/21/87	01/21/87	01/21/87	01/21/87	01/21/87
Dilution Factor, Times 1	100	1000	200	1	1
1,1,1-Trichloroethane, ug/L	<100	1700	<200	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<100	2000	<200	<1	<1
1,1,2-Trichloroethane, ug/L	<100	<1000	<200	<1	<1
1,1-Dichloroethane, ug/L	<100	<1000	<200	<1	<1
1,1-Dichloroethylene, ug/L	<100	<1000	<200	<1	<1
1,2-Dichloroethane, ug/L	<100	<1000	<200	<1	<1
1,2-Dichloropropane, ug/L	<100	<1000	<200	<1	<1
1,3-Dichloropropene, ug/L	<100	2300	<200	<1	<1
2-Chloroethylvinylether, ug/L	<100	<1000	<200	<1	<1
Acrolein, ug/L	<1000	<10,000	<2000	<10	<10
Acrylonitrile, ug/L	<1000	<10,000	<2000	<10	<10
Bromodichloromethane, ug/L	<100	1400	<200	<1	<1
Bromomethane, ug/L	<100	<1000	<200	<1	<1
Benzene, ug/L	11,000	3700	<200	<1	<1
Chlorobenzene, ug/L	23,000	200,000	17,000	92	100
Carbon Tetrachloride, ug/L	230	<1000	<200	<1	<1
Chloroethane, ug/L	<100	<1000	<200	<1	<1
Bromoform, ug/L	<100	<1000	<200	<1	<1
Chloroform, ug/L	6400	47,000	<200	<1	<1
Chloromethane, ug/L	<100	<1000	<200	<1	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-2	MW-1	12 JAN 87
01-177-3	MW-5	12 JAN 87
01-177-4	G-2	12 JAN 87
01-177-5	LG-1	12 JAN 87
01-177-6	LG-100	12 JAN 87

PARAMETER	01-177-2	01-177-3	01-177-4	01-177-5	01-177-6
Dibromochloromethane, ug/L	<100	<1000	<200	<1	<1
Ethylbenzene, ug/L	<100	2100	<200	<1	<1
Methylene Chloride, ug/L	<100	<1000	<200	<1	<1
Tetrachloroethylene, ug/L	3100	1100	<200	<1	<1
Trichloroethylene, ug/L	<100	<1000	<200	<1	<1
Trichlorofluoromethane, ug/L	<100	<1000	<200	<1	<1
Toluene, ug/L	<100	1300	<200	<1	<1
Vinyl Chloride, ug/L	<100	<1000	<200	<1	<1
trans-1,2-Dichloroethylene, ug/L	<100	1500	<200	<1	<1
trans-1,3-Dichloropropene, ug/L	<100	1500	<200	<1	<1
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---

LOG NO: P87-01-177

Received: 13 JAN 87
Reported: 30 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-7	MW-1 BC/OC DUP	

PARAMETER	01-177-7
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	614
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	614
Calcium (EDTA Titration), mg/L	600
Magnesium, mg/L	180
Chloride, mg/L	1400
Copper, mg/L	<0.03
Surfactants, mg/L	1.17
Iron, mg/L	0.11
Manganese, mg/L	1.6
pH, Units	7.1
Potassium, mg/L	17
Sodium, mg/L	520
Sulfate, mg/L	830
Specific Conductance, umhos/cm	6200
Filterable Residue (TDS), mg/L	4000
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	<0.4
Ion Balance, -	ATTACHED
Boron, mg/L	0.62
Fluoride, mg/L	0.1
Nitric Acid Digestion, Date	01/15/87

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Roger Niemeyer
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-7	MW-1 DC/QC DUP	

PARAMETER	01-177-7
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<100
1,3-Dichlorobenzene, ug/L	<100
1,4-Dichlorobenzene, ug/L	170
Acetone, ug/L	3200

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-7	MW-1 BC/QC DUP	

PARAMETER	01-177-7
Vol.Pri.Poll. (EPA-624)	01/21/87
Extraction	100
Dilution Factor, Times 1	<100
1,1,1-Trichloroethane, ug/L	<100
1,1,2,2-Tetrachloroethane, ug/L	<100
1,1,2-Trichloroethane, ug/L	<100
1,1-Dichloroethane, ug/L	<100
1,1-Dichloroethylene, ug/L	<100
1,2-Dichloroethane, ug/L	<100
1,2-Dichloropropane, ug/L	<100
1,3-Dichloropropene, ug/L	<100
2-Chloroethylvinylether, ug/L	<1000
Acrolein, ug/L	<1000
Acrylonitrile, ug/L	<100
Bromodichloromethane, ug/L	<100
Bromomethane, ug/L	11,000
Benzene, ug/L	23,000
Chlorobenzene, ug/L	240
Carbon Tetrachloride, ug/L	<100
Chloroethane, ug/L	<100
Bromoform, ug/L	6700
Chloroform, ug/L	<100
Chloromethane, ug/L	<100
Dibromochloromethane, ug/L	<100
Ethylbenzene, ug/L	<100
Methylene Chloride, ug/L	3200
Tetrachloroethylene, ug/L	

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-7	MW-1 BC/QC DUP	

PARAMETER	01-177-7
Trichloroethylene, ug/L	<100
Trichlorofluoromethane, ug/L	<100
Toluene, ug/L	<100
Vinyl Chloride, ug/L	<100
trans-1,2-Dichloroethylene, ug/L	<100
trans-1,3-Dichloropropene, ug/L	---
Other Vol.Pri.Poll. (EPA-624)	

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-8	MW-1 BC/OC SPK	

PARAMETER	01-177-8
Alkalinity	100
Bicarb Alk (as CaCO3), Percent	100
Total Alkalinity (as CaCO3), Percent	---
Other Alkalinity	113
Calcium (EDTA Titration), Percent	100
Magnesium, Percent	100
Chloride, Percent	100
Copper, Percent	96
Surfactants, Percent	86
Iron, Percent	92
Manganese, Percent	N/A
pH, Percent	104
Potassium, Percent	105
Sodium, Percent	98
Sulfate, Percent	N/A
Specific Conductance, Percent	100
Filterable Residue (TDS), Percent	96
Zinc, Percent	108
Nitrate (as NO3), Percent	ATTACHED
Ion Balance, -	114
Boron, Percent	93
Fluoride, Percent	01/15/87
Nitric Acid Digestion, Date	
Additional Compounds, Percent	

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Roger Hiemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-177-8	MW-1 BC/QC SPK	

PARAMETER	01-177-8
Vol.Pri.Poll. (EPA-624)	01/21/87
Extraction	100
Dilution Factor. Times 1	105
1,1,1-Trichloroethane, Percent	93
1,1,2,2-Tetrachloroethane, Percent	101
1,2-Dichloroethane, Percent	112
1,3-Dichloropropene, Percent	110
Bromodichloromethane, Percent	100
Benzene, Percent	118
Bromoform, Percent	115
Ethylbenzene, Percent	108
Toluene, Percent	129
trans-1,2-Dichloroethylene, Percent	150
trans-1,3-Dichloropropene, Percent	---
Other Vol.Pri.Poll. (EPA-624)	

LOG NO: P87-01-177

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Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-177-9	Reagent Blank	

PARAMETER	01-177-9
Alkalinity	<20
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	<1
Calcium (EDTA Titration), mg/L	<0.07
Magnesium, mg/L	<3
Chloride, mg/L	<0.03
Copper, mg/L	<0.1
Surfactants, mg/L	0.06
Iron, mg/L	<0.004
Manganese, mg/L	4.8
pH, Units	0.06
Potassium, mg/L	<0.2
Sodium, mg/L	<1
Sulfate, mg/L	0.41
Specific Conductance, umhos/cm	<5
Filterable Residue (TDS), mg/L	<0.08
Zinc, mg/L	<0.4
Nitrate (as NO3), mg/L	ATTACHED
Ion Balance, .	<0.05
Boron, mg/L	<0.1
Fluoride, mg/L	01/15/87
Nitric Acid Digestion, Date	

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Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-177-9	Reagent Blank	

PARAMETER	01-177-9
DDT Metabolites and BHCs	
Date Extracted	01/13/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE. ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-177-9	Reagent Blank	

PARAMETER	01-177-9
Vol.Pri.Poll. (EPA-624)	
Extraction	01/20/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	3
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	5
Tetrachloroethylene, ug/L	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-177-9	Reagent Blank	

PARAMETER	01-177-9
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-177-10	Laboratory Control Standard	

PARAMETER	01-177-10
DDT Metabolites and BHCs	
Date Analyzed	01/24/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	109
BHC, beta isomer, Percent	120
BHC, delta isomer, Percent	110
BHC, gamma isomer (Lindane), Percent	120
p,p'-DDD, Percent	106
p,p'-DDE, Percent	120
p,p'-DDT, Percent	137
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, Percent	128
1,3-Dichlorobenzene, Percent	122
1,4-Dichlorobenzene, Percent	123
Acetone, Percent	91

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-177-10	Laboratory Control Standard	

PARAMETER	01-177-10
Vol.Pri.Poll. (EPA-624)	
Extraction	01/21/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, Percent	106
1,1,2,2-Tetrachloroethane, Percent	108
1,1,2-Trichloroethane, Percent	115
1,1-Dichloroethane, Percent	117
1,1-Dichloroethylene, Percent	115
1,2-Dichloroethane, Percent	105
1,2-Dichloropropane, Percent	114
1,3-Dichloropropene, Percent	111
2-Chloroethylvinylether, Percent	104
Acrolein, Percent	96
Acrylonitrile, Percent	118
Bromodichloromethane, Percent	111
Bromomethane, Percent	99
Benzene, Percent	119
Chlorobenzene, Percent	126
Carbon Tetrachloride, Percent	113
Chloroethane, Percent	100
Bromoform, Percent	118
Chloroform, Percent	119
Chloromethane, Percent	75
Dibromochloromethane, Percent	117
Ethylbenzene, Percent	120
Methylene Chloride, Percent	112
Tetrachloroethylene, Percent	121

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-177-10	Laboratory Control Standard	

PARAMETER	01-177-10
Trichloroethylene, Percent	119
Trichlorofluoromethane, Percent	106
Toluene, Percent	119
Vinyl Chloride, Percent	85
trans-1,2-Dichloroethylene, Percent	117
trans-1,3-Dichloropropene, Percent	111
Other Vol.Pri.Poll. (EPA-624)	---

N/A=Not Analyzed; the QC Spike is not applicable to the conductance measurement. 1/29/87.
--J. Freemyer.

