GROUNDWATER TECHNOLOGY, INC.

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WORK PLAN FOR NOT really

SOIL AND GROUNDWATER REMEDIATION
FORMER TEXACO SERVICE STATION
930 SPRINGTOWN BOULEVARD
LIVERMORE, CALIFORNIA

September 12, 1991

Prepared for:

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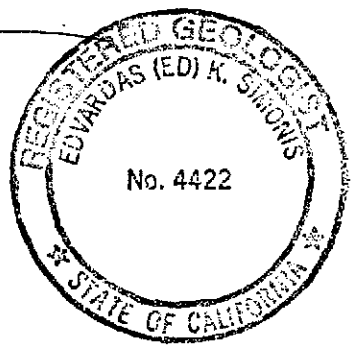

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FORMER TEXACO SERVICE STATION
930 SPRINGTOWN BOULEVARD
LIVERMORE, CALIFORNIA

September 12, 1991

1.0 INTRODUCTION

This report presents a work plan to remediate the soil and groundwater at the former Texaco service station located at 930 Springtown Boulevard in Livermore, California (Figure 1, Appendix A). The work plan was compiled in response to a request by the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) in their letter dated July 5, 1991. Prior to presenting the work plan, a brief chronology of previous investigations is presented. The results of a soil vapor extraction feasibility study conducted at the site are presented and used for design of the soil remediation system.

2.0 BACKGROUND

2.1 VICINITY AND SITE DESCRIPTION

The site is located in the northeast portion of Alameda County in the city of Livermore. The immediate area consists of residential and light commercial use. The site elevation is approximately 530 feet above mean sea level.

The site was formerly a service station owned and operated by Texaco Refining and Marketing Inc. Currently the property is owned by Southland Corporation and operated as a 7-Eleven convenience store. While operating as a Texaco service station, regular leaded gasoline, regular unleaded gasoline and premium unleaded gasoline were dispensed from three underground storage tanks (USTs) via one pump island. No gasoline has been dispensed since the underground storage tanks were removed on June 26, 1985.

2.2 SUMMARY OF PREVIOUS INVESTIGATIONS

Several subsurface investigations have been conducted at the site in the past by other consultants and by Groundwater Technology, Inc. A total of twelve soil borings have been drilled at the site. Groundwater monitoring wells have been installed in ten of the soil borings. All soil sample and water sample analyses results from these investigations are summarized in Tables 1 and 2, respectively (Appendix B). All boring logs for the previous investigations are included in Appendix C for reference.

Two soil borings were drilled on September 27, 1984 to a depth of 16 feet below ground surface (BGS), and groundwater monitoring wells subsequently installed in the borings. The location of the wells are identified on Figure 2 (Appendix A) as MW-A and MW-B. (MW-A and MW-B are referred to as B-3 and B-4, respectively in the boring logs). One soil sample was collected at a depth of 15 feet BGS from each of the borings and submitted for laboratory analyses. Benzene was detected in the soil samples at concentrations of 27 parts per million (ppm) and 0.15 ppm from MW-A and MW-B, respectively. Results of all soil analyses are summarized in Table 1 (Appendix B) and copies of the laboratory reports are enclosed in Appendix D. Groundwater was encountered at approximately 12 feet BGS. Water samples were collected upon completion of the groundwater monitoring wells. Regular leaded gasoline was qualitatively identified in the water samples collected from the monitoring wells. The results of this investigation were submitted to Southland Corporation by J.H. Kleinfelder & Associates in a "Soil and Groundwater Monitoring Report" dated October 1984.

The three underground storage tanks were removed on June 26, 1985. The laboratory reports of soil samples collected from the tank bottom and sides are included in Appendix D for reference. Soil samples were collected from the sidewalls and bottom of the tank pit after the tanks were removed. The highest concentration of total petroleum hydrocarbons-as-gasoline (TPH-G) detected was 3.2 ppm in the sample collected from the bottom of the tank pit.

Three additional groundwater monitoring wells were installed on July 20, 1985. The wells were installed to depths of 25 feet BGS in the vicinity of the former tank pit and are identified on the site plan as MW-1, MW-2 and MW-3. Soil samples from the borings for these wells were not analyzed. Results of this investigation were submitted to Texaco, Inc. in a "Hydrocarbon Investigation Report" dated August 1985.

Groundwater monitoring well MW-4 was installed sometime before May 1986. No report nor well log are available. Wells MW-5 and MW-6 were installed on November 10, 1986. One soil sample was

collected at 14 feet in the MW-5 soil sample and at 10.5 feet in the MW-6 boring. Trace amounts of petroleum hydrocarbons were detected in soil samples collected during the drilling of both wells.

The subsurface investigation continued with the drilling of four more soil borings, two of which were used to install groundwater monitoring wells. The soil borings are identified on the site plan as SB-1 and SB-2 and the groundwater monitoring wells identified as MW-7 and MW-8. Petroleum hydrocarbons were detected only in the soil samples from SB-1. The highest concentration of TPH-G was 1,500 ppm in the soil sample collected at 16 feet, the approximate depth where groundwater was encountered.

2.3 SITE GEOLOGY

The site is located in the northeastern part of the Livermore Valley. The valley fill consists of recent alluvium flanked by landslide and slump deposits. Unconformably underlying the recent deposits is a thick sequence of poorly consolidated cobble gravels, sands and clays of the Plio-Pleistocene Livermore Gravels. The small hill immediately west of the site is composed of northeast-dipping beds of the Livermore Gravels.

Surface drainage is generally to the west. The confluence of two principal streams, the Arrays Las Positas and Arrays Seco, is approximately one mile west of the site. Locally, the groundwater flows toward a water-table depression located about 4,000 feet northwest of the site.

As shown in the geologic cross section A-A' (Figure 3, Appendix A), the materials penetrated at the site consist of a ten-foot thick, silty, sandy clay underlain to a depth of 30 feet by clayey sandy gravel, clayey silty sand, clean sand, and gravel. The contact between the recent valley-fill and the Livermore Gravels is not obvious from the description on the drilling logs which are in Appendix C.

2.4 SITE HYDROGEOLOGY

Historical groundwater monitoring data for the site-related wells are summarized in Table 3 (Appendix B) and the associated hydrographs are included in Figure 4 (Appendix A). Depth to groundwater ranges from about 11 feet to 17 feet. Estimated groundwater flow direction beneath the site is to the northeast but shifts northwestward immediately north of the site. The groundwater flow direction and potentiometric surface determined from data collected on July 12, 1991 is depicted in Figure 5 (Appendix A). The hydraulic gradient on this date was 0.05 north/northeast.

2.5 EXTENT OF HYDROCARBON IMPACTED SOIL

Petroleum hydrocarbons exist in two phases in the unsaturated zone soil. One is a liquid phase adsorbed to soil particles, composed of separate-phase petroleum hydrocarbons and dissolved petroleum hydrocarbons in pore water; the second is a vapor phase within the soil pore space. The approximate lateral extent of soil impacted by adsorbed-phase hydrocarbons is defined by laboratory analyses of soil. Figure 6 (Appendix A) depicts the approximate extent of benzene in the soil at a depth of 10 to 16 feet BGS. Benzene was used to distinguish the adsorbed phase plume because TPH-G was not quantified in some of the soil samples submitted for analysis. Because most of the soil samples were collected in the saturated zone, and because the shape of the plume is similar to that of the dissolved plume it appears that the petroleum hydrocarbons present in the soil samples were introduced via the groundwater. Although the quantitative data for the unsaturated zone is limited, the field observations noted in the drill logs suggest soil contamination is not laterally extensive. The highest concentrations of petroleum hydrocarbons reported in past investigations are in the vicinity of MW-A and SB-1. Hydrocarbon impacted soil appears to exist in a somewhat linear region encompassing MW-5, MW-A, SB-1 and MW-B. Soil samples collected from the sides and the bottom of the tank pit when the UST's were removed indicate that soils in that vicinity are not significantly impacted. The soil sample analytical results for all soil samples analyzed to date are summarized in Table 1 (Appendix B). The corresponding laboratory reports are included in Appendix D for reference.

2.6 EXTENT OF HYDROCARBON IMPACTED GROUNDWATER

Groundwater monitoring and sampling have been conducted over the course of the project. The analytical results of water samples collected since the beginning of the project are summarized in Table 2 (Appendix B). The laboratory reports are included in Appendix E for reference. The distribution of TPH-G and benzene dissolved in groundwater on July 12, 1991 are illustrated in Figures 7 and 8 (Appendix A). The plumes are elliptical and are centered around MW-A. The entire TPH-G plume, to its zero line, has a radius of approximately ~~50-70 feet~~ in the northeast/southwest direction and 85-105 feet in the northwest/southeast direction. in 4/22/92 plume is 45-55' in NE x 80x95' in NW

The highest dissolved petroleum hydrocarbon concentrations were detected in on-site wells. Two of the off-site wells, MW-4 and MW-6, have contained dissolved petroleum hydrocarbons during some sampling rounds but have not contained any for the past two years. A film of separate-phase petroleum has historically been noted in monitoring wells MW-A and MW-B but has not been present since March 1990.

3.0 REMEDIATION SYSTEM DESIGN

3.1 OVERVIEW

The goal of the remediation system is to remove and treat both: (1) the petroleum hydrocarbons adsorbed to the soil and in the vapor phase in the unsaturated zone and (2) to extract and treat petroleum hydrocarbon-impacted groundwater while exerting hydraulic control on the plume. The unsaturated zone hydrocarbons may be a continuing source of dissolved hydrocarbons to groundwater and must be removed if groundwater treatment is to be effective. A recoverable amount of separate phase petroleum is not expected.

3.2 SOIL VAPOR EXTRACTION AND EMISSION CONTROL

3.2.1 Soil Vapor Extraction Pilot Test Methods

To aid the design of a remediation system, Groundwater Technology conducted a soil vapor extraction pilot test on July 24, 1991. The test determined the pneumatic characteristics of the soil in the unsaturated zone, and the petroleum hydrocarbon concentration in the extracted soil vapor. Collection of these data allows design of the vapor extraction and treatment system, and provides necessary information to obtain an air discharge permit.

The San Francisco Bay Air Quality Management District was notified of the test as required under Groundwater Technology's permit exemption for short-term vapor extraction tests. The test was conducted to determine the radius of influence of each well, and the concentration of hydrocarbons in the soil vapor extracted from each well. Existing monitoring wells were used as vapor extraction and vapor monitoring wells. Vapors were extracted from the extraction well using a one-horsepower regenerative blower. During the test, the flow rate was monitored with a Kurz model 440 air velocity meter, and was varied between 12 and 31 cubic feet per minute (cfm). Effluent from the blower was routed through an internal combustion catalytic unit (ICCU) mounted on a trailer. The ICCU utilizes catalytic oxidation to break down the extracted hydrocarbons, producing a clean effluent stream. ICCU effluent concentrations were monitored every half hour during operation with a portable photoionization detector (PID).

To determine the radius of influence, the induced vacuum pressure was measured with a Magnehelic gauge in monitoring wells at varying distances from the extraction well. Samples of the extracted soil vapor were collected from MW-A, MW-5 and MW-B after approximately one hour of testing. The samples were collected in Tedlar bags and shipped under a chain-of-custody to GTEL Environmental Laboratories, Inc.

(GTEL) for analysis. The samples were analyzed according to U. S. Environmental Protection Agency (EPA) methods 8015 and 8020 for benzene, toluene, ethylbenzene and xylenes (BTEX), and TPH-G.

3.2.2 Soil Vapor Extraction Pilot Test Results

The results of vacuum measurements taken during the soil vapor extraction pilot test are recorded in Table 4 (Appendix B). These vacuum measurements allow definition of the subsurface volume of soil that is affected by the applied vacuum, stated as a radius of influence. The radius of influence was defined as the distance at which measured vacuum would be equal to 0.1 inches of water. Using this definition, the radius of influence is less than 30 feet. Because the applied vacuum was relatively high (70 inches of water) and pulled the water level up in the extraction well, the screened interval in the unsaturated zone used for extraction may have been as little as two feet.

The laboratory reports for the air samples collected during the pilot test are included in Appendix F. The highest soil vapor concentration was 15,000 µg/l of TPH-G measured from MW-5. TPH-G concentrations in the MW-A and MW-B air samples were 200 and 40 µg/l, respectively. The soil vapor concentrations appear to correlate with the highest adsorbed and dissolved phase petroleum hydrocarbons in the soil and groundwater, although MW-A was expected to produce higher concentration of TPH-G vapors. The relatively low TPH-G concentration in the MW-B vapor sample supports the conclusion of soil samples that the former underground tank area is not significantly impacted with petroleum hydrocarbons.

3.2.3 Soil Vapor Extraction and Emission Control System Design

At 100 cfm, the hydrocarbon removal rate from MW-5 will be 135 lbs/day. Assuming an exponential decay in removal rate as remediation proceeds, the total volume of hydrocarbons extracted will be approximately 3,400 pounds. The calculations are included in Appendix G for reference. Some form of vapor emission control will be required by the San Francisco Bay Air Quality Management District. Among the choices of activated carbon, internal combustion engine, thermal oxidation, and catalytic oxidation, a combination approach is the favored technology for the site. A discussion of these vapor emission control options follows.

3.2.3.1 Emission Control System Evaluation

Treatment by granular activated carbon is not recommended initially for the site, although it may be economic after approximately one month. Carbon can be loaded by 10 to 20 percent before saturation, but the exact value depends on temperature, pressure, humidity and flow rate. Based on the expected initial

extraction rate of 135 lbs/day, approximately 675 pounds of carbon will be saturated each day. The estimated total mass of hydrocarbons will require 17,000 pounds of carbon.

The initial hydrocarbon loading is high enough to warrant use of oxidation technologies. As opposed to adsorption systems, oxidation treatment technologies destroy the hydrocarbons by combustion. Hydrocarbon-laden vapors extracted from the subsurface are mixed with ambient air to increase the oxygen content prior to treatment. The complex petroleum hydrocarbons are converted to carbon and hydrogen oxides (such as water and carbon dioxide). Once the TPH concentrations drop, a carbon treatment system can be installed.

A temporary thermal unit, such as an internal combustion engine, is recommended for initial emission control. At approximately 3,300 μg/l, carbon treatment will be cost effective, and this concentration is expected to occur after approximately 40 days of vapor extraction (Appendix G).

These calculations are based on the results obtained using the monitoring well array. Once the trench system is installed and tested (Section 3.2.3.2), these calculations will be rechecked.

3.2.3.2 Vapor Extraction System

The vapor extraction pilot test indicated that vertical extraction wells will have a limited radius of influence at the site. Because the soil contamination plume is elongate and the soil matrix is fine-grained, a vapor extraction trench is recommended. The proposed trench will run from near MW-5 to 35 feet east of MW-A (Figure 9, Appendix A). The trench bottom will be 12 feet BGS, backfilled to 7 feet BGS with pea gravel, and sealed with plastic sheeting. A four-inch diameter schedule 40 PVC 0.02-inch-slot well screen will be installed at nine feet BGS within the trench (Figure 9, Appendix A). The trench screen, along with MW-5 and MW-A, will be manifolded to the treatment compound, where valves will be installed to allow independent control of each point. A pilot test of the new vapor extraction trench will be conducted prior to final selection of a treatment device. Depending on the device selection, either a 1.5- or 5-horsepower vacuum blower will be used for vapor extraction.

3.2.3.3 Permitting

Authority to construct the air emission control system will be obtained from the San Francisco Bay Air Quality Management District. A source test will then be conducted to verify system performance, and a permit to operate will then be obtained. The discharge limits are set using risk-based parameters. The

proposed treatment system will reduce the observed influent concentrations to effluent levels acceptable to the agency.

3.3 GROUNDWATER EXTRACTION

3.3.1 Recovery Well Location and Installation

No empirical studies of the aquifer characteristics have been performed to date. Initially, one eight-inch diameter groundwater extraction well is proposed and should be located in the planter near MW-A, in the center of the dissolved hydrocarbon plume (Figure 9, Appendix A).

A permit to install the recovery well will be obtained from Alameda County Environmental Health Department. The recovery well will be installed utilizing hollow-stem auger drilling techniques. The total depth of the well will be 30 feet with screen placed between 10 to 30 feet BGS. Soil samples will be collected at a minimum of five feet intervals, and classified in the field by a Groundwater Technology geologist according to the Unified Soil Classification System. The samples will be screened for their volatile hydrocarbon content in the field using a PID equipped with a 10.2 eV bulb. Based on the lithologies encountered in the field, the exact screen interval may change from that proposed here.

The annulus between the borehole and the well screen will be filled with a filter pack. A two foot bentonite seal will be placed above the filter pack, and grout will be installed from the bentonite to within 3 feet of grade to provide a sanitary seal. After installation, the recovery well will be thoroughly developed by surging and pumping.

The pumping well will be protected at grade by a traffic-rated vault. A two-inch diameter schedule 40 PVC pipe for pumped groundwater will run from the pumping well to the proposed water treatment compound. A second pipe will be installed for redundancy. The pipes will be placed in a trench that is a minimum of 20 inches deep. Two 1/2-inch diameter electrical conduits will also be run to the well, one to provide power for the pump and one to run control cables to the recovery well.

3.3.2 Cone of Depression and Capture Zone

An aquifer and well characterization test will be performed using the pumping well to provide information for pump selection and for determining the capture zone of the well. Aquifer characterization will consist first of a step-drawdown test to determine the capacity of the well. Based on this information, a continuous rate pump test will be performed to determine the hydraulic conductivity and storativity of the aquifer, the capture zone of the pumping well, and the well efficiency. The test will also allow selection of

an appropriate pump. Because of the limited extent of the dissolved phase plume, one extraction well should provide adequate hydraulic control over the entire groundwater plume.

Water table elevation changes in the recovery well and three adjacent monitoring wells will be monitored using pressure transducers attached to a microprocessor-controlled data collection device. Upon completion of the aquifer test, the data will be downloaded to a personal computer and used to calculate hydraulic conductivity and storativity of the water-bearing zone. Hand gauging will also be performed on a number of additional monitoring wells during the aquifer test to supplement the data. In addition, all the monitoring wells at the site will be gauged before the start of the pump test (static gradient), and before its completion (cone of depression induced by pumping the recovery well).

3.4 GROUNDWATER TREATMENT

3.4.1 Air Stripping

An air stripping treatment system is proposed to remove volatile hydrocarbons from the extracted groundwater. The system will operate by forcing counter-current air flow against extracted water cascading through packing material. The packing maximizes air to water contact area, facilitating hydrocarbon volatilization. The final design of the air stripper will depend on the results of the pump test, which will determine the concentrations of hydrocarbons in the extracted groundwater.

A permit will be obtained from the City of Livermore Department of Public Works to discharge treated water from the air stripper to the sewer system. The discharge limits will be determined by the agency. If a permit cannot be obtained for sewer discharge, then a permit for local groundwater recharge will be obtained from the Regional Water Quality Control Board. If, based on the results of the aquifer test, emission control is required, then the vapor will be routed in line with the soil vapor extraction system for treatment.

3.5 FACILITY CONSTRUCTION AND UNDERGROUND INFRASTRUCTURE

3.5.1 Facility Area

The proposed treatment compound will be constructed with eight-foot-high slatted fencing with barbed wire tops installed around the remediation equipment. Figure 9 (Appendix A) shows a proposed location of the equipment compound. Trenching will run from the planter area to the compound. Local building codes, electrical codes, and fire department regulations will be satisfied prior to construction of the facility.

4.0 WORK PLAN FOR REMEDIATION SYSTEM INSTALLATION AND OPERATION

To complete the scope of work described in this report, the following tasks must be completed.

- Obtain permits from Alameda County Environmental Health Department for installation of the groundwater recovery well.
- Install groundwater pumping well, develop well, conduct 24-hour aquifer test, and analyze a sample of groundwater pumped from the well.
- With data obtained during the aquifer test, develop a final design of the groundwater remediation system.
- Install vapor extraction trench, and conduct pilot test.
- Obtain authority to construct the air emission control system from San Francisco Bay Air Quality Management District.
- Obtain permits from the local building department to construct the treatment compound, including the electrical portion.
- Purchase and install the treatment system as described in this report, subject to modifications dependent on the results of the pump test.
- Maintain the optimum performance of the system, and collect samples as required for system optimization and for regulatory compliance.

5.0 PROJECT SCHEDULE

Groundwater Technology is prepared to commence this work immediately. Three to six months should be allowed for the necessary permitting, construction, and testing. Assuming successful receipt of necessary permits and on-time equipment delivery, the treatment system should be operational within approximately six months from approval of this Work Plan. The life of the groundwater treatment system

will depend on the successful removal of hydrocarbons in the unsaturated-zone and separate-phase petroleum.

6.0 LONG TERM MONITORING

The treatment systems will be monitored at least as frequently as specified by the permitting agencies. It is expected that monthly monitoring of the influent and effluent hydrocarbon concentrations will be required. During the first month of operation, sampling will be more frequent to optimize system performance.

Water table elevation will be measured monthly to verify that the pumping well is providing hydraulic control over the dissolved hydrocarbon plume. Vacuum pressure in monitoring wells will be measured monthly to verify that the soil vapor extraction system influences the hydrocarbon impacted unsaturated zone.

Groundwater samples will be collected from selected site wells quarterly to monitor the effectiveness of the extraction system, and to document the effectiveness of the groundwater extraction system at maintaining hydraulic control of the dissolved hydrocarbon plume.

7.0 SITE SAFETY PLAN

Prior to commencing the remediation phase of the project, the existing Site Safety Plan will be revised to reflect the additional activities to be conducted on site. The revisions will be prepared in accordance with Occupational Safety and Health Administration (OSHA) guidelines set forth in "Hazardous Waste Operations and Emergency Response" (29 CFR 1910.120). The document will be reviewed and signed by all Groundwater Technology personnel and subcontractors performing work on site. A copy will be present on-site at all times and kept in an easily accessed location.

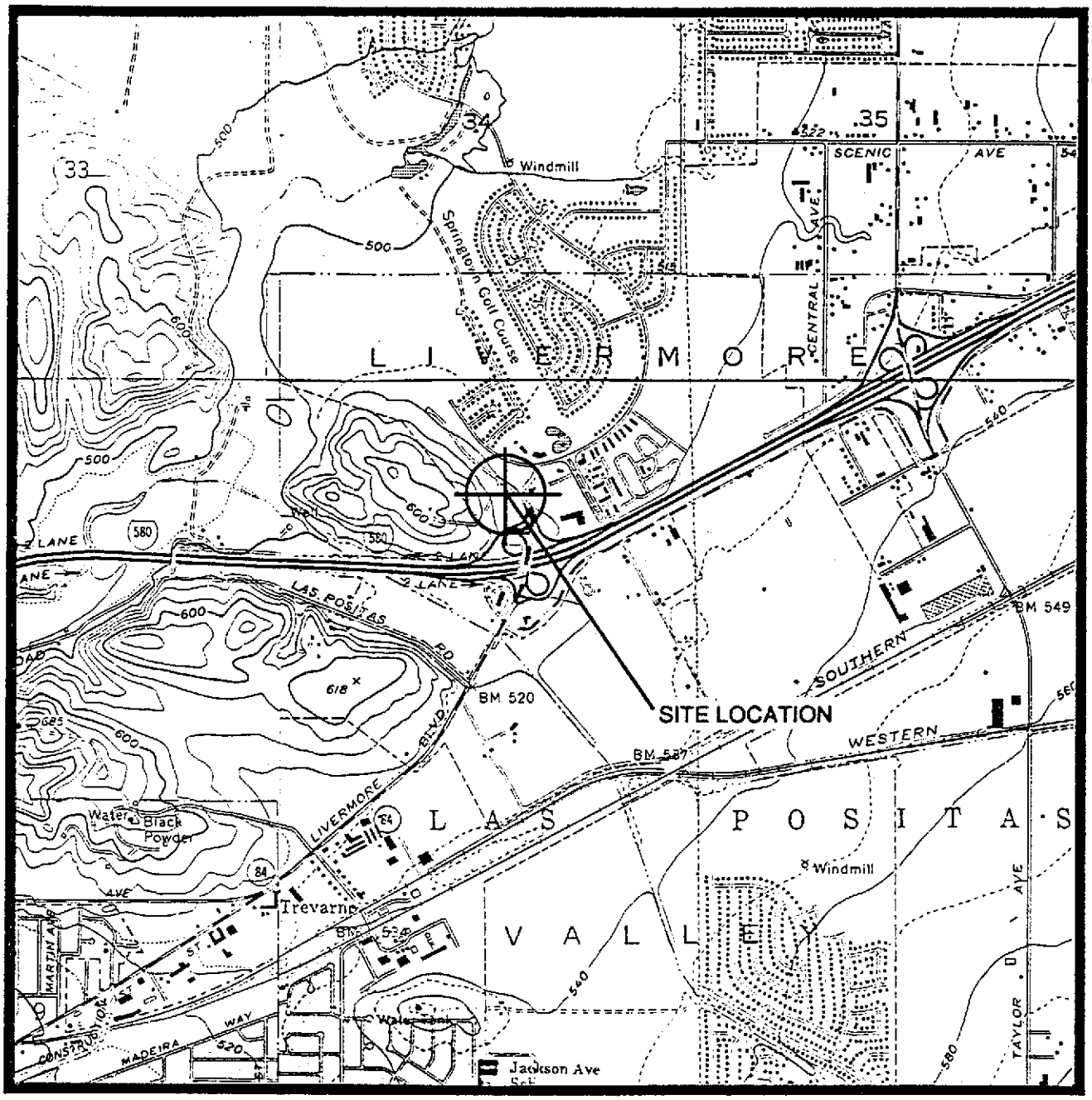


FIGURE 1
SITE LOCATION MAP

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-0086

ALTAMONT, CALIF.
37121-F2-TF-024
1981

GROUNDWATER TECHNOLOGY, INC.

