TERRA ASSOCIATES, Inc.

Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

June 10, 1997
Project No. T-3493-1

Mr. Eric Evans
The Leavitt Companies
301 - 116th Avenue SE, Suite 570
Bellevue, Washington 98004

Subject: Geoenvironmental Review
Marvin Park Villages
Marvin Road
Lacey, Washington

Dear Eric:

As requested, we have performed a geoenvironmental review of the site conditions at the Marvin Park Villages project in Lacey, Washington. The purpose of our work was to determine if past agricultural activities resulted in site contamination with agricultural chemicals.

Our review of documents from the Washington State Department of Ecology (Ecology) indicate that a wide variety of agricultural chemicals were used in the past and are presently being used at the Ostroms' growing facility. In addition, wastewater from the Ostroms' growing facility was disposed of through infiltration trenches in the past, it is not known if monitoring of the wastewater was performed.

The media we sampled in preparing this report consisted of the native topsoils, the stockpiled expended-composted materials, and the groundwater beneath the Marvin Park Villages site. All sampling for this project was performed on the vacant land currently known as Marvin Park Villages. The exception is one groundwater sample obtained from the active production well at the Ostroms' office site, located next to the Marvin Park Villages property.

SCOPE OF WORK

Our scope of work consisted of the following elements:

- Reviewing available documents at Ecology
- Reviewing available documents at the Thurston County Health Department
- Conducting a site reconnaissance
- Drilling, constructing, and sampling four monitoring wells
- Sampling groundwater from an adjacent production well
- Reviewing the geohydrologic conditions in the site vicinity
- Collecting near-surface soil samples from stockpiled spent compost
- Excavating shallow test pits and sampling near-surface soils
- Performing selected analyses of groundwater and soil samples at a subcontracted analytical laboratory
- Preparing this summary report

SITE CONDITIONS

The subject site covers approximately 64 acres in the southeast quadrant of the intersection of Steilacoom Road and Marvin Road in Lacey, Washington. The site is bounded on the west by Marvin Road and vacant property; on the south by residential property; on the east by vacant property and an above-grade water reservoir; and on the north by vacant property, a fire station, and the corporate offices for Ostroms, Inc.

The subject site is relatively flat in the western two-thirds of the property. The terrain slopes up towards the east and north in the eastern one-third of the property. The site is accessed through a network of unpaved roads. The western half of the property has evidence of significant soil disturbance. This includes the excavation of near-surface soils as well as the placement of stockpile of spent compost soil.

SUBSURFACE CONDITIONS

Our test pits indicate that 1.5 to 3.5 feet of an organic rich sandy topsoil underlie the site. It appears this topsoil is native soil that developed underneath the prairie that formerly existed in this vicinity. In addition, areas exist where fill piles are up to four to five feet above existing grades. These fills consist of a spent compost soil from the mushroom growing operation.

Beneath the topsoil materials, outwash sands and gravels underlie the site. These outwash sands and gravels extend to 16 to 40 feet below existing grades where a lower-permeability till material is present. Our review of well logs indicate that an aquifer is present beneath the till soils. This lower aquifer is the source of water for most of the production wells in this area.

The depth to the near-surface groundwater increases towards the southwest corner of the site. Measurements in our monitoring wells are presented on Figure 2. These elevations are representative of groundwater conditions on March 27, 1996. Subsequent readings indicate that Monitoring Well MW-4 has gone dry.

ENVIRONMENTAL SAMPLING

We followed standard environmental procedures in constructing the monitoring wells and sampling the soil and groundwater. The drill rig and tools were steam-cleaned before the project and in-between individual borings to reduce the potential for cross-contamination.

We obtained the near-surface soil samples by excavating fresh exposures into existing mounds of stockpiled spent compost materials. The individual soil samples were obtained using the laboratory-prepared glassware as a sample scoop. We obtained soil samples from the test pits by entering the test pit and obtaining soil samples using the laboratory-prepared glassware as a sample scoop.

We obtained the groundwater samples following a purge of each monitoring well. A minimum of four casing volumes were removed prior to the sampling. The exception was Monitoring Well MW-4 where insufficient water was available to purge four casing volumes. The water sample obtained from this monitoring well is representative of the second well casing. In addition, the sample from Monitoring Well MW-4 was highly turbid due to the inability to obtain effective well development.

No groundwater samples were obtained from Monitoring Well MW-2 due to vandalism after installation of the well and prior to the sampling date. Debris has been dumped down Monitoring Well MW-2; however, it remains in use for obtaining static water level measurements.

During well purging, we monitored the temperature and conductivity of the water to verify that representative groundwater samples were obtained. All groundwater sampling and well purging were performed using dedicated disposable polyethylene bailers and ropes. All water samples were placed in laboratory-prepared glassware.

All soil and groundwater samples were placed under refrigeration pending delivery to Sound Analytical, Inc. in Tacoma, Washington. We followed chain of custody protocols in sample management. At Sound Analytical, Inc., groundwater samples and soil samples were tested in accordance with Environmental Protection Agency (EPA) Method 8080. In addition, the groundwater samples were analyzed using EPA Method 1618, which includes tentatively identified pesticides. The laboratory test results are presented in Appendix A.

A summary of the pesticide test results is presented on the following tables. Please note that these tables summarize only the compounds actually encountered in the soil and groundwater samples. Compounds not detected in the soil samples at the stated detection limit are not included on the tables, but are presented on the laboratory reports in Appendix A.

In addition, Model Toxics Control Act (MTCA) Method A or B cleanup values are listed on the tables. Method A values are listed where they exist. For compounds without a Method A cleanup value, the conservative Method B cleanup value is given. The conservative cleanup value was chosen for presentation due to the proposed residential use of the property.

Groundwater
EPA Method 8080: Organochlorine Pesticides

Compound	Production Well	Monitoring Well MW-3	Monitoring Well MW-4	Monitoring Well MW-1	MTCA Method A	MTCA Method B
Aldrin	0.0097U	0.0094U	0.01U	0.0096U	--	0.005
Alpha-BHC	0.0097U	0.0094U	0.01U	0.0096U	--	--
Beta- BHC	0.0097U	0.0094U	0.01U	0.0096U	--	--
Delta- BHC	0.0097U	0.0094U	0.01U	0.0096U	--	--
Lindane	0.0097U	0.0094U	0.01U	0.0096U	0.2	0.067
Chordane	0.097U	0.094U	0.1U	0.096U	--	0.067
4,4'-DDD	0.019U	0.019U	0.02U	0.019U	--	0.365
4,4'-DDE	0.019U	0.019U	0.02U	0.019U	--	0.257
4,4'-DDT	0.019U	0.015	0.02U	0.019U	0.1	0.257
Dieldren	0.019U	0.019U	0.02U	0.019U	--	0.005
Endosufan I	0.0097U	0.0094U	0.01U	0.0096U	--	96
Endosufan II	0.019U	0.019U	0.02U	0.019U	--	--
Endosulfan Sulfate	0.019U	0.019U	0.02U	0.019U	--	--
Endrin	0.019U	0.019U	0.02U	0.019U	--	320
Endrin Aldehyde	0.019U	0.019U	0.02U	0.019U	--	
Heptachlor	0.0097U	0.0094U	0.01U	0.0096U	--	0.02
Heptacholr Epoxide	0.0097U	0.0094U	0.01U	0.0096U	--	0.0096
Methoxychlor	0.097U	0.094U	0.1U	0.096U	--	80
Endrin Ketone	0.019	0.019U	0.02U	0.019U	--	--
Toxaphene	0.97U	0.94U	1.0U	0.96U	--	0.08

Notes All units µg/L [ppb (parts per billion)]
-- Indicates no cleanup value established under MTCA
U modifier indicates compound not detected at stated detection limit

Stockpile Soils
EPA Method 8080: Organochlorine Pesticides

Compound	S-1	S-2	S-3	S-4	S-5	S-6	MTCA Method A	MTCA Method B
Aldrin	ND	ND	ND	ND	5.9	ND	--	59
Beta- BHC	ND	ND	2.3	ND	ND	ND	--	--
Chlordane	300	ND	ND	430	4,300	ND	--	769
4,4'-DDD	60	ND	53	11	5	4.3	--	4,170
4,4'-DDE	600	ND	76	41	65	11	--	2,940
4,4'-DDT	1,400	19	33	5.7	18	16	1,000	2,940
Endosufan II	ND	ND	ND	ND	85	ND	--	480,000
Endrin Aldehyde	ND	ND	ND	5.2	5.4	ND	--	24,000
Heptachlor	12	ND	ND	ND	ND	ND	--	222
Heptachlorepoxide	ND	ND	ND	ND	30	ND	--	110
Methoxychlor	41	ND	ND	ND	31	ND	--	400,000
Endrin Ketone	ND	ND	ND	9	ND	ND	--	24,000

Notes: All units µg/L [ppb (parts per billion)]
-- Indicates no cleanup value established under MTCA
ND Indicates compound not detected, see lab report for more details
Shading indicates value exceeds MTCA limit

Test Pit Soil Samples
EPA Method 8080: Organochlorine Pesticides

Compound	TP-101 @ 2 feet	TP-102 @ 2 feet	TP-103 @ 2.5 feet	TP-104 @ 1.5 feet	TP-105 @ 1 foot	TP-106 @ 2 feet	TP-107 @ 2 feet	TP-108 @ 1 foot	TP-109 @ 1 foot	MTCA Method A	MTCA Method B
Aldrin	ND	6.1	ND	ND	ND	ND	ND	ND	ND	--	59
Alpha-BHC	ND	6.6	ND	ND	ND	ND	ND	ND	ND	--	--
Chordane	55	3,800	ND	ND	ND	ND	ND	ND	ND	--	769
4,4'-DDD	160	15	ND	ND	ND	ND	ND	ND	7.6	--	4,170
4,4'-DDE	290	230	ND	ND	ND	ND	ND	ND	69	--	2,940
4,4'-DDT	740	200	ND	ND	ND	ND	ND	ND	61	1,000	2,940
Dieldren	ND	20	ND	ND	ND	ND	ND	ND	ND	--	6,205
Endosufan I	ND	25	ND	ND	ND	ND	ND	ND	ND	--	480,000
Endosufan II	ND	110	ND	ND	ND	ND	ND	ND	ND	--	480,000
Endrin	ND	37	ND	ND	ND	ND	ND	ND	ND	--	24,000
Heptacholr Epoxide	ND	12	ND	ND	ND	ND	ND	ND	ND	--	110
Methoxychlor	ND	330	ND	ND	ND	ND	ND	ND	ND	--	400,000

Notes:

All units µg/L [ppb (parts per billion)]
-- Indicates no cleanup value established under MTCA
ND Indicates compound not detected, see lab report for more details

DISCUSSION

Review of the analytical test data indicates there are areas on the site where pesticide residues in soils are above current MTCA Method A or B cleanup values. Groundwater tested below MTCA Method A/Method B cleanup levels.

Based on the work that we have performed to date, the following conclusions can be made:

- There are some locations where near-surface soils indicate pesticide contents (primarily DDT and chlordane) greater than cleanup Method A/Method B cleanup values.
- There are also some locations where near-surface soils contain significant pesticide constituents, although below Method A/Method B cleanup levels.
- Groundwater samples indicate low but noticeable levels of pesticide constituents, below Method A/Method B cleanup levels.

We recommend performing additional testing to verify the lateral and vertical extent of soil contamination.

CLOSURE

Terra Associates, Inc. performed this work in accordance with locally accepted geoenvironmental practices. We prepared this report for the exclusive use of The Leavitt Companies and their authorized representatives in application strictly to the Marvin Park Villages project. No warranty is either expressed or implied.

We trust this information is sufficient for your current needs. If you have any questions or need additional information, please call.

