M P D S
SERVICES, INCORPORATED

MPDS-UN3690-01
February 15, 1994

Unocal Corporation
2000 Crow Canyon Place, Suite 400
P.O. Box 5155
San Ramon, California 94583

Attention: Mr. Edward C. Ralston

RE: Semi-Annual Data Report
Unocal Service Station #3690
14999 Farnsworth Street
San Leandro, California

Dear Mr. Ralston:

This data report presents the results of the most recent monitoring and sampling of the monitoring wells at the referenced site by MPDS Services, Inc.

RECENT FIELD ACTIVITIES

The monitoring wells that were monitored and sampled during this semi-annual period are indicated in Table 1. Prior to sampling, the wells were checked for depth to water and the presence of free product or sheen. The monitoring data and the ground water elevations are summarized in Table 1. The ground water flow direction during the most recent semi-annual period is shown on the attached Figure 1.

Ground water samples were collected on January 22, 1994. Prior to sampling, the wells were each purged of between 14 and 15.5 gallons of water. During purging operations, the field parameters pH, temperature, and electrical conductivity were recorded and are presented in Table 2. Once the field parameters were observed to stabilize, and where possible, a minimum of approximately four casing volumes had been removed from each well, samples were then collected using a clean Teflon bailer. The samples were decanted into clean VOA vials and/or one-liter amber bottles, as appropriate, which were then sealed with Teflon-lined screw caps, labeled, and stored in a cooler, on ice, until delivery to a state-certified laboratory.

ANALYTICAL RESULTS

The ground water samples were analyzed at Sequoia Analytical Laboratory and were accompanied by properly executed Chain of Custody documentation. The analytical results of the ground water samples collected to date are summarized in Table 3. The concen-

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Concord, California 94520
Tel: (510) 602-5120 Fax: (510) 689-1918

trations of Total Petroleum Hydrocarbons (TPH) as gasoline and benzene detected in the ground water samples collected during this semi-annual period are shown on the attached Figure 2. Copies of the laboratory analytical results and the Chain of Custody documentation are attached to this report.

DISTRIBUTION

A copy of this report should be sent to Ms. Pamela Evans of the Alameda County Health Care Services Agency, and to Mr. Richard Hiett of the Regional Water Quality Control Board, San Francisco Bay Region.

If you have any questions regarding this report, please do not hesitate to call at (510) 602-5120.

Sincerely,

MPDS Services, Inc.

Talin Kaloustian
Staff Engineer

Joel G. Greger, C.E.G.
Senior Engineering Geologist

License No. EG 1633
Exp. Date 6/30/94

/dlh

Attachments: Tables 1, 2 & 3
Location Map
Figures 1 & 2
Laboratory Analyses
Chain of Custody documentation

cc: Mr. Cliff Garratt, GeoStrategies, Inc.

TABLE 1

SUMMARY OF MONITORING DATA

Well #	Ground Water Elevation (feet)	Depth to Water (feet)◆	Product Thickness (feet)	Sheen	Water Purged (gallons)	Total Well Depth (feet)◆
(Monitored and Sampled on January 22, 1994)						
U-1	7.39	9.10	0	No	14	29.45
U-2	8.26	8.22	0	No	15.5	30.30
U-3	7.68	9.64	0	No	14	29.80
(Monitored and Sampled on August 9, 1993)						
U-1	6.90	10.34	0			
U-2	7.76	9.09	0			
U-3	7.19	10.57	0			
(Monitored and Sampled on January 25, 1993)						
U-1	10.13	7.11	0			
U-2	10.01	6.84	0			
U-3	10.23	7.53	0			

Well #	Well Cover Elevation (feet)*	Well Casing Elevation (feet)**
U-1	17.24	16.49
U-2	16.85	16.48
U-3	17.76	17.32

TABLE 1 (Continued)

SUMMARY OF MONITORING DATA

◆ The depth to water level and total well depth measurements were taken from the top of the well casings. Prior to January 22, 1994, the depth to water level and total well depth measurements were taken from the top of the well covers.

* The elevations of the top of the well covers have been surveyed relative to Mean Sea Level (MSL).

** Relative to MSL.

Note: Monitoring data prior to January 22, 1994, were provided by GeoStrategies, Inc.