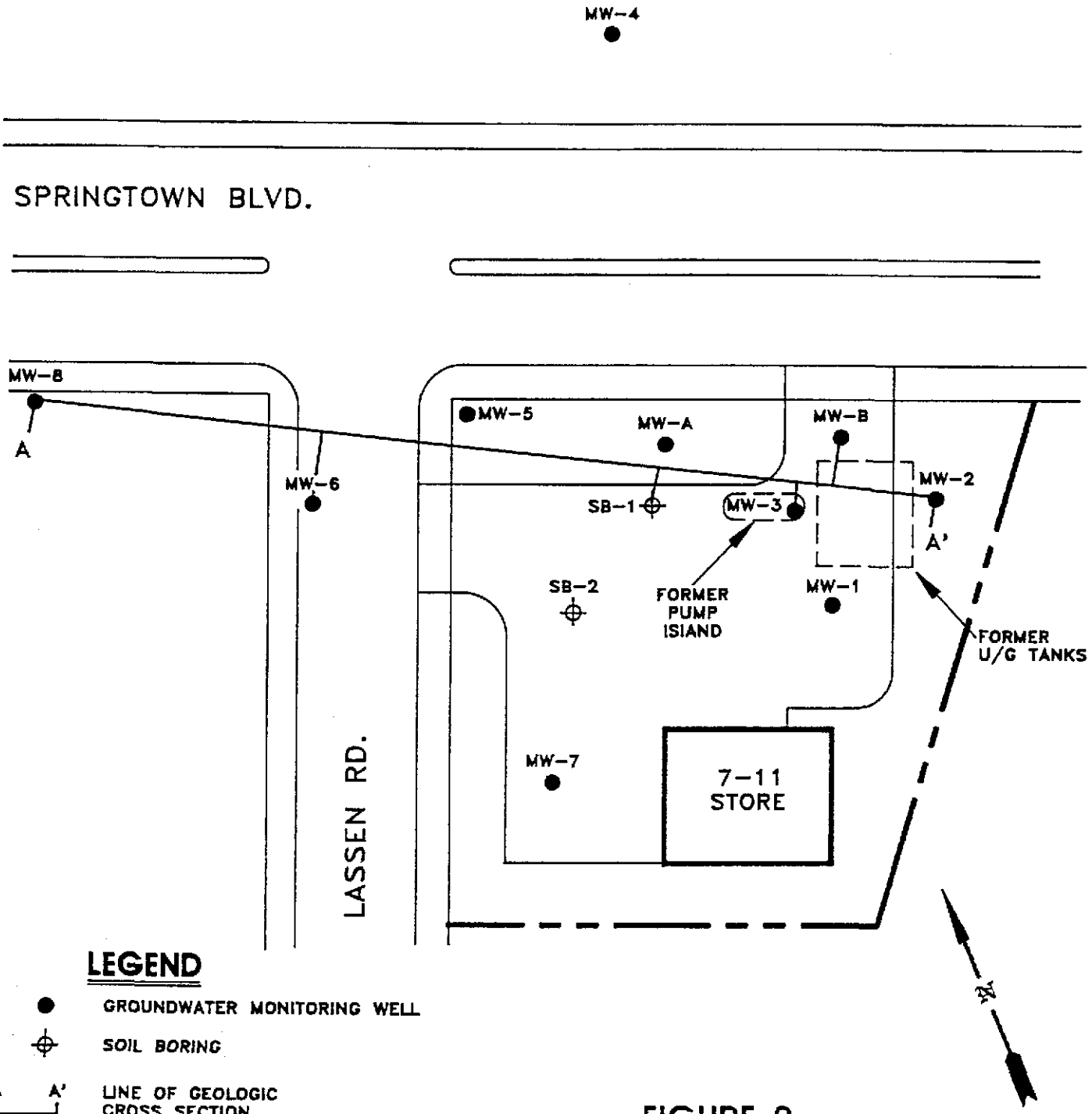


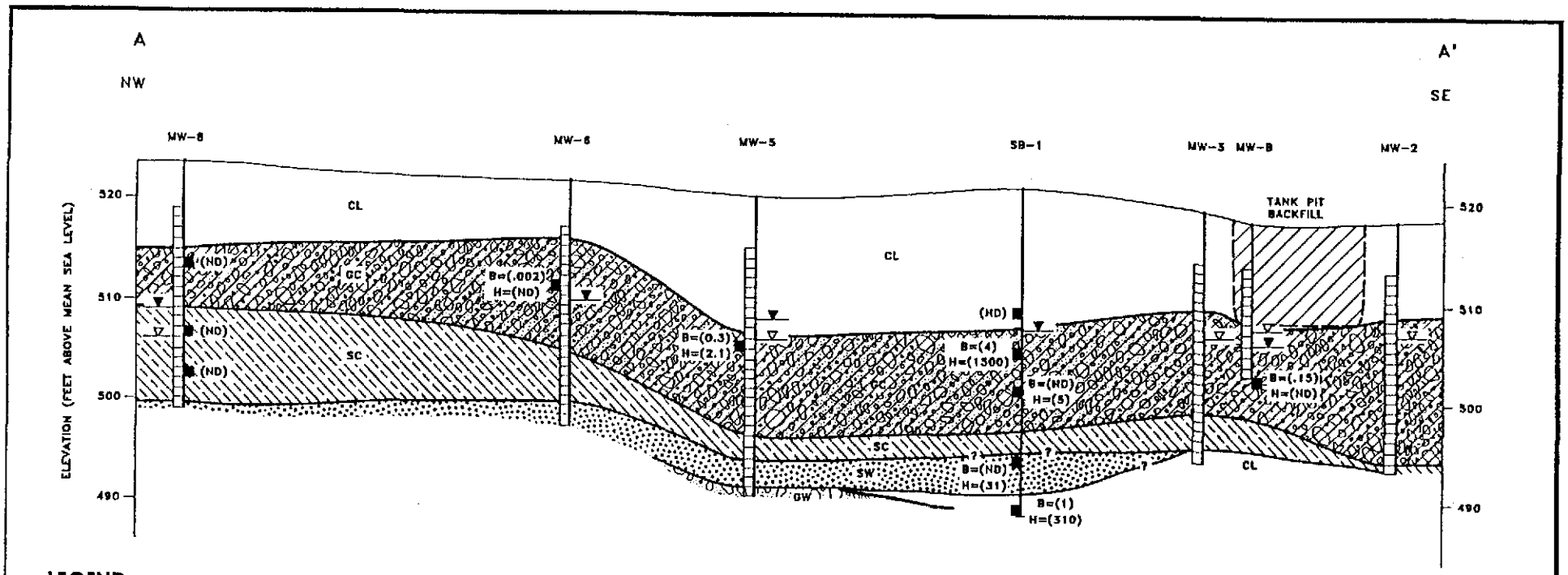
FIGURE 2
SITE PLAN

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 8/21/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.



LEGEND

- CL — SILTY SANDY CLAY
- SC — CLAYEY SILTY SAND
- SW — SAND
- GC — CLAYEY SAND AND GRAVEL
- GW — GRAVEL
- WATER LEVEL ON 7/12/91
- ENCOUNTERED WATER DURING DRILLING
- SOIL SAMPLE
- ND — HYDROCARBON NOT DETECTED
- B — BENZENE CONCENTRATION (ppb)
- H — TPH-G CONCENTRATION (ppb)
- SCREENED INTERVAL

FIGURE 3
GENERALIZED GEOLOGIC CROSS SECTION A-A'

TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-1383

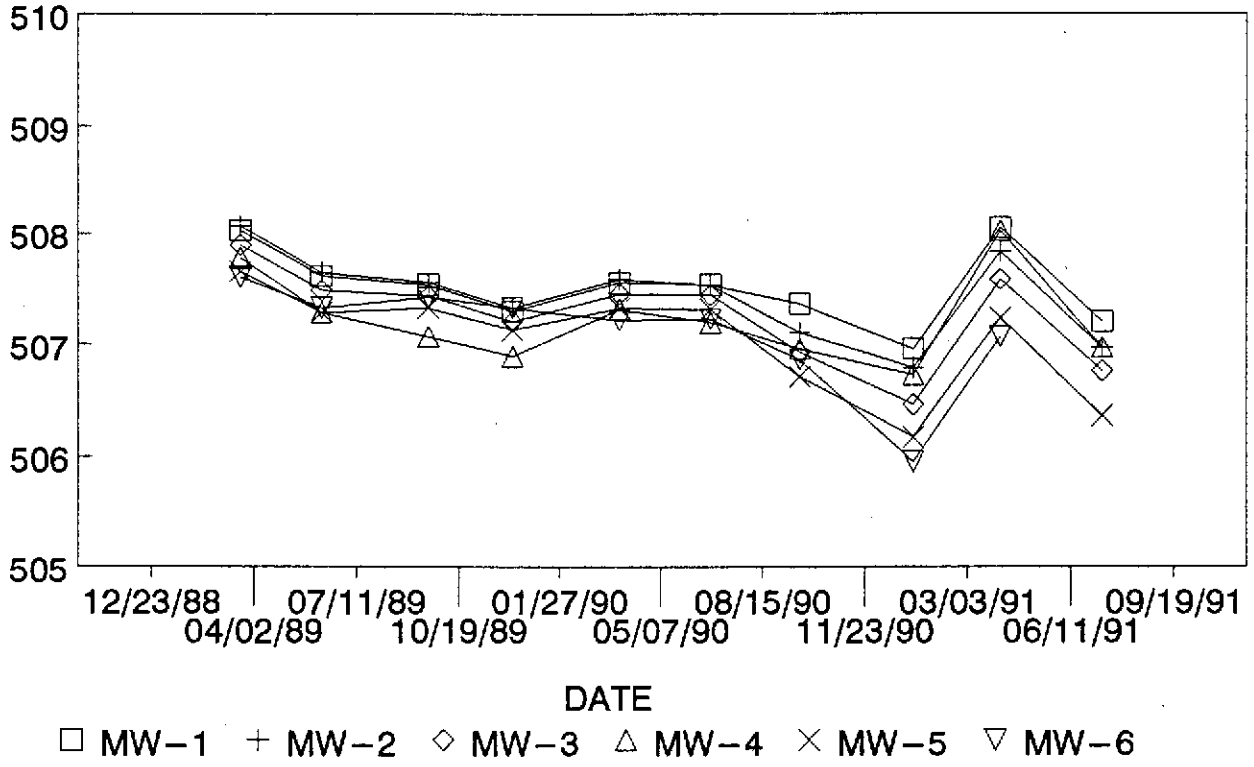
REVISIONS:
DATE: 8/29/91
REVISION: FINAL DRAFT
BY: GWS

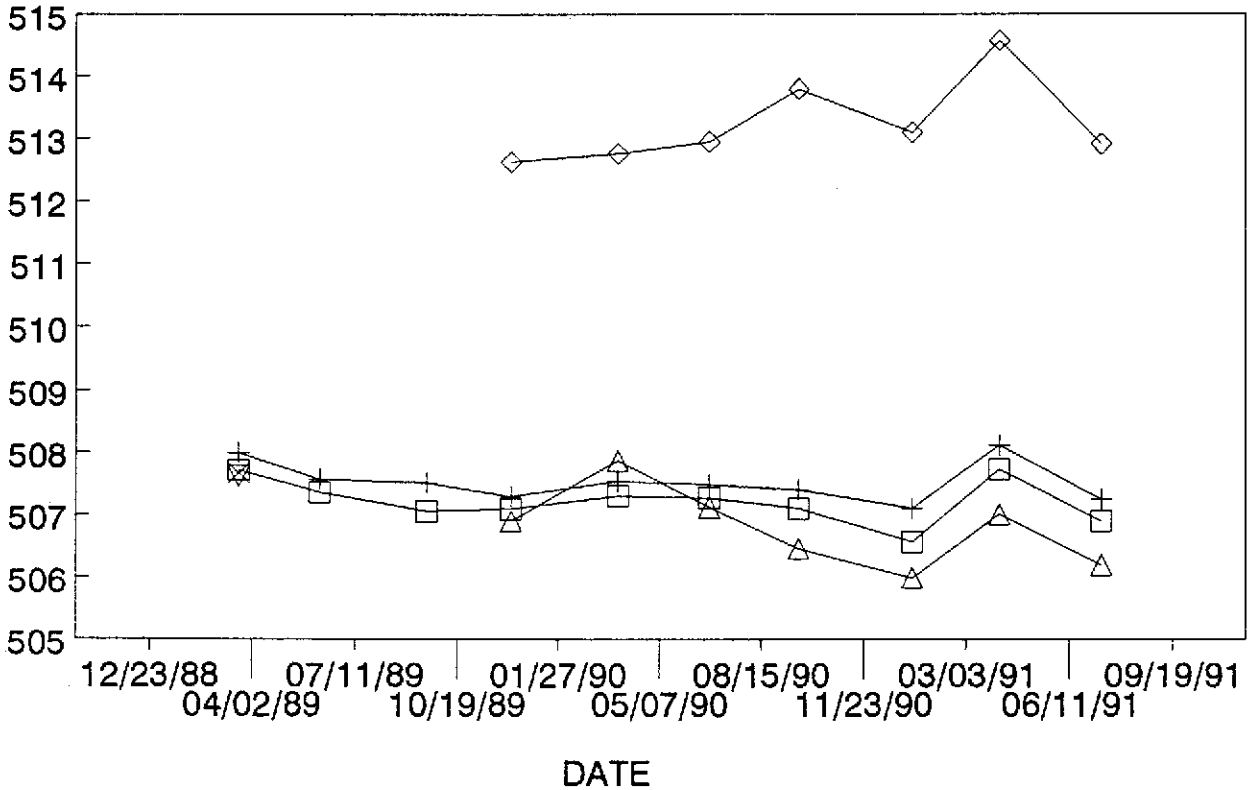
SCALE IN FEET
0 — 25
10

VERTICAL EXAGGERATION=2.5x

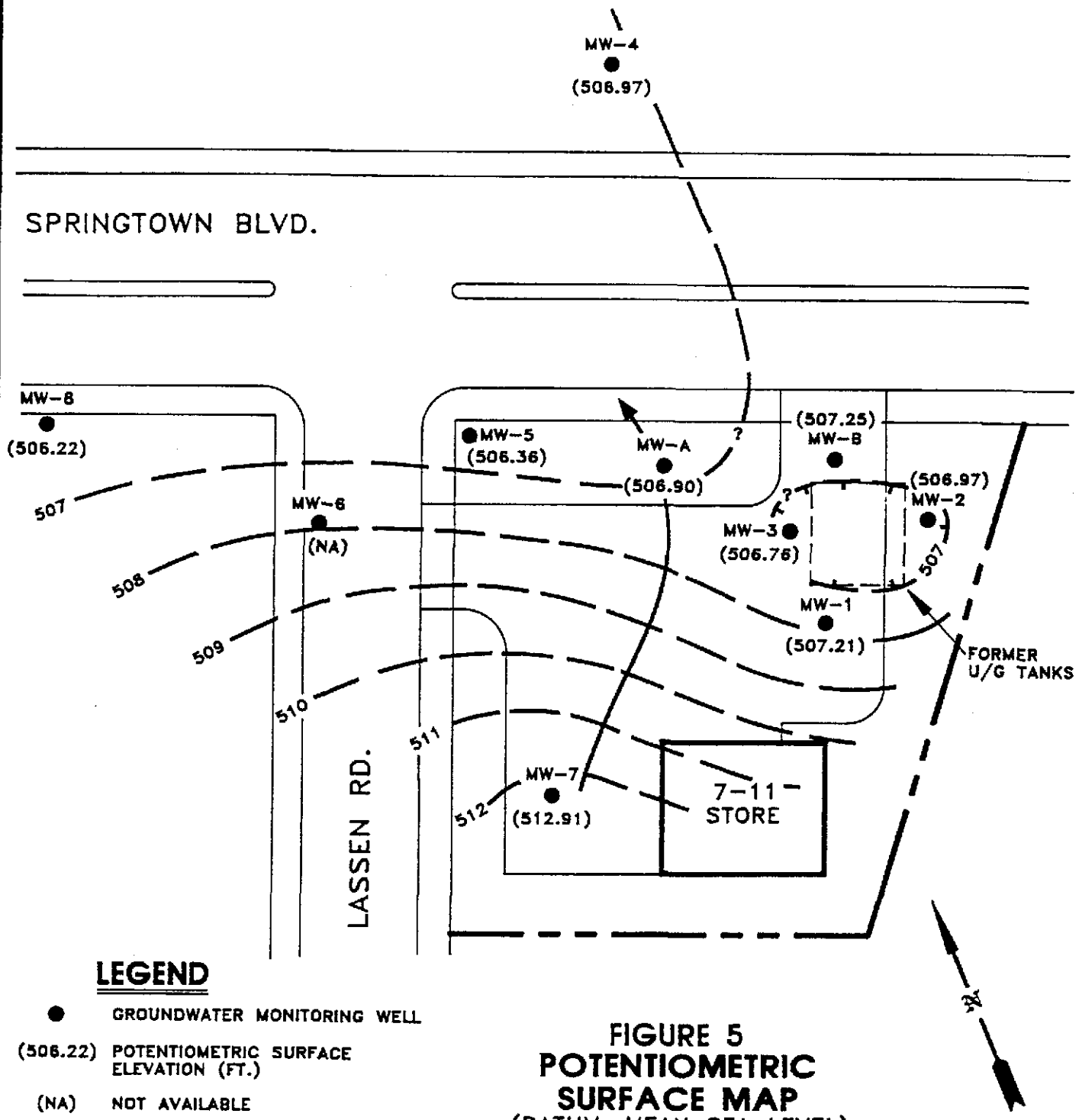
GROUNDWATER TECHNOLOGY, INC.

Figure 4
HYDROGRAPHS





GROUNDWATER TECHNOLOGY, INC.



LEGEND

- ● GROUNDWATER MONITORING WELL
- (506.22) POTENTIOMETRIC SURFACE ELEVATION (FT.)
- (NA) NOT AVAILABLE
- POTENTIOMETRIC SURFACE CONTOUR; INTERVAL=1 FT.
- → ESTIMATED GROUNDWATER FLOW DIRECTION

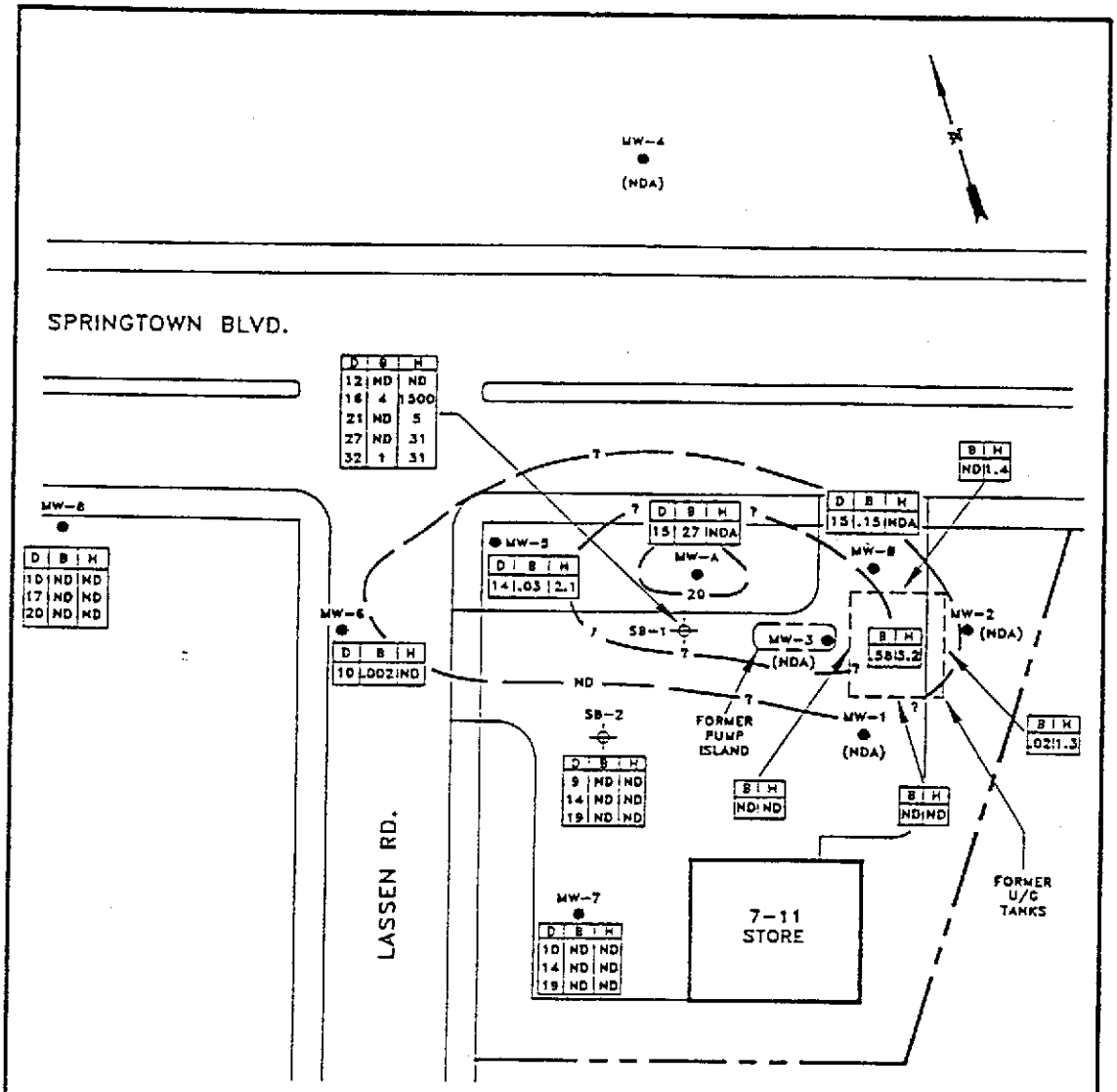
FIGURE 5
POTENTIOMETRIC SURFACE MAP

(DATUM: MEAN SEA LEVEL)
JULY 12, 1991
TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-1383

REVISIONS:
DATE: 8/5/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.



LEGEND

- ● GROUNDWATER MONITORING WELL
- ⊕ SOIL BORING
- ND NOT DETECTABLE AT OR ABOVE METHOD DETECTION LIMIT
- D DEPTH OF SAMPLE (IN FEET)
- B BENZENE CONCENTRATION (ppb)
- H TPH-G CONCENTRATION (ppb)
- NDA NO DATA AVAILABLE
- LINE OF ESTIMATED EQUAL ADSORBED* BENZENE CONCENTRATION (ppb)

*NOTE: SOIL SAMPLES WERE COLLECTED IN THE SATURATED ZONE AND MAY NOT REFLECT TRUE SOIL CONDITIONS

BENZENE DISTRIBUTION IS BASED ON SOIL SAMPLES COLLECTED BETWEEN 10 & 16 FT. BELOW GROUND SURFACE

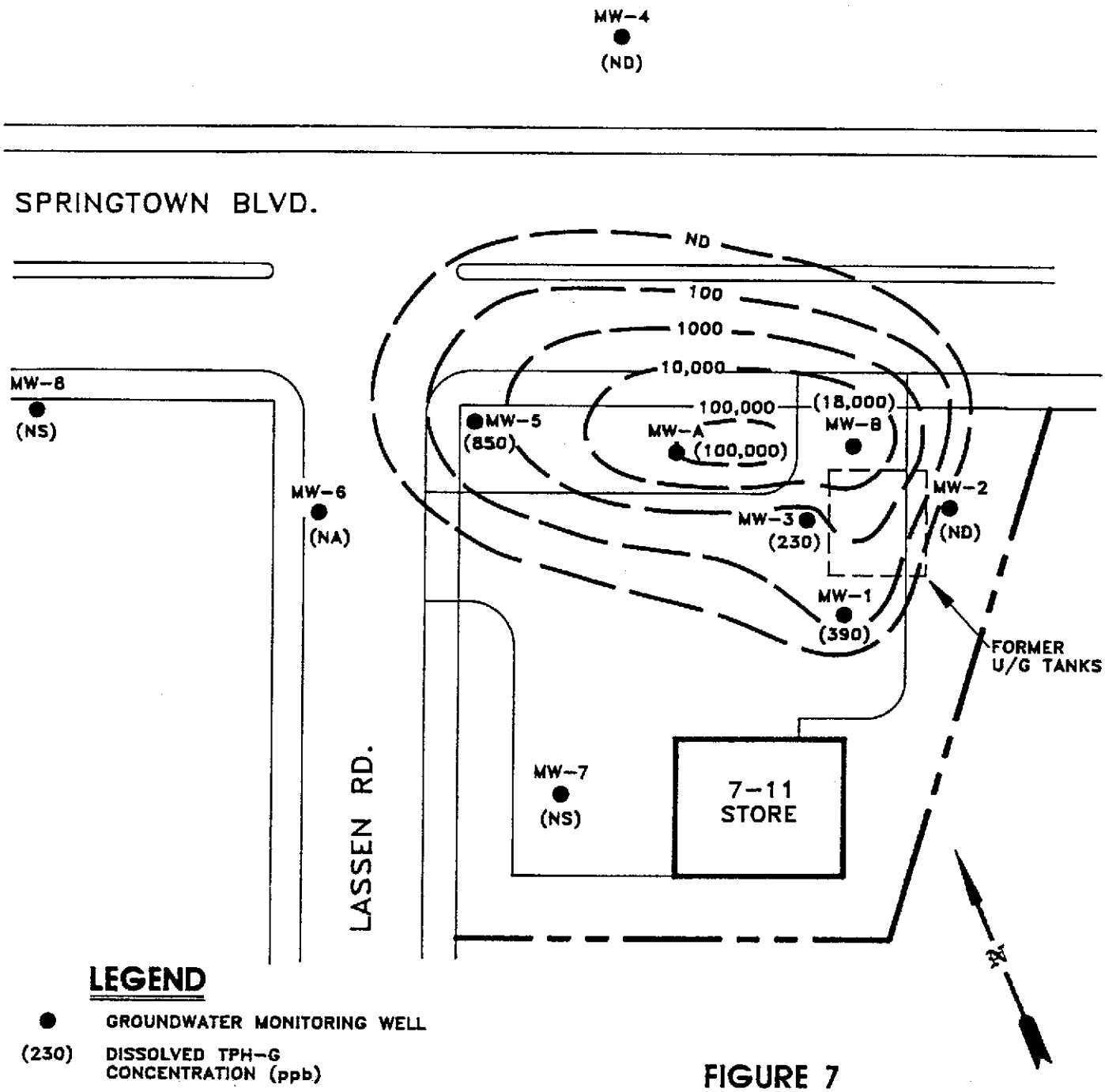
FIGURE 6
APPROXIMATE EXTENT OF ADSORBED BENZENE IN SOIL

TEXACO REFINING & MARKETING INC.
930 SPRING TOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 8/23/91
REVISION: FINAL DRAFT
BY: CWS

40 0 40 80
SCALE FEET

GROUNDWATER TECHNOLOGY, INC.



LEGEND

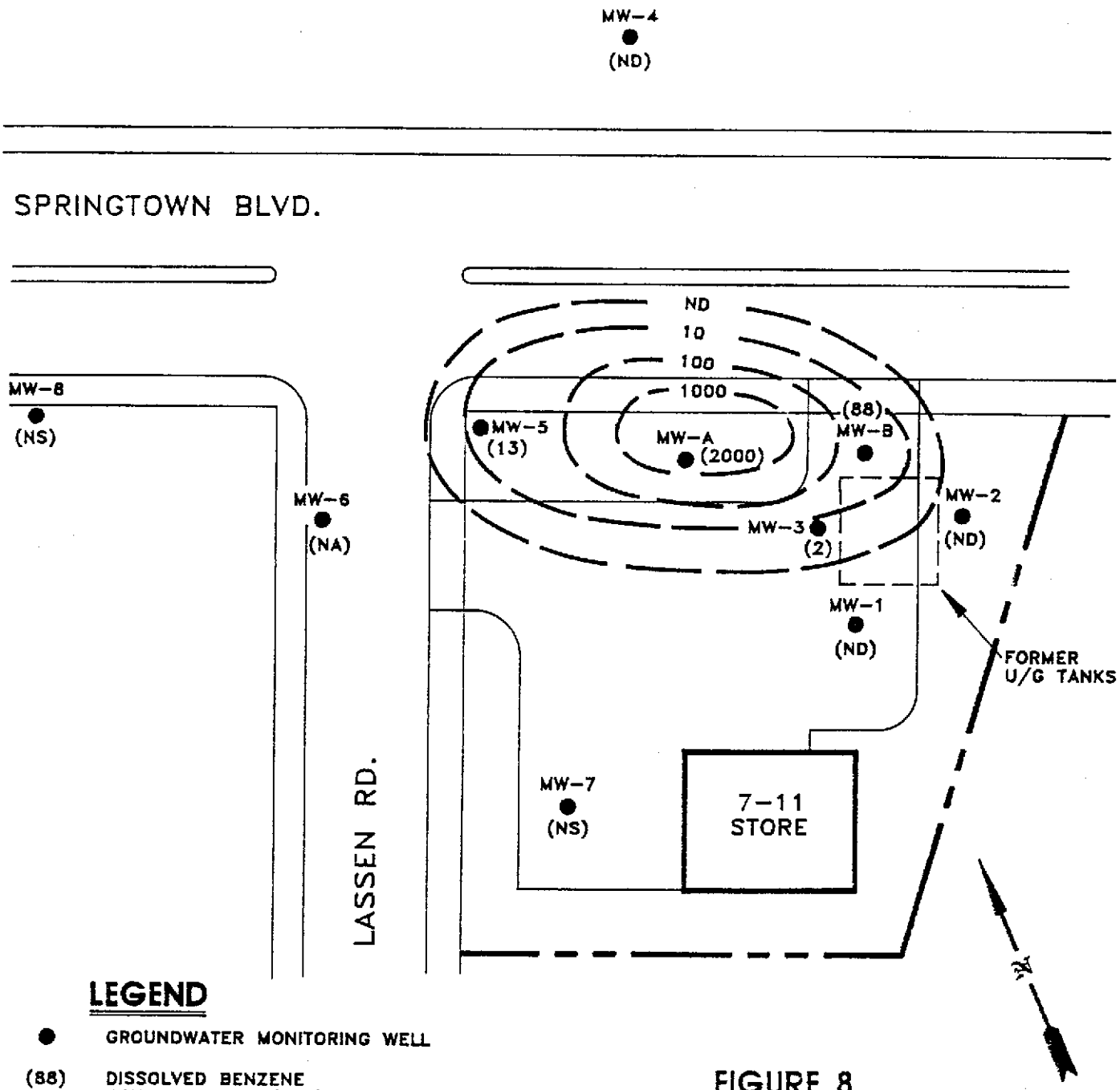
●	GROUNDWATER MONITORING WELL
(230)	DISSOLVED TPH-G CONCENTRATION (ppb)
(ND)	NOT DETECTABLE AT OR ABOVE METHOD DETECTION LIMIT
(NS)	NOT SAMPLED. NON-STRATEGIC WELL
(NA)	NOT AVAILABLE
⌒	LINE OF ESTIMATED EQUAL DISSOLVED TPH-G CONCENTRATION (ppb)

FIGURE 7
DISSOLVED TPH-G CONCENTRATION MAP
(IN PARTS PER BILLION [ppb])
JULY 12, 1991
TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-1383

REVISIONS:
DATE: 8/5/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.



