Texaco Refining and Marketing Inc
10 Universal City Plaza
Universal City CA 91608

March 10, 1994

ENV - SERVICE STATIONS
Summery Report - VES Remediation
1127 Lincoln Avenue
Alameda, California

Ms. Juliet Shin
Alameda County Department of
Environmental Protection
80 Swan Way, Room 200
Oakland, CA 94621

Dear Ms. Shin:

Enclosed is a copy of the operating report for the remediation system, dated February 21, 1994, for the former Texaco service station at the above site.

Because of the low hydrocarbon levels we are now experiencing at the ICE's intake, Texaco has instructed the contractor, Ceecon, to replace the ICE with two 1,000 pound carbon units in accordance with the approved BAAQMD operating permit. We will continue to operate a soil vapor extraction system and the groundwater treatment system by processing the vapors through the carbon system and the water through the remaining treatment unit.

Please contact me at (818) 505-2476 if you have any questions or wish to discuss the report further.

Very truly yours,
Texaco Refining And Marketing, Inc.

Bob Robles
Environmental Protection Coordinator

RR:rr
w:\rr\1127lin1.reg

Mr. Leo Pagano
Mr. Richard Hiett, CRWQCB
RRZielinski

PR:_____

CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

February 21, 1994

Mr. Robert Robles
Environmental Project Coordinator
Texaco Environmental Services
10 Universal City Plaza, 7th Floor
Universal City, California 91608

Subject: SUMMARY REPORT for the Remediation System Operating at the Former Texaco Service Station, 1127 Lincoln Avenue, Alameda, California.

Mr. Robles:

California Environmental Engineers & Contractors (CEECON) is pleased to present this SUMMARY REPORT to Texaco Environmental Services (TES) for the remediation system operating at the Former Texaco Service Station located at 1127 Lincoln Avenue, Alameda, California. The location of the site is shown on the attached LOCATION MAP, LM-1. Residences and buildings in the immediate vicinity of the site are shown on the AREA MAP, AM-1. Vapor-extraction wells, groundwater-extraction wells, groundwater-monitoring wells, and other site features are shown on the SITE PLAN, SP-1.

Prior investigations indicate that soil and groundwater have been impacted by gasoline petroleum hydrocarbons on site, and that groundwater may have been impacted by petroleum hydrocarbons on adjacent properties. A WORKPLAN FOR THE INSTALLATION AND OPERATION OF AN INTERIM SOIL AND GROUNDWATER REMEDIATION SYSTEM was submitted by TES to the Alameda Health Care Service Agency (AHCSA) on April 5, 1993. In accordance with this WORKPLAN, CEECON manufactured, permitted, and installed a W-2000 vapor-extraction system (VES) and a 0-10 gallon-per-minute (GPM) groundwater-treatment system (GTS) for this site. These two systems combine to form a remediation system designed to maximize the removal rate of gasoline-petroleum hydrocarbons from beneath the site, and to prevent further off-site migration of dissolved petroleum hydrocarbons.

The VES extracts and treats hydrocarbon-bearing vapor from vapor-extraction wells VW-1, VW-2, VW-3, VW-4, and VW-5, groundwater-monitoring wells MW-1, MW-2, MW-5, and treats hydrocarbon-bearing vapor from the groundwater aeration portion of the GTS. The GTS is extracting groundwater from groundwater-monitoring wells MW-1, MW-2, MW-5. This report summarizes the operation of the remediation system since system start-up, the results of

laboratory analyses for extracted vapor and groundwater samples, discharge vapor and water samples, and the progress of remediation activities at this site.

VAPOR-EXTRACTION SYSTEM OPERATION

The VES system consists of a seven-horsepower extraction blower and a six-cylinder, 300-cubic inch, internal combustion (I.C.) engine. A layout of the I.C. engine, along with plan, side, and end views, are shown on VET-1. A process flow diagram of the VES is shown on VET-2 The VES was installed at the site in July, 1993 and a Source Test was conducted July 27-29, 1993. Results of the Source Test indicated that the VES was operating within Bay Area Air Quality Management District (BAAQMD) guidelines. (SOURCE TEST REPORT; CEECON, September 20, 1993.)

The VES operated intermittently during August of 1993 while awaiting approval of the groundwater treatment system by the East Bay Municipal Utility District (EBMUD). Upon receipt of laboratory analytical results confirming that the GTS was operating within EBMUD requirements, approval to operate continuously was received from EBMUD. The VES began continuous operation in early September 1993. Compliance sampling for the VES has been performed approximately every two weeks during the last four months of 1993. Vapor samples were submitted to ExcelChem Laboratory (Hazardous Waste Laboratory Certificate # 1760) of Citrus Heights California and analyzed for total petroleum hydrocarbons reported as gasoline (TPHg) by modified Environmental Protection Agency (EPA) Method 8015; and for benzene, toluene, ethylbenzene, and total xylene isomers (BTEX), by modified EPA Method 8020. Chain-of-Custody protocol was followed throughout field and laboratory procedures. Chain of custody records and results of laboratory analyses of vapor samples are included in APPENDIX A. Results of laboratory analyses of vapor samples collected influent and effluent to the I.C. engine are summarized below on TABLE 1, RESULTS OF LABORATORY ANALYSES OF VAPOR SAMPLES.

Since the Source Test, the highest concentration of petroleum hydrocarbons reported influent to the VES was in a sample collected on October 13, 1993, with concentrations of 500 mg/m^3 TPHg and 11 mg/m^3 benzene. The highest concentration of TPHg reported in the effluent from the VES was 22 mg/m^3 in a sample collected on November 12, 1993. The highest concentration of benzene reported effluent from the VES was 0.19 mg/m^3 in a sample collected on November 3, 1993. Vapor samples that were collected on September 29, 1993 were reported by the laboratory to have very similar concentrations for all constituents (TPHg and BTEX). Because of the level of TPHg found in these samples, and because of the similar concentrations found in both samples, CEECON believes that field personnel mistakenly left the sample location valve in the same position for both vapor samples on this day, collecting two influent samples rather than one influent and one effluent sample.

Concentrations in influent vapor have declined substantially since system installation. Concentrations of hydrocarbons found in influent vapor samples collected during the Source Test (7,800, 6,400, 4,200 mg/m^3 TPHg for each of the three days respectively), were much higher than concentrations found during subsequent compliance sampling. During the Source Test, the VES extracted vapor from all five vapor-extraction wells (VW-1, VW-2, VW-3, VW-4, and VW-5). After the GTS was installed, vapor from the well MW-5 was added to the combined flow from the other vapor-extraction wells. The two remaining groundwater extraction wells (MW-1 and MW-2) were connected to the VES in November 1993

TABLE 1
RESULTS OF LABORATORY ANALYSES OF VAPOR SAMPLES

Sample ID	Sample Location	Date	TPHg mg/m^3	B mg/m^3	T mg/m^3	E mg/m^3	X mg/m^3
INF	Influent	9/16/93	26	0.8	0.98	0.36	1.4
EFF	Effluent		<10	<0.1	0.40	0.22	1.5
INF	Influent	9/29/93	36	<0.1	0.46	0.3	1.3
EFF	Effluent		36	<0.1	0.70	0.26	1.3
INF	Influent	10/13/93	500	11	3.2	0.5	9.8
EFF	Effluent		11	0.1	1.5	<0.1	0.4
INF	Influent	11/3/93	38	<0.1	1.5	0.38	4.4
EFF	Effluent		<10	0.19	4.0	0.13	1.1
INF	Influent	11/12/93	56	2.4	0.76	0.72	6.2
EFF	Effluent		22	0.16	0.70	0.40	1.5
INF	Influent	11/22/93	8.4	0.54	0.22	0.36	0.96
EFF	Effluent		3.6	<0.1	0.13	<0.1	<0.1
INF	Influent	12/9/93	183	2.3	2.5	1.1	16
EFF	Effluent		10	<0.5	1.5	<0.5	1.5
INF	Influent	12/21/93	26	0.42	0.30	<0.25	1.2
EFF	Effluent		<10	<0.25	<0.25	<0.25	0.44

mg/m^3: **Concentrations reported in milligrams per cubic meter**
TPHg: Total petroleum hydrocarbons reported as gasoline (analyzed by EPA modified Method 8015)
B. benzene, T. toluene, E. ethyl benzene, X. total xylene isomers
BTEX Analyzed by EPA Method 8020
<50 Less than the laboratory detection limit.

The operational parameters of the VES, including date of site visit, system status, engine run-time, engine RPM, influent vacuum, influent velocity, exhaust temperature, percent lower explosive limit of hydrocarbon concentrations, and oxygen content of the influent vapor, are summarized on TABLE 2, VAPOR EXTRACTION SYSTEM OPERATION SUMMARY LOG. Also included on TABLE 2 are laboratory results of influent and effluent vapor samples for TPHg and benzene, calculated daily extraction rates for TPHg and benzene (lbs/day), VES influent flow rates, estimated VES effluent flow rates, and calculated daily emission rates for TPHg and benzene (lbs/day). Extraction and emission rates from the VES are discussed below.

Calculation of Extraction Rates

The amount of TPHg and benzene extracted from wells is obtained by multiplying the volume of vapor extracted by the concentration of hydrocarbons in extracted vapor. The wellhead flow rate can be calculated by multiplying the wellhead velocity by the cross-sectional area of the 2-inch influent piping. Influent flow rates were measured with a pitot tube and differential pressure gauge (magnehelic gauge). The measured flow in linear feet per minute (LFPM) was converted to standard cubic feet per minute (SCFM). Since system start-up, the average velocity of extracted vapor was approximately 2,000 LFPM (as summarized on TABLE 2). Correcting for the average vacuum of 5 inches of water column observed at the influent, an average extraction flow rate of 42 SCFM of hydrocarbon-bearing vapor was extracted from soil beneath the site. Using the maximum influent sample concentrations of TPHg (TABLE 1), the maximum daily mass extraction rate can be calculated as follows:

$$\frac{500\ \text{mg TPHg}}{1\ \text{m}^3} \times \frac{1\ \text{g}}{1{,}000\ \text{mg}} \times \frac{1\ \text{mole TPHg}}{67\ \text{g TPHg}} \times \frac{22.414\ \text{l}}{1\ \text{mole}} \times \frac{1\ \text{m}^3}{1{,}000{,}000\ \text{cm3}} \times \frac{1\ \text{cm}^3}{1\ \text{ml}} \times \frac{1{,}000\ \text{ml}}{1\ \text{l}} = 167\ \text{ppmv TPHg}$$

$$\frac{167\ \text{l (TPHg)}}{1{,}000{,}000\ \text{(l air)}} \times \frac{42\ \text{ft}^3}{\text{min}} \times \frac{1{,}440\ \text{min}}{\text{day}} \times \frac{28.32\ \text{l (air)}}{1\ \text{ft}^3} \times \frac{1\ \text{mole (gas)}}{22.414\ \text{l (vapor)}} \times \frac{67\ \text{grams}}{1\ \text{mole (gas)}} \times \frac{1\ \text{lb}}{454\ \text{grams}}$$

$$= \frac{1.8\ \text{lbs TPHg}}{\text{day}}$$

Similarly the maximum daily mass extraction rate for benzene can be calculated as follows:

$$\frac{11\ \text{mg benzene}}{1\ \text{m}^3} \times \frac{1\ \text{g}}{1{,}000\ \text{mg}} \times \frac{1\ \text{mole benzene}}{78\ \text{g benzene}} \times \frac{22.414\ \text{l}}{1\ \text{mole}} \times \frac{1\ \text{m}^3}{1{,}000{,}000\ \text{cm3}} \times \frac{1\ \text{cm}^3}{1\ \text{ml}} \times \frac{1{,}000\ \text{ml}}{1\ \text{l}} = 3.2\ \text{ppmv Benzene}$$

$$\frac{3.2\ \text{l (benzene)}}{1{,}000{,}000\ \text{(l air)}} \times \frac{42\ \text{ft}^3}{\text{min}} \times \frac{1{,}440\ \text{min}}{\text{day}} \times \frac{28.32\ \text{l (air)}}{1\ \text{ft}^3} \times \frac{1\ \text{mole (benzene)}}{22.414\ \text{l (vapor)}} \times \frac{78\ \text{grams}}{1\ \text{mole (benzene)}} \times \frac{1\ \text{lb}}{454\ \text{grams}}$$

$$= \frac{0.042\ \text{lbs benzene}}{\text{day}}$$

These calculations have been duplicated in TABLE 2 for all samples that were collected since system start-up.

