



Tosco Marketing Company
2000 Crow Canyon Place, Ste. 400
San Ramon, California 94583
Telephone: 510-277-2305
Facsimile: 510-277-2361

Environmental Compliance
Department

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4089

January 22, 1998

Alameda County Health
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

RE: Results of a Soil Gas Survey

The service station sites referenced below are assets recently acquired on April 1, 1997, from Union Oil Company of California ("Unocal") by Tosco Corporation ("Tosco").

Attached for your information are copies of soil gas survey reports that were prepared as part of due diligence activities associated with the acquisition.

If you have any questions about these reports please contact Tina Berry at (510) 277-2321.

Sincerely,

Tina Berry
Tina Berry
Tosco Marketing Company

c: Max Boone, TRC Avon
Bob Staab, TMC Phoenix

Reports enclosed for:

76 Branded Station: #7124	10151 E 14 th Street	Oakland, CA
#5394	2267 Lincoln Avenue	Alameda, CA
#4625	3070 Fruitvale Avenue	Oakland, CA
#4186	1771 First Street	Livermore, CA
#3955	14794 Washington Ave.	San Leandro, CA
#3770	3020 Grove Way	Castro Valley, CA - 94546
#3737	1400 Powell Street	Emeryville, CA
#3443	3374 Grand Avenue	Oakland, CA
#1156	4276 MacArthur Blvd.	Oakland, CA

Soil Gas Survey Results

**UNOCAL Service Station 3770
3020 Grove Way
Castro Valley, California**

Prepared for

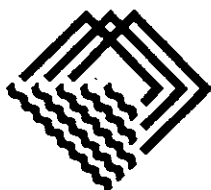
Tosco Marketing Company

October 29, 1997

Prepared by

Pacific Environmental Group, Inc.
2025 Gateway Place, Suite 440
San Jose, California 95110

Project 311-163.1A



PACIFIC
ENVIRONMENTAL
GROUP, INC.

**SOIL GAS SURVEY RESULTS
FOR
UNOCAL SERVICE STATION 3770
CASTRO VALLEY, CALIFORNIA**

INTRODUCTION

This report presents the results of a soil gas survey completed at UNOCAL Service Station 3770. The soil gas survey was performed by Pacific Environmental Group, Inc. (PACIFIC) on September 17, 1997. The work was performed in accordance with a scope of work prepared by Tosco Marketing Company (Tosco), dated August 25, 1997.

The purpose of the soil gas survey is to provide baseline data regarding the occurrence of petroleum hydrocarbon vapors in soil near potential source areas at the site referenced above. This report presents a discussion of field data collection methods and analytical procedures, and the survey results. The following information is attached to this report; a Field Data Sheet, a Site Plan, a Soil Gas Sampling Analysis Report, and chain-of-custody documentation for the soil gas samples.

FIELD AND LABORATORY PROCEDURES

The scope of work included the following procedures: (1) perform a presurvey site visit to mark soil gas probe locations for utility clearance, (2) collect organic vapor measurements from beneath product dispensers and within manways for the underground storage tank (UST) turbines, (3) collect soil vapor samples from near USTs, product islands, and product lines, and (4) submit soil gas samples to Sequoia Analytical Laboratories for chemical analyses. These procedures are described below in further detail.

Prefield Preparation

Prior to initiating the soil gas survey, PACIFIC personnel performed a site visit to mark proposed probe locations, check accessibility, and to notify the UNOCAL station manager of the proposed survey schedule. Probe locations were selected based on PACIFIC's understanding of underground facilities as shown on the attached Site Plan which was provided by Tosco. In some cases probe locations were adjusted in the field to avoid overhead or under-

ground obstructions that were not noted on the site plan. Underground Service Alert was notified to clear each probe location for underground utilities.

Field Data Collection

The level of volatile organic vapors were measured from beneath product dispensers and within turbine manways using a HNU PI-101 photo-ionization detector (PID). A PACIFIC field technician opened each product dispenser and turbine manway and collected a PID measurement from soil immediately below each dispenser or turbine at a height of approximately 1/2-inch above the exposed soil. If native soil was not exposed, then this observation was recorded on the Field Data Sheet and PID measurements were not collected.

PID measurements and field observations are recorded on the attached Field Data Sheet. The location of each PID reading is shown on the attached site plan.

Soil Gas Survey

On September 17, 1997, a PACIFIC staff technician directed the installation of 7 soil gas probes in the vicinity of USTs, product islands, and product lines at the site referenced above. The approximate location and designation of each soil gas probe is shown on the attached Site Plan. Sample collection depths are noted on the attached Field Data Sheet.