LEGEND

- ● GROUNDWATER MONITORING WELL
- (88) DISSOLVED BENZENE CONCENTRATION (ppb)
- (ND) NOT DETECTABLE AT OR ABOVE METHOD DETECTION LIMIT
- (NS) NOT SAMPLED, NON-STRATEGIC WELL
- (NA) NOT AVAILABLE
- ( ) LINE OF ESTIMATED EQUAL DISSOLVED BENZENE CONCENTRATION (ppb)

FIGURE 8
DISSOLVED BENZENE CONCENTRATION MAP

(IN PARTS PER BILLION (ppb)
JULY 12, 1991
TEXACO REFINING & MARKETING INC.
930 SPRINGTOWN BLVD.
LIVERMORE, CA.
02320-1383

REVISIONS:
DATE: 8/5/91
REVISION: FINAL DRAFT
BY: GWS

0 50'
APPROX. SCALE

GROUNDWATER TECHNOLOGY, INC.

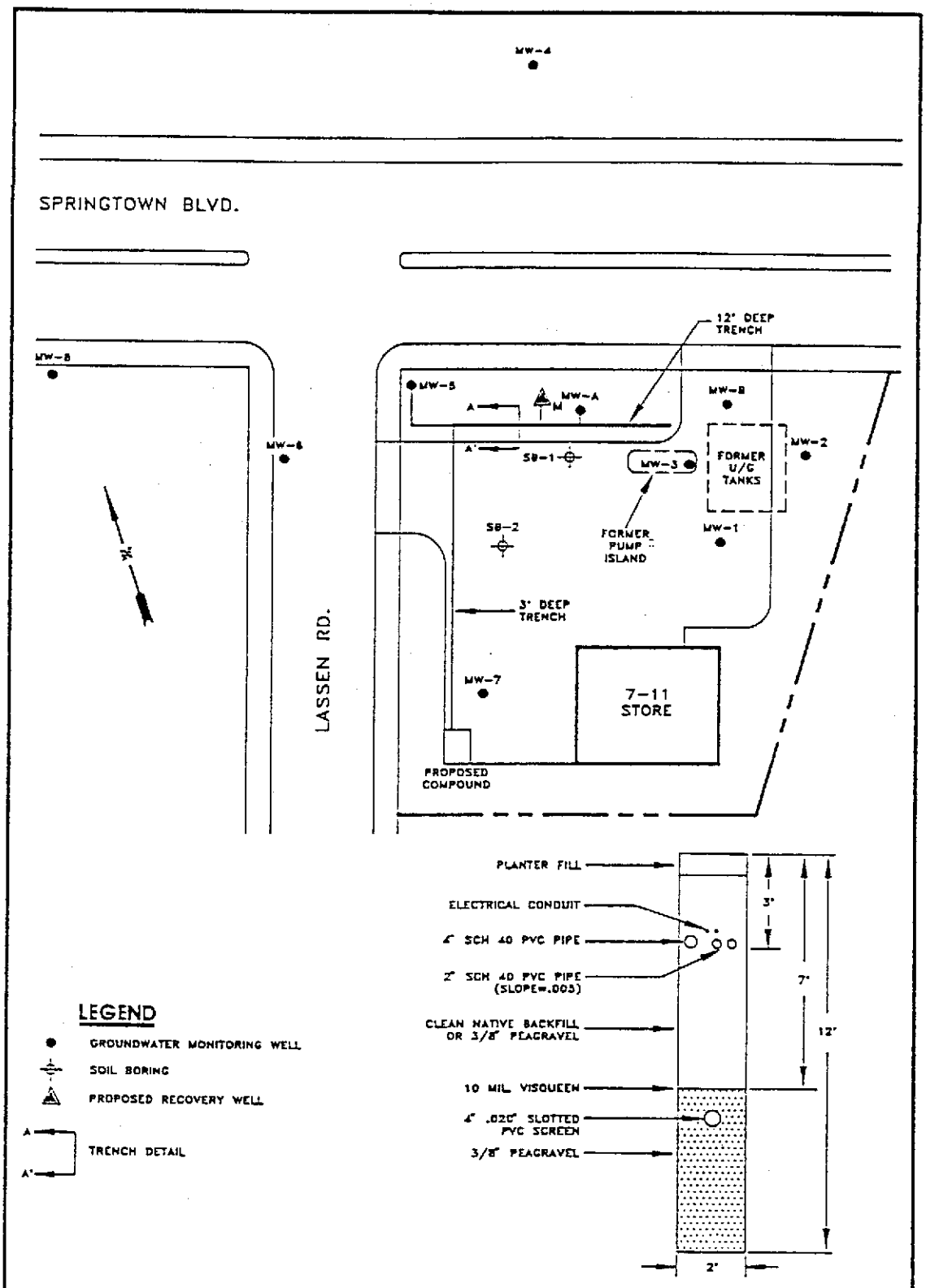


FIGURE 9
PROPOSED
SYSTEM LAYOUT

TEXACO REFINING & MARKETING INC.
930 SPRING TOWN BLVD.
LIVERMORE, CA.
02320-0086

REVISIONS:
DATE: 8/22/91
REVISION: FINAL DRAFT
BY: GWS

40 0 40 80
SCALE FEET

GROUNDWATER TECHNOLOGY, INC.

Table 1

CUMULATIVE SOIL SAMPLE ANALYSES RESULTS
(in parts per million)

Former Texaco Service Station
930 Springtown Boulevard
Livermore, California

SAMPLE DATE	SAMPLE I.D.	SAMPLE DEPTH	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G
9-27-84	B3-15 (MW-A)	15'	27	190	86	310	--
9-27-84	B4-15 (MW-B)	15'	0.15	0.97	0.83	3.1	--
6-26-85	Bottom	?	0.58	0.24	0.40	0.009	3.2
6-26-85	North	?	<0.001	<0.001	<0.001	<0.001	1.4
6-26-85	South	?	<0.001	<0.001	<0.001	<0.001	<0.01
6-26-85	East	?	0.02	0.02	0.01	0.01	1.3
6-26-85	West	?	<0.001	<0.001	<0.001	<0.001	<0.01
11-11-86	MW-5C	14'	0.030	0.025	--	0.070	2.1
11-11-86	MW-6B	10.5'	0.002	0.005	--	0.003	<0.050
12-04-89	SB-1D	12.5'	<1	<3	<4	<15	<1
12-04-89	SB-1E	16.0'	4	<3	19	24	500
12-04-89	SB-1F	21'	<1	<3	<4	<15	5
12-04-89	SB-1G	27'	<1	<3	<4	<15	31
12-04-89	SB-1H	32'	1	5	<4	15	310
12-05-89	SB-2A	9.5'	<1	<3	<4	<15	<1
12-05-89	SB-2C	14.5'	<1	<3	<4	<15	<1
12-05-89	SB-2D	19.5'	<1	<3	<4	<15	<1
12-05-89	MW-7C	10.5'	<1	<3	<4	<15	<1
12-05-89	MW-7D	14.5'	<1	<3	<4	<15	<1
12-05-89	MW-7F	19.5'	<1	<3	<4	<15	<1
12-06-89	MW-8C	10.0'	<1	<3	<4	<15	<1
12-06-89	MW-8D	17.5'	<1	<3	<4	<15	<1
12-06-89	MW-8E	20.5'	<1	<3	<4	<15	<1

Notes:
TPH-G = Total petroleum hydrocarbons-as-gasoline
-- = Not analyzed

SSATAB1.WK1

GROUNDWATER TECHNOLOGY

Table 2

CUMULATIVE WATER SAMPLE ANALYSES RESULTS

(in parts per billion)

Former Texaco Service Station
930 Springtown Boulevard
Livermore, California

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G
MW-A	09/27/84	--	--	--	--	**
	08/01/85	8,950	54,300	13,700	52,100	423,000
	03/28/86	5,880	14,700	4,260	29,000	256,000
	04/25/86	5,330	7,580	2,590	11,400	389,000
	11/17/86	5,500	3,600	--	1,100	55,000
	06/16/87	--	--	--	--	--
	07/29/87	--	--	--	--	--
	12/10/87	--	--	--	--	--
	06/09/88	--	--	--	--	--
	12/06/88	--	--	--	--	--
	03/20/89	--	--	--	--	--
	06/07/89	--	--	--	--	--
	09/19/89	--	--	--	--	--
	12/11/89	--	--	--	--	--
	03/27/90	SP	--	--	--	--
	06/25/90	2,700	4,000	2,600	6,500	39,000
	09/21/90	1,400	1,900	1,800	4,200	30,000
	01/10/91	1,900	3,700	2,600	8,300	50,000
	04/04/91	950	1,100	1,300	2,900	31,000
	07/12/91	2,000	4,200	4,600	13,000	100,000
MW-B	09/27/84	--	--	--	--	**
	08/01/85	2,590	12,300	2,880	10,100	71,700
	03/28/86	3,400	5,630	1,510	5,450	125,000
	04/25/86	SP	--	--	--	--
	11/17/86	3,200	740	--	560	34,000
	06/16/87	--	--	--	--	--
	07/29/87	310	1,300	400	1,200	6,200
	12/10/87	--	--	--	--	--
	06/09/88	--	--	--	--	--
	12/06/88	--	--	--	--	--
	03/20/89	--	--	--	--	--
	06/07/89	--	--	--	--	--
	09/19/89	--	--	--	--	--
	12/11/89	--	--	--	--	--
	03/27/90	SP	--	--	--	--
	06/25/90	28	230	87	260	5,400
	09/21/90	150	1,700	1,200	3,700	45,000
	01/10/91	47	1,300	770	3,100	35,000
	04/04/91	4	10	22	19	2,300
	07/12/91	88	1,800	390	1,300	18,000

Table 2 (continued)

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G
MW-1	08/01/85	ND	4	2	8	38
	03/28/86	ND	ND	ND	ND	2
	04/25/86	ND	1	ND	3	45
	11/17/86	<0.5	<0.5	<0.5	--	<50
	06/16/87	2,642	23,398	2,883	11,864	77,589
	07/29/87	<0.5	<0.5	<0.5	<0.5	<1,000
	12/10/87	<0.5	<0.5	<0.5	--	<1.0
	06/09/88	<1	<3	<4	<15	<1
	12/06/88	<1	<3	<4	<15	<1
	03/20/89	<1	<3	<4	<15	<1
	06/07/89	<1	<3	<4	<15	<1
	09/19/89	<1	<3	<4	<15	<1
	12/11/89	<1	<3	<4	<15	<1
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	<1
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	<0.3	<0.3	3	16	390
MW-2	08/01/85	9	9	3	6	673
	03/28/86	1	1	ND	1	96
	04/25/86	ND	ND	ND	ND	6
	11/17/86	13	<0.5	--	0.94	64
	06/16/87	<0.5	<0.5	<0.5	<0.5	<0.5
	07/29/87	<0.5	0.6	<0.5	<0.5	<1,000
	12/10/87	<0.5	<0.5	<0.5	<0.5	<1.0
	06/09/88	<1	<3	<4	<15	<1
	12/06/88	<1	<3	<4	<15	<1
	03/20/89	<1	<3	<4	<15	10
	06/07/89	<1	<3	<4	<15	9
	09/19/89	<1	<3	<4	<15	<1
	12/11/89	<1	<3	<4	<15	<1
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	14
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	<0.3	<0.3	<0.3	<0.6	<1
MW-3	08/01/85	20	4	1	26	2,040
	03/28/86	27	2	8	5	356
	04/25/86	11	2	3	8	598
	11/17/86	77	20	--	20	340
	06/16/87	1,055	3,831	1,756	5,903	16,592
	07/29/87	42	18	3.9	<0.5	<1,000
	12/10/87	50	<0.5	8	6	900
	06/09/88	<1	<3	<4	<15	250
	12/06/88	<1	<3	<4	<15	250
	03/20/89	<1	<3	<4	<15	<1
	06/07/89	<1	<3	<4	<15	330
	09/19/89	2	<3	<4	<15	300
	12/11/89	<1	<3	<4	<15	140
	03/27/90	1	<3	<4	<15	1,100
	06/25/90	0.3	<0.3	<0.3	<0.6	340
	09/21/90	<0.3	<0.3	<0.3	<0.6	96
	01/10/91	<0.3	<0.3	<0.3	<0.6	110
	04/04/91	4	<0.3	0.6	0.9	630
	07/12/91	2	<0.3	<0.3	1	230

Table 2 (continued)

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G
MW-4	03/28/86	ND	ND	ND	ND	5
	04/25/86	ND	ND	ND	ND	2
	11/17/86	8	5.4	--	1.9	110
	06/16/87	--	--	--	--	--
	07/29/87	<0.5	<0.5	<0.5	<0.5	<1,000
	12/10/87	<0.5	<0.5	<0.5	<0.5	<1.0
	06/09/88	<1	<3	<4	<15	<1
	12/06/88	<1	<3	<4	<15	<1
	03/20/89	<1	<3	<4	<15	<5
	06/07/89	<1	<3	<4	<15	<1
	09/19/89	<1	<3	<4	<15	<1
	12/11/89	<1	<3	<4	<15	<1
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	<1
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	<0.3	<0.3	<0.3	<0.6	<1
MW-5	11/17/86	2,000	2,400	--	1,100	51,000
	06/16/87	--	--	--	--	--
	07/29/87	1,300	320	1,200	1,700	<1,000
	12/10/87	1,200	250	800	710	13,000
	06/09/88	830	29	350	510	6,900
	12/06/88	880	75	560	320	7,400
	03/20/89	620	70	520	320	7,400
	06/07/89	360	13	260	75	3,800
	09/19/89	930	18	270	62	4,000
	12/11/89	160	10	220	47	1,900
	03/27/90	230	32	420	250	5,100
	06/25/90	160	8	140	42	2,000
	09/21/90	98	2	120	5	2,100
	01/10/91	48	2	87	9	1,900
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	13	<0.3	18	1	850
MW-6	11/17/86	5	6	--	6	630
	06/16/87	--	--	--	--	--
	07/29/87	<0.5	<0.5	<0.5	<0.5	<1,000
	12/10/87	27	1	2	4	99
	06/09/88	89	<3	<4	<15	99
	12/06/88	1,100	<3	<4	<15	1,200
	03/20/89	1,200	5	<4	<15	1,300
	06/07/89	130	<3	<4	<15	190
	09/19/89	<1	<3	<4	<15	<1
	12/11/89	6	<3	<4	<15	9
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	3
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	--	--	--	--	--
MW-7	12/11/89	<1	<3	<4	<15	<1
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	<1
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	--	--	--	--	--

Table 2 (continued)

WELL I.D.	SAMPLE DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G
MW-8	12/11/89	<1	<3	<4	<15	<1
	03/27/90	<1	<3	<4	<15	<1
	06/25/90	<0.3	<0.3	<0.3	<0.6	<1
	09/21/90	<0.3	<0.3	<0.3	<0.6	<1
	01/10/91	<0.3	<0.3	<0.3	<0.6	<1
	04/04/91	<0.3	<0.3	<0.3	<0.6	<1
	07/12/91	--	--	--	--	--

Notes:
TPH-G = Total Petroleum Hydrocarbons-as-Gasoline
ND = Not detected at or above the Method Detection Limit
-- = Not analyzed
** = Qualitatively identified a gasoline

WSATAB2.WK1

Table 3

CUMULATIVE GROUNDWATER MONITORING DATA

Former Texaco Service Station
930 Springtown Boulevard
Livermore, California

	MW-A 519.85		MW-B 518.16		MW-1 520.76		MW-2 518.45		MW-3 519.30		MW-4 518.75		MW-5 520.50		MW-6 522.26		MW-7 522.17		MW-8 524.02	
DATE	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.	DTW	ELEV.
03/20/89	12.14	507.71	10.17	507.99	12.73	508.03	10.38	508.07	11.40	507.90	10.97	507.78	12.84	507.66	14.65	507.61				
06/07/89	12.50	507.35	10.60	507.56	13.14	507.62	10.80	507.65	11.81	507.49	11.46	507.29	13.21	507.29	14.93	507.33				
09/19/89	12.80	507.05	10.65	507.51	13.22	507.54	10.89	507.56	11.86	507.44	11.68	507.07	13.17	507.33	14.83	507.43				
12/11/89	12.76	507.09	10.87	507.29	13.46	507.30	11.12	507.33	12.09	507.21	11.86	506.89	13.37	507.13	14.93	507.33	9.54	512.63	17.12	506.90
03/27/90	12.55	507.30	10.62	507.54	13.20	507.56	10.86	507.59	11.84	507.46	11.43	507.32	13.17	507.33	15.04	507.22	9.41	512.76	16.15	507.87
06/25/90	12.58	507.27	10.68	507.48	13.22	507.54	10.91	507.54	11.85	507.45	11.55	507.20	13.18	507.32	15.03	507.23	9.22	512.95	16.90	507.12
09/21/90	12.75	507.10	10.76	507.40	13.39	507.37	11.34	507.11	12.37	506.93	11.79	506.96	13.79	506.71	15.40	506.86	8.38	513.79	17.56	506.46
01/10/91	13.28	506.57	11.06	507.10	13.80	506.96	11.66	506.79	12.84	506.46	12.02	506.73	14.33	506.17	16.31	505.95	9.07	513.10	18.03	505.99
04/04/91	12.12	507.73	10.04	508.12	12.70	508.06	10.61	507.84	11.71	507.59	10.72	508.03	13.26	507.24	15.19	507.07	7.59	514.58	17.01	507.01
07/12/91	12.95	506.90	10.91	507.25	13.55	507.21	11.48	506.97	12.54	506.76	11.78	506.97	14.14	506.36			9.26	512.91	17.82	506.20

Notes:
*All measurements taken from grade.
*All wells were professionally surveyed to mean sea level on January 18, 1989 with the exception of MW-7 and MW-8, which were surveyed on February 28, 1990.

GMDTAB3.WK1

GROUNDWATER TECHNOLOGY, INC.

Table 4

VAPOR EXTRACTION TEST FIELD DATA

Former Texaco Service Station
930 Springtown Boulevard
Livermore, California

July 24, 1991

VACUUM POINT	CONDITIONS	% LEL	MONITORING POINT	DISTANCE (feet)	INDUCED VACUUM (inches of H2O)
MW-A	58"	<1%	MW-5	68	0.00
	12 cfm		MW-B	59	0.00
MW-5	62"	>100%	MW-A	68	0.02
	31 cfm		MW-6	60	0.02
MW-B	58"	<1%	MW-A	59	0.01
	25 cfm				
MW-B	30"	<1%	MW-A	59	<0.01
	18 cfm				

VETTAB4.WK1

GROUNDWATER TECHNOLOGY

Drilling Log

GROUNDWATER TECHNOLOGY, INC.

Soil Boring 1

Project Texaco/Livermore Owner Texaco Refining and Marketing
Location Livermore Project Number 203 150 4051
Date Drilled 12/4/89 Total Depth of Hole 32 ft Diameter 7.5 in
Surface Elevation ____ Water Level Initial 14.5 ft 24-hour ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Sierra Pacific Drilling Method hollow stem auger
Driller Chris DeSocio Log by Jan Prasil
Geologist/Engineer ____ License No. ____

Sketch Map

SEE SITE MAP

Notes
Continuously sampled

Depth (Feet)	Well Construction	PID (ppm)	Sample	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0					2 inches asphalt
2				CL	Brown sandy, silty clay (soft, moist, no product odor)
4					(grades yellow, less sandy, less moist)
6		0	A		(grades yellow-green with gravels)
8					(grades more sandy)
10		5	B		(grades with slight product odor)
			C		
12		3	D		
14					▼ Encountered water 12/4/90 (12:00 hours)
16		120	30 50 E 28	GC	Grey clayey, coarse gravel (wet, dense, strong product odor)
18					
20		84		SM	Grey clayey, coarse gravel (wet, dense, strong product odor)
22		115 160	F 15 15 15	GC	
24		140			

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

Soil Boring 1

Drilling Log

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
26		140			(grades black, sandy)
		80	G	SM	(grades with increasing product odor)
28		75			
30		280			(grades more clayey, less sandy)
					Yellow sandy clay (wet, medium stiff, moderate product odor)
32		80	H	CL	End of drilling, backfilled with concrete)
34					
36					
38					
40					
42					
44					
46					
48					
50					
52					
54					
56					
58					

02100144

Drilling Log

GROUNDWATER TECHNOLOGY, INC.

Soil Boring # 2

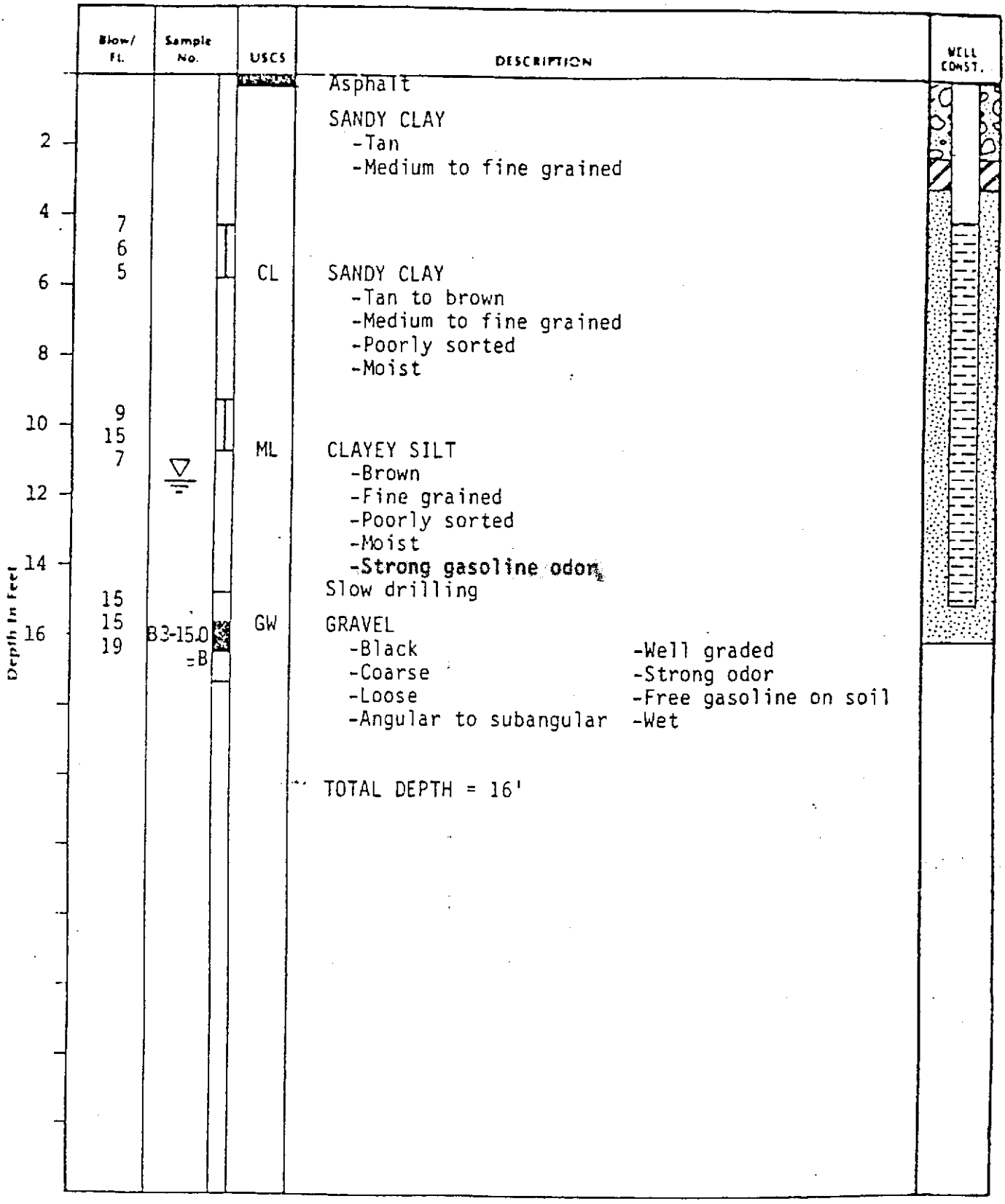
Project Texaco/Livermore Owner Texaco Refining and Marketing
Location Livermore Project Number 203 150 4051
Date Drilled 12/5/89 Total Depth of Hole 25 ft Diameter 7.5 in
Surface Elevation ____ Water Level Initial 15 ft 24-hour ____
Screen: Dia. ____ Length ____ Slot Size ____
Casing: Dia. ____ Length ____ Type ____
Drilling Company Sierra Pacific Drilling Method hollow stem auger
Driller Chris DeSocio Log by Steve Kranyak
Geologist/Engineer AB Shum License No. EG4394

Sketch Map

SEE SITE MAP

Notes
Continuously sampled

Depth (Feet)	Well Construction	PID (ppm)	Sample	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0					3 inches asphalt over 2 inches aggregate base
2		0		CL	Tan and brown silty clay with some very fine sand (soft, moist, no product odor)
4					
6		0		SM	Greyish tan clayey, silty, fine sand with trace gravels (loose, wet, slight product odor)
8		0			Dark brown gravel with little clay, silt, and sand (loose, moist, no product odor)
10		0	A B	GM	
12		0			
14		0	C		▼ Encountered water 12/5/90 (12:00 hours)
16					(grades brown)
18		0			
20		0	D		Light brown silty, sandy clay with some pebbles (stiff, wet, no product odor)
22		0		SC	
24		0	E		End of drilling, backfilled with concrete

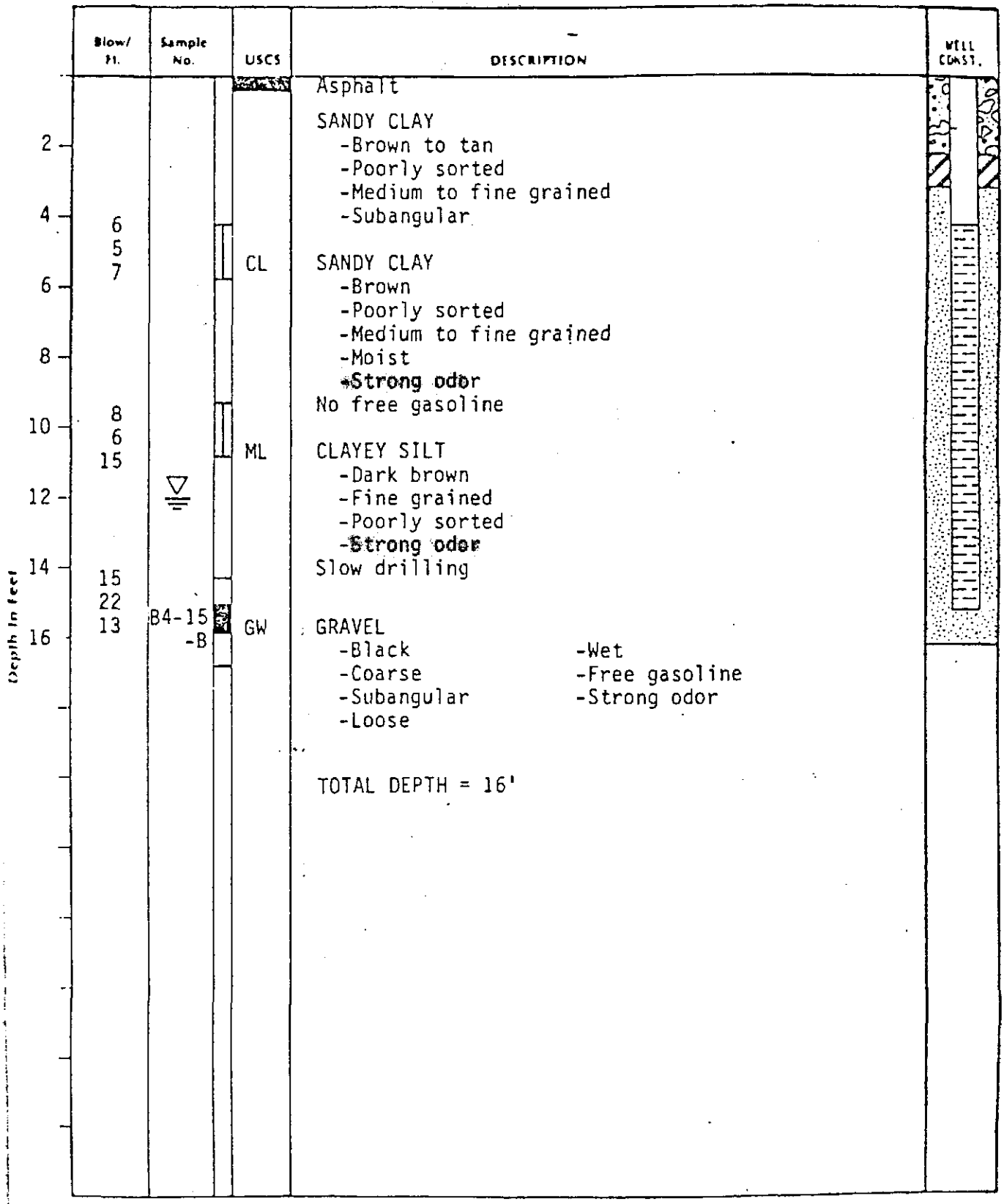


H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. B-1423-1

PROPOSED 7-11 STORE
SPRINGTOWN BLVD. AND LASSEN RD.
LIVERMORE, CA
LOG OF BORING NO. B-3
(MW-A)

PLATE
3



H KLEINFELDER & ASSOCIATES
GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

PROJECT NO. B-1423-1

PROPOSED 7-11 STORE
SPRINGTOWN BLVD. AND LASSEN RD
LIVERMORE, CA
LOG OF BORING NO. B-4

PLATE
4

GROUNDWATER TECHNOLOGY

Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number [illegible]

Project Texaco/Livermore Owner Southland Corp.

