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Juliet Shin
Attn:

Date Jan. 5, 1996

Alameda County Dept. of Env. Health
Co. name

RE: ST10 4655

1131 Harbor Bay Parkway, #250
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<u>1</u>	<u>Third Quarter Groundwater Monitoring Report</u> <u>December 1995, Alameda Federal Center.</u>

REMARKS

20280 South Vermont Ave.
Suite 250
Torrance, CA 90502

Phone 310/532-4500
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From Larry Harlan

Cape Job. # 2403C.24

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January 5, 1996

Ms. Juliet Shin
Senior Hazardous Materials Specialist
Alameda County Department of Environmental Health
Environmental Protection Division
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

SUBJECT: Third Quarter Groundwater Monitoring Report, December 1995
Alameda Federal Center
620 Central Avenue, Alameda, California
STID 4655

Dear Ms. Shin:

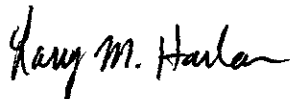
Please find enclosed the third quarter, December 1995, groundwater monitoring report for the above-referenced project. This report has been prepared by Cape Environmental Management Inc (Cape) on behalf of the General Services Administration (GSA) to assess groundwater contamination conditions due to underground storage tank releases.

If you have further questions or require additional information, please contact the undersigned at (310) 532-4500.

Respectfully Submitted,

CAPE ENVIRONMENTAL MANAGEMENT, INC.

Prepared by:



Larry M. Harlan
Project Geologist

Reviewed by:



William W. Millar, RG
Senior Geologist

Attachment

cc: James Lew/GSA Region 9
Project File

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**ENVIRONMENTAL
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Third Quarter Groundwater Monitoring Report

**Alameda Federal Center
620 Central Avenue
Alameda, California**

GSA Project No. RCA21602
Cape Project No. 2403C.24

prepared for:

**General Services Administration, Pacific Rim Region
525 Market Street
San Francisco, California 94105-2799**

prepared by:

**Cape Environmental Management Inc
20280 South Vermont Avenue
Suite 250
Torrance, California 90502**

January 1996

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Section 1 Introduction

On behalf of General Services Administration (GSA), Cape Environmental Management Inc (Cape) is performing quarterly groundwater monitoring and testing at the Alameda Federal Center, located at 620 Central Avenue, Alameda, California. The purpose of the groundwater monitoring program is to investigate the extent and severity of impacted groundwater due to underground storage tank (UST) releases. Figure 1 is a Site Vicinity Map depicting the area around the subject site.

This report describes field work and analytical results for the third quarter, December 1995, of groundwater monitoring at the site. Previously, Cape has submitted to the Alameda County Department of Environmental Health (DEH) a Preliminary Site Assessment (PSA) Report, dated July 1995, which constituted the first quarter of the monitoring program, a Second Quarter Groundwater Monitoring Report, August 1995, and an Addenda to Second Quarter Groundwater Monitoring Report, August 1995, dated October 30, 1995. Figure 2 is a Site Map depicting location and orientation of the subject site. Figure 3 illustrates tank areas 1 and 2, the location and orientation of the former USTs, and the location of monitoring wells used in the quarterly groundwater monitoring program, MW-1, MW-2R, MW-4, TW/MW-5, and MW-6.

Monitoring well MW-3 is located adjacent to two (2) existing 10,000-gallon USTs (Tanks 3 and 4). These USTs are scheduled for removal in the immediate future and MW-3 will be destroyed during the excavation and removal activities. Sampling of MW-3 has been omitted from the monitoring program; however, water level measurements are being obtained and used to estimate local groundwater gradient.

Section 2 Project Description

On December 8, 1995, Cape performed the third quarter of groundwater monitoring at the site. Activities included water level sounding, purging and sampling of monitoring wells MW-1, MW-2R, MW-4, TW/MW-5, and MW-6.

2.1 Water Level Sounding, Purging and Sampling

Cape performed concurrent water level sounding of wells MW-1, MW-2R, MW-3, MW-4, TW/MW-5, and MW-6 with the use of an electronic water level indicator. Following sounding activities, the wells were purged of approximately three (3) well volumes and measurements for temperature, pH, and conductivity were obtained and recorded for wells MW-1, MW-2R, MW-4, TW/MW-5, and MW-6. Water samples were then collected from each well. Depths to ground water and other purging and sampling details for each well are provided in Appendix B. Water samples were collected with dedicated disposable 2-inch diameter polyethylene hand bailers and placed in 40 milliliter (ml) glass and 1 liter amber glass containers, labelled, preserved at 4° Celsius, and transferred under Chain-of-Custody documentation to a state-certified laboratory.

2.2 Sample Preparations and Handling

All groundwater samples, following collection, were secured in laboratory supplied containers fitted with threaded Teflon-lined caps and containing hydrochloric acid preservative when appropriate. Sample containers were immediately placed in a pre-cooled ice chest and delivered to the analytical laboratory within approximately 12 hours after collection. Samples were submitted for a 10-day turn-around analytical testing schedule.

2.3 Laboratory Testing

Chemical analyses of samples from the five (5) groundwater monitoring wells included the following methods:

- hydrocarbon oil and grease (O&G) using method SMWW 5520 for all wells;
- total extractable petroleum hydrocarbons (TEPH) using DHS/LUFT procedure EPA Method 8015-modified (diesel fuel) for all wells;
- volatile halocarbons (VH) using EPA Test Method 8010 for all wells;
- polynuclear aromatic compounds (PNA) using EPA Method 8270 for all wells, and
- benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020 for MW-1 only

Section 3

Analytical and Monitoring Results

This section describes the analytical and monitoring results for the third quarter with respect to identified groundwater contamination and groundwater flow direction.

3.1 Analytical Results

Groundwater samples were obtained from pre-existing well MW-1, replacement well MW-2R, new monitoring wells MW-4 and MW-6, and new test well TW/MW-5. Well locations are shown on Figure 3 - Tank 1 and 2 Area/Boring Locations.

Concentrations of O&G and PNA's were reported to be below respective reporting limits (not detected) for all groundwater samples collected (MW-1, MW-2R, MW-4, TW/MW-5, and MW-6). Concentrations of VH were not detected from wells MW-2R, MW-4, TW/MW-5, and MW-6, however concentrations of 5.7 µg/l cis-1,2-dichloroethene and 2.1 µg/l trans-1,2-dichloroethene were reported for MW-1. BTEX analysis for the water sample from well MW-1 resulted in not detected. TEPH was not detected in wells MW-2R, MW-4, and TW/MW-5, however concentrations of 490 µg/l and 3700 µg/l were reported in MW-1 and MW-6, respectively. Third quarter groundwater sample analytical results are tabulated in Tables 1 and 2. Table 4 presents a summary of groundwater sample analytical data for the project to date.

The principal change since the last quarter of groundwater monitoring is that water samples collected from wells MW-2R, MW-4, and TW/MW-5 were not reported to contain concentrations of TEPH, whereas TEPH was detected at low concentrations in the previous quarter. Also, there was a ten-fold increase in TEPH concentrations reported for MW-6, from 370 µg/l to 3700 µg/l. The volatile hydrocarbon compound trichloroethene, which was reported at 1.3 µg/l in the previous quarter, was not detected in this sampling round.

3.2 Groundwater Gradient Determination

Static water level (SWL) gauging was performed in the groundwater monitoring wells on December 8, 1995. The SWL data for this quarter is presented in Table 3. A summary of SWL data for the groundwater monitoring wells to date is presented in Table 5. Survey graphics used in determining groundwater gradient are provided on Figure 3 - Groundwater Gradient Map. All elevations determined for this study are reduced to mean sea level datum.

Groundwater gradient at Tank 1 and 2 Area was detected by concurrent sounding of all five monitoring points. Depth to static groundwater from each reference point was then reduced to mean sea level elevations and a graphic 3-point solution method used to establish groundwater gradient and direction. The result of the determination is the approximate groundwater gradient = 0.0023 ft/ft (approximately 12.1 ft/mile) with a flow direction compass bearing of approximately 183° (SSW).

Table 1
Third Quarter Analytical Results December 1995
Petroleum Compounds

Sample ID	Date Sampled	O&G (mg/L)	TEPH (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)
MW-1	12/8/95	ND	490	ND	ND	ND	ND
MW-2R	12/8/95	ND	ND	--	--	--	--
MW-4	12/8/95	ND	ND	--	--	--	--
TW/MW-5	12/8/95	ND	ND	--	--	--	--
MW-6	12/8/95	ND	3700	--	--	--	--

NOTES:

mg/L- Milligrams per liter.

µg/L- Micrograms per liter.

ND- Not detected at or above Reporting Limit (RL).

-- Not analyzed

O&G- Hydrocarbon oil and grease using Test Method SMWW 5520 with RL of 5 mg/L.

TEPH- Total extractable petroleum hydrocarbon using California Department of Health Services (DOHS) Method (EPA Method 8015 Modified) with RL of 50 µg/L quantified in the diesel range.

BTEX- Benzene, toluene, ethyl benzene and total xylenes using EPA Test Method 8020 with RL of 1.0 µg/L.

Table 2
Third Quarter Analytical Results December 1995
Volatile Halocarbons and Polynuclear Aromatic Hydrocarbons

Sample ID	Date Sampled	VH ($\mu\text{g/L}$)	PNA ($\mu\text{g/L}$)
MW-1	12/8/95	5.7 cis-1,2-dichloroethene (1.0) 2.1 trans-1,2-dichloroethene(1.0)	ND
MW-2R	12/8/95	ND	ND
MW-4	12/8/95	ND	ND
TW/MW-5	12/8/95	ND	ND
MW-6	12/8/95	ND	ND

NOTES: Results indicate concentration of compound detected and corresponding reporting limit (RL) in parenthesis following respective compound.