Robert Peak for
Edward Wilson, Laboratory Director

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LA JOLLA, CA

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

AMENDED REPORT

2/19/87

LOG NO: P87-01-185

Received: 13 JAN 87
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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-1	WB-1	13 JAN 87

PARAMETER	01-185-1
DDT Metabolites and BHCs	
Date Extracted	01/19/87
Date Analyzed	01/26/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-185

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-1	WB-1	13 JAN 87

PARAMETER	01-185-1
Vol.Pri.Poll. (EPA-624)	
Extraction	01/26/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-1	WB-1	13 JAN 87

PARAMETER	01-185-1
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-2	MW-2	13 JAN 87
01-185-3	MW-4	13 JAN 87
01-185-4	BF-1	13 JAN 87
01-185-5	BF-2	13 JAN 87
01-185-6	BF-3	13 JAN 87

PARAMETER	01-185-2	01-185-3	01-185-4	01-185-5	01-185-6
Alkalinity					
Carbonate Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Bicarb Alk (as CaCO3), mg/L	770	420	160	200	230
Hydroxide Alk (as CaCO3), mg/L	<20	<20	<20	<20	<20
Total Alkalinity (as CaCO3), mg/L	770	420	160	200	230
Calcium (EDTA Titration), mg/L	570	310	94	100	180
Magnesium, mg/L	690	86	22	22	36
Chloride, mg/L	2400	660	190	110	200
Copper, mg/L	<0.03	<0.03	<0.03	<0.03	<0.03
Surfactants, mg/L	78	0.3	<0.1	0.9	2.3
Iron, mg/L	1.4	<0.03	<0.03	<0.03	<0.03
Manganese, mg/L	28	0.17	0.31	0.65	0.84
pH, Units	6.8	7.2	7.8	7.5	7.5
Potassium, mg/L	19	14	5.9	5.9	7.2
Sodium, mg/L	2500	160	65	72	88
Sulfate, mg/L	4800	94	30	120	210
Specific Conductance, umhos/cm	15,000	3000	1000	1000	1500
Filterable Residue (TDS), mg/L	14,000	1600	540	560	980
Zinc, mg/L	0.08	<0.08	<0.08	<0.08	<0.08
Nitrate (as NO3), mg/L	<0.4	<0.4	<0.4	<0.4	<0.4
Ion Balance, .	ATTACHED	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.83	0.64	0.28	0.31	0.33
Fluoride, mg/L	3.9	0.1	0.3	0.2	0.2

LOG NO: F87-01-185

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-2	MW-2	13 JAN 87
01-185-3	MW-4	13 JAN 87
01-185-4	BF-1	13 JAN 87
01-185-5	BF-2	13 JAN 87
01-185-6	BF-3	13 JAN 87

PARAMETER	01-185-2	01-185-3	01-185-4	01-185-5	01-185-6
Nitric Acid Digestion, Date	01/15/87	01/15/87	01/15/87	01/15/87	01/15/87
DDT Metabolites and BHCs					
Date Extracted	01/19/87	01/19/87	01/19/87	01/19/87	01/19/87
Date Analyzed	01/24/87	01/24/87	01/26/87	01/26/87	01/26/87
Dilution Factor, Times 1	100	1	1	1	1
Total BHC Isomers, ug/L	330	1.6	0.08	0.76	2.4
Total DDT Metabolites, ug/L	13	0.29	0.07	0.31	1.0
BHC, alpha isomer, ug/L	330	1.6	0.08	0.37	1.3
BHC, beta isomer, ug/L	<1	<0.01	<0.01	0.13	0.24
BHC, delta isomer, ug/L	3.2	<0.01	<0.01	0.17	0.19
BHC, gamma isomer (Lindane), ug/L	<1	<0.01	<0.01	0.09	0.71
p,p'-DDD, ug/L	5.6	0.12	<0.01	0.21	0.23
p,p'-DDE, ug/L	<1	<0.01	<0.01	0.02	<0.01
p,p'-DDT, ug/L	7.3	0.17	0.07	0.08	0.52
o,p'-DDD, ug/L	<1	<0.01	<0.01	<0.01	0.07
o,p'-DDE, ug/L	<1	<0.01	<0.01	<0.01	<0.01
o,p'-DDT, ug/L	<2	<0.02	<0.02	<0.02	0.22

LOG NO: P87-01-185

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-2	MW-2	13 JAN 87
01-185-3	MW-4	13 JAN 87
01-185-4	BF-1	13 JAN 87
01-185-5	BF-2	13 JAN 87
01-185-6	BF-3	13 JAN 87

PARAMETER	01-185-2	01-185-3	01-185-4	01-185-5	01-185-6
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<25,000	<50	<25	<200	<200
1,3-Dichlorobenzene, ug/L	<25,000	<50	<25	<200	<200
1,4-Dichlorobenzene, ug/L	<25,000	<50	<25	<200	<200
Acetone, ug/L	<250,000	<500	<250	<2000	<2000

LOG NO: P87-01-185

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-2	MW-2	13 JAN 87
01-185-3	MW-4	13 JAN 87
01-185-4	BP-1	13 JAN 87
01-185-5	BP-2	13 JAN 87
01-185-6	BP-3	13 JAN 87

PARAMETER	01-185-2	01-185-3	01-185-4	01-185-5	01-185-6
Vol.Pri.Poll. (EPA-624)					
Extraction	01/26/87	01/26/87	01/26/87	01/27/87	01/27/87
Dilution Factor, Times 1	25,000	50	25	200	200
1,1,1-Trichloroethane, ug/L	<25,000	<50	<25	<200	<200
1,1,2,2-Tetrachloroethane, ug/L	<25,000	<50	<25	<200	<200
1,1,2-Trichloroethane, ug/L	<25,000	<50	<25	<200	<200
1,1-Dichloroethane, ug/L	<25,000	<50	<25	<200	<200
1,1-Dichloroethylene, ug/L	<25,000	<50	<25	<200	<200
1,2-Dichloroethane, ug/L	<25,000	<50	<25	<200	<200
1,2-Dichloropropane, ug/L	<25,000	<50	<25	<200	<200
1,3-Dichloropropene, ug/L	<25,000	<50	<25	<200	<200
2-Chloroethylvinylether, ug/L	<25,000	<50	<25	<200	<200
Acrolein, ug/L	<250,000	<500	<250	<2000	<2000
Acrylonitrile, ug/L	<250,000	<500	<250	<2000	<2000
Bromodichloromethane, ug/L	<25,000	<50	<25	<200	<200
Bromomethane, ug/L	<25,000	<50	<25	<200	<200
Benzene, ug/L	<25,000	<50	<25	<200	<200
Chlorobenzene, ug/L	660,000	690	430	10,000	23,000
Carbon Tetrachloride, ug/L	<25,000	<50	<25	<200	<200
Chloroethane, ug/L	<25,000	<50	<25	<200	<200
Bromoform, ug/L	<25,000	<50	<25	<200	<200
Chloroform, ug/L	<25,000	2900	<25	<200	<200
Chloromethane, ug/L	<25,000	<50	<25	<200	<200

LOG NO: P87-01-185

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-2	MW-2	13 JAN 87
01-185-3	MW-4	13 JAN 87
01-185-4	BF-1	13 JAN 87
01-185-5	BF-2	13 JAN 87
01-185-6	BF-3	13 JAN 87

PARAMETER	01-185-2	01-185-3	01-185-4	01-185-5	01-185-6
Dibromochloromethane, ug/L	<25,000	<50	<25	<200	<200
Ethylbenzene, ug/L	<25,000	<50	<25	<200	<200
Methylene Chloride, ug/L	<25,000	<50	<25	<200	<200
Tetrachloroethylene, ug/L	<25,000	1400	<25	<200	<200
Trichloroethylene, ug/L	<25,000	<50	<25	<200	<200
Trichlorofluoromethane, ug/L	<25,000	<50	<25	<200	<200
Toluene, ug/L	<25,000	<50	<25	<200	<200
Vinyl Chloride, ug/L	<25,000	<50	<25	<200	<200
trans-1,2-Dichloroethylene, ug/L	<25,000	<50	<25	<200	<200
trans-1,3-Dichloropropene, ug/L	<25,000	<50	<25	<200	<200
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---

LOG NO: F87-01-185

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-7	BF-4	13 JAN 87
01-185-8	BF-100	13 JAN 87
01-185-9	G-1	13 JAN 87
01-185-10	G-3	13 JAN 87

PARAMETER	01-185-7	01-185-8	01-185-9	01-185-10
Alkalinity				
Carbonate Alk (as CaCO3), mg/L	<20	<20	24	<20
Bicarb Alk (as CaCO3), mg/L	210	160	<20	151
Hydroxide Alk (as CaCO3), mg/L	<20	<20	159	<20
Total Alkalinity (as CaCO3), mg/L	210	160	183	151
Calcium (EDTA Titration), mg/L	120	100	61	53.4
Magnesium, mg/L	28	22	0.48	9.4
Chloride, mg/L	120	190	58	46
Copper, mg/L	<0.03	<0.03	<0.03	<0.03
Surfactants, mg/L	1.4	<0.1	<0.1	<0.1
Iron, mg/L	<0.03	<0.03	<0.03	<0.03
Manganese, mg/L	0.11	0.33	<0.004	0.007
pH, Units	7.6	7.8	12	8.5
Potassium, mg/L	6.9	5.5	9.2	4.6
Sodium, mg/L	68	72	66	50
Sulfate, mg/L	160	31	48	39
Specific Conductance, umhos/cm	1100	1000	1100	500
Filterable Residue (TDS), mg/L	710	510	340	260
Zinc, mg/L	<0.08	<0.08	<0.08	<0.08
Nitrate (as NO3), mg/L	<0.4	<0.4	0.6	0.4
Ion Balance,	ATTACHED	ATTACHED	ATTACHED	ATTACHED
Boron, mg/L	0.36	0.25	0.20	0.20
Fluoride, mg/L	0.2	0.3	0.3	0.3
Nitric Acid Digestion, Date	01/15/87	01/15/87	01/15/87	01/15/87

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-7	BF-4	13 JAN 87
01-185-8	BF-100	13 JAN 87
01-185-9	G-1	13 JAN 87
01-185-10	G-3	13 JAN 87

PARAMETER	01-185-7	01-185-8	01-185-9	01-185-10
DDT Metabolites and BHCs				
Date Extracted	01/19/87	01/19/87	01/19/87	01/19/87
Date Analyzed	01/25/87	01/26/87	01/26/87	01/26/87
Dilution Factor, Times 1	10	1	1	1
Total BHC Isomers, ug/L	7.2	0.12	0.05	<0.01
Total DDT Metabolites, ug/L	2.3	0.19	0.35	0.14
BHC, alpha isomer, ug/L	6.7	0.12	<0.005	<0.005
BHC, beta isomer, ug/L	<0.1	<0.01	0.03	<0.01
BHC, delta isomer, ug/L	0.2	<0.01	<0.01	<0.01
BHC, gamma isomer (Lindane), ug/L	0.3	<0.01	0.02	<0.01
p,p'-DDD, ug/L	0.5	0.07	0.11	<0.01
p,p'-DDE, ug/L	<0.1	0.04	<0.01	<0.01
p,p'-DDT, ug/L	0.7	0.08	0.09	0.14
o,p'-DDD, ug/L	0.64	<0.01	<0.01	<0.01
o,p'-DDE, ug/L	<0.1	<0.01	0.05	<0.01
o,p'-DDT, ug/L	0.5	<0.02	0.1	<0.02

LOG NO: P87-01-185

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-7	BF-4	13 JAN 87
01-185-8	BF-100	13 JAN 87
01-185-9	G-1	13 JAN 87
01-185-10	G-3	13 JAN 87

PARAMETER	01-185-7	01-185-8	01-185-9	01-185-10
Additional Compounds				
1,2-Dichlorobenzene, ug/L	<200	<20	<10	<5
1,3-Dichlorobenzene, ug/L	<200	<20	<10	<5
1,4-Dichlorobenzene, ug/L	<200	<20	<10	<5
Acetone, ug/L	<2000	<200	<100	<50

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-7	BF-4	13 JAN 87
01-185-8	BF-100	13 JAN 87
01-185-9	G-1	13 JAN 87
01-185-10	G-3	13 JAN 87

PARAMETER	01-185-7	01-185-8	01-185-9	01-185-10
Vol.Pri.Poll. (EPA-624)	01/27/87	01/27/87	01/27/87	01/27/87
Extraction	200	20	10	5
Dilution Factor, Times 1	<200	<20	<10	<5
1,1,1-Trichloroethane, ug/L	<200	<20	<10	<5
1,1,2,2-Tetrachloroethane, ug/L	<200	<20	<10	<5
1,1,2-Trichloroethane, ug/L	<200	<20	<10	<5
1,1-Dichloroethane, ug/L	<200	<20	<10	<5
1,1-Dichloroethylene, ug/L	<200	<20	<10	<5
1,2-Dichloroethane, ug/L	<200	<20	<10	<5
1,2-Dichloropropane, ug/L	<200	<20	<10	<5
1,3-Dichloropropene, ug/L	<200	<20	<10	<5
2-Chloroethylvinylether, ug/L	<2000	<200	<100	<50
Acrolein, ug/L	<2000	<200	<100	<50
Acrylonitrile, ug/L	<200	<20	<10	<5
Bromodichloromethane, ug/L	<200	<20	<10	<5
Bromomethane, ug/L	<200	<20	<10	<5
Benzene, ug/L	38,000	490	710	280
Chlorobenzene, ug/L	<200	<20	<10	<5
Carbon Tetrachloride, ug/L	<200	<20	<10	<5
Chloroethane, ug/L	<200	<20	<10	<5
Bromoform, ug/L	<200	<20	<10	<5
Chloroform, ug/L	<200	<20	<10	<5
Chloromethane, ug/L	<200	<20	<10	<5
Dibromochloromethane, ug/L				