Location Springtown&Lassen Project Number 20-4051

Date Drilled 6-20-85 Total Depth of Hole 25 ft. Diameter 7.5 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. 11.68

Screen: Dia. 4-inch Length 20-feet Slot Size .020 in.

Casing: Dia. 4-inch Length 5-feet Type PVC

Drilling Company Sierra Pacific Drilling Method H.S. Auger

Driller Lynn Pera Log by Cori Condon

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes Blow Counts	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
1					Asphalt and fill sand and gravel.
2					Brown sandy clay, damp, no odor.
6					Brown-green fine sand with subangular white gravels, damp, no odor.
7.5					Brown-green silty fine sand, stiff, damp, no odor.
10					Brown-green silty fine sand with rounded cobbles and gravels, moist, no odor.
12					Cobbles and gravels in fine sand, moist, no odor.
15		11-12-24	#1		Gray brown fine sand and silt, less cobbles and pea size gravels, moist, no odor.
20		12-18-18	#2		Gray-brown coarse sand, wet, no odor.
25					Gray-brown coarse sand, wet, no odor, contact with brown sandy clay.
					Drilled 25 feet Cased 20 feet slotted, 5 feet blank Aquarium sand to 3 feet Cement seal to surface Finish with steel manhole

GROUNDWATER TECHNOLOGY

Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number 2

Project Texaco/Livermore Owner Southland Corp.

Location Springtown & Lassen Project Number 20-4051

Date Drilled 6-20-85 Total Depth of Hole 24 ft. Diameter 7.5 in.

Surface Elevation _____ Water Level, Initial _____ 24-hrs. 10.30

Screen: Dia. 4-inch Length 20-feet Slot Size .020 in.

Casing: Dia. 4-inch Length 4-feet Type PVC

Drilling Company Sierra Pacific Drilling Method H.S. Auger

Driller Lynn Pera Log by Cori Condon

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes Blow Counts	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
1					Asphalt and fill.
					Red-brown clayey sand, occasional gravel, damp, no odor.
9.5					
10		21-33-35	#3		Gray sand and gravel, wet, no odor.
15		9-25-25	#4		Gray sand and gravel, grading to cobbles, wet, very slight gas odor.
20		14-56+	Lost Sample		Gray sand and gravel, wet, slight gas odor, contact with sandy clay.
25					Drilled 25 feet Cased 20 feet slotted, 4 feet blank Aquarium sand to 3 feet Cement seal to surface Finished with steel manhole.

GROUNDWATER TECHNOLOGY
Division of Oil Recovery Systems, Inc.

Drilling Log

Well Number 3

Project Texaco/Livermore Owner Southland Corp.
Location Springtown & Lassen Project Number 20-4051
Date Drilled 6-20-85 Total Depth of Hole 24 ft. Diameter 7.5 in.
Surface Elevation ____ Water Level, Initial ____ 24-hrs. 11.59
Screen: Dia. 4-inch Length 20-feet Slot Size .020 in.
Casing: Dia. 4-inch Length 4-feet Type PVC
Drilling Company Sierra Pacific Drilling Method H.S. Auger
Driller Lynn Pera Log by Cori Condon

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes Blow Counts	Sample Number	Graphic Log	Description/Soil Classification (Color, Texture, Structures)
1					Asphalt and fill.
					Light brown sandy clay with occasional gravel, damp, no odor.
7					
					Light brown sandy clay with occasional gravel, moist, gasoline odor.
10		13-27-37	# 5		Gray sand and gravel, wet, slight gasoline odor.
15		6-9-19	# 6		Gray sand and gravel, wet, slight gas odor, contact with sandy clay.
20		5-7-12	# 7		Mottled sandy clay, moist, slight gasoline odor.
25		8-22-25	# 8		Gray sand, wet, no odor.
26.5					
					Drilled 25 feet Cased 20 feet slotted, 4 feet blank Aquarium sand to 3 feet Cement seal to surface Finished with steel manhole

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

Monitoring Well

Drilling Log

Project Texaco/Livermore Owner Texaco U.S.A.

Location 930 Springton Blvd Project Number 20-4051

Date Drilled 11/10/86 Total Depth of Hole 30 ft Diameter 7.5 in.

Surface Elevation _____ Water Level, Initial 12 ft. 24-hrs. _____

Screen: Dia. 2 in. Length 25 ft. Slot Size .020 in.

Casing: Dia. 2 in. Length 5 ft. Type PVC

Drilling Company Sierra Pacific Drilling Method hollow stem auger

Driller M. Isom Log by M. Winters

Sketch Map

Notes

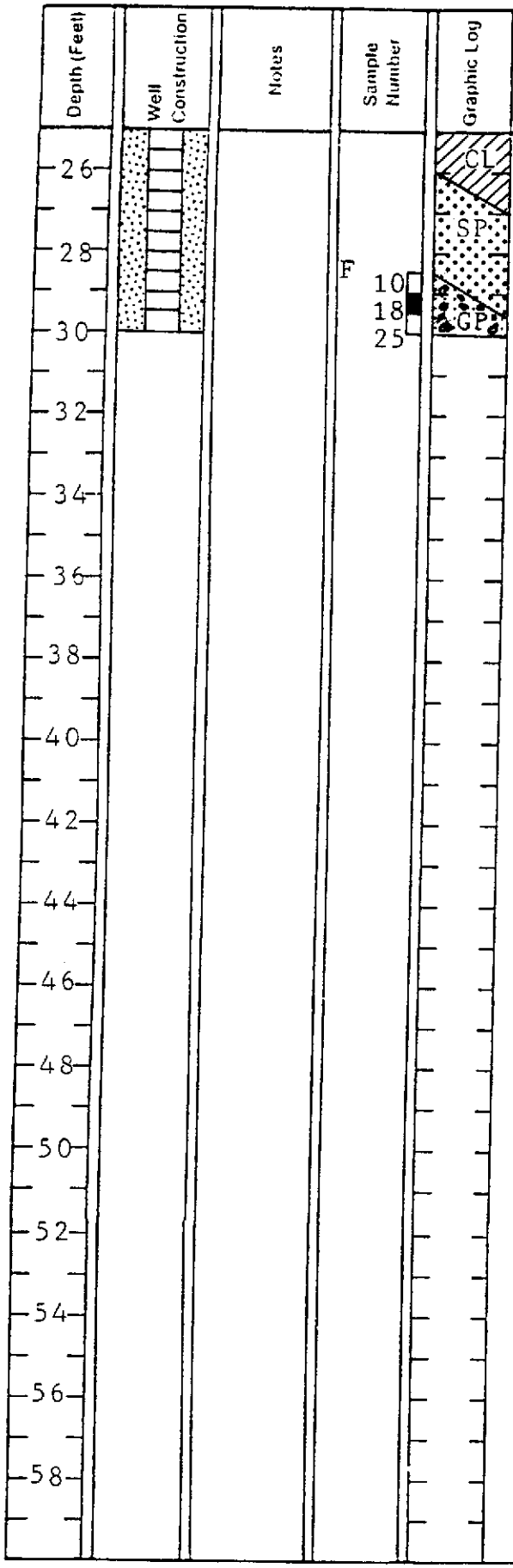
Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					Brown, silty clay, (some gravel and sand, very stiff, moist, no odor).
2			A 4 7 10		
4					(Increase in sand, light brown color).
6				CL	(Decrease in sand, increase in moisture).
8			B 3 4 8		
10					(Increase in sand and silt, organics).
12					11/10/86 (1000)
14			C 6 17 42		
16					Multi-colored, fine to coarse gravel, (some sand, poorly sorted, very dense, wet, moderate product odor).
18			D 13 21 36		
20				GP	(Slight product odor).
22					
24			E 7 21 32		

02100144

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

Monitoring Well 5

Drilling Log



Description/Soil Classification
(Color, Texture, Structures)

Brown, sandy clay, (hard, wet, very slight product odor).

Light brown, medium sand, (wet, very slight product odor).

Multi-colored, sandy fine to coarse gravel, (some clay and silt, poorly sorted, dense, wet, very slight product odor).

Drilled to 30 feet.

02100144

GROUNDWATER TECHNOLOGY, INC.
OIL RECOVERY SYSTEMS

Monitoring Well 6

Drilling Log

Project Texaco/Livermore Owner Texaco U.S.A.

Location 930 Springton Blvd. Project Number 20-4051

Date Drilled 11/10/86 Total Depth of Hole 25 ft Diameter 7.5 in.

Surface Elevation _____ Water Level, Initial 13 ft. 24-hrs. _____

Screen: Dia. 2 in. Length 20 ft. Slot Size .020 in.

Casing: Dia. 2 in. Length 5 ft. Type PVC

Drilling Company Sierra Pacific Drilling Method hollow stem auger

Driller M. Isom Log by M. Winters

Sketch Map

Notes

Depth (Feet)	Well Construction	Notes	Sample Number	Graphic Log	Description/Soil Classification
0					Asphalt
2				GP	Brown, sandy gravel fill, (slightly moist, very slight product odor).
4				CL	Brown, silty clay, (some gravel and sand, very stiff, moist, no odor).
6			A 6 30 36		(Light brown color)
8					Multi-colored, sandy fine to coarse gravel,(some clay and sand, poorly sorted, very dense, moist, no odor).
10			B 27 22 41		
12				GP	11/10/86 (1530)
14			C 17 26 28		(Decrease in sand and clay, wet).
16					
18			D 10 13 22		Brown, sandy clay, (some silt, hard, wet., no odor).
20				CL	
22					
24			E 5 19 27	SP	Light brown, medium sand, (dense, wet, no odor).
					Drilled to 25 feet.

Drilling Log

GROUNDWATER TECHNOLOGY, INC.

Monitoring Well 7

Project Texaco/Livermore Owner Texaco Refining and Marketing
Location Livermore Project Number 203 150 4051
Date Drilled 12/5/89 Total Depth of Hole 25 ft Diameter 10.5 in
Surface Elevation ____ Water Level Initial 13 ft 24-hour ____
Screen: Dia. 4 in Length 20 ft Slot Size 0.020 in
Casing: Dia. 4 in Length 5 ft Type Sch. 40 PVC
Drilling Company Sierra Pacific Drilling Method hollow stem auger
Driller Chris DeSocio Log by Steve Kranyak
Geologist/Engineer ABStarr License No. RG4394

Sketch Map

SEE SITE MAP

Notes

Continuously sampled

Depth (Feet)	Well Construction	PID (ppm)	Sample	Graphic Log	Description/Soil Classification (Color, Texture, Structure)
0		0			3 inches asphalt over 2 inches aggregate base
2				CL	Brown gravelly, silty, sandy clay (soft, slightly moist, no product odor)
4		0			
6			A		Brown sandy, silty, gravelly clay (stiff, slightly moist, stiff, no product odor)
8		0		CL	(grades more stiff)
10		0	B		(grades light brown and tan)
12		0	C		
14					▼ Encountered water 12/5/89 (15:30 hours) (grades wet)
16		0	D		Brown and black mottled sandy, silty, clayey gravel (loose, wet, no product odor)
18		0	E	GC	(grades coarser)
20		0	F		
22					
24		0			End of drilling, installed monitoring well to 25

Drilling Log

GROUNDWATER TECHNOLOGY, INC.

Monitoring Well 8

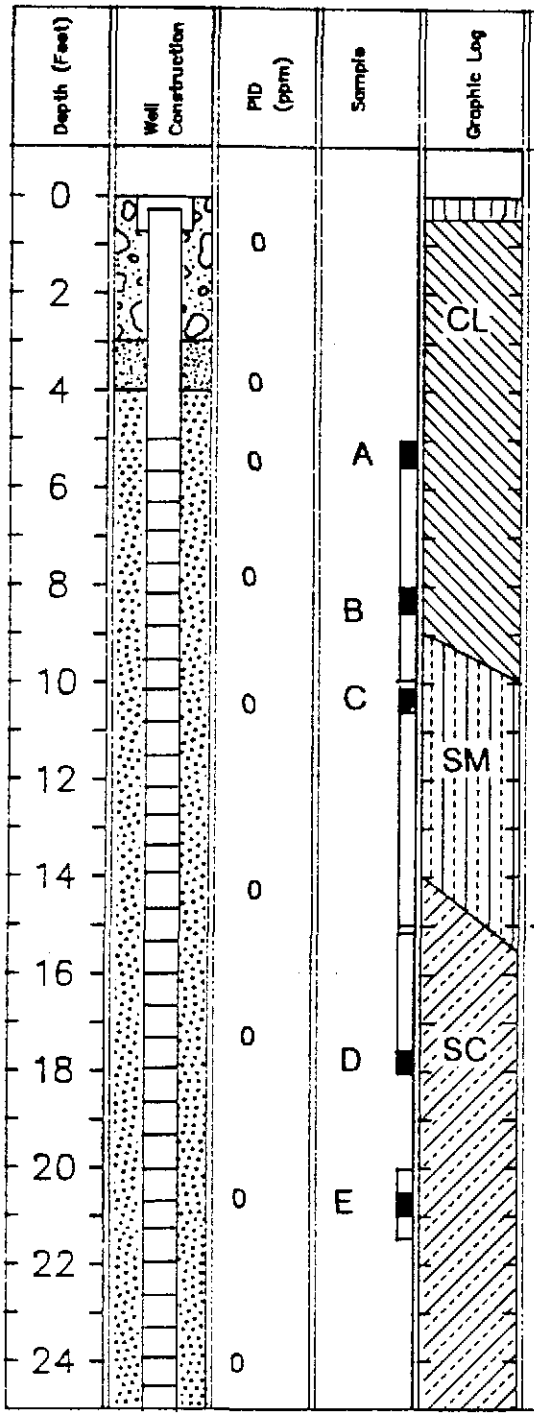
Project Texaco/Livermore Owner Texaco Refining and Marketing
Location Livermore Project Number 203 150 4051
Date Drilled 12/6/89 Total Depth of Hole 25 ft Diameter 10.5 in
Surface Elevation ____ Water Level Initial 15 ft 24-hour ____
Screen: Dia. 4 in Length 20 ft Slot Size 0.02 in
Casing: Dia. 4 in Length 5 ft Type ____
Drilling Company ____ Drilling Method hollow stem auger
Driller Chris DeSocio Log by Steve Kranyak
Geologist/Engineer AB Stam License No. RG4394

Sketch Map

SEE SITE MAP

Notes

Continuously sampled



Description/Soil Classification
(Color, Texture, Structure)

6 inches grass and roots

Tan silty clay with trace gravels (stiff, moist, no product odor)

(grades with no gravels)

Brown fine sand with trace clay, wilt and gravel

(grades with cobbles)

▼ Encountered water 12/6/89 (15:00 hours)

Tan, silty, clayey sand (medium dense, wet, no product odor)

End of drilling, installed monitoring well

BROWN AND CALDWELL BC
ANALYTICAL LABORATORIES

LOG NO: E85-06-481

Received: 28 JUN 85
Reported: 17 JUL 85

Ms. Cori Condon
Groundwater Technology
5047 Clayton Road
Concord, California 94521

Purchase Order: 4051

REPORT OF ANALYTICAL RESULTS

LAB NO	SAMPLE DESCRIPTION, SOIL SAMPLES	DATE SAMPLED
06-481-1	Livermore Bottom	26 JUN 85
06-481-2	Livermore North	26 JUN 85
06-481-3	Livermore South	26 JUN 85
06-481-4	Livermore East	26 JUN 85
06-481-5	Livermore West	26 JUN 85
06-481-6	Livermore Composite	26 JUN 85

PARAMETER	06-481-1	06-481-2	06-481-3	06-481-4	06-481-5	06-481-6
EPA Method 8020						
Date Extracted	07.26.85	07.26.85	07.26.85	07.26.85	07.26.85	07.26.85
1,2-Dichlorobenzene, mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,3-Dichlorobenzene, mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
1,4-Dichlorobenzene, mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Chlorobenzene, mg/kg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Benzene, mg/kg	0.58	<0.001	<0.001	0.02	<0.001	<0.001
Ethylbenzene, mg/kg	0.40	<0.001	<0.001	0.01	<0.001	<0.001
Toluene, mg/kg	0.24	<0.001	<0.001	0.02	<0.001	<0.001
Additional Compounds:,	---	---	---	---	---	---
Total Fuel Hydrocarbons, mg/kg	3.2	1.4	<0.01	1.3	<0.01	<0.01
Xylene Isomers, mg/kg	0.009	<0.001	<0.001	0.01	<0.001	<0.001

TABLE 2

James Hatfield, Laboratory Director

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems inc.

PROJ. NO.	PROJECT NAME
4151	Livermore

SAMPLERS: (Signature) [illegible]

NO. OF CONTAINERS

ANALYSIS TYPE REQUESTED: 8020

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	8020						REMARKS
[illegible]	[illegible]			X	Livermore Bottom	2	X						
[illegible]	[illegible]			X	Livermore North	1	X						
[illegible]	[illegible]			X	Livermore South	1	X						
[illegible]	[illegible]			X	Livermore East	1	X						
[illegible]	[illegible]			X	Livermore West	1	X						
[illegible]	[illegible]			X	Livermore Composite	3	X						[illegible]

need verbal results ASAP min. 2 wks.

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[illegible]	6/24/85		[illegible]				
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):

Groundwater Technology Laboratory

Send To: GROUNDWATER TECHNOLOGY LABORATORY
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

0.F100694

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

12/16/89 rw Page 1 of 1

WORK ORD#: C912174
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051.
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

SAMPLED: 12/06/89 BY: S. KRANYAK
RECEIVED: 12/07/89
ANALYZED: 12/13/89 BY: K. PATTON

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	SAMPLE # I.D.	01 MW8C	02 MW8D	03 MW8E		
Benzene		<PQL	<PQL	<PQL		
Toluene		<PQL	<PQL	<PQL		
Ethylbenzene		<PQL	<PQL	<PQL		
Xylenes		<PQL	<PQL	<PQL		
Total BTEX		<PQL	<PQL	<PQL		
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL		

<PQL = Less than Practical Quantitation Levels per EPA Federal Resgister, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

This report replaces one of the same number dated 12/16/89.

Emma P. Popek

EMMA P. POPEK, Laboratory Director

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/15/89 rw

WORK ORD#: C912124
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051-14
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

SAMPLED: 12/05/89 BY: S. KRANYAK
RECEIVED: 12/06/89
ANALYZED: 12/12/89 BY: M. VERONA

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	SAMPLE # I.D.	01 SB-2A	02 SB-2C	03 SB-2D	04 MW7C	05 MW7D
Benzene		<PQL	<PQL	<PQL	<PQL	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	<PQL	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL	<PQL	<PQL

<PQL = Less than Practical Quantitation Levels per EPA Federal Resgister, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#: C912124

CLIENT: JAN PRASIL
PROJECT#: 203-199-4051-14
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	SAMPLE # I.D.	06 MW7F				
Benzene		<PQL				
Toluene		<PQL				
Ethylbenzene		<PQL				
Xylenes		<PQL				
Total BTEX		<PQL				
Total Petroleum Hydrocarbons as Gasoline		<PQL				

<PQL = Less than Practical Quantitation Levels per EPA Federal Resgister, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

This report replaces one of the same number dated 12/15/89.

Emma P. Popek

EMMA P. POPEK, Laboratory Director

GTEL ENVIRONMENTAL LABORATORIES, INC.
4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-5511

Project Manager: Jim [illegible]
Phone #:
FAX #:
Address: GTI Concord ; [illegible]
Site location: Livermore
Project Number: [illegible]
Project Name: GTI Concord
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): [signature]

ANALYSIS REQUEST

Analysis columns: BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐ (circled); TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel; Product I.D. by GC (SIMDIS) ☐; Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐; Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐; EPA 601 ☐ 8010 ☐ DCA only ☐; EPA 602 ☐ 8020 ☐; EPA 608 ☐ 8080 ☐ PCBs only ☐; EPA 610 ☐ 8310 ☐; EPA 624 ☐ 8240 ☐ NBS +15 ☐; EPA 625 ☐ 8270 ☐ NBS +25 ☐; EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi VOA ☐; EPA Priority Pollutant Metals ☐ HSL ☐; LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐; CAM Metals ☐ STLC ☐ TTLC; Corrosivity ☐ Flashpoint ☐ Reactivity ☐; ON HOLD

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX/TPH Gas	ON HOLD
1-2A	Soil Boring 1				✓							✓			12/5/[illegible]		X	
1-2C	↕				✓							✓			↕		X	
[illegible]-2D	↕				✓							✓			↕		X	
[illegible]-2C	↕				✓							✓			↕			X
[illegible]-2[illegible]	Soil Boring				✓							✓			↕			X
MW-[illegible]A	Monitoring well				✓							✓			↕			X
MW-[illegible]E	↕				✓							✓			↕			X
MW-[illegible]C	↕				✓							✓			↕		X	
MW-[illegible]E	↕				✓							✓			↕		X	
MW-[illegible]E	↕				✓							✓			↕			X
MW-[illegible]F	Monitoring well				✓							✓			12/5/[illegible]		X	

CUSTODY RECORD

	Date	Time	
Relinquished by Sampler: [signature]	12/6	11:06	Received by:
Relinquished by:			Received by:
Relinquished by:	12/6	11:15	Received by Laboratory: [signature] J. Souck

Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)
TRL [illegible] EPA

REMARKS:

Lab Use Only Storage Location
Lot #: Work Order #:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

01/11/90 sp

WORK ORD#: C912085
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051.12
LOCATION: 930 SPRINGTOWN BLVD.
LIVERMORE, CA
SAMPLED: 12/04/89 BY: J. PRASIL
RECEIVED: 12/05/89
ANALYZED: 12/07/89 BY: K. PATTON

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	SAMPLE # I.D.	01 SB-1D	02 SB-1E	03 SB-1F	04 SB-1G	05 SB-1H
Benzene		<PQL	4	<PQL	<PQL	1
Toluene		<PQL	<PQL	<PQL	<PQL	5
Ethylbenzene		<PQL	19	<PQL	<PQL	<PQL
Xylenes		<PQL	24	<PQL	<PQL	15
Total BTEX		<PQL	47	<PQL	<PQL	21
Total Petroleum Hydrocarbons as Gasoline		<PQL	1500	5	31	310

<PQL = Less than Practical Quantitation Levels per EPA Federal Resgister, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015
This report replaces one of the same number dated 12/12/89.

Emma P. Popek
EMMA P. POPEK, Laboratory Director

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/18/89 rw Page 1 of 1

WORK ORD#: C912085
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051-12
LOCATION: 930 SPRINGTOWN BLVD.
LIVERMORE, CA
SAMPLED: 12/04/89 BY: J. PRASIL
RECEIVED: 12/05/89
ANALYZED: 12/07/89 BY: K. PATTON

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	SAMPLE # I.D.	01 SB-1D	02 SB-1E	03 SB-1F	04 SB-1G	05 SB-1H
Benzene		<PQL	4	<PQL	<PQL	1
Toluene		<PQL	<PQL	<PQL	<PQL	5
Ethylbenzene		<PQL	19	<PQL	<PQL	<PQL
Xylenes		<PQL	24	<PQL	<PQL	15
Total BTEX		<PQL	47	<PQL	<PQL	21
Total Petroleum Hydrocarbons as Gasoline		<PQL	1500	5	31	310

<PQL = Less than Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

Emma P. Popek

EMMA P. POPEK, Laboratory Director

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/12/89 JP Page 1 of 1

WORK ORD#: C912085
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051-12
LOCATION: 930 SPRINGTOWN BLVD.

SAMPLED: 12/04/89 BY: J. PRASIL
RECEIVED: 12/05/89
ANALYZED: 12/07/89 BY: K. PATTON

MATRIX: Soil
UNITS: mg/Kg (ppm)

PARAMETER	MDL	SAMPLE # I.D.	01 SB-1D	02 SB-1E	03 SB-1F	04 SB-1G	05 SB-1H
Benzene	0.5		<PQL	4	<PQL	<0.5	1
Toluene	0.5		<0.5	<0.5	<0.5	<0.5	5
Ethylbenzene	0.5		<0.5	19	<0.5	<0.5	<PQL
Xylenes	0.5		<0.5	24	<0.5	<0.5	15
Total BTEX	0.5		<0.5	47	<0.5	<0.5	21
~~Misc. Hydrocarbons (C4-C12)~~	1		<1	1500	5	31	290
Total Petroleum Hydrocarbons as Gasoline	1		<PQL	1500	5	31	310

PQL =

~~MDL = Method Detection Limit; compound below this level would not be detected.~~
Results rounded to two significant figures.