$\mu\text{g/L}$ - Micrograms per liter.

ND- Compounds not detected at or above RL.

VH- Volatile halocarbons for EPA Test Method 8010 compounds using EPA Test Method 8240 with compound RL's ranging from 1.0 $\mu\text{g/L}$ to 20 $\mu\text{g/L}$.

PNA- Polynuclear aromatic hydrocarbons using EPA Test Method 8270 with RL of 9.4 $\mu\text{g/L}$.

Table 3
Third Quarter, December 1995
Static Water Level (SWL) Measurements

Location	Date	Time	SWL	Casing Elevation	Water Elevation
MW-1	12/8/95	1041	5.36	8.19	2.83
MW-2R	12/8/95	1033	5.30	8.27	2.97
MW-3	12/8/95	1026	5.30	9.00	3.70
MW-4	12/8/95	1037	5.66	8.53	2.87
TW/MW-5	12/8/95	1039	5.47	8.37	2.90
MW-6	12/8/95	1035	5.71	8.61	2.90

NOTES:

SWL in feet below top of well casing.
Elevations in feet above mean sea level.

Table 3
Summary of Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well MW-1

Collection Date	5/18/95	8/31/95	10/5/95	12/8/95	
Compound					
O&G (mg/l)(SMWW 5520)	ND	ND	NA	ND	
TEPH (µg/l)(DOHS 8015 mod.)	5500	840 diesel 1,400 motor oil	NA	49 diesel	
TVH (µg/l)(DOHS 8015 mod.)	ND	NA	ND	NA	
Benzene (µg/l)(EPA 8020)	1.1	NA	ND	ND	
Toluene (µg/l)(EPA 8020)	ND	NA	ND	ND	
Ethyl Benzene (µg/l)(EPA8020)	0.9	NA	ND	ND	
Total Xylenes (µg/l)(EPA 8020)	1.6	NA	ND	ND	
Tot. dis. solids (mg/l)(EPA 160.1)	NA	410	NA	NA	
Volatile Halocarbons (EPA 8010)					
cis-1,2-dichloroethene (µg/l)	3	NA	7.4	5.7	
trans-1,2-dichloroethene (µg/l)	3	NA	3.4	2.1	
trichloroethene (µg/l)	7	NA	1.3	ND	
tetra-chloroethene (µg/l)	1	NA	ND	ND	
chloroform (µg/l)	1	NA	ND	ND	
Polynuclear Aromatic Hydrocarbons (EPA 8270)					
bis(2-ethylhexyl)phthalate (µg/l)	ND	ND	NA	NA	
naphthalene (µg/l)	ND	ND	NA	ND	
fluoranthene (µg/l)	ND	ND	NA	ND	
pyrene (µg/l)	ND	ND	NA	ND	
chrysene (µg/l)	ND	ND	NA	ND	
benzo(a)pyrene (µg/l)	ND	ND	NA	ND	

Notes:

mg/l

milligrams per liter

µg/l

micrograms per liter

ND

not detected at or above the method reporting limit (RL)

NA

Not Analyzed

O&G

hydrocarbon oil and grease using test method SMWW 5520

TEPH

total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified

TVH

total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified

TDS

Total dissolved solids using EPA Method 160.1

Table 4 (Continued)

**Summary Table Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well MW-2R**

Collection Date	5/18/95	8/31/95	12/8/95	
Compound				
O&G (mg/l)(SMWW 5520)	ND	ND	ND	
TEPH (µg/l)(DOHS 8015 mod.)	ND	140 diesel	ND	
TVH (µg/l)(DOHS 8015 mod.)	ND	ND	NA	
Benzene (µg/l)(EPA 8020)	ND	ND	NA	
Toluene (µg/l)(EPA 8020)	ND	ND	NA	
Ethyl Benzene (µg/l)(EPA8020)	ND	ND	NA	
Total Xylenes (µg/l)(EPA 8020)	ND	ND	NA	
Total dis. solids (mg/l)(EPA 160.1)	NA	390	NA	
Volatile Halocarbons (EPA 8010)				
cis-1,2-dichloroethene (µg/l)	ND	ND	ND	
trans-1,2-dichloroethene (µg/l)	ND	ND	ND	
trichloroethene (µg/l)	ND	ND	ND	
tetra-chloroethene (µg/l)	ND	ND	ND	
chloroform (µg/l)	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (EPA 8270)				
bis(2-ethylhexyl)phthalate (µg/l)	ND	ND	NA	
naphthalene (µg/l)	ND	ND	ND	
fluoranthene (µg/l)	ND	ND	ND	
pyrene (µg/l)	ND	ND	ND	
chrysene (µg/l)	ND	ND	ND	
benzo(a)pyrene (µg/l)	ND	ND	ND	

Notes:

- mg/l milligrams per liter
- µ/l micrograms per liter
- ND not detected at or above the method reporting limit (RL)
- O&G hydrocarbon oil and grease using test method SMWW5520
- TEPH total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified
- TVH total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified
- Volatile
- Halocarbons EPA Method 8010
- Polynuclear EPA Method 8270
- Aromatic
- Hydrocarbons
- NA Not Analyzed
- TDS Total dissolved solids using EPA Method 160.1

Table 4 (Continued)

**Summary Table Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well MW-3**

Collection Date	5/18/95	not sampled	not sampled	
Compound				
O&G (mg/l)(SMWW 5520)	ND	NA	NA	
TEPH (µg/l)(DOHS 8015 mod.)	92	NA	NA	
TVH (µg/l)(DOHS 8015 mod.)	ND	NA	NA	
Benzene (µg/l)(EPA 8020)	ND	NA	NA	
Toluene (µg/l)(EPA 8020)	ND	NA	NA	
Ethyl Benzene (µg/l)(EPA8020)	ND	NA	NA	
Total Xylenes (µg/l)(EPA 8020)	ND	NA	NA	
Total dis. solids (mg/l)(EPA 160.1)	NA	NA	NA	
Volatile Halocarbons (EPA 8010)				
cis-1,2-dichloroethene (µg/l)	ND	NA	NA	
trans-1,2-dichloroethene (µg/l)	ND	NA	NA	
trichloroethene (µg/l)	ND	NA	NA	
tetra-chloroethene (µg/l)	ND	NA	NA	
chloroform (µg/l)	ND	NA	NA	
Polynuclear Aromatic Hydrocarbons (EPA 8270)				
bis(2-ethylhexyl)phthalate (µg/l)	ND	NA	NA	
naphthalene (µg/l)	ND	NA	NA	
fluoranthene (µg/l)	ND	NA	NA	
pyrene (µg/l)	ND	NA	NA	
chrysene (µg/l)	ND	NA	NA	
benzo(a)pyrene (µg/l)	ND	NA	NA	

Notes:

- mg/l milligrams per liter
- µ/l micrograms per liter
- ND not detected at or above the method reporting limit (RL)
- O&G hydrocarbon oil and grease using test method SMWW5520
- TEPH total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified
- TVH total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified
- Volatile
- Halocarbons EPA Method 8010
- Polynuclear
- Aromatic EPA Method 8270
- Hydrocarbons
- NA Not Analyzed
- TDS Total dissolved solids using EPA Method 160.1

Table 4 (Continued)

**Summary Table Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well MW-4**

Collection Date	5/18/95	8/31/95	12/8/95	
Compound				
O&G (mg/l)(SMWW 5520)	ND	ND	ND	
TEPH (µg/l)(DOHS 8015 mod.)	ND	190 diesel	ND	
TVH (µg/l)(DOHS 8015 mod.)	ND	ND	NA	
Benzene (µg/l)(EPA 8020)	ND	ND	NA	
Toluene (µg/l)(EPA 8020)	ND	ND	NA	
Ethyl Benzene (µg/l)(EPA8020)	ND	ND	NA	
Total Xylenes (µg/l)(EPA 8020)	ND	ND	NA	
Total dis. solids (mg/l)(EPA 160.1)	NA	410	NA	
Volatile Halocarbons (EPA 8010)				
cis-1,2-dichloroethene (µg/l)	ND	ND	ND	
trans-1,2-dichloroethene (µg/l)	ND	ND	ND	
trichloroethene (µg/l)	ND	ND	ND	
tetra-chloroethene (µg/l)	ND	ND	ND	
chloroform (µg/l)	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (EPA 8270)				
bis(2-ethylhexyl)phthalate (µg/l)	ND	ND	NA	
napthalene (µg/l)	ND	ND	ND	
fluoranthene (µg/l)	ND	ND	ND	
pyrene (µg/l)	ND	ND	ND	
chrysene (µg/l)	ND	ND	ND	
benzo(a)pyrene (µg/l)	ND	ND	ND	

Notes:

- mg/l milligrams per liter
- µ/l micrograms per liter
- ND not detected at or above the method reporting limit (RL)
- O&G hydrocarbon oil and grease using test method SMWW 5520
- TEPH total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified
- TVH total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified
- Volatile
- Halocarbons EPA Method 8010
- Polynuclear
- Aromatic EPA Method 8270
- Hydrocarbons
- NA Not Analyzed
- TDS Total dissolved solids using EPA Method 160.1

Table 4 (Continued)