Calculations of VES Exhaust Stack Flow Rate

The W-2000 VES contains a four-stroke internal combustion I.C. engine which displaces 300 cubic inches of process vapor for every two revolutions of the engine. As shown in TABLE 2, the VES operated at an average rate of approximately 1,700 revolutions per minute (rpm) since start-up. The following calculation shows the effluent flow rate that would be expected from the VES operating at this average rate under standard temperature and pressure (STP=1 atmosphere pressure and 70° Fahrenheit).

$$\frac{1700 \text{ rpm}}{2} \times 300 \text{ in}^3 \times \frac{1 \text{ ft}^3}{1728 \text{ in}^3} = 147 \text{ scfm}$$

For calculation purposes, the VES's emission flow rate can be represented by an average flow rate of 147 scfm.

Calculation of Emission Rates

VES hydrocarbon emission rates are equal to the product of hydrocarbon concentrations in the exhaust effluent, multiplied by the exhaust flow rate of the engine. The maximum daily mass emission rate for TPHg can be calculated by using the highest concentration found in samples collected from the VES, and the average exhaust flow rate from the VES as shown above. Although the analytical sample results for the effluent sample that was collected on September 29, 1993 were higher than other collected samples, as discussed previously, they were not used in this calculation because CEECON believes that two duplicates of the influent sample were collected on this day rather than one influent and one effluent sample. CEECON used an average molecular weight of 67 for TPHg, and a molecular weight of 78 for benzene.

$$\frac{22 \text{ mg TPHg}}{1 \text{ m}^3} \times \frac{1 \text{ g}}{1{,}000 \text{ mg}} \times \frac{1 \text{ mole TPHg}}{67 \text{ g TPHg}} \times \frac{22.414 \text{ l}}{1 \text{ mole}} \times \frac{1 \text{ m}^3}{1{,}000{,}000 \text{ cm3}} \times \frac{1 \text{ cm}^3}{1 \text{ ml}} \times \frac{1{,}000 \text{ ml}}{1 \text{ l}} = 7.5 \text{ ppmv TPHg}$$

$$\frac{7.5 \text{ l (TPHg)}}{1{,}000{,}000 \text{ (l air)}} \times \frac{147 \text{ ft}^3}{\text{min}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{28.32 \text{ l (air)}}{1 \text{ ft}^3} \times \frac{1 \text{ mole (gas)}}{22.414 \text{ l (vapor)}} \times \frac{67 \text{ grams}}{1 \text{ mole (gas)}} \times \frac{1 \text{ lb}}{454 \text{ grams}}$$

$$= \frac{0.3 \text{ lbs TPHg}}{\text{day}}$$

TABLE 2
VAPOR EXTRACTION SYSTEM OPERATION SUMMARY LOG
August 1, 1993 through December 31, 1993
1127 Lincoln Avenue, Alameda, California

Date	Engine Oper-ating	Engine Hours	Engine RPM	Influent Vacuum H2O (inches)	Influent Velocity (ft/min)	Exhaust Temp. F	Conc. % LEL/ ppm	Conc. % O2	Sampled	TPHg Influent mg/m3	TPHg Effluent mg/m3	Benzene Influent mg/m3	Benzene Effluent mg/m3	Inlet Flow (ft3/min)	TPHg Inlet Feed (lbs/day)	Benzene Inlet Feed (lbs/day)	Estimated Effluent Flow Rates SCFM	Emissions TPHg (lbs/day)	Emissions Benzene (lbs/day)	Comments
9/16/93	Y	1068	1300	1	2500	500	5	16	Y	26	10	0.8	0.1	54.4	0.13	0.004	113	0.103	0.0010	
9/29/93	Y	1405	1700	1	1000	600	5	16	Y	36	36	0.1	0.1	21.8	0.07	0.000	148	0.483	0.0013	
10/13/93	Y	1714	2000	5	2000	600	200 ppm	20	Y	500	11	11	0.1	43.1	1.96	0.043	174	0.174	0.0016	
11/3/93	Y	2118	1600	4	2000	500	200 ppm	19	Y	38	10	0.1	0.19	43.2	0.15	0.000	139	0.126	0.0024	
11/12/93	Y	2332	1400	4	2000	500	250 ppm	19	Y	56	22	2.4	0.16	43.2	0.22	0.009	122	0.243	0.0018	
11/22/93	Y	2574	1900	5	2000	500	100 ppm	20	Y	8	3.6	0.54	0.1	43.1	0.03	0.002	165	0.054	0.0015	
12/9/93	Y	2818	1900	12	2000	600	300 ppm	20	Y	180	10	2.3	0.5	42.3	0.69	0.009	165	0.150	0.0075	
12/21/93	Y	3145	1900	7	2300	575	175 ppm	19	Y	26	10	0.42	0.25	49.3	0.12	0.002	165	0.150	0.0037	
															TPHg	Benzene				
													Total Pounds Removed:		47	1				

Note Influent velocities for 9/29/93-12/22/93 are estimated.

The mass emission rate of benzene from the engine is calculated similarly.

$$\frac{0.19 \text{ mg benzene}}{1 \text{ m}^3} \times \frac{1 \text{ g}}{1{,}000 \text{ mg}} \times \frac{1 \text{ mole benzene}}{78 \text{ g benzene}} \times \frac{22.414 \text{ l}}{1 \text{ mole}} \times \frac{1 \text{ m}^3}{1{,}000{,}000 \text{ cm3}} \times \frac{1 \text{ cm}^3}{1 \text{ ml}} \times \frac{1{,}000 \text{ ml}}{1 \text{ l}} = 0.05 \text{ ppmv Benzene}$$

$$\frac{0.05 \text{ l (benzene)}}{1{,}000{,}000 \text{ (l air)}} \times \frac{147 \text{ ft}^3}{\text{min}} \times \frac{1{,}440 \text{ min}}{\text{day}} \times \frac{28.32 \text{ l (air)}}{1 \text{ ft}^3} \times \frac{1 \text{ mole (benzene)}}{22.414 \text{ l (vapor)}} \times \frac{78 \text{ grams}}{1 \text{ mole (benzene)}} \times \frac{1 \text{ lb}}{454 \text{ grams}}$$

$$= \frac{0.0025 \text{ lbs benzene}}{\text{day}}$$

These calculations have been duplicated in TABLE 2 for all samples that were collected since VES start-up. For each calculated quantity shown in Table 2, the engine's actual exhaust rate was used, rather than the average as shown in the examples above. As shown on TABLE 2, at no time since start-up did the VES exceed BAAQMD daily emission requirements of 0.05 pounds per day of benzene.

Destruction Efficiency Requirements

In the AUTHORITY TO CONSTRUCT for the site (attached), BAAQMD stipulates that if TPHg emissions are less than 1.0 pound per day, and benzene emissions are less than 0.02 pounds per day, BAAQMD waives minimum destruction efficiency requirements for the site. As shown on TABLE 2, at no time since system start-up, did the VES emissions exceed 1.0 pound per day for TPHg and 0.02 pounds per day for benzene. Therefore there were no minimum destruction efficiency requirements in effect for the site.

Tuning of Vapor Extraction System

CEECON personnel have begun to monitor vapor concentrations in vapor-extraction wells and combination groundwater/vapor-extraction wells, and to adjust well valve positions to maximize concentrations of extracted vapor. When the VES was initially installed, vapor was extracted from all of the vapor-extraction wells and shortly thereafter from the combination well MW-5. The remaining two combination wells, MW-1, and MW-2, were connected shortly after concentrations decreased in MW-5.

As hydrocarbon concentrations in individual wells declined, the VES was adjusted to allow the system to focus on the wells with higher hydrocarbon concentrations. TABLE 3, HYDROCARBON CONCENTRATIONS, shows hydrocarbon concentrations recorded in vapor wells using a combustible gas meter. The GTS is assisting soil-vapor remediation efforts by depressing the water table in the vicinity of extraction wells and thus exposing additional impacted soil to the

Table 3
Hydrocarbon Concentrations

Measured as Percent Lower Explosive Limit (LEL) or PPM

Date	MW-1	MW-2	MW-5	VW-1	VW-2	VW-3	VW-4	VW-5
12/09/1993	NM/On	NM/On	NM/On	30 ppm/On	0 ppm/Off	0 ppm/Off	100 ppm/On	NA
12/16/1993	NM/On	NM/On	NM/On	50 ppm/On	0 ppm/Off	0 ppm/Off	100 ppm/On	NA
12/21/1993	100 ppm/Off	10 ppm/Off	100 ppm/On	8%/On	250 ppm/On	400 ppm/On	80 ppm/On	10%/On
1/14/1994	75 ppm/Off	150 ppm/Off	25 ppm/Off	350 ppm/On	40 ppm/Off	50 ppm/Off	75 ppm/Off	10%/On
1/25/1994	200 ppm/Off	100 ppm/Off	125 ppm/Off	7%/On	500 ppm/On	375ppm/On	100 ppm/Off	10%/On

NA= Not Accessible
NM= Not Measured

Table 4
Depths To Groundwater

(Measured to Top of Casing)

Total Depth Date	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
12/09/1993	7.55	9.12	9.15	9.00	7.90	9.09	NA	8.40
12/16/1993	>14.40	>15.50	9.15	8.66	>12.00	9.14	NA	8.49
12/21/1993	>13.95	>15.12	8.61	9.10	>11.59	8.59	7.77	7.99
1/14/1994	>14.35	>15.80	9.93	9.45	>12.40	9.40	8.40	9.05
1/25/1994	>14.50	>15.75	9.80	9.40	>12.40	9.75	8.70	8.90

>: Greater than than depth indicated,downhole pump turns on at this level.

VES. As more soil is exposed to the VES, hydrocarbon removal rates can be maximized. TABLE 4, DEPTHS TO GROUNDWATER, shows groundwater levels recorded in groundwater monitoring wells at the site over the last two months. TABLE 5, VAPOR EXTRACTIONS WELLS SCREENED INTERVALS shows the depth to the screened interval in each of the vapor extraction wells.

TABLE 5
VAPOR EXTRACTION WELLS-SCREENED INTERVALS
Former Texaco Station
1127 Lincoln Avenue, Alameda, California

Vapor Well Number	Top of Screen BGS	Bottom of Screen BGS	Total Screen
VW-1	6.0	9.5	3.5
VW-2	6.0	9.5	3.5
VW-3	5.5	8.0	2.5
VW-4	6.0	8.5	2.5
VW-5	6.0	8.0	2.0

All Table Entries are dimensions measured in feet.
BGS: Below Ground Surface.

GROUNDWATER TREATMENT SYSTEM

The GTS consists of three downhole pumps located in the combination wells MW-1, MW-2, and MW-5, a double-contained piping network from the wells to the remediation system, and a trailer-mounted CEECON 0-10 GPM GTS. The trailer-mounted GTS includes an aeration tank, instrumentation, controls and two carbon drums arranged in series. GTS-1 shows the trailer-mounted GTS, and GTS-2 details the GTS extraction and treatment process.

EBMUD requires periodic compliance sampling from the GTS. Upon system start-up, water samples were collected weekly for the first month of operation. Thereafter, compliance sampling is to be performed every month that the system is operating. Four samples are collected from the GTS during each sampling event. One water sample is collected influent to the GTS: when only MW-5 was online, this influent sample was from the single well MW-5. (When the other two combined wells MW-1, and MW-2, were connected to the system, this influent sample became a composite sample from all three wells.) A second groundwater sample is collected after the aeration tank, and a third sample is collected after the first carbon drum. The fourth sample is collected after the second carbon drum, from water the GTS discharges to

the EBMUD sewer system. CEECON has been informed that separate reports are being submitted to EBMUD by RESNA Industries (San Jose, California) for EBMUD water discharge compliance.

CEECON began operating the 0-10 GPM GTS on September 8, 1993. During the first two months of its operation, the system extracted groundwater only from the combination groundwater and vapor extraction well MW-5. CEECON's goal was to depress the groundwater table around MW-5 and use the VES to extract and treat soil vapor from the capillary fringe soil in the vicinity of this well. Influent concentrations of petroleum hydrocarbons in groundwater from MW-5 were initially several thousand parts per billion (ppb) by weight (TABLE 6) at system start-up. After pumping from well MW-5 for approximately one month, concentrations of TPHg in groundwater declined to below the laboratory method detection limits of 50 ppb.