METHOD: Modified EPA 5030/8020/8015

This report replaces one of the same number dated 12/13/89

Emma P. Popek

EMMA P. POPEK, Laboratory Director

GTEL ENVIRONMENTAL LABORATORIES, INC

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-5509

Project Manager: JAD TRACK

Phone #: (415) 601 2287

FAX #: (415) 685-1448

Address: GTL Concord 430 Spinnaker Blvd.

Site location: Livermore

Project Number: 203.189.4051

Project Name: GTL Concord

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Jon Pasi

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
CE-1A	soil		1		✓							✓			12/4/89	
CE-1E	↑		1		✓							✓			↑	
CE-1C			1		✓							✓				
SB-1D			1		✓							✓				
CE-1E			1		✓							✓				
CE-1F			1		✓							✓				
CE-1G	↓		1		✓							✓			↓	
SB-1H	soil		1		✓							✓			12/4/89	

Analysis Request	
BTEX 602 ☐ 8020 ☐ with MTBE ☐	
BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐	X
TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	X
Product I.D. by GC (SIMDIS) ☐	
Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	
Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	
EPA 601 ☐ 8010 ☐ DCA only ☐	
EPA 602 ☐ 8020 ☐	
EPA 608 ☐ 8080 ☐ PCBs only ☐	
EPA 610 ☐ 8310 ☐	
EPA 624 ☐ 8240 ☐ NBS +15 ☐	
EPA 625 ☐ 8270 ☐ NBS +25 ☐	
EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	
TCLP Metals ☐ VOA ☐ Semi VOA ☐	
EPA Priority Pollutant Metals ☐ HSL ☐	
LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	
CAM Metals ☐ STLC ☐ TTLC	
Corrosivity ☐ Flashpoint ☐ Reactivity ☐	
	X
	X
	X
	X
	X
	X
	X
	X

CAM LEAD

CUSTODY RECORD

Relinquished by Sampler:	Received by:	Date 12/4/89 Time 16:30	Way bill #
Relinquished by:	Received by:	Date ___ Time ___	
Relinquished by:	Received by Laboratory:	Date 12/5 Time 10:30	

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

PQL's as per EPA

REMARKS: Analyze only SB-1D, 1E, 1F, 1G, 1H; rest on hold.

Lab Use Only

Storage Location

Lot #:

Work Order #:

GTEL ENVIRONMENTAL LABORATORIES, INC

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-5509

Project Manager: JAD TRASIL

Phone #: (415) 671 2587

FAX #: (415) 685 9148

Address: GTL Concord 930 Springtown Blvd.,

Site location: Livermore

Project Number: 203.1694.051

Project Name: GTL Concord

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Jim Prasil

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
SB-1A	soil boring		1		✓							✓			12/4/89	
SB-1B	↑		1		✓							✓			↑	
SB-1C			1		✓							✓				
SB-1D			1		✓							✓				
SB-1E			1		✓							✓				
SB-1F			1		✓							✓				
SB-1G			1		✓							✓				
SB-1H	↓		1		✓							✓			↓	
	Headspace														12/4/89	

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☒	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐		
																		XXX	ON HOLD
	X																		
	X																		
	X																		
	X																		

CUSTODY RECORD

Relinquished by Sampler:	Received by:	Received by Laboratory:
Date 12/4/89 Time 16:30	Date	Date 12/5 Time 10:30
Relinquished by:	Received by:	Way bill #
Date	Time	
Relinquished by:		
Date	Time	

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

RL's as per EPA

REMARKS: Analyze only SB-1D, 1E, 1F, 1G, 1H, rest on hold.

Lab Use Only

Storage Location

Lot #:

Work Order #:

WESCO Laboratories

Date: November 26, 1986

Client: Groundwater Technology

Submitted by: Mark Winters

Report to: Amy Sager

WESCO Job #: GWT 8659

Client Job/P.O. #: Texaco, Livermore
I.D.# 20-4051

Date collected: 11-11-86

Date submitted: 11-11-86

& type of sample(s): 2 Soil

Lab No.	Client ID	Motor Fuels (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Xylene (mg/kg)	Fuel Type (mg/kg)	
6141	Soil MW-5C (14-14.5')	2.1	0.030	0.025	0.070	Gasoline	
6142	Soil MW-6B (10.5-11')	< 0.050	0.002	0.005	0.003	Gasoline	
	Detection Limit	*0.050*	*0.001*	*0.001*	*0.001*		
	METHOD(S):	Note 1					

NOTES:

Note 1 - EPA Method 5020/8015/8020.

Michael Webb

Analytical Supervisor

14 Galli Drive, Suite A
Novato, California 94947 415 883-6425
A Division of Western Ecological Services Company

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems Inc.

Groundwater Technology Laboratory

Send To: GROUNDWATER TECHNOLOGY LABORATORY
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

PROJ. NO.: [illegible]

PROJECT NAME: [illegible] / Livermore

SAMPLERS: (Signature) [illegible]

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	ANALYSIS TYPE REQUESTED: [illegible]	[illegible]						REMARKS
[illegible]	[illegible]	[illegible]		X	MW-[illegible] (14-14.5')	1	X	X						EPA Methods
[illegible]	[illegible]	[illegible]		X	MW-6 (10.5 - 11')	1	X	X						[illegible]
														Report results
														to Amy Sear[illegible]
														or Mark [illegible]
														2 week turnaround
														(Nov. 25 - results)

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[illegible]	[illegible]	12:30	[illegible]				

Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):

0.6100654

HYDROCARBONS IN SOIL mg/kg (ppb)

SAMPLE NO.I.D.	SAMPLED	RUN	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	ALIPHATIC HYDROCARBONS	MISC. AROMATICS	TOTAL
S1180 10'	9/10/85	9/12/85	ND	ND	ND	ND	ND	ND	ND
DETECTION LIMITS AT 4 x THE BLANK FOR A 10 GRAM SAMPLE:			0.4	0.8	0.1	0.2	21	1.9	

*NOTES:

ND = BELOW DETECTION LIMIT

AVERAGE SPIKE RECOVERY WAS 100.6 %.

REPORT NO. 20-4051-3

GROUNDWATER TECHNOLOGY LABORATORY
4 MILL STREET, GREENVILLE, NEW HAMPSHIRE 03048

McKesson Environmental Services
6363 Clark Avenue, P O Box 2277, Dublin CA 94568 Tel 415 828 1446
Outside California 800 227 1316

McKesson
7193-ZS

TABLE I

Analytical Results

J.H. Kleinfelder & Associates

Site #S-2618-2

Samples Received: 09/26/84
Samples Reported: 10/01/84

Lab No.:	16581	16582
Sample I.D.:	B3-15.0-B (MW-A)	B4-15-B (MW-B)
Parameter	Concentration in (ng/g), ppb	
Benzene	27,000	150
Toluene	190,000	970
Ethyl Benzene	86,000	830
M-xylene	160,000	1,600
o-, p- xylene	150,000	1,500

ND = Not Detected
Detection Limits: 100 ng/g

R. W. Flynn, Laboratory Manager

CERTIFICATION OF REPRESENTATIVE SAMPLE OR SAMPLE INTEGRITY IS NOT MADE BY McKESSON ENVIRONMENTAL SERVICES (MES) FOR SAMPLES NOT TAKEN BY MES.

APPENDIX E

LABORATORY REPORTS

WATER

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Client Number: GTI71.TEX01
Consultant Project Number: 023200086
Project ID: Livermore, CA
Work Order Number: C1-07-353

July 19, 1991

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results report prepared by GTEL for samples received on 07/15/91, under chain of custody number 72-7547.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Client Number: GTI71.TEX01
Consultant Project Number: 023200086
Project ID: Livermore, CA
Work Order Number: C1-07-353

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		FIELD BLK	RINSATE	MW-1	MW-2
Date Sampled		07/12/91	07/12/91	07/12/91	07/12/91
Date Analyzed		07/16/91	07/16/91	07/16/91	07/16/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	3	<0.3
Xylene, total	0.6	<0.6	<0.6	16	<0.6
BTEX, total	--	--	--	19	--
TPH as Gasoline	10	<10	<10	390	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW-4	MW-5	MW-3	MW-B
Date Sampled		07/12/91	07/12/91	07/12/91	07/12/91
Date Analyzed		07/16/91	07/16/91	07/16/91	07/16/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	13	2	88
Toluene	0.3	<0.3	<0.3	<0.3	1800
Ethylbenzene	0.3	<0.3	18	<0.3	390
Xylene, total	0.6	<0.6	1	1	1300
BTEX, total	--	--	32	3	3600
TPH as Gasoline	10	<10	850	230	18000
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09			
Client Identification		MW-A			
Date Sampled		07/12/91			
Date Analyzed		07/16/91			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	2000			
Toluene	0.3	4200			
Ethylbenzene	0.3	4600			
Xylene, total	0.6	13000			
BTEX, total	--	24000			
TPH as Gasoline	10	100000			
Detection Limit Multiplier		1			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES, INC

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

72- 7547

CUSTODY RECORD

Project Manager: John Bower
Phone #: 916 372 4700
FAX #:

Address: Sac office
Site location: Livermore

Project Number: 13830504 02320-0086
Project Name: Texaco - Livermore

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): John R. McIntosh

ANALYSIS REQUEST

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
Field Blank			2	X					X			X			7/12	1400
Equip. Blank				X					X			X				1410
MW-1				X					X			X				1480
MW-2				X					X			X				1420
MW-7				X					X			X				1430
MW-8				X					X			X				1440
MW-4				X					X			X				1450
MW-5				X					X			X				1500
MW-3				X					X			X				1510
MW-6				X					X			X				1520
MW-9				X					X			X				1530

BTEX 602 ☐ 8020 ☐ with MTBE ☐
BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐
TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel
Product I.D. by GC (SIMDIS) ☐
Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐
Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐
EPA 601 ☐ 8010 ☐ DCA only ☐
EPA 602 ☐ 8020 ☐
EPA 608 ☐ 8080 ☐ PCBs only ☐
EPA 610 ☐ 8310 ☐
EPA 624 ☐ 8240 ☐ NBS +15 ☐
EPA 625 ☐ 8270 ☐ NBS +25 ☐
EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐
TCLP Metals ☐ VOA ☐ Semi VOA ☐
EPA Priority Pollutant Metals ☐ HSL ☐
LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐
CAM Metals ☐ STLC ☐ TTLC
Corrosivity ☐ Flashpoint ☐ Reactivity ☐

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only
Storage Location
Lot #:
Work Order #:

	Relinquished by Sampler:	Relinquished by:	Relinquished by:
Date	7/15/91	7/15/91	7/15/91
Time	0809		

	Received by:	Received by:	Received by Laboratory:
Time			

Way bill #

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Client Number: 202-199-4051.
Project ID: Livermore
Work Order Number: C1-04-219

April 16, 1991

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results report prepared by GTEL for samples received on 04/08/91, under chain of custody number 72-11199.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		MW 8	MW 7	MW 1	MW 2
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/12/91	04/11/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	<0.3	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	<0.3	<0.3
Xylene, total	0.6	<0.6	<0.6	<0.6	<0.6
BTEX, total	--	--	--	--	--
TPH as Gasoline	10	<10	<10	<10	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW 4	MW 6	MW 3	MW 5
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/11/91	04/11/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	<0.3	4	<0.3
Toluene	0.3	<0.3	<0.3	<0.3	<0.3
Ethylbenzene	0.3	<0.3	<0.3	0.6	<0.3
Xylene, total	0.6	<0.6	<0.6	0.9	<0.6
BTEX, total	--	--	--	6	--
TPH as Gasoline	10	<10	<10	630	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	12
Client Identification		MW A	MW B	FIELD BLANK	RINSATE MW 8
Date Sampled		04/04/91	04/04/91	04/04/91	04/04/91
Date Analyzed		04/12/91	04/12/91	04/11/91	04/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	950	4	<0.3	<0.3
Toluene	0.3	1100	10	<0.3	<0.3
Ethylbenzene	0.3	1300	22	<0.3	<0.3
Xylene, total	0.6	2900	19	<0.6	<0.6
BTEX, total	--	6300	55	--	--
TPH as Gasoline	10	31000	2300	<10	<10
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES, INC

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 11199

Project Manager: John Bowers
Phone #: 916-372-4200
FAX #: 916-372-8781

Address: 1401 Holyond Rd ste 140 W Sac to 95691
Site location: Livermore

Project Number: 202/199/4051
Project Name: Spring town Blvd

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steven Thompson

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW8	Monitor well	01	2	✓					✓			✓			4/4	2:00
7		02														2:10
1		03														2:20
2		04														2:30
4		05														2:40
6		06														2:50
3		07														3:00
5		08														3:10
A		09														3:20
B		10														3:30
Field Blank																1:30
Rinsate MW8																1:55

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC ☐	Corrosivity ☐ Flashpoint ☐ Reactivity ☐
2	2																

CUSTODY RECORD

Way bill #

Relinquished by:	Received by:	Relinquished by:	Received by:	Relinquished by:	Received by Laboratory:
Date 4/5/91	Time 5:00pm	Date 4-8-91	Time 1:10	Date 4/8/91	Time 3:45

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____ (#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)
MDL

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:
2 Week Turnaround

Lab Use Only
Lot #:
Storage Location
Work Order #:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.
Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

Client Number: 202-199-4051.
Project ID: Livermore, CA
Work Order Number: C1-01-202

January 16, 1991

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results report prepared by GTEL for samples received on 01/11/91, under chain of custody number 72-5005.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		MW4	MW8	MW7	MW6
Date Sampled		01/10/91	01/10/91	01/10/91	01/10/91
Date Analyzed		01/11/91	01/11/91	01/11/91	01/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Toluene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylene, total	0.6	< 0.6	< 0.6	< 0.6	< 0.6
BTEX, total	--	--	--	--	--
TPH as Gasoline	1	< 1	< 1	< 1	< 1
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification *for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.*

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW1	MW2	MW3	MW5
Date Sampled		01/10/91	01/10/91	01/10/91	01/10/91
Date Analyzed		01/11/91	01/11/91	01/11/91	01/11/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	< 0.3	< 0.3	48
Toluene	0.3	< 0.3	< 0.3	< 0.3	2
Ethylbenzene	0.3	< 0.3	< 0.3	< 0.3	87
Xylene, total	0.6	< 0.6	< 0.6	< 0.6	9
BTEX, total	--	--	--	--	150
TPH as Gasoline	1	< 1	< 1	110	1900
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	12
Client Identification		MWA	MWB	FIELD BLK	RMW4
Date Sampled		01/10/91	01/10/91	01/10/91	01/10/91
Date Analyzed		01/14/91	01/14/91	01/14/91	01/14/91
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	1900	47	< 0.3	< 0.3
Toluene	0.3	3700	1300	< 0.3	< 0.3
Ethylbenzene	0.3	2600	770	< 0.3	< 0.3
Xylene, total	0.6	8300	3100	< 0.6	< 0.6
BTEX, total	--	17000	5200	--	--
TPH as Gasoline	1	50000	35000	< 1	< 1
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES INC

4080-Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

72-5005

G101202

JBOX

Project Manager: John Bower

Phone #: 372-7780

FAX #: 372-8781

Address: w/ See Office Livermore

Site location:

Project Number: 202/199/4051

Project Name: Springtown Blvd

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Steven Thompson

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐
BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☒ MTBE ☐
TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel
Product I.D. by GC (SIMDIS) ☐
Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐
Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐
EPA 601 ☐ 8010 ☐ DCA only ☐
EPA 602 ☐ 8020 ☐
EPA 608 ☐ 8080 ☐ PCBs only ☐
EPA 610 ☐ 8310 ☐
EPA 624 ☐ 8240 ☐ NBS +15 ☐
EPA 625 ☐ 8270 ☐ NBS +25 ☐
EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐
TCLP Metals ☐ VOA ☐ Semi VOA ☐
EPA Priority Pollutant Metals ☐ HSL ☐
LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐
CAM Metals ☐ STLC ☐ TTLC
Corrosivity ☐ Flashpoint ☐ Reactivity

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# Containers	Matrix: Water	Soil	Air	Sludge	Other	Method Preserved: HCl	HNO3	H2SO4	Ice	None	Other	Sampling: Date	Time	BTEX/TPH Gas 602/8015, 8020/8015
MW 4	Monitor wells	01	2	✓					✓			✓			1/10	1:30	2
8	↓	02	↓	↓					↓			↓			↓	1:45	↓
7		03														1:50	
6		04														2:00	
1		05														2:10	
2		06														2:20	
3		07														2:30	
5		08														2:40	
A		09														2:50	
B	↓	10														3:00	
Field Blank	"	11														1:20	
Rinsate	MW	12														1:25	

1/11/91

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ___ (#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS: 2 Week Turnaround

Lab Use Only

Lot #:

Storage Location

Work Order #:

CUSTODY RECORD

Relinquished by Sampler: | Received by: | Date: 1-11-91 | Time: 1:50

Relinquished by: | Received by: M. Mertz | Date: 1-11-91 | Time: 4:30

Relinquished by: | Received by Laboratory: | Date: 1-11-91 | Time: 12:00

Way bill #:

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Client Number: 202-199-4051.
Project ID: Livermore
Work Order Number: C0-09-596

September 28, 1990

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results report prepared by GTEL for samples received on 09/25/90, under chain of custody number 72-8739.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek /RMB

Emma P. Popek
Laboratory Director

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		RINSATE MW8	FIELD BLANK	MW 8	MW 7
Date Sampled		09/21/90	09/21/90	09/21/90	09/21/90
Date Analyzed		09/26/90	09/26/90	09/26/90	09/26/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	<0.3	< 0.3	< 0.3	< 0.3
Toluene	0.3	<0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	0.3	< 0.3	< 0.3	< 0.3
Xylene, total	0.6	1	< 0.6	< 0.6	< 0.6
BTEX, total	--	1	--	--	--
TPH as Gasoline	1	4	< 1	< 1	< 1
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW 1	MW 2	MW 4	MW 6
Date Sampled		09/21/90	09/21/90	09/21/90	09/21/90
Date Analyzed		09/26/90	09/26/90	09/26/90	09/26/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Toluene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylene, total	0.6	< 0.6	< 0.6	< 0.6	< 0.6
BTEX, total	--	--	--	--	--
TPH as Gasoline	1	< 1	< 1	< 1	< 1
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	12
Client Identification		MW 3	MW 5	MW A	MW B
Date Sampled		09/21/90	09/21/90	09/21/90	09/21/90
Date Analyzed		09/26/90	09/26/90	09/26/90	09/26/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	98	1400	150
Toluene	0.3	< 0.3	2	1900	1700
Ethylbenzene	0.3	< 0.3	120	1800	1200
Xylene, total	0.6	< 0.6	5	4200	3700
BTEX, total	--	--	230	9300	6800
TPH as Gasoline	1	96	2100	30000	45000
Detection Limit Multiplier		1	1	10	5

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES, INC

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 8739

Project Manager: John Bower   Phone #: 372-4700   FAX #: 372-7771

Address: w/ Geo office   Site location: Livermore

Project Number: 2021994051   Project Name: Springtown Blvd

I attest that the proper field sampling procedures were used during the collection of these samples.   Sampler Name (Print): Stoney Thompson

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	H2SO4	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX/TPH Gas. 602/8015 ☒ 8020/8015 ☐ MTBE ☐
Rinsate	MW5		2	✓					✓			✓			7/21	1:30	2
Field Blank			↓	↓					↓			↓			↓	1:35	↓
MW8																1:40	
7																1:50	
1																2:00	
2																2:10	
4																2:20	
6																2:30	
3																2:40	
5																2:50	
A																3:00	
B																3:10	

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/TPH Gas. 602/8015 ☒ 8020/8015 ☐ MTBE ☐; TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel; Product I.D. by GC (SIMDIS) ☐; Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐; Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐; EPA 601 ☐ 8010 ☐ DCA only ☐; EPA 602 ☐ 8020 ☐; EPA 608 ☐ 8080 ☐ PCBs only ☐; EPA 610 ☐ 8310 ☐; EPA 624 ☐ 8240 ☐ NBS +15 ☐; EPA 625 ☐ 8270 ☐ NBS +25 ☐; EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi VOA ☐; EPA Priority Pollutant Metals ☐ HSL ☐; LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐; CAM Metals ☐ STLC ☐ TTLC; Corrosivity ☐ Flashpoint ☐ Reactivity ☐

CUSTODY RECORD

Relinquished by Sampler: [signature]   Received by: M. Mrak   Date 7/21/93   Time 4:15
Relinquished by: Received by: Date   Time
Relinquished by: Received by Laboratory: Date   Time   Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________ (#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)
Use MDL

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:
2 Week Turnaround

Lab Use Only
Lot #:
Storage Location
Work Order #:

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 8739

Project Manager: John Bower
Phone #: 372-4700
FAX #: 372-8781
Address: W/Sac Office
Site location: Livermore
Project Number: 2021994051
Project Name: Springtown Blvd
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steven Thompson

ANALYSIS REQUEST: BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/TPH Gas 602/8015 ☒ 8020/8015 ☐ MTBE ☐; TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel; Product I.D. by GC (SIMDIS) ☐; Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐; Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐; EPA 601 ☐ 8010 ☐ DCA only ☐; EPA 602 ☐ 8020 ☐; EPA 608 ☐ 8080 ☐ PCBs only ☐; EPA 610 ☐ 8310 ☐; EPA 624 ☐ 8240 ☐ NBS +15 ☐; EPA 625 ☐ 8270 ☐ NBS +25 ☐; EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi VOA ☐; EPA Priority Pollutant Metals ☐ HSL ☐; LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐; CAM Metals ☐ STLC ☐ TTLC; Corrosivity ☐ Flashpoint ☐ Reactivity ☐

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# Containers	Matrix: Water	Method Preserved: HCl	Method Preserved: Ice	Sampling Date	Sampling Time	BTEX/TPH Gas 602/8015
Rinsate MW8		01	2	✓	✓	✓	9/21	1:30	2
Field Blank		02	↓	↓	↓	↓	↓	1:35	↓
MW8		03	↓	↓	↓	↓	↓	1:40	↓
7		04	↓	↓	↓	↓	↓	1:50	↓
1		05	↓	↓	↓	↓	↓	2:00	↓
2		06	↓	↓	↓	↓	↓	2:10	↓
4		07	↓	↓	↓	↓	↓	2:20	↓
6		08	↓	↓	↓	↓	↓	2:30	↓
3		09	↓	↓	↓	↓	↓	2:40	↓
5		10	↓	↓	↓	↓	↓	2:50	↓
A		11	↓	↓	↓	↓	↓	3:00	↓
B		12	↓	↓	↓	↓	↓	3:10	↓

Matrix columns: WATER, SOIL, AIR, SLUDGE, OTHER. Method Preserved columns: HCl, HNO_3, H_2SO_4, ICE, NONE, OTHER.

SPECIAL HANDLING
24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify): Use MDL

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS: 2 Week Turnaround

Lab Use Only
Lot #:
Storage Location
Work Order #:

CUSTODY RECORD

Relinquished by	Date	Time	Received by
Relinquished by Sampler: [signature]	9/21/90	4:15	M. [signature]
Relinquished by:			Received by:
Relinquished by:	9-25	2:00	Received by Laboratory: [signature] 9/26/90

I. Box

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 from inside California
(800) 423-7143 from outside California

Client Number: 203-199-4051.
Project ID: 930 Springtown Blvd., Livermore,CA
Work Order Number: C0-06-639

July 6, 1990

Teena Ramage
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA 94520

Enclosed please find the analytical results report prepared by GTEL for samples received on 06/26/90, under chain of custody numbers 72-4497 and 72-4498.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Client Number: 203-199-4051.
Project ID: 930 Springtown Blvd., Livermore,CA
Work Order Number: C0-06-639

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		01	02	03	04
Client Identification		MW8B	MW8	MW7	MW1
Date Sampled		06/25/90	06/25/90	06/25/90	06/25/90
Date Analyzed		07/02/90	07/02/90	07/02/90	07/02/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Toluene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylene, total	0.6	< 0.6	< 0.6	< 0.6	< 0.6
BTEX, total	– .	–	–	–	–
TPH as Gasoline	1	< 1	< 1	< 1	< 1
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. <PQL = less than practical quantitation levels, per EPA Federal Register, November 13, 1985, p. 46906.

Client Number: 203-199-4051.
Project ID: 930 Springtown Blvd., Livermore,CA
Work Order Number: C0-06-639

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		05	06	07	08
Client Identification		MW4	MW2	MW6	MW3
Date Sampled		06/25/90	06/25/90	06/25/90	06/25/90
Date Analyzed		07/02/90	07/02/90	07/02/90	07/02/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	< 0.3	< 0.3	< 0.3	0.3
Toluene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	< 0.3	< 0.3	< 0.3	< 0.3
Xylene, total	0.6	< 0.6	< 0.6	< 0.6	< 0.6
BTEX, total	–	–	–	–	0.3
TPH as Gasoline	1	< 1	14	3	340
Detection Limit Multiplier		1	1	1	1

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. <PQL = less than practical quantitation levels, per EPA Federal Register, November 13, 1985, p. 46906.

Table 1 (Continued)

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water

EPA Methods 5030, 8020, and Modified 8015[a]

GTEL Sample Number		09	10	11	
Client Identification		MW5	MWB	MWA	
Date Sampled		06/25/90	06/25/90	06/25/90	
Date Analyzed		07/02/90	07/02/90	07/02/90	
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.3	160	28	2700	
Toluene	0.3	8	230	4000	
Ethylbenzene	0.3	140	87	2600	
Xylene, total	0.6	42	260	6500	
BTEX, total	–	350	605	15800	
TPH as Gasoline	1	2000	5400	39000	
Detection Limit Multiplier		1	25	25	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision. < PQL = less than practical quantitation levels, per EPA Federal Register, November 13, 1985, p. 46906.

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-4497

Project Manager: Teena Fonseca

Phone #: 671-2387

FAX #:

Address: 4080 Pike Ln, Concord, CA

Site location: 930 Springtown Blvd Livermore, CA.