**Summary Table Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well TW/MW-5**

Collection Date	5/17/95	8/31/95	12/8/95	
Compound				
O&G (mg/l)(SMWW 5520)	ND	ND	ND	
TEPH (µg/l)(DOHS 8015 mod.)	680	230 diesel	ND	
TVH (µg/l)(DOHS 8015 mod.)	ND	ND	NA	
Benzene (µg/l)(EPA 8020)	ND	ND	NA	
Toluene (µg/l)(EPA 8020)	ND	ND	NA	
Ethyl Benzene (µg/l)(EPA8020)	ND	ND	NA	
Total Xylenes (µg/l)(EPA 8020)	ND	ND	NA	
Total dis. solids (mg/l)(EPA 160.1)	NA	380	NA	
Volatile Halocarbons (EPA 8010)				
cis-1,2-dichloroethene (µg/l)	ND	ND	ND	
trans-1,2-dichloroethene (µg/l)	ND	ND	ND	
trichloroethene (µg/l)	ND	ND	ND	
tetra-chloroethene (µg/l)	ND	ND	ND	
chloroform (µg/l)	1.0	ND	ND	
Polynuclear Aromatic Hydrocarbons (EPA 8270)				
bis(2-ethylhexyl)phthalate (µg/l)	ND	14	NA	
naphthalene (µg/l)	7.5	ND	ND	
fluoranthene (µg/l)	8.5	ND	ND	
pyrene (µg/l)	14	ND	ND	
chrysene (µg/l)	5.5	ND	ND	
benzo(a)pyrene (µg/l)	6.2	ND	ND	

Notes:

- mg/l milligrams per liter
- µ/l micrograms per liter
- ND not detected at or above the method reporting limit (RL)
- O&G hydrocarbon oil and grease using test method SMWW 5520
- TEPH total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified
- TVH total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified
- Volatile Halocarbons EPA Method 8010
- Polynuclear Aromatic Hydrocarbons EPA Method 8270
- NA Not Analyzed
- TDS Total dissolved solids using EPA Method 160.1

Table 4 (Continued)

**Summary Table Water Sample Analytical Results
Alameda Federal Center, Groundwater Monitoring Well MW-6**

Collection Date	5/18/95	8/31/95	12/8/95	
Compound				
O&G (mg/l)(SMWW 5520)	ND	ND	ND	
TEPH (µg/l)(DOHS 8015 mod.)	ND	370 diesel	3700	
TVH (µg/l)(DOHS 8015 mod.)	ND	ND	ND	
Benzene (µg/l)(EPA 8020)	ND	ND	ND	
Toluene (µg/l)(EPA 8020)	ND	ND	ND	
Ethyl Benzene (µg/l)(EPA8020)	ND	ND	ND	
Total Xylenes (µg/l)(EPA 8020)	ND	ND	ND	
Total dis. solids (mg/l)(EPA 160.1)	NA	450	NA	
Volatile Halocarbons (EPA 8010)				
cis-1,2-dichloroethene (µg/l)	ND	ND	ND	
trans-1,2-dichloroethene (µg/l)	ND	ND	ND	
trichloroethene (µg/l)	ND	ND	ND	
tetra-chloroethene (µg/l)	ND	ND	ND	
chloroform (µg/l)	ND	ND	ND	
Polynuclear Aromatic Hydrocarbons (EPA 8270)				
bis(2-ethylhexyl)phthalate (µg/l)	ND	ND	NA	
naphthalene (µg/l)	ND	ND	ND	
fluoranthene (µg/l)	ND	ND	ND	
pyrene (µg/l)	ND	ND	ND	
chrysene (µg/l)	ND	ND	ND	
benzo(a)pyrene (µg/l)	ND	ND	ND	

Notes:

- mg/l milligrams per liter
- µ/l micrograms per liter
- ND not detected at or above the method reporting limit (RL)
- O&G hydrocarbon oil and grease using test method SMWW5520
- TEPH total extractable petroleum hydrocarbons using California Department of Health Services (DOHS) Method EPA 8015 modified
- TVH total Volatile hydrocarbons as gasoline using California DOHS Method EPA 8015 modified
- Volatile Halocarbons EPA Method 8010
- Polynuclear Aromatic Hydrocarbons EPA Method 8270
- NA Not Analyzed
- TDS Total dissolved solids using EPA Method 160.1

Table 5
Summary Quarterly Static Water Level (SWL) Measurements

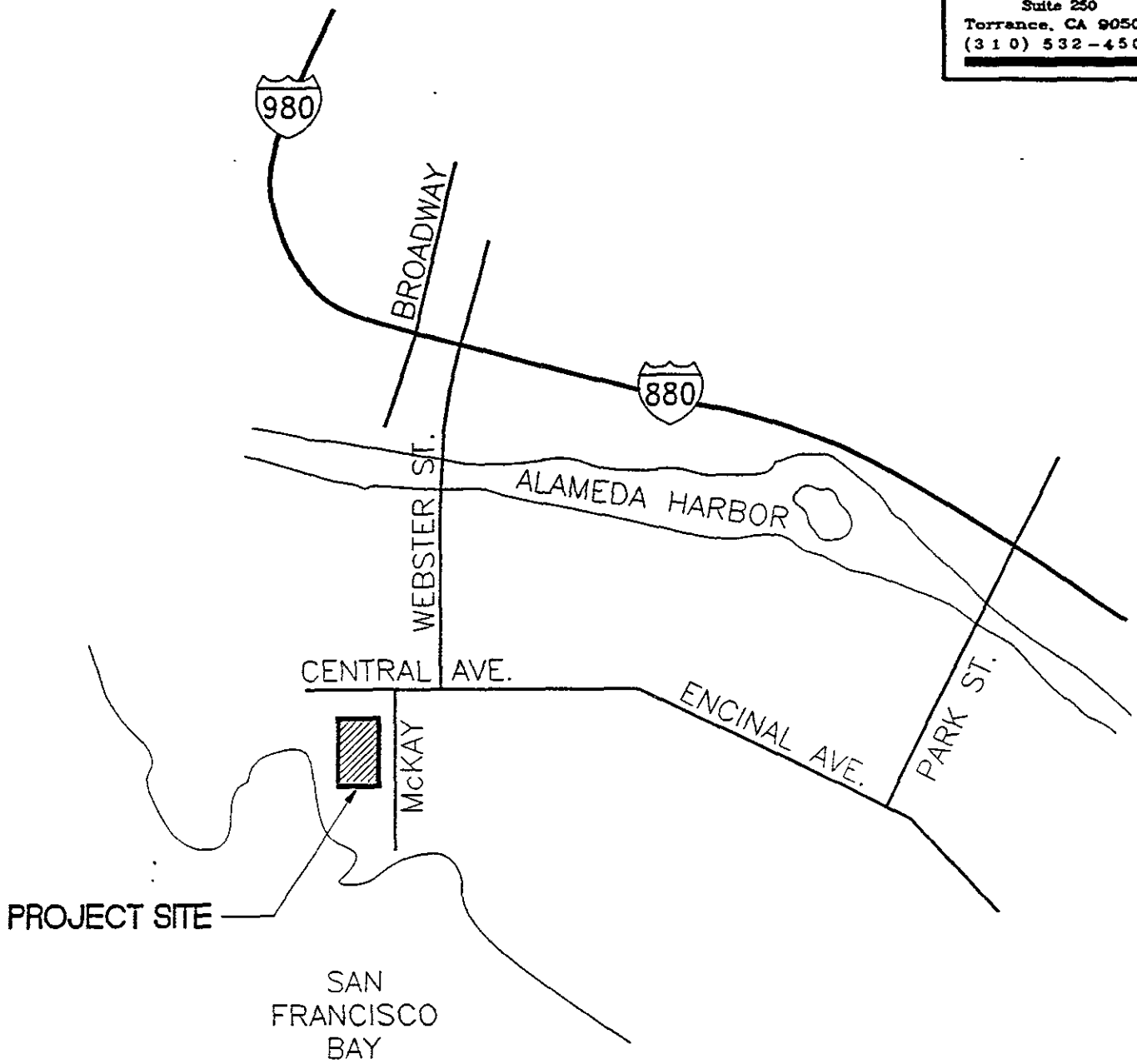
Location	Date	Time	SWL	Casing Elevation	Water Elevation
MW-1	5/18/95	1813	4.20	8.19	3.99
	8/31/95	1125	4.93	8.19	3.26
	10/5/95	1252	5.09	8.19	3.10
	11/1/95	1157	5.25	8.19	2.94
	12/8/95	1041	5.36	8.19	2.83
MW-2R	5/18/95	1822	4.14	8.27	4.13
	8/31/95	1110	4.78	8.27	3.49
	10/5/95	1248	4.99	8.27	3.28
	11/1/95	1210	5.15	8.27	3.12
	12/8/95	1033	5.30	8.27	2.97
MW-3	5/16/95	1415	4.72	9.00	4.28
	8/31/95	1119	5.12	9.00	3.88
	10/5/95	1225	5.20	9.00	3.80
	11/1/95	1226	5.28	9.00	3.72
	12/8/95	1026	5.30	9.00	3.70
MW-4	5/18/95	1810	4.52	8.53	4.01
	8/31/95	1114	5.18	8.53	3.35
	10/5/95	1242	5.38	8.53	3.15
	11/1/95	1202	5.53	8.53	3.00
	12/8/95	1037	5.66	8.53	2.87
TW/MW-5	5/18/95	1819	4.27	8.37	4.10
	8/31/95	1107	4.98	8.37	3.39
	10/5/95	1233	5.17	8.37	3.20
	11/1/95	1214	5.33	8.37	3.04
	12/8/95	1039	5.47	8.37	2.90
MW-6	5/18/95	1819	4.27	8.61	4.10
	8/31/95	1112	5.22	8.61	3.39
	10/5/95	1239	5.42	8.61	3.19
	11/1/95	1206	5.58	8.61	3.03
	12/8/95	1035	5.71	8.61	2.90

NOTES

SWL in feet below top of well casing
Elevations in feet above mean sea level

FIGURES

C A P E
 ENVIRONMENTAL
 MANAGEMENT
 I N C
 20280 S Vermont Ave.
 Suite 250
 Torrance, CA 90502
 (310) 532-4500



