OHM Remediation Services Corp.

June 16, 1994

Ms. Juliet Shin
Alameda County Health Care Services
80 Swan Way, Rm 200
Oakland, California 94621

Revised Workplan for Preliminary Site Assessment
Goodyear Service Center, Albany, California

Dear Ms. Shin:

Enclosed please find a copy of the revised Workplan for Preliminary Site Assessment at the Goodyear Service Center, 431 San Pablo Avenue, Albany, California. This workplan includes revisions made based upon the letter received from the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) dated May 2, 1994.

If you have any questions concerning this report or other activities at the site, please contact me at (510) 256-6100.

Sincerely,
OHM Remediation Services Corp.

Larry Hudson
Project Manager

Attachments

cc: J. Smerglia, Goodyear (without attachments)
W. Inglehoffer, Goodyear (without attachments)
Distribution List (without attachments)

1990 North California Blvd, Suite 400 • Walnut Creek, California 94596
Tel: 510/256-6100 • Fax: 510/256-6111

Work Plan

Preliminary Site Assessment

▼

Prepared for:

GOODYEAR TIRE CENTER
431 San Pablo Avenue
Albany, California

▼

Prepared by:

OHM REMEDIATION SERVICES CORP.
1990 N. California Blvd., Suite 400
Walnut Creek, California 94596

▼

Approved by:

John Karachewski

John Karachewski, R.G., Ph.D.
Project Geologist

OHM Project No. 15422R2

June 1994

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FIGURES AND TABLES

1.0 INTRODUCTION

This work plan presents the proposed work and procedures for conducting a preliminary site assessment at the Goodyear Tire Center, located at 431 San Pablo Avenue, Albany, California, near the northeastern corner of San Pablo Avenue and Garfield Street (Figure 1).

The work plan was prepared in accordance with procedures outlined in the State of California, Leaking Underground Fuel Tank Task Force *Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup and Underground Storage Tank Closure, October 1989*, and the State Water Resources Control Board, Tri-Regional Board Staff *Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, August 1990.* This work plan was prepared under the direction of Goodyear in response to the October 21, 1993 letter from the Alameda County Health Care Services Agency, Department of Environmental Health (ACDEH) requesting a preliminary site assessment to determine the lateral and vertical extent of petroleum-impacted soil and groundwater (Appendix A).