In early November, 1993 two additional wells were brought on-line: MW-1, and MW-2. CEECON's goal was to depress the groundwater table surrounding these wells and to expose contaminated soil for the VES. Analytical results for composite groundwater samples that were collected influent to the GTS were initially non-detect for TPHg and BTEX. After extracting water from the site for several weeks, analytical results began to show detectable concentrations of TPHg and BTEX in composite samples from MW-1, MW-2, and MW-5, which were collected influent to the GTS.

Results of laboratory analyses of groundwater samples that were collected from the GTS are summarized on TABLE 6, GROUNDWATER TREATMENT SYSTEM OPERATION LOG. Samples were submitted to Mobile Chem Labs Inc. (Hazardous Waste Laboratory Certificate # 1223) of Martinez, California for the following analyses: TPHg by modified EPA Method 8015, and BTEX, by modified EPA Method 8020. Chain-of-Custody protocol was followed throughout field and laboratory procedures. Chain of custody records and results of laboratory analyses of vapor samples are included in APPENDIX B.

As shown on TABLE 6, the highest concentrations of TPHg found in influent water samples indicated concentrations of 6,800 parts per billion (ppb) in a sample collected on September 8, 1993. At no time was TPHg or benzene detected in water effluent from the GTS.

Since early December, CEECON personnel have been visiting the site to record pumping rates and groundwater levels in on-site wells. This information is summarized in TABLE 4. Combined groundwater/extraction wells MW-1, MW-2, and MW-5 are fitted with pumpsaver devices that turn the downhole pumps off when the wells are pumped dry. CEECON has adjusted the pumpsaver settings for these wells to maximize groundwater drawdown in the combined wells. Well MW-1 recharges to approximately 14 feet below top-of-casing (TOC), before it is pumped dry. Similarly wells MW-2 and MW-5 recharge to approximately 15 and

Table 6
Groundwater Treatment System Operation Log
September 8, 1993 through December 31, 1993
1127 Lincoln Avenue, Alameda, California

Date	GTS Operating	Totalizer Reading (gal)	Pumping Rate MW-1 (GPM)	Pumping Rate MW-2 (GPM)	Pumping Rate MW-5 (GPM)	Aeration Pressure (PSI)	Carbon Pressure (PSI)	Sampled	Laboratory Results INF A		Laboratory Results PAT B		Laboratory Results PCI C		Laboratory Results EFF D	
									TPHg (ppb)	Benzene (ppb)	TPHg (ppb)	Benzene (ppb)	TPHg (ppb)	Benzene (ppb)	TPHg (ppb)	Benzene (ppb)
09/08/93	Y	369	Off	Off	0.90	10	13	Y	6800	460	NS	NS	NS	NS	<50	<0.5
09/15/93	Y	7,567	Off	Off	0.90	12	13	Y	2500	160	<50	<0.5	<50	<0.5	<50	<0.5
09/22/93	Y	13,100	Off	Off	0.9	12	12	Y	1800	110	<50	<0.5	<50	<0.5	<50	<0.5
09/29/93	N	13,610	Off	Off	1.2	18	18	Y	<50	<0.5	<50	<0.5	<50	<0.5	<50	<0.5
10/06/93	Y	23,010	Off	Off	0.8	15	15	Y	<50	<0.5	<50	<0.5	<50	<0.5	<50	<0.5
10/22/93	Y	31,980	Off	Off	0.70	10	10	Y	<50	<0.5	<50	<0.5	<50	<0.5	<50	<0.5
11/12/93	Y	36,739	0 5	0.5	1.14	4.0	4.0	Y	83	12	<50	5.2	<50	<0.5	<50	<0.5
12/8/93	Y	55,800	0.75	0.48	0.9	4.0	6.0	Y	400	36	<50	3.5	<50	<0.5	<50	<0.5

12 feet below TOC before their respective pumps restart. Maximum recharge depths for the wells that were recorded when personnel visited the site are shown on TABLE 4. When the GTS is operating, the groundwater in these wells is not allowed to recharge to above these levels. The three extraction wells have created a depression in groundwater surface elevation in the immediate vicinity of the areas with the highest reported hydrocarbon concentrations in soil and groundwater.

CEECON has summarized information concerning the operation of the groundwater treatment system in the attached TABLE 6. This table includes operational parameters such as well pumping rates, system pressures, totalizer readings, and analytical results of samples that were collected from the groundwater treatment system. As shown on the attached log, approximately 56,000 gallons of water was extracted and treated from the site and discharged to the sewer system between system start-up and December 31, 1993. The three combination wells are currently extracting water at the following average rates: MW-1, 0.75 gallons per minute (gpm); MW-2, 0.48 gpm; MW-5, 0.96 gpm.

SUMMARY

Results of laboratory analyses of vapor and water samples indicate that both the VES and GTS have operated within permit requirements. Results of laboratory analyses of vapor samples collected from the VES indicate that hydrocarbon concentrations in extracted vapor have decreased significantly at the site since the installation of the VES. Initial TPHg concentrations in extracted groundwater from the site showed concentrations of several thousand parts per billion. These concentrations soon declined as groundwater was removed from groundwater extraction well MW-5. Recent concentrations of TPHg have increased in groundwater samples extracted from wells MW-1, and MW-2.

Extracting groundwater from the three combination wells has created a significant depression in groundwater surface elevation in the immediate vicinity of the areas with the highest reported hydrocarbon concentrations in soil and groundwater. Extracting vapor from the five vapor-extraction wells and the three combination wells has significantly reduced the hydrocarbon concentrations in soil vapor. Continued operation of the VES and GTS is anticipated to further reduce hydrocarbon concentrations in soil and groundwater.

Please call if you have any questions regarding this SUMMARY REPORT.

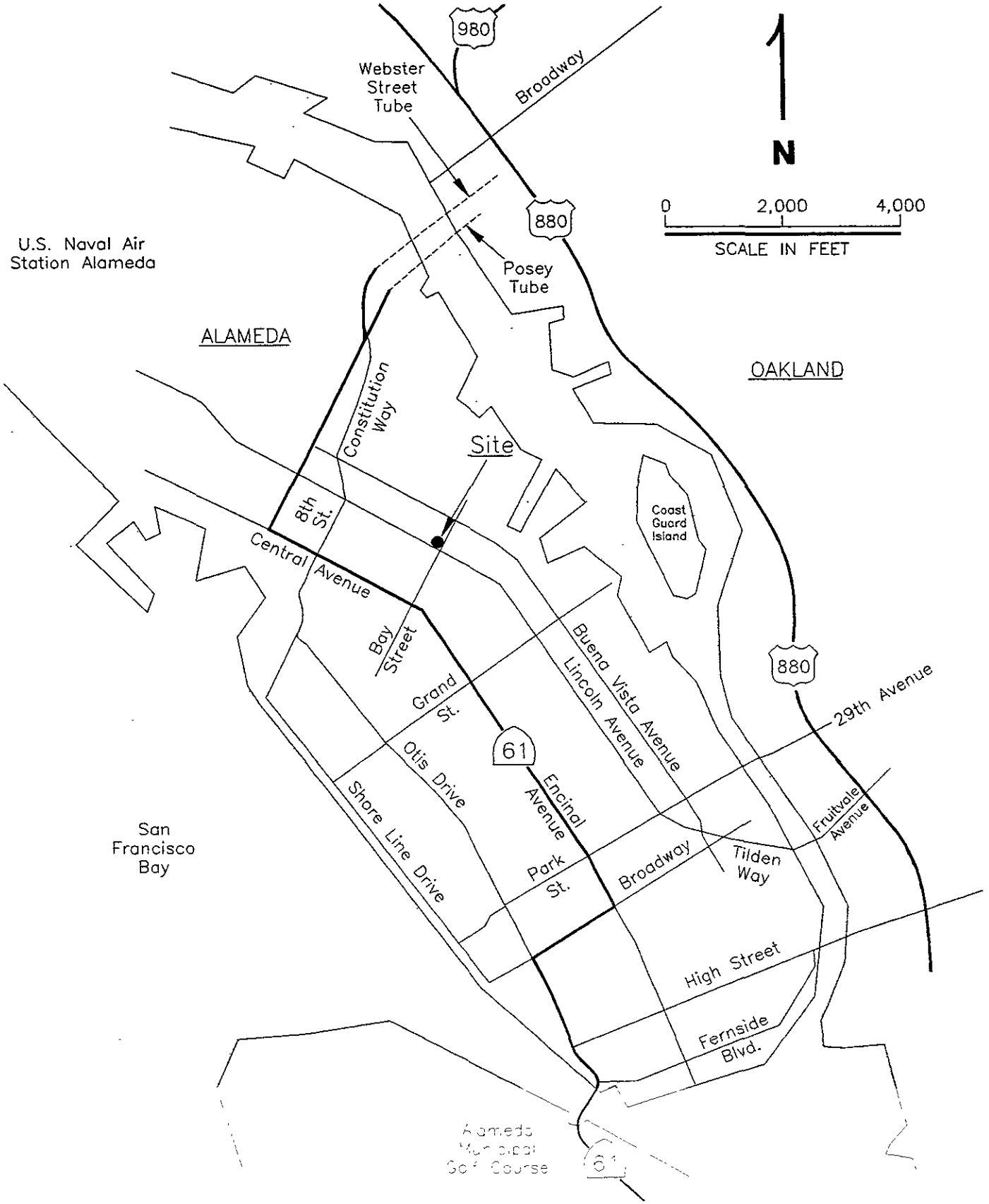
Sincerely,
CEECON

Phil Woodward
Staff Engineer

Sincerely,
CEECON

Michael Hodges
President

Attachment: Location Map, LM-1
Area Map, AM-1
Site Plan, SP-1
VET 1, Vapor Extraction Internal Combustion Engine
VET 2, Vapor Extraction System Process Diagram
BAAQMD Authority To Construct, 1127 Lincoln Avenue, Alameda, California
GTS-1, Trailer Mounted Groundwater Treatment System
GTS-2, Groundwater Treatment System Process Diagram
Appendix A. Chain of Custody Records & Results of Laboratory Analyses of Vapor Samples
Appendix B. Chain of Custody Records & Results of Laboratory Analyses of Water Samples