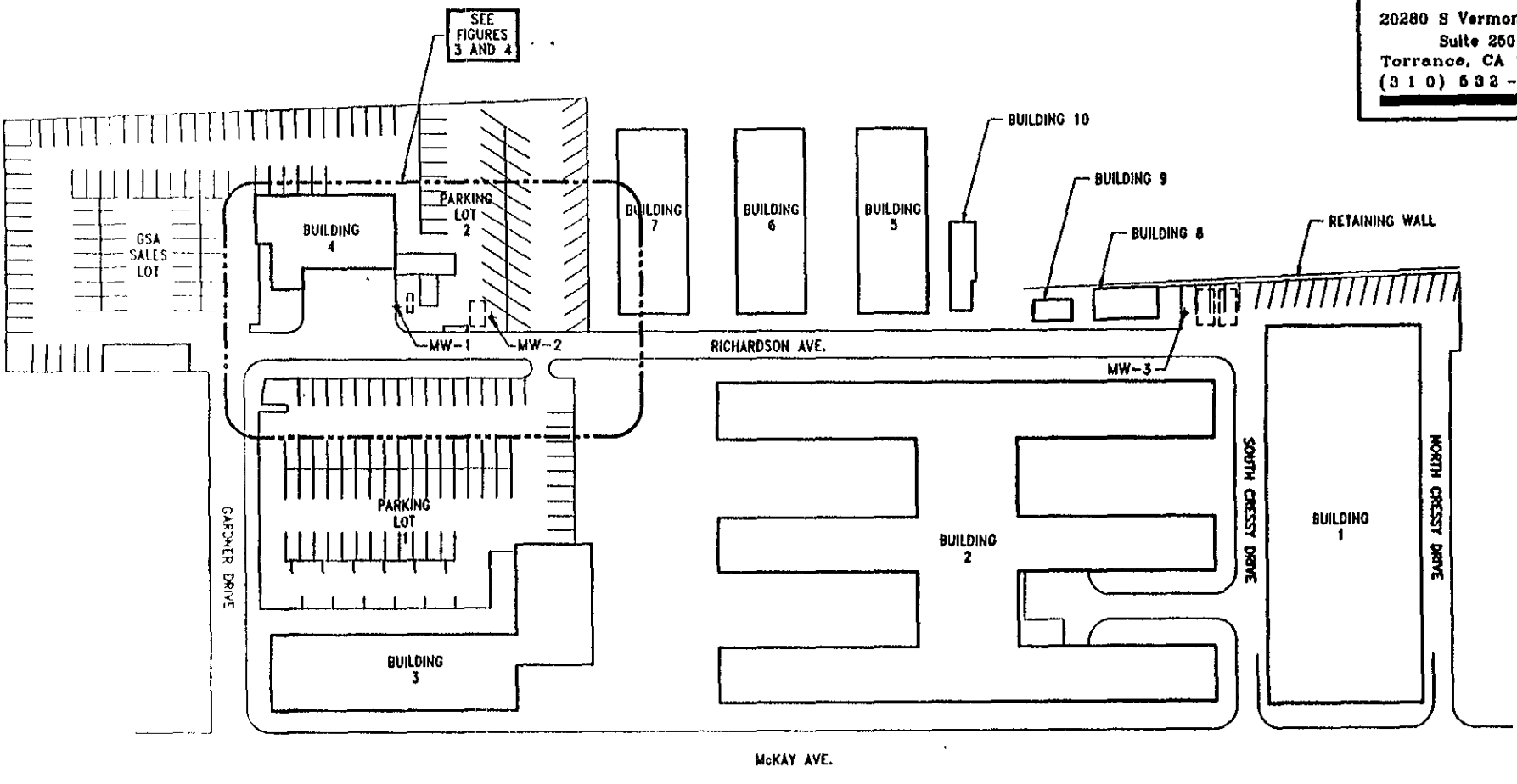
VICINITY MAP

NOT TO SCALE



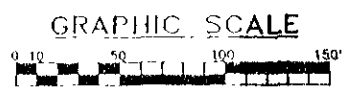
SHEET TITLE: FIGURE 1 - SITE VICINITY MAP		CHECKED BY: L. HARLAN	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY: J. GONZALES	DATE: SEP. 25, '95
			SHEET: 1 OF 1

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C
 20280 S Vermont Ave.
 Suite 250
 Torrance, CA 90502
 (310) 632-4600



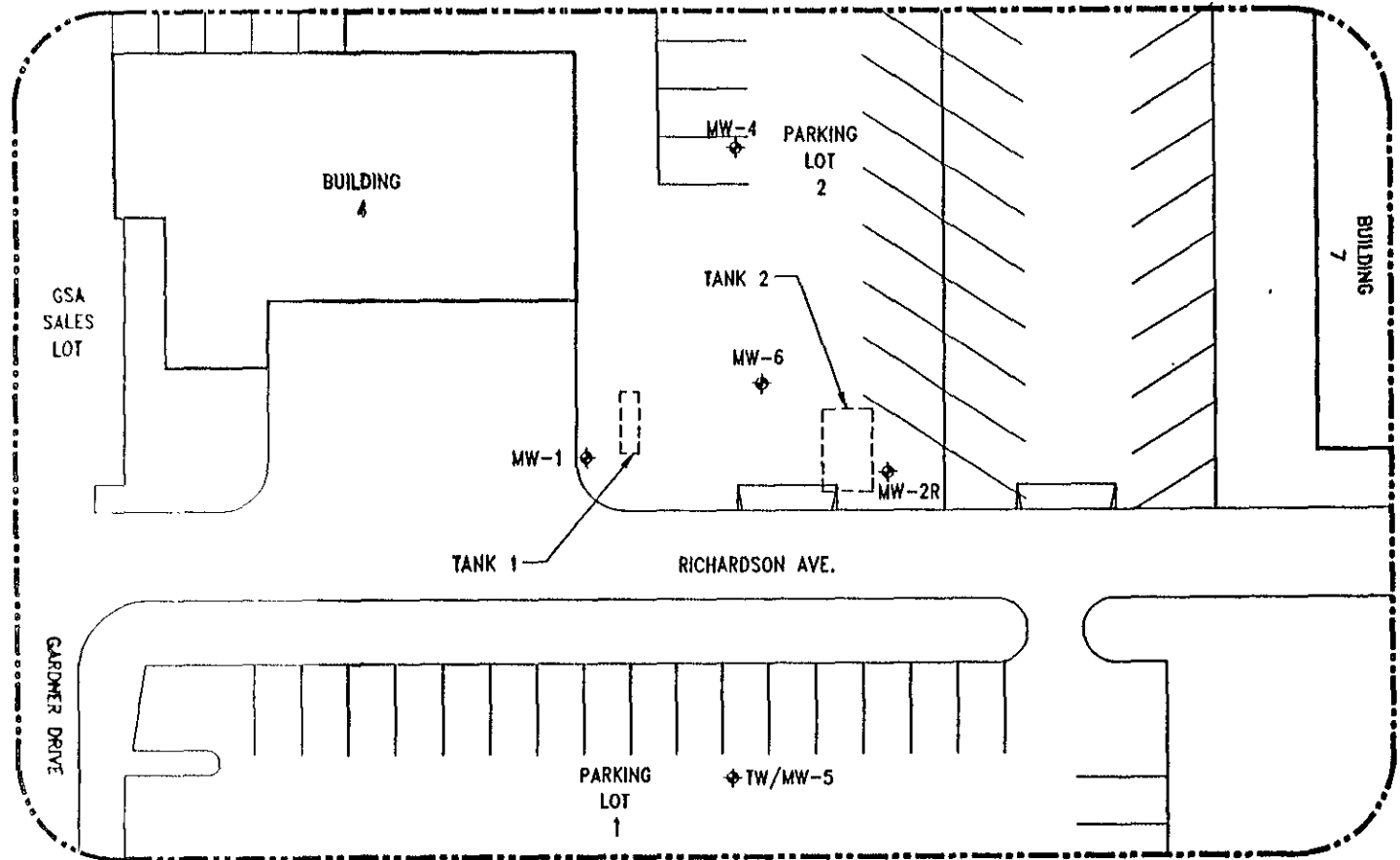
LEGEND

MW EXISTING MONITORING WELL

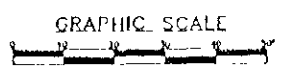


SHEET TITLE: FIGURE 2 - SITE PLAN		CHECKED BY: L. HARLAN	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY: J. GONZALES	DATE: SEP. 25, '95
			SHEET: 1 OF 1

C A P E
ENVIRONMENTAL
MANAGEMENT
I N C
 20280 S Vermont Ave.
 Suite 260
 Torrance, CA 90502
 (310) 532-4500