TABLE 2

RECORD OF THE TEMPERATURE, CONDUCTIVITY, AND pH VALUES
IN THE MONITORING WELLS DURING PURGING AND PRIOR TO SAMPLING

(Measured on January 22, 1994)

Well #	Gallons per Casing Volume	Time	Gallons Purged	Casing Volumes Purged	Temperature (°F)	Conductivity ([μmhos/cm] x100)	pH
U-1	3.45	12:49	3.5	1.01	69.6	4.86	8.10
			7	2.03	68.8	4.78	7.94
			10.5	3.04	69.4	5.10	7.76
		13:01	14	4.06	69.4	5.45	7.69
U-2	3.75	11:08	4	1.07	66.2	4.74	7.98
			8	2.13	68.1	4.84	7.83
			12	3.20	68.5	5.15	7.75
		11:20	15.5	4.13	68.8	5.13	7.74
U-3	3.42	12:05	3.5	1.02	68.9	4.98	8.03
			7	2.05	68.9	5.53	7.76
			10.5	3.07	69.3	5.78	7.66
		12:17	14	4.09	69.4	5.97	7.58

TABLE 3

SUMMARY OF LABORATORY ANALYSES
WATER

Date	Well #	TPH as Gasoline	Benzene	Toluene	Ethyl-benzene	Xylenes
1/22/94	U-1	ND	ND	ND	ND	ND
	U-2	ND	ND	0.82	ND	2.1
	U-3	ND	0.92	ND	ND	ND
8/09/93	U-1	110*	ND	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3	ND	1.0	ND	ND	ND
1/25/93	U-1	ND	13	ND	6.4	12
	U-2	ND	ND	ND	ND	ND
	U-3	ND	ND	ND	ND	ND
11/23/92	U-1	ND	ND	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3	ND	2.4	ND	ND	ND
8/20/92	U-1	ND	ND	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3	ND	3.6	ND	ND	ND
5/01/92	U-1	ND	0.8	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3	ND	1.2	ND	ND	ND
2/12/92	U-1	ND	ND	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3	ND	1.7	ND	ND	ND
9/30/91	U-1	ND	ND	ND	ND	ND
	U-2	ND	ND	ND	ND	ND
	U-3**	ND	ND	ND	ND	ND

TABLE 3 (Continued)

SUMMARY OF LABORATORY ANALYSES
WATER

* The concentration reported as gasoline is primarily due to the presence of a discrete peak not indicative of gasoline.

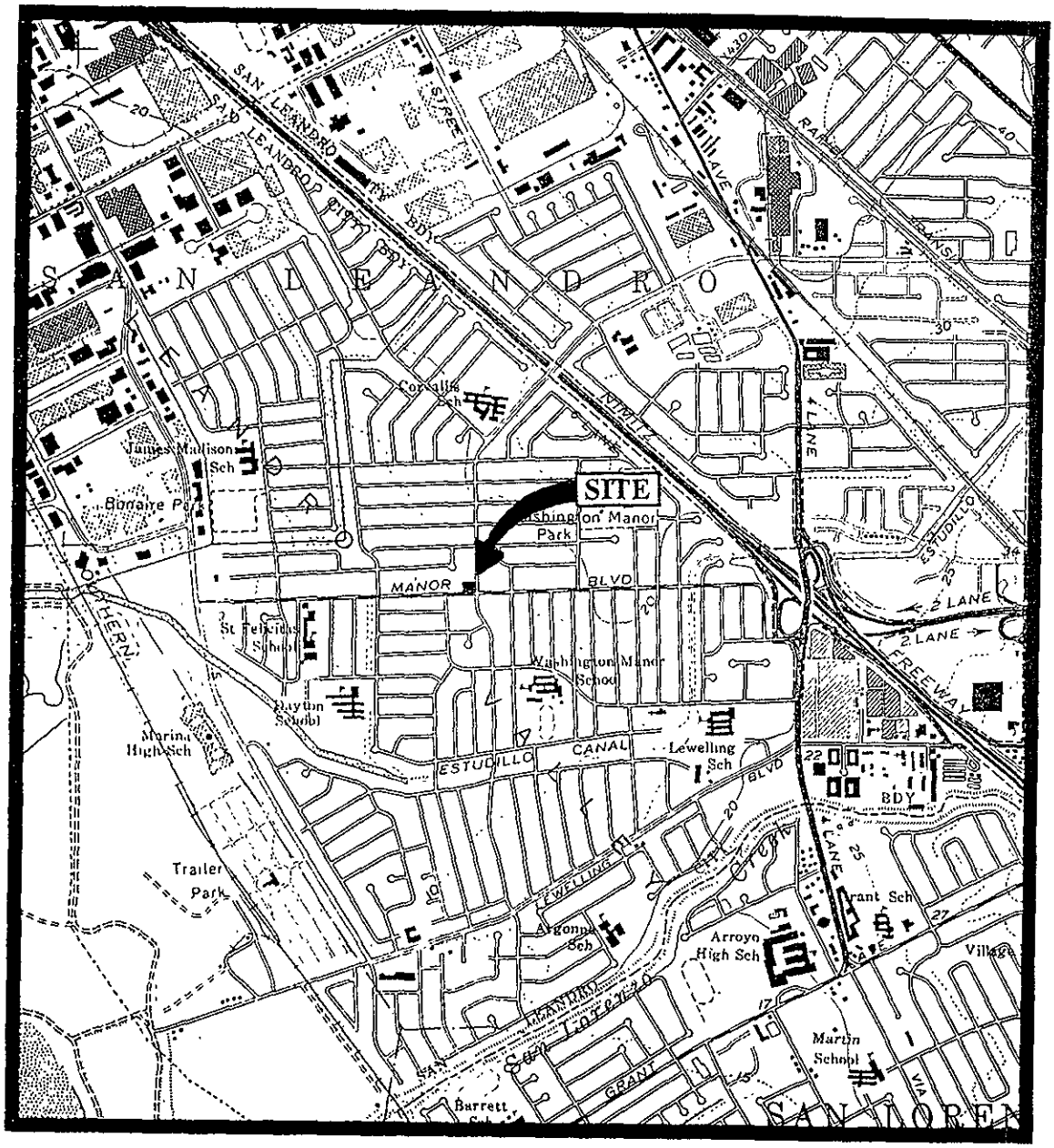
** Oil and Grease concentrations were non-detectable.

