



91 JAN 23 AM 11:34

January 17, 1991
Project 4454/3

Mr. Hugh Murphy
Hayward Fire Department
22300 Foothill Blvd.
Hayward, California 94541

Subject: Quarterly Ground Water Report
January 1991
Sunnyside Commons II
Hayward, California

Dear Mr. Murphy:

This letter report presents the findings of Terratech's recent ground water sampling and testing at the Sunnyside Commons II site in Hayward. This is the first monitoring event in a quarterly program designed to demonstrate that the pesticide impact to the shallow ground water was minor and has dissipated/degraded to the point of no detection.

Terratech's previous Project 4454/3 reports on this site, dated February 16, June 26, August 2 and December 4, 1990 discuss the actions, findings and conclusions of numerous investigative studies concerning this ground water issue. As you are aware, the conditions leading to the impact were addressed over six months ago - the pesticide spraying ceased at the adjoining nursery and the former open well was sealed.

WORK PERFORMED

On January 8, 1991 an environmental engineer from our staff measured the depth to standing ground water in the three onsite wells and the one monitoring well on the adjacent nursery property. The well locations are shown on Figure 1. Our engineer then sampled monitoring wells MW-3 and MW-4 using individual Teflon bailers. The two bailers had been steam-cleaned at our office prior to travelling to the site.

During purging pH, conductivity and temperature readings were taken until consecutive readings indicated that water being drawn into the wells had stabilized. Approximately 8 well volumes were extracted from each well and final readings of the stabilization parameters were within ± 0.2 pH units, ± 0.5 °F and ± 40 μ mhos/cm.

The samples were placed in containers supplied by the laboratory (two amber colored one-liter bottles), which were immediately labeled and iced.

Standard chain-of-custody records were kept to document sample collection, handling and analytical requests (see Appendix). Extracted ground water was containerized in labeled 55-gallon drums and left on-site.

The ground water samples were transported to Anametrix, Inc., a state certified laboratory in San Jose, for analysis by EPA Method 608/8080 for organo-chlorine pesticides.

FINDINGS

A summary of water level measurements in Sunnyside Commons II wells is presented in the following table:

CUMULATIVE SUMMARY OF GROUND WATER LEVEL MEASUREMENTS				
LOCATION	DATE	CASING ELEVATION	DEPTH TO WATER	WATER ELEVATION
MW-1	5/18/90	33.32'	13.05'	20.27'
	8/29/90		13.66'	19.66'
	11/27/90		14.21'	19.11'
	1/8/91		14.08'	19.24'
MW-2	5/18/90	33.48'	13.78'	19.70'
	7/17/90		14.04'	19.44'
	8/29/90		14.42'	19.06'
	11/27/90		15.07'	18.41'
	1/8/91		14.89'	18.59'
MW-3	5/18/90	36.51'	16.52'	19.99'
	7/17/90		16.72'	19.79'
	8/29/90		17.08'	19.43'
	11/27/90		17.71'	18.80'
	1/8/91		17.53'	18.98'
MW-4	6/11/90	36.05'	15.83'	20.22'
	7/17/90		16.35'	19.70'
	8/29/90		16.72'	19.33'
	11/27/90		17.34'	18.71'
	1/8/91		17.16'	18.89'



Laboratory analysis of the latest ground water samples collected from MW-3 and MW-4 show no detectable EPA 8080 pesticides. The table below presents a cumulative summary of the ground water analysis results for this property. By convention concentrations are presented in parts per billion (ppb); 1000 ppb = 1 ppm. The laboratory report is appended.

CUMULATIVE SUMMARY OF GROUND WATER ANALYSIS RESULTS SUNNYSIDE COMMONS II, HAYWARD						
LOCATION	DATE	DDD	ENDO. I	ENDO. II	ENDO. SULFATE	OTHERS
SW-1	1/25/90	< 0.5	5.0	4.5	5.1	N.D.
MW-2	7/17/90	< 0.11	< 0.05	< 0.1	< 0.1	N.D.
MW-3	5/18/90	< 0.1	0.37	0.17	0.16	N.D.
	7/17/90	< 0.1	0.15	0.50	< 0.1	N.D.
	10/17/90	< 0.1	0.11	< 0.1	< 0.1	N.D.
	1/8/91	< 0.11	< 0.06	< 0.11	< 0.11	N.D.
MW-4	6/11/90	0.14	< 0.05	< 0.1	< 0.1	N.D.
	7/17/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.
	10/17/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.
	1/8/91	< 0.11	< 0.06	< 0.11	< 0.11	N.D.
WS-1	11/16/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.
WS-2	11/16/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.
WS-3	11/16/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.
WS-4	11/16/90	< 0.1	< 0.05	< 0.1	< 0.1	N.D.