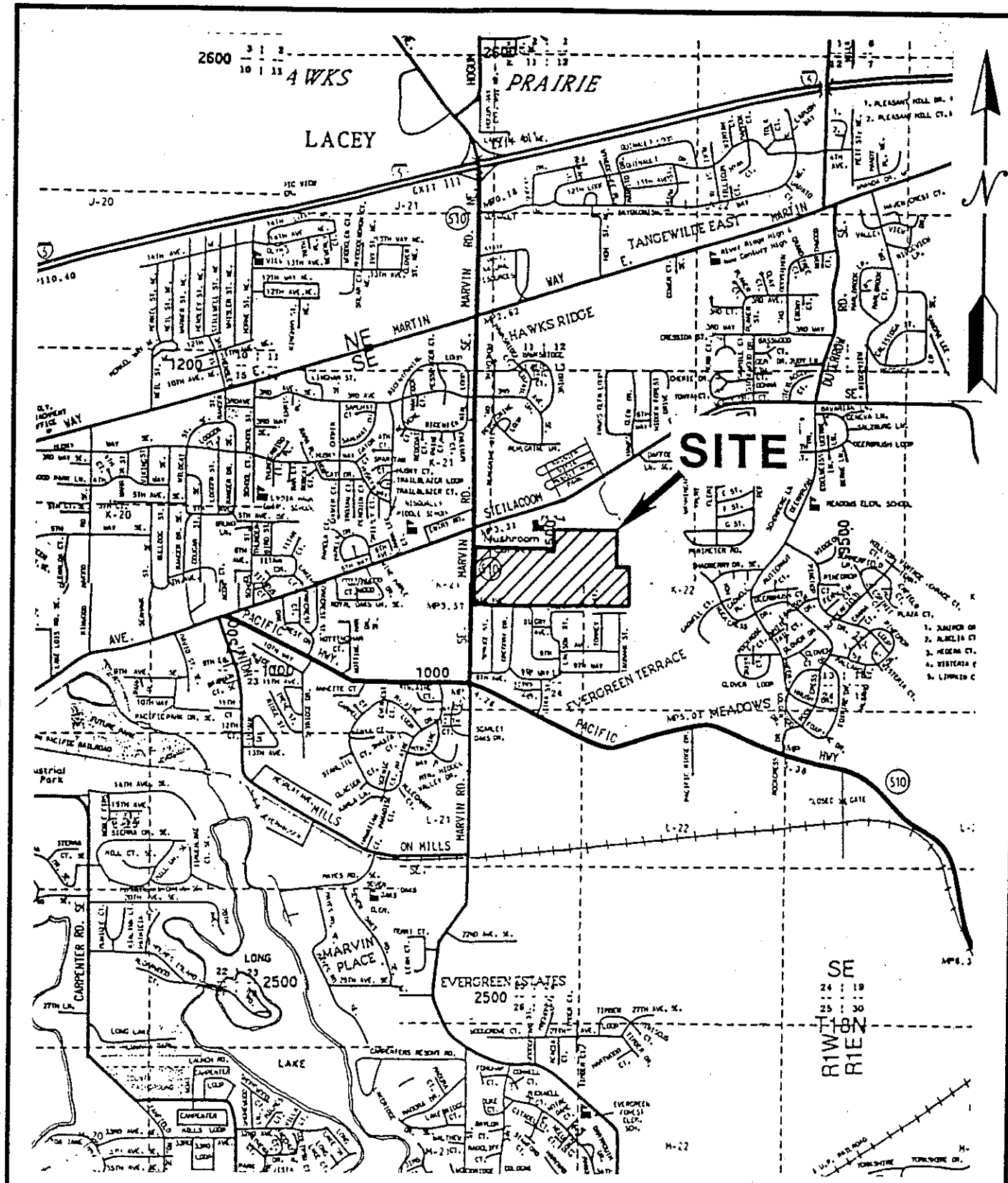
Sincerely yours,

TERRA ASSOCIATES, INC.

Anil Butail, P.E.
President

CRL/AB:ts

Encl: Figure 1 - Vicinity Map
Figure 2 - Exploration Location Plan
Figure 3 - Unified Soil Classification System
Figures 4 through 7 - Boring Logs
Appendix A - Analytical Test Results



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VICINITY MAP
MARVIN PARK VILLAGES
LACEY, WASHINGTON

Proj. No. 3493-1	Date APRIL 1997	Figure 1

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS More than 50% material larger than No. 200 sieve size	GRAVELS More than 50% of coarse fraction is larger than No. 4 sieve	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS More than 50% of coarse fraction is smaller than No. 4 sieve	Clean Sands (less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines.
			SP	Poorly-graded sands or gravelly sands, little or no fines.
		Sands with fines	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS More than 50% material smaller than No. 200 sieve size	SILTS AND CLAYS Liquid limit is less than 50%		ML	Inorganic silts, rock flour, clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity, (lean clay).
			OL	Organic silts and organic clays of low plasticity.
	SILTS AND CLAYS Liquid limit is greater than 50%		MH	Inorganic silts, elastic.
			CH	Inorganic clays of high plasticity, fat clays.
			OH	Organic clays of high plasticity.
HIGHLY ORGANIC SOILS			PT	Peat.

DEFINITION OF TERMS AND SYMBOLS

SAND or GRAVEL

Density	Standard Penetration Resistance in Blows/Foot
Very loose	0-4
Loose	4-10
Medium dense	10-30
Dense	30-50
Very dense	>50

SILT or CLAY

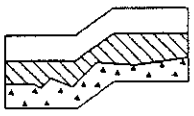
Consistency	Standard Penetration Resistance in Blows/Foot
Very soft	0-2
Soft	2-4
Medium stiff	4-8
Stiff	8-16
Very stiff	16-32
Hard	>32

GS GROUND SURFACE AT WELL
MP MEASURING POINT ON PVC
N STANDARD PENETRATION, blows per foot
▼ WATER LEVEL (DATE)

LAB TEST CODES

A WTPH-G, WTPH-D, WTPH 418.1
B EPA 8240

PID Volatile Organic Vapor measured in parts per million using OVM 580 A



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UNIFIED SOIL CLASSIFICATION SYSTEM
MARVIN PARK VILLAGES
LACEY, WASHINGTON

Proj. No. T-3493-1	Date April 1997	Figure 3

Boring No. MW-1

Logged by: CRL

Date: 3/25/97

Elevation of Ground Surface 225.71
Elevation of Top of PVC 228.16

Soil Description	Consistency/ Relative Density	Depth (ft.)	Sample	(N) Blows (ft)	Well As Built
Brown silty fine SAND with silt layers, moist to wet.	Loose			5	
				6	
		10			
Gray SAND with silt becoming gravelly SAND and sandy GRAVEL, moist to wet.	Medium Dense to Dense			19	
				31	
		20			
				44	
Gray silty SAND with gravel, wet. (TILL)	Very Dense			50/5"	
		30			
				91	
				50/5"	
		40			
				50/3"	
				50/5"	

Boring terminated at 49.5 feet.
2 inch PVC monitoring well constructed as shown.
Factory slotted 0.0100 screen installed.
Well completed with above grade monument cover.

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BORING LOG
MARVIN PARK VILLAGES
LACEY, WASHINGTON

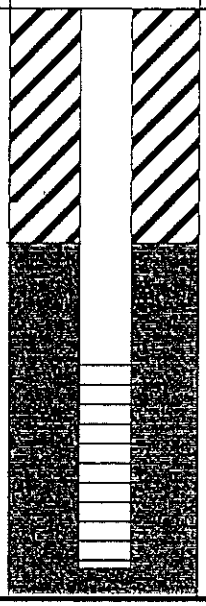
Proj. No. T-3493-1	Date April 1997	Figure 4

Boring No. MW-2

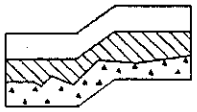
Logged by: CRL

Date: 3/25/97

Elevation of Ground Surface 240.99
Elevation of Top of PVC 243.16

Soil Description	Consistency/ Relative Density	Depth (ft.)	Sample	(N) Blows (ft)	Well As Built
Gray gravelly SAND with silt, moist.	Medium Dense to Dense	10		12 55 25	
Gray silty SAND with gravel, wet. (TILL)	Very Dense	20		38 45 50/4"	

Boring terminated at 29.5 feet.
2 inch PVC monitoring well installed as shown.
Factory slotted 0.0100 screen installed.
Well completed with an above grade monument cover.



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BORING LOG
MARVIN PARK VILLAGES
LACEY, WASHINGTON

Proj. No. T-3493-1	Date April 1997	Figure 5

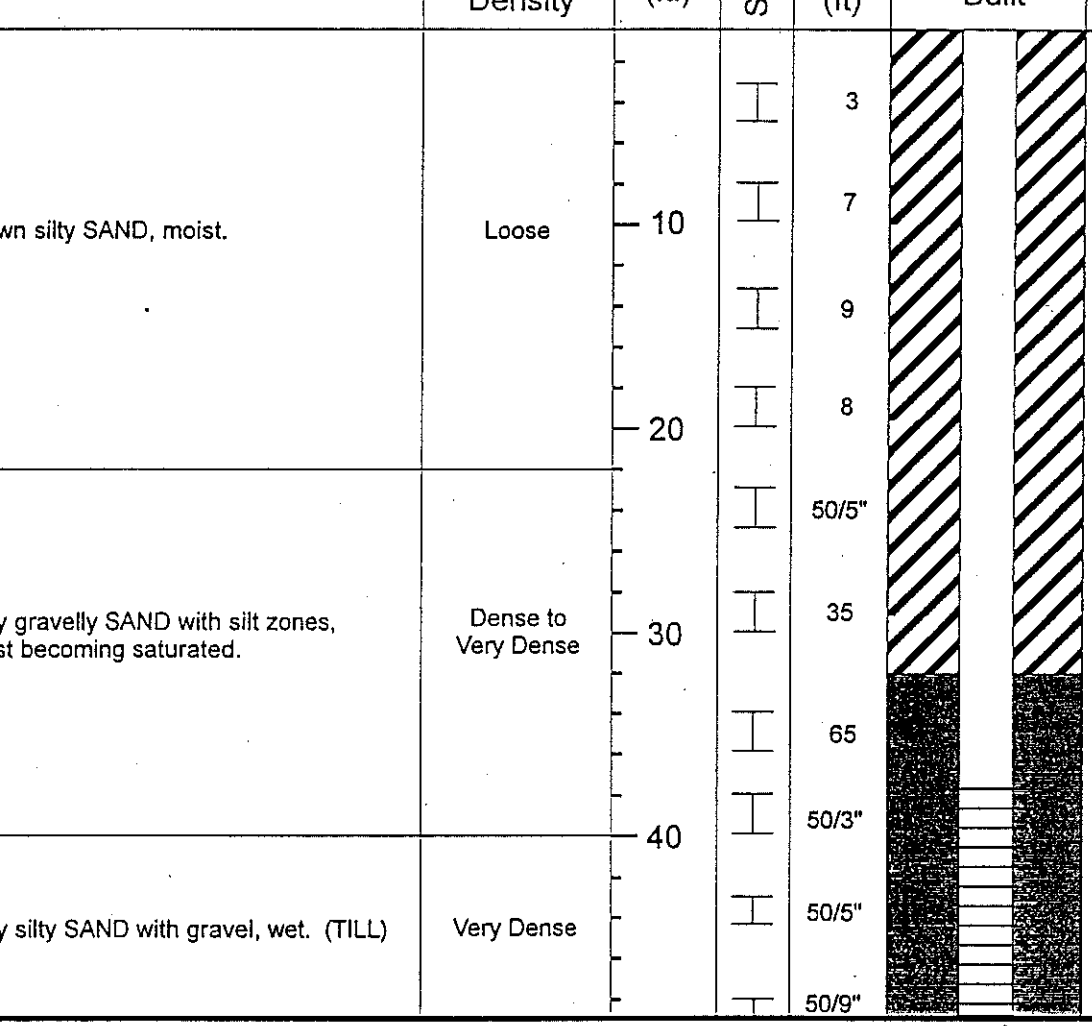
Boring No. MW-3

Logged by: CRL

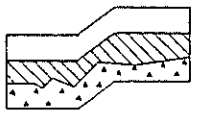
Date: 3/26/97

Elevation of Ground Surface 225.8
Elevation of Top of PVC 228.16

Soil Description	Consistency/ Relative Density	Depth (ft.)	Sample	(N) Blows (ft)	Well As Built
Brown silty SAND, moist.	Loose	10		3	
				7	
				9	
		20		8	
Gray gravelly SAND with silt zones, moist becoming saturated.	Dense to Very Dense	30		50/5"	
				35	
				65	
		40		50/3"	
Gray silty SAND with gravel, wet. (TILL)	Very Dense			50/5"	
				50/9"	



Boring terminated at 49 feet.
2 inch PVC monitoring well installed as shown.
Factory slotted 0.0100 screen installed.
Well completed with an above grade monument cover.