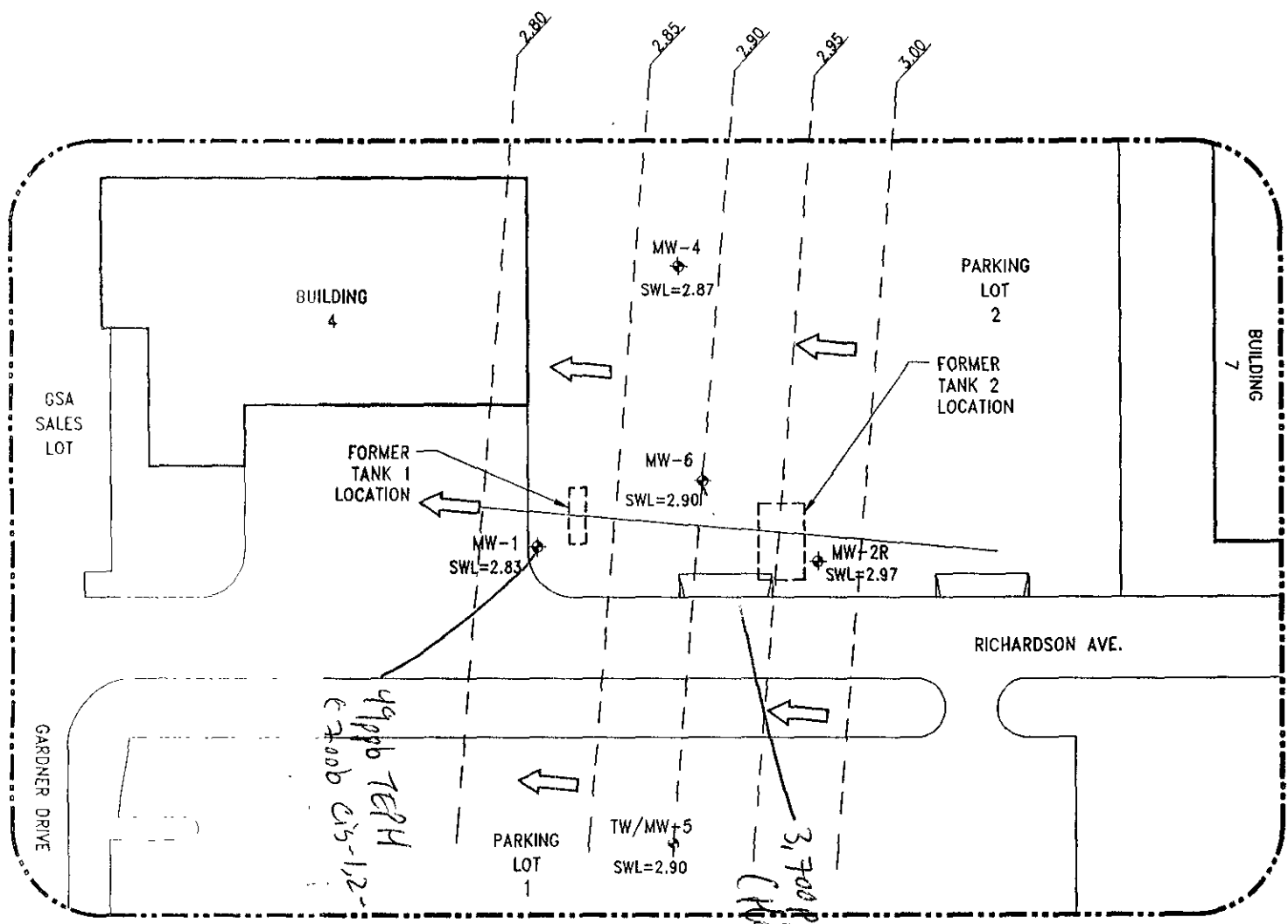


LEGEND
 MW EXISTING MONITORING WELL
 - - - - - APPROX. LOCATION OF REMOVED UST's



SHEET TITLE: FIGURE 3 - TANK 1 & 2 AREA / BORING LOCATIONS		CHECKED BY: L. HARLAN	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY: J. GONZALES	DATE: SEP. 25, '95
			SHEET: 1 OF 1

C A P E
**ENVIRONMENTAL
 MANAGEMENT**
 I N C
 20280 S Vermont Ave.
 Suite 250
 Torrance, CA 90502
 (310) 532-4500

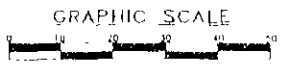


- LEGEND**
- MW EXISTING MONITORING WELL
 - [Dashed Box] APPROX. LOCATION OF REMOVED UST's
 - [Arrow] GROUNDWATER GRADIENT
 - SWL STATIC WATER LEVEL ELEVATIONS IN FEET ABOVE MEAN LEVEL
 - [Dashed Line] EQUIPOTENTIAL ELEVATION CONTOUR

499 ppb TEPH
 67006 cis-12-
 DEC
 TMT

3,700 ppb TEPH (Maximum known std.)

MW-3 near Sample



SHEET TITLE: FIGURE 1 - GROUNDWATER GRADIENT MAP (DEC. 8, 1995)		CHECKED BY: L. HARLAN	PROJECT NUMBER: 2403C.24
PROJECT TITLE: ALAMEDA FEDERAL CENTER, ALAMEDA, CA		DRAWN BY: J. GONZALES	DATE: JAN. 5, '96
			SHEET: 1 OF 1

APPENDIX A

**GROUNDWATER MONITOR WELL
SAMPLING AND FIELD DATA SHEET**

Groundwater Monitor Well Sampling & Field Data Sheet

**ENVIRONMENTAL
MANAGEMENT
I N C**

Location No. MW-1
 Sample No. MW-1
 Project/Client: GSA Alameda
 Location:
 Job No. 2403C.24

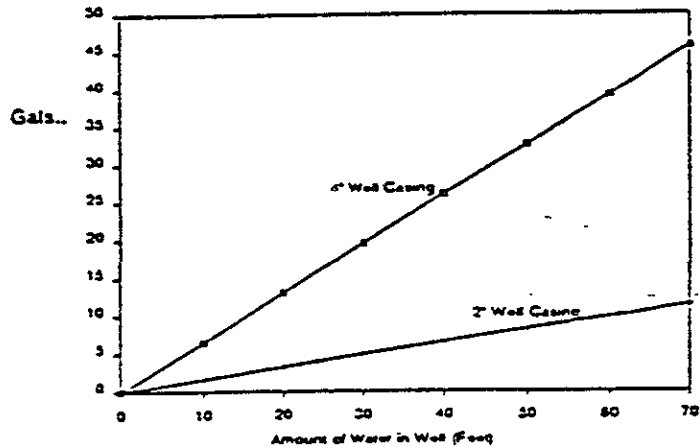
Date: 12-8-95 Time: 1439
 Weather:
 Conditions Overcast
 Air Temperature ~64°
 Personnel LH

WELL INFORMATION

Casing, Dia.: 2"
 Stainless Steel
 Steel
 PVC
 Teflon
 Other
 Water Level: 5.36
 Total Depth: 18
 Measuring Device
 M-Scope
 Other Solinst
 Volume of Water in
 Casing 1.5 gal. Approx
 Datum:
 Top of Surf. Casing
 Top of Well Casing
 Other

Intake,
 Diameter:
 Stainless Steel
 Steel
 PVC
 Teflon
 Other
 Well Conditions:
 Well Clean to Bottom
 yes, no
 Well in Good Condition
 yes, no
 Surface Protection:
 Clean yes, no
 Condition Good
Stripped bolt on cover.
 Lock yes, no

Volume of 2" and 4" Casing in Gallons



Purging Data:

Method:
 Bladder Pump
 Bailer
 Submersible Pump
 Peristaltic Pump
 Other
 Materials:
 Pump/Bailer
 Teflon
 Stainless Steel
 PVC
 Other

Tubing/rope
 Teflon
 Polypropylene
 Nylon
 Other
 Pumping Rate _____
 Elapsed Time _____
 Volume Pumped 8 gal
 Well Evacuated yes, no
 Number of Well Volumes _____
 Purged 5

Purging Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned

Time Series Data

Measurement	1	2	3	4
Well Volumes	3 gal	5 gal	8 gal	
Water Temp.	67	69.6	69.3	
pH	8.27	7.18	7.70	
Cond. Other x 100	4.59	4.98	4.91	

Sampling Data:

Method:
 Bladder Pump
 Bailer
 Submersible Pump
 Peristaltic Pump
 Other
 Materials: Pump/Bailer
 Teflon
 Stainless Steel
 PVC
 Other
 Materials: Tubing/rope

Teflon
 Polypropylene
 Nylon
 Other
 Sampling Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned
 Metals Sample Field Filtered
 Yes
 No
 Method _____

Physical & Chemical Data:

Appearance:
 Clear
 Turbid
 Color _____
 Immiscible Product
 Other Pet. Hyd. Odor (Faint)
 Filled Condition of Sample
 Temp _____
 pH _____
 Other _____

Certification:

This sample was collected and handled in accordance with standard regulatory and corporate procedures

Groundwater Monitor Well Sampling & Field Data Sheet

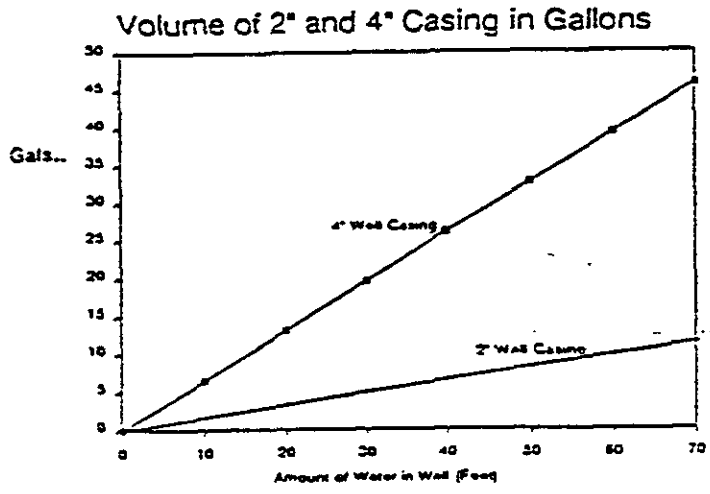
**ENVIRONMENTAL
MANAGEMENT
I N C**

Location No. TW-22
 Sample No. TW-22
 Project/Client: GSA
 Location: Alameda
 Job No. 2403C-24

Date: 12-8-95 Time: 1225
 Weather: _____
 Conditions: Foggy Overcast
 Air Temperature: ~64
 Personnel: L.H.