Project Number: 203.195.9051

Project Name: GTL

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Bob Hawchuck

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW16			2	X					X			X			6-25	2:05
MW3P			1													2:10
MW3			2													
MW5P			1													2:15
MW5			2													
MWBH			1													2:25
MWB			2													
MWA4			1													2:35
MWA			2													
Trip Blank			1	X					X			X				

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE	BTEX/TPH Gas. 602/8015/8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	Hold (Blanks)
	X																
																	X
	X																
																	X
	X																
																	X
	X																
																	X
	X																
																	X

CUSTODY RECORD

	Received by:	Time	Relinquished by Sampler:
Date 6/26/95		8:32	
Date	Received by:	Time	Relinquished by:
Date	Received by Laboratory:	Time 0830	Relinquished by:

Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS: Pg 2 of 2

Lab Use Only

Storage Location

Lot #:

Work Order #:

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 4498

Project Manager: Teeng Ramage
Phone #: 671-2387
FAX #:
Address: 4080 Pike Ln. Concord, CA
Site location: 930 Springtown Livermore, CA
Project Number: 203,95 4051
Project Name: GTZ

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Bob Haburchak

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW5B			1	X					X			X			6-25	
MW8			2													01:30
MW7B			1													
MW7			2													1490
MW1B			1													
MW1			2													1495
MW4B			1													
MW4			2													1500
MW2B			1													
MW2			2													2:00
MW6B			1													

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☒ 8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	Hold (Blanks)	
	X																		
	X																		
																		X	
	X																		
																		X	
	X																		
																		X	
	X																		
																		X	
	X																		
																		X	

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS: pg 1 of 2

Lab Use Only
Storage Location
Lot #:
Work Order #:

CUSTODY RECORD

Relinquished by Sampler:	Received by:	Date: 6/26/90 Time: 8:32	Received by Laboratory:	Date: 6/26/90 Time: 8:30	Way bill #
Relinquished by:	Received by:	Date: Time:	Relinquished by:	Date: Time:	
Relinquished by:					

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

Project Number: 203-199-4051
Work Order Number: D0-03-811
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 27-Mar-90

April 9, 1990

Jan Prasil
Groundwater Technology, Inc.
4080 Pike Lane
Concord, CA 94520

Enclosed please find the analytical results report prepared by GTEL for samples received on 03/28/90, under chain of custody number 72-5544.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Project Number: 203-199-4051
Work Order Number: D0-03-811
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 27-Mar-90

Table 1a

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water EPA Methods 5030, 8020 and modified 8015[a]

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986; modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL Sample Number		01	02	03	04
Client Identification		MW7	MW8	MW4	MW2
Date Analyzed		04/03/90	04/03/90	04/03/90	04/03/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<PQL	<PQL	<PQL	<PQL
Toluene	0.5	<PQL	<PQL	<PQL	<PQL
Ethylbenzene	0.5	<PQL	<PQL	<PQL	<PQL
Xylene, total	0.5	<PQL	<PQL	<PQL	<PQL
TPH as gasoline	1	<PQL	<PQL	<PQL	<PQL
Detection limit multiplier		1	1	1	1

GTEL Sample Number		05	06	07	08
Client Identification		MW1	MW6	MW3B	MW3
Date Analyzed		04/03/90	04/03/90	04/03/90	04/03/90
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	<PQL	<PQL	2	1
Toluene	0.5	<PQL	<PQL	<PQL	<PQL
Ethylbenzene	0.5	<PQL	<PQL	<PQL	<PQL
Xylene, total	0.5	<PQL	<PQL	<PQL	<PQL
TPH as gasoline	1	<PQL	<PQL	2	1100
Detection limit multiplier		1	1	1	1

Project Number: 203-199-4051
Work Order Number: D0-03-811
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 27-Mar-90

Table 1b

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Water EPA Methods 5030, 8020 and modified 8015[a]

a Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986; modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL Sample Number		09			
Client Identification		MW5			
Date Analyzed		04/03/90			
Analyte	Detection Limit, ug/L	Concentration, ug/L			
Benzene	0.5	230			
Toluene	0.5	32			
Ethylbenzene	0.5	420			
Xylene, total	0.5	250			
TPH as gasoline	1	5100			
Detection limit multiplier		1			

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 5544

Project Manager: Tom Pratil
Phone #:
FAX #:
Address: 930 Springtown Blvd
Site location: Livermore
Project Number: 203 199 4051
Project Name: Concord GTI
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steve Kramyalc

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW 7B			1	X					X			X			3/27	2:00
7			2													2:01
9B			1													2:10
8			2													2:11
4B			1													2:20
4			2													2:21
2B			1													2:30
2			2													2:31
1B			1													2:50
1			2													2:51

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐	TPH as Gas ☐ Gasoline ☐ Jet Fuel ☐ (8015) ☐	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	Hold
	X																X	
	X																	
																	X	
	X																	
																	X	
	X																	
																	X	
	X																	
																	X	
	X																	

CUSTODY RECORD

Relinquished by Sampler:	Received by:	Date 3/28/90	Time	Relinquished by:	Date 3/28	Time 9:30	Received by Laboratory: Waybill #
Relinquished by:	Received by:	Date	Time	Relinquished by:			

SPECIAL HANDLING
24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER _____(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only
Storage Location
Lot #:
Work Order #:

GTEL ENVIRONMENTAL LABORATORIES, INC.
4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-3363

Project Manager: Jan Prazil
Phone #:
FAX #:
Address: 930 Springtown Blvd Livermore, Ca.
Site location:
Project Number: 203 1994051
Project Name: Concord GTI
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steve Kranyak

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	H2SO4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW6B			1	X					X			X			3/27	3:00
6			2	↓					↓			↓			↓	3:01
3B			1	↓					↓			↓			↓	3:
3			2	↓					↓			↓			↓	
5B			1	↓					↓			↓			↓	
5			2	↓					↓			↓			↓	

ANALYSIS REQUEST

Field Sample ID	BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	Hold		
MW6B																			X		
6		X																			
3B		X																			
3		X																			
5B																			X		
5		X																			

CUSTODY RECORD

	Date	Time	
Relinquished by Sampler: [signature]	3/28/90		Received by:
Relinquished by:			Received by:
Relinquished by:	3/28	17:30	Received by Laboratory: [signature] Way bill #:

SPECIAL HANDLING
24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only **Storage Location**
Lot #: **Work Order #:**

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

Project Number: 203-199-4051
Work Order Number: C9-12-284
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 11-Dec-89

March 13, 1990

JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520

Enclosed please find the analytical results report prepared by GTEL for samples received on 12/12/89, under chain of custody number 72-5513.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

A formal quality control/quality assurance program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project was performed in strict adherence to our QA/QC program to ensure sample integrity and to meet quality control criteria.

If you have any question concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,

GTEL Environmental Laboratories, Inc.

Emma P. Popek

Emma P. Popek
Laboratory Director

Project Number: 203-199-4051
Work Order Number: C9-12-284
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 11-Dec-89

Table 1a

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water
EPA Methods 5030, 8020 and modified 8015[a]

a Results rounded to two significant figures. <PQL = Less than practical quantitation levels, per EPA Federal Register, November 13, 1985, p. 46906.

GTEL Sample Number	01	02	03	04
Client Identification	MW-7	MW8B	MW-8	MW-1
Date Analyzed	12/13/89	12/13/89	12/13/89	12/13/89
Analyte	Concentration, ug/L			
Benzene	<PQL	<PQL	<PQL	<PQL
Toluene	<PQL	<PQL	<PQL	<PQL
Ethylbenzene	<PQL	<PQL	<PQL	<PQL
Xylene, total	<PQL	<PQL	<PQL	<PQL
TPH as gasoline	<PQL	<PQL	<PQL	<PQL
Detection limit multiplier	1	1	1	1

GTEL Sample Number	05	06	07	08
Client Identification	MW-4	MW-6	MW-3	MW-5
Date Analyzed	12/13/89	12/13/89	12/13/89	12/13/89
Analyte	Concentration, ug/L			
Benzene	<PQL	6	<PQL	160
Toluene	<PQL	<PQL	<PQL	10
Ethylbenzene	<PQL	<PQL	<PQL	220
Xylene, total	<PQL	<PQL	<PQL	47
TPH as gasoline	<PQL	9	140	1900
Detection limit multiplier	1	1	1	1

Project Number: 203-199-4051
Work Order Number: C9-12-284
Location: 930 Springtown Blvd.
Livermore, CA.
Date Sampled: 11-Dec-89

Table 1b

ANALYTICAL RESULTS

Aromatic Volatile Organics and
Total Petroleum Hydrocarbons as Gasoline in Water
EPA Methods 5030, 8020 and modified 8015[a]

a Results rounded to two significant figures. <PQL = Less than practical quantitation levels, per EPA Federal Register, November 13, 1985, p. 46906.

GTEL Sample Number	09			
Client Identification	MW-2			
Date Analyzed	12/13/89			
Analyte	Concentration, ug/L			
Benzene	<PQL			
Toluene	<PQL			
Ethylbenzene	<PQL			
Xylene, total	<PQL			
TPH as gasoline	<PQL			
Detection limit multiplier	1			

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 5513

CUSTODY RECORD

Project Manager: JAN PEASIL
Phone #: (415) 671-2387
FAX #:
Address: GTI Concord 930 Springtown Blvd.,
Site location: Livermore, CA
Project Number: 2031994051
Project Name: GTI Concord

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Steve Kr[illegible]

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-7B	Bailer		1	✓					✓			✓			12/11/89	3:30
MW-7	Well		2	✓					✓			✓			↑	3:35
MW-8B	Bailer		1	✓					✓			✓				3:45
MW-8	Well		2	✓					✓			✓				3:47
MW-1B	Bailer		1	✓					✓			✓				4:02
MW-1	Well		2	✓					✓			✓				4:05
MW 4B	Bailer		1	✓					✓			✓				4:10
MW-4	Well		2	✓					✓			✓				4:15
MW 6B	Bailer		1	✓					✓			✓				4:20
MW-6	Well		2	✓					✓			✓			↓	4:22
MW 3B	Bailer		1	✓					✓			✓			12/11/89	4:28

ANALYSIS REQUEST

Field Sample ID	BTEX 602 ☐ 8020 ☐ with MTBE ☐	(BTEX/TPH Gas 602/8015) ☐ 8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	ON HOLD	
MW-7B																			X	
MW-7		X																		
MW-8B		X																		
MW-8		X																		
MW-1B																			X	
MW-1		X																		
MW 4B																			X	
MW-4		X																		
MW 6B																			X	
MW-6		X																		
MW 3B																			X	

Relinquished by Sampler: [signature]	Received by:	Time 10:00	Date 12/12/89
Relinquished by:	Received by:	Time	Date
Relinquished by:	Received by Laboratory: [signature]	Time 10:23	Date 12/12/89

Way bill #:

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

PQL as per EPA

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only **Storage Location**

Lot #: **Work Order #:**

GTEL ENVIRONMENTAL LABORATORIES, INC.
4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 5512

Project Manager: [illegible]
Phone #: (415) 671 2387
FAX #:
Address: GTI Concord
Site location: Livermore, CA 920 Springtown Blvd.
Project Number: 2023 [illegible] 4051
Project Name: GTI Concord

I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steve Knight

ANALYSIS REQUEST

Analysis columns: BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐; TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel; Product I.D. by GC (SIMDIS) ☐; Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐; Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐; EPA 601 ☐ 8010 ☐ DCA only ☐; EPA 602 ☐ 8020 ☐; EPA 608 ☐ 8080 ☐ PCBs only ☐; EPA 610 ☐ 8310 ☐; EPA 624 ☐ 8240 ☐ NBS +15 ☐; EPA 625 ☐ 8270 ☐ NBS +25 ☐; EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi VOA ☐; EPA Priority Pollutant Metals ☐ HSL ☐; LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐; CAM Metals ☐ STLC ☐ TTLC; Corrosivity ☐ Flashpoint ☐ Reactivity ☐; ON HOLD

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX/TPH Gas	ON HOLD
MW-3	well		2	✓					✓			✓			2/14/89	4:30	X	
MW-5E	bailer		1	✓					✓			✓			2/14/89	4:30		X
MW-5	well		2	✓					✓			✓			2/14/89	4:40	X	
MW-2B	[illegible]		1	✓					✓			✓			2/14/89	4:00		X
MW-2	well		2	✓					✓			✓			2/14/89	4:00	X	

CUSTODY RECORD

Relinquished by	Received by	Date	Time
Relinquished by Sampler: Steve Knight	Received by:	2/14/89	18:00
Relinquished by:	Received by:		
Relinquished by:	Received by Laboratory: [illegible]	2/14/89	18:02

Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________ (#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)
PQL as per EPA

REMARKS:

Lab Use Only Storage Location
Lot #: Work Order #:

GTEL ENVIRONMENTAL LABORATORIES, INC.

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Concord, CA 94520
415-685-7852

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800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 5512

Project Manager: JAMES WASIL

Phone #: (415) 671 2387

FAX #:

Address: 611 Concord

Site location: Livermore, CA 1830 Springtown Blvd.

Project Number: 2031941405.1

Project Name: 611 Concord

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): Steve Knight

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-3	well		2	✓					✓			✓			1/14/89	4:30
MW-5B	bailer		1	✓					✓			✓			1/14/89	4:35
MW-5	well		2	✓					✓			✓			1/14/89	4:40
MW-23	bailer		1	✓					✓			✓			1/14/89	4:00
MW-2	well		2	✓					✓			✓			1/14/89	4:05

Field Sample ID	BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐	TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel	Product I.D. by GC (SIMDIS) ☐	Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐	Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐	EPA 601 ☐ 8010 ☐ DCA only ☐	EPA 602 ☐ 8020 ☐	EPA 608 ☐ 8080 ☐ PCBs only ☐	EPA 610 ☐ 8310 ☐	EPA 624 ☐ 8240 ☐ NBS +15 ☐	EPA 625 ☐ 8270 ☐ NBS +25 ☐	EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi VOA ☐	EPA Priority Pollutant Metals ☐ HSL ☐	LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐	CAM Metals ☐ STLC ☐ TTLC	Corrosivity ☐ Flashpoint ☐ Reactivity ☐	CA HOLD
MW-3		X																	
MW-5B																			X
MW-5		X																	
MW-23																			X
MW-2		X																	

SPECIAL HANDLING

24 HOURS ☐

EXPEDITED 48 Hours ☐

SEVEN DAY ☐

OTHER _____ (#) BUSINESS DAYS

QA/QC CLP Level ☐ Blue Level ☐

FAX ☐

SPECIAL DETECTION LIMITS (Specify)

TRL as per EPA

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only

Storage Location

Lot #:

Work Order #:

CUSTODY RECORD

	Received by:	Received by:	Received by Laboratory:
Date	12/8/2		12-12-89
Time	10:00		10:03
Relinquished by Sampler:	Steve Knight		
Relinquished by:			
Relinquished by:			

Way bill # Kelly Blue

GTEL ENVIRONMENTAL LABORATORIES, INC.

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415-685-7852

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800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72-5513

Project Manager: JAN PRASIL
Phone #: (415) 6?1 2387
FAX #:
Address: GTI Concord
Site location: Livermore, CA 930 Springtown Blvd.,
Project Number: 203199 4051
Project Name: GTI Concord
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Steve Krangek

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/TPH Gas 602/8015 ☐ 8020/8015 ☐ MTBE ☐ (circled) | TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel | Product I.D. by GC (SIMDIS) ☐ | Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐ | Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐ | EPA 601 ☐ 8010 ☐ DCA only ☐ | EPA 602 ☐ 8020 ☐ | EPA 608 ☐ 8080 ☐ PCBs only ☐ | EPA 610 ☐ 8310 ☐ | EPA 624 ☐ 8240 ☐ NBS +15 ☐ | EPA 625 ☐ 8270 ☐ NBS +25 ☐ | EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi VOA ☐ | EPA Priority Pollutant Metals ☐ HSL ☐ | LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐ | CAM Metals ☐ STLC ☐ TTLC | Corrosivity ☐ Flashpoint ☐ Reactivity ☐ | ON HOLD

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX/TPH Gas	ON HOLD
MW-7B	Bailer		1	✓					✓			✓			12/11/89	330		X
MW-7	Well		2	✓					✓			✓			↑	335	X	
MW-8B	Bailer		1	✓					✓			✓				345	X	
MW-8	Well		2	✓					✓			✓				347	X	
MW-1B	Bailer		1	✓					✓			✓				402		X
MW-1	Well		2	✓					✓			✓				405	X	
MW 4B	Bailer		1	✓					✓			✓				410		X
MW-4	Well		2	✓					✓			✓				415	X	
MW-6B	Bailer		1	✓					✓			✓				420		X
MW 6	Well		2	✓					✓			✓			↓	422	X	
MW-3B	Bailer		1	✓					✓			✓			12/11/89	428		X

CUSTODY RECORD

	Relinquished by	Date	Time	Received by
Relinquished by Sampler:	Steve Krangek	12/12/89	10:00	Received by:
Relinquished by:		Date	Time	Received by:
Relinquished by:		12/12/89	10:23	Received by Laboratory: Kathy Blair

Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

PQL as per EPA

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only **Storage Location**
Lot #: **Work Order #:**

GTEL
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Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

09/25/89 JP

WORK ORD#: C909459
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051-10
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

SAMPLED: 09/19/89 BY: J. PRASIL
RECEIVED: 09/20/89
ANALYZED: 09/21/89 BY: M. LY

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	01 MW1	02 MW2B	03 MW2	04 MW4	05 MW6
Benzene		<PQL	<PQL	<PQL	<PQL	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	<PQL	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL	<PQL	<PQL

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

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(800) 423-7143 *from outside California*

WORK ORD#: C909459

CLIENT: JAN PRASIL
PROJECT#: 203-199-4051-10
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	06 MW3	07 MW5			
Benzene		2	930			
Toluene		<PQL	18			
Ethylbenzene		<PQL	270			
Xylenes		<PQL	62			
Total BTEX		2	1300			
Total Petroleum Hydrocarbons as Gasoline		300	4000			

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

Emma P. Popek
EMMA P. POPEK, Laboratory Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

IW. C909469

Project Manager: Jan Patil

Phone #: (415) 6712387

Address: GTI Concord

FAX #: (415) 6859148

Project Number: 203199405.1-10

Project Name: GTI Concord

Project Location: Livermore, CA 930 Springtown Blvd.

Sampler Signature: [signature]

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-1B		1	40 ml	✓					✓		✓			9/19/89	3:05
MW-1	01	2		✓					✓		✓				3:07
MW-2B	02	1		✓					✓		✓				3:15
MW-2	03	2		✓					✓		✓				3:17
MW-4B		1		✓					✓		✓				3:20
MW-4	04	2		✓					✓		✓				3:25
MW-6B		1		✓					✓		✓				3:30
MW-6	05	2		✓					✓		✓				3:32
MW-3B		1		✓					✓		✓				3:40
MW-3	06	2		✓					✓		✓				3:42
MW-5B		1	40 ml	✓					✓		✓			9/19/89	3:50

Analysis Request	X
BTEX (602/8020)	
BTEX/TPH as Gasoline (602/8020/8015)	X
TPH as Diesel (8015 or 8270)	
TPH as Jetfuel (8015 or 8270)	
Total Oil & Grease (413.1)	
Total Oil & Grease (413.2)	
Total Petroleum Hydrocarbons (418.1)	
EPA 601/8010	
EPA 602/8020	
EPA 608/8080	
EPA 608/8080-PCBs Only	
EPA 624/8240	
EPA 625/8270	
CAM - 17 Metals	
EPTOX - 8 Metals	
EPA - Priority Pollutant Metals	
LEAD(7420/7421/239.2)	
ORGANIC LEAD	

OTHER	X
ON HOLD - 1	

SPECIAL HANDLING	
PRIORITY ONE SERVICE (24 hr)	
EXPEDITED SERVICE (2-4 days)	
VERBALS/FAX	
SPECIAL DETECTION LIMITS (SPECIFY)	
SPECIAL REPORTING REQUIREMENTS	✓

	Date	Time	
Relinquished by: Jan Patil	9/20/89		Received by:
Relinquished by			Received by:
Relinquished by	9-20	18:45	Received by Laboratory: [signature]

Remarks: 9/21/89

PG 1 of 2

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jan Pratil
Phone #: (415) 6712387
Address: GTI Concord
FAX #: (415) 6859148
Project Number: 203199405
Project Name: GTI Concord
Project Location: Livermore, CA 930 Springtown Blvd.
Sampler Signature: Jan Pratil

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-5	07	2	40 ml	✓					✓		✓			9/19/89	3:53
Trave/Blank		1	40 ml	✓					✓		✓			9/19/89	

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X									N/A							X

OTHER: ON HOLD

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
				✓

Relinquished by:	Date	Time	Received by:
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory
	9-20	8:45	Karla Pellinger

Remarks:

Pg 2 of 2

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
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800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager:

Phone #:

Address:

FAX #:

Project Number:

Project Name:

Project Location:

Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
																	X																							
																	X																							
																	X																							
																	X																							
																	X																							
																	X																							
																	X																							
																	X																							

Relinquished by:

Date Time

Received by:

Remarks:

Relinquished by

Date Time

Received by:

Relinquished by

Date Time

Received by Laboratory:

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | Phone #:

Address: | FAX #:

Project Number: | Project Name:

Project Location: | Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	ANALYSIS REQUEST: BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER					SPECIAL HANDLING: PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
																	X																								

Relinquished by: | Date | Time | Received by:

Relinquished by | Date | Time | Received by:

Relinquished by | Date | Time | Received by Laboratory:

Remarks:

GTEL
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LABORATORIES, INC.

Northwest Region
4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#: C906129
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE
CONCORD, CA 94520
PROJECT#: 203-199-4051-8
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

SAMPLED: 06/07/89 BY: J. PRASIL
RECEIVED: 06/08/89
ANALYZED: 06/09/89 BY: R. CONDIT

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	01 MW-1	02 MW-3	03 MW-4	04 MW-2B	05 MW-2
Benzene		<PQL	<PQL	<PQL	<PQL	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	<PQL	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	330	<PQL	<PQL	9

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46905.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

GTEL
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4080 Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#: C906129

CLIENT: JAN PRASIL
PROJECT#: 203-199-4051-B
LOCATION: 930 SPRINGTOWN BLVD/LIVERMORE

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	06 MW-6	07 MW-5			
Benzene		130	360			
Toluene		<PQL	13			
Ethylbenzene		<PQL	260			
Xylenes		<PQL	75			
Total BTEX		130	710			
Total Petroleum Hydrocarbons as Gasoline		190	3800			

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

Emma P. Popek

EMMA P. POPEK, Laboratory Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: [illegible]
Phone #: (415) 671 2387

Address: [illegible]
FAX #:

Project Number: [illegible]
Project Name: [illegible] Concord

Project Location: [illegible], CA
Sampler Signature: [illegible]

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-1B		1	[illegible]	✓							✓			6/7/89	1:00
MW-1		2		✓					✓		✓			↑	1:05
MW-3 [illegible]		1		✓					✓		✓				1:20
MW-3		1		✓					✓		✓				1:45
MW-4 B		1		✓					✓		✓				1:50
MW-4		2		✓					✓		✓				2:10
MW-5 E		1		✓					✓		✓				2:20
MW-2		2		✓					✓		✓				2:25
MW-6 B		1		✓					✓		✓				2:35
MW-6		2		✓					✓		✓			↓	[illegible]
MW-5 E		1	[illegible]	✓					✓		✓			7/7/89	[illegible]

ANALYSIS REQUEST / OTHER / SPECIAL HANDLING

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	On Hold [illegible]	OTHER	OTHER	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
MW-1B																				✓								
MW-1		✓																										✓
MW-3 [illegible]																				✓								
MW-3		✓																										✓
MW-4 B																				✓								
MW-4		✓																										
MW-5 E		✓																										
MW-2		✓																										
MW-6 B																				✓								
MW-6		✓																										✓
MW-5 E																				✓								

Relinquished by:	Date	Time	Received by:
[illegible]	6/8/89	8:40	
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/8	1845	[illegible]

Remarks: [illegible]

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAD POWER

Phone #: (415) 671 2387

Address: GTI Concord

FAX #:

Project Number: 203194051

Project Name: GTI Concord

Project Location: 932 Springtown Blvd. Livermore, CA

Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-5		2	40ml	✓					✓		✓			6/7/95	1340

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	✓																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
				✓

Relinquished by:	Date	Time	Received by:
Relinquished by	Date	Time	Received by:
Relinquished by	Date 6/8	Time 8:45	Received by Laboratory: Linda Dellinger

Remarks:

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: [illegible] Phone #: (415) 671-2387

Address: GTI Concord FAX #:

Project Number: [illegible] Project Name: GTI Concord

Project Location: [illegible] Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME
[illegible]		1	[illegible]	✓							[illegible]			[illegible]	[illegible]
[illegible]		2		✓							[illegible]			[illegible]	[illegible]
[illegible]		1		✓							[illegible]				[illegible]
[illegible]		1		✓					[illegible]		[illegible]				[illegible]
[illegible]		1		✓					[illegible]		[illegible]				[illegible]
[illegible]		2		✓					[illegible]		✓				[illegible]
[illegible]		1		✓					[illegible]		[illegible]				[illegible]
[illegible]		2		✓					✓		✓				[illegible]
[illegible]		1		✓					✓		✓				[illegible]
[illegible]		2		✓					✓		✓			↓	[illegible]
[illegible]		1	HCl	✓					✓		✓			[illegible]	[illegible]

ANALYSIS REQUEST	OTHER	SPECIAL HANDLING
BTEX (602/8020)		PRIORITY ONE SERVICE (24 hr)
BTEX/TPH as Gasoline (602/8020/8015)		EXPEDITED SERVICE (2-4 days)
TPH as Diesel (8015 or 8270)		VERBALS/FAX
TPH as Jetfuel (8015 or 8270)		SPECIAL DETECTION LIMITS (SPECIFY)
Total Oil & Grease (413.1)		SPECIAL REPORTING REQUIREMENTS
Total Oil & Grease (413.2)		
Total Petroleum Hydrocarbons (418.1)		
EPA 601/8010		
EPA 602/8020		
EPA 608/8080		
EPA 608/8080-PCBs Only		
EPA 624/8240		
EPA 625/8270		
CAM - 17 Metals		
EPTOX - 8 Metals		
EPA - Priority Pollutant Metals		
LEAD(7420/7421/239.2)		
ORGANIC LEAD		

Relinquished by:	Date	Time	Received by:
[signature]	6/8/94	840	
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/8	845	[signature]

Remarks:

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAN [illegible]
Phone #: (415) 671 2387

Address: [illegible] Concord
FAX #:

Project Number: 2C2 164 4CE1
Project Name: [illegible] Concord

Project Location: [illegible]
Sampler Signature: [illegible]

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	Matrix: SOIL	Matrix: AIR	Matrix: SLUDGE	Matrix: OTHER	Method Preserved: HCl	Method Preserved: HNO_3	Method Preserved: ICE	Method Preserved: NONE	Method Preserved: OTHER	Sampling: DATE	Sampling: TIME
[illegible]		2	[illegible]	✓							[illegible]			[illegible]	[illegible]

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	OTHER	OTHER	OTHER	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
[illegible]		✓																										✓

Relinquished by	Date	Time	Received by
Relinquished by:		[illegible]	Received by:
Relinquished by			Received by:
Relinquished by	[illegible]	[illegible]	Received by Laboratory: [illegible]

Remarks:

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#: C903441
CLIENT: JAN PRASIL
GROUNDWATER TECHNOLOGY, INC.
4080 PIKE LANE, SUITE C
CONCORD, CA 94520
PROJECT#: 203-199-4051-6
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE

SAMPLED: 03/20/89 BY: T. WATCHERS
RECEIVED: 03/20/89
ANALYZED: 03/27/89 BY: R. CONDIT

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	01 MW-1	02 MW-2	03 MW-4	04 MW-3	05 MW-6B
Benzene		<PQL	<PQL	<PQL	<PQL	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	<PQL	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	10	**<5	<PQL	N/A*

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#: C903441

CLIENT: JAN PRASIL
PROJECT#: 203-199-4051-6
LOCATION: 930 SPRINGTOWN BLVD. LIVERMORE

MATRIX: Water
UNITS: ug/L (ppb)

PARAMETER	SAMPLE # I.D.	06 MW-6	07 MW-5				
Benzene		1200	620				
Toluene		5	70				
Ethylbenzene		<PQL	520				
Xylenes		<PQL	320				
Total BTEX		1200	1500				
Total Petroleum Hydrocarbons as Gasoline		1300	7400				

<PQL = Less then Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.
METHOD: Modified EPA 5030/8020/8015
*No gasoline data collected due to FID malfunction. No backup vial available for report.
**Detection limit was raised due to dilution of sample.