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BORING LOG
MARVIN PARK VILLAGES
LACEY, WASHINGTON

Proj. No. T-3493-1	Date April 1997	Figure 6

Boring No. MW-4

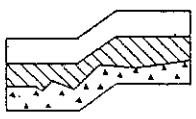
Logged by: CRL

Date: 3/26/97

Elevation of Ground Surface 229.63
Elevation of Top of PVC 232.52

Soil Description	Consistency/ Relative Density	Depth (ft.)	Sample	(N) Blows (ft)	Well As Built
Gray-brown gravelly SAND, dry.	Medium Dense	10		14 16 18	
Gray silty SAND with gravel, wet. (TILL)	Dense to Very Dense	20 30		74 50/5" 54 50/6"	

Boring terminated at 34.5 feet.
2 inch PVC monitoring well installed as shown.
Factory slotted 0.0100 screen installed.
Well completed with an above grade monument cover.



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BORING LOG
MARVIN PARK VILLAGES
LACEY, WASHINGTON

Proj. No. T-3493-1	Date April 1997	Figure 7

APPENDIX A

ANALYTICAL LABORATORY TEST RESULTS

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

RECEIVED

APR 4 '97

TRANSMITTAL MEMORANDUM

DATE: April 2, 1997

TO: Charles R. Lie
Terra Associates, Inc.

PROJECT: Marvin Gardens

REPORT NUMBER: 63655

Enclosed are the test results for nine samples received at Sound Analytical Services on March 27, 1997.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (206) 922-2310.

Sincerely,

Brent Hepner
Project Manager

This report is issued solely for the use of the person or company to whom it is addressed. This laboratory accepts responsibility only for the due performance of analysis in accordance with dustry acceptable practice. In no event shall Sound Analytical Services, Inc. or its employees be responsible for consequential or special damages in any kind or in any amount.

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	HQ
Lab ID:	63655-01
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/30/97
% Solids	-

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
TCMX	82		50	150
Decachlorobiphenyl	100		50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.0097	
alpha-BHC	ND	0.0097	
beta-BHC	ND	0.0097	
delta-BHC	ND	0.0097	
gamma-BHC (Lindane)	ND	0.0097	
Chlordane (technical)	ND	0.097	
4,4'-DDD	ND	0.019	
4,4'-DDE	ND	0.019	
4,4'-DDT	ND	0.019	
Dieldrin	ND	0.019	
Endosulfan I	ND	0.0097	
Endosulfan II	ND	0.019	
Endosulfan sulfate	ND	0.019	
Endrin	ND	0.019	
Endrin aldehyde	ND	0.019	
Heptachlor	ND	0.0097	
Heptachlor epoxide	ND	0.0097	
Methoxychlor	ND	0.097	
Endrin ketone	ND	0.019	
Toxaphene	ND	0.97	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-3
Lab ID:	63655-02
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/30/97
% Solids	-

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	84		50	150
Decachlorobiphenyl	37	X9	50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.0094	
alpha-BHC	ND	0.0094	
beta-BHC	ND	0.0094	
delta-BHC	ND	0.0094	
gamma-BHC (Lindane)	ND	0.0094	
Chlordane (technical)	ND	0.094	
4,4'-DDD	ND	0.019	
4,4'-DDE	ND	0.019	
4,4'-DDT	0.015	0.019	J
Dieldrin	ND	0.019	
Endosulfan I	ND	0.0094	
Endosulfan II	ND	0.019	
Endosulfan sulfate	ND	0.019	
Endrin	ND	0.019	
Endrin aldehyde	ND	0.019	
Heptachlor	ND	0.0094	
Heptachlor epoxide	ND	0.0094	
Methoxychlor	ND	0.094	
Endrin ketone	ND	0.019	
Toxaphene	ND	0.94	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-4
Lab ID:	63655-03
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/30/97
% Solids	-

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	66		50	150
Decachlorobiphenyl	25	X9	50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.01	
alpha-BHC	ND	0.01	
beta-BHC	ND	0.01	
delta-BHC	ND	0.01	
gamma-BHC (Lindane)	ND	0.01	
Chlordane (technical)	ND	0.1	
4,4'-DDD	ND	0.02	
4,4'-DDE	ND	0.02	
4,4'-DDT	ND	0.02	
Dieldrin	ND	0.02	
Endosulfan I	ND	0.01	
Endosulfan II	ND	0.02	
Endosulfan sulfate	ND	0.02	
Endrin	ND	0.02	
Endrin aldehyde	ND	0.02	
Heptachlor	ND	0.01	
Heptachlor epoxide	ND	0.01	
Methoxychlor	ND	0.1	
Endrin ketone	ND	0.02	
Toxaphene	ND	1	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	1
Lab ID:	63655-04
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	78.42

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	103		50	150
Decachlorobiphenyl	107		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1.3	
alpha-BHC	ND	1.3	
beta-BHC	ND	1.3	
delta-BHC	ND	1.3	
gamma-BHC (Lindane)	ND	1.3	
Chlordane (technical)	300	13	
4,4'-DDD	60	2.5	
4,4'-DDE	600	51	D
4,4'-DDT	1400	51	D
Dieldrin	ND	2.5	
Endosulfan I	ND	1.3	
Endosulfan II	ND	2.5	
Endosulfan sulfate	ND	2.5	
Endrin	ND	2.5	
Endrin aldehyde	ND	2.5	
Heptachlor	12	1.3	
Heptachlor epoxide	ND	1.3	
Methoxychlor	41	13	
Endrin ketone	ND	2.5	
Toxaphene	ND	130	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	2
Lab ID:	63655-05
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	37.05

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	122		50	150
Decachlorobiphenyl	116		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	2.7	
alpha-BHC	ND	2.7	
beta-BHC	ND	2.7	
delta-BHC	ND	2.7	
gamma-BHC (Lindane)	ND	2.7	
Chlordane (technical)	ND	27	
4,4'-DDD	ND	5.3	
4,4'-DDE	ND	5.3	
4,4'-DDT	19	5.3	
Dieldrin	ND	5.3	
Endosulfan I	ND	2.7	
Endosulfan II	ND	5.3	
Endosulfan sulfate	ND	5.3	
Endrin	ND	5.3	
Endrin aldehyde	ND	5.3	
Heptachlor	ND	2.7	
Heptachlor epoxide	ND	2.7	
Methoxychlor	ND	27	
Endrin ketone	ND	5.3	
Toxaphene	ND	270	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	3
Lab ID:	63655-06
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	74.22

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	103		50	150
Decachlorobiphenyl	106		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1.3	
alpha-BHC	ND	1.3	
beta-BHC	2.3	1.3	
delta-BHC	ND	1.3	
gamma-BHC (Lindane)	ND	1.3	
Chlordane (technical)	ND	13	
4,4'-DDD	53	2.6	
4,4'-DDE	76	2.6	
4,4'-DDT	33	2.6	
Dieldrin	ND	2.6	
Endosulfan I	ND	1.3	
Endosulfan II	ND	2.6	
Endosulfan sulfate	ND	2.6	
Endrin	ND	2.6	
Endrin aldehyde	ND	2.6	
Heptachlor	ND	1.3	
Heptachlor epoxide	ND	1.3	
Methoxychlor	ND	13	
Endrin ketone	ND	2.6	
Toxaphene	ND	130	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	4
Lab ID:	63655-07
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	58.63

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	121		50	150
Decachlorobiphenyl	138		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1.7	
alpha-BHC	ND	1.7	
beta-BHC	ND	1.7	
delta-BHC	ND	1.7	
gamma-BHC (Lindane)	ND	1.7	
Chlordane (technical)	430	17	
4,4'-DDD	11	3.4	
4,4'-DDE	41	3.4	
4,4'-DDT	5.7	3.4	
Dieldrin	ND	3.4	
Endosulfan I	ND	1.7	
Endosulfan II	ND	3.4	
Endosulfan sulfate	ND	3.4	
Endrin	ND	3.4	
Endrin aldehyde	5.2	3.4	
Heptachlor	ND	1.7	
Heptachlor epoxide	ND	1.7	
Methoxychlor	ND	17	
Endrin ketone	9	3.4	
Toxaphene	ND	170	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	5
Lab ID:	63655-08
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	59.91

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	118		50	150
Decachlorobiphenyl	122		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	5.9	1.7	
alpha-BHC	ND	1.7	
beta-BHC	ND	1.7	
delta-BHC	ND	1.7	
gamma-BHC (Lindane)	ND	1.7	
Chlordane (technical)	4300	170	D
4,4'-DDD	5	3.3	
4,4'-DDE	65	3.3	
4,4'-DDT	18	3.3	
Dieldrin	ND	3.3	
Endosulfan I	ND	1.7	
Endosulfan II	85	3.3	
Endosulfan sulfate	ND	3.3	
Endrin	ND	3.3	
Endrin aldehyde	5.4	3.3	
Heptachlor	ND	1.7	
Heptachlor epoxide	30	1.7	
Methoxychlor	31	17	
Endrin ketone	ND	3.3	
Toxaphene	ND	170	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	6
Lab ID:	63655-09
Date Received:	3/27/97
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	77.41

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	104		50	150
Decachlorobiphenyl	116		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1.3	
alpha-BHC	ND	1.3	
beta-BHC	ND	1.3	
delta-BHC	ND	1.3	
gamma-BHC (Lindane)	ND	1.3	
Chlordane (technical)	ND	130	
4,4'-DDD	4.3	2.5	
4,4'-DDE	11	2.5	
4,4'-DDT	16	2.5	
Dieldrin	ND	2.5	
Endosulfan I	ND	1.3	
Endosulfan II	ND	2.5	
Endosulfan sulfate	ND	2.5	
Endrin	ND	2.5	
Endrin aldehyde	ND	2.5	
Heptachlor	ND	1.3	
Heptachlor epoxide	ND	1.3	
Methoxychlor	ND	13	
Endrin ketone	ND	2.5	
Toxaphene	ND	130	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - PE696
Date Received:	-
Date Prepared:	3/28/97
Date Analyzed:	3/30/97
% Solids	-

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	65		50	150
Decachlorobiphenyl	98		50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.01	
alpha-BHC	ND	0.01	
beta-BHC	ND	0.01	
delta-BHC	ND	0.01	
gamma-BHC (Lindane)	ND	0.01	
Chlordane (technical)	ND	0.1	
4,4'-DDD	ND	0.02	
4,4'-DDE	ND	0.02	
4,4'-DDT	ND	0.02	
Dieldrin	ND	0.02	
Endosulfan I	ND	0.01	
Endosulfan II	ND	0.02	
Endosulfan sulfate	ND	0.02	
Endrin	ND	0.02	
Endrin aldehyde	ND	0.02	
Heptachlor	ND	0.01	
Heptachlor epoxide	ND	0.01	
Methoxychlor	ND	0.1	
Endrin ketone	ND	0.02	
Toxaphene	ND	1	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	PE696
Date Prepared:	3/28/97
Date Analyzed:	3/30/97
QC Batch ID:	PE696