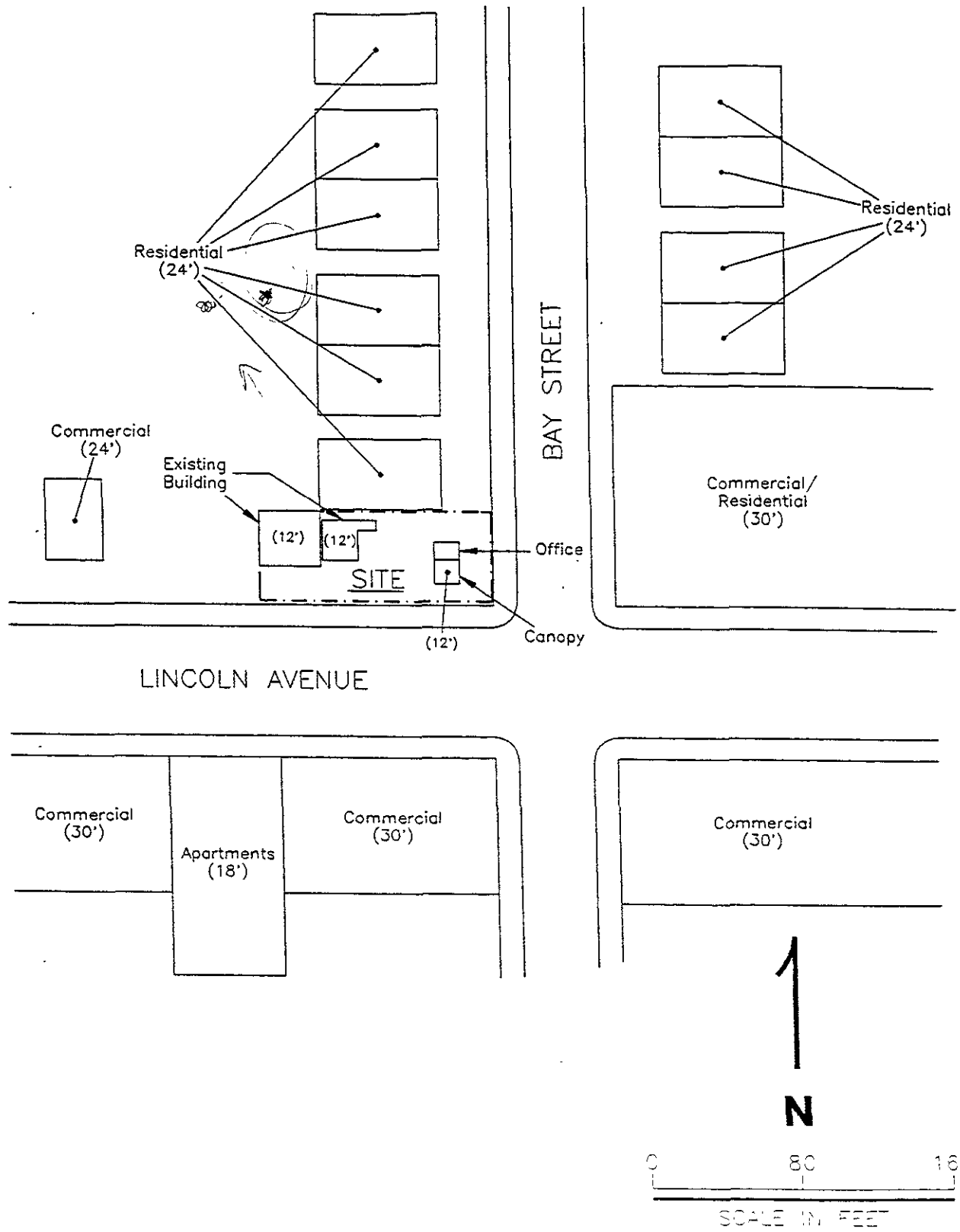


CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

LOCATION MAP

Former Bay Street Texaco Station
1127 Lincoln Avenue
Alameda, California

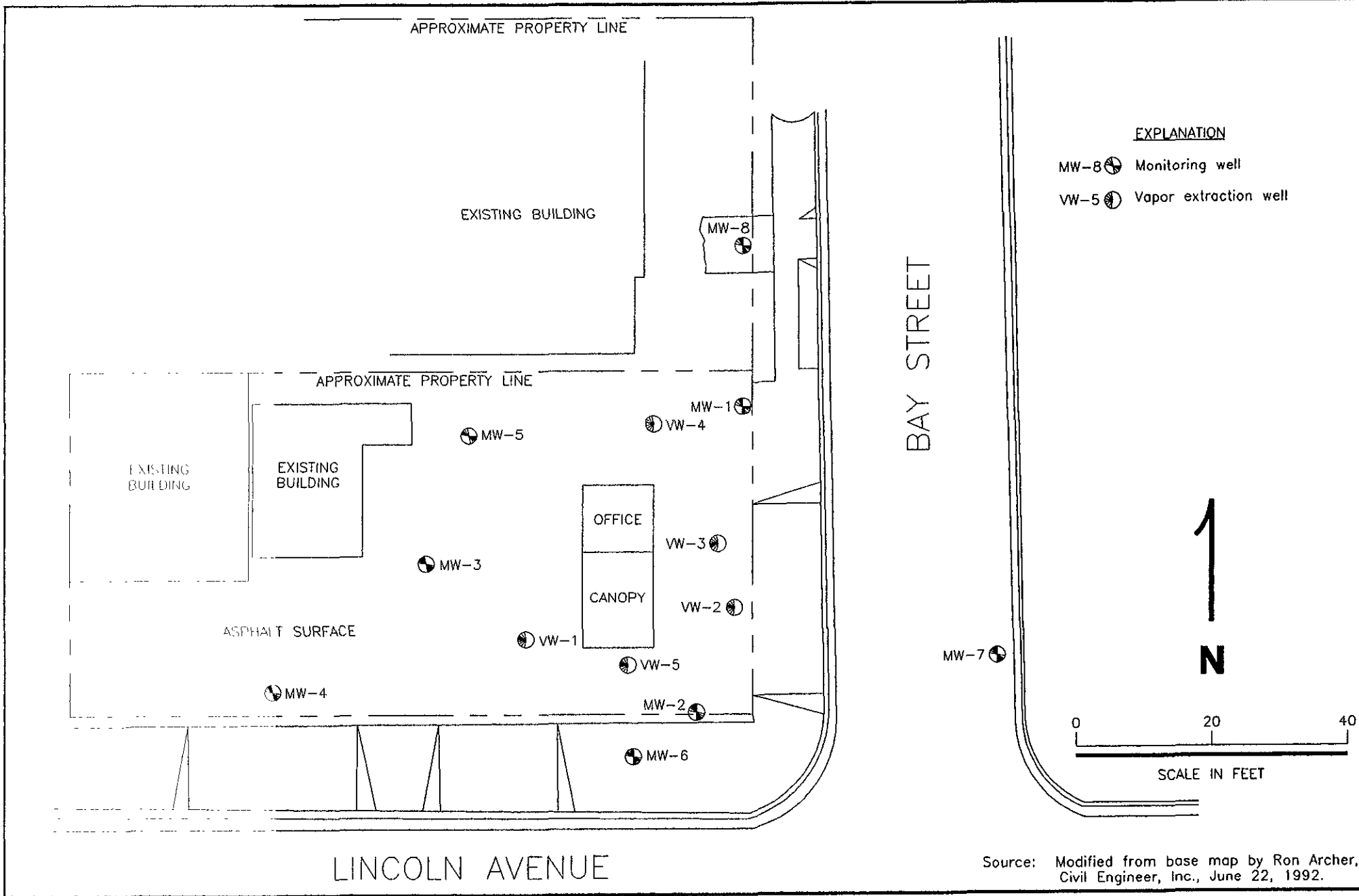
Drawing LM-1 Date 02/21/94



CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: AM-1 | Date.4/26/93

Area Map
Former Texaco Station
1127 Lincoln Avenue
Alameda, California



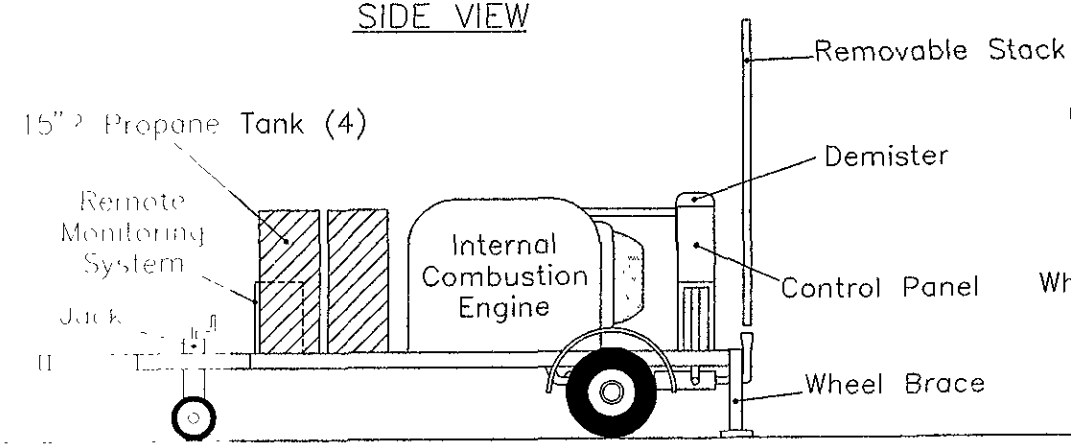
Source: Modified from base map by Ron Archer, Civil Engineer, Inc., June 22, 1992.

CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

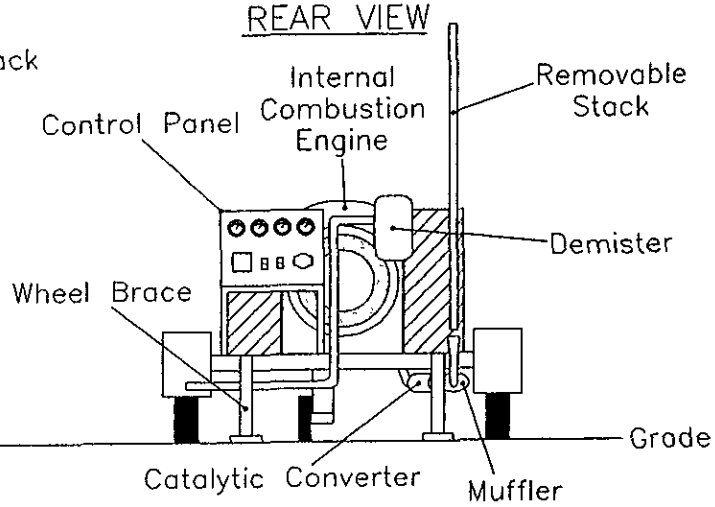
Drawing SP-1 Date: 02/21/94

Site Plan
Former Bay Street Texaco Station
1127 Lincoln Avenue
Alameda, California

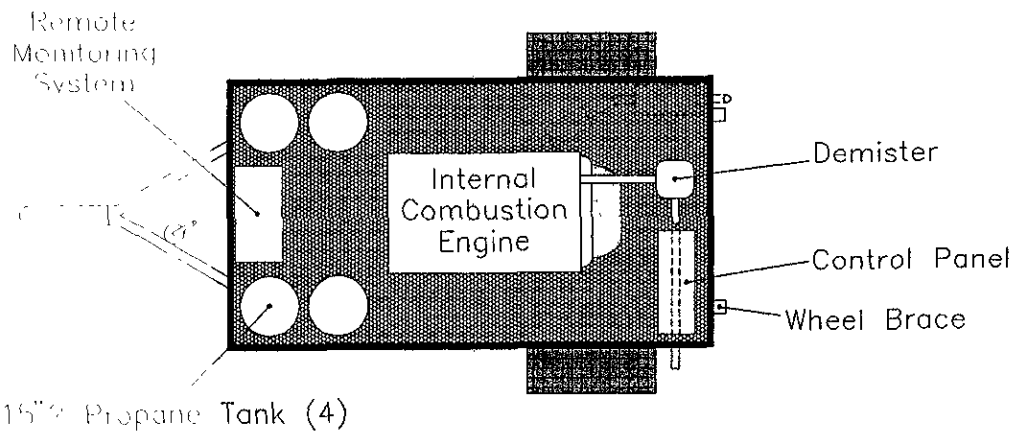
SIDE VIEW



REAR VIEW



PLAN VIEW



Instrumentation Readouts

Engine Flow Meter
Engine R.P.M.
Engine Temperature In Degrees Fahrenheit
Engine Intake Vacuum In Inches Of Mercury
Well Vacuum In Inches Of Water Column
Well Air Flow In Cubic Feet Per Minute
Well Air Flow Temperature In Degrees Fahrenheit

Sample Ports

Influent (Engine Intake)
Effluent (Stack)