COMMENTS AND OPINIONS

The recent test results complete the previously observed trend toward no detectable pesticide residuals. Obviously, we see no need for cleanup actions. We also see no reason that the public processing of the development's tentative map should be further delayed over this issue.



In accordance with project discussions and RWQCB policies, we believe this round of monitoring should be recognized as the first quarterly event of a four quarter (one year) verification program. We plan to perform three additional rounds of monitoring, identical to that described herein, on the following schedule - April 1991, July 1991 and October 1991. Each quarterly event will be documented by a brief report, similar to this one. Assuming the three events show no resurgence in pesticides, the October report would be accompanied by a formal Request for Case Closure.

LIMITATIONS

This report and the associated work have been provided in accordance with the general principles and practices currently employed in the environmental consulting profession. This is in lieu of all warranties, express or implied.

Our opinions and comments have been primarily based on data obtained from limited subsurface exploration, sampling and testing. Data from future work may lead to modifications thereof.

Report Prepared by:

TERRATECH, INC.

E. R. Lautenbach

Eric R. Lautenbach
CE 42437



cc: Laura Rice, The Plymouth Group
Rich Hiett, California Regional Water Quality Control Board
Pam Evans, Alameda County Health Agency



APPENDIX
CHAIN OF CUSTODY RECORD
AND
LABORATORY REPORT



TERRATECH

CHAIN OF CUSTODY RECORD

P.O. NO. 8411

TURNAROUND: 1-WEEK

PROJECT NUMBER:

4454/3

SAMPLERS (signature):

Jeff Blum

Number of Containers

Analysts Required
EPA 608/8080

REMARKS

SAMPLE DEPTH

Station Number	Date 1991	Time	Comp.	Grab	Station Location	Number of Containers	Analysts Required	REMARKS	SAMPLE DEPTH
MW-3	1/5	PM		X	Adjacent to Former Well	2 AMBERS	X	Cold, proper container use ↓	
MW-4	1/5	PM		X	Downgradient of Former Well	2 AMBERS	X		

Relinquished by (signature): Company or Agency:	Date / Time	Received by (signature): Company or Agency:	Relinquished by (signature): Company or Agency:	Date / Time	Received by (signature): Company or Agency:
Relinquished by (signature): Company or Agency:	Date / Time	Received by (signature): Company or Agency:	Relinquished by (signature): Company or Agency:	Date / Time	Received by (signature): Company or Agency:
Relinquished by (signature): <i>Jeff Blum</i> Company or Agency: TERRATECH, INC.	Date / Time 1/9/91 9:00am	Received for Laboratory by (signature): <i>[Signature]</i>	Date / Time 1/9/91 0900	Remarks/Shipping Information Send reports to: Eric Lautenbach 1365 VANDER WAY, SAN JOSE 95112	

11/10
09/11

9101061

10/17

ANAMETRIX INC

Environmental & Analytical Chemistry
 1961 Concourse Drive, Suite E, San Jose, CA 95131
 (408) 432-8192 • Fax (408) 432-8198

**REPORT**

MR. ERIC LAUTENBACH
 TERRATECH, INC. - SAN JOSE
 1365 VANDER WAY
 SAN JOSE, CA 95112

Workorder # : 9101061
 Date Received : 01/09/91
 Project ID : 4454/3
 Purchase Order: 8411

The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9101061- 1	MW-3
9101061- 2	MW-4

This report consists of 6 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

 Burt Sutherland
 Laboratory Director

1-17-91

 Date

RECEIVED
 JAN 17 1991
 TERRATECH

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. ERIC LAUTENBACH
TERRATECH, INC. - SAN JOSE
1365 VANDER WAY
SAN JOSE, CA 95112

Workorder # : 9101061
Date Received : 01/09/91
Project ID : 4454/3
Purchase Order: 8411
Department : GC
Sub-Department: PEST