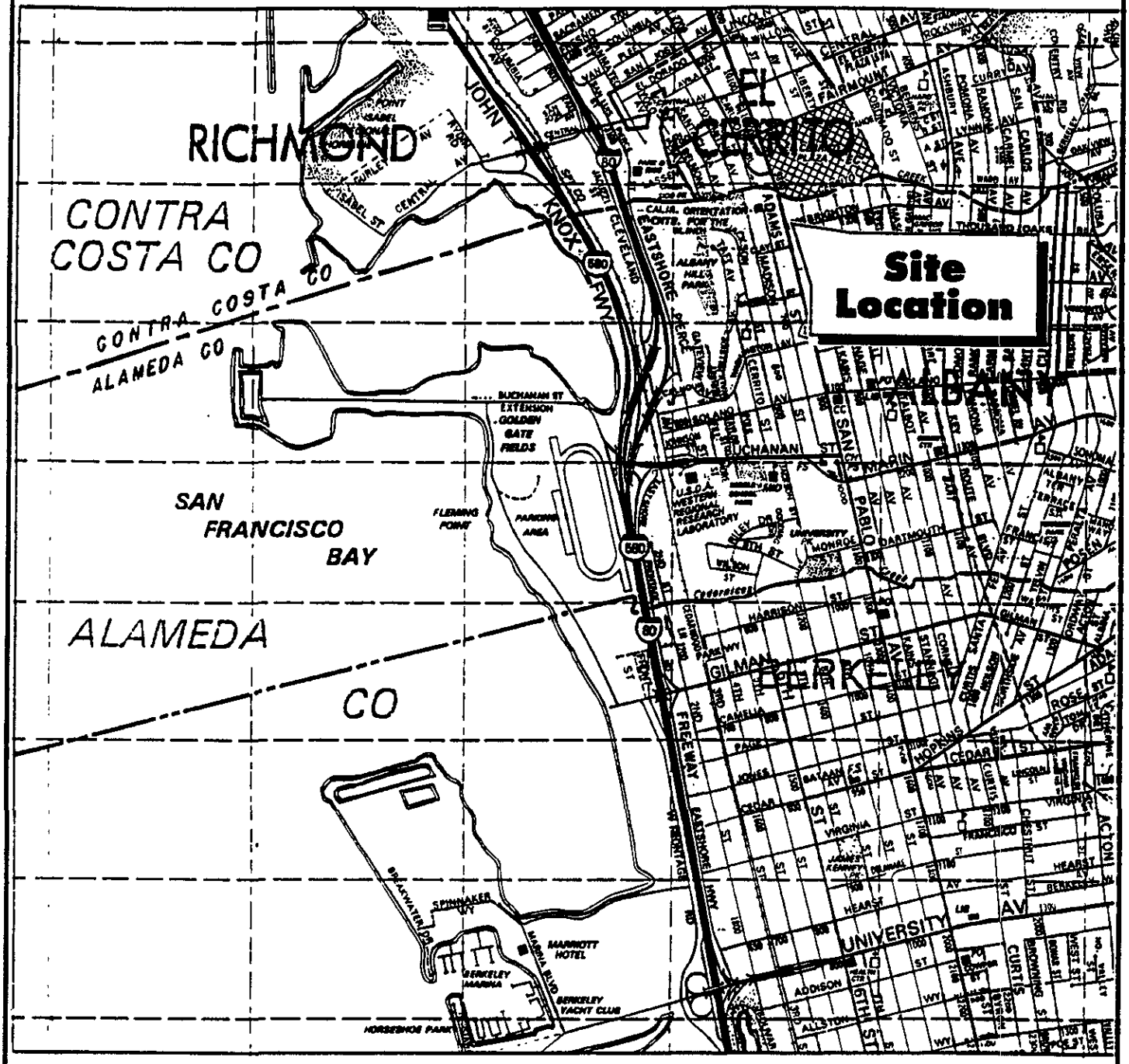
1.1 OBJECTIVE

The objective of this preliminary site assessment is to determine the lateral and vertical extent of soil and groundwater contamination at the site. Data collected during this investigation will be used to further assess the nature, extent and source of target constituents at the site and to support facility closure.

1.2 SCOPE OF WORK

The Scope of Work for this phase of work consists of the following tasks:

- Installation of three groundwater monitoring wells and one soil boring to define the lateral and vertical extent of soil and groundwater contamination. One well will be located within ten feet and directly west of the former waste oil tank pit. One well will be located directly to the east and upgradient of hoist #7 excavation and the third well will be located behind the service building further downgradient of the former tank and hoists. One soil boring will be drilled within ten feet and directly to the south of the former waste oil tank pit.
- Soil samples will be collected from each borehole to determine the lateral and vertical extent of petroleum-impacted soil in the vicinity of the former waste oil storage tank and hoists #6 and #7.
- Groundwater samples will be collected from each monitoring well to determine the lateral and vertical extent of petroleum-impacted groundwater.



OHM
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Walnut Creek, CA

SITE LOCATION

GOODYEAR TIRE CENTER

431 San Pablo Avenue
Albany, California

Figure 1

DWG. NO.	DRAWN BY:	APPROVED BY:	PRO NO. 15422
FIGURE NO.	DESIGN BY:	DATE DRAWN:	SHEET 1 OF 1

2.0 SITE BACKGROUND

The Goodyear Tire Center has operated as an automotive maintenance and tire retail facility from approximately 1965 through the present. The property is currently owned by Mr. Robert Falaschi and leased by Goodyear Tire and Rubber Company, which subsequently sub-leased the facility to Mr. Eugene Kim.