Two samples were collected from the area of the UST complex at depths ranging from 3 feet to 15 feet.

Five soil gas samples were collected adjacent to the product dispenser islands at depths of approximately 3 feet. Soil gas samples were not collected along the product lines because either line locations could not be field verified, or less than 20 linear feet of product exists between the UST complex and product island.

The soil gas survey consisted of driving a 1/2-inch diameter hollow steel probe into unsaturated soils at each sampling location. The end of the driven probe was fitted with a small screened interval with protective cover. The probes were driven into the soil with pneumatic equipment. Upon reaching the desired depth the outer protective casing was retracted to allow the screened interval to be exposed to the soils. Soil gas samples were drawn from the probe by means of a vacuum pump through a probe head fitting and a silastic tubing sample line. The soil gas probe was purged of vapors for approximately 3 minutes prior to sample collection. A soil gas sample was then collected into a clean 1-liter Tedlar bag. Each Tedlar bag was labeled with the appropriate sample designation, date of sample, and UNOCAL station number and stored in a cool dark box. The samples were submitted to Sequoia Analytical Laboratories within 24 hours of sample collection.

Upon completion of the sampling procedures the probes were removed and the probe holes were backfilled to the surface with a neat cement seal.

Laboratory Procedures

Soil gas samples were submitted under appropriate chain-of-custody documentation to Sequoia Analytical Laboratories, a Tosco-approved state-certified analytical laboratory. The samples were analyzed for total purgeable petroleum hydrocarbons calculated as gasoline in accordance with EPA Method 8015 (modified), and benzene, toluene, ethylbenzene, xylenes, and methyl-tert butyl ether (MtBE) in accordance with EPA Method 8020. Additionally, if MtBE was detected, the soil gas sample indicating the highest MtBE concentration by EPA Method 8020, was analyzed in accordance with EPA Method 8260, to confirm the presence of MtBE.

FINDINGS

The soil gas survey findings are presented on the attached Field Data Sheet and Soil Gas Sample Analysis Report.

CLOSING

This report and all field activities described within were performed by the staff of PACIFIC under the professional supervision of the project geologist whose signature appears hereon.

Should you have any questions concerning the contents of this report, please call.

Sincerely,

Pacific Environmental Group, Inc.

Joseph Muzzio
Project Geologist
CEG 1672

Attachments: Field Data Sheet
Soil Gas Sample Analysis Report
Chain-of-Custody Documentation
Site Plan

Tosco Marketing Company
Field Data Sheet

Baseline Augmentation
Unocal Service Station Sites

Facility No.: # 3770
Location: GROVE / CENTER
Date Sampled: 9.29.97

Sampler: PAUL WEINHART
Time On Site: 11:00
Weather: Sunny

UST Samples (Sample Designation: T-1, T-2,...)/Former UST Samples (Sample Designation: (FT-1, FT-2,...))

Sample ID	PID Reading (ppm)	Air Sample Collected (Yes/No)	Sample Depth (feet)	Comments (NPO, FPO, MPO, SPO)
T-1	0	Yes	3'	NO ODOOR
T-2	—	Yes	15'	↓

Dispenser Island Samples (Sample Designation: D-1, D-2,...)