Organochlorine Pesticides and PCBs by USEPA Method 8080

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
Aldrin	0	0.2	0.16	79.9	0.16	80	0.13	
gamma-BHC (Lindane)	0	0.2	0.177	88.3	0.18	89.9	1.8	
4,4'-DDT	0	0.5	0.455	91.1	0.482	96.4	5.7	
Dieldrin	0	0.5	0.466	93.1	0.489	97.7	4.8	
Endrin	0	0.5	0.432	86.3	0.452	90.5	4.8	
Heptachlor	0	0.2	0.14	70.2	0.142	70.8	0.85	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - PE697
Date Received:	-
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
% Solids	

Organochlorine Pesticides and PCBs by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	94		50	150
Decachlorobiphenyl	100		50	150

Sample results are on an as received basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1	
alpha-BHC	ND	1	
beta-BHC	ND	1	
delta-BHC	ND	1	
gamma-BHC (Lindane)	ND	1	
Chlordane (technical)	ND	10	
4,4'-DDD	ND	2	
4,4'-DDE	ND	2	
4,4'-DDT	ND	2	
Dieldrin	ND	2	
Endosulfan I	ND	1	
Endosulfan II	ND	2	
Endosulfan sulfate	ND	2	
Endrin	ND	2	
Endrin aldehyde	ND	2	
Heptachlor	ND	1	
Heptachlor epoxide	ND	1	
Methoxychlor	ND	10	
Endrin ketone	ND	2	
Toxaphene	ND	100	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	PE697
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
QC Batch ID:	PE697

Organochlorine Pesticides and PCBs by USEPA Method 8080

Compound Name	Blank Result (ug/kg)	Spike Amount (ug/kg)	BS Result (ug/kg)	BS % Rec.	BSD Result (ug/kg)	BSD % Rec.	RPD	Flag
Aldrin	0	20	20.9	105	21.9	110	4.7	
gamma-BHC (Lindane)	0	20	17.9	89.4	18.7	93.7	4.7	
4,4'-DDT	0	50	46	92.1	47.7	95.4	3.5	
Dieldrin	0	50	45.7	91.4	47.8	95.6	4.5	
Endrin	0	50	42.3	84.5	44.1	88.1	4.2	
Heptachlor	0	20	16.9	84.5	17.7	88.5	4.6	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	1
Lab ID:	63655-04
Date Prepared:	3/28/97
Date Analyzed:	3/31/97
QC Batch ID:	PE697

Organochlorine Pesticides and PCBs by USEPA Method 8080

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
Aldrin	0	24.2	28.1	116	28.2	118	1.7	
gamma-BHC (Lindane)	0	24.2	24.1	99.6	23.2	96.9	2.7	
4,4'-DDT	1400	60.5	846	nc	709	nc	nc	X7a
Dieldrin	0	60.5	65.7	109	64.6	108	0.92	
Endrin	0	60.5	56.9	94	56.9	94.9	0.95	
Heptachlor	12	24.2	34.4	91	35.3	95.5	4.8	

SOUND ANALYTICAL SERVICES, INC.

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 • TELEPHONE 206-922-2310 • FAX 206-922-5047

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C: Additional confirmation performed.

D: The reported result for this analyte is calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

N: See analytical narrative.

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____ .

X2: Contaminant does not appear to be "typical" product. Further testing is suggested for identification.

X3: Identification and quantification of peaks was complicated by matrix interference; GC/MS confirmation is recommended.

X4: RPD for duplicates outside advisory QC limits. Sample was re-analyzed with similar results.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike was diluted out during analysis.

X6: Recovery of matrix spike was outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery of matrix spike outside advisory QC limits. Matrix interference is indicated by blank spike recovery data.

X7a: Recovery and/or RPD values for MS/MSD outside advisory QC limits due to high contaminant levels.

Surrogate was diluted out during analysis.

X9: Surrogate recovery outside advisory QC limits due to matrix composition.

SOUND ANALYTICAL SERVICES, INC.
ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 Pacific Hwy. East
Tacoma, Washington 98424
(206) 922-2310 • FAX (206) 922-5047

63655 10/3

CHAIN OF CUSTODY / REQUEST FOR LABORATORY ANALYSIS

CLIENT: Terra Associates
PROJECT NAME: Marvin Gardens
CONTACT: Chuck Lie
PHONE NO: 821-7777

ANALYSIS REQUESTED:

LAB #	SAMPLE I.D.	DATE	TIME	MATRIX	# of Containers	Halogenated Volatiles EPA 601/8010	Aromatic Volatiles EPA 602/8020	PCB's Chlorinated Pest. EPA 608/8080	PAH's	Volatile Organics EPA 624/8240 (GC/MS)	Semi-volatiles EPA625/8270 (GC/MS)	TPH 418.1	Oil & Grease	Total Metals (Specify below)	TCLP Extraction: 8 Metals	TCLP Extraction: Volatiles	TCLP Extraction: Semi-volatiles	TCLP Extraction: Pesticides & Herbicides
1	H.Q	3/27/97	13:30	W	1			X										
2	MW-3		15:00	W				X										
3	MW-4		15:20	W				X										
4	1		15:25	S				X										
5	2		15:30	S				X										
6	3		15:35	S				X										
7	4		15:40	S				X										
8	5		15:45	S				X										
9	6		15:50	S				X										

	Signature	Printed Name	Firm	Time / Date
Relinquished By		Chuck Lie	Terra	3/27/97 1645
Received By	Duc Nguyen	Duc Nguyen	SAS	3-27-97 1645
Relinquished By				
Received By				
Relinquished By				
Received By				

SPECIAL INSTRUCTIONS/COMMENTS:

These samples will be disposed of 45 days after receipt.
Check this box to have samples returned ☐.

FAX 206-821-4334
email
clie@terra-associats.com

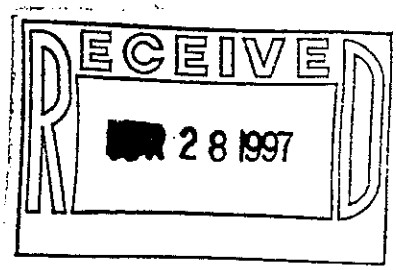
~~Hold~~
3 day TAT per Brent.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

TRANSMITTAL MEMORANDUM



DATE: April 17, 1997

TO: Charles R. Lie
Terra Associates, Inc.

PROJECT: T-3493

REPORT NUMBER: 63946

Enclosed are the test results for eleven samples received at Sound Analytical Services on April 10, 1997.

The report consists of this transmittal memo, analytical results, quality control reports, a copy of the chain-of-custody, a list of data qualifiers when applicable, and a copy of any requested raw data.

Should there be any questions regarding this report, please contact me at (206) 922-2310.

Sincerely,

Brent Hepner
Project Manager

BH:tm

This report is issued solely for the use of the person or company to whom it is addressed. This laboratory accepts responsibility only for the due performance of analysis in accordance with industry acceptable practice. In no event shall Sound Analytical Services, Inc. or its employees be responsible for consequential or special damages in any kind or in any amount.

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-101@2
Lab ID:	63946-01
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	23.85

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	111		50	150
Decachlorobiphenyl	115		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	4.2	
alpha-BHC	ND	4.2	
beta-BHC	ND	4.2	
delta-BHC	ND	4.2	
gamma-BHC (Lindane)	ND	4.2	
Chlordane (technical)	55	42	
4,4'-DDD	160	8.3	
4,4'-DDE	290	8.3	
4,4'-DDT	740	8.3	
Dieldrin	ND	8.3	
Endosulfan I	ND	4.2	
Endosulfan II	ND	8.3	
Endosulfan sulfate	ND	8.3	
Endrin	ND	8.3	
Endrin aldehyde	ND	8.3	
Heptachlor	ND	4.2	
Heptachlor epoxide	ND	4.2	
Methoxychlor	ND	42	
Endrin ketone	ND	8.3	
Toxaphene	ND	420	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-102@2
Lab ID:	63946-02
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	18.11

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	114		50	150
Decachlorobiphenyl	141		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	6.1	5.5	
alpha-BHC	6.6	5.5	
beta-BHC	ND	5.5	
delta-BHC	ND	5.5	
gamma-BHC (Lindane)	ND	5.5	
Chlordane (technical)	3800	55	
4,4'-DDD	15	11	
4,4'-DDE	230	11	
4,4'-DDT	200	11	
Dieldrin	20	11	
Endosulfan I	25	5.5	
Endosulfan II	110	11	
Endosulfan sulfate	ND	11	
Endrin	37	11	
Endrin aldehyde	ND	11	
Heptachlor	ND	5.5	
Heptachlor epoxide	12	5.5	
Methoxychlor	330	55	
Endrin ketone	ND	11	
Toxaphene	ND	550	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-103@2.5
Lab ID:	63946-03
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	35.22

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
TCMX	104		50	150
Decachlorobiphenyl	113		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	2.7	
alpha-BHC	ND	2.7	
beta-BHC	ND	2.7	
delta-BHC	ND	2.7	
gamma-BHC (Lindane)	ND	2.7	
Chlordane (technical)	ND	27	
4,4'-DDD	ND	5.4	
4,4'-DDE	ND	5.4	
4,4'-DDT	ND	5.4	
Dieldrin	ND	5.4	
Endosulfan I	ND	2.7	
Endosulfan II	ND	5.4	
Endosulfan sulfate	ND	5.4	
Endrin	ND	5.4	
Endrin aldehyde	ND	5.4	
Heptachlor	ND	2.7	
Heptachlor epoxide	ND	2.7	
Methoxychlor	ND	27	
Endrin ketone	ND	5.4	
Toxaphene	ND	270	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-104@1.5
Lab ID:	63946-04
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	22.35

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	98		50	150
Decachlorobiphenyl	103		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	4.4	
alpha-BHC	ND	4.4	
beta-BHC	ND	4.4	
delta-BHC	ND	4.4	
gamma-BHC (Lindane)	ND	4.4	
Chlordane (technical)	ND	44	
4,4'-DDD	ND	8.7	
4,4'-DDE	ND	8.7	
4,4'-DDT	ND	8.7	
Dieldrin	ND	8.7	
Endosulfan I	ND	4.4	
Endosulfan II	ND	8.7	
Endosulfan sulfate	ND	8.7	
Endrin	ND	8.7	
Endrin aldehyde	ND	8.7	
Heptachlor	ND	4.4	
Heptachlor epoxide	ND	4.4	
Methoxychlor	ND	44	
Endrin ketone	ND	8.7	
Toxaphene	ND	440	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-105@1
Lab ID:	63946-05
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	28.84

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	114		50	150
Decachlorobiphenyl	123		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	3.4	
alpha-BHC	ND	3.4	
beta-BHC	ND	3.4	
delta-BHC	ND	3.4	
gamma-BHC (Lindane)	ND	3.4	
Chlordane (technical)	ND	34	
4,4'-DDD	ND	6.8	
4,4'-DDE	ND	6.8	
4,4'-DDT	ND	6.8	
Dieldrin	ND	6.8	
Endosulfan I	ND	3.4	
Endosulfan II	ND	6.8	
Endosulfan sulfate	ND	6.8	
Endrin	ND	6.8	
Endrin aldehyde	ND	6.8	
Heptachlor	ND	3.4	
Heptachlor epoxide	ND	3.4	
Methoxychlor	ND	34	
Endrin ketone	ND	6.8	
Toxaphene	ND	340	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-106@2
Lab ID:	63946-06
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	19.29

Organochlorine Pesticides by USEPA Method 8080

			Recovery Limits	
Surrogate	**% Recovery**	**Flags**	**Low**	**High**
TCMX	146		50	150
Decachlorobiphenyl	160	X9	50	150

Sample results are on a dry weight basis.