ND = Non-detectable.

-- Indicates analysis was not performed.

Results are in micrograms per liter ($\mu g/L$), unless otherwise indicated.

Note: Laboratory analyses data prior to January 22, 1994, were provided by GeoStrategies, Inc.

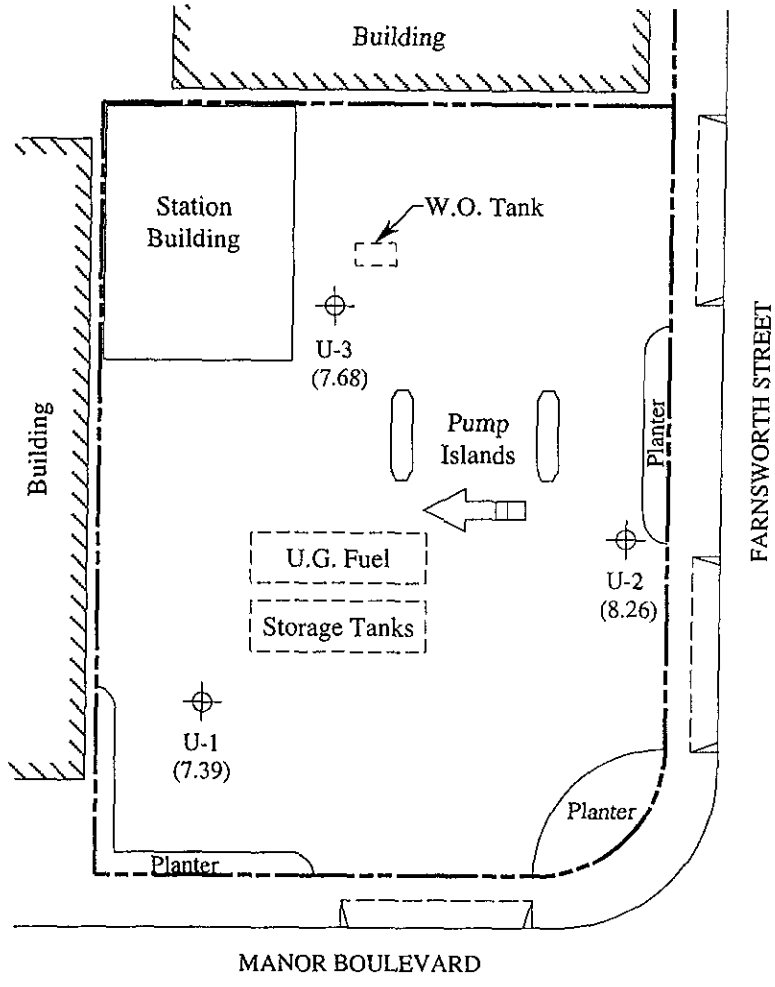


Base modified from 7.5 minute U.S.G.S. San Leandro Quadrangle
(photorevised 1980)

0 2000 4000

Approx. scale feet

MPDS SERVICES, INCORPORATED	**UNOCAL SERVICE STATION #3690** **14999 FARNSWORTH STREET** **SAN LEANDRO, CALIFORNIA**	**LOCATION MAP**