2.1 PREVIOUS WORK

On July 20, 1993, a 550 gallon underground storage tank (UST) was excavated and removed from the site. This tank is believed to have been used to store waste oil. The tank was reported to be pitted and corroded and to have a number of small holes. Staining and evidence of petroleum-contamination in soil was observed in the tank excavation side walls. In a recent telephone conversation between Mr. Falaschi and OHM, he indicated that a gravel layer was present in the excavation pit at a depth of approximately six feet below ground surface (bgs).

The tank site was over-excavated in an effort to remove visible contamination from the vicinity of the former tank location. Groundwater intrusion was observed in the excavation at a depth of 10.3 feet bgs. Following over-excavation, soil samples were collected from each of the side walls and the bottom of the tank excavation. The locations of these samples are shown on Figure 2. The excavation pit covered a surface area of approximately 9 feet x 29 feet and reached a depth of 10.5 feet bgs. The site was backfilled but was not immediately resurfaced. Sample results from this work were previously submitted to the ACDEH in a Certified Environmental Consulting, Inc. report dated October 14, 1993.

In October 1993, Walker's Hydraulics, Inc. was contracted for the removal and replacement of selected hydraulic hoists from the garage area of the facility. Following the removal of the hoists and over-excavation of the hoist #7 location, three soil samples were collected from each of the hoist excavation locations. These samples were analyzed for Total Oil and Grease (EPA Method 5520F) and Total Purgable Petroleum Hydrocarbons (EPA Method 8015). Figure 2 shows the approximate locations of these samples. A copy of the sample results and chain of custody is included as Appendix B. Groundwater was also observed in the bottom of the hoist #7 excavation. Analytical results from this work are presented in Table 1.

On November 19, 1993, OHM Remediation Services Corp. (OHM) collected soil samples from the over-excavated hoist # 7 location. Five soil samples were collected, one from each of the excavation side walls and one from the bottom of the excavation at an approximate depth of 5 feet bgs. The samples were analyzed for Total Oil and Grease (EPA Method 5520), Total Petroleum Hydrocarbons calculated as Diesel (EPA Method 8015), Benzene, Toluene, Ethyl Benzene and Total Xylenes (EPA method 8020) and selected heavy metals: Lead, Barium, Cadmium and Chromium (EPA methods W. E. T./3010/6010). The locations of these samples are shown on Figure 2. The analytical results are summarized in Table 2. The laboratory reports are included in Appendix C. The tank excavation has recently been resurfaced and a new lift has been installed at the location of the former alignment pit.