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9101061- 1	MW-3	WATER	01/08/91	8080
9101061- 2	MW-4	WATER	01/08/91	8080

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. ERIC LAUTENBACH
TERRATECH, INC. - SAN JOSE
1365 VANDER WAY
SAN JOSE, CA 95112

Workorder # : 9101061
Date Received : 01/09/91
Project ID : 4454/3
Purchase Order: 8411
Department : GC
Sub-Department: PEST

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Stratos Dimas 1-16-91
Department Supervisor Date

Stephanie N Tran 1-16-91
Chemist Date

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 608/8080
 ANAMETRIX, INC. (408)432-8192

Project ID : 4454/3
 Sample ID : MW-3
 Matrix : WATER
 Date Sampled : 1/ 8/91
 Date Extracted : 1/11/91
 Amount Extracted : 910.0 mL
 Date Analyzed : 1/16/91
 Instrument ID : HP16

Anamatrix ID : 9101061-01
 Analyst : ST
 Supervisor : SD

Dilution Factor : 1.00
 Conc. Units : UG/L

CAS NO.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
319-84-6	alpha-BHC	.06	ND	U
319-85-7	beta-BHC	.06	ND	U
319-86-8	delta-BHC	.06	ND	U
58-89-9	gamma-BHC	.06	ND	U
76-44-8	Heptachlor	.06	ND	U
309-00-2	Aldrin	.06	ND	U
1024-57-3	Hept. epoxide	.06	ND	U
959-98-8	Endosulfan I	.06	ND	U
60-57-1	Dieldrin	.11	ND	U
72-55-9	4,4'-DDE	.11	ND	U
72-20-8	Endrin	.11	ND	U
33213-65-9	Endosulfan II	.11	ND	U
72-54-8	4,4'-DDD	.11	ND	U
1031-07-8	Endo.sulfate	.11	ND	U
50-29-3	4,4'-DDT	.11	ND	U
72-43-5	Methoxychlor	.55	ND	U
53494-70-5	Endrin ketone	.11	ND	U
57-74-9	Tech. chlordane	.55	ND	U
8001-35-2	Toxaphene	1.1	ND	U
12674-11-2	Aroclor-1016	.55	ND	U
11104-28-2	Aroclor-1221	.55	ND	U
11141-16-5	Aroclor-1232	.55	ND	U
53469-21-9	Aroclor-1242	.55	ND	U
12672-29-6	Aroclor-1248	.55	ND	U
11097-69-1	Aroclor-1254	1.1	ND	U
11096-82-5	Aroclor-1260	1.1	ND	U
7421-93-4	Endrin Aldehyde	.11	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 608/8080
 ANAMETRIX, INC. (408)432-8192

Project ID : 4454/3
 Sample ID : MW-4
 Matrix : WATER
 Date Sampled : 1/ 8/91
 Date Extracted : 1/11/91
 Amount Extracted : 900.0 mL
 Date Analyzed : 1/16/91
 Instrument ID : HP16

Anamatrix ID : 9101061-02
 Analyst : JT
 Supervisor : SD

Dilution Factor : 1.00
 Conc. Units : UG/L

CAS NO.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
319-84-6	alpha-BHC	.06	ND	U
319-85-7	beta-BHC	.06	ND	U
319-86-8	delta-BHC	.06	ND	U
58-89-9	gamma-BHC	.06	ND	U
76-44-8	Heptachlor	.06	ND	U
309-00-2	Aldrin	.06	ND	U
1024-57-3	Hept. epoxide	.06	ND	U
959-98-8	Endosulfan I	.06	ND	U
60-57-1	Dieldrin	.11	ND	U
72-55-9	4,4'-DDE	.11	ND	U
72-20-8	Endrin	.11	ND	U
33213-65-9	Endosulfan II	.11	ND	U
72-54-8	4,4'-DDD	.11	ND	U
1031-07-8	Endo.sulfate	.11	ND	U
50-29-3	4,4'-DDT	.11	ND	U
72-43-5	Methoxychlor	.56	ND	U
53494-70-5	Endrin ketone	.11	ND	U
57-74-9	Tech. chlordane	.56	ND	U
8001-35-2	Toxaphene	1.1	ND	U
12674-11-2	Aroclor-1016	.56	ND	U
11104-28-2	Aroclor-1221	.56	ND	U
11141-16-5	Aroclor-1232	.56	ND	U
53469-21-9	Aroclor-1242	.56	ND	U
12672-29-6	Aroclor-1248	.56	ND	U
11097-69-1	Aroclor-1254	1.1	ND	U
11096-82-5	Aroclor-1260	1.1	ND	U
7421-93-4	Endrin Aldehyde	.11	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 608/8080
 ANAMETRIX, INC. (408)432-8192