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-7	BF-4	13 JAN 87
01-185-8	BF-100	13 JAN 87
01-185-9	G-1	13 JAN 87
01-185-10	G-3	13 JAN 87

PARAMETER	01-185-7	01-185-8	01-185-9	01-185-10
Ethylbenzene, ug/L	<200	<20	<10	<5
Methylene Chloride, ug/L	<200	<20	<10	<5
Tetrachloroethylene, ug/L	<200	<20	<10	<5
Trichloroethylene, ug/L	260	<20	<10	<5
Trichlorofluoromethane, ug/L	<200	<20	<10	<5
Toluene, ug/L	<200	<20	<10	<5
Vinyl Chloride, ug/L	<200	<20	<10	<5
trans-1,2-Dichloroethylene, ug/L	<200	<20	<10	<5
trans-1,3-Dichloropropene, ug/L	<200	<20	<10	<5
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---

LOG NO: P87-01-185

Received: 13 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-11	G-3 BC/QC DUP	13 JAN 87

PARAMETER	01-185-11
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	155
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	155
Calcium (EDTA Titration), mg/L	49.4
Magnesium, mg/L	9.1
Chloride, mg/L	46
Copper, mg/L	<0.03
Surfactants, mg/L	<0.1
Iron, mg/L	<0.03
Manganese, mg/L	0.008
pH, Units	8.5
Potassium, mg/L	4.4
Sodium, mg/L	50
Sulfate, mg/L	41
Specific Conductance, umhos/cm	500
Filterable Residue (TDS), mg/L	280
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	0.4
Ion Balance, .	ATTACHED
Boron, mg/L	0.20
Fluoride, mg/L	0.3
Nitric Acid Digestion, Date	01/15/87

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-11	G-3 BC/QC DUP	13 JAN 87

PARAMETER	01-185-11
DDT Metabolites and BHCs	
Date Extracted	01/19/87
Date Analyzed	01/26/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	0.08
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	0.08
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<5
1,3-Dichlorobenzene, ug/L	<5
1,4-Dichlorobenzene, ug/L	<5
Acetone, ug/L	<50

LOG NO: P87-01-185

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-11	G-3 BC/QC DUP	13 JAN 87

PARAMETER	01-185-11
Vol.Pri.Poll. (EPA-624)	
Extraction	01/27/87
Dilution Factor, Times 1	5
1,1,1-Trichloroethane, ug/L	<5
1,1,2,2-Tetrachloroethane, ug/L	<5
1,1,2-Trichloroethane, ug/L	<5
1,1-Dichloroethane, ug/L	<5
1,1-Dichloroethylene, ug/L	<5
1,2-Dichloroethane, ug/L	<5
1,2-Dichloropropane, ug/L	<5
1,3-Dichloropropene, ug/L	<5
2-Chloroethylvinylether, ug/L	<5
Acrolein, ug/L	<50
Acrylonitrile, ug/L	<50
Bromodichloromethane, ug/L	<5
Bromomethane, ug/L	<5
Benzene, ug/L	<5
Chlorobenzene, ug/L	300
Carbon Tetrachloride, ug/L	<5
Chloroethane, ug/L	<5
Bromoform, ug/L	<5
Chloroform, ug/L	<5
Chloromethane, ug/L	<5
Dibromochloromethane, ug/L	<5
Ethylbenzene, ug/L	<5
Methylene Chloride, ug/L	<5
Tetrachloroethylene, ug/L	<5

LOG NO: P87-01-185

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-11	G-3 BC/QC DUP	13 JAN 87

PARAMETER	01-185-11
Trichloroethylene, ug/L	<5
Trichlorofluoromethane, ug/L	<5
Toluene, ug/L	<5
Vinyl Chloride, ug/L	<5
trans-1,2-Dichloroethylene, ug/L	<5
trans-1,3-Dichloropropene, ug/L	<5
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-12	G-3 BC/QC SPK	13 JAN 87

PARAMETER	01-185-12
Alkalinity	
Bicarb Alk (as CaCO3), Percent	101
Total Alkalinity (as CaCO3), Percent	101
Other Alkalinity	---
Calcium (EDTA Titration), Percent	98
Magnesium, Percent	104
Chloride, Percent	89
Copper, Percent	98
Surfactants, Percent	97
Iron, Percent	96
Manganese, Percent	110
pH, Percent	N/A
Potassium, Percent	110
Sodium, Percent	110
Sulfate, Percent	100
Specific Conductance, Percent	N/A
Filterable Residue (TDS), Percent	103
Zinc, Percent	104
Nitrate (as NO3), Percent	107
Ion Balance,	ATTACHED
Boron, Percent	101
Fluoride, Percent	100
Nitric Acid Digestion, Date	01/15/87

LOG NO: P87-01-185

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-12	G-3 BC/QC SPK	13 JAN 87

PARAMETER	01-185-12
DDT Metabolites and BHCs	
Date Extracted	01/19/87
Date Analyzed	01/25/87
Dilution Factor, Times 1	10
Total BHC Isomers, Percent	N/A
Total DDT Metabolites, Percent	N/A
BHC, alpha isomer, Percent	N/A
BHC, beta isomer, Percent	N/A
BHC, delta isomer, Percent	N/A
BHC, gamma isomer (Lindane), Percent	94
p,p'-DDD, Percent	N/A
p,p'-DDE, Percent	N/A
p,p'-DDT, Percent	N/A
o,p'-DDD, Percent	100
o,p'-DDE, Percent	100
o,p'-DDT, Percent	110

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-185-12	G-3 BC/QC SPK	13 JAN 87

PARAMETER	01-185-12
Vol.Pri.Poll. (EPA-624)	
Extraction	01/27/87
Dilution Factor, Times 1	5
1,1,2,2-Tetrachloroethane, Percent	101
1,1,2-Trichloroethane, Percent	101
1,1-Dichloroethylene, Percent	152
1,2-Dichloroethane, Percent	125
1,2-Dichloropropane, Percent	117
Chlorobenzene, Percent	102
Carbon Tetrachloride, Percent	146
Dibromochloromethane, Percent	132
Methylene Chloride, Percent	136
Trichloroethylene, Percent	132
trans-1,2-Dichloroethylene, Percent	147
Other Vol.Pri.Poll. (EPA-624)	---

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-185-13	Reagent Blank	

PARAMETER	01-185-13
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	<20
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	<20
Calcium (EDTA Titration), mg/L	<1
Magnesium, mg/L	<0.01
Chloride, mg/L	<3
Copper, mg/L	<0.03
Surfactants, mg/L	<0.1
Iron, mg/L	0.06
Manganese, mg/L	<0.004
pH, Units	5.7
Potassium, mg/L	0.06
Sodium, mg/L	<0.2
Sulfate, mg/L	1
Specific Conductance, umhos/cm	<1
Filterable Residue (TDS), mg/L	<5
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	<0.4
Ion Balance, .	ATTACHED
Boron, mg/L	<0.05
Fluoride, mg/L	<0.1
Nitric Acid Digestion, Date	01/15/87

LOG NO: P87-01-185

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Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-185-13	Reagent Blank	

PARAMETER	01-185-13
DDT Metabolites and BHCs	
Date Extracted	01/19/87
Date Analyzed	01/24/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-185-13	Reagent Blank	

PARAMETER	01-185-13
Vol.Pri.Poll. (EPA-624)	
Extraction	01/26/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	2
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	3
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-185-13	Reagent Blank	

PARAMETER	01-185-13
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	2
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-185

Received: 13 JAN 87
Reported: 02 FEB 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-185-14	Laboratory Control Standard	

PARAMETER	01-185-14
Alkalinity	96
Bicarb Alk (as CaCO3), Percent	96
Total Alkalinity (as CaCO3), Percent	---
Other Alkalinity	98
Calcium (EDTA Titration), Percent	98
Magnesium, Percent	102
Chloride, Percent	101
Copper, Percent	129
Surfactants, Percent	104
Iron, Percent	104
Manganese, Percent	100
pH, Percent	119
Potassium, Percent	96
Sodium, Percent	100
Sulfate, Percent	99
Specific Conductance, Percent	97
Filterable Residue (TDS), Percent	100
Zinc, Percent	101
Nitrate (as NO3), Percent	ATTACHED
Ion Balance,	106
Boron, Percent	103
Fluoride, Percent	01/15/87
Nitric Acid Digestion, Date	

LOG NO: P87-01-185

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-185-14	Laboratory Control Standard	

PARAMETER	01-185-14
DDT Metabolites and BHCs	
Date Extracted	01/25/87
Date Analyzed	01/25/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	120
BHC, beta isomer, Percent	130
BHC, delta isomer, Percent	120
BHC, gamma isomer (Lindane), Percent	130
p,p'-DDD, Percent	110
p,p'-DDE, Percent	140
p,p'-DDT, Percent	150
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, Percent	107
1,3-Dichlorobenzene, Percent	100
1,4-Dichlorobenzene, Percent	100
Acetone, Percent	89

LOG NO: P87-01-185

Received: 13 JAN 87
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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-185-14	Laboratory Control Standard	

PARAMETER	01-185-14
Vol.Pri.Poll. (EPA-624)	01/26/87
Extraction	1
Dilution Factor, Times 1	109
1,1,1-Trichloroethane, Percent	100
1,1,2,2-Tetrachloroethane, Percent	103
1,1,2-Trichloroethane, Percent	145
1,1-Dichloroethane, Percent	156
1,1-Dichloroethylene, Percent	128
1,2-Dichloroethane, Percent	118
1,2-Dichloropropane, Percent	101
1,3-Dichloropropene, Percent	98
2-Chloroethylvinylether, Percent	104
Acrolein, Percent	118
Acrylonitrile, Percent	117
Bromodichloromethane, Percent	138
Bromomethane, Percent	116
Benzene, Percent	114
Chlorobenzene, Percent	118
Carbon Tetrachloride, Percent	148
Chloroethane, Percent	114
Bromoform, Percent	166
Chloroform, Percent	132
Chloromethane, Percent	117
Dibromochloromethane, Percent	116
Ethylbenzene, Percent	148
Methylene Chloride, Percent	113
Tetrachloroethylene, Percent	

LOG NO: P87-01-185

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-185-14	Laboratory Control Standard	

PARAMETER	01-185-14
Trichloroethylene, Percent	120
Trichlorofluoromethane, Percent	154
Toluene, Percent	116
Vinyl Chloride, Percent	149
trans-1,2-Dichloroethylene, Percent	164
trans-1,3-Dichloropropene, Percent	109
Other Vol.Pri.Poll. (EPA-624)	---

N/A=Not Analyzed. The QC Spike is not applicable to the conductance measurement. The ion balance on sample "G-1" does not agree due to the high pH found in the sample. 2/3/87. --J. Freemyer.