Emma P Popek

EMMA P. POPEK, Director

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | Phone #:

Address: | FAX #:

Project Number: | Project Name:

Project Location: | Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER					SPECIAL HANDLING: PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
															11:55																		X									
															11:[illegible]		X																									
															12:05																		X									
															2:[illegible]		X																									
															1:[illegible]																		X									
															12:[illegible]		X																									
															12:[illegible]																		X									
															12:[illegible]		X																									
															12:[illegible]		X																									
																																	X									

Relinquished by:	Date	Time	Received by:	Remarks:
Relinquished by	Date	Time	Received by:	
Relinquished by	Date	Time	Received by Laboratory:	
	5/20/91	3:35	Kathy Bruce	

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: | Phone #:

Address: | FAX #:

Project Number: | Project Name:

Project Location: | Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER					PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
															2:20																		X								X	X
															2:25																											

Relinquished by:	Date	Time	Received by:
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	3/20/98	1355	

Remarks:

INVOICE C903441

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

~~CHAIN-OF-CUSTODY~~ RECORD AND ANALYSIS REQUEST

Project Manager: Jan P.
Phone #: 671-2387

Address: GTI Concord
FAX #:

Project Number: 203 199 4051 / 6
Project Name: GTI Concord

Project Location: 930 Springtown Blvd. Livermore, Ca.
Sampler Signature: P. Walch

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER: Hold					PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
mw1TB		1	40	x					x		x			20 MAR 89	11:55																			X								X	X
mw1	01A	2													11:58		X																										
mw2TB		1													12:00																			X									
mw2	02A	2													12:05		X																										
mw4TB		1							(N)						12:07																			X									
mw4	03A	2							(N)						12:10		X																										
mw3TB		1							(N)						12:12																			X									
mw3	04A	2							(N)						12:15		X																										
mw6TB	05A	1													12:17		X																										
mw6	06A	2													12:20		X																										
Trip B.		1																																X									

Relinquished by:	Date	Time	Received by:
P. Walch			
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	3/20/89	3:35	Kathy Bicua

Remarks: Page 1 of 2
all other wells on Hold except mw6
40ml

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jan Pasil
Phone #: 671-2387
Address: GTI Concord
FAX #:
Project Number: 203 199 4051
Project Name: GTI Concord
Project Location: 930 Springtown Blvd Livermore, Ca
Sampler Signature: L. Watchman

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW5B		1	40	X					X		X			20 Mar 89	2:20
MW5	07A	2													2:25
~~MW4B Blank~~		1													
~~MW4B~~		2													
~~Trip Blank~~		1													
~~MW5B~~		2													

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X																
	X																
	X																

OTHER: Hold

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
			X	X

Relinquished by:	Date	Time	Received by:
L. Watchman			
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	3/20/89	3:35	Kathy Biava

Remarks:

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/21/88mt

WORK ORD#: 8812111
CLIENT: Jan Prasil
Groundwater Technology, Inc.
4080-C Pike Lane
Concord, CA 94520
PROJECT#: 203-199-4051-4
LOCATION: 930 Springtown Blvd.
Livermore, CA
SAMPLED: 12/06/88 BY: S. Kranyak
RECEIVED: 12/08/88 BY: K. Biava
ANALYZED: 12/14/88 BY: P. Sra
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

PARAMETER	SAMPLE # I.D.	01A MW1	02A MW2	03A MW4	04A MW6	05A MW3
Benzene		<PQL	<PQL	<PQL	1100	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	1100	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL	1200	250

PQL = Less than Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46906.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

GTEL ENVIRONMENTAL LABORATORIES, INC.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

WORK ORD#:8812111

CLIENT: Jan Prasil
PROJECT#: 203-199-4051-4
LOCATION: 930 Springtown Blvd.
Livermore, CA
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

PARAMETER	SAMPLE #/ I.D.	06A MW5	07A MW6B			
Benzene		800	<PQL			
Toluene		75	<PQL			
Ethylbenzene		560	<PQL			
Xylenes		320	<PQL			
Total BTEX		1800	<PQL			
Total Petroleum Hydrocarbons as Gasoline		7400	<PQL			

PQL = Less than Practical Quantitation Levels per EPA Federal Register, November 13, 1985, page 46905.
Results rounded to two significant figures.

METHOD:
Modified EPA Method 5030/8020/8015

Emma Popek/EMP
EMMA P. POPEK, Director

GTEL Environmental Laboratories
4080-C Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jan Prasil
Phone #:
Address:
FAX #:
Project Number: 203 199 4051
Project Name: Concord GTI
Project Location: Livermore, CA 930 Springtown Blvd / 930 ~~[illegible]~~
Sampler Signature: [illegible signature]

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	Matrix: SOIL	Matrix: AIR	Matrix: SLUDGE	Matrix: OTHER	Method Preserved: HCl	Method Preserved: HNO_3	Method Preserved: ICE	Method Preserved: NONE	Method Preserved: OTHER	Sampling: DATE	Sampling: TIME
mw 1		2		X					X		X			12/6	
2		2		↓					↓		↓			↓	
4		2													
6		2													
3		2													
5		2													
1 B		1													
2 B		1													
4 B		1													
6 B *		1													
3 B		1													
5 B		1		↓					↓		↓			↓	

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER	OTHER: Hold	OTHER	OTHER	OTHER	PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
mw 1		X																										
2		X																										
4		X																										
6		X																										
3		X																										
5		X																										
1 B																				X								
2 B																				↓								
4 B																												
6 B *		X																										
3 B																												
5 B																				↓								

Relinquished by:	Date	Time	Received by:
[illegible signature]	12/8/89		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	[illegible]	8:30	[illegible signature]

Remarks:
* Hold B samples unless told otherwise

GTEL Environmental Laboratories

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Jan Prasil

Phone #: 270

Address:

FAX #:

Project Number: 203 199 4051-4

Project Name: Concord GTI

Project Location: 930 Livermore, CA Springtown Blvd / Isabel

Sampler Signature:

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW 1	01A	2		X					X		X			12/6	
2	02A	2													
4	03A	2													
6	04A	2													
3	05A	2													
5	06A	2													
1 B		1													
2 B		1													
4 B		1													
6 B	07A	1													
3 B		1													
5 B		1													

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X																
	X																
	X																
	X																
	X																
	X																
	X																

OTHER: Hold

SPECIAL HANDLING: PRIORITY ONE SERVICE (24 hr); EXPEDITED SERVICE (2-4 days); VERBALS/FAX; SPECIAL DETECTION LIMITS (SPECIFY); SPECIAL REPORTING REQUIREMENTS

Relinquished by	Date	Time	Received by:
Travel Blank / Jan Prasil	12/8/88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	12/8/88	8:50	Kathy Biava

Remarks:

* Hold B samples unless told otherwise

GTEL Environmental Laboratories
A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

06/20/88 mh

CLIENT: Jan Prasil
Groundwater Technology, Inc.
4080 Pike Ln.
Concord, CA 94520
PROJECT#: 203-199-4051-2
LOCATION: 930 Springsteen Blvd.
Livermore, CA
SAMPLED: 06/09/88 BY: R. Hughes
RECEIVED: 06/10/88 BY: J. Floro
ANALYZED: 06/17/88 BY: E. Popek
MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	LAB # I.D.#	24994 MW-1	24995 MW-2	24996 MW-4	24997 MW-6	24998 MW-6R
Benzene		<PQL	<PQL	<PQL	89	<PQL
Toluene		<PQL	<PQL	<PQL	<PQL	<PQL
Ethylbenzene		<PQL	<PQL	<PQL	<PQL	<PQL
Xylenes		<PQL	<PQL	<PQL	<PQL	<PQL
Total BTEX		<PQL	<PQL	<PQL	89	<PQL
Total Petroleum Hydrocarbons as Gasoline		<PQL	<PQL	<PQL	99	<PQL

PQL = Less than Practical Quantitation Levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHOD:
Modified EPA 5030/8020/8015.

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Western Region
4080-C Pike Lane
Concord, CA 94520

(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

CLIENT: Jan Prasil
PROJECT#: 203-199-4051-2
LOCATION: 930 Springsteen Blvd.
Livermore, CA

MATRIX: Water
UNITS: ug/L (ppb)

TEST RESULTS

COMPOUNDS	LAB # I.D.#	24999 MW-3	25000 MW-5
Benzene		<PQL	830
Toluene		<PQL	29
Ethylbenzene		<PQL	350
Xylenes		<PQL	510
Total BTEX		<PQL	1700
Total Petroleum Hydrocarbons as Gasoline		250	6900

PQL = Less than Practical Quantitation Levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHOD:
Modified EPA 5030/8020/8015.

Safy Khalifa/EMF

SAFY KHALIFA, Ph.D., Director

GTEL Environmental Laboratories

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAN PRASIL
Phone #: 671 2387 270
Address: GTI CONCORD
FAX #:
Project Number: 203-199-4051-2
Project Name: GTI
Project Location: 930 SPRINGSTEEN BLVD. LIVERMORE, CA
Sampler Signature: R. Hughes

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-1	24994	2	40 ML	X					X		X			6/9/88	1130
MW 1R		1													"
MW 2	24995	2													1140
MW 2R		1													"
MW 4	24996	2													1205
MW 4R		1													"
MW 6	24997	2													1220
MW 6R	24998	1													"
MW 3	24999	2													1315
MW 3R		1													"

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X Hold																
	X Hold																
	X Hold																
	X X Hold																
	X Hold																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
R. Hughes	6-10-88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/10/88	8:40	

Remarks:

4°C

GTEL Environmental Laboratories

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAN PRASIL
Phone #: 671-2387 270
Address: GTI CONCORD
FAX #:
Project Number: 203-199-4051-2
Project Name: GTL
Project Location: 930 SPRINGSTEEN BLVD. LIVERMORE, CA
Sampler Signature: R. Hughes

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW 1	24994	2	40 ML	X					X		X			6-9-88	1130
MW 1R		1	"	"					"		"			"	"
MW 2	24995	2	"	"					"		"			"	1140
MW 2R		1	"	"					"		"			"	"
MW 4	24996	2	"	"					"		"			"	1205
MW 4R		1	"	"					"		"			"	"
MW 6	24997	2	"	"					"		"			"	1220
MW 6R	24998	1	"	"					"		"			"	"
MW 3	24999	2	"	"					"		"			"	1315
MW 3R		1	"	"					"		"			"	"

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X Hold															X	
	X Hold																
	X Hold																
	X																
	X Hold																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
R. Hughes	6-10-88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/10/88	8:40	

Remarks:

4°C

GTEL Environmental Laboratories

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAN PRASIL
Phone #: 671387 270

Address: GTI CONCORD
FAX #:

Project Number: 203-199-4051
Project Name: GTI

Project Location: 930 SPRINGSTEEN BLVD.
Sampler Signature: R. Hughes

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-1		2	40 ml	X					X		X			6988	1^{30}
MW 1R		1													"
MW 2		2													1^{50}
MW 2R		1													"
MW 4		2													2^{05}
MW 4R		1													"
MW 6		2													2^{20}
MW 6R		1													"
MW 3		2													3^{15}
MW 3R		1													"

Sample ID	BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD	OTHER					PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS
MW-1		X																										
MW 1R		x																										
MW 2		X																										
MW 2R		x																										
MW 4		X																										
MW 4R		x																										
MW 6		X																										
MW 6R		X																										
MW 3		X																										
MW 3R		x																										

Relinquished by:	Date	Time	Received by:
R. Hughes	6-10-88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/10/88	8:40	[illegible signature]

Remarks:

GTEL Environmental Laboratories

4080-C Pike Lane
Concord, CA 94520
415-685-7852

800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: JAN MARIL

Phone #: 671-2387 -270

Address: GTEL CONCORD

FAX #:

Project Number: 203 199 - 4051

Project Name: GTEL

Project Location: 930 [illegible] BLVD

Sampler Signature: R. Hughes

Sample ID	Lab # (Lab use only)	# CONTAINERS	Volume/Amount	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO_3	ICE	NONE	OTHER	Sampling: DATE	TIME
MW-5		2	VOA	X					X	/	X			6-9-88	330
MW-5R		1	1L	X					X		X			"	320

ANALYSIS REQUEST

BTEX (602/8020)	BTEX/TPH as Gasoline (602/8020/8015)	TPH as Diesel (8015 or 8270)	TPH as Jetfuel (8015 or 8270)	Total Oil & Grease (413.1)	Total Oil & Grease (413.2)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080-PCBs Only	EPA 624/8240	EPA 625/8270	CAM - 17 Metals	EPTOX - 8 Metals	EPA - Priority Pollutant Metals	LEAD(7420/7421/239.2)	ORGANIC LEAD
	X (MW-5R)																

OTHER

SPECIAL HANDLING

PRIORITY ONE SERVICE (24 hr)	EXPEDITED SERVICE (2-4 days)	VERBALS/FAX	SPECIAL DETECTION LIMITS (SPECIFY)	SPECIAL REPORTING REQUIREMENTS

Relinquished by:	Date	Time	Received by:
R. Hughes	6-10-88		
Relinquished by	Date	Time	Received by:
Relinquished by	Date	Time	Received by Laboratory:
	6/10/88	1540	

Remarks:

GT Environmental Laboratories
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Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/23/87 rw
PROJECT MGR: Amy Patton
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA 94520
PROJECT #:203-199-4051-1A
LOCATION: 930 Springtown Blvd., Livermore, CA
SAMPLED: 12-10-87 BY: S. Kranyak
RECEIVED: 12-11-87 BY: K. Biava
ANALYZED: 12-18-87 BY: E. Popek
MATRIX: Water

TEST RESULTS (ppb)

COMPOUNDS	MDL	LAB # I.D.#	10738 MW-1	10739 MW-2	10740 MW-3	10741 MW-4	10742 MW-5
Benzene	0.5		< 0.5	< 0.5	50	< 0.5	1200
Ethylbenzene	0.5		< 0.5	< 0.5	8	< 0.5	800
Toluene	0.5		< 0.5	< 0.5	< 0.5	< 0.5	250
Xylenes	0.5		< 0.5	< 0.5	6	< 0.5	710
Total BTEX	0.5		< 0.5	< 0.5	64	< 0.5	3000
Misc. Hydrocarbons (C4-12)	1.0		< 1.0	< 1.0	840	< 1.0	10000
Total Petroleum Hydrocarbons as Gasoline	1.0		< 1.0	< 1.0	900	< 1.0	13000

MDL = Method Detection Limit; compounds below this level would not be detected.
Results rounded to two significant figures.
METHODS: Modified EPA Methods 5030/8015/8020.

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A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Amy Patton
PROJECT #:203-199-4051-1 A
LOCATION: 930 Springtown Blvd
Livermore, CA

TEST RESULTS (ppb)

COMPOUNDS	MDL	LAB # I.D.#	10743 MW-6				
Benzene	0.5		27				
Ethylbenzene	0.5		2				
Toluene	0.5		1				
Xylenes	0.5		4				
Total BTEX	0.5		34				
Misc. Hydrocarbons (C4-C12)	1.0		65				
Total Petroleum Hydrocarbons as Gasoline	1.0		99				

Results rounded to two significant figures.
MDL = Method Detection Limit; compound below this level would not be detected.
METHODS: Modified EPA 5030/8015/8020.

SAFY KHALIFA, Ph.D., Director

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Lane, Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

12/23/87 rw
PROJECT MGR: Amy Patton
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA 94520
PROJECT #:203-199-4051-1
LOCATION: 930 Springtown Blvd., Livermore, CA
SAMPLED: 12-10-87 BY: S. Kranyak
RECEIVED: 12-11-87 BY: K. Biava
ANALYZED: 12-18-87 BY: E. Popek
MATRIX: Water

TEST RESULTS (ppb)

COMPOUNDS	LAB # / I.D.#	10738 MW-1	10739 MW-2	10740 MW-3	10741 MW-4	10742 MW-5
Benzene		ND	ND	50	ND	1200
Ethylbenzene		ND	ND	8	ND	800
Toluene		ND	ND	ND	ND	250
Xylenes		ND	ND	6	ND	710
Total BTEX		ND	ND	64	ND	3000
Misc. Hydrocarbons (C4-12)		ND	ND	840	ND	10000
Total Petroleum Hydrocarbons as Gasoline		ND	ND	900	ND	13000

ND = Less than Practical Quantitation Levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHODS: Modified EPA Methods 5030/8015/8020.

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A division of Groundwater Technology, Inc.

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(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*

PROJECT MGR: Amy Patton
PROJECT #:203-199-4051-1
LOCATION: 930 Springtown Blvd
Livermore, CA

TEST RESULTS (ppb)

COMPOUNDS	LAB #	10743				
	I.D.#	MW-6				
Benzene		27				
Ethylbenzene		2				
Toluene		1				
Xylenes		4				
Total BTEX		34				
Misc.Hydrocarbons (C4-C12)		65				
Total Petroleum Hydrocarbons as Gasoline		99				

ND = Less than Practical Quantitation levels as per EPA Federal Register, November 13, 1985, p. 46906.
Results rounded to two significant figures.
METHODS: Modified EPA Methods 5030/8015/8020.

SAFY KHALIFA, Ph.D., Director

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. 203 199 4051

PROJECT NAME GTI Concord

SPECIFY ANALYSIS REQUESTED

SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	COMP	DATE	TIME	ACIDIFIED	ICED	EPA METHOD (specify #s)	GASOLINE HYDROCARBONS BY ☐ BTEX ☐ TVH	METALS	OTHER	BTX THC		SPECIAL DETECTION LIMIT	REMARKS
MW 1	2	X				12/10	3:00	X	X					X			
2	↓	↓				↓	↓	↓	↓					↓			
3	↓	↓				↓	↓	↓	↓					↓			
4	↓	↓				↓	↓	↓	↓					↓			
5	↓	↓				↓	↓	↓	↓					↓			
6	↓	↓				↓	↓	↓	↓					↓			

Relinquished by:	Date	Time	Received by:
Steve Ranunp[illegible]	12/11/87	9:00	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by laboratory:
	12-11-87	9:30	K. Hyna

SPECIAL REPORTING REQUIREMENTS ☒ (see attached)

JOB SITE LOCATION: 930 Springtown Blvd Livermore Ca.

SAMPLER: SIGNATURE Steve Ranunp[illegible]

PROJECT MANAGER:

ADDRESS: Amy Sager

PHONE NO. 671 2387

GTEL Environmental Laboratories
A division of Groundwater Technology, Inc

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJECT NO. 203 199 4051-

PROJECT NAME GTI Concord

SPECIFY ANALYSIS REQUESTED

SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	COMP	DATE	TIME	ACIDIFIED	ICED	EPA METHOD (specify #s)	GASOLINE / HYDROCARBONS BY ☐ BTEX ☐ TVH / METALS	OTHER	BTX THC	SPECIAL DETECTION LIMIT	REMARKS
MW 1	2	X				12/10	3:00	X	X	—	10738		X		40
2	↓	↓				↓	↓	↓	↓	—	10739		↓		
3										—	10740				
4										—	10741				
5										—	10742				
6	↓	↓				↓	↓	↓	↓	—	10743		↓		

Relinquished by:	Date	Time	Received by:
Steve Ramyak	12/11/87	9:00	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by laboratory:
	12-11-87	9:30	K. Brava

SPECIAL REPORTING REQUIREMENTS (see attached) ☒

JOB SITE LOCATION: 930 Springtown Blvd Livermore Ca.

SAMPLER: SIGNATURE Steve Ramyak

PROJECT MANAGER:

ADDRESS: Amy Sager PHONE NO. 671 2387

GT Environmental Laboratories
A division of Groundwater Technology, Inc
Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

12-17-87

SEP 14 1987

BROWN AND CALDWELL LABORATORIES

ANALYTICAL REPORT

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

LOG NO: E87-07-575

Received: 31 JUL 87
Reported: 18 AUG 87

Revised Report 9/10/87

Ms. Amy Sager Patton
Groundwater Technology
4080 Pike Lane, Suite D
Concord, California 94520

Purchase Order: 3052

Project: 203-150-4051

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-575-1	MW 1	29 JUL 87
07-575-2	MW 2	29 JUL 87
07-575-3	MW 3	29 JUL 87
07-575-4	MW 4	29 JUL 87
07-575-5	MW 5	29 JUL 87

PARAMETER	07-575-1	07-575-2	07-575-3	07-575-4	07-575-5
Total Fuel Hydrocarbons, ug/L	<1000	<1000	<1000	<1000	<1000
EPA Method 602					
Date Extracted	08.07.87	08.07.87	08.07.87	08.07.87	08.07.87
1,2-Dichlorobenzene, ug/L	<0.5	<0.5	<0.5	<0.5	<10
1,3-Dichlorobenzene, ug/L	<0.5	<0.5	<0.5	<0.5	<10
1,4-Dichlorobenzene, ug/L	<0.5	<0.5	<0.5	<0.5	<10
Benzene, ug/L	<0.5	<0.5	42	<0.5	1300
Chlorobenzene, ug/L	<0.5	<0.5	<0.5	<0.5	<10
Ethylbenzene, ug/L	<0.5	<0.5	3.9	<0.5	1200
Toluene, ug/L	<0.5	0.6	18	<0.5	320
Total Xylene Isomers, ug/L	<0.5	<0.5	<0.5	<0.5	1700

BROWN AND CALDWELL LABORATORIES

1255 POWELL STREET EMERYVILLE, CA 94608 • (415) 428-2300

ANALYTICAL REPORT

LOG NO: E87-07-575

Received: 31 JUL 87
Reported: 18 AUG 87

Ms. Amy Sager Patton
Groundwater Technology
4080 Pike Lane, Suite D
Concord, California 94520

Purchase Order: 3052

Project: 203-150-4051

REPORT OF ANALYTICAL RESULTS

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
07-575-6	MW 6	29 JUL 87
07-575-7	MW B	29 JUL 87
07-575-8	MW 2 Duplicate	29 JUL 87

PARAMETER	07-575-6	07-575-7	07-575-8
Total Fuel Hydrocarbons, ug/L	<1000	6200	<1000
EPA Method 602			
Date Extracted	08.11.87	08.10.87	08.11.87
1,2-Dichlorobenzene, ug/L	<0.5	<10	<0.5
1,3-Dichlorobenzene, ug/L	<0.5	<10	<0.5
1,4-Dichlorobenzene, ug/L	<0.5	<10	<0.5
Benzene, ug/L	<0.5	310	<0.5
Chlorobenzene, ug/L	<0.5	<10	<0.5
Ethylbenzene, ug/L	<0.5	400	<0.5
Toluene, ug/L	<0.5	1300	<0.5
Total Xylene Isomers, ug/L	<0.5	1200	<0.5

D. A. McLean, Laboratory Director

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

PROJ. NO.	PROJECT NAME
[illegible] 4051	Texaco / Livermore

SAMPLERS: (Signature) [illegible signature]

CHECK ANALYSIS TYPE REQUESTED

P.O. # 3052

SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	SOURCE OF SAMPLE	COMP.	GRAB	DATE	TIME	ACIDIFIED	ICED	GASOLENE HYDROCARBONS BY ☐ 602 ☐ HS	VOLATILE ORGANICS BY EPA ☐ 624 ☐ 601 ☐ 624 + HSL ☐ 602	EXTRACTABLES BY EPA 625 ☐ B/N ☐ ACIDS ☐ B/N/A	METALS ☐ 13 PRIORITY POL. ☐ RCRA ☐ EP TOX	OTHER	REMARKS
MW1	2	X			[illegible]		X	5/31	[illegible]	X	X	X					BTX-THC
MW2	2	X					X		1:40	X	X	X					all samples
MW3	2	X					X		[illegible]	X	X	X					acidified
MW4	2	X					X		[illegible]	X	X	X					↓
MW5	2	X					X		2:55	X	X	X					
MW6	2	X					X		[illegible]	X	X	X					
MW8	2	X					X		[illegible]	X	X	X					
MW2	1	X					X			X	X	X					[illegible]
																	[illegible]

Relinquished by:	Date	Time	Received by:
[illegible signature]	24 Jul		
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by laboratory:

CLIENT NAME/OFFICE LOCATION [illegible]

PROJECT MANAGER

PHONE NO. [illegible]

GT Environmental Laboratories
A division of Groundwater Technology, Inc.
Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Western Region
4080-C Pike Ln., Concord, CA 94520
(415) 685-7852
In CA: (800) 544-3422
Outside CA: (800) 423-7143

06/22/87
PROJECT MGR: Amy Sager
Groundwater Technology, Inc.
4080-D Pike Lane
Concord, CA. 94520
PROJECT #:203150-4309-1
LOCATION: Livermore, CA.
SAMPLED: 06/16/87 BY: R.Box
RECEIVED: 06/17/87 BY: R.Heines
ANALYZED: 06/19/87 BY: J.Floro
MATRIX: Water

TEST RESULTS (ppb)

COMPOUNDS	MDL	LAB # I.D.#	3298 MW 1	3299 MW 2	3300 MW 3		
Benzene	< 0.5		2642	< 0.5	1055		
Ethylbenzene	< 0.5		2883	< 0.5	1756		
Toluene	< 0.5		23398	< 0.5	3831		
Xylenes	< 0.5		11864	< 0.5	5903		
Total BTEX	< 0.5		40787	< 0.5	12545		
Chlorobenzene	--		--	--	--		
1,2 DCB	--		--	--	--		
1,3 DCB	--		--	--	--		
1,4 DCB	--		--	--	--		
MEK	--		--	--	--		
MIBK	--		--	--	--		
Misc. Hydrocarbons (C4-12)	< 0.5		36802	< 0.5	16592		
Total Volatile Hydrocarbons	< 0.5		77589	< 0.5	29137		

-- = Not Requested. MDL = Method Detection Limit; compound below this level would not be detected.
MEK = Methyl Ethyl Ketone MIBK = Methyl Isobutyl Ketone
METHODS: Modified EPA Method 602.
Total Volatile Hydrocarbons is the summation of Total BTEX and Miscellaneous Hydrocarbons.
Sample #3298 was confirmed by GC/MS; results rounded to the nearest ppb.

SAFY KHALIFA, Ph.D., Director

[redacted] [redacted] [redacted] [redacted] [redacted]HA[redacted]OF[redacted]STODY [redacted]ECOR[redacted] AN[redacted]ANA[redacted]YSIS REQUEST[redacted] [redacted] [redacted]

PROJ. NO.	PROJECT NAME
	[illegible]

SAMPLERS: (Signature) [signature]

CHECK ANALYSIS TYPE REQUESTED

SAMPLE I.D. NUMBER	# OF CONTAINERS	WATER	SOIL	SED.	SOURCE OF SAMPLE	COMP.	GRAB	DATE	TIME	ACIDIFIED	ICED	GASOLINE HYDROCARBONS BY ☐ 602 ☐ HS	VOLATILE ORGANICS BY EPA ☐ 624 ☐ 601 ☐ 624+HSL ☐ 602	EXTRACTABLES BY EPA 625 ☐ B/N ☐ ACIDS ☐ B/N/A	METALS ☐ 13 PRIORITY POL. ☐ RCRA ☐ EP TOX	OTHER	REMARKS
MW 1	2	✓					✓	[illegible]	[illegible]	✓	✓	✓					
MW 2	2	✓					✓	[illegible]		✓	✓	✓					
MW 3	2	✓					✓	[illegible]		✓	✓	✓					

WATER <4°C

Relinquished by:	Date	Time	Received by:
[signature]	6.17.86		
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by laboratory:
	6/17	3:15 [illegible]	[signature]

CLIENT NAME/OFFICE LOCATION

PROJECT MANAGER PHONE NO.