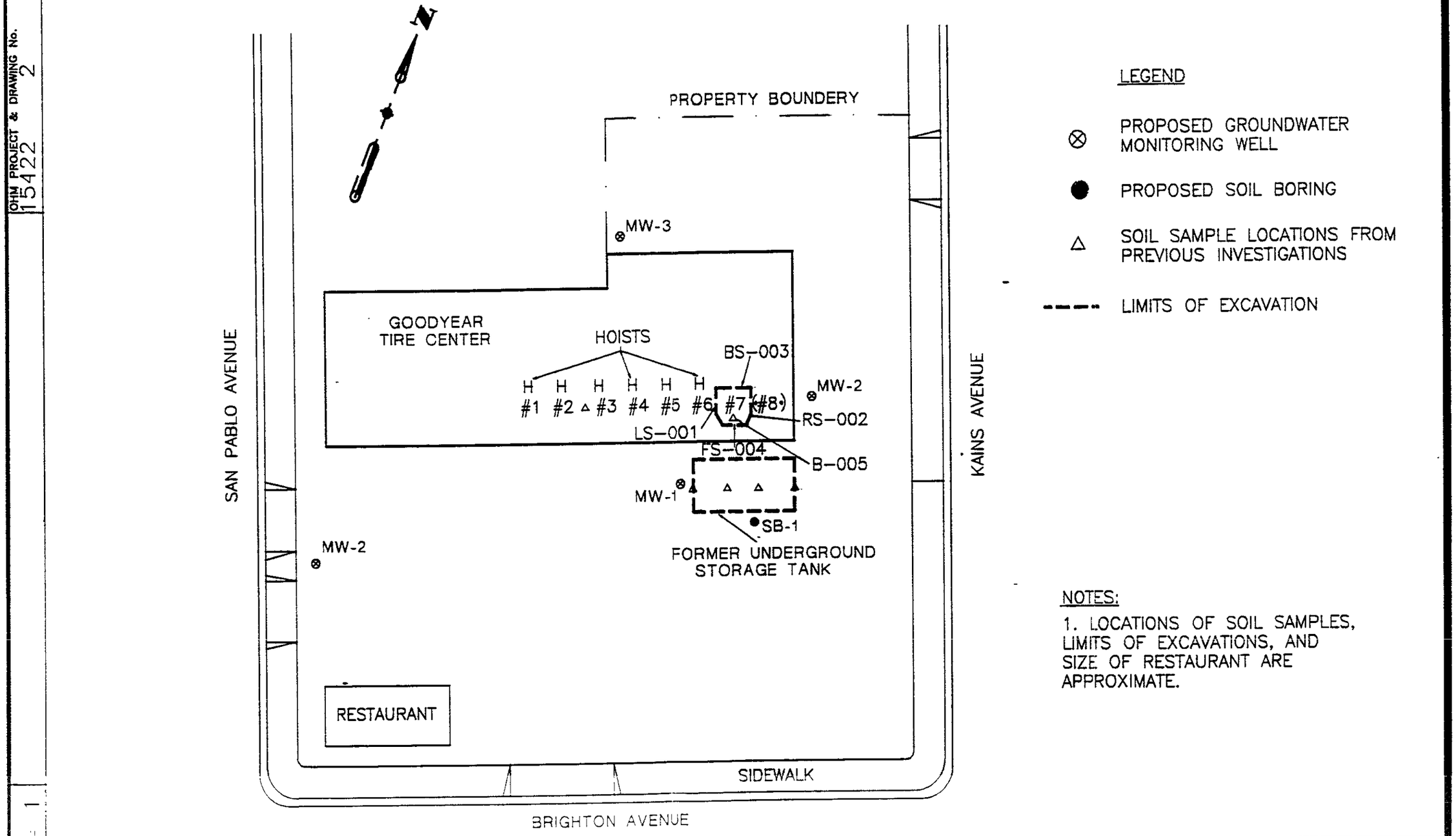
Table 1
Summary of Soil Sample Results
Hydraulic Hoists
Collected by Walker Hydraulics 10-22-93
(mg/kg)

Target Constituent	Sample #2-1	Sample #6-1	Sample #7-1
Approx. Depth (FT)	9.5	9.5	8
TPH/O&G	ND (<50)	840	ND (<50)
TPH/G	ND (<1)	2	18
TPH/D	--	3,900	1,500

Table 2
Summary of Soil Sample Results
Hoist #7
Collected by OHM 11/19/93
(mg/kg)

Target Constituent	Sample LS-001	RS-002	BS-003	FS-004	B-005
Approx. Depth (ft)	5	5	5	5	5
Oil & Grease	89	150	N.D.	82	N.D.
TPH/D	1,800	130	93	250	43
Benzene	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.038	N.D.	0.0075	0.01	N.D.
Ethyl Benzene	0.067	0.018	0.012	0.01	N.D.
Total Xylenes	0.26	0.038	0.025	0.022	N.D.

OHM PROJECT & DRAWING No. 15422 2



LEGEND

- ⊗ PROPOSED GROUNDWATER MONITORING WELL
- ● PROPOSED SOIL BORING
- △ SOIL SAMPLE LOCATIONS FROM PREVIOUS INVESTIGATIONS
- ---- LIMITS OF EXCAVATION

NOTES:

1. LOCATIONS OF SOIL SAMPLES, LIMITS OF EXCAVATIONS, AND SIZE OF RESTAURANT ARE APPROXIMATE.

PLOT SCALE 1 = 1

OHM Remediation Services Corp.
WALNUT CREEK, CA.