Steve E Freemyer FOR
Edward Wilson, Laboratory Director

RECEIVED
FEB 2 ? '87
HARGIS & ASSOCIATES, INC.
LA JOLLA, CA

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: P87-01-203

AMENDED REPORT

Received: 14 JAN 87
Reported: 04 FEB 87

4/19/87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-1	MW-3	14 JAN 87

PARAMETER	01-203-1
Alkalinity	
Carbonate Alk (as CaCO3), mg/L	<20
Bicarb Alk (as CaCO3), mg/L	470
Hydroxide Alk (as CaCO3), mg/L	<20
Total Alkalinity (as CaCO3), mg/L	470
Calcium (EDTA Titration), mg/L	162
Magnesium, mg/L	44
Chloride, mg/L	220
Copper, mg/L	<0.03
Surfactants, mg/L	<0.1
Iron, mg/L	0.73
Manganese, mg/L	1.0
pH, Units	7.0
Potassium, mg/L	5.4
Sodium, mg/L	110
Sulfate, mg/L	18
Specific Conductance, umhos/cm	1600
Filterable Residue (TDS), mg/L	860
Zinc, mg/L	<0.08
Nitrate (as NO3), mg/L	1.7
Ion Balance, .	ATTACHED
Boron, mg/L	0.38
Fluoride, mg/L	0.2
Dissolved Digestion, Date	01/15/87

LOG NO: F87-01-203

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-1	MW-3	14 JAN 87

PARAMETER	01-203-1
DDT Metabolites and BHCs	
Date Extracted	01/20/87
Date Analyzed	02/04/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	0.59
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	0.37
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	0.22
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<50
1,3-Dichlorobenzene, ug/L	<50
1,4-Dichlorobenzene, ug/L	<50
Acetone, ug/L	<500

LOG NO: P87-01-203

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Reported: 04 FEB 87

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-1	MW-3	14 JAN 87

PARAMETER	01-203-1
Vol.Pri.Poll. (EPA-624)	
Extraction	01/27/87
Dilution Factor, Times 1	50
1,1,1-Trichloroethane, ug/L	<50
1,1,2,2-Tetrachloroethane, ug/L	<50
1,1,2-Trichloroethane, ug/L	<50
1,1-Dichloroethane, ug/L	<50
1,1-Dichloroethylene, ug/L	<50
1,2-Dichloroethane, ug/L	<50
1,2-Dichloropropane, ug/L	<50
1,3-Dichloropropene, ug/L	<50
2-Chloroethylvinylether, ug/L	<50
Acrolein, ug/L	<500
Acrylonitrile, ug/L	<500
Bromodichloromethane, ug/L	<50
Bromomethane, ug/L	<50
Benzene, ug/L	<50
Chlorobenzene, ug/L	<50
Carbon Tetrachloride, ug/L	<50
Chloroethane, ug/L	<50
Bromoform, ug/L	<50
Chloroform, ug/L	950
Chloromethane, ug/L	<50
Dibromochloromethane, ug/L	<50
Ethylbenzene, ug/L	<50
Methylene Chloride, ug/L	<50
Tetrachloroethylene, ug/L	50

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-1	MW-3	14 JAN 87

PARAMETER	01-203-1
Trichloroethylene, ug/L	83
Trichlorofluoromethane, ug/L	<50
Toluene, ug/L	<50
Vinyl Chloride, ug/L	<50
trans-1,2-Dichloroethylene, ug/L	<50
trans-1,3-Dichloropropene, ug/L	<50
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-203

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-2	WB-1	14 JAN 87

PARAMETER	01-203-2
DDT Metabolites and BHCs	
Date Extracted	01/20/87
Date Analyzed	02/04/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-2	WB-1	14 JAN 87

PARAMETER	01-203-2
Vol.Pri.Poll. (EPA-624)	
Extraction	01/27/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
01-203-2	WB-1	14 JAN 87

PARAMETER	01-203-2
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

Edward Wilson, Laboratory Director

Appendix E

BOE-C6-0183194

APPENDIX E

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

HARGIS + ASSOCIATES, INC.

APPENDIX E

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

TABLE OF CONTENTS

Page	
E-1	SPLIT SAMPLES
E-2	FIELD BLANKS

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

SPLIT SAMPLES

SPLIT SAMPLE ID	DATE SAMPLED	PRIMARY SAMPLE ID
BF-200	01-07-87	BF-2
G-100	01-08-87	G-1
MW-500	01-09-87	MW-5
LG-100	01-12-87	LG-1
BF-100	01-13-87	BF-1

BOE-C6-0183197

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES
(continued)

FIELD BLANKS

DATE	FIELD BLANK SAMPLE ID
01-07-87	WB-1
01-08-87	WB-1
01-09-87	WB-1
01-12-87	WB-1
01-13-87	WB-1
01-14-87	WB-1

5319

Appendix F

BOE-C6-0183199

APPENDIX F

DEVIATIONS FROM SAMPLING PLAN AND QAPP PROTOCOLS

HARGIS + ASSOCIATES, INC.

APPENDIX F

DEVIATIONS FROM SAMPLING PLAN AND QAPP PROTOCOLS

TABLE OF CONTENTS

	Page
DEVIATIONS FROM SAMPLING PLAN AND QAPP PROTOCOLS	F-1
Deviations From Drilling and Well Completion Protocols	F-1
Deviations from Sampling Protocols	F-2

DEVIATIONS FROM SAMPLING PLAN AND QAPP PROTOCOLS

DEVIATIONS FROM DRILLING AND WELL COMPLETION PROTOCOLS

1) An additional exploratory boring (EB-2) was drilled to the bottom of the Gage Aquifer near the southeast corner of the site. This boring was drilled with EPA concurrence to provide additional lithologic control across the site and to confirm the substantial difference in lithology exhibited between the logs of exploratory boring EB-1 and the former Jones Chemical Company well.

2) The location of monitor well BF-4 was shifted approximately 95 feet south from the location indicated in the Sampling Plan. This well was relocated with EPA concurrence to provide better definition of the direction of groundwater flow and to increase the likelihood for detecting potential contamination.

3) The Bellflower wells were screened from approximately 112 feet to 124 feet below land surface. This was deeper than the interval specified in the Sampling Plan. This interval was adjusted with EPA concurrence in order to determine the direction of groundwater flow in a sand unit within the Bellflower Aquitard and assess whether contamination of this unit has occurred.

4) An additional Gage monitor well was constructed at the EPA's request. This well was located near the southeast corner of the site and was screened in the lower portion of the Gage Aquifer.

5) Difficulty was experienced attempting to complete the monitor wells using the hollow auger drilling method as specified in the Sampling Plan. Heaving sand conditions caused migration of sand upward into the conductor casing, effectively locking the augers in the boring. Approximately two days were spent removing the augers from the boring.

BOE-C6-0183202

Because of these difficulties, wells were completed using mud-rotary drilling methods following oral approval from the EPA.

6) During the effort to free the locked-in hollow augers from monitor well LG-1 as described above, the drilling contractor used a small quantity of Baroid E-Z Mud without authorization in an attempt to flush out the sand from between the hollow auger and the conductor casing. E-Z Mud is a non-toxic, polyacrylimide drilling fluid commonly used in drilling potable water wells. Upon completion, well LG-1 was developed by pumping to remove the drilling fluid from the boring. Communication with Brown and Caldwell personnel has indicated that acrylimide if present in water samples should not interfere with the analyses being performed.

7) Cement grout was utilized as an intercasing fill material instead of washed pea gravel as specified in the sampling plan.

8) Monitor wells were developed by swabbing and bailing as specified in the sampling plan. Final development was accomplished by pumping each well with a temporary submersible pump until the discharge water cleared and pH, electrical conductivity and temperature stabilized.

DEVIATIONS FROM SAMPLING PROTOCOLS

The following is a summary of deviations from sampling protocols specified in the Sampling Plan and QAPP which occurred during the on-site groundwater sampling rounds in January 1987:

1) Distilled water was used for preparing field blanks because certified organic free water was unavailable at the time of sampling.

2) Occasional malfunctioning of the field pH meter occurred. During these periods pH measurements of the sample water were made using pH tape.

BOE-C6-0183203

3) Based upon laboratory recommendation, clear glass bottles preserved with sulfuric acid were used for sampling nitrate as opposed to polyethylene bottles preserved with sulfuric acid.

BOE-C6-0183204

939-1031

February 27, 1987

PRELIMINARY ANALYTICAL DATA
PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING
MONTROSE SITE
TORRANCE, CALIFORNIA

HARGIS+ASSOCIATES, INC.
Consultants in Hydrogeology

AG

HARGIS + ASSOCIATES, INC.
Consultants in Hydrogeology
2222 Avenue de la Plata, Suite [illegible]
Laguna Hills, California 92653
(714) 454-0965

February 27, 1987

VIA FEDERAL EXPRESS

Therese B. Gioia
EPA Project Coordinator
ENVIRONMENTAL PROTECTION AGENCY (T 4 2)
Toxics and Waste Management Division
215 Fremont Street
San Francisco, CA 94105

RE: Submission of Preliminary Analytical Data: Part 1, Off-Site Surface-Water Runoff Sampling, Montrose Site, Torrance, California

Dear Ms. Gioia:

Pursuant to your request, please find enclosed preliminary analytical data from the first three surface-water runoff sampling rounds. During these sampling rounds, samples were collected from sample locations SW1 through SW5 immediately downstream from the site. Three of the samples were collected from the Normandie Avenue Ditch and two from the Torrance Lateral, as indicated in the Off-Site Sampling Plan. During the first event there was insufficient runoff from the Jones Chemical property to collect a sample at location SW1.

Included in this submittal are cross reference tables and split and blank sample identification tables.

Analytical results from Round 4, which was completed on February 13th, have not yet been received. These will be forwarded to you as soon as they can be reviewed and appropriate identification tables are prepared. A formal data submittal will be submitted upon completion of the two remaining sampling rounds.

If you have any questions concerning this data submittal please do not hesitate to contact me.

Sincerely,

HARGIS + ASSOCIATES, INC.

Edward A. Nemecek

Edward A. Nemecek bm

Enclosures

EAN/bm

HARGIS + ASSOCIATES, INC.

PRELIMINARY ANALYTICAL DATA
PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING
MONTROSE SITE
TORRANCE, CALIFORNIA

TABLE OF CONTENTS

APPENDICES

Appendix	
A	CROSS REFERENCE TABLE, HARGIS + ASSOCIATES SAMPLE ID TO BROWN AND CALDWELL SAMPLE LOG NUMBER
B	PRELIMINARY ANALYTICAL DATA FOR PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 1
C	PRELIMINARY ANALYTICAL DATA FOR PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 2
D	PRELIMINARY ANALYTICAL DATA FOR PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 3
E	IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

0942

BOE-C6-0183208

HARGIS + ASSOCIATES, INC.

APPENDIX A

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER

APPENDIX A

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER

TABLE OF CONTENTS

Page	
A-1	ROUND 1 SAMPLE IDENTIFICATION
A-1	ROUND 2 SAMPLE IDENTIFICATION
A-1	ROUND 3 SAMPLE IDENTIFICATION
A-2	BROWN AND CALDWELL QUALITY CONTROL SAMPLES

CROSS REFERENCE TABLE
HARGIS + ASSOCIATES SAMPLE ID TO
BROWN AND CALDWELL SAMPLE LOG NUMBER
SURFACE WATER RUNOFF SAMPLING

HARGIS + ASSOCIATES SAMPLE ID	DATE SAMPLED	BROWN AND CALDWELL LOG NUMBER
ROUND 1		
R1-SW2	09-24-86	P86-09-530-1
R1-SW2 (Filtered)	09-24-86	P86-09-530-7
R1-SW3	09-24-86	P86-09-530-2
R1-SW3 (Filtered)	09-24-86	P86-09-530-8
R1-SW4	09-24-86	P86-09-530-3
R1-SW4 (Filtered)	09-24-86	P86-09-530-9
R1-SW5	09-24-86	P86-09-530-4
R1-SW5 (Filtered)	09-24-86	P86-09-530-10
R1-SW200 (Split of SW2)	09-24-86	P86-09-530-5
R1-SW200 (Filtered) (Split of SW2)	09-24-86	P86-09-530-11
R1-WB1	09-24-86	P86-09-530-6
ROUND 2		
R2-SW1	01-04-87	P87-01-015-1
R2-SW2	01-04-87	P87-01-015-2
R2-SW3	01-04-87	P87-01-015-7
R2-SW3	01-04-87	P87-01-015-12
R2-SW3 (Filtered)	01-04-87	P87-01-015-13
R2-SW4	01-04-87	P87-01-015-3
R2-SW5	01-04-87	P87-01-015-4
R2-SW200 (Split of SW2)	01-04-87	P87-01-015-5
R2-WB1	01-04-87	P87-01-015-6
ROUND 3		
R3-SW1	01-06-87	P87-01-049-1
R3-SW2	01-06-87	P87-01-049-2
R3-SW3	01-06-87	P87-01-049-3
R3-SW4	01-06-87	P87-01-049-4
R3-SW5	01-06-87	P87-01-049-6
R3-SW300 (Split of SW3)	01-06-87	P87-01-049-5
R3-WB1	01-06-87	P87-01-049-7

BOE-C6-0183211

BROWN AND CALDWELL QUALITY CONTROL

SAMPLES

SAMPLE ID	BROWN AND CALDWELL LOG NUMBER
Reagent Blank	P86-09-530-12
Laboratory Control Standard	P86-09-530-13
R2-SW2 (BC/QC Duplicate)	P87-01-015-8
R2-SW2 (BC/QC Spike)	P87-01-015-9
Reagent Blank	P87-01-015-10
Laboratory Control Standard	P87-01-015-11
R3-SW3 (BC/QC Duplicate)	P87-01-049-8
R3-SW3 (BC/QC Spike)	P87-01-049-9
Reagent Blank	P87-01-149-10
Laboratory Control Standard	P87-01-049-11

BOE-C6-0183212

0947

BOE-C6-0183213

HARGIS + ASSOCIATES, INC.