Remote Signals

Propane Level
Engine ON/OFF Status

0 4 8

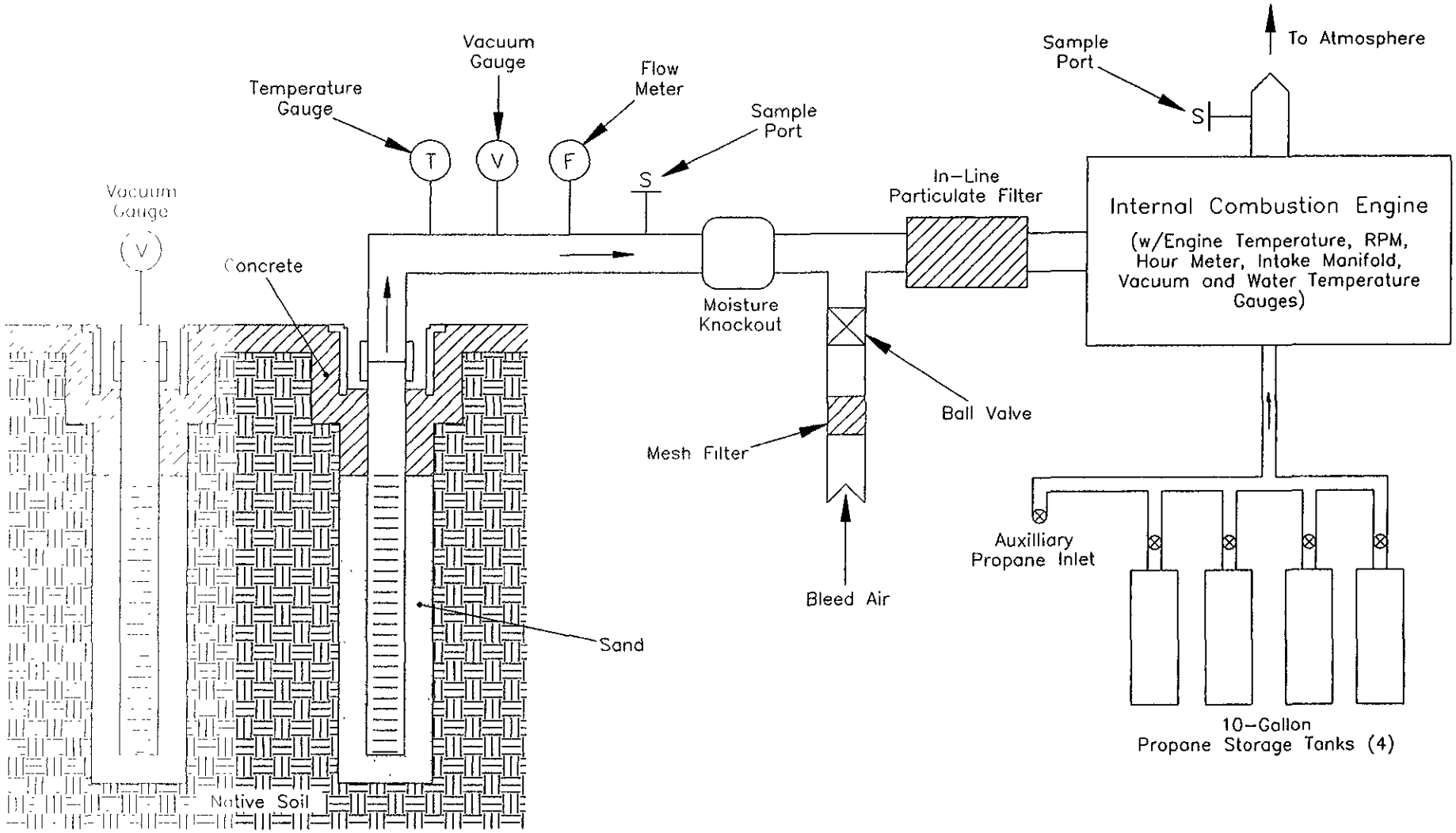
APPROXIMATE SCALE IN FEET

CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: VET-1

Date: 5/1/92

Vapor-Extraction Internal Combustion Engine



CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: VET-2

Date: 5/3/93

Vapor-Extraction Test Internal Combustion Engine Process Diagram

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

June 23, 1993

RECEIVED 6-26-93

Michael Hodges
CEECON
1517 Palmetto Avenue, Suite 4
Pacifica, CA 94044

Application Number: *10719*
Equipment Location:
1127 Lincoln Avenue
Alameda, CA 94501

Gentlemen:

This is your Authority to Construct the following:

S-1	**Soil Vapor Extraction System consisting of a 150 max cfm positive displacement vacuum blower, and ancillary equipment, abated by A-1, or A-2 and A-3 arranged in series.**
S-2	**CEECON GTS-10 Water Aeration System and ancillary equipment, abated by A-1, or A_2 and A-3 arranged in series.**
A-1	**CEECON C-1000, Internal Combustion Engine**
A-2	**Westates, VSC-1200, 1,000 lb capacity Carbon Adsorption Vessel**
A-3	**Westates, VSC-1200, 1,000 lb capacity Carbon Adsorption Vessel**

Operation of this equipment will be subject to the attached specific conditions.

Please See Attached Condition #9715

Notification

Please notify the District by letter at least **three days** before the initial operation of the equipment is to take place so that we may observe the equipment in operation and verify conformance with the Authority to Construct. Operation includes any **start-up** of the source for testing or other purposes. Operation of equipment without prior written notification to the District or beyond the start-up period without a Permit to Operate may result in enforcement action.

Start-Up Period

After receipt of the start-up letter required above, this Authority to Construct authorizes operation during the start-up period from the date of initial operation noted in your start-up letter until the Permit to Operate is issued, up to a maximum of 60 days. All conditions (specific or implied) of the Authority to Construct are in effect during the start-up period.

Fees

District Regulation 3 requires a fee for each new Permit to Operate. You will be invoiced upon receipt of your start-up letter. No permits will be issued until all outstanding fees are paid.

Implied Conditions

In the absence of specific permit conditions to the contrary, the throughputs, fuel and material consumptions, capacities, and hours of operation described in your permit application will be considered maximum allowable limits. A new permit will be required before any increase in these parameters, or change in raw material handled, may be made.

Expiration

In accordance with Regulation 2-1-407, this Authority to Construct expires two years from the date of issuance unless substantial use of the authority has begun.

Correspondence

Please include your application number with any correspondence with the District regarding this matter. If you have any questions on this matter, please call **Scott A. Owen, Supervising Air Quality Engineer at (415) 749-4693.**

Very truly yours,

Milton Feldstein
Air Pollution Control Officer

by John A Swanson
Permit Services Division

JAS:SAO:sap

1. Precursor Organic Compound (POC) emissions from Sources S-1 and S-2 shall be abated by either Abatement device A-1, I.C. Engine, or A-2 & A-3, two 1,000 pound activated carbon vessels arranged in series, during all periods of operation.
2. The POC destruction efficiency of Abatement devices A-1, A-2, and A-3 shall be maintained at a minimum of 98.5% by weight for inlet concentrations greater than or equal to 3000 ppmv. For inlet concentrations below 3000 ppmv and greater than or equal to 1000 ppmv, a minimum destruction efficiency of 97% shall be maintained. For inlet concentrations below 1000 ppmv, a minimum destruction efficiency of 90% shall be maintained. The minimum destruction efficiency of 90% shall be waived if total emissions from the operation are less than 1 pound per day VOC and benzene emissions are less than 0.02 pounds per day.
3. A-1 shall be properly maintained and kept in good operating condition at all times. In no event shall Benzene emissions to the atmosphere exceed 0.07 pounds per day.
4. To determine compliance with Conditions 2 and 3, the operator of this equipment shall:
   a. Analyze inlet gas stream to determine the flow rate and concentration of total VOC's present for each of the first three days of operation. Thereafter, the inlet gas shall be analyzed to determine the flow rate and concentration of total VOC's once every two weeks.
   b. Analyze exhaust gas to determine the concentration of benzene and total VOC's present for each of the first three days of operation. Thereafter, the exhaust gas shall be analyzed to determine the concentration of benzene once every two weeks.
   c. Calculate the benzene emission rate in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The soil vapor flow rate shall be decreased, if necessary, to demonstrate compliance with Conditions 2 and 3.
   d. Submit to the District the test results and emission calculations for the first three days of operation within one month of start-up. All source test methods used shall be subject to the prior approval of the Source Test Section of the District Technical Division.
5. The operator of this source shall maintain the following information in a District-approved log for each month of operation of A-1:
   a. days of operation
   b. inlet and exhaust flow rate
   c. inlet and exhaust sampling date
   d. analysis results
   e. calculated emissions of benzene in pounds per day.

   Such records shall be retained and made available for inspection by the District for two years following the date the data is recorded.

6. Once influent concentrations fall below 1000 ppmv, the abatement device may be changed from A-1, I. C. Engine to A-2 & A-3, carbon canisters arranged in series. Such changeover shall take place only after written notification of said abatement change has been received by the District. Operation of the source shall then be subject to the conditions which follow.
7. The second to last carbon cell, A-2, shall be changed out with unspent carbon upon breakthrough, defined as the detection at the outlet of the higher of the following:
   a. 10 % of the inlet stream concentration to the carbon bed.
   b. 10 ppmv (measured as C1).

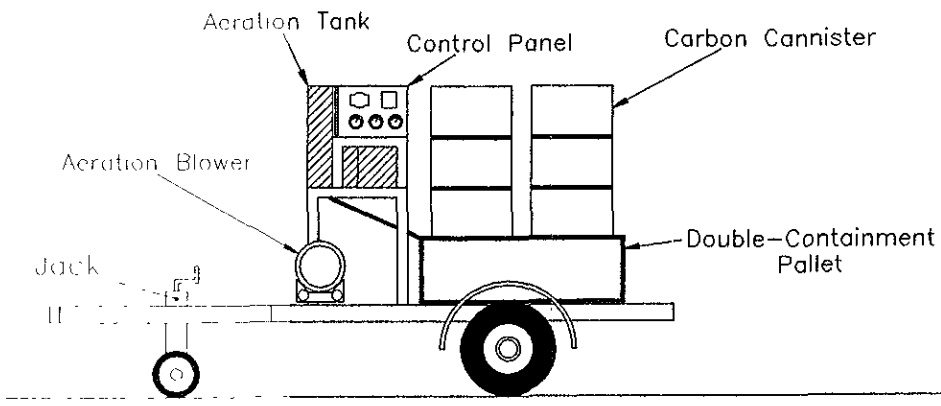
   This shall be measured by a Flame-ionization Detector (FID) or other method approved in writing by the APCO.
8. The last carbon cell, A-3, shall be changed out with unspent carbon upon detection of breakthrough defined in condition 7 as measured with a Flame-ionization Detector (FID) or other method approved in writing by the APCO.
9. The limits set forth in Conditions # 7 and # 8 shall apply to non-methane hydrocarbon emissions. To determine the presence of methane in the exhaust stream, a reading shall be taken with and without a carbon filter tip fitted on the OVA-FID probe. Concentrations measured with the carbon filter tip in place shall be considered methane for the purpose of these permit conditions.
10. The operator of this source shall monitor with an OVA-FID or other method approved in writing by the APCO at the following locations:
    a. At the inlet to carbon bed A-2.
    b. At the exhaust of A-2; the inlet to carbon bed A-3.
    c. At the outlet of carbon bed A-3; the carbon bed that is last in series prior to venting to the atmosphere.
11. These monitor readings shall be recorded in a monitoring log at the time they are taken. The monitoring results shall be used to estimate the frequency of carbon change out necessary to maintain compliance with conditions number 7 and 8.
12. To maintain compliance with conditions number 7 and 8, the monitoring shall be conducted on a daily basis. The operator of this source may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed based on the decline in organic emissions and/or the demonstrated breakthrough rates of the carbon vessels. Written approval by the District must be received by the applicant prior to a change to the monitoring schedule.
13. The operator of this source shall maintain the following information in a District approved log for each month of operation of A-2, and A-3:
    a. The hours of operation.
    b. Each monitor reading or analysis result for the day of operation they are taken.
    c. The number of carbon beds removed from service.

Any exceedance of conditions number 7 and/or 8 shall be reported to the Permits Division with the log as well as the corrective action taken. In addition, an exceedance of conditions number 7 and/or 8 shall be submitted to the District Enforcement Section at the time it occurs. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well at the time of occurrence.

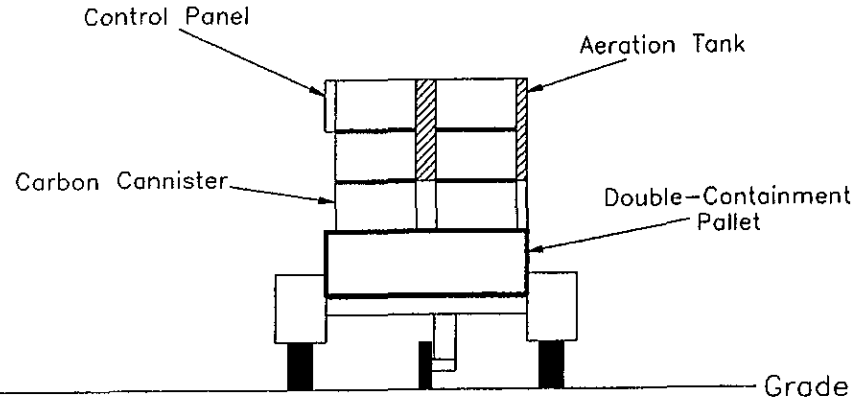
14. The operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this conditional Authority to Construct/Permit to Operate. All measurements, records and data required to be maintained by the applicant shall be retained for at least two years following the date the data is recorded.

15. Upon final completion of the remediation project, the operator of Sources S-1 and S-2 shall notify the district within two weeks of decommissioning the operation.