Analyte	**Result (ug/kg)**	**PQL**	**Flags**
Aldrin	ND	5.2	
alpha-BHC	ND	5.2	
beta-BHC	ND	5.2	
delta-BHC	ND	5.2	
gamma-BHC (Lindane)	ND	5.2	
Chlordane (technical)	ND	52	
4,4'-DDD	ND	10	
4,4'-DDE	ND	10	
4,4'-DDT	ND	10	
Dieldrin	ND	10	
Endosulfan I	ND	5.2	
Endosulfan II	ND	10	
Endosulfan sulfate	ND	10	
Endrin	ND	10	
Endrin aldehyde	ND	10	
Heptachlor	ND	5.2	
Heptachlor epoxide	ND	5.2	
Methoxychlor	ND	52	
Endrin ketone	ND	10	
Toxaphene	ND	520	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-107@2
Lab ID:	63946-07
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	23.11

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	101		50	150
Decachlorobiphenyl	107		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	4.3	
alpha-BHC	ND	4.3	
beta-BHC	ND	4.3	
delta-BHC	ND	4.3	
gamma-BHC (Lindane)	ND	4.3	
Chlordane (technical)	ND	43	
4,4'-DDD	ND	8.6	
4,4'-DDE	ND	8.6	
4,4'-DDT	ND	8.6	
Dieldrin	ND	8.6	
Endosulfan I	ND	4.3	
Endosulfan II	ND	8.6	
Endosulfan sulfate	ND	8.6	
Endrin	ND	8.6	
Endrin aldehyde	ND	8.6	
Heptachlor	ND	4.3	
Heptachlor epoxide	ND	4.3	
Methoxychlor	ND	43	
Endrin ketone	ND	8.6	
Toxaphene	ND	430	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-108@1
Lab ID:	63946-08
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	23.42

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	110		50	150
Decachlorobiphenyl	119		50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	4	
alpha-BHC	ND	4	
beta-BHC	ND	4	
delta-BHC	ND	4	
gamma-BHC (Lindane)	ND	4	
Chlordane (technical)	ND	40	
4,4'-DDD	ND	8.1	
4,4'-DDE	ND	8.1	
4,4'-DDT	ND	8.1	
Dieldrin	ND	8.1	
Endosulfan I	ND	4	
Endosulfan II	ND	8.1	
Endosulfan sulfate	ND	8.1	
Endrin	ND	8.1	
Endrin aldehyde	ND	8.1	
Heptachlor	ND	4	
Heptachlor epoxide	ND	4	
Methoxychlor	ND	40	
Endrin ketone	ND	8.1	
Toxaphene	ND	400	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	TP-109@1
Lab ID:	63946-09
Date Received:	4/10/97
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	26.78

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	65		50	150
Decachlorobiphenyl	215	X9	50	150

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	3.6	
alpha-BHC	ND	3.6	
beta-BHC	ND	3.6	
delta-BHC	ND	3.6	
gamma-BHC (Lindane)	ND	3.6	
Chlordane (technical)	ND	36	
4,4'-DDD	7.6	7.1	
4,4'-DDE	69	7.1	
4,4'-DDT	61	7.1	
Dieldrin	ND	7.1	
Endosulfan I	ND	3.6	
Endosulfan II	ND	7.1	
Endosulfan sulfate	ND	7.1	
Endrin	ND	7.1	
Endrin aldehyde	ND	7.1	
Heptachlor	ND	3.6	
Heptachlor epoxide	ND	3.6	
Methoxychlor	ND	36	
Endrin ketone	ND	7.1	
Toxaphene	ND	360	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-1
Lab ID:	63946-10
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Pesticides by USEPA Method 1618 (Screening Method)

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Tributyl Phosphate	81		50	150
Triphenyl Phosphate	132		50	150
Decachlorobiphenyl	100		50	150

Analyte	Result (ug/L)	PQL	Flags
Dichlorvos	ND	0.14	
Mevinphos	ND	0.068	
Ethoprop	ND	0.089	
Naled	ND	0.19	
Sulfotepp	ND	0.21	
Monocrotophos	ND	0.11	
Phorate	ND	0.17	
Dimethoate	ND	0.074	
Demeton,o-s	ND	0.22	
Diazinon	ND	0.057	
Disulfoton	ND	0.17	
Parathion,methyl	ND	0.084	
Ronnel	ND	0.052	
Chlorpyrifos	ND	0.057	
Malathion	ND	0.082	
Fenthion	ND	0.11	
Parathion	ND	0.039	
Trichloronate	ND	0.092	
Tetrachlorvinphos	ND	0.07	
Merphos	ND	0.1	
Tokuthion	ND	0.042	
Fensulfothion	ND	0.058	
Bolstar	ND	0.11	
EPN	ND	0.11	
Azinphos,methyl	ND	0.19	
Coumaphos	ND	0.038	

SOUND ANALYTICAL SERVICES, INC.

Pesticides by USEPA Method 1618 (Screening Method) data for 63946-10 continued...

Analyte	Result (ug/L)	MDL	Flags
Alpha-BHC	ND	0.073	
Beta-BHC	ND	0.16	
Lindane	ND	0.21	
Delta-BHC	ND	0.048	
Heptachlor	ND	0.052	
Aldrin	ND	0.035	
Heptachlor epoxide	ND	0.035	
Endosulfan 1	ND	0.054	
P'P-DDE	ND	0.053	
Dieldrin	ND	0.042	
Endrin	ND	0.051	
Endosulfan II	ND	0.034	
P'P-DDD	ND	0.05	
Endrin aldehyde	ND	0.078	
Endosulfan sulfate	ND	0.11	
P'P-DDT	ND	0.047	
Methoxychlor	ND	0.13	
Chlordane-cis	ND	0.056	
Chlordane-trans	ND	0.047	
Trifluralin	ND	0.055	
Dicloran	ND	0.071	
PCNB	ND	0.034	
Isodrin	ND	0.066	
Captan	ND	0.078	
Perthane	ND	0.071	
Carbophenothion	ND	0.056	
Kelthane	ND	0.037	
Mirex	ND	0.075	
TEPP	ND	0.052	
Strobane	ND	0.05	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-1
Lab ID:	63946-10
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Tentatively Identified Pesticides by USEPA Method 1618 (Screening Method)

TIC Name	Result (ug/L)	Ret. Time (Min.)	Flags
Decanedioic Acid, Didecyl Ester	0.39	10.98	J
1-Octanol, 2-Butyl-	0.51	11.00	J
1,1':2',1"-Terphenyl	0.46	12.08	J
Hexadecanoic Acid	0.85	12.45	J
Unknown	1.6	13.63	J
Unknown Alkane	0.61	14.10	J
Unknown Phthalate Ester	2.9	15.11	J
Heptasiloxane, Hexadecamethyl-	0.52	15.39	J
Unknown Alkene	2.6	16.25	J

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-3
Lab ID:	63946-11
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Pesticides by USEPA Method 1618 (Screening Method)

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Tributyl Phosphate	75		50	150
Triphenyl Phosphate	117		50	150
Decachlorobiphenyl	121		50	150

Analyte	Result (ug/L)	PQL	Flags
Dichlorvos	ND	0.13	
Mevinphos	ND	0.066	
Ethoprop	ND	0.087	
Naled	ND	0.19	
Sulfotepp	ND	0.21	
Monocrotophos	ND	0.11	
Phorate	ND	0.17	
Dimethoate	ND	0.072	
Demeton,o-s	ND	0.22	
Diazinon	ND	0.056	
Disulfoton	ND	0.17	
Parathion,methyl	ND	0.082	
Ronnel	ND	0.051	
Chlorpyrifos	ND	0.056	
Malathion	ND	0.08	
Fenthion	ND	0.11	
Parathion	ND	0.039	
Trichloronate	ND	0.09	
Tetrachlorvinphos	ND	0.068	
Merphos	ND	0.1	
Tokuthion	ND	0.042	
Fensulfothion	ND	0.057	
Bolstar	ND	0.1	
EPN	ND	0.1	
Azinphos,methyl	ND	0.19	
Coumaphos	ND	0.038	

SOUND ANALYTICAL SERVICES, INC.

Pesticides by USEPA Method 1618 (Screening Method) data for 63946-11 continued...

Analyte	Result (ug/L)	MDL	Flags
Alpha-BHC	ND	0.072	
Beta-BHC	ND	0.15	
Lindane	ND	0.2	
Delta-BHC	ND	0.047	
Heptachlor	ND	0.051	
Aldrin	ND	0.034	
Heptachlor epoxide	ND	0.035	
Endosulfan 1	ND	0.053	
P'P-DDE	ND	0.052	
Dieldrin	ND	0.041	
Endrin	ND	0.05	
Endosulfan II	ND	0.033	
P'P-DDD	ND	0.049	
Endrin aldehyde	ND	0.077	
Endosulfan sulfate	ND	0.11	
P'P-DDT	ND	0.046	
Methoxychlor	ND	0.13	
Chlordane-cis	ND	0.055	
Chlordane-trans	ND	0.046	
Trifluralin	ND	0.054	
Dicloran	ND	0.07	
PCNB	ND	0.033	
Isodrin	ND	0.064	
Captan	ND	0.076	
Perthane	ND	0.069	
Carbophenothion	ND	0.055	
Kelthane	ND	0.037	
Mirex	ND	0.074	
TEPP	ND	0.051	
Strobane	ND	0.049	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-3
Lab ID:	63946-11
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Tentatively Identified Pesticides by USEPA Method 1618 (Screening Method)

TIC Name	Result (ug/L)	Ret. Time (Min.)	Flags
Unknown Alkene	0.65	9.73	J
Unknown Phthalate Ester	0.8	12.44	J
Pentadecanoic Acid	2.1	12.47	J
Tetradecanoic Acid, 5,9,13-Trimethyl-,	1.9	13.48	J
Unknown Alkane	0.87	13.65	J
Unknown Phthalate Ester	14	15.13	J
Unknown Alkane	0.71	15.40	J
Unknown Phthalate Ester	1	15.70	J
Unknown Phthalate Ester	1.5	15.77	J
Unknown Phthalate Ester	0.76	15.80	J
Unknown Phthalate Ester	1.2	15.86	J
Unknown Phthalate Ester	3.7	15.88	J
Unknown Phthalate Ester	2.1	16.20	J
Unknown Phthalate Ester	5	16.27	J

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-1
Lab ID:	63946-10
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/17/97
% Solids	-

Chlorinated Herbicides by USEPA Method 8150 GC/MS Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2,4,6-Tribromophenol	75		53	103

Analyte	Result (ug/L)	PQL	Flags
Dalapon	ND	0.062	
Dicamba	ND	0.035	
Dichloroprop	ND	0.042	
2,4-D	ND	0.026	
Silvex (2,4,5-TP)	ND	0.014	
2,4,5-T	ND	0.029	
Dinoseb	ND	0.021	
2,4-DB	ND	0.024	
MCPP	ND	0.038	
MCPA	ND	0.027	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-3
Lab ID:	63946-11
Date Received:	4/10/97
Date Prepared:	4/16/97
Date Analyzed:	4/17/97
% Solids	-

Chlorinated Herbicides by USEPA Method 8150 GC/MS Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2,4,6-Tribromophenol	68		53	103

Analyte	Result (ug/L)	PQL	Flags
Dalapon	ND	0.061	
Dicamba	ND	0.035	
Dichloroprop	ND	0.042	
2,4-D	ND	0.026	
Silvex (2,4,5-TP)	ND	0.014	
2,4,5-T	ND	0.029	
Dinoseb	ND	0.021	
2,4-DB	ND	0.024	
MCPP	ND	0.037	
MCPA	ND	0.026	

SOUND ANALYTICAL SERVICES, INC.