APPENDIX B

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 1

HARGIS + ASSOCIATES, INC.

APPENDIX B

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 1

TABLE OF CONTENTS

REPORT LOG NO: P86-09-530

RECEIVED FEB 2 '87 HARGIS + ASSOCIATES, INC. LA JOLLA, CA

RECEIVED FEB 2 '87 HARGIS + ASSOCIATES, INC. LA JOLLA, CA

BROWN AND CALDWELL
ANALYTICAL LABORATORIES

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

AMENDED REPORT

2/19/87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-1	R1-SW2	24 SEP 86
09-530-2	R1-SW3	24 SEP 86
09-530-3	R1-SW4	24 SEP 86
09-530-4	R1-SW5	24 SEP 86
09-530-5	R1-SW200	24 SEP 86

PARAMETER	09-530-1	09-530-2	09-530-3	09-530-4	09-530-5
DDT Metabolites and BHCs					
Date Extracted	09/30/86	09/30/86	09/30/86	09/30/86	09/30/86
Date Analyzed	10/09/86	10/09/86	10/09/86	10/09/86	10/09/86
Dilution Factor, Times 1	10	1	10	10	10
Total BHC Isomers, ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
Total DDT Metabolites, ug/L	<0.2	45	<0.2	<0.2	<0.2
BHC, alpha isomer, ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
BHC, beta isomer, ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
BHC, delta isomer, ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
BHC, gamma isomer (Lindane), ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
p,p'-DDD, ug/L	<0.1	1.9	<0.1	<0.1	<0.1
p,p'-DDE, ug/L	<0.1	4.8	<0.1	<0.1	<0.1
p,p'-DDT, ug/L	<0.2	34	<0.2	<0.2	<0.2
o,p'-DDD, ug/L	<0.1	1.1	<0.1	<0.1	<0.1
o,p'-DDE, ug/L	<0.1	<0.05	<0.1	<0.1	<0.1
o,p'-DDT, ug/L	<0.2	3.3	<0.2	<0.2	<0.2

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-1	R1-SW2	24 SEP 86
09-530-2	R1-SW3	24 SEP 86
09-530-3	R1-SW4	24 SEP 86
09-530-4	R1-SW5	24 SEP 86
09-530-5	R1-SW200	24 SEP 86

PARAMETER	09-530-1	09-530-2	09-530-3	09-530-4	09-530-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<5	<5	<5	<5	<5
1,3-Dichlorobenzene, ug/L	<5	<5	<5	<5	<5
1,4-Dichlorobenzene, ug/L	<5	<5	<5	<5	<5
Acetone, ug/L	<50	<50	<50	<50	<50
Vol.Pri.Poll. (EPA-624)					
Extraction	10/06/86	10/06/86	10/06/86	10/06/86	10/06/86
Acrolein, ug/L	<50	<50	<50	<50	<50
Acrylonitrile, ug/L	<50	<50	<50	<50	<50
Benzene, ug/L	<5	<5	<5	<5	<5
Chlorobenzene, ug/L	<5	<5	<5	<5	<5
Chloroform, ug/L	<5	<5	<5	<5	<5
Other Vol.Pri.Poll. (EPA-624)	<5	<5	<5	<5	<5

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-7	R1-SW2 (filtered)	24 SEP 86
09-530-8	R1-SW3 (filtered)	24 SEP 86
09-530-9	R1-SW4 (filtered)	24 SEP 86
09-530-10	R1-SW5 (filtered)	24 SEP 86
09-530-11	R1-SW200 (filtered)	24 SEP 86

PARAMETER	09-530-7	09-530-8	09-530-9	09-530-10	09-530-11
DDT Metabolites and BHCs					
Date Extracted	09/30/86	09/30/86	09/30/86	09/30/86	09/30/86
Date Analyzed	10/09/86	10/09/86	10/09/86	10/09/86	10/09/86
Dilution Factor, Times 1	10	10	10	10	10
Total BHC Isomers, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
Total DDT Metabolites, ug/L	<0.2	<0.2	<0.2	<0.2	<0.2
BHC, alpha isomer, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
BHC, beta isomer, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
BHC, delta isomer, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
BHC, gamma isomer (Lindane), ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDD, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDE, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
p,p'-DDT, ug/L	<0.2	<0.2	<0.2	<0.2	<0.2
o,p'-DDD, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDE, ug/L	<0.1	<0.1	<0.1	<0.1	<0.1
o,p'-DDT, ug/L	<0.2	<0.2	<0.2	<0.2	<0.2

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-6	R1-WB1	24 SEP 86

PARAMETER	09-530-6
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10
Vol.Pri.Poll. (EPA-624)	
Extraction	10/06/86
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Chloroform, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	<1

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
09-530-12	Reagent Blank	

PARAMETER	09-530-12
DDT Metabolites and BHCs	
Date Extracted	10/09/86
Date Analyzed	10/13/86
Total BHC Isomers, ug/L	<0.005
Total DDT Metabolites, ug/L	<0.01
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.005
BHC, delta isomer, ug/L	<0.005
BHC, gamma isomer (Lindane), ug/L	<0.005
p,p'-DDD, ug/L	<0.005
p,p'-DDE, ug/L	<0.005
p,p'-DDT, ug/L	<0.01
o,p'-DDD, ug/L	<0.005
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.01
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	10

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
09-530-12	Reagent Blank	

PARAMETER	09-530-12
Vol.Pri.Poll. (EPA-624)	
Extraction	10/06/86
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	6
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	3
Tetrachloroethylene, ug/L	<1

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
09-530-12	Reagent Blank	

PARAMETER	09-530-12
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-13	Laboratory Control Standard	

PARAMETER	09-530-13
DDT Metabolites and BHCs	
Date Extracted	10/08/86
Date Analyzed	10/09/86
p,p'-DDD, Percent	97
p,p'-DDE, Percent	87
p,p'-DDT, Percent	83
Other DDT Metabolites and BHCs	---
Additional Compounds	
1,2-Dichlorobenzene, Percent	N/A
1,3-Dichlorobenzene, Percent	N/A
1,4-Dichlorobenzene, Percent	N/A
Acetone, Percent	N/A

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-13	Laboratory Control Standard	

PARAMETER	09-530-13
Vol.Pri.Poll. (EPA-624)	
Extraction	10/06/86
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, Percent	96
1,1,2,2-Tetrachloroethane, Percent	78
1,1,2-Trichloroethane, Percent	100
1,1-Dichloroethane, Percent	102
1,1-Dichloroethylene, Percent	102
1,2-Dichloroethane, Percent	106
1,2-Dichloropropane, Percent	106
1,3-Dichloropropene, Percent	93
2-Chloroethylvinylether, Percent	N/A
Acrolein, Percent	600
Acrylonitrile, Percent	128
Bromodichloromethane, Percent	98
Bromomethane, Percent	88
Benzene, Percent	82
Chlorobenzene, Percent	96
Carbon Tetrachloride, Percent	110
Chloroethane, Percent	80
Bromoform, Percent	106
Chloroform, Percent	94
Chloromethane, Percent	64
Dibromochloromethane, Percent	104
Ethylbenzene, Percent	82
Methylene Chloride, Percent	90
Tetrachloroethylene, Percent	96

LOG NO: P86-09-530

Received: 25 SEP 86
Reported: 27 OCT 86

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
09-530-13	Laboratory Control Standard	

PARAMETER	09-530-13
Trichloroethylene, Percent	94
Trichlorofluoromethane, Percent	112
Toluene, Percent	86
Vinyl Chloride, Percent	36
trans-1,2-Dichloroethylene, Percent	102
trans-1,3-Dichloropropene, Percent	98
Other Vol.Pri.Poll. (EPA-624)	---

The 608 results are reported to 1 significant figure. The precision at or near the detection limit does not justify 2 significant figures. 2/17/87. --J. Freemyer.

Edward Wilson, Laboratory Director

BOE-C6-0183226

HARGIS + ASSOCIATES, INC.

APPENDIX C

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 2

HARGIS + ASSOCIATES, INC.

APPENDIX C

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 2

TABLE OF CONTENTS

REPORT LOG NO: P87-01-015

AMENDED REPORT

2-17-87

BROWN AND CALDWELL

ANALYTICAL LABORATORIES

LOG NO: P87-01-015

Received: 04 JAN 87
Reported: 21 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-1	R2-SW1	04 JAN 87
01-015-2	R2-SW2	04 JAN 87
01-015-3	R2-SW4	04 JAN 87
01-015-4	R2-SW5	04 JAN 87
01-015-5	R2-SW200	04 JAN 87

PARAMETER	01-015-1	01-015-2	01-015-3	01-015-4	01-015-5
Temperature (Field), Deg. C	14	14	15	14	14
Specific Conductance (Field), umhos/cm	3900	50	140	120	50
pH (field), Units	6.3	6.6	6.6	6.4	6.6

LOG NO: P87-01-015

Received: 04 JAN 87
Reported: 21 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-1	R2-SW1	04 JAN 87
01-015-2	R2-SW2	04 JAN 87
01-015-3	R2-SW4	04 JAN 87
01-015-4	R2-SW5	04 JAN 87
01-015-5	R2-SW200	04 JAN 87

PARAMETER	01-015-1	01-015-2	01-015-3	01-015-4	01-015-5
DDT Metabolites and BHCs					
Date Extracted	01/07/87	01/07/87	01/07/87	01/07/87	01/07/87
Date Analyzed	01/07/87	01/07/87	01/07/87	01/07/87	01/07/87
Dilution Factor, Times 1	1	1	1	1	1
Total BHC Isomers, ug/L	0.45	0.08	0.59	0.44	0.52
Total DDT Metabolites, ug/L	4.1	3.6	0.22	0.23	2.32
BHC, alpha isomer, ug/L	0.45	0.03	0.12	0.14	0.24
BHC, beta isomer, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
BHC, delta isomer, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01	0.048	0.47	0.30	0.28
p,p'-DDD, ug/L	1.8	0.89	<0.01	<0.01	0.36
p,p'-DDE, ug/L	0.1	0.33	<0.01	0.06	0.36
p,p'-DDT, ug/L	2.2	2.4	0.22	0.17	1.6
o,p'-DDD, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
o,p'-DDE, ug/L	<0.01	<0.01	<0.01	<0.01	<0.01
o,p'-DDT, ug/L	<0.02	<0.02	<0.02	<0.02	<0.02

LOG NO: P87-01-015

Received: 04 JAN 87
Reported: 21 JAN 87

Roger Niemeyer
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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-1	R2-SW1	04 JAN 87
01-015-2	R2-SW2	04 JAN 87
01-015-3	R2-SW4	04 JAN 87
01-015-4	R2-SW5	04 JAN 87
01-015-5	R2-SW200	04 JAN 87

PARAMETER	01-015-1	01-015-2	01-015-3	01-015-4	01-015-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<5	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<5	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<5	<1	<1	<1	<1
Acetone, ug/L	<50	<10	<10	<10	<10