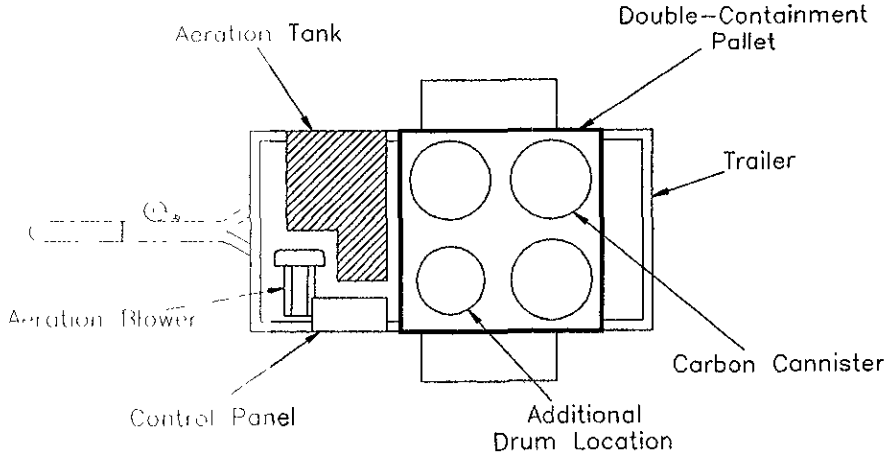
SIDE VIEW



REAR VIEW



PLAN VIEW



Instrumentation Readouts

Flow Meter
Flow Totalizer
Inlet High Pressure Switch
Inlet High–High Pressure Switch
Aeration Tank High–High Level Switch
Activated Carbon High Pressure Switch

Sample Ports

Influent (Between Aeration Tank And First Carbon Cannister)
Effluent (Between Carbon Cannisters)
Easy Disconnects At Carbon Cannisters

Remote Signal Capabilities

Water Flow
Total Water Flow
On/Off Status

0 4 8

APPROXIMATE SCALE IN FEET

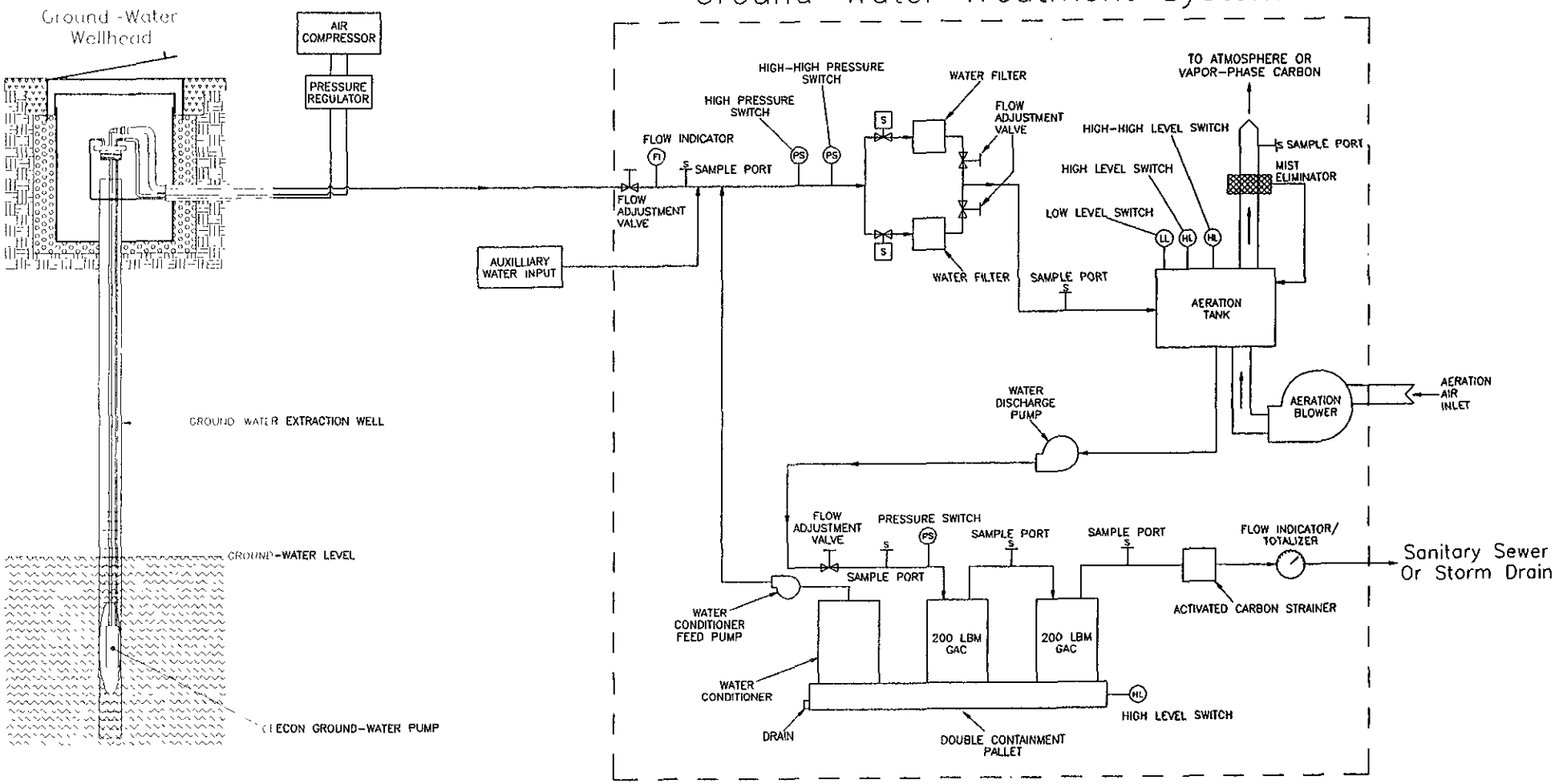
CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: GTS–1

Date: 5/3/93

Trailer–Mounted Groundwater Treatment System

CEECON Skid-Mounted or Trailer-Mounted Ground-Water Treatment System



CEECON
CALIFORNIA ENVIRONMENTAL ENGINEERS & CONTRACTORS

Drawing: GTS-2

Date: 5/3/93

Ground-Water Extraction And Treatment System Process Diagram

APPENDIX A

CHAIN OF CUSTODY RECORDS AND RESULTS OF LABORATORY ANALYSES OF VAPOR SAMPLES

Excelchem
Environmental Labs

8112 Patton Avenue
Citrus Heights, CA 95610
(916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Phil Woodward
Phone #: (415) 738-1115

Company/Address: CEECON
1517 Palmetto, Sorky Pacifica
FAX #: (415) 738-1117

Project Number: 115-106.06
P.O.#:
Project Name: 1127 Lincoln Ave. Texaco / Alameda

Project Location: 1127 Lincoln Ave, Alameda
Sampler Signature: Phil Wd

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Mylar	Method Preserved: HCl	HNO_3	ICE	NONE	Matrix: WATER	SOIL	Air
EFF	9/16/93	16:25					X				X			X
INF	9/16/93	16:30					X				X			X

ANALYSIS REQUEST

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni
EFF		X																	
INF		X																	

W.E.T. (✓)
TOTAL (✓)

Sample ID	TAT: RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
EFF			X
INF			X

Relinquished by:	Date	Time	Received by:
Phil Wood	9/17/93	1620	Cody Cn
Michael Voigt	9-20-93	1010	Michael Voigt 9-20-93 0905
	9-20-93	1010	Received by Laboratory: [signature]

Remarks: * Report as mg/m3

Bill To: Texaco FRR 267

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Patrick Lamb
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 9-16-93
Date Received: 9-20-93
BTEX Analyzed: 9-20-93
TPHg Analyzed: 9-20-93
Matrix: Air

Project #: 115-106.06

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	10
SAMPLE Laboratory Identification					
EFFLUENT A0993268	ND	0.40	0.22	1.5	ND
INFLUENT A0993269	0.80	0.98	0.36	1.4	26

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

9-21-93
Date Reported

Excelchem
Environmental Labs

8112 Patton Avenue
Citrus Heights, CA 95610 (916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Phil Woodward
Phone #: (415) 738-1115

Company/Address: CEECON
1517 Palmetto Ave, Ste 4 Pacifica CA 94044
FAX #: (415) 738-1117

Project Number: 115-106
P.O.#:
Project Name: Texaco/1127 Lincoln Ave

Project Location: 1127 Lincoln Ave, Alameda
Sampler Signature: Phil Woodward

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Mylar	Method Preserved: HCl	HNO3	ICE	NONE	Matrix: WATER	SOIL	Air	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T. (Y)	TOTAL (Y)	RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
EFF	9/29/93	17:00					X						X	X	X	X																						X
INF	9/29/93	17:10					X									X																						X

Relinquished by: Phil Woodward
Date Time: 9/30/93 1710
Received by: Don Ellefson

Relinquished by: Don Ellefson
Date Time: 9/30/93 1800
Received by:

Relinquished by:
Date Time: 10-1-93 9:30AM
Received by Laboratory:

Remarks: Report as mg/m³
Results in 5-days

Bill To: CEECON

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Phil Woodward
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 9-29-93
Date Received: 10-1-93
BTEX Analyzed: 10-1-93
TPHg Analyzed: 10-1-93
Matrix: Air

Project #: 115-106

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	10
SAMPLE Laboratory Identification					
EFF A0993395	ND	0.70	0.26	1.3	36
INF A0993396	ND	0.46	0.30	1.3	36

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

10-04-93
Date Reported

Excelchem
Environmental Labs

8112 Patton Avenue
Citrus Heights, CA 95610 (916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Phil Woodward
Phone #: (415) 738-1115
Company/Address: CEECON 1517 Palmetto Ave, Ste Y Pacifica, CA
FAX #: (415) 738-1117
Project Number: 115-106.06
P.O.#:
Project Name: Texaco/1127/Alameda
Project Location: 1127 Lincoln Ave, Alameda
Sampler Signature: Phil Woodward

ANALYSIS REQUEST (W.E.T. (✓) / TOTAL (✓)) — TAT

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Mylar	Method Preserved: HCl	HNO_3	ICE	NONE	Matrix: WATER	SOIL	Air	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
INF	10/13/93	900					X				X			X		X																				X
EFF	10/13/93	910					X				X			X		X																				X

Relinquished by	Date	Time	Received by
Phil Woodward	10/14	14:30	B. Rw
B R.	10/15	1800	D. Kinnard
D. Kinnard	10/15	0857	Received by Laboratory: [signature] 10-15-93 9AM

Remarks: Report as mg/m³

Bill To: CEECON

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Phil Woodward
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 10-13-93
Date Received: 10-15-93
BTEX Analyzed: 10-18-93
TPHg Analyzed: 10-18-93
Matrix: Air

Project #: 115-106.06

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.5	0.5	0.5	0.5	100
SAMPLE Laboratory Identification:					
INF A1093106	11	3.2	0.5	9.8	500

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

10-20-93
Date Reported

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Phil Woodward
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 10-13-93
Date Received: 10-15-93
BTEX Analyzed: 10-18-93
TPHg Analyzed: 10-18-93
Matrix: Air

Project #: 115-106.06

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.1	0.1	0.1	0.1	10
SAMPLE Laboratory Identification:					
EFF A1093107	0.1	1.5	ND	0.4	11

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

10-20-93
Date Reported

Excelchem
Environmental Labs

8112 Patton Avenue
Citrus Heights, CA 95610
(916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michel Hodges
Phone #: 415-738-1115

Company/Address: 1517 Palmetto Ave. Ste. 4 Pacifica
FAX #: 415-738-1117

Project Number:
P.O.#:
Project Name: Texaco - Alameda

Project Location: Lincoln, Alameda
Sampler Signature: Nowell. C

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Method Preserved: HCl	HNO_3	ICE	NONE	Matrix: WATER	SOIL	AIR
Air-EFF	11/03/93	11:00 AM											✓
Air-INF	11/03/93	11:05 AM											✓

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	W.E.T. (✓)	TOTAL (✓)	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni
	✓																			
	✓																			

TAT

RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE

Relinquished by	Date	Time	Received by:
Nowell. C	11/03/93	1:20PM	
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:

Remarks:

Bill To:

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Michael Hodges
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 11-03-93
Date Received: 11-03-93
BTEX Analyzed: 11-05-93
TPHg Analyzed: 11-05-93
Matrix: Air