Client Name	Terra Associates, Inc.
Client ID:	MW-1
Lab ID:	63946-10
Date Received:	4/10/97
Date Prepared:	4/14/97
Date Analyzed:	4/17/97
% Solids	-

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
TCMX	72		50	150
Decachlorobiphenyl	68		50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.0096	
alpha-BHC	ND	0.0096	
beta-BHC	ND	0.0096	
delta-BHC	ND	0.0096	
gamma-BHC (Lindane)	ND	0.0096	
Chlordane (technical)	ND	0.096	
4,4'-DDD	ND	0.019	
4,4'-DDE	ND	0.019	
4,4'-DDT	ND	0.019	
Dieldrin	ND	0.019	
Endosulfan I	ND	0.0096	
Endosulfan II	ND	0.019	
Endosulfan sulfate	ND	0.019	
Endrin	ND	0.019	
Endrin aldehyde	ND	0.019	
Heptachlor	ND	0.0096	
Heptachlor epoxide	ND	0.0096	
Methoxychlor	ND	0.096	
Endrin ketone	ND	0.019	
Toxaphene	ND	0.96	

18A

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - PE703
Date Received:	-
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
% Solids	

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	High
TCMX	105		50	150
Decachlorobiphenyl	118		50	150

Sample results are on an as received basis.

Analyte	Result (ug/kg)	PQL	Flags
Aldrin	ND	1	
alpha-BHC	ND	1	
beta-BHC	ND	1	
delta-BHC	ND	1	
gamma-BHC (Lindane)	ND	1	
Chlordane (technical)	ND	10	
4,4'-DDD	ND	2	
4,4'-DDE	ND	2	
4,4'-DDT	ND	2	
Dieldrin	ND	2	
Endosulfan I	ND	1	
Endosulfan II	ND	2	
Endosulfan sulfate	ND	2	
Endrin	ND	2	
Endrin aldehyde	ND	2	
Heptachlor	ND	1	
Heptachlor epoxide	ND	1	
Methoxychlor	ND	10	
Endrin ketone	ND	2	
Toxaphene	ND	100	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	PE703
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
QC Batch ID:	PE703

Organochlorine Pesticides by USEPA Method 8080

Compound Name	Blank Result (ug/kg)	Spike Amount (ug/kg)	BS Result (ug/kg)	BS % Rec.	BSD Result (ug/kg)	BSD % Rec.	RPD	Flag
Aldrin	0	20	22	110	22.4	112	1.8	
gamma-BHC (Lindane)	0	20	18.9	94.3	19.2	96	1.8	
4,4'-DDT	0	50	48	96	48	96	0	
Dieldrin	0	50	48.8	97.5	49.1	98.3	0.82	
Endrin	0	50	45.6	91.2	45.8	91.6	0.44	
Heptachlor	0	20	17.5	87.3	17.8	89.2	2.2	

SOUND ANALYTICAL SERVICES, INC.

Matrix Spike/Matrix Spike Duplicate Report

Client Sample ID:	TP-103@2.5
Lab ID:	63946-03
Date Prepared:	4/15/97
Date Analyzed:	4/16/97
QC Batch ID:	PE703

Organochlorine Pesticides by USEPA Method 8080

Compound Name	Sample Result (ug/kg)	Spike Amount (ug/kg)	MS Result (ug/kg)	MS % Rec.	MSD Result (ug/kg)	MSD % Rec.	RPD	Flag
Aldrin	0	18.8	20.7	110	20.5	109	0.91	
gamma-BHC (Lindane)	0	18.8	17.6	93.5	17.5	93.2	0.32	
4,4'-DDT	0	46.9	44.4	94.6	45	95.8	1.3	
Dieldrin	0	46.9	45.5	96.8	45.4	96.7	0.1	
Endrin	0	46.9	43.2	92.1	43.3	92.1	0	
Heptachlor	0	18.8	16.3	87	16.3	86.9	0.12	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - OP178
Date Received:	-
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Pesticides by USEPA Method 1618 (Screening Method)

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Tributyl Phosphate	73		50	150
Triphenyl Phosphate	110		50	150
Decachlorobiphenyl	116		50	150

Analyte	Result (ug/L)	PQL	Flags
Dichlorvos	ND	0.14	
Mevinphos	ND	0.07	
Ethoprop	ND	0.092	
Naled	ND	0.2	
Sulfotepp	ND	0.22	
Monocrotophos	ND	0.11	
Phorate	ND	0.18	
Dimethoate	ND	0.077	
Demeton,o-s	ND	0.23	
Diazinon	ND	0.06	
Disulfoton	ND	0.18	
Parathion,methyl	ND	0.087	
Ronnel	ND	0.054	
Chlorpyrifos	ND	0.059	
Malathion	ND	0.085	
Fenthion	ND	0.12	
Parathion	ND	0.041	
Trichloronate	ND	0.096	
Tetrachlorvinphos	ND	0.072	
Merphos	ND	0.11	
Tokuthion	ND	0.044	
Fensulfothion	ND	0.061	
Bolstar	ND	0.11	
EPN	ND	0.11	
Azinphos,methyl	ND	0.2	
Coumaphos	ND	0.04	

SOUND ANALYTICAL SERVICES, INC.

Pesticides by USEPA Method 1618 (Screening Method) data for OP178 continued...

Analyte	Result (ug/L)	PQL	Flags
Alpha-BHC	ND	0.076	
Beta-BHC	ND	0.16	
Lindane	ND	0.22	
Delta-BHC	ND	0.05	
Heptachlor	ND	0.054	
Aldrin	ND	0.036	
Heptachlor epoxide	ND	0.037	
Endosulfan 1	ND	0.056	
P'P-DDE	ND	0.056	
Dieldrin	ND	0.043	
Endrin	ND	0.053	
Endosulfan II	ND	0.035	
P'P-DDD	ND	0.052	
Endrin aldehyde	ND	0.081	
Endosulfan sulfate	ND	0.12	
P'P-DDT	ND	0.049	
Methoxychlor	ND	0.13	
Chlordane-cis	ND	0.059	
Chlordane-trans	ND	0.049	
Trifluralin	ND	0.058	
Dicloran	ND	0.074	
PCNB	ND	0.035	
Isodrin	ND	0.068	
Captan	ND	0.081	
Perthane	ND	0.074	
Carbophenothion	ND	0.059	
Kelthane	ND	0.039	
Mirex	ND	0.078	
TEPP	ND	0.5	
Strobane	ND	0.5	
PCB-1016	ND	0.5	
PCB-1221	ND	0.5	
PCB-1232	ND	0.5	
PCB-1242	ND	0.5	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - OP178
Date Received:	-
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
% Solids	-
Dilution Factor	1

Tentatively Identified Pesticides by USEPA Method 1618 (Screening Method)

TIC Name	Result (ug/L)	Ret. Time (Min.)	Flags
Cis-9,10-Epoxyoctadecan-1-Ol	0.54	13.34	J
Tetradecane, 1-(Methylsulfinyl)-	0.43	13.63	J
1,2-Benzenedicarboxylic Acid, 3-Nitro-	0.91	15.11	J
2,6,10,14,18,22-Tetracosahexaene, 2,	1.5	16.25	J

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	OP178
Date Prepared:	4/16/97
Date Analyzed:	4/16/97
QC Batch ID:	OP178

Pesticides by USEPA Method 1618 (Screening Method)

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
Diazinon	0	5	4.63	92.6	5.3	106	13	
Malathion	0	5	5.49	110	6.25	125	13	
Azinphos,methyl	0	5	4.57	91.3	5.25	105	14	
Lindane	0	5	3.96	79.3	4.91	98.3	21	
P'P-DDT	0	5	3.41	68.3	3.77	75.3	9.7	
Trifluralin	0	5	4.14	82.8	5.42	108	26	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - HB471
Date Received:	-
Date Prepared:	4/16/97
Date Analyzed:	4/17/97
% Solids	-

Chlorinated Herbicides by USEPA Method 8150 GC/MS Modified

Surrogate	% Recovery	Flags	Recovery Limits Low	High
2,4,6-Tribromophenol	57		53	103

Analyte	Result (ug/L)	PQL	Flags
Dalapon	ND	0.065	
Dicamba	ND	0.037	
Dichloroprop	ND	0.044	
2,4-D	ND	0.027	
Silvex (2,4,5-TP)	ND	0.015	
2,4,5-T	ND	0.03	
Dinoseb	ND	0.022	
2,4-DB	ND	0.025	
MCPP	ND	0.039	
MCPA	ND	0.028	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	HB471
Date Prepared:	4/16/97
Date Analyzed:	4/17/97
QC Batch ID:	HB471

Chlorinated Herbicides by USEPA Method 8150 GC/MS Modified

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
2,4-D	0	10	5.55	55.5	5.33	53.3	4	
Silvex (2,4,5-TP)	0	10	7.71	77.1	7.76	77.6	0.65	
Dinoseb	0	10	6.5	65	6.89	68.9	5.8	

SOUND ANALYTICAL SERVICES, INC.

Lab ID:	Method Blank - PE704
Date Received:	-
Date Prepared:	4/14/97
Date Analyzed:	4/18/97
% Solids	-

Organochlorine Pesticides by USEPA Method 8080

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
TCMX	115		50	150
Decachlorobiphenyl	120		50	150

Analyte	Result (ug/L)	PQL	Flags
Aldrin	ND	0.01	
alpha-BHC	ND	0.01	
beta-BHC	ND	0.01	
delta-BHC	ND	0.01	
gamma-BHC (Lindane)	ND	0.01	
Chlordane (technical)	ND	0.1	
4,4'-DDD	ND	0.02	
4,4'-DDE	ND	0.02	
4,4'-DDT	ND	0.02	
Dieldrin	ND	0.02	
Endosulfan I	ND	0.01	
Endosulfan II	ND	0.02	
Endosulfan sulfate	ND	0.02	
Endrin	ND	0.02	
Endrin aldehyde	ND	0.02	
Heptachlor	ND	0.01	
Heptachlor epoxide	ND	0.01	
Methoxychlor	ND	0.1	
Endrin ketone	ND	0.02	
Toxaphene	ND	1	

SOUND ANALYTICAL SERVICES, INC.

Blank Spike/Blank Spike Duplicate Report

Lab ID:	PE704
Date Prepared:	4/14/97
Date Analyzed:	4/16/97
QC Batch ID:	PE704

Organochlorine Pesticides and PCBs by USEPA Method 8080

Compound Name	Blank Result (ug/L)	Spike Amount (ug/L)	BS Result (ug/L)	BS % Rec.	BSD Result (ug/L)	BSD % Rec.	RPD	Flag
Aldrin	0	0.2	0.143	71.7	0.141	70.5	1.7	
gamma-BHC (Lindane)	0	0.2	0.179	89.7	0.161	80.3	11	
4,4'-DDT	0	0.5	0.471	94.3	0.424	84.7	11	
Dieldrin	0	0.5	0.473	94.5	0.414	82.9	13	
Endrin	0	0.5	0.45	90	0.385	77.1	15	
Heptachlor	0	0.2	0.127	63.3	0.118	58.9	7.2	

SOUND ANALYTICAL SERVICES, INC.

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 • TELEPHONE 206-922-2310 • FAX 206-922-5047

DATA QUALIFIERS AND ABBREVIATIONS

B1: This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).

B2: This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).

C: Additional confirmation performed.

D: The reported result for this analyte is calculated based on a secondary dilution factor.

E: The concentration of this analyte exceeded the instrument calibration range.

J: The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.

MCL: Maximum Contaminant Level

MDL: Method Detection Limit

N: See analytical narrative.

ND: Not Detected

PQL: Practical Quantitation Limit

X1: Contaminant does not appear to be "typical" product. Elution pattern suggests it may be _____ .

X2: Contaminant does not appear to be "typical" product. Further testing is suggested for identification.

X3: Identification and quantification of peaks was complicated by matrix interference; GC/MS confirmation is recommended.

X4: RPD for duplicates outside advisory QC limits. Sample was re-analyzed with similar results.

X4a: RPD for duplicates outside advisory QC limits due to analyte concentration near the method practical quantitation limit/detection limit.