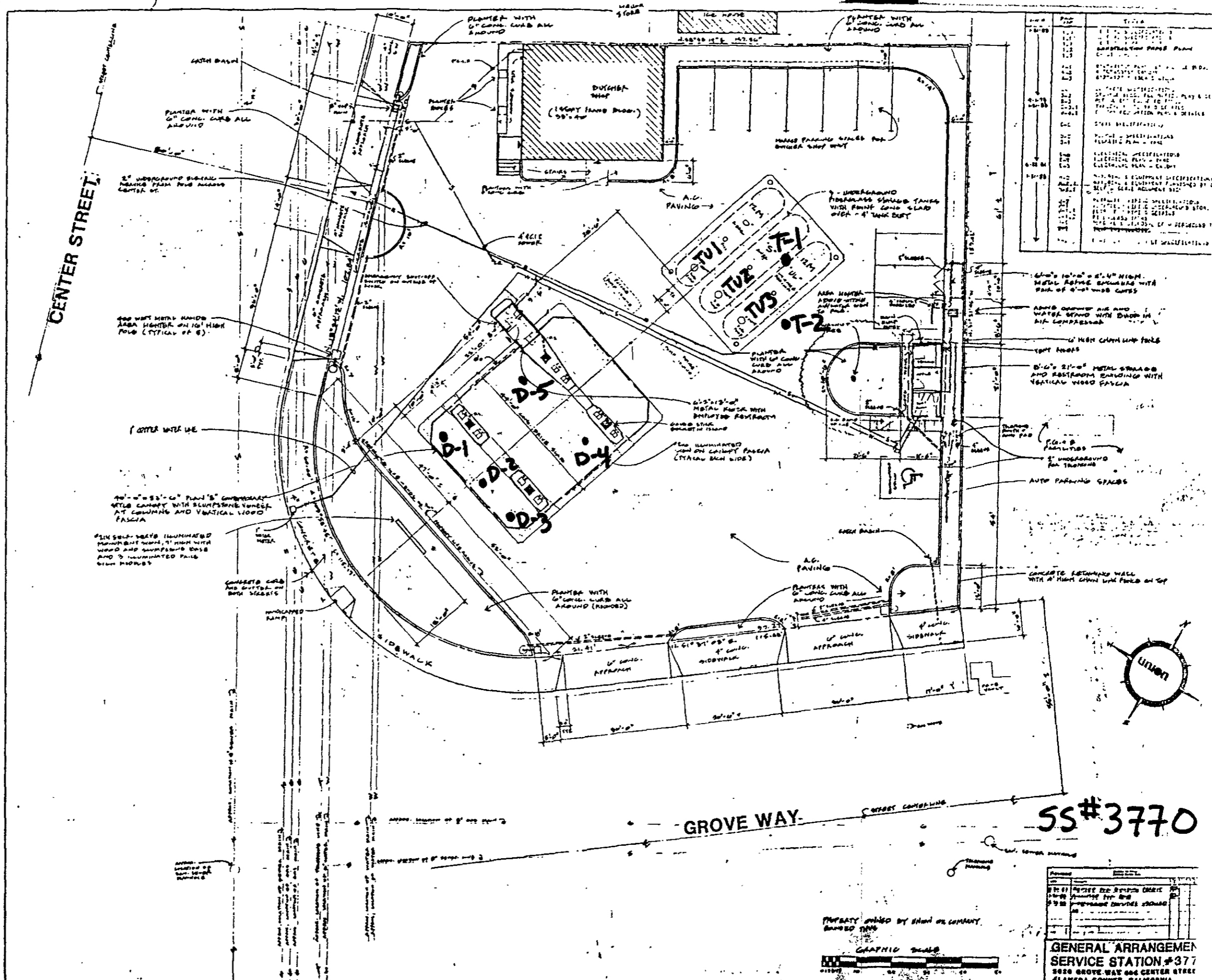
Sample ID	PID Reading (ppm)	Air Sample Collected (Yes/No)	Sample Depth (feet)	Comments (NPO, FPO, MPO, SPO)
D-1	—	Yes	3'	—
D-2	—	Yes	3'	—
D-3	—	Yes	3'	—
D-4	—	Yes	3'	—
D-5	—	Yes	3'	—

Product Lines (Sample Designation: P-1, P-2,...)

Sample ID	PID Reading (ppm)	Air Sample Collected (Yes/No)	Sample Depth (feet)	Comments (NPO, FPO, MPO, SPO)
		NONE		

Product Dispensers (Sample Designation: PD-1, PD-2,...) /UST Turbines (Sample Designation TU-1, TU-2)

Sample ID	PID Reading (ppm)	Air Sample Collected (Yes/No)	Exposed Soil (Yes/No)	Comments (NPO, FPO, MPO, SPO)
TU-1	—	NO	NO	—
TU-2	—	NO	NO	—
TU-3	—	NO	NO	—
5 DISPENSERS	—	NO	NO	BRAVO BOX



NO.	DATE	REVISION
1	10-1-58	PRELIMINARY PLAN
2	10-1-58	REVISIONS TO PRELIMINARY PLAN
3	10-1-58	REVISIONS TO PRELIMINARY PLAN
4	10-1-58	REVISIONS TO PRELIMINARY PLAN
5	10-1-58	REVISIONS TO PRELIMINARY PLAN
6	10-1-58	REVISIONS TO PRELIMINARY PLAN
7	10-1-58	REVISIONS TO PRELIMINARY PLAN
8	10-1-58	REVISIONS TO PRELIMINARY PLAN
9	10-1-58	REVISIONS TO PRELIMINARY PLAN
10	10-1-58	REVISIONS TO PRELIMINARY PLAN
11	10-1-58	REVISIONS TO PRELIMINARY PLAN
12	10-1-58	REVISIONS TO PRELIMINARY PLAN
13	10-1-58	REVISIONS TO PRELIMINARY PLAN
14	10-1-58	REVISIONS TO PRELIMINARY PLAN
15	10-1-58	REVISIONS TO PRELIMINARY PLAN
16	10-1-58	REVISIONS TO PRELIMINARY PLAN
17	10-1-58	REVISIONS TO PRELIMINARY PLAN
18	10-1-58	REVISIONS TO PRELIMINARY PLAN
19	10-1-58	REVISIONS TO PRELIMINARY PLAN
20	10-1-58	REVISIONS TO PRELIMINARY PLAN