Project : Texaco - Alameda

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	10
SAMPLE Laboratory Identification:					
AIR-INF A1193064	ND	1.5	0.38	4.4	38

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

11-11-93
Date Reported

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Michael Hodges
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044

Date Sampled : 11-03-93
Date Received: 11-03-93
BTEX Analyzed: 11-04-93
TPHg Analyzed: 11-04-93
Matrix: Air

Project : Texaco - Alameda

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	10
SAMPLE Laboratory Identification:					
AIR-EFF A1193063	0.19	4.0	0.13	1.1	ND

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

11-11-93
Date Reported

Excelchem
Environmental Labs

8112 Patton Avenue
Citrus Heights, CA 95610 (916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michel Hodges
Phone #: (415) 738-1115

Company/Address: 1517 Palmetto Ave. Ste.4 Pacifica, CA 94044
FAX #: (415) 738-1117

Project Number:
P.O.#:
Project Name: Texaco - Alameda

Project Location: Alameda
Sampler Signature: Naresh-C

Sample ID	Sampling DATE	Sampling TIME	Container VOA	Container SLEEVE	Container 1L GLASS	Container 1L PLASTIC	Method Preserved HCl	Method Preserved HNO3	Method Preserved ICE	Method Preserved NONE	Matrix WATER	Matrix SOIL	Matrix Air
Air-EFF	11/12/93	10:35Am											✓
Air-INF	11/12/93	10:40Am											✓

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	W.E.T.(✓)	TOTAL(✓)
	✓																			

TAT

RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
		✓

Relinquished by:	Date	Time	Received by:
Naresh-C	11/12	2:50PM	Jaime Magobet
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	11-13	9AM	

Remarks:

Bill To:

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Michael Hodges
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Project: Texaco--Alameda

Date Sampled : 11-12-93
Date Received: 11-13-93
BTEX Analyzed: 11-18-93
TPHg Analyzed: 11-18-93
Matrix: Air

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	1.0
SAMPLE Laboratory Identification:					
AIR-EFF A1193262	0.16	0.70	0.40	1.5	22
AIR-INF A1193263	2.4	0.76	0.72	6.2	56

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

11-29-93
Date Reported

Excelchem
Environmental Labs
8112 Patton Avenue
Citrus Heights, CA 95610
(916) 729-5313

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Michel Hodges.
Phone #: 415-738-1115

Company/Address: CEECON, 1517, Palmetto Ave, Ste 4, Pacifica, CA
FAX #: 415-738-1117

Project Number: 115-106-05
P.O.#:
Project Name: Texaco- Alameda

Project Location:
Sampler Signature: [illegible]

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Method Preserved: HCl	HNO_3	ICE	NONE	Matrix: WATER	SOIL	AIR
Air-EFF	11/22	1:45P.M											✓
Air-INF	11/22	1:50PM											✓

ANALYSIS REQUEST

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni
Air-EFF		✓																	
Air-INF		✓																	

W.E.T. (✓)
TOTAL (✓)

Sample ID	TAT: RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
Air-EFF			
Air-INF			

Relinquished by:	Date	Time	Received by:
[illegible]	11/22	1:41	[illegible]
[illegible]	11/23	1448	[illegible]
[illegible]	11-24-9? 11/23	0805	Received by Laboratory: [illegible]

Remarks:
Report in mg/M3.
Send results to Attn, LOU Lieef

Bill To:

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Michael Hodges
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Project: Texaco-Alameda

Date Sampled : 11-22-93
Date Received: 11-24-93
BTEX Analyzed: 11-25-93
TPHg Analyzed: 11-25-93
Matrix: Air

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.10	0.10	0.10	0.10	1.0
SAMPLE Laboratory Identification:					
AIR-EFF A1193451	ND	0.13	ND	ND	3.6
AIR-INF A1193452	0.54	0.22	0.36	0.96	8.4

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

11-26-93
Date Reported

Excelchem
Environmental Labs

4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: [illegible]
Phone #: (415) 73[illegible]
Company/Address:
FAX #: (415) 7[illegible]
Project Number: [illegible]
P.O.#:
Project Name: [illegible]
Project Location: [illegible]
Sampler Signature: [illegible]

ANALYSIS REQUEST

Sample ID	Sampling DATE	Sampling TIME	Container: VOA	SLEEVE	1L GLASS	1L PLASTIC	Method Preserved: HCl	HNO3	ICE	NONE	Matrix: WATER	SOIL	Air	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel/Oil (8015)	Total Oil & Grease (5520 B/E,F)	Total Oil & Grease IR (5520 B/E,F,C)	96 - Hour Fish Bioassay	EPA 601/8010	EPA 602/8020	EPA 615/8150	EPA 608/8080 - Pesticides	EPA 608/8080-PCBs	EPA 624/8240	EPA 625/8270	ORGANIC LEAD	Reactivity, Corrosivity, Ignitibility	CAM - 17 Metals (W.E.T. (✓) / TOTAL (✓))	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	Cd, Cr, Pb, Zn, Ni	TAT: RUSH SERVICE (12 hr) or (24 hr)	EXPEDITED SERVICE (48 hr)	STANDARD SERVICE
[illegible]	[illegible]	9 am											✓																						✓
[illegible]	[illegible]	12 pm											✓																						✓

Relinquished by:	Date	Time	Received by:
[illegible]	12/[illegible]	4:03	[illegible]

Relinquished by	Date	Time	Received by:

Relinquished by	Date	Time	Received by Laboratory:

Remarks: Please [illegible] results [illegible]

Bill To:

Excelchem
Environmental Labs
4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

ANALYSIS REPORT

Attention: Mr. Phil Woodward
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Project: 115-106.06

Date Sampled : 12-09-93
Date Received: 12-10-93
BTEX Analyzed: 12-10-93
TPHg Analyzed: 12-10-93
Matrix: Air

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.5	0.5	0.5	0.5	10
SAMPLE Laboratory Identification:					
EFF A1293110	ND	1.5	ND	1.5	10
INF A1293111	2.3	2.5	1.1	16	180

* = No chain-of-custody received.
mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

12-15-93
Date Reported

Excelchem
Environmental Labs

4946 Watt Avenue, #38
North Highlands, CA 95660
(916)334-8661

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Phil Woodward
Phone #: (415) 739-1115
Company/Address: 1517 Lincoln Ave, ste 4
FAX #: (415) 739-1117
Project Number: 115-106.10
P.O.#:
Project Name: Texaco/Alameda
Project Location: 1127 Lincoln Ave, Alameda
Sampler Signature: [signature]

ANALYSIS REQUEST

Analysis columns: BTEX (602/8020); BTEX/TPH as Gasoline (602/8020/8015); TPH as Diesel/Oil (8015); Total Oil & Grease (5520 B/E,F); Total Oil & Grease IR (5520 B/E,F,C); 96-Hour Fish Bioassay; EPA 601/8010; EPA 602/8020; EPA 615/8150; EPA 608/8080 - Pesticides; EPA 608/8080-PCBs; EPA 624/8240; EPA 625/8270; ORGANIC LEAD; Reactivity, Corrosivity, Ignitibility; CAM - 17 Metals; EPA - Priority Pollutant Metals; LEAD(7420/7421/239.2); Cd, Cr, Pb, Zn, Ni (W.E.T. (✓) / TOTAL (✓))

TAT: RUSH SERVICE (12 hr) or (24 hr); EXPEDITED SERVICE (48 hr); STANDARD SERVICE

Sample ID	Date	Time	VOA	SLEEVE	1L GLASS	1L PLASTIC	HCl	HNO3	ICE	NONE	WATER	SOIL	Air	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	Other analyses	STANDARD SERVICE
EFF	12/21/93	8:00				X				X			X		X		X
INF	12/21/93	8:10				X				X			X		X		X

Relinquished by:	Date	Time	Received by:
[signature]	12/21/93		Cortez Carvalho
Cortez Carvalho	12/21/93	2:00	[signature] 1409 0700 12/27/93
[signature]	12/27	9:30	Received by Laboratory: [signature] 12/29/93 9:00 AM

Remarks: Report in mg/m3
Results to Lou Leet

Bill To:

ANALYSIS REPORT

Attention: Mr. Phil Woodward
CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Project: 115-106

Date Sampled : 12-21-93
Date Received: 12-24-93
BTEX Analyzed: 12-24-93
TPHg Analyzed: 12-24-93
Matrix: Air

	Benzene mg/M^3	Toluene mg/M^3	Ethyl-benzene mg/M^3	Total Xylenes mg/M^3	TPHg mg/M^3
Reporting Limit:	0.25	0.25	0.25	0.25	10
SAMPLE Laboratory Identification:					
AIR-EFF A1293316	ND	ND	ND	0.44	ND
AIR-INF A1293317	0.42	0.30	ND	1.2	26

mg/M^3 = milligrams per cubic meter.
ND = Not detected. Compound(s) may be present at concentrations below the reporting limit.

ANALYTICAL PROCEDURES

BTEX-- Benzene, toluene, ethylbenzene, and total xylene isomers (BTEX) are analyzed by using modified EPA Method 8020 which utilizes a gas chromatograph (GC) equipped with a photoionization detector (PID).
TPHg--Total petroleum hydrocarbons as gasoline (low-to-medium boiling points) are analyzed by using modified EPA Method 8015, which utilizes a GC equipped with an FID.

Laboratory Representative

12-28-93
Date Reported

APPENDIX B

CHAIN OF CUSTODY RECORDS AND RESULTS OF LABORATORY ANALYSES OF WATER SAMPLES

[redacted] CELTON
~~Wahler Associates~~ [redacted]
1023 Corporation Way
P.O. Box ~~10023~~
~~Palo Alto, CA 94303~~
FAX: ~~(415) 968-5365~~
(415) 968-~~6250~~ (415) 738-1115 FAX 17

CHAIN [redacted] CUSTOD[redacted] FO[redacted]

Serial Number: [redacted]
WA Authorization:
Sheet ___ of ___
Samplers: P. CANO
Recorder: [signature] (signature required)

Laboratory: MOBILE CHEM
Turnaround Time: 24 HR
Results To: CELTON 1517 PALMETTO #4 PACIFICA CA 94044

Project: 115-106-106
Job Number:
Project Manager:
Date: / /19

SITE ADD 1127 LINCOLN AVE, ALAMEDA, CA.

	ITEM NO.	SAMPLE NUMBER	DATE AND TIME SAMPLED: Date	Time	MATRIX	# CONTAINERS & PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	HCl			ANALYSIS REQUESTED / TYPE OF CONTAINER:	TPHg BTEX						COMMENTS
GTS	1	GTS-INF	9/8/93	1431	W	✓							X						
	2	GTS-EFF	↓	1440	"	✓							X						
	3																		
	4																		
	5																		
	6																		
	7																		
	8																		
	9																		
	10																		
	11																		
	12																		

MISCELLANEOUS

Number of Coolers	Type of Coolant

COMMENTS:
BILL DIRECT TO TEXACO

LABORATORY COPY WHITE — PROJECT COPY YELLOW — FIELD or OFFICE COPY PINK

CHAIN OF CUSTODY RECORD

Relinquished by: (signature & affiliation)	Received by: (signature & affiliation)	Date/Time
[signature] CELTON	Fred Chaske	9/8/93 - 1554

Dispatched by: (signature & affiliation)	Date/Time	Received for lab by:	Date/Time

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012940

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-08-93
Date Received: 09-08-93
Date Analyzed: 09-09-93

Sample Number	Sample Description
093045	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. GTS-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	6,800
Benzene	0.5	460
Toluene	0.5	220
Xylenes	0.5	740
Ethylbenzene	0.5	350

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012940

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-08-93
Date Received: 09-08-93
Date Analyzed: 09-09-93

Sample Number	Sample Description
093046	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. GTS-EFF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

Proj No.: 115-106.06

Texaco Location: (127 LINCOLN AVE. ALAMEDA, CA.

Consultant Name: CERCO (415) 738-1115

Address: 1517 PALMETTO SUITE 4 FAX 738-1117
PACIFICA, CA. 94044

Sampler: T. CAMO

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)				
W-A-INF	9/15/93	8:00			X			X		3		X												
W-B-PAR	↓	8:10			↓			↓		3		X												
W-C-PC1		8:20								3		X												
W-D-EFF		8:30								3		X												

Relinquished By: [signature]
Date/Time: 9-16-93
Received By: DAVE LEVINE,
Date/Time: ON ICE No head SPACE.