X5: Matrix spike was diluted out during analysis.

X6: Recovery of matrix spike was outside advisory QC limits. Sample was re-analyzed with similar results.

X7: Recovery of matrix spike outside advisory QC limits. Matrix interference is indicated by blank spike recovery data.

X7a: Recovery and/or RPD values for MS/MSD outside advisory QC limits due to high contaminant levels.

X8: Surrogate was diluted out during analysis.

X9: Surrogate recovery outside advisory QC limits due to matrix composition.

SOUND ANALYTICAL SERVICES, INC.
ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 Pacific Hwy. East
Tacoma, Washington 98424
(206) 922-2310 • FAX (206) 922-5047

CHAIN OF CUSTODY / REQUEST FOR LABORATORY ANALYSIS

CLIENT: Terra Assoc.
PROJECT NAME: T-3493
CONTACT: Chuck Lie
PHONE NO: 206-821-7777

LAB #	SAMPLE I.D.	DATE	TIME	MATRIX	# of Containers	Halogenated Volatiles EPA 601/8010	Aromatic Volatiles EPA 602/8020	Chlorinated Pest./PCB's EPA 608/8080	PAH's	Volatile Organics EPA 624/8240 (GC/MS)	Semi-volatiles EPA625/8270 (GC/MS)	TPH 418.1	Oil & Grease	Total Metals (Specify below)	TCLP Extraction: 8 Metals	TCLP Extraction: Volatiles	TCLP Extraction: Semi-volatiles	TCLP Extraction: Pesticides & Herbicides
13946-1	TP-101 @ 2	4/10/97	AM	S	1			X										
	TP-101 @ 6																	
2	TP-102 @ 2							X										
	TP-102 @ 4																	
3	TP-103 @ 2.5							X										
4	TP-104 @ 1.5							X										
	TP-104 @ 4																	
5	TP-105 @ 1							X										
	TP-105 @ 4																	
6	TP-106 @ 2							X										
	TP-106 @ 4																	
7	TP-107 @ 2							X										
	TP-107 @ 4																	
8	TP-108 @ 1							X										
	TP-108 @ 4																	

	Signature	Printed Name	Firm	Time / Date
Relinquished By	[signature]	Chuck Lie	Terra	4/10/97 1430
Received By	[signature]	Giang	~~ESS~~	4/10/97 1430
Relinquished By				
Received By				
Relinquished By				
Received By				

SPECIAL INSTRUCTIONS/COMMENTS:

These samples will be disposed of 45 days after receipt. OIC
Check this box to have samples returned ☐.

Hold all samples w/o requests - more tests will be requested

5/2

H21,

SOUND ANALYTICAL SERVICES, INC.
ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 Pacific Hwy. East
Tacoma, Washington 98424
(206) 922-2310 • FAX (206) 922-5047

CHAIN OF CUSTODY / REQUEST FOR LABORATORY ANALYSIS

CLIENT: Terra
PROJECT NAME: T-3493
CONTACT: Chuck Lie
PHONE NO:

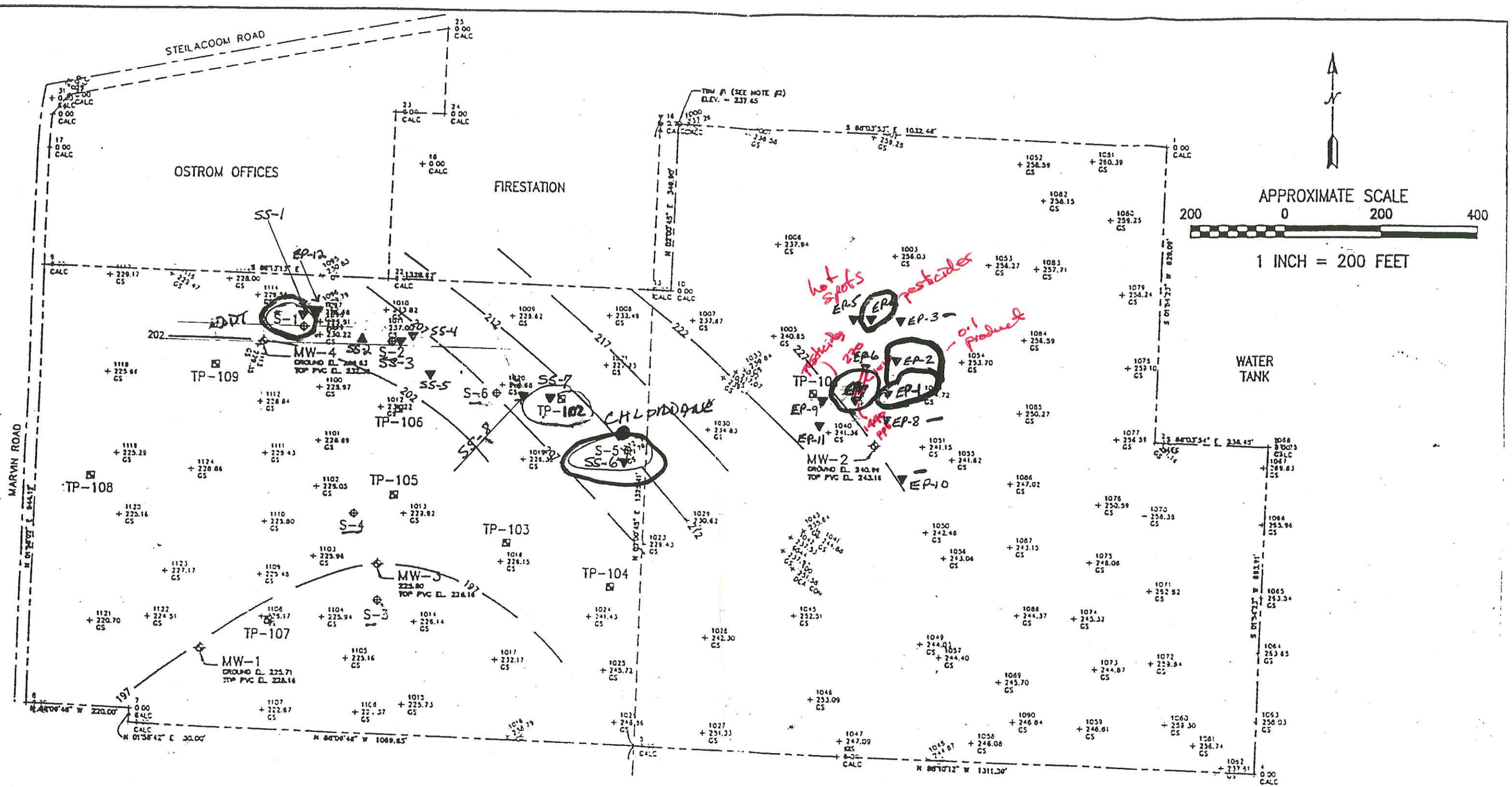
LAB #	SAMPLE I.D.	DATE	TIME	MATRIX	# of Containers	Halogenated Volatiles EPA 601/8010	Aromatic Volatiles EPA 602/8020	Chlorinated Pest., ~~PCB's~~ EPA 608/8080	PAH's	Volatile Organics EPA 624/8240 (GC/MS)	Semi-volatiles EPA625/8270 (GC/MS)	TPH 418.1	Oil & Grease	Total Metals (Specify below)	TCLP Extraction: 8 Metals	TCLP Extraction: Volatiles	TCLP Extraction: Semi-volatiles	TCLP Extraction: Pesticides & Herbicides
03446-9	TP-105@1	4/10/97	AM	S				X										
	TP-105@3	↓	↓	↓														
10	MW-1	4/10/97	1200	W	2			X										
	MW-3	↓	1145	W	2													

	Signature	Printed Name	Firm	Time / Date
Relinquished By	CAL	Chuck Lie	Terra	4/10 1430
Received By	Giang	Giang	SAS	4/10/97 1430
Relinquished By				
Received By				
Relinquished By				
Received By				

SPECIAL INSTRUCTIONS/COMMENTS:

These samples will be disposed of 45 days after receipt.
Check this box to have samples returned ☐.

PESTICIDES
OIL PRODUCT



LEGEND:

- MONITORING WELL LOCATION (LOCATION SURVEYED BY DEA)
- APPROXIMATE TEST PIT LOCATION
- APPROXIMATE SAMPLE LOCATION

REFERENCE:

BOUNDARY AND TOPOGRAPHIC WORKSHEET PREPARED BY DAVID EVANS & ASSOCIATES, JOB No. DHLX 0065, DATED 3/24/97.

NOTE:

HEAVY DASHED LINES INDICATE GROUNDWATER CONTOURS

TERRA ASSOCIATES

EXPLORATION LOCATION PLAN
MARVIN PARK VILLAGES
LACEY, WASHINGTON

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	M. Blank	SS - 9	SS - 10	SS - 11	SS - 12	SS - 12dup
Date		6/3/97	6/3/97	6/3/97	6/3/97	6/3/97	6/3/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd	nd
d-BHC	0.001	nd	nd	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	nd	nd	nd	nd	nd
Endosulfan I	0.001	nd	nd	nd	nd	nd	nd
Dieldrin	0.001	nd	nd	nd	nd	nd	nd
4,4'DDE	0.001	nd	nd	nd	nd	nd	nd
Endrin	0.001	nd	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDD	0.001	nd	nd	nd	nd	nd	nd
Endrin aldehyde	0.001	nd	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDT	0.001	nd	0.011	nd	0.006	nd	nd
Chlordane	0.100	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		100	76	88	72	81	86

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.
"--" Indicates that component co-elutes with previous component.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	SS - 13	SS - 14	M.Blank	SS - 15	SS - 16	SS - 17
Date		05/27/97	06/03/97	06/04/97	06/04/97	06/04/97	06/04/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd	nd
d-BHC	0.001	nd	0.009	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	0.006	nd	nd	nd	nd
Endosulfan I	0.001	nd	nd	nd	nd	nd	0.025
Dieldrin	0.001	nd	nd	nd	nd	nd	nd
4,4'DDE	0.001	nd	0.015	nd	0.016	0.006	0.007
Endrin	0.001	nd	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDD	0.001	nd	0.091	nd	nd	0.006	0.005
Endrin aldehyde	0.001	nd	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDT	0.001	nd	0.013	nd	0.011	nd	nd
Chlordane	0.100	nd	nd	nd	nd	nd	nd
Spike Recovery (%)		96	109	100	101	79	63

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OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	SS - 18	SS - 19	SS - 20	SS - 21	100 PPB MS	100 PPB MSD
Date		06/04/97	06/04/97	06/04/97	06/04/97	06/04/97	06/04/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	0.100	0.101
b-BHC	0.001	nd	nd	nd	nd	0.100	0.102
g-BHC	0.001	nd	nd	nd	nd	0.099	0.102
d-BHC	0.001	nd	nd	nd	nd	0.099	0.100
Heptachlor	0.001	nd	nd	nd	0.004	0.099	0.100
Aldrin	0.001	nd	nd	nd	nd	0.098	0.100
Heptachlor Epoxide	0.001	nd	nd	nd	0.009	0.099	0.100
Endosulfan I	0.001	0.032	0.024	nd	0.029	0.099	0.100
Dieldrin	0.001	nd	nd	nd	nd	0.099	0.100
4,4'DDE	0.001	0.009	0.012	0.008	0.009	0.099	0.990
Endrin	0.001	nd	nd	nd	nd	0.101	0.100
Endosulfan II	0.001	nd	nd	nd	nd	0.100	0.101
4,4'-DDD	0.001	0.013	nd	nd	0.012	0.100	0.111
Endrin aldehyde	0.001	nd	nd	nd	nd	0.098	0.920
Endosulfan sulfate	0.001	nd	nd	nd	nd	0.101	0.970
4,4'-DDT	0.001	0.005	nd	nd	0.013	0.101	0.970
Chlordane	0.100	nd	nd	nd	nd	--	--
Spike Recovery (%)		55	86	108	83	int	int