WELL INFORMATION

Casing, Dia.: 4"
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Water Level: 5.3
 Total Depth: 14
 Measuring Device
 M-Scope
 Other Solinst
 Volume of Water in Casing: Sgel Approx
 Datum:
 Top of Surf. Casing
 Top of Well Casing
 Other _____
 Intake, Diameter:
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Well Conditions:
 Well Clean to Bottom
 yes, no
 Well in Good Condition
 yes, no
 Surface Protection:
 Clean yes, no
 Condition: Good
 Lock yes, no



Purging Data:

Method: <input type="checkbox"/> Bladder Pump <input type="checkbox"/> Bailor <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Other _____	Tubing/rope <input type="checkbox"/> Teflon <input checked="" type="checkbox"/> Polypropylene <input type="checkbox"/> Nylon <input type="checkbox"/> Other _____	Purging Equipment <input type="checkbox"/> Dedicated <input type="checkbox"/> Prepared Off-Site <input checked="" type="checkbox"/> Field Cleaned
Materials: Pump/Bailor <input type="checkbox"/> Teflon <input type="checkbox"/> Stainless Steel <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Other _____	Pumping Rate _____ Elapsed Time _____ Volume Pumped: <u>15 gal.</u> Well Evacuated <input checked="" type="checkbox"/> yes, <input type="checkbox"/> no Number of Well Volumes _____ Purged: <u>3</u>	Time Series Data Measurement 1 2 3 4 Well Volumes <u>5</u> <u>10</u> <u>15</u> - gallons Water Temp. <u>68.5</u> <u>68.9</u> <u>66.2</u> pH <u>7.97</u> <u>8.93</u> <u>8.71</u> Cond Other <u>100</u> <u>6.60</u> <u>6.69</u> <u>6.49</u>

Sampling Data:

Method: <input type="checkbox"/> Bladder Pump <input checked="" type="checkbox"/> Bailor <input checked="" type="checkbox"/> Submersible Pump <input type="checkbox"/> Peristaltic Pump <input type="checkbox"/> Other _____	<input type="checkbox"/> Teflon <input type="checkbox"/> Polypropylene <input checked="" type="checkbox"/> Nylon <input type="checkbox"/> Other _____	Physical & Chemical Data: Appearance: <input checked="" type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Color _____ <input type="checkbox"/> Immiscible Product <input type="checkbox"/> Other <u>Suspended fines</u> Filed Condition of Sample Temp _____ pH _____ Other _____
Materials: Pump/Bailor <input type="checkbox"/> Teflon <input type="checkbox"/> Stainless Steel <input checked="" type="checkbox"/> PVC <input type="checkbox"/> Other _____	Sampling Equipment <input checked="" type="checkbox"/> Dedicated <input type="checkbox"/> Prepared Off-Site <input type="checkbox"/> Field Cleaned	
Materials: Tubing/rope	Metals Sample Field Filtered <input type="checkbox"/> Yes <input type="checkbox"/> No Method _____	

Certification:

This sample was collected and handled in accordance with standard regulatory and corporate procedures

Groundwater Monitor Well Sampling & Field Data Sheet

**ENVIRONMENTAL
MANAGEMENT
I N C**

Location No. MW-4
 Sample No. MW-4
 Project/Client: GSA
 Location: Alameda
 Job No. 2403C-24

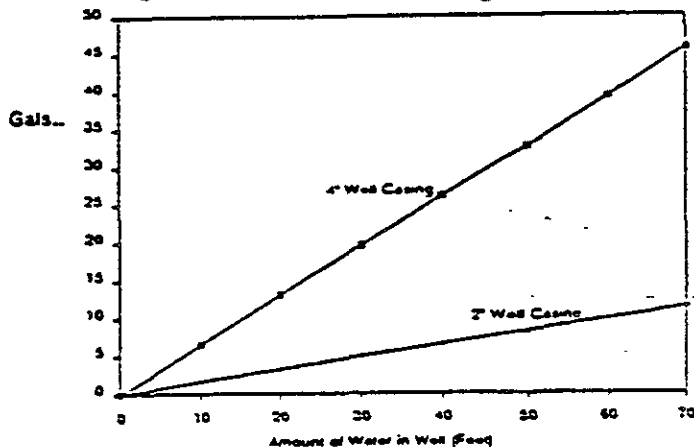
Date: 12-8-95 Time: 1400
 Weather: _____
 Conditions Overcast
 Air Temperature 20.6
 Personnel LH

WELL INFORMATION

Casing, Dia.: 4"
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Water Level: 5.66
 Total Depth: 14'
 Measuring Device
 M-Scope
 Other Solinst
 Volume of Water in Casing 5 gal Approx
 Datum:
 Top of Surf. Casing
 Top of Well Casing
 Other _____

Intake, Diameter:
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Well Conditions:
 Well Clean to Bottom
 yes, no
 Well in Good Condition
 yes, no
 Surface Protection:
 Clean yes, no
 Condition Good
 Lock yes, no

Volume of 2" and 4" Casing in Gallons



Purging Data:

Method:
 Bladder Pump
 Bailor
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials:
 Pump/Bailor
 Teflon
 Stainless Steel
 PVC
 Other _____

Tubing/rope
 Teflon
 Polypropylene
 Nylon
 Other _____

Pumping Rate _____
 Elapsed Time _____
 Volume Pumped 15 gal
 Well Evacuated yes, no
 Number of Well Volumes _____
 Purged 3

Purging Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned

Time Series Data

Measurement	1	2	3	4
Well Volumes	5 gal	10 gal	15 gal	
Water Temp.	66.3	68.3	68.4	
pH	7.42	8.24	8.39	
Cond Other $\times 100$	6.03	6.06	5.95	

Sampling Data:

Method:
 Bladder Pump
 Bailor
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials: Pump/Bailor
 Teflon
 Stainless Steel
 PVC
 Other _____

Materials: Tubing/rope
 Teflon
 Polypropylene
 Nylon
 Other _____

Sampling Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned

Metals Sample Field Filtered
 Yes
 No
 Method _____

Physical & Chemical Data:
 Appearance:
 Clear
 Turbid
 Color Black to Clear
 Immiscible Product
 Other _____
 Filled Condition of Sample
 Temp _____
 pH _____
 Other _____

Certification:

This sample was collected and handled in accordance with standard regulatory and corporate procedures
 Note: The first few gallons were black in color w/ strong septic odor color & odor decrease w/ volume removed.

Groundwater Monitor Well Sampling & Field Data Sheet

**ENVIRONMENTAL
MANAGEMENT**
I N C

Location No. TW/MW-5 Alameda
 Sample No. TW/MW-5
 Project/Client: GSA
 Location: Alameda
 Job No. 2403C.24

Date: 12-8-95 Time: 1105
 Weather:
 Conditions Foggy
 Air Temperature 62°F
 Personnel LH

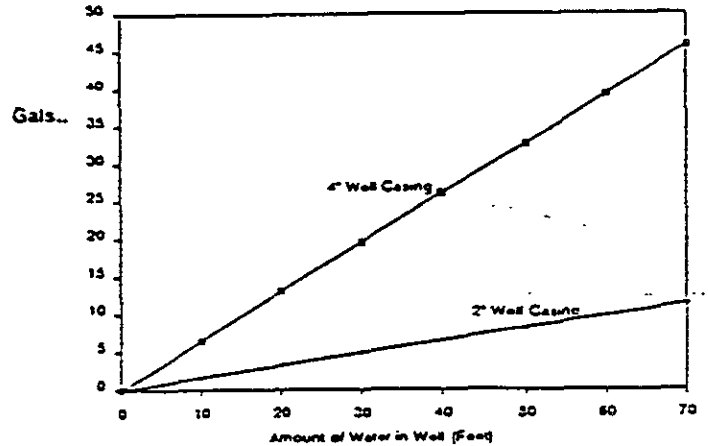
WELL INFORMATION

Casing, Dia.: 2"
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Water Level: 5.47
 Total Depth: 13
 Measuring Device
 M-Scope
 Other Solinst
 Volume of Water in Casing 1.5 gal. Approx
 Datum:
 Top of Surf. Casing
 Top of Well Casing
 Other _____

Intake, Diameter:
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____

Well Conditions:
 Well Clean to Bottom
 yes, no
 Well in Good Condition
 yes, no
 Surface Protection:
 Clean yes, no
 Condition Good
 Lock yes, no

Volume of 2" and 4" Casing in Gallons



Purging Data:

Method:
 Bladder Pump
 Bailer
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials:
 Pump/Bailer
 Teflon
 Stainless Steel
 PVC
 Other _____

Tubing/rope
 Teflon
 Polypropylene
 Nylon
 Other _____

Pumping Rate _____
 Elapsed Time _____
 Volume Pumped 8 gal
 Well Evacuated yes, no
 Number of Well Volumes _____
 Purged 5

Purging Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned

Time Series Data

Measurement	1	2	3	4
Well Volumes	<u>3 gal</u>	<u>5 gal</u>	<u>8 gal</u>	_____
Water Temp.	<u>66.9</u>	<u>68.6</u>	<u>69.1</u>	_____
pH	<u>8.21</u>	<u>8.57</u>	<u>7.97</u>	_____
Conductivity	<u>100</u>	<u>5.62</u>	<u>5.41</u>	<u>5.45</u>

Sampling Data:

Method:
 Bladder Pump
 Bailer
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials: Pump/Bailer
 Teflon
 Stainless Steel
 PVC
 Other _____

Materials: Tubing/rope
 Teflon
 Polypropylene
 Nylon
 Other _____

Sampling Equipment
 Dedicated
 Prepared Off-Site
 Field Cleaned

Metals Sample Field Filtered
 Yes
 No
 Method _____

Physical & Chemical Data:
 Appearance:
 Clear
 Turbid
 Color 1
 Immiscible Product
 Other Fines suspended
 Filed Condition of Sample
 Temp _____
 pH _____
 Other _____

Certification:

This sample was collected and handled in accordance with standard regulatory and corporate procedures

Groundwater Monitor Well Sampling & Field Data Sheet

**ENVIRONMENTAL
MANAGEMENT
INC**

Location No. MW-6
 Sample No. MW-6
 Project/Client: GSA Alameda
 Location: _____
 Job No. 2403C.24