LEGEND

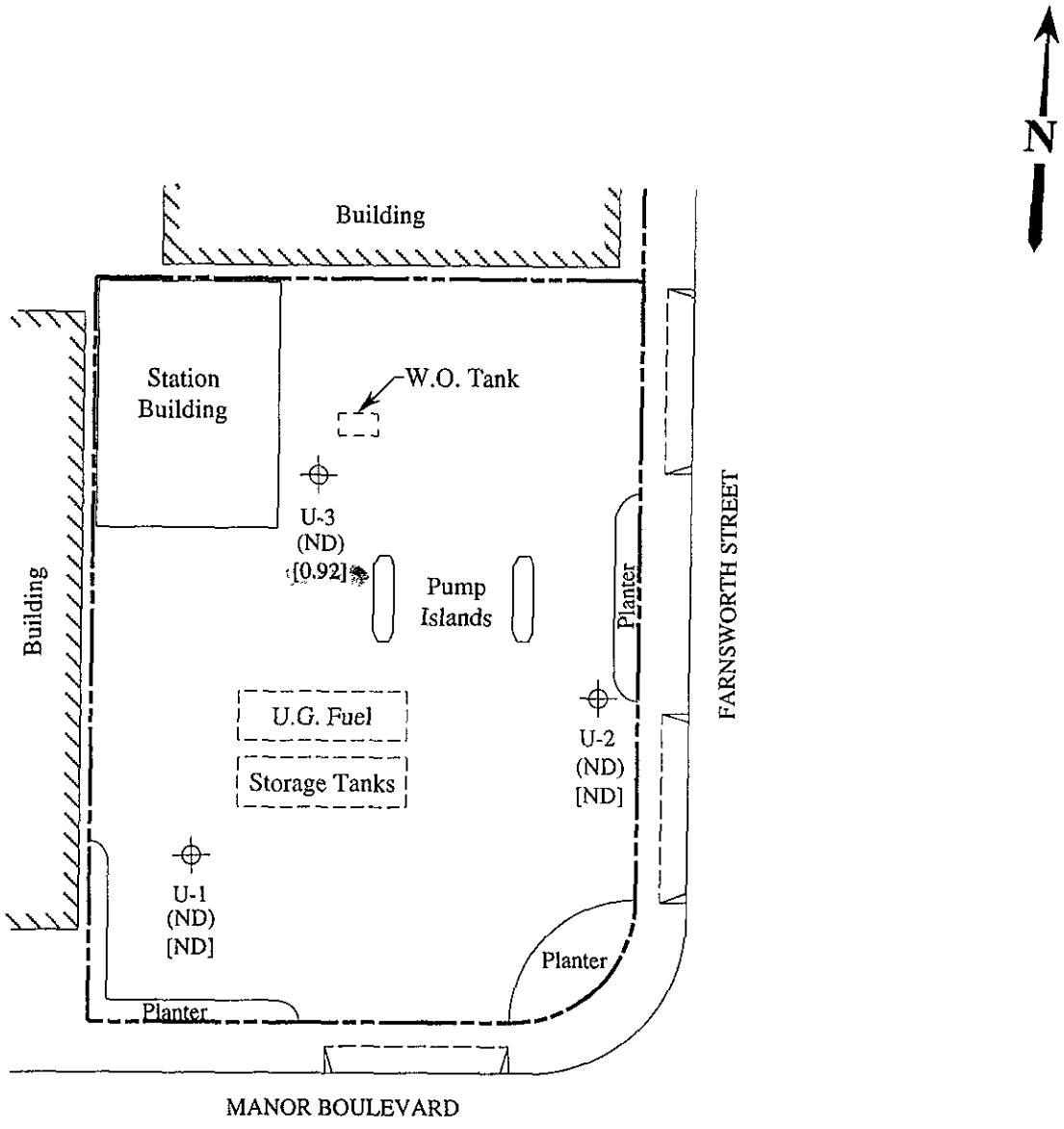
- Monitoring well
- ( ) Ground water elevation in feet above Mean Sea Level
- Direction of ground water flow

0 30 60

Approx. scale feet

GROUND WATER FLOW DIRECTION MAP FOR THE JANUARY 22, 1994 MONITORING EVENT

MPDS SERVICES, INC.	**UNOCAL SERVICE STATION #3690** **14999 FARNSWORTH STREET** **SAN LEANDRO, CALIFORNIA**	FIGURE **1**



LEGEND

- ⊕ Monitoring well
- ( ) Concentration of TPH as gasoline in µg/L
- [ ] Concentration of benzene in µg/L