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"--" Indicates that component co-elutes with previous component.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	M. Blank	SS6 - SC	SS6 - NC	TP 102-C-1	TP 102-C-2
Date		6/12/97	6/12/97	6/12/97	6/12/97	6/12/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd
d-BHC	0.001	nd	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	nd	nd	nd	nd
Endosulfan I	0.001	nd	nd	0.041	nd	nd
Dieldrin	0.001	nd	nd	nd	0.008	0.009
4,4'DDE	0.001	nd	nd	nd	nd	nd
Endrin	0.001	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd
4,4'-DDD	0.001	nd	nd	nd	nd	nd
Endrin aldehyde	0.001	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd
4,4'-DDT	0.001	nd	nd	nd	nd	nd
Chlordane	0.100	nd	nd	0.500	0.232	0.370
Spike Recovery (%)		109	112	101	103	89

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.
"--" Indicates that component co-elutes with previous component.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	0.100 PPM MS	0.100 PPM MSD
Date		6/12/97	6/12/97
	mg/kg	mg/kg	mg/kg
a-BHC	0.001	0.092	0.089
b-BHC	0.001	0.094	0.091
g-BHC	0.001	0.094	0.092
d-BHC	0.001	0.095	0.103
Heptachlor	0.001	0.095	0.096
Aldrin	0.001	0.096	0.098
Heptachlor Epoxide	0.001	0.094	0.095
Endosulfan I	0.001	0.095	0.092
Dieldrin	0.001	0.095	0.102
4,4'DDE	0.001	0.096	0.101
Endrin	0.001	0.109	0.101
Endosulfan II	0.001	0.096	0.091
4,4'-DDD	0.001	0.093	0.094
Endrin aldehyde	0.001	0.091	0.091
Endosulfan sulfate	0.001	0.101	0.106
4,4'-DDT	0.001	0.101	0.107
Chlordane	0.100	--	--
Spike Recovery (%)		100	76

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.
"--" Indicates that component co-elutes with previous component.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Diesel and Oil in Soil by WTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Diesel mg/kg	Heavy Oil mg/kg
Meth. Blank	06/13/97	89	nd	nd
EP6-SP-1	06/13/97	86	nd	nd
EP6-SP-2	06/13/97	119	nd	nd
EP6-SP-3	06/13/97	108	nd	nd
EP6-SP-3 Dup	06/13/97	94	nd	nd
EP6-SP-4	06/13/97	93	nd	nd
MDL			20	40

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	M. Blank	EP6-SP-1	EP6-SP-2	EP6-SP-3	EP6-SP-4
Date		6/13/97	6/13/97	6/13/97	6/13/97	6/13/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd
d-BHC	0.001	nd	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	nd	nd	nd	nd
Endosulfan I	0.001	nd	0.003	nd	nd	nd
Dieldrin	0.001	nd	nd	nd	nd	nd
4,4'DDE	0.001	nd	0.020	nd	0.010	0.024
Endrin	0.001	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd
4,4'-DDD	0.001	nd	0.107	0.003	0.025	0.050
Endrin aldehyde	0.001	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd
4,4'-DDT	0.001	nd	0.116	0.003	0.096	0.017
Chlordane	0.100	nd	nd	nd	nd	nd
Spike Recovery (%)		92	92	136	81	71

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.
"--" Indicates that component co-elutes with previous component.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Gasoline, Diesel Oil and Bunker C in Soil by WTPH-Gx and WTPH-Dx/Dx-Extended

Sample Number	Date	Recovery %	Gasoline mg/kg	Diesel mg/kg	Heavy Oil mg/kg	Bunker C mg/kg
Meth. Blank	05/27/97	117	nd	nd	nd	nd
EP 1	05/27/97	127	nd	nd	nd	72000
EP 2	05/27/97	110	nd	nd	295	nd
EP 2 Dup	05/27/97	115	nd	nd	233	nd
EP 6	05/27/97	108	nd	nd	nd	nd
MDL			10	20	40	40

"nd" Indicates not detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	0.100 PPM MS	0.100 PPM MSD
Date		6/13/97	6/13/97
	mg/kg	mg/kg	mg/kg
a-BHC	0.001	0.092	0.091
b-BHC	0.001	0.094	0.095
g-BHC	0.001	0.094	0.094
d-BHC	0.001	0.095	0.102
Heptachlor	0.001	0.094	0.099
Aldrin	0.001	0.094	0.101
Heptachlor Epoxide	0.001	0.113	0.099
Endosulfan I	0.001	0.094	0.098
Dieldrin	0.001	0.096	0.097
4,4'DDE	0.001	0.096	0.097
Endrin	0.001	0.097	0.109
Endosulfan II	0.001	0.094	0.099
4,4'-DDD	0.001	0.097	0.096
Endrin aldehyde	0.001	0.082	0.096
Endosulfan sulfate	0.001	0.099	0.109
4,4'-DDT	0.001	0.099	0.110
Chlordane	0.100	--	--
Spike Recovery (%)		int	int

"nd" Indicates Not Detected at the listed detection limit.
"int" Indicates that interference peaks prevent determination.
"--" Indicates that component co-elutes with previous component.

TRANSGLOBAL ENVIRONMENTAL GEOSCIENCES NORTHWEST INC.

OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	M. Blank	SS - 1	SS - 2	SS - 3	SS - 4	SS - 5
Date		05/27/97	05/27/97	05/27/97	05/27/97	05/27/97	05/27/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd	nd
d-BHC	0.001	nd	nd	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	0.011	nd	0.015	0.012	nd
Endosulfan I	0.001	nd	nd	nd	nd	nd	nd
Dieldrin	0.001	nd	nd	nd	nd	nd	nd
4,4'DDE	0.001	nd	0.456	0.050	0.058	0.192	0.162
Endrin	0.001	nd	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDD	0.001	nd	0.260	0.005	0.010	0.125	0.076
Endrin aldehyde	0.001	nd	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd	nd
4,4'-DDT	0.001	nd	0.888	0.030	0.025	0.230	0.048
Chlordane	0.100	nd	nd	nd	nd	0.13	nd
Spike Recovery (%)		100	96	144	92	88	103

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OSTROMS PROPERTY PROJECT
Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	SS - 6	SS - 7	SS - 8	SS - 8 Dup	
Date		05/27/97	05/27/97	05/27/97	05/27/97	
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
a-BHC	0.001	nd	nd	nd	nd	
b-BHC	0.001	nd	nd	nd	nd	
g-BHC	0.001	nd	nd	nd	nd	
d-BHC	0.001	nd	nd	nd	nd	
Heptachlor	0.001	0.102	nd	nd	nd	
Aldrin	0.001	0.290	nd	nd	nd	
Heptachlor Epoxide	0.001	0.262	nd	nd	nd	
Endosulfan I	0.001	nd	nd	nd	nd	
Dieldrin	0.001	nd	nd	nd	nd	
4,4'DDE	0.001	0.376	0.042	0.312	0.350	
Endrin	0.001	nd	nd	nd	nd	
Endosulfan II	0.001	nd	nd	nd	nd	
4,4'-DDD	0.001	0.190	0.078	0.418	0.348	
Endrin aldehyde	0.001	nd	nd	nd	nd	
Endosulfan sulfate	0.001	0.046	nd	nd	nd	
4,4'-DDT	0.001	0.158	0.037	0.042	0.068	
Chlordane	0.100	6.86	nd	0.34	0.40	
Spike Recovery (%)		111	94	123	101	

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Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	EP - 1	EP - 2	EP - 3	EP - 4	EP - 5
Date		05/27/97	05/27/97	05/27/97	05/27/97	05/27/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	<.020	nd	nd	nd	nd
b-BHC	0.001	<.020	nd	nd	nd	nd
g-BHC	0.001	<.020	nd	nd	nd	nd
d-BHC	0.001	<.020	nd	nd	nd	nd
Heptachlor	0.001	<.020	nd	nd	nd	nd
Aldrin	0.001	<.020	nd	nd	nd	nd
Heptachlor Epoxide	0.001	<.020	nd	nd	nd	nd
Endosulfan I	0.001	<.020	nd	nd	nd	nd
Dieldrin	0.001	<.020	nd	nd	nd	nd
4,4'DDE	0.001	<.020	nd	0.096	0.224	0.035
Endrin	0.001	<.020	nd	nd	nd	nd
Endosulfan II	0.001	<.020	nd	nd	nd	nd
4,4'-DDD	0.001	<.020	nd	0.434	0.762	0.086
Endrin aldehyde	0.001	<.020	nd	nd	nd	nd
Endosulfan sulfate	0.001	<.020	nd	nd	nd	nd
4,4'-DDT	0.001	<.020	nd	0.336	1.04	0.008
Chlordane	0.100	<.020	nd	nd	nd	nd
Spike Recovery (%)		int	107	110	114	114

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Olympia, Washington
Stemen Environmental, Inc.

Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	EP - 6	EP - 7	EP - 8	EP - 9	EP - 10
Date		05/27/97	05/27/97	05/27/97	05/27/97	05/27/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	nd	nd
b-BHC	0.001	nd	nd	nd	nd	nd
g-BHC	0.001	nd	nd	nd	nd	nd
d-BHC	0.001	nd	nd	nd	nd	nd
Heptachlor	0.001	nd	nd	nd	nd	nd
Aldrin	0.001	nd	nd	nd	nd	nd
Heptachlor Epoxide	0.001	nd	nd	nd	nd	nd
Endosulfan I	0.001	nd	nd	nd	nd	nd
Dieldrin	0.001	nd	nd	nd	nd	nd
4,4'DDE	0.001	0.162	0.390	0.158	0.184	0.298
Endrin	0.001	nd	nd	nd	nd	nd
Endosulfan II	0.001	nd	nd	nd	nd	nd
4,4'-DDD	0.001	0.332	1.440	0.266	0.540	0.246
Endrin aldehyde	0.001	nd	nd	nd	nd	nd
Endosulfan sulfate	0.001	nd	nd	nd	nd	nd
4,4'-DDT	0.001	0.088	1.620	0.370	0.094	0.548
Chlordane	0.100	nd	nd	nd	nd	nd
Spike Recovery (%)		109	105	97	119	109

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OSTROMS PROPERTY PROJECT
Olympia, Washington
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Chlorinated Pesticides by EPA Method 8080

Sample-Number	MDL	EP - 11	EP - 12	EP - 12 Dup	0.1 PPM MS	0.1 PPM MSD
Date		05/27/97	05/27/97	05/27/97	05/27/97	05/27/97
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
a-BHC	0.001	nd	nd	nd	0.105	0.098
b-BHC	0.001	nd	nd	nd	0.104	0.100
g-BHC	0.001	nd	nd	nd	0.104	0.100
d-BHC	0.001	nd	nd	nd	0.103	0.097
Heptachlor	0.001	nd	nd	nd	0.103	0.097
Aldrin	0.001	nd	nd	nd	0.103	0.094
Heptachlor Epoxide	0.001	nd	nd	nd	0.102	0.106
Endosulfan I	0.001	nd	nd	nd	0.100	0.095
Dieldrin	0.001	nd	nd	nd	0.101	0.094
4,4'DDE	0.001	0.024	0.023	0.033	0.101	0.095
Endrin	0.001	nd	nd	nd	0.113	0.094
Endosulfan II	0.001	nd	nd	nd	0.101	0.094
4,4'-DDD	0.001	nd	0.022	0.016	0.105	0.102
Endrin aldehyde	0.001	nd	nd	nd	0.830	0.092
Endosulfan sulfate	0.001	nd	nd	nd	0.950	0.095
4,4'-DDT	0.001	nd	0.032	0.019	0.950	0.094
Chlordane	0.100	nd	nd	nd	--	nd
Spike Recovery (%)		118	91	118	int	int

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