SS#3770

PROPERTY OWNED BY STATE OF CALIFORNIA
 DATED 1956

GRAPHIC SCALE

GENERAL ARRANGEMENT
 SERVICE STATION #377
 3020 GROVE WAY AND CENTER STREET
 ALAMEDA COUNTY, CALIFORNIA

SOIL GAS SAMPLE ANALYSIS REPORT

OCT 02 1997

TOSCO BASELINE SOIL GAS SURVEY

Site Number: 3770

Date Sampled: 9/12/97

Date(s) Analyzed: 9/12/97

City / State: Castro Valley / CA

FAX (415) 364-9233
FAX (510) 988-9673
FAX (916) 921-0100

(415) 364-9600
(510) 988-9600
(916) 921-9600

Redwood City, CA 94063
Walnut Creek, CA 94598
680 Chesapeake Drive
404 N. Wiget Lane
819 Striker Avenue, Suite 8
Sacramento, CA 95834


Sequoia Analytical



Analytical Results From Sequoia Analytical

#	Sample ID	TPH - Gas	Benzene	Toluene	Reporting Units: µg/L			% RECOVERY	
					Ethyl Benzene	Total Xylenes	GC MTBE	GC/MS MTBE	GC Surrogate
1	T - 1	<10	<0.50	<0.50	<0.50	0.58	<2.5	--	100
2	T - 2	95	0.81	<0.50	2.7	5.3	<2.5	--	131
3	D - 1	270	6.8	14	4.9	14	90	5.6	140
4	D - 2	63	0.50	<0.50	1.4	4.4	<2.5	--	134
5	D - 3	50	<0.50	<0.50	1.5	3.0	<2.5	--	80
6	D - 4	130	0.63	0.96	2.3	6.9	<2.5	--	103
7	D - 5	76	<0.50	0.57	2.6	4.7	<2.5	--	97
	Method Blank	<10	<0.50	<0.50	<0.50	<0.50	<2.5	--	119

SEQUOIA ANALYTICAL, #1271


Alan B. Kemp
 Laboratory Director

Consultant Company: PACIFIC ENVIRONMENTAL Project Name: GROVE / CENTER
 Address: 2025 GATEWAY PI #440 UNOCAL Project Manager: TINA BERRY / Baseline Augmentation
 City: SAN JOSE State: CA Zip Code: 95110 AFE #: 3770
 Telephone: 408 991 7500 FAX #: 408 441 7539 Site #, City, State: 3770 CASTRO VALLEY
 Report To: JOE MUZZIO Sampler: PAUL WEINHART QC Data: Level D (Standard) Level C Level B Level A

Turnaround 10 Work Days 5 Work Days 3 Work Days
 Time: 2 Work Days 1 Work Day 2-8 Hours
 CODE: Misc. Detect. Eval. Remed. Demol. Closure

Drinking Water Waste Water Other
 Analyses Requested

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	8090/8020 MTBE DISTINCTION										Comments			
1. J-1	9.12.97	AIR	1	Bag	7090940	X	X												CONFIRM
2. J-2	↓	↓	↓	↓	7090941	↓	↓												HIGHEST
3. D-1	↓	↓	↓	↓	7090942	↓	↓												MTBE
4. D-2	↓	↓	↓	↓	7090943	↓	↓												BY 8260
5. D-3	↓	↓	↓	↓	7090944	↓	↓												FR
6. D-4	↓	↓	↓	↓	7090945	↓	↓												
7. D-5	↓	↓	↓	↓	7090946	↓	↓												
8.																			
9.																			
10.																			

Relinquished By: <u>Paul Weinhardt</u>	Date: <u>9.12.97</u>	Time: <u>1335</u>	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By Lab: <u>[Signature]</u>	Date: <u>9/12/97</u>	Time: <u>1335</u>

Were Samples Received in Good Condition? Yes No
 Samples on Ice? Yes No
 Method of Shipment _____
 Page ___ of ___

To be completed upon receipt of report:
 1) Were the analyses requested on the Chain of Custody reported? Yes No If no, what analyses are still needed? _____
 2) Was the report issued within the requested turnaround time? Yes No If no, what was the turnaround time? _____
 Approved by: _____ Signature: _____ Company: _____ Date: _____

Pink - Client

Yellow - Laboratory

White - Laboratory