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-1	R2-SW1	04 JAN 87
01-015-2	R2-SW2	04 JAN 87
01-015-3	R2-SW4	04 JAN 87
01-015-4	R2-SW5	04 JAN 87
01-015-5	R2-SW200	04 JAN 87

PARAMETER	01-015-1	01-015-2	01-015-3	01-015-4	01-015-5
Vol.Pri.Poll. (EPA-624)					
Extraction	01/07/87	01/07/87	01/07/87	01/08/87	01/08/87
Dilution Factor, Times 1	5	1	1	1	1
1,1,1-Trichloroethane, ug/L	<5	<1	2	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<5	<1	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<5	<1	<1	<1	<1
1,1-Dichloroethane, ug/L	<5	<1	<1	<1	<1
1,1-Dichloroethylene, ug/L	<5	<1	<1	<1	<1
1,2-Dichloroethane, ug/L	<5	<1	<1	<1	<1
1,2-Dichloropropane, ug/L	<5	<1	<1	<1	<1
1,3-Dichloropropene, ug/L	<5	<1	<1	<1	<1
2-Chloroethylvinylether, ug/L	<5	<1	<1	<1	<1
Acrolein, ug/L	<50	<10	<10	<10	<10
Acrylonitrile, ug/L	<50	<10	<10	<10	<10
Bromodichloromethane, ug/L	<5	<1	<1	<1	<1
Bromomethane, ug/L	<5	<1	<1	<1	<1
Benzene, ug/L	<5	<1	<1	<1	<1
Chlorobenzene, ug/L	<5	<1	<1	<1	<1
Carbon Tetrachloride, ug/L	<5	<1	<1	<1	<1
Chloroethane, ug/L	<5	<1	<1	<1	<1
Bromoform, ug/L	<5	<1	<1	<1	<1
Chloroform, ug/L	190	<1	<1	<1	<1
Chloromethane, ug/L	<5	<1	<1	<1	<1

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-1	R2-SW1	04 JAN 87
01-015-2	R2-SW2	04 JAN 87
01-015-3	R2-SW4	04 JAN 87
01-015-4	R2-SW5	04 JAN 87
01-015-5	R2-SW200	04 JAN 87

PARAMETER	01-015-1	01-015-2	01-015-3	01-015-4	01-015-5
Dibromochloromethane, ug/L	<5	<1	<1	<1	<1
Ethylbenzene, ug/L	<5	<1	<1	<1	<1
Methylene Chloride, ug/L	<5	<1	<1	<1	<1
Tetrachloroethylene, ug/L	<5	<1	<1	<1	<1
Trichloroethylene, ug/L	<5	<1	<1	<1	<1
Trichlorofluoromethane, ug/L	<5	<1	<1	<1	<1
Toluene, ug/L	160	<1	<1	<1	<1
Vinyl Chloride, ug/L	<5	<1	<1	<1	<1
trans-1,2-Dichloroethylene, ug/L	<5	<1	<1	<1	<1
trans-1,3-Dichloropropene, ug/L	<5	<1	<1	<1	<1
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---
Semi-Quantified Results **					
Freon 113, ug/L	---	---	10	---	---
Methyl Chlorobenzene Isomers, ug/L	600	---	---	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

LOG NO: P87-01-015

Received: 04 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-6	R2-WB1	04 JAN 87

PARAMETER	01-015-6
DDT Metabolites and BHCs	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-015

Received: 04 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-6	R2-WB1	04 JAN 87

PARAMETER	01-015-6
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-6	R2-WB1	04 JAN 87

PARAMETER	01-015-6
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-7	R2-SW3	04 JAN 87

PARAMETER	01-015-7
Temperature (Field), Deg. C	14
Specific Conductance (Field), umhos/cm	2500
pH (field), Units	5.1
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-7	R2-S03	04 JAN 87

PARAMETER	01-015-7
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor. Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile. ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene. ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	32
Chloromethane. ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-7	R2-SW3	04 JAN 87

PARAMETER	01-015-7
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	6
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-8	R2-SW2 BC/QC DUP	04 JAN 87

PARAMETER	01-015-8
DDT Metabolites and BHCs	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	0.28
Total DDT Metabolites, ug/L	5.3
BHC, alpha isomer, ug/L	0.12
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	0.16
p,p'-DDD, ug/L	1.6
p,p'-DDE, ug/L	1.4
p,p'-DDT, ug/L	2.3
o,p'-DDD, ug/L	<0.01
o,p'-DDE. ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-8	R2-SW2 BC/QC DUP	04 JAN 87

PARAMETER	01-015-8
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-8	R2-SW2 BC/QC DUP	04 JAN 87

PARAMETER	01-015-8
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-9	R2-SW2 BC/QC SPK	04 JAN 87

PARAMETER	01-015-9
DDT Metabolites and BHCs	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	0.56
Total DDT Metabolites, ug/L	10.8
BHC, alpha isomer, ug/L	0.56
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	1.5
p,p'-DDE, ug/L	2.9
p,p'-DDT, ug/L	2.4
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	2.5
o,p'-DDT, ug/L	1.5
Additional Compounds, Percent	

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-9	R2-SW2 BC/QC SPK	04 JAN 87

PARAMETER	01-015-9
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor, Times 1	1
1,1,2-Trichloroethane, Percent	96
1,1-Dichloroethane, Percent	93
1,1-Dichloroethylene, Percent	86
1,2-Dichloropropane, Percent	85
2-Chloroethylvinylether, Percent	124
Chlorobenzene, Percent	87
Carbon Tetrachloride, Percent	70
Chloroform, Percent	116
Dibromochloromethane, Percent	43
Methylene Chloride, Percent	112
Tetrachloroethylene, Percent	95
Trichloroethylene, Percent	84
Trichlorofluoromethane, Percent	84
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-015-10	Reagent Blank	

PARAMETER	01-015-10
DDT Metabolites and BHCs	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	0.15
BHC, alpha isomer, ug/L	<0.01
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	0.15
o,p'-DDD, ug/L	<0.01
o,p'-DDE. ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

LOG NO: P87-01-015

Received: 04 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-015-10	Reagent Blank	

PARAMETER	01-015-10
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-015-10	Reagent Blank	

PARAMETER	01-015-10
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-11	Laboratory Control Standard	04 JAN 87

PARAMETER	01-015-11
DDT Metabolites and BHCs	
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	110
BHC, beta isomer, Percent	83
BHC, delta isomer, Percent	120
p,p'-DDD, Percent	120
p,p'-DDE, Percent	100
p,p'-DDT, Percent	100
Other DDT Metabolites and BHCs Additional Compounds, Percent	---

LOG NO: P87-01-015

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-11	Laboratory Control Standard	04 JAN 87

PARAMETER	01-015-11
Vol.Pri.Poll. (EPA-624)	
Extraction	01/08/87
Dilution Factor, Times 1	1
1,1,2,2-Tetrachloroethane, Percent	97
1,1-Dichloroethylene, Percent	109
1,2-Dichloroethane, Percent	109
1,2-Dichloropropane, Percent	103
Chlorobenzene, Percent	107
Carbon Tetrachloride, Percent	92
Dibromochloromethane, Percent	79
Methylene Chloride, Percent	128
Trichloroethylene, Percent	109
trans-1,2-Dichloroethylene, Percent	78
Other Vol.Pri.Poll. (EPA-624)	---

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Roger Niemeyer
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2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-12	R2-SW3	04 JAN 87

PARAMETER	01-015-12
DDT Metabolites and BHCs	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	2.1
Total DDT Metabolites, ug/L	9.2
BHC, alpha isomer, ug/L	0.44
BHC, beta isomer, ug/L	1.2
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	0.44
p,p'-DDD, ug/L	1.6
p,p'-DDE, ug/L	1.4
p,p'-DDT, ug/L	2.8
o,p'-DDD, ug/L	1.7
o,p'-DDE, ug/L	0.08
o,p'-DDT, ug/L	1.6

LOG NO: P87-01-015

Received: 04 JAN 87
Reported: 21 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-015-13	R2-SW3 (filtered)	04 JAN 87

PARAMETER	01-015-13
DDT Metabolites and BHCs, dissolved	
Date Extracted	01/07/87
Date Analyzed	01/07/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.1
Total DDT Metabolites, ug/L	<0.2
BHC, alpha isomer, ug/L	<0.05
BHC, beta isomer, ug/L	<0.1
BHC, delta isomer, ug/L	<0.1
BHC, gamma isomer (Lindane), ug/L	<0.1
p,p'-DDD, ug/L	<0.1
p,p'-DDE, ug/L	<0.1
p,p'-DDT, ug/L	<0.2
o,p'-DDD, ug/L	<0.1
o,p'-DDE, ug/L	<0.1
o,p'-DDT, ug/L	<0.2

Robert Peak for
Edward Wilson, Laboratory Director

BOE-C6-0183252

HARGIS + ASSOCIATES, INC.

APPENDIX D

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 3

HARGIS + ASSOCIATES, INC.

APPENDIX D

PRELIMINARY ANALYTICAL DATA PART 1, OFF-SITE SURFACE-WATER RUNOFF SAMPLING ROUND 3

TABLE OF CONTENTS

REPORT LOG NO: P87-01-049

AMENDED REPORT

2-17-87

BROWN AND CALDWELL

ANALYTICAL LABORATORIES

RECEIVED

FEB 1 - '87

HARGIS & ASSOCIATES, INC.
LA JOLLA, CA

LOG NO: P87-01-049

Received: 07 JAN 87
Reported: 27 JAN 87

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-1	R3-SW1	06 JAN 87
01-049-2	R3-SW2	06 JAN 87
01-049-3	R3-SW3	06 JAN 87
01-049-4	R3-SW4	06 JAN 87
01-049-5	R3-SW300	06 JAN 87

PARAMETER	01-049-1	01-049-2	01-049-3	01-049-4	01-049-5
Temperature (Field), Deg. C	12	11	11	12	11
Specific Conductance (Field), umhos/cm	1250	75	130	75	130
pH (field), Units	6.9	7.1	6.5	6.8	6.5

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-1	R3-SW1	06 JAN 87
01-049-2	R3-SW2	06 JAN 87
01-049-3	R3-SW3	06 JAN 87
01-049-4	R3-SW4	06 JAN 87
01-049-5	R3-SW300	06 JAN 87

PARAMETER	01-049-1	01-049-2	01-049-3	01-049-4	01-049-5
DDT Metabolites and BHCs					
Date Extracted	01/09/87	01/09/87	01/09/87	01/09/87	01/09/87
Date Analyzed	01/15/87	01/15/87	01/14/87	01/15/87	01/14/87
Dilution Factor, Times 1	10	1	10	1	10
Total BHC Isomers, ug/L	0.72	0.20	0.46	0.08	0.49
Total DDT Metabolites, ug/L	6.8	2.7	4.0	0.16	4.4
BHC, alpha isomer, ug/L	0.35	0.07	0.14	0.01	0.14
BHC, beta isomer, ug/L	<0.1	<0.01	0.13	<0.01	0.16
BHC, delta isomer, ug/L	<0.1	0.10	0.12	0.04	0.13
BHC, gamma isomer (Lindane), ug/L	0.37	0.03	0.07	0.03	0.06
p,p'-DDD, ug/L	0.42	0.30	0.37	<0.01	0.40
p,p'-DDE, ug/L	4.3	0.25	2.0	<0.01	2.1
p,p'-DDT, ug/L	1.3	1.8	1.0	0.1	1.2
o,p'-DDD, ug/L	0.28	<0.01	0.3	<0.01	0.28
o,p'-DDE, ug/L	0.043	<0.01	<0.1	0.06	<0.1
o,p'-DDT, ug/L	0.42	0.30	0.37	<0.02	0.40

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-1	R3-SW1	06 JAN 87
01-049-2	R3-SW2	06 JAN 87
01-049-3	R3-SW3	06 JAN 87
01-049-4	R3-SW4	06 JAN 87
01-049-5	R3-SW300	06 JAN 87

PARAMETER	01-049-1	01-049-2	01-049-3	01-049-4	01-049-5
Additional Compounds					
1,2-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1	<1	<1	<1
Acetone, ug/L	80	30	40	40	50