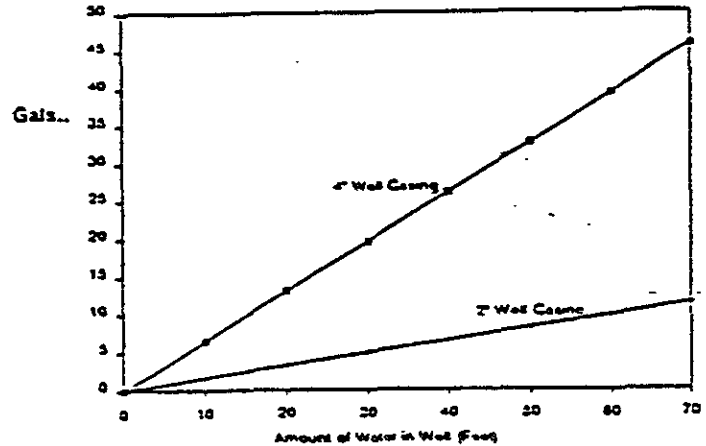
Date: 12-8-95 Time: 1315
 Weather: _____
 Conditions Foggy / Overcast
 Air Temperature 26.5°
 Personnel LH

WELL INFORMATION

Casing, Dia.: 4"
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Water Level: 5.71
 Total Depth: 14'
 Measuring Device _____
 M-Scope
 Other Solinst
 Volume of Water in Casing 5 gal approx.
 Datum: _____
 Top of Surf. Casing
 Top of Well Casing
 Other _____

Intake, Diameter: _____
 Stainless Steel
 Steel
 PVC
 Teflon
 Other _____
 Well Conditions: _____
 Well Clean to Bottom
 Well in Good Condition
 yes, () no
 Surface Protection: _____
 Clean () yes, () no
 Condition Good
 Lock yes, () no

Volume of 2" and 4" Casing in Gallons



Purging Data:

Method: _____
 Bladder Pump
 Bailor
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials: _____
 Pump/Bailor _____
 Teflon
 Stainless Steel
 PVC
 Other _____

Tubing/rope _____
 Teflon
 Polypropylene
 Nylon
 Other _____

Pumping Rate _____
 Elapsed Time _____
 Volume Pumped 15 gal
 Well Evacuated yes, () no
 Number of Well Volumes _____
 Purged 3

Purging Equipment _____
 Dedicated
 Prepared Off-Site
 Field Cleaned

Time Series Data _____
 Measurement _____
 Well Volumes 5 gal 10 gal 15 gal _____
 Water Temp. 66.6 67.5 68.0 _____
 pH 9.31 9.30 8.42 _____
 Other 100 3.45 4.56 5.01 _____

Sampling Data:

Method: _____
 Bladder Pump
 Bailor
 Submersible Pump
 Peristaltic Pump
 Other _____

Materials: Pump/Bailor _____
 Teflon
 Stainless Steel
 PVC
 Other _____

Materials: Tubing/rope _____
 Teflon
 Polypropylene
 Nylon
 Other _____

Sampling Equipment _____
 Dedicated
 Prepared Off-Site
 Field Cleaned

Metals Sample Field Filtered _____
 Yes
 No
 Method _____

Physical & Chemical Data:

Appearance: _____
 Clear
 Turbid
 Color Black to clear/amber
 Immiscible Product
 Other See Note
 Filed Condition of Sample _____
 Temp _____
 pH _____
 Other _____

Certification:

This sample was collected and handled in accordance with standard regulatory and corporate procedures

Note: The first four (4) gallons were black in color w/ strong septic odor.

APPENDIX B

**CERTIFIED LABORATORY REPORTS AND SAMPLE
CHAIN OF CUSTODY DOCUMENTATION**



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Cape Environmental INC.
20280 South Vermont Ave
Suite 250
Torrance, CA 90502

Date: 27-DEC-95
Lab Job Number: 123658
Project ID: 2403C.24
Location: Alameda

Reviewed by:

Reviewed by:

This package may be reproduced only in its entirety.

Halogenated Volatile Organics
EPA 8010 Analyte ListClient: Cape Environmental INC.
Project#: 2403C.24
Location: AlamedaAnalysis Method: EPA 8240
Prep Method: EPA 5030Field ID: MW-1 ✓
Lab ID: 123658-005
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	5.7 ✓	1.0
trans-1,2-Dichloroethene	2.1 ✓	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	100	87-125
Bromofluorobenzene	102	79-122
1,2-Dichloroethane-d4	91	68-126



Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-2R
Lab ID: 123658-002
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
---------	--------	-----------------

Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
-----------	-----------	-----------------

Toluene-d8	105	87-125
Bromofluorobenzene	98	79-122
1,2-Dichloroethane-d4	88	68-126

**Halogenated Volatile Organics
EPA 8010 Analyte List**

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-4
Lab ID: 123658-004
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	103	87-125
Bromofluorobenzene	99	79-122
1,2-Dichloroethane-d4	92	68-126



Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: TW/MW-5
Lab ID: 123658-001
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Recovery	Recovery Limits
Toluene-d8	105	87-125
Bromofluorobenzene	102	79-122
1,2-Dichloroethane-d4	95	68-126



Halogenated Volatile Organics
EPA 8010 Analyte List

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-6
Lab ID: 123658-003
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
---------	--------	-----------------

Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
-----------	-----------	-----------------

Toluene-d8	102	87-125
Bromofluorobenzene	100	79-122
1,2-Dichloroethane-d4	93	68-126

Lab #: 123658

BATCH QC REPORT

Page 1 of 1

 Halogenated Volatile Organics
 EPA 8010 Analyte List

 Client: Cape Environmental INC.
 Project#: 2403C.24
 Location: Alameda

 Analysis Method: EPA 8240
 Prep Method: EPA 5030

METHOD BLANK

 Matrix: Water
 Batch#: 24751
 Units: ug/L
 Diln Fac: 1

 Prep Date: 12/11/95
 Analysis Date: 12/11/95

MB Lab ID: QC10546

Analyte	Result	Reporting Limit
Chloromethane	ND	2.0
Bromomethane	ND	2.0
Vinyl Chloride	ND	2.0
Chloroethane	ND	2.0
Methylene Chloride	ND	20
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	1.0
1,1-Dichloroethane	ND	1.0
cis-1,2-Dichloroethene	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Chloroform	ND	1.0
Freon 113	ND	1.0
1,2-Dichloroethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
Carbon Tetrachloride	ND	1.0
Bromodichloromethane	ND	1.0
1,2-Dichloropropane	ND	1.0
cis-1,3-Dichloropropene	ND	1.0
Trichloroethene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
Dibromochloromethane	ND	1.0
Bromoform	ND	2.0
Tetrachloroethene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
Toluene-d8	107	87-125
Bromofluorobenzene	95	79-122
1,2-Dichloroethane-d4	95	68-126



Lab #: 123658

BATCH QC REPORT

Page 1 of 1

Halogenated Volatile Organics

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Prep Date: 12/11/95
Analysis Date: 12/11/95

LCS Lab ID: QC10469

Analyte	Result	Spike Added	%Rec #	Limits
1,1-Dichloroethene	11.25	10	113	51-180
Trichloroethene	9.554	10	96	73-141
Chlorobenzene	10.36	10	104	83-129
Surrogate	%Rec	Limits		
Toluene-d8	102	87-125		
Bromofluorobenzene	93	79-122		
1,2-Dichloroethane-d4	100	68-126		

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 3 outside limits



Aromatic Volatile Organics
EPA 8020 Analyte List

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8240
Prep Method: EPA 5030

Field ID: MW-1
Lab ID: 123658-005
Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/12/95

Analyte	Result	Reporting Limit
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0

Surrogate	%Recovery	Recovery Limits
Toluene-d8	100	87-125
Bromofluorobenzene	102	79-122
1,2-Dichloroethane-d4	91	68-126



Lab #: 123658

BATCH QC REPORT

Page 1 of 1

EPA 8020 Purgeable Aromatics
EPA 8020 Analyte ListClient: Cape Environmental INC.
Project#: 2403C.24
Location: AlamedaAnalysis Method: EPA 8240
Prep Method: EPA 5030

METHOD BLANK

Matrix: Water
Batch#: 24751
Units: ug/L
Diln Fac: 1Prep Date: 12/11/95
Analysis Date: 12/11/95

MB Lab ID: QC10546

Analyte	Result	Reporting Limit
Benzene	ND	1.0
Toluene	ND	1.0
Ethylbenzene	ND	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0
Chlorobenzene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
Surrogate	%Rec	Recovery Limits
Toluene-d8	107	87-125
Bromofluorobenzene	95	79-122
1,2-Dichloroethane-d4	95	68-126

Client: Cape Environmental INC.

Laboratory Login Number: 123658

 Project Name: Alameda
 Project Number: 2403C.24

Report Date: 27 December 95

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: SMWW 17:5520BF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
123658-001	TW/MW-5	Water	08-DEC-95	08-DEC-95	19-DEC-95	ND	mg/L	5	TR	24900
123658-002	MW-2R	Water	08-DEC-95	08-DEC-95	19-DEC-95	ND	mg/L	5	TR	24900
123658-003	MW-6	Water	08-DEC-95	08-DEC-95	19-DEC-95	ND	mg/L	5	TR	24900
123658-004	MW-4	Water	08-DEC-95	08-DEC-95	19-DEC-95	ND	mg/L	5	TR	24900
123658-005	MW-1	Water	08-DEC-95	08-DEC-95	19-DEC-95	ND	mg/L	5	TR	24900

ND = Not Detected at or above Reporting Limit (RL).