Relinquished By:
Date/Time:
Received By:
Date/Time:

Turn Around: 2 WEEKS

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012997

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-15-93
Date Received: 09-16-93
Date Analyzed: 09-27-93

Sample Number	Sample Description
093216	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. W-A-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	2,500
Benzene	0.5	160
Toluene	0.5	17
Xylenes	0.5	290
Ethylbenzene	0.5	260

QA/QC: Duplicate Deviation is 1.0%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012997

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-15-93
Date Received: 09-16-93
Date Analyzed: 09-27-93

Sample Number	Sample Description
093217	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. W-B-PAT WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012997

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-15-93
Date Received: 09-16-93
Date Analyzed: 09-27-93

Sample Number	Sample Description
093218	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. W-C-PCI WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\012997

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-15-93
Date Received: 09-16-93
Date Analyzed: 09-27-93

Sample Number	Sample Description
093219	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. W-D-Eff WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

Proj. No: 115-106.06

Texaco Location: 1127 Lincoln Ave, Alameda, CA

Consultant Name: CEECON Fax (415) 738-1117

Address: 1517 Palmetto Ave Ste 4 Pacifica CA

Sampler: Phil Woodward

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)
W-A-INF	9/22/93	1600			X			X		2		X								
W-B-PAT	9/22/93	1605			X			X		2		X								
W-C-PC1	9/22/93	1610			X			X		2		X								
W-D-EFF	9/22/93	1615			X			X		2		X								

Relinquished By: Phil Woodward — Date/Time: 9/23 1000

Received By: C. Waid — Date/Time: 9/23/93 10:00

Relinquished By: — Date/Time:

Received By: — Date/Time:

Turn Around: Standard

Send a copy to Valli Zorugantí @ Resner-SJ

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013010

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-22-93
Date Received: 09-23-93
Date Analyzed: 10-01-93

Sample Number	Sample Description
093362	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Avenue W-A-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	1,800
Benzene	0.5	110
Toluene	0.5	5.1
Xylenes	0.5	160
Ethylbenzene	0.5	190

QA/QC: Duplicate Deviation is 2.3%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013010

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-22-93
Date Received: 09-23-93
Date Analyzed: 10-01-93

Sample Number	Sample Description
093363	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Avenue W-B-PAT WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013010

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-22-93
Date Received: 09-23-93
Date Analyzed: 10-01-93

Sample Number	Sample Description
093364	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Avenue W-C-PC1 WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013010

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-22-93
Date Received: 09-23-93
Date Analyzed: 10-01-93

Sample Number	Sample Description
093365	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Avenue W-D-EFF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

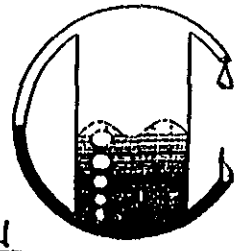
Proj. No. 115-106.06

Texaco Location 1127 Lincoln Ave Alameda, CA

Consultant Name CEECON Tel (415) 738-1115

Address 1517 Palmetto Ave Ste 4, Pacifica CA 94044 Fax (415) 738 1117

Sampler DLW Woodward



MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)
INF-A	9/29/93	1700			X			X		2	G	X								
PAT-B	9/29/93	1710			X			X		2	G	X								
PCT-C	9/29/93	1720			X			X		2	G	X								
EFF-D	9/29/93	1725			X			X		2	G	X								

Relinquished By: DLW Woodward

Date/Time 9/30/93 11:30

Received By: C. Waid

Relinquished By:

Date/Time

Received By:

Date/Time 9/30/93 11:30

Turn Around: Standard

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013035

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-29-93
Date Received: 09-30-93
Date Analyzed: 10-12-93

Sample Number	Sample Description
093462	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. INF-A WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013035

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-29-93
Date Received: 09-30-93
Date Analyzed: 10-12-93

Sample Number	Sample Description
093463	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. PAT-B WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013035

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-29-93
Date Received: 09-30-93
Date Analyzed: 10-12-93

Sample Number	Sample Description
093464	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. PCT-C WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013035

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 09-29-93
Date Received: 09-30-93
Date Analyzed: 10-12-93

Sample Number	Sample Description
093465	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. EFF-D WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for Ronald G. Evans
Lab Director

Proj No: 115-106.06

Texaco Location: Texaco, 1127 Lincoln Ave Alameda, CA

Consultant Name: CEECON Tel: (415) 738-1115 Fax: 738-1117 Sampler: Phil Woodward

Address: 1517 Palmetto Ave, Ste 4 Pacifica CA 94044

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)				
WA-INF	10/6/93	1150			X			X		2	G	X												
WB-PAT	10/6/93	1200			X			X		2	G	X												
WC-PC1	10/6/93	1210			X			X		2	G	X												
WD-EFF	10/6/93	1220			X			X		2	G	X												

Relinquished By: Phil Woodward

Date/Time: 10-7-93 10:30

Received By: DYAN HEWITT

Relinquished By:

Date/Time

Received By:

Date/Time

Date/Time

Turn Around: 2 weeks

On ice no head space

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1428\013041

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-06-93
Date Received: 10-07-93
Date Analyzed: 10-14-93

Sample Number	Sample Description
103105	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WA-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Spike Recovery is 76%
Duplicate Spike Deviation is 8.1%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

for

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1428\013041

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-06-93
Date Received: 10-07-93
Date Analyzed: 10-14-93

Sample Number	Sample Description
103106	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WB-PAT WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chaske
for
Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1428\013041

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-06-93
Date Received: 10-07-93
Date Analyzed: 10-14-93

Sample Number	Sample Description
103107	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WC-PCI WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chesbro
for
Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1428\013041

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-06-93
Date Received: 10-07-93
Date Analyzed: 10-14-93

Sample Number	Sample Description
103108	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WD-EFF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chosa
for
Ronald G. Evans
Lab Director

Proj. No. 115-106.06

Texaco Location: 1127 Lincoln Ave, Alameda, CA

Consultant Name: CEECON

Address: 1517 Palmetto Ave, ste 4, Pacifica CA (415) 738-1115 (415) 738-1117

Sampler: Phil Woodward

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)				
WA-INF	10/22/93	15:30		X				X		2	G	X												
WB-PAT	10/22/93	15:35		X				X		2	G	X												
WC-PCI	10/22/93	15:40		X				X		2	G	X												
WD-EFF	10/22/93	15:45		X				X		2	G	X												

Relinquished By:	Date/Time	Received By:	Date/Time	Turn Around:
Phil Woodward	10/25/93	DAechevirey	10/25/93 9:45	standard
Relinquished By:	Date/Time	Received By:	Date/Time	

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013097

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-22-93
Date Received: 10-25-93
Date Analyzed: 11-04-93

Sample Number	Sample Description
103481	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WA-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Spike Recovery is 89%
Duplicate Deviation is 8.9%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chaske
for
Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.
5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013097

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-22-93
Date Received: 10-25-93
Date Analyzed: 11-04-93

Sample Number	Sample Description
103482	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WB-PAT WATER

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Fred Chase for
Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013097

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-22-93
Date Received: 10-25-93
Date Analyzed: 11-04-93

Sample Number	Sample Description
103484	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WD-EFF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Fred Chasko
for

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1718\013097

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 10-22-93
Date Received: 10-25-93
Date Analyzed: 11-04-93

Sample Number	Sample Description
103483	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. WC-PCI WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 8020 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS
Fred Chisler
for
Ronald G. Evans
Lab Director

Proj. No	Texaco Location	Consultant Name	Sampler
	1127 Lincoln Ave., Alameda. CA.	CEECON	Naresh. C.

Address: 1517 Palmetto Ave., Ste 4. Pacifica, CA 94044

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)				
A-INF	11/12/93	11:45AM		✓				✓		2		✓												
B-PAT	11/12/93	11:40AM		✓				✓		2		✓												
C-PCT	11/12/93	11:35AM		✓				✓		2		✓												
D-EFF	11/12/93	11:30AM		✓				✓		2.		✓												

Relinquished By:	Date/Time	Received By:	Date/Time	Turn Around:
L. J. Lut	11-15-93 10:00	Dave Lovie	11-15-93 10:00 AM	No. preservatives added. use appropriate Turnaround time.
Relinquished By:	Date/Time	Received By:	Date/Time	

1WK

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

1342\013125

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 11-12-93
Date Received: 11-15-93
Date Analyzed: 11-16-93

Sample Number	Sample Description
113169	Texaco - Alameda 1127 Lincoln Ave. A-INF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

1342\013125

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 11-12-93
Date Received: 11-15-93
Date Analyzed: 11-16-93

Sample Number	Sample Description
113170	Texaco - Alameda 1127 Lincoln Ave. B-PAT WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	83
Benzene	0.5	12
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	1.3

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

1342\013125

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 11-12-93
Date Received: 11-15-93
Date Analyzed: 11-16-93

Sample Number	Sample Description
113171	Texaco - Alameda 1127 Lincoln Ave. C-PCT WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	5.2
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

1342\013125

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 11-12-93
Date Received: 11-15-93
Date Analyzed: 11-16-93

Sample Number	Sample Description
113172	Texaco - Alameda 1127 Lincoln Ave. D-EFF WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

Proj No	Texaco Location
115-106.06	Former Texaco Service Station 1127 Lincoln Ave, Alameda

Consultant Name: CEECON

Sampler: Phil Woodward

Address: 1517 Palmetto Ave, ste 4 Pacifica CA (415) 738-1115

MOBILE CHEM LABS, INC.
5011 BLUM RD., SUITE 1
MARTINEZ, CA 94553
(510) 372-3700
(510) 372-6955 fax

Sample ID No.	Date	Time	Lab ID#	Sample Preservation: None	Sample Preservation: 1:1 HCL	Sample Preservation: NITRIC ACID	Matrix: SOIL	Matrix: WATER	Matrix: VAPOR	# OF CONTAINERS	GRAB OR COMP.	TPH-G/BTEX	TPH-D	TOG(5520/418.1)	8010/601	8240/624	8270/625	Cd,Cr,Pb,Zn,Ni	Organic Pb	CAM 17(TTLC/STLC)				
INF-A	12/8/93	8:00			X			X		2	G	X												
PAT-B	12/8/93	8:05			X			X		2	G	X												
PCt-C	12/8/93	8:10			X			X		2	G	X												
EFF-D	12/8/93	8:15			X			X		2	G	X												

Relinquished By:	Date/Time	Received By:	Date/Time	Turn Around:
Phil Woodward	12-9-93	[illegible]	12-9-93 11:40 AM	Standard
Relinquished By:	Date/Time	Received By:	Date/Time	

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013196

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 12-08-93
Date Received: 12-09-93
Date Analyzed: 12-17-93

Sample Number	Sample Description
123149	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. INF-A WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	400
Benzene	0.5	36
Toluene	0.5	12
Xylenes	0.5	3.9
Ethylbenzene	0.5	0.62

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013196

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 12-08-93
Date Received: 12-09-93
Date Analyzed: 12-17-93

Sample Number	Sample Description
123150	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. PAT-B WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	3.5
Toluene	0.5	1.7
Xylenes	0.5	1.2
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013196

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 12-08-93
Date Received: 12-09-93
Date Analyzed: 12-17-93

Sample Number	Sample Description
123151	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. PCI-C WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director

MOBILE CHEM LABS INC.

5011 Blum Road, Suite 1 • Martinez, CA 94553
Phone (510) 372-3700 • Fax (510) 372-6955

115-106.06\1342\013196

CEECON
1517 Palmetto Ave., #4
Pacifica, CA 94044
Attn: Michael Hodges
Project Manager

Date Sampled: 12-08-93
Date Received: 12-09-93
Date Analyzed: 12-17-93

Sample Number	Sample Description
123152	Project # 115-106.06 Texaco - Alameda 1127 Lincoln Ave. EFF-D WATER

ANALYSIS

	Detection Limit	Sample Results
	ppb	ppb
Total Petroleum Hydrocarbons as Gasoline	50	<50
Benzene	0.5	<0.5
Toluene	0.5	<0.5
Xylenes	0.5	<0.5
Ethylbenzene	0.5	<0.5

QA/QC: Spike Recovery is 93%

Note: Analysis was performed using EPA methods 5030 and TPH LUFT with method 602 used for BTX distinction.
(ppb) = (µg/L)

MOBILE CHEM LABS

Ronald G. Evans
Lab Director