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-1	R3-SW1	06 JAN 87
01-049-2	R3-SW2	06 JAN 87
01-049-3	R3-SW3	06 JAN 87
01-049-4	R3-SW4	06 JAN 87
01-049-5	R3-SW300	06 JAN 87

PARAMETER	01-049-1	01-049-2	01-049-3	01-049-4	01-049-5
Vol.Pri.Poll. (EPA-624)					
Extraction	01/08/87	01/08/87	01/08/87	01/08/87	01/12/87
Dilution Factor, Times 1	1	1	1	1	1
1,1,1-Trichloroethane, ug/L	2	<1	<1	29	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<1	<1
1,1-Dichloroethane, ug/L	<1	<1	<1	<1	<1
1,1-Dichloroethylene, ug/L	<1	<1	<1	<1	<1
1,2-Dichloroethane, ug/L	<1	<1	<1	<1	<1
1,2-Dichloropropane, ug/L	<1	<1	<1	<1	<1
1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1	<1	<1	<1
Acrolein, ug/L	<10	<10	<10	<10	<10
Acrylonitrile, ug/L	<10	<10	<10	<10	<10
Bromodichloromethane, ug/L	2	<1	<1	<1	<1
Bromomethane, ug/L	<1	<1	<1	<1	<1
Benzene, ug/L	<1	<1	<1	<1	<1
Chlorobenzene, ug/L	<1	<1	<1	<1	<1
Carbon Tetrachloride, ug/L	<1	<1	<1	<1	<1
Chloroethane, ug/L	<1	<1	<1	<1	<1
Bromoform, ug/L	<1	<1	<1	<1	<1
Chloroform, ug/L	110	<1	10	<1	9
Chloromethane, ug/L	8	<1	<1	<1	<1

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-1	R3-SW1	06 JAN 87
01-049-2	R3-SW2	06 JAN 87
01-049-3	R3-SW3	06 JAN 87
01-049-4	R3-SW4	06 JAN 87
01-049-5	R3-SW300	06 JAN 87

PARAMETER	01-049-1	01-049-2	01-049-3	01-049-4	01-049-5
Dibromochloromethane, ug/L	<1	<1	<1	<1	<1
Ethylbenzene, ug/L	<1	<1	<1	<1	<1
Methylene Chloride, ug/L	49	<1	<1	<1	<1
Tetrachloroethylene, ug/L	23	<1	<1	<1	<1
Trichloroethylene, ug/L	<1	<1	<1	<1	<1
Trichlorofluoromethane, ug/L	<1	<1	<1	<1	<1
Toluene, ug/L	52	<1	1	<1	2
Vinyl Chloride, ug/L	2	<1	<1	<1	<1
trans-1,2-Dichloroethylene, ug/L	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<1	<1
Other Vol.Pri.Poll. (EPA-624)	---	---	---	---	---
Semi-Quantified Results **					
Chloromethylbenzene, ug/L	10	---	---	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

LOG NO: P87-01-049

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-6	R3-SW5	06 JAN 87

PARAMETER	01-049-6
Temperature (Field), Deg. C	12
Specific Conductance (Field), umhos/cm	100
pH, Units	6.8
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	60

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-6	R3-SW5	06 JAN 87

PARAMETER	01-049-6
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	10
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-049

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-6	R3-SW5	06 JAN 87

PARAMETER	01-049-6
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---
Semi-Quantified Results **	
Methyl Ethyl Ketone, ug/L	30

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-7	R3-WB1	06 JAN 87

PARAMETER	01-049-7
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-7	R3-WB1	06 JAN 87

PARAMETER	01-049-7
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-7	R3-WB1	06 JAN 87

PARAMETER	01-049-7
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-8	R3-SW3 BC/QC DUP	06 JAN 87

PARAMETER	01-049-8
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/15/87
Dilution Factor, Times 1	10
Total BHC Isomers, ug/L	0.49
Total DDT Metabolites, ug/L	5.1
BHC, alpha isomer, ug/L	0.15
BHC, beta isomer, ug/L	0.15
BHC, delta isomer, ug/L	0.12
BHC, gamma isomer (Lindane), ug/L	0.07
p,p'-DDD, ug/L	0.49
p,p'-DDE, ug/L	2.5
p,p'-DDT, ug/L	1.3
o,p'-DDD, ug/L	0.27
o,p'-DDE, ug/L	0.09
o,p'-DDT, ug/L	0.49
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	50

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-8	R3-SW3 BC/QC DUP	06 JAN 87

PARAMETER	01-049-8
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	17
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	<1
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-049

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REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-8	R3-SW3 BC/QC DUP	06 JAN 87

PARAMETER	01-049-8
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	2
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-9	R3-SW3 BC/QC SPK	06 JAN 87

PARAMETER	01-049-9
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/19/87
p,p'-DDD, Percent	52
p,p'-DDT, Percent	51
Other DDT Metabolites and BHCs	---
Additional Compounds, Percent	
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
1,1,1-Trichloroethane, Percent	105
1,1,2,2-Tetrachloroethane, Percent	103
1,2-Dichloroethane, Percent	129
1,3-Dichloropropene, Percent	96
Bromodichloromethane, Percent	102
Benzene, Percent	103
Bromoform, Percent	95
Ethylbenzene, Percent	105
Toluene, Percent	108
trans-1,2-Dichloroethylene, Percent	101
trans-1,3-Dichloropropene, Percent	94
Other Vol.Pri.Poll. (EPA-624)	---

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-049-10	Reagent Blank	

PARAMETER	01-049-10
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	<0.01
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	<0.005
BHC, beta isomer, ug/L	<0.01
BHC, delta isomer, ug/L	<0.01
BHC, gamma isomer (Lindane), ug/L	<0.01
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02
Additional Compounds	
1,2-Dichlorobenzene, ug/L	<1
1,3-Dichlorobenzene, ug/L	<1
1,4-Dichlorobenzene, ug/L	<1
Acetone, ug/L	<10

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Roger Niemeyer
Hargis & Associates, Inc.
2223 Avenida de la Playa Suite 300
La Jolla, CA 92037

Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-049-10	Reagent Blank	

PARAMETER	01-049-10
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
Dilution Factor, Times 1	1
1,1,1-Trichloroethane, ug/L	<1
1,1,2,2-Tetrachloroethane, ug/L	<1
1,1,2-Trichloroethane, ug/L	<1
1,1-Dichloroethane, ug/L	<1
1,1-Dichloroethylene, ug/L	<1
1,2-Dichloroethane, ug/L	<1
1,2-Dichloropropane, ug/L	<1
1,3-Dichloropropene, ug/L	<1
2-Chloroethylvinylether, ug/L	<1
Acrolein, ug/L	<10
Acrylonitrile, ug/L	<10
Bromodichloromethane, ug/L	<1
Bromomethane, ug/L	<1
Benzene, ug/L	<1
Chlorobenzene, ug/L	<1
Carbon Tetrachloride, ug/L	<1
Chloroethane, ug/L	<1
Bromoform, ug/L	<1
Chloroform, ug/L	<1
Chloromethane, ug/L	<1
Dibromochloromethane, ug/L	<1
Ethylbenzene, ug/L	<1
Methylene Chloride, ug/L	2
Tetrachloroethylene, ug/L	<1

LOG NO: P87-01-049

Received: 07 JAN 87
Reported: 27 JAN 87

Roger Niemeyer
Hargis & Associates, Inc.
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
01-049-10	Reagent Blank	

PARAMETER	01-049-10
Trichloroethylene, ug/L	<1
Trichlorofluoromethane, ug/L	<1
Toluene, ug/L	<1
Vinyl Chloride, ug/L	<1
trans-1,2-Dichloroethylene, ug/L	<1
trans-1,3-Dichloropropene, ug/L	<1
Other Vol.Pri.Poll. (EPA-624)	---

LOG NO: P87-01-049

Received: 07 JAN 87
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-11	Laboratory Control Standard	

PARAMETER	01-049-11
DDT Metabolites and BHCs	
Date Analyzed	01/22/87
Dilution Factor, Times 1	1
BHC, alpha isomer, Percent	100
BHC, beta isomer, Percent	120
BHC, delta isomer, Percent	100
BHC, gamma isomer (Lindane), Percent	120
p,p'-DDD, Percent	90
p,p'-DDE, Percent	120
p,p'-DDT, Percent	120
Other DDT Metabolites and BHCs	---
Additional Compounds, Percent	

LOG NO: P87-01-049

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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-11	Laboratory Control Standard	

PARAMETER	01-049-11
Vol.Pri.Poll. (EPA-624)	
Extraction	01/12/87
1,1,2,2-Tetrachloroethane, Percent	102
1,1-Dichloroethylene, Percent	100
1,2-Dichloroethane, Percent	137
1,2-Dichloropropane, Percent	103
Chlorobenzene, Percent	110
Carbon Tetrachloride, Percent	102
Dibromochloromethane, Percent	85
Methylene Chloride, Percent	134
Trichloroethylene, Percent	110
trans-1,2-Dichloroethylene, Percent	164
Other Vol.Pri.Poll. (EPA-624)	---

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Received: 07 JAN 87
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Roger Niemeyer
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-12	R3-SW5	06 JAN 87

PARAMETER	01-049-12
DDT Metabolites and BHCs	
Date Extracted	01/09/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	0.22
Total DDT Metabolites, ug/L	5.1
BHC, alpha isomer, ug/L	0.05
BHC, beta isomer, ug/L	0.02
BHC, delta isomer, ug/L	0.09
BHC, gamma isomer (Lindane), ug/L	0.08
p,p'-DDD, ug/L	0.83
p,p'-DDE, ug/L	0.06
p,p'-DDT, ug/L	4.2
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02

LOG NO: P87-01-049

Received: 07 JAN 87
Reported: 27 JAN 87

Roger Niemeyer
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Project: 218

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, WATER SAMPLES	DATE SAMPLED
01-049-13	R3-SW5 (filtered)	06 JAN 87

PARAMETER	01-049-13
DDT Metabolites and BHCs, dissolved	
Date Extracted	01/19/87
Date Analyzed	01/19/87
Dilution Factor, Times 1	1
Total BHC Isomers, ug/L	0.43
Total DDT Metabolites, ug/L	<0.02
BHC, alpha isomer, ug/L	0.07
BHC, beta isomer, ug/L	0.02
BHC, delta isomer, ug/L	0.1
BHC, gamma isomer (Lindane), ug/L	0.24
p,p'-DDD, ug/L	<0.01
p,p'-DDE, ug/L	<0.01
p,p'-DDT, ug/L	<0.02
o,p'-DDD, ug/L	<0.01
o,p'-DDE, ug/L	<0.01
o,p'-DDT, ug/L	<0.02

BHC isomers in dissolved fraction of SW5 Confirmed on second column. Reanalysis of total sample confirmed higher DDT's but lower BHC's than dissolved; sample non-homogeneity may be at fault --R. Peak

Robert Peak for
Edward Wilson, Laboratory Director

BOE-C6-0183277

HARGIS + ASSOCIATES, INC.

APPENDIX E

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

HARGIS + ASSOCIATES, INC.

APPENDIX E

IDENTIFICATION OF SPLIT AND FIELD BLANK SAMPLES

TABLE OF CONTENTS

Page	
E-1	IDENTIFICATION OF SPLIT SAMPLES
E-2	IDENTIFICATION OF FIELD BLANKS

IDENTIFICATION OF SPLIT SAMPLES

SPLIT SAMPLE ID	DATE SAMPLED	PRIMARY SAMPLE ID
R1-SW200	09-24-86	R1-SW2
R1-SW200 (Filtered)	09-24-86	R1-SW2 (Filtered)
R2-SW200	01-04-87	R2-SW2
R3-SW300	01-06-87	R3-SW3

BOE-C6-0183280

IDENTIFICATION OF

FIELD BLANKS

DATE	FIELD BLANK SAMPLE ID
09-24-86	R1-WB1
01-04-87	R2-WB1
01-06-87	R3-WB1

BOE-C6-0183281

March 27, 1987

INFORMATION SUBMISSION
MONTHLY GROUNDWATER SAMPLING FIELD DATA
MONTROSE ON-SITE AND DEL AMO MONITOR WELLS
TORRANCE, CALIFORNIA

HARGIS+ASSOCIATES, INC.
Consultants in Hydrogeology

BOE-C6-0183282

HARGIS · ASSOCIATES, INC.