Project ID : 4454/3
 Sample ID : BLANK
 Matrix : WATER
 Date Sampled : 0/ 0/ 0
 Date Extracted : 1/11/91
 Amount Extracted : 1000.0 mL
 Date Analyzed : 1/16/91
 Instrument ID : HP16

Anamatrix ID : PWBLK011191
 Analyst : T
 Supervisor : SD

Dilution Factor : 1.00
 Conc. Units : UG/L

CAS NO.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
319-84-6	alpha-BHC	.05	ND	U
319-85-7	beta-BHC	.05	ND	U
319-86-8	delta-BHC	.05	ND	U
58-89-9	gamma-BHC	.05	ND	U
76-44-8	Heptachlor	.05	ND	U
309-00-2	Aldrin	.05	ND	U
1024-57-3	Hept. epoxide	.05	ND	U
959-98-8	Endosulfan I	.05	ND	U
60-57-1	Dieldrin	.10	ND	U
72-55-9	4,4'-DDE	.10	ND	U
72-20-8	Endrin	.10	ND	U
33213-65-9	Endosulfan II	.10	ND	U
72-54-8	4,4'-DDD	.10	ND	U
1031-07-8	Endo.sulfate	.10	ND	U
50-29-3	4,4'-DDT	.10	ND	U
72-43-5	Methoxychlor	.50	ND	U
53494-70-5	Endrin ketone	.10	ND	U
57-74-9	Tech. chlordane	.50	ND	U
8001-35-2	Toxaphene	1.0	ND	U
12674-11-2	Aroclor-1016	.50	ND	U
11104-28-2	Aroclor-1221	.50	ND	U
11141-16-5	Aroclor-1232	.50	ND	U
53469-21-9	Aroclor-1242	.50	ND	U
12672-29-6	Aroclor-1248	.50	ND	U
11097-69-1	Aroclor-1254	1.0	ND	U
11096-82-5	Aroclor-1260	1.0	ND	U
7421-93-4	Endrin Aldehyde	.10	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 608/8080
 ANAMETRIX, INC. (408)432-8192

Project ID : 4454/3
 Matrix : WATER

Anamatrix ID : 9101061
 Analyst : ST
 Supervisor : SD

	SAMPLE ID	SU1	TOTAL OUT
1	BLANK	123	0
2	MW-3	72	0
3	MW-4	121	0
4			
5			
6			
7			
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28			
29			
30			

SU1 = DBC

QC LIMITS

 (43-146)

* Values outside of Anamatrix QC limits



TERRATECH

CHAIN OF CUSTODY RECORD

P.O. NO. 8411

TURNAROUND: 1-WEEK

PROJECT NUMBER: <u>4454/3</u>					Number of Containers	Analysts Required EPA 609/8080	REMARKS					SAMPLE DEPTH
SAMPLERS (signature): <u>[Signature]</u>												
Station Number	Date 1991	Time	Comp.	Grab								
MW-3	1/8	PM		X	Adjacent to Former Well	2 AMBERS	X					
MW-4	1/8	PM		X	Downgradient of Former Well	2 AMBERS	X					
Relinquished by(signature):		Date / Time		Received by (signature):		Relinquished by(signature):		Date / Time		Received by (signature):		
Company or Agency:				Company or Agency:		Company or Agency:				Company or Agency:		
Relinquished by(signature):		Date / Time		Received by (signature):		Relinquished by:		Date / Time		Received by (signature):		
Company or Agency:				Company or Agency:		Company or Agency:				Company or Agency:		
Relinquished by(signature): <u>[Signature]</u>		Date / Time <u>1/9/91</u>		Received for Laboratory by: (signature) <u>[Signature]</u>		Date / Time <u>01/09/91</u>		Remarks/Shipping Information Send reports to: Eric Lautenbach 1365 VANDER WAY, SAN JOSE 95112				
Company or Agency: TERRATECH, INC.		<u>G. [Signature]</u>				<u>0900</u>						