ND = Non-detectable

0 30 60

Approx. scale feet

PETROLEUM HYDROCARBON CONCENTRATIONS IN GROUND WATER ON JANUARY 22, 1994

M P D S SERVICES, INC.	**UNOCAL SERVICE STATION #3690** **14999 FARNSWORTH STREET** **SAN LEANDRO, CALIFORNIA**	FIGURE **2**

SEQUOIA ANALYTICAL

1900 Bates Avenue • Suite LM • Concord, California 94520
(510) 686-9600 • FAX (510) 686-9689

MPDS Services, Inc.	Client Project ID:	Unocal #3690, 14999 Farnsworth St.,		Sampled:	Jan 22, 1994
2401 Stanwell Dr., Ste. 400	Sample Matrix:	Water	San Leandro	Received:	Jan 22, 1994
Concord, CA 94520	Analysis Method:	EPA 5030/8015/8020		Reported:	Feb 7, 1994
Attention: Avo Avedissian	First Sample #:	401-1169			

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 401-1169 U1	Sample I.D. 401-1170 U2	Sample I.D. 401-1171 U3	Sample I.D. Method Blank
Purgeable Hydrocarbons	50	N.D.	N.D.	N.D.	
Benzene	0.5	N.D.	N.D.	0.92	
Toluene	0.5	N.D.	0.82	N.D.	
Ethyl Benzene	0.5	N.D.	N.D.	N.D.	
Total Xylenes	0.5	N.D.	2.1	N.D.	
Chromatogram Pattern:		--	--	--	

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	1.0
Date Analyzed:	1/28/94	1/28/94	1/28/94	1/28/94
Instrument Identification:	HP-5	HP-5	HP-5	HP-5
Surrogate Recovery, %: (QC Limits = 70-130%)	96	101	98	104

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

SEQUOIA ANALYTICAL

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MPDS Services, Inc.
2401 Stanwell Dr., Ste. 400
Concord, CA 94520
Attention: Avo Avedissian

Client Project ID: Unocal #3690, 14999 Farnsworth St., San Leandro
Matrix: Liquid

QC Sample Group: 4011169-71

Reported: Feb 7, 1994

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Tuzon	A. Tuzon	A. Tuzon	A. Tuzon
MS/MSD Batch#:	4011162	4011162	4011162	4011162
Date Prepared:	1/28/94	1/28/94	1/28/94	1/28/94
Date Analyzed:	1/28/94	1/28/94	1/28/94	1/28/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
Conc. Spiked:	20 µg/L	20 µg/L	20 µg/L	60 µg/L
Matrix Spike % Recovery:	125	115	125	133
Matrix Spike Duplicate % Recovery:	125	110	120	128
Relative % Difference:	0.0	4.4	4.1	3.8
LCS Batch#:	3LCS012894	3LCS012894	3LCS012894	3LCS012894
Date Prepared:	1/28/94	1/28/94	1/28/94	1/28/94
Date Analyzed:	1/28/94	1/28/94	1/28/94	1/28/94
Instrument I.D.#:	HP-5	HP-5	HP-5	HP-5
LCS % Recovery:	109	103	99	99
% Recovery Control Limits:	71-133	72-128	72-130	71-120

SEQUOIA ANALYTICAL

Alan B. Kemp
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

MPDS
Services, Inc.

CHAIN OF CUSTODY

SAMPLER: Vartkes

WITNESSING AGENCY:

SITE NAME & ADDRESS: Unocal #3690 / San Leandro
14999 Farnsworth St.

ANALYSES REQUESTED: TPHG / BTXE

TURN AROUND TIME: Regular.

SAMPLE ID NO.	DATE	TIME	SOIL	WATER	GRAB	COMP	NO. OF CONT.	SAMPLING LOCATION	TPHG / BTXE	REMARKS
U1	1/22/94			X	X		2	Monitoring well	X	4011169 A-B
U2	"			X	X		2	" "	X	↓ 1170 ↓
U3	"			X	X		2	" "	X	↓ 1171 ↓

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
V. Randolph	1/22/94 2:20	[illegible]	1-22-94 14:20
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
	1/24/94 1230	[signature]	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[signature]	1/24 1pm	Melissa Crevaere	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	

The following MUST BE completed by the laboratory accepting samples for analysis:

1. Have all samples received for analysis been stored in ice? yes
2. Will samples remain refrigerated until analyzed? yes
3. Did any samples received for analysis have head space? no
4. Were samples in appropriate containers and properly packaged? yes

[signature] — Signature; Analyst — Title; 1-22-94 — Date

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Concord, California 94520
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