March 27, 1987

VIA FEDERAL EXPRESS

Therese B. Gioia
EPA Project Coordinator
ENVIRONMENTAL PROTECTION AGENCY (T-4-2)
Toxics and Waste Management Division
215 Fremont Street
San Francisco, CA 94015

RE: Information Submission; On-Site Monthly Groundwater Sampling Round, Montrose Site near Torrance, California, and Del Amo Site Monitor Well Sampling

Dear Ms. Gioia:

Enclosed please find the field data generated during the recent Montrose on-site monthly groundwater sampling round, and the sampling of three monitor wells associated with the nearby Del Amo Hazardous Waste Site. Sampling activities were carried out from February 25 through March 3, 1987.

If you have any questions regarding this submittal, please contact me.

Sincerely,

HARGIS + ASSOCIATES, INC.

Roger A. Niemeyer
Senior Hydrogeologist

Enclosure

cc: see attached list

RAN/bm

HARGIS · ASSOCIATES

MONTROSE CARBON COPY LIST:

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HARGIS · ASSOCIATES, INC.

INFORMATION SUBMISSION

MONTHLY GROUNDWATER SAMPLING FIELD DATA

MONTROSE ON-SITE AND DEL AMO MONITOR WELLS

TORRANCE, CALIFORNIA

TABLE OF CONTENTS

Page

INTRODUCTION 1

TABLES

Table

1 STATIC WATER LEVELS FROM FEBRUARY 1987 ON-SITE SAMPLING ROUND

2 SAMPLING INFORMATION, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

3 IDENTIFICATION OF SPLIT SAMPLES, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

4 IDENTIFICATION OF FIELD BLANKS, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

5 IDENTIFICATION OF TRIP BLANKS, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

6 WEATHER DESCRIPTIONS, FEBRUARY 1987 ON-SITE SAMPLING ROUND

7 ELECTRICAL CONDUCTIVITY METER CALIBRATIONS, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

8 SAMPLING INFORMATION, MARCH 1987 GROUNDWATER SAMPLING, DEL AMO HAZARDOUS WASTE SITE

9 SUMMARY OF SPLIT SAMPLE, FIELD BLANK AND TRIP BLANK IDENTIFICATION, MARCH 1987 GROUNDWATER SAMPLING, DEL AMO HAZARDOUS WASTE SITE

INFORMATION SUBMISSION
MONTHLY GROUNDWATER SAMPLING FIELD DATA
MONTROSE ON-SITE AND DEL AMO MONITOR WELLS
TORRANCE, CALIFORNIA

INTRODUCTION

This information submission consists of field data from the February 25-March 3, 1987 groundwater sampling round at the Montrose site. Field work was conducted in accordance with the EPA-approved July 30, 1986 Sampling Plan and QAPP. In addition to Montrose's standard monthly on-site monitoring, groundwater samples were obtained from three Del Amo Hazardous Waste Site monitor wells located approximately one half mile southeast of the Montrose site. Del Amo groundwater samples were provided by Woodward-Clyde Consultants in conjunction with their routine sampling. Hargis + Associates provided EPA approved sample containers and noted Woodward-Clyde field procedures.

Groundwater samples, including split samples and blanks, collected during this monthly sampling round were submitted to Brown and Caldwell Laboratories in Pasadena, California for pesticide (EPA Method 608) and volatile organic compound (EPA Method 624) analyses.

BOE-C6-0183286

Tables

BOE-C6-0183287

BOE-C6-0183288

TABLE 1

STATIC WATER LEVELS FROM FEBRUARY 1987 ON-SITE SAMPLING ROUNDS

WELL ID	DATE	REFERENCE POINT ELEVATION (Feet amsl)[1]	DEPTH TO WATER BELOW REFERENCE POINT (Feet)	WATER LEVEL ELEVATION (Feet bmsl)[2]	METHOD OF MEASURING
MW-1	02-25-87	42.83	67.99	-25.16	Steel Tape
MW-2	02-25-87	48.79	73.35	-24.56	Steel Tape
MW-3	02-25-87	47.41	72.09	-24.68	Steel Tape
MW-4	02-25-87	46.69	71.12	-24.43	Steel Tape
MW-5	02-25-87	44.95	69.65	-24.70	Steel Tape
BF-1	02-25-87	48.12	72.07	-23.95	Steel Tape
BF-2	02-25-87	49.40	73.83	-24.43	Steel Tape
BF-3	02-25-87	48.27	72.73	-24.46	Steel Tape
BF-4	02-25-87	47.62	72.21	-24.59	Steel Tape
G-1	02-25-87	46.68	71.15	-24.47	Steel Tape
G-2	02-25-87	43.24	68.49	-25.25	Steel Tape
G-3	02-25-87	49.51	74.29	-24.78	Steel Tape
LG-1	02-25-87	43.08	68.36	-25.28	Steel Tape

1 amsl - above mean sea level.
Reference point elevations of all monitor wells were surveyed 01-12-87.

2 bmsl - below mean sea level.

1023

BOE-C6-0183289

TABLE 2

SAMPLING INFORMATION, FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

WELL_ID	DATE	TIME PUMP ON	TIME OF SAMPLING	AVERAGE DISCHARGE RATE (gpm)	NUMBER OF GALLONS PER ONE CASING VOLUME	APPROXIMATE NUMBER OF GALLONS PURGED	ELECTRICAL CONDUCTIVITY (umhos)	pH	TEMPERATURE °C
MW-1	02-26-87	09:00	10:15	0.2	3	15	6,600	6.61	22.5
MW-2	02-26-87	17:35	18:20	0.2	2	9	13,000	6.1[illegible]	22.1
MW-3	02-26-87	13:57	14:29	0.3	1	9	1,410	6.77	21.1
MW-4	02-25-87	15:20	16:05	0.2	2	9	2,510	6.51	21.7
MW-5	02-26-87	16:35	17:00	0.4	1	9	3,550	6.45	22.2
BF-1	02-27-87	13:35	14:00	10	35	240	900	7.71	21.7
BF-2	02-27-87	08:50	09:30	7.6	35	250	870	7.65	22.4
BF-3	02-27-87	14:20	14:40	9	35	200	1,310	7.60	22.5
BF-4	02-27-87	15:00	15:20	10	35	200	1,000	7.72	23.4
G-1	02-27-87	11:11	12:20	7.5	70	500	425	9.82	21.9
G-2	02-26-87	10:50	12:50	6.1	70	950	780	8.41	24.1
G-3	02-27-87	08:50	10:15	7.0	70	840	490	8.55	21.7
LG-1	02-26-87	08:33	12:00	2.0	90	520	345	9.61	24.2

gpm - Gallons per minute

BOE-C6-0183290

TABLE 3

IDENTIFICATION OF SPLIT SAMPLES,

FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

DATE	SAMPLE COLLECTED FROM WELL #	ACTUAL SAMPLE TIME	SPLIT SAMPLE ID	FICTITIOUS TIME RECORDED FOR SPLIT
02/26/87	MW-2	18:20	MW-200	07:30
02/27/87	G-3	10:15	G-300	08:45

TABLE 3

IDENTIFICATION OF SPLIT SAMPLES,

FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

DATE	SAMPLE COLLECTED FROM WELL #	ACTUAL SAMPLE TIME	SPLIT SAMPLE ID	FICTITIOUS TIME RECORDED FOR SPLIT
02/26/87	MW-2	18:20	MW-200	07:30
02/27/87	G-3	10:15	G-300	08:45

BOE-C6-0183291

TABLE 4

IDENTIFICATION OF FIELD BLANKS,

FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

DATE	SAMPLE TYPE	SAMPLE ID	TIME	SAMPLE PREPARATION LOCATION
02/26/87	Field blank*	WB-1	16:10	MW-4 Well head
02/27/87	Field blank*	WB-1	10:25	G-3 Well head

* Prepared with distilled water supplied by Brown and Caldwell Laboratories

BOE-C6-0183292

TABLE 5

IDENTIFICATION OF TRIP BLANKS,

FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

DATE	TIME	SAMPLE ID	DATE SAMPLE RECEIVED	SAMPLE PREPARED BY	DATE SAMPLE PREPARED
02/27/87	10:40	TB-1*	02/27/87	Brown and Caldwell Laboratories	02/26/87

* Prepared with distilled.

BOE-C6-0183293

TABLE 6

WEATHER DESCRIPTIONS,

FEBRUARY 1987 ON-SITE SAMPLING ROUND

DATE	TIME	SAMPLED WELL ID'S	WEATHER CONDITIONS
02/26/87	11:00	MW-1, G-2, LG-1	Mostly sunny, some high cumulus clouds, 62°F, light wind from northeast
02/26/87	14:10	MW-3, MW-4	Mostly sunny, some high cumulus clouds, 68°F, moderate wind from south by southeast
02/26/87	17:00	MW-5, MW-2	Mostly sunny, some high clouds, moderate wind from west/west-northwest
02/27/87	10:15	BF-2, G-3	Clear, cool, light wind from southeast
02/27/87	11:15	G-1	Clear, sunny, 67°F, light to moderate variable wind shifting from southwest to southeast
02/27/87	13:55	BF-1, BF-3	Clear, sunny, 75°F, moderately strong wind from the south
02/27/87	15:20	BF-4	Clear, sunny, 82°F, moderate to strong wind from southeast

BOE-C6-0183294

TABLE 7

ELECTRICAL CONDUCTIVITY METER CALIBRATIONS,

FEBRUARY 1987 ON-SITE GROUNDWATER SAMPLING ROUND

DATE	TIME	CALIBRATION SOLUTION CONCENTRATION[1]	CORRESPONDING E-C METER READING[2]	SOLUTION TEMPERATURE (°C)
02/26/87	08:00	1,000	850	9
02/26/87	08:00	10,000	8,500	9
02/27/87	08:00	1,000	700	10
02/27/87	08:00	10,000	7,500	10

1 YSI conductivity calibration solution (micromhos per centimeter)
2 Yellow Springs (YSI) Model 33 S-C-T meter (micromhos per centimeter)

BOE-C6-0183295

BOE-C6-0183296

TABLE 8

SAMPLING INFORMATION, MARCH 1987 GROUNDWATER SAMPLING

DEL AMO HAZARDOUS WASTE SITE

WELL ID	SAMPLE ID	DATE	TIME	DEPTH TO WATER (feet)[1]	TOTAL DEPTH OF WELL (feet)[1]	NUMBER OF GALLONS PURGED	ELECTRICAL CONDUCTIVITY (umhos)	TEMPERATURE (°C)	OVA[2] READINGS (ppm)
G-2A	DAG-2A	03/03/87	14:05	--	± 92	80	915	21.6	--
P-2	DAP-2	03/04/87	10:55	61.16	80.33	120	2,240	21.7	100
G-1	DAG-1	03/04/87	15:45	--	--	65	1,540	22.1	1

(--) Indicates information unavailable.
1 Referenced to top of PVC well casing.
2 FID OVA readings measured at well head in parts per million above background.

TABLE 9

SUMMARY OF SPLIT SAMPLE, FIELD BLANK
AND TRIP BLANK IDENTIFICATION,
MARCH 1987 GROUNDWATER SAMPLING,
DEL AMO HAZARDOUS WASTE SITE

DATE	SAMPLE TYPE	SAMPLE ID	WELL ID	TIME	LOCATION/METHOD OF PREPARATION
03/03/87	Split sample	DAG-200A	G-2A	12:10	Split sample of DAG-2A
03/03/87	Trip blank*	TB-1	--	08:00	Prepared in lab 03/02/87 by Brown and Caldwell
03/03/87	Field Blank*	WB-1	--	14:50	Adjacent to G-2A well head

(*) Blanks prepared using distilled water supplied by Brown and Caldwell Laboratories.

BOE-C6-0183297