Q C B a t c h R e p o r t

 Client: Cape Environmental INC.
 Project Name: Alameda
 Project Number: 2403C.24

 Laboratory Login Number: 123658
 Report Date: 27 December 95

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 24900

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
MB	ND	5	mg/L	SMWW 17:5520BF	19-DEC-95

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	85%	SMWW 17:5520BF	19-DEC-95
BSD	82%	SMWW 17:5520BF	19-DEC-95

		Control Limits
Average Spike Recovery	83%	80% - 120%
Relative Percent Difference	2.9%	< 20%

Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-1
Lab ID: 123658-005
Matrix: Water
Batch#: 24772
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/15/95

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	85	35-114
2-Fluorobiphenyl	74	43-116
Terphenyl-d14	44	33-141



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-2R
Lab ID: 123658-002
Matrix: Water
Batch#: 24772
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/15/95

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	95	35-114
2-Fluorobiphenyl	83	43-116
Terphenyl-d14	58	33-141



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-4
Lab ID: 123658-004
Matrix: Water
Batch#: 24772
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/15/95

Analyte Result Reporting Limit

Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate %Recovery Recovery Limits

Nitrobenzene-d5	89	35-114
2-Fluorobiphenyl	77	43-116
Terphenyl-d14	48	33-141



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: TW/MW-5
Lab ID: 123658-001
Matrix: Water
Batch#: 24772
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/15/95

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	86	35-114
2-Fluorobiphenyl	72	43-116
Terphenyl-d14	48	33-141



Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: EPA 8270
Prep Method: EPA 3520

Field ID: MW-6
Lab ID: 123658-003
Matrix: Water
Batch#: 24772
Units: ug/L
Diln Fac: 1

Sampled: 12/08/95
Received: 12/08/95
Extracted: 12/12/95
Analyzed: 12/15/95

Analyte	Result	Reporting Limit
Naphthalene	ND	9.4
Acenaphthylene	ND	9.4
Acenaphthene	ND	9.4
Fluorene	ND	9.4
Phenanthrene	ND	9.4
Anthracene	ND	9.4
Fluoranthene	ND	9.4
Pyrene	ND	9.4
Benzo(a)anthracene	ND	9.4
Chrysene	ND	9.4
Benzo(b)fluoranthene	ND	9.4
Benzo(k)fluoranthene	ND	9.4
Benzo(a)pyrene	ND	9.4
Indeno(1,2,3-cd)pyrene	ND	9.4
Dibenz(a,h)anthracene	ND	9.4
Benzo(g,h,i)perylene	ND	9.4

Surrogate	%Recovery	Recovery Limits
Nitrobenzene-d5	96	35-114
2-Fluorobiphenyl	75	43-116
Terphenyl-d14	30	33-141



Lab #: 123658

BATCH QC REPORT

Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
 Project#: 2403C.24
 Location: Alameda

Analysis Method: EPA 8270
 Prep Method: EPA 3520

METHOD BLANK

Matrix: Water
 Batch#: 24772
 Units: ug/L
 Diln Fac: 1

Prep Date: 12/12/95
 Analysis Date: 12/18/95

MB Lab ID: QC10554

Analyte	Result	Reporting Limit
Naphthalene	ND	10
Acenaphthylene	ND	10
Acenaphthene	ND	10
Fluorene	ND	10
Phenanthrene	ND	10
Anthracene	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Benzo(a)anthracene	ND	10
Chrysene	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10
Surrogate	%Rec	Recovery Limits
Nitrobenzene-d5	94	35-114
2-Fluorobiphenyl	87	43-116
Terphenyl-d14	87	33-141



Lab #: 123658

BATCH QC REPORT

Polynuclear Aromatic Hydrocarbons by GC/MS

Client: Cape Environmental INC.
 Project#: 2403C.24
 Location: Alameda

Analysis Method: EPA 8270
 Prep Method: EPA 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 24772
 Units: ug/L
 Diln Fac: 1

Prep Date: 12/12/95
 Analysis Date: 12/15/95

BS Lab ID: QC10555

Analyte	Spike Added	BS	%Rec #	Limits
Acenaphthene	50	42.99	86	46-118
Pyrene	50	43.89	88	26-127
Surrogate	%Rec	Limits		
Nitrobenzene-d5	96	35-114		
2-Fluorobiphenyl	87	43-116		
Terphenyl-d14	89	33-141		

BSD Lab ID: QC10556

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Acenaphthene	50	43.83	88	46-118	2	<31
Pyrene	50	45.15	90	26-127	2	<31
Surrogate	%Rec	Limits				
Nitrobenzene-d5	96	35-114				
2-Fluorobiphenyl	87	43-116				
Terphenyl-d14	90	33-141				

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 0 out of 4 outside limits



TEH-Tot Ext Hydrocarbons

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
123658-001	TW/MW-5	24786	12/08/95	12/13/95	12/14/95	
123658-002	MW-2R	24786	12/08/95	12/13/95	12/14/95	
123658-003	MW-6	24786	12/08/95	12/13/95	12/14/95	
123658-004	MW-4	24786	12/08/95	12/13/95	12/14/95	

Analyte	Units	123658-001	123658-002	123658-003	123658-004
DiIn Fac:		1	1	1	1
Diesel Range	ug/L	<50	<50	3700 YH	<50
Surrogate					
Hexacosane	%REC	130	125	120	126

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard



TEH-Tot Ext Hydrocarbons

Client: Cape Environmental INC.
Project#: 2403C.24
Location: Alameda

Analysis Method: CA LUFT (EPA 8015M)
Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
123658-005	MW-1	24786	12/08/95	12/13/95	12/14/95	

Analyte	Units	123658-005
Diln Fac:		1
Diesel Range	ug/L	490 YH
Surrogate		
Hexacosane	%REC	120

Y: Sample exhibits fuel pattern which does not resemble standard
H: Heavier hydrocarbons than indicated standard



Lab #: 123658

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Cape Environmental INC.	Analysis Method: CA LUFT (EPA 8015M)
Project#: 2403C.24	Prep Method: 3520
Location: Alameda	

METHOD BLANK

Matrix: Water	Prep Date: 12/13/95
Batch#: 24786	Analysis Date: 12/14/95
Units: ug/L	
Diln Fac: 1	

MB Lab ID: QC10613

Analyte	Result	
Diesel Range	<50	
Surrogate	%Rec	Recovery Limits
Hexacosane	111	60-140



Lab #: 123658

BATCH QC REPORT

TEH-Tot Ext Hydrocarbons

Client: Cape Environmental INC.
 Project#: 2403C.24
 Location: Alameda

Analysis Method: CA LUFT (EPA 8015M)
 Prep Method: 3520

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water
 Batch#: 24786
 Units: ug/L
 Diln Fac: 1

Prep Date: 12/13/95
 Analysis Date: 12/14/95

BS Lab ID: QC10614

Analyte	Spike Added	BS	%Rec #	Limits
Diesel Range	2565	2506	98	60-140
Surrogate	%Rec	Limits		
Hexacosane	105	60-140		

BSD Lab ID: QC10615

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel Range	2565	2434	95	60-140	3	<35
Surrogate	%Rec	Limits				
Hexacosane	105	60-140				

Column to be used to flag recovery and RPD values with an asterisk


* Values outside of QC limits

RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits

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 LOGIN # _____

Analyses

Sampler: Larry Harlan

Project No: 2403C.24

Report To: SAME

Project Name: GSA - Alameda

Company: Cape Env. Mgmt. Inc

Project P.O.:

Telephone: 310 532 4500

Turnaround Time:

Fax: 310 532 6022

Lab Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	OIL & GREASE	TEH	8010	8270 PNA'S ONLY	8020 BTEX
			Soil	Water	Waste		HCl	H ₂ SO ₄	HNO ₃	ICE						
	TW/MW-5	12-8-95 1205		X		2	X				VOA			X		
	TW/MW-5	" 1205		X		2	X				1 L AMBER	X		X		
	TW/MW-5	" 1205		X		1	X				1 L AMBER	X				
	MW-2R	" 1302		X		2	X				VOA		X			
	MW-2R	" 1302		X		2	X				1 L AMBER	X		X		
	MW-2R	" 1302		X		1	X				1 L AMBER	X				
	MW-6	" 1345		X		2	X				VOA		X			
	MW-6	" 1345		X		2	X				1 L AMBER	X		X		
	MW-6	" 1345		X		1	X				1 L AMBER	X				
	MW-4	" 1416		X		2	X				VOA		X			
	MW-4	" 1416		X		2	X				1 L AMBER	X		X		
	MW-4	" 1416		X		1	X				1 L AMBER	X				

Notes:
123658

RELINQUISHED BY:
Larry M. Harlan 12/8/95 1646 DATE/TIME

DATE/TIME _____


DATE/TIME _____

RECEIVED BY:
 _____ DATE/TIME _____

_____ DATE/TIME _____

_____ DATE/TIME _____

CHAIN OF CUSTODY FORM

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Analyses

Project No: 2403C.24 Report To: SAME
 Project Name: GSA - Alameda Company: Cape Env. Mgmt. Inc.
 Project P.O.: _____ Telephone: 310 532 4500
 Turnaround Time: _____ Fax: 11 532 6022

Lab Number	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative				Field Notes	OIL & GREASE	TEH	8010	8270 PNA'S ONLY	8020 STEX
			Soil	Water	Waste		HCl	H ₂ SO ₄	HNO ₃	ICE						
	MW-1	12-8-95 1520		X		4	X				VOA			X		
	MW-1	" 1520		X		2					1 L AMBER	X		X		
	MW-1	" 1520		X		1	X				1 L AMBER	X				

Notes: 123658

RELINQUISHED BY:		RECEIVED BY:	
<u>Larry M. Harlan</u>	<u>12/8/95 1646</u>	DATE/TIME	DATE/TIME
		DATE/TIME	DATE/TIME
		DATE/TIME	DATE/TIME

JOB BY 12-8-95

Signature on this form constitutes a firm Purchase Order for the services requested above.