GT Environmental Laboratories
A division of Groundwater Technology, Inc.
Northeast Region
4 Mill Street, Greenville, NH 03048
(603) 878-2500
NE Area (800) 423-6153
in NH (800) 922-3422

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110913

Sample Description
Water, MWA
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	55,000
Benzene	0.5	5,500
Toluene	0.5	3,600
Xylenes	0.5	1,100

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110914

Sample Description
Water, MWB
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	34,000
Benzene	0.5	3,200
Toluene	0.5	740
Xylenes	0.5	560

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110907

Sample Description
Water, MW1
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	<50
Benzene	0.5	< 0.5
Toluene	0.5	< 0.5
Xylenes	0.5	< 0.5

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110908

Sample Description
Water, MW2
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	64
Benzene	0.5	13
Toluene	0.5	< 0.5
Xylenes	0.5	0.94

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110909

Sample Description
Water, MW3
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	340
Benzene	0.5	77
Toluene	0.5	20
Xylenes	0.5	< 0.5

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110910

Sample Description
Water, MW4
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	110
Benzene	0.5	8.0
Toluene	0.5	5.4
Xylenes	0.5	1.9

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110911

Sample Description
Water, MW5
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	51,000
Benzene	0.5	2,000
Toluene	0.5	2,400
Xylenes	0.5	1,100

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Groundwater Technology
4080 Pike Lane, Suite D
Concord, CA 94520
Attn: Amy Sager

Date Sampled: 11/17/86
Date Received: 11/17/86
Date Reported: 12/01/86

Proj. #4051

Sample Number
6110912

Sample Description
Water, MW6
Texaco, Livermore

ANALYSIS

	Detection Limit ppb	Sample Results ppb
Total Hydrocarbons	50	630
Benzene	0.5	5.1
Toluene	0.5	5.7
Xylenes	0.5	6.3

NOTE: Analysis was performed using EPA method 602.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

sem

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

P.O. # 678

PROJ. NO.	PROJECT NAME
4051	Texaco Livermore

SAMPLERS: (Signature)

I.D. NO.	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	ANALYSIS TYPE REQUESTED: EPA 602	REMARKS
MW1	10/14	2:59		X	Monitor Well	2	2	
2	11/14	2:52		X	" "	2	2	2 wk. turnaround
3	"/14	3:10		X	" "	2	2	
4	"/14	2:44		X	" "	2	2	Report results
5	"/14	3:22		X	" "	2	2	to Amy Sager
6	"/14	3:16		X	" "	2	2	
A	"/14	3:31		X	" "	2	2	
B	"/14	3:47		X	" "	2	2	
					Acidified Sample PH<2			

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	11/14/	5:00	Mark B. Whitaker				
Mark B. Whitaker	11/17/						

Relinquished by:	Date	Time	Received by laboratory:	Date	Time	Remarks (Shipping Related):

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Northeast Region
4 Mill Street, Greenville, NH 03048
(603) 878-2500
NE Area (800) 423-6153
In NH (800) 922-3422

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

PROJ. NO.	PROJECT NAME

SAMPLERS: (Signature)

I.D. NO.	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	ANALYSIS TYPE REQUESTED	REMARKS

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by laboratory:	Date	Time	Remarks (Shipping Related):	

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Northeast Region
4 Mill Street, Greenville, NH 03048
(603) 878-2500
NE Area (800) 423-6153
In NH (800) 922-3422

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

P.O. # 648

PROJ. NO.	PROJECT NAME
4051	

SAMPLERS: (Signature)

NO. OF CONTAINERS: 16

ANALYSIS TYPE REQUESTED: EPA 602

I.D. NO.	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	EPA 602						REMARKS
						2	2						
						2	2						2 wk. turnaround
						2	2						
						2	2						Report results
						2	2						to Amy Sager
						2	2						
						2	2						
						2	2						

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
		5:00	Mark B. Whitaker				
Mark B. Whitaker	11/17/86	2:45	Joyce Miley				

Relinquished by:	Date	Time	Received by laboratory:	Date	Time	Remarks (Shipping Related):
				11/17	3:05	on ice

GT Environmental Laboratories
A division of Groundwater Technology, Inc.

Northeast Region
4 Mill Street, Greenville, NH 03048
(603) 878-2500
NE Area (800) 423-6153
In NH (800) 922-3422

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

Laboratory Test Results

5/15/86
Report No. 20-4051-5
Submitted to: Cori Condon
Groundwater Technology
5047 Clayton Rd.
Concord, CA. 94521

This report replaces one of the same number, dated 5/6/86.

Sample Identification:
The attached report covers water samples #25304-25309 taken by D. Kaufman using 40 ml septum-capped glass vials at site #20-4051, Livermore, California.

Method:
Analysis was performed for purgeable aromatic priority pollutants and xylenes by purge and trap gas chromatography with flame ionization detection as per EPA Method 602. Quantification was performed on a very polar column which fractionates aliphatics (up to C12) away from volatile aromatics. Chromatographic conditions are referenced in GTL Method Code 110. Hexane and ortho-xylene are used as calibration standards for the aliphatic hydrocarbons and miscellaneous aromatics, respectively, if reported.

Minimum Detection Limit (MDL) at 5 times background is 0.5 ppb for all parameters. The level for reliable quantitation for the summed groups such as aliphatics is 20 ppb. Samples diluted in order to maintain the calibrated range are so indicated by a footnote giving the factor by which the MDL is raised.

Sampling and sample handling and preservation are specified by this laboratory to be as per EPA Method 602. Any irregularities are referenced in the attached quality assurance report.

Results:
Results are reported in ppb (ug/l).

Prepared by:
Eileen Foley
Analytical Program Manager

L.L./E.S.L.
Analysts

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/L (ppb)
REPORT NO. 20-4051-5

Sample I.D.		DATE SAMPLED	DATE RUN	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	TOTAL BTEX
25304	MW-1	4/25/86	4/29/86	ND	1	ND	3	4
25305	MW-2	4/25/86	4/29/86	ND	ND	ND	ND	ND
25306	MW-3	4/25/86	4/30/86	11	2	3	8	24
25307	MW-4	4/25/86	4/30/86	ND	ND	ND	ND	ND
25308	MW A	4/25/86	4/30/86	5330	7580	2590	11400	26900
25309	MW B	4/25/86	NOT RUN, DROPLETS OF HYDROCARBON PRESENT.					

*NOTES:

ND = BELOW DETECTION LIMIT

TOTAL BTEX = THE SUM OF BENZENE, TOLUENE, ETHYL BENZENE, AND XYLENES, ROUNDED TO THREE SIGNIFICANT FIGURES.

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/l
REPORT NO. 20-4051-5

SAMPLE NO.	I.D.	C4-C12 ALIPHATIC HYDROCARBONS	MISC AROMATICS C8-C10	TOTAL
25304	MW-1	1	40	45
25305	MW-2	2	4	6
25306	MW-3	108	466	598 *5
25307	MW-4	1	1	2
25308	MW-A	234000	128000	389000 *4,6
25309	MW-B	NOT RUN, DROPLETS OF HYDROCARBON PRESENT		

*NOTES:

TOTAL = THE SUM OF THE TOTAL BTEX AND THE ABOVE PARAMETERS.

ND = BELOW DETECTION LIMIT
MW = MONITORING WELL
4 = SAMPLE DILUTED; MDL TIMES 52.
5 = UNCATEGORIZED COMPOUNDS PRESENT AT LESS THAN 5 PPB.
6 = UNCATEGORIZED COMPOUNDS PRESENT AT LESS THAN 1350 PPB.

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

Quality Assurance Documentation

Statement of Sample Integrity:
The samples in this data set meet the Groundwater Technology Laboratory criteria for physical integrity as per GTL Method Code 103 throughout the sampling, handling and analytical process.

Quality Assurance Specifications:
The data in this set conforms to the GTL Quality Assurance program and provisions specified in EPA Method 602 including daily calibration with freshly made standards, blanks before trace level samples, surrogate spikes, spikes in untested matrices, a minimum of 10% duplicates and a minimum of 6% reference samples traceable to the U.S. EPA.

Certification:
The data in this report have been checked for accuracy and completeness.

Respectfully Submitted,

Michael D. Webb

Michael D. Webb
Technical Director

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

Laboratory Test Results

5/6/86
Report No. 20-4051-5
Submitted to:

Cori Condon
Groundwater Technology
5047 CLayton Rd.
Concord, CA. 94521

Sample Identification:
The attached report covers water samples #25304-25309 taken by D. Kaufman using 40 ml septum-capped glass vials at site #20-4051, Livermore, California.

Method:
Analysis was performed for purgeable aromatic priority pollutants and xylenes by purge and trap gas chromatography with flame ionization detection as per EPA Method 602. Quantification was performed on a very polar column which fractionates aliphatics (up to C12) away from volatile aromatics. Chromatographic conditions are referenced in GTL Method Code 110. Hexane and ortho-xylene are used as calibration standards for the aliphatic hydrocarbons and miscellaneous aromatics, respectively, if reported.

Minimum Detection Limit (MDL) at 5 times background is 0.5 ppb for all parameters. The level for reliable quantitation for the summed groups such as aliphatics is 20 ppb. Samples diluted in order to maintain the calibrated range are so indicated by a footnote giving the factor by which the MDL is raised.

Sampling and sample handling and preservation are specified by this laboratory to be as per EPA Method 602. Any irregularities are referenced in the attached quality assurance report.

Results:
Results are reported in ppb (ug/l).

Prepared by:
Eileen Foley
Analytical Program Manager

L.L./E.S.L.
Analysts

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/L (ppb)
REPORT NO. 20-4051-5

Sample I.D.		DATE SAMPLED	DATE RUN	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	TOTAL BTEX
25304	MW 1	4/25/86	4/29/86	ND	1	ND	3	4
25305	MW 2	4/25/86	4/29/86	ND	ND	ND	ND	ND
25306	MW 3	4/25/86	4/30/86	11	2	3	8	24
25307	MW 4	4/25/86	4/30/86	ND	ND	ND	ND	ND
25308	MW A	4/25/86	4/30/86	5330	7580	2590	11400	26900
25309	MW B	4/25/86	-----	FREE PRODUCT - COULD NOT ANALYZE				

*NOTES:

ND = BELOW DETECTION LIMIT

TOTAL BTEX = THE SUM OF BENZENE, TOLUENE, ETHYL BENZENE, AND XYLENES, ROUNDED TO THREE SIGNIFICANT FIGURES.

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/l
REPORT NO. 20-4051-5

SAMPLE NO.	I.D.	C4-C12 ALIPHATIC HYDROCARBONS	MISC AROMATICS C8-C10	TOTAL	
25304	MW 1	1	40	45	
25305	MW 2	2	4	6	
25306	MW 3	108	466	598	*5
25307	MW 4	1	1	2	
25308	MW A	234000	128000	389000	*4,6
25309	MW B	- COULD NOT ANALYZE			

*NOTES:

TOTAL = THE SUM OF THE TOTAL BTEX AND THE ABOVE PARAMETERS.

ND = BELOW DETECTION LIMIT
MW = MONITORING WELL
4 = SAMPLE DILUTED; MDL TIMES 52.
5 = UNCATEGORIZED COMPOUNDS PRESENT AT LESS THAN 5 PPB.
6 = UNCATEGORIZED COMPOUNDS PRESENT AT LESS THAN 1350 PPB.

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

Quality Assurance Documentation

Statement of Sample Integrity:
The samples in this data set meet the Groundwater Technology Laboratory criteria for physical integrity as per GTL Method Code 103 throughout the sampling, handling and analytical process.

Quality Assurance Specifications:
The data in this set conforms to the GTL Quality Assurance program and provisions specified in EPA Method 602 including daily calibration with freshly made standards, blanks before trace level samples, surrogate spikes, spikes in untested matrices, a minimum of 10% duplicates and a minimum of 6% reference samples traceable to the U.S. EPA.

Certification:
The data in this report have been checked for accuracy and completeness.

Respectfully Submitted,

Michael D. Webb

Michael D. Webb
Technical Director

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems Inc.

Groundwater Technology Laboratory

Send To: GROUNDWATER TECHNOLOGY LABORATORY
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

PROJ. NO.	PROJECT NAME
20 4051	Texaco/Livermore

SAMPLERS: (Signature) [illegible] CORI CONDO

ANALYSIS TYPE REQUESTED: EPA (602) TPH BTX — 6°C

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	EPA (602) TPH BTX						REMARKS
MW1	4/25			✓		2	✓	2	5	3	0	4	
MW2	4/25			✓		2	✓	2	5	3	0	5	
MW3	4/25			✓		2	✓	2	5	3	0	6	
MW4	4/25			✓		2	✓	2	5	3	0	7	
MWA	4/25			✓		2	✓	2	5	3	0	8	
MWB	4/25			✓		2	✓	2	5	3	0	9	

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[illegible signature]	4/25		UPS				
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

Laboratory Test Results

APR 1500
Ans'd.

4/5/86
Report No. 20-4051-4
Submitted to: TEXACO/LIVERMORE

Cori Condon
Groundwater Technology
5047 Clayton Rd.
Concord, CA. 94521

Sample Identification:
The attached report covers water samples #24323-24328 taken by F. Seiler using 40 ml septum-capped glass vials at site #20-4051, Livermore, California.

Method:
Analysis was performed for purgeable aromatic priority pollutants and xylenes by purge and trap gas chromatography with flame ionization detection as per EPA Method 602. Quantification was performed on a very polar open tubular fused silica capillary column which fractionates aliphatics (up to C12) away from volatile aromatics. Qualitative confirmation was performed for all samples on a dissimilar column. Chromatographic conditions are referenced in GTL Method Code 103. Hexane and ortho-xylene are used as calibration standards for the aliphatic hydrocarbons and miscellaneous aromatics, respectively, if reported.

Minimum Detection Limit (MDL) at 5 times background is 0.5 ppb for all parameters. The level for reliable quantitation for the summed groups such as aliphatics is 20 ppb. Samples diluted in order to maintain the calibrated range are so indicated by a footnote giving the factor by which the MDL is raised.

Sampling and sample handling and preservation are specified by this laboratory to be as per EPA Method 602. Any irregularities are referenced in the attached quality assurance report.

Results:
Results are reported in ppb (ug/l).

Prepared by:
Eileen Foley
Analytical Program Manager

S.E.B./P.L.
Analysts

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/L (ppb)
REPORT NO. 20-4051-4

Sample I.D.		DATE SAMPLED	DATE RUN	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	TOTAL BTEX
24323	MW-A	3/28/86	4/1/86	5880	14700	4260	29000	53800
24324	MW-B	3/28/86	4/1/86	3400	5630	1510	5450	16000
24325	MW-1	3/28/86	4/1/86	ND	ND	ND	ND	ND
24326	MW-2	3/28/86	4/1/86	1	1	ND	1	3
24327	MW-3	3/28/86	4/2/86	27	2	8	5	42
24328	MW-4	3/28/86	4/2/86	ND	ND	ND	ND	ND

*NOTES:

ND = BELOW DETECTION LIMIT

TOTAL BTEX = THE SUM OF BENZENE, TOLUENE, ETHYL BENZENE, AND XYLENES, ROUNDED TO THREE SIGNIFICANT FIGURES.

GROUNDWATER TECHNOLOGY LABORATORY

ANALYTICAL & CONSULTING SERVICES
Division of Oil Recovery Systems, Inc.
4 Mill St., Greenville, NH 03048
Tel: (603) 878-2500

HYDROCARBONS IN WATER ug/1
REPORT NO. 20-4051-4

SAMPLE NO.	I.D.	C4-C12 ALIPHATIC HYDROCARBONS	MISC AROMATICS C8-C10	TOTAL	
24323	MW-A	95000	96700	256000	*4,5
24324	MW-B	71000	87600	125000	*4,5
24325	MW-1	2	ND	2	
24326	MW-2	74	19	96	
24327	MW-3	29	255	326	
24328	MW-4	5	ND	5	

*NOTES:

TOTAL = THE SUM OF THE TOTAL BTEX AND THE ABOVE PARAMETERS.

ND = BELOW DETECTION LIMIT
4 = SAMPLE DILUTED; MDL TIMES 52
5 = UNCATEGORIZED COMPOUNDS PRESENT AT LESS THAN 500 PPB.
MW = MONITORING WELL

GROUNDWATER TECHNOLOGY LABORATORY

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Tel: (603) 878-2500

Quality Assurance Documentation

Statement of Sample Integrity:
The samples in this data set meet the Groundwater Technology Laboratory criteria for physical integrity as per GTL Method Code 103 throughout the sampling, handling and analytical process.

Quality Assurance Specifications:
The data in this set conforms to the GTL Quality Assurance program and provisions specified in EPA Method 602 including daily calibration with freshly made standards, blanks before trace level samples, surrogate spikes, spikes in untested matrices, a minimum of 10% duplicates and a minimum of 6% reference samples traceable to the U.S. EPA.

Certification:
The data in this report have been checked for accuracy and completeness.

Respectfully Submitted,

Michael D. Webb

Michael D. Webb
Technical Director

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems Inc.

Groundwater Technology Laboratory

PROJ. NO.	PROJECT NAME
204251	TEXACO/LIVERMORE

SAMPLERS: (Signature) T. C. Kirkham

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	ANALYSIS TYPE REQUESTED: 10Z TPHC	REMARKS
A	3/8			X	Monitoring Well #A	2	X	24323
B	"			X	#B	2	X	24324
	11			X	#1	2	X	24325
2	11			X	#2	2	X	24326
3	11			X	#3	2	X	24327
4	"			X	#4	2	X	24328

Send To: GROUNDWATER TECHNOLOGY LABORATORY
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
T. C. Kirkham	3/28/91	4pm	[signature]	[signature]	3/31/91	3p	[signature]
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):	
			TSL	4/1	1100	UPS	

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems inc.

Groundwater Technology Laboratory

PROJ. NO.	PROJECT NAME
20-2051	TEXACO/LIVERMORE

SAMPLERS: (Signature) T. C. Fisher

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CONTAINERS	ANALYSIS TYPE REQUESTED: 8021 BTEX	REMARKS
A	3/28			X	Monitoring Well #A	2	X	
B	"			X	#B	2	X	
1	"			X	#1	2	X	
2	"			X	#2	2	X	
3	"			X	#3	2	X	
4	"			X	#4	2	X	

Send To: **GROUNDWATER TECHNOLOGY LABORATORY**
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
T. C. Fisher	3/28/91	1100	[illegible]	[illegible]	3/31/91	1430	[illegible]
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):	

HYDROCARBONS IN WATER µg/L (ppb)

SAMPLE NO.		I.D.	DATE SAMPLED	DATE RUN	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	C4-C12 ALIPHATIC HYDROCARBONS	MISC. AROMATICS C8-C12	TOTAL	
17369	A	8/1/85	8/6/85		8950	54300	13700	52100	184000	110000	423000	*4,6,8
17370	B	8/1/85	8/6/85		2590	12300	2880	10100	29400	14400	71700	*4,8
17371	1	8/1/85	8/6/85		ND	4	2	8	10	14	38	
17372	2	8/1/85	8/6/85		9	9	3	6	390	256	673	*6
17373	3	8/1/85	8/6/85		20	4	1	26	1340	652	2040	*6

NOTES:

ND = BELOW DETECTION LIMIT
4 = SAMPLE DILUTED; MDL TIMES 52.
6 = POTENTIAL FUEL OIL FINGERPRINT DETECTED IN THE MISCELLANEOUS AROMATICS REGION.
8 = A SHEEN WAS PRESENT ON THE SURFACE OF THE SAMPLE; SAMPLE MAY BE NON-REPRESENTATIVE.

REPORT NO. 20-4051-2

Oil Recovery Systems

GROUNDWATER TECHNOLOGY LABORATORY
4 MILL STREET, GREENVILLE, NEW HAMPSHIRE 03048

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Oil Recovery Systems inc.

PROJ. NO.	PROJECT NAME	SAMPLERS: (Signature)
[illegible]	[illegible] / Livermore	[illegible]

I.D. NO	DATE	TIME	COMP	GRAB	STATION & LOCATION	NO. OF CON-TAINERS	ANALYSIS TYPE REQUESTED: BTX 602						REMARKS
A	8/1			"	[illegible] WELL	2							pos. high conc.
B	"			✓		1							high conc.
1	"			"		2							
2	"			"		2							
3	"			"		2							

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
Kevin [illegible]	8/2/85	8:30 AM	[illegible]	[illegible]	8/5/85	2PM	Jim [illegible]
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:

Relinquished by:	Date	Time	Received by Laboratory:	Date	Time	REMARKS (Shipping Related):

Send To: **GROUNDWATER TECHNOLOGY LABORATORY**
Division of Oil Recovery Systems
4 Mill Street
Greenville, NH 03048
(603) 878-2500

Groundwater Technology Laboratory

10694

McKesson Environmental Services
6363 Clark Avenue, P.O. Box 2277, Dublin CA 94568 Tel 415 828 1446
Outside California 800 227 1316

McKesson
7193-ZS

TABLE II

Analytical Results

J.H. Kleinfelder & Associates

Site #S-2618-2

Samples Received: 09/27/84
Samples Reported: 10/01/84

Lab No.:	16618	16619
Sample I.D.:	BCK MW#1	BCK MW#2
Parameter		
BCK #1 Regular Leaded	*	*
BCK #2 Regular Unleaded	ND	ND
BCK #3 Premium Unleaded	ND	ND

* Qualitatively Identified in Sample
ND = Not Detected

N. W. Flynn, Laboratory Manager

CERTIFICATION OF REPRESENTATIVE SAMPLE OR SAMPLE INTEGRITY IS NOT MADE BY McKESSON ENVIRONMENTAL SERVICES (MES) FOR SAMPLES NOT TAKEN BY MES.

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(415) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(415) 825-0720 (FAX)

Client Number: GTI71.TEX01
Consultant Project Number: 023201383
Project ID: Livermore, CA
Work Order Number: C1-07-731

July 30, 1991

John Bower
Groundwater Technology, Inc.
1401 Halyard Dr., Ste. 140
West Sacramento, CA 95691

Enclosed please find the analytical results for samples received by GTEL Environmental Laboratories, Inc. on 07/25/91, under chain of custody record 72-8804.

A formal Quality Control/Quality Assurance (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria, unless otherwise stated in the footnotes.

GTEL is certified by the California State Department of Health Services to perform analyses for drinking water, wastewater, and hazardous waste materials according to EPA protocols.

If you have any questions concerning this analysis or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Emma P. Popek
Laboratory Director

Client Number: GTI71.TEX01
Consultant Project Number: 023201383
Project ID: Livermore, CA
Work Order Number: C1-07-731

Table 1

ANALYTICAL RESULTS

Aromatic Volatile Organics and Total Petroleum Hydrocarbons as Gasoline in Air

Modified EPA Methods 8020 and 8015[a]

GTEL Sample Number		01	02	03	
Client Identification		MW-A	MW-5	MW-B	
Date Sampled		07/24/91	07/24/91	07/24/91	
Date Analyzed		07/25/91	07/25/91	07/25/91	
Analyte	Quantitation Limit, ug/L	Concentration, ug/L			
Benzene	0.5	1	120	0.9	
Toluene	0.5	5	<0.5	2	
Ethylbenzene	0.5	2	57	1	
Xylene, total	0.5	16	60	4	
BTEX, total	--	24	240	8	
Gasoline	10	200	15000	40	
Quantitation Limit Multiplier		1	1	1	

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Modification for TPH as gasoline as per California State Water Resources Control Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080- Pike Lane
Concord, CA 94520
415-685-7852
800-544-3422 (In CA)
800-423-7143 (Outside CA)

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST 72- 8804

Project Manager: John Bower
Phone #: 916-372-4700
FAX #: 916-372-8781
Address: 1401 Halyard Dr. St. 140 W. Sac, CA
Site location: Livermore, CA
Project Number: 02320 1383
Project Name: Livermore
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Jason M. Fedota

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐; BTEX/TPH Gas 602/8015 ☒ 8020/8015 ☐ MTBE ☐; TPH as ☐ Gas ☐ Diesel ☐ Jet Fuel; Product I.D. by GC (SIMDIS) ☐; Total Oil & Grease: 413.1 ☐ 413.2 ☐ 503A ☐; Total Petroleum Hydrocarbons: 418.1 ☐ 503E ☐; EPA 601 ☐ 8010 ☐ DCA only ☐; EPA 602 ☐ 8020 ☐; EPA 608 ☐ 8080 ☐ PCBs only ☐; EPA 610 ☐ 8310 ☐; EPA 624 ☐ 8240 ☐ NBS +15 ☐; EPA 625 ☐ 8270 ☐ NBS +25 ☐; EPTOX: Metals ☐ Pesticides ☐ Herbicides ☐; TCLP Metals ☐ VOA ☐ Semi VOA ☐; EPA Priority Pollutant Metals ☐ HSL ☐; LEAD 7420 ☐ 7421 ☐ 239.2 ☐ 6010 ☐ Org. Lead ☐; CAM Metals ☐ STLC ☐ TTLC; Corrosivity ☐ Flashpoint ☐ Reactivity ☐

Field Sample ID	Source of Sample	GTEL Lab # (Lab use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	OTHER	Method Preserved: HCl	HNO3	H2SO4	ICE	NONE	OTHER	Sampling (1991): DATE	TIME	BTEX/TPH Gas 602/8015
MW-A	well		1			X							X		7/24	12:30	X
MW-5	↓		↓			↓							↓		↓	1:30	↓
MW-B	↓		↓			↓							↓		↓	2:30	↓

CUSTODY RECORD

Relinquished by	Date	Time	Received by
Relinquished by Sampler: Jason M Fedota	7/24/91	5:00	Received by: [signature]
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 7/25	Time 11:00	Received by Laboratory: [signature] Way bill #

SPECIAL HANDLING

24 HOURS ☐
EXPEDITED 48 Hours ☐
SEVEN DAY ☐
OTHER ________(#) BUSINESS DAYS
QA/QC CLP Level ☐ Blue Level ☐
FAX ☐

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

REMARKS:

Lab Use Only **Storage Location**

Lot #: **Work Order #:**

CALCULATIONS

Mass Removal Rate From MW-5

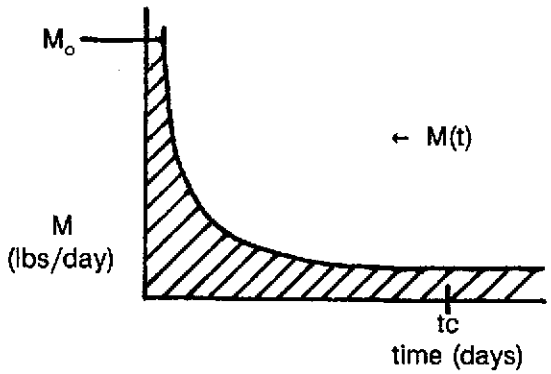
$$(15{,}000\ \mu g/l)\ (100\ cfm)\ \left(\frac{1\ mg}{1{,}000\ \mu g}\right)\ \left(\frac{1\ lb}{453{,}500\ \mu g}\right)\ \left(\frac{28.3\ l}{ft^3}\right)\ (1{,}440\ \text{min/day}) = 135\ lbs/day$$

Total Mass TPH in the Ground

M_o = initial mass extraction rate
= 135 lbs/day (from extraction test)

t_o = time to closure = 180 (assume)

Assume exponential decay:



Exponential decay → $M(t) = M_o e^{-kt}$; k = decay constant; from data for comparable lithologies.

Total mass = A =

$$\int_o^{t_c} M_o\ e^{-kt}\ dt = -\frac{M_o}{k}\ (e^{-kt_c} - 1)$$

$$\therefore\ Total\ Mass = -\frac{135}{0.04}\ (e^{-0.04(180)} - 1) = 3{,}400\ lbs$$

Thermal/Carbon Transition

At 30 lbs/day emission, 150 lbs of carbon will be saturated daily. At this rate, carbon becomes cost effective.

Concentration corresponding to 30 lbs/day:

$$\frac{30\ lbs/day}{0.00899} = 3{,}300\mu g/l$$

Time to reach this concentration:

$$C(t) = C_o\, e^{-kt} \rightarrow t = \frac{-1}{k} \ln \frac{C(t)}{C_o}$$

$$t = \frac{-1}{0.04} \ln \left(\frac{3{,}300}{15{,}000}\right) = 38 days$$