0 40'
GRAPHIC SCALE

PROPOSED MONITORING WELL LOCATIONS
GOODYEAR TIRE CENTER
431 SAN PABLO AVE
ALBANY, CALIFORNIA

DRAWN BY	DATE
j.b.v.	5/24/94
CHKD BY	APP'D BY
SCALE 1" = 40'	TITLE

PROJECT	OHM PROJECT No.	DRAWING No.	SHEET	OF	REVISED
	15422	2	1	1	—

12054 j.b.v. 5/24/94

2.2 VICINITY DESCRIPTION

The site is located in a commercial setting, along the primary business district avenue for the city of Albany, CA. The property is bordered by a Wells Fargo Bank to the north, a restaurant to the south and residential apartments to the east. Surrounding properties include a car wash, a retail paint store, a dry cleaner, and a former automotive repair facility.

Groundwater in the area is reported to fluctuate with seasonal rainfall influence. Previous investigations at nearby sites indicate that the groundwater flow direction varies from west, north-northwest, and east. The water table was measured at a depth of 10 feet bgs in the tank excavation.

A record search of properties within a 2000 foot radius was performed through the ACDEH. The State of California Department of Health Services (DHS) was also contacted, but indicated that records were not available on the surrounding properties. This search revealed evidence of soil and groundwater contamination at the Plaza Car Wash Company, 400 San Pablo Ave (Northwest of the site). The site apparently experienced a release of gasoline product from underground fuel storage tanks in 1989. A preliminary investigation of this site indicated significant levels of contaminants in both the soil and groundwater. Site reports indicate groundwater contamination appears to extend off-site in both the up- and down-gradient directions. Remediation is scheduled to begin in 1994.

An adjacent site, Troxel Auto/Albany Bowl at 500 San Pablo Avenue has apparently been impacted by the Plaza Car Wash release, despite being up-gradient of the Plaza site. As part of the Plaza monitoring project, one groundwater monitoring well was installed on the Troxel Auto site. Groundwater samples from this well contained elevated levels of TPH as gasoline and BTEX. The Troxel Auto site also has two underground storage tanks (one leaded gasoline tank and one unknown solvent tank) from a previous owner. Groundwater samples collected from two groundwater monitoring wells located in the apparent downgradient direction from these tanks did not contain detectable concentrations of the target constituents.

3.0 MONITORING WELL INSTALLATION AND SOIL SAMPLING

OHM proposes to install three groundwater monitoring wells (MW-1, MW-2, and MW-3) at the site in accordance with the letter of October 21, 1993, from the ACDEH to Goodyear (Appendix A). The purpose of the wells is to determine the lateral and vertical extent of petroleum contamination in soil and groundwater and the direction and gradient of groundwater flow across the site.

3.1 MONITORING WELL LOCATIONS

The monitoring wells will be installed at the proposed locations shown on Figure 2. MW-1 will be located within ten feet and directly west of the former waste oil tank pit to delineate the extent of soil contamination along the west sidewall of the pit. MW-2 will be located directly to the east and upgradient of hoist #7 excavation to delineate the extent of contamination previously observed on the east sidewall of the excavation. MW-3, at the northern property boundary, was selected to provide soil and groundwater quality approximately 60 to 80 feet downgradient of the former tank and lift area. All work will be conducted in accordance with the State LUFT Manual, Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites and local ACDEH guidelines.

3.2 SOIL BORING LOCATION

One soil boring will be drilled at the location shown on Figure 2. Soil boring SB-1 will be drilled within ten feet and directly to the south of the former waste oil tank pit to delineate the extent of contamination previously identified along the south wall and to define the southern extent of soil contamination observed from the hydraulic lift area. Upon completion of drilling boring SB-1, the borehole will be backfilled to the surface with cement grout.

3.3 PRECONSTRUCTION ACTIVITIES

Prior to the commencement of any drilling, well installation and/or sampling work, an appointment will be scheduled with an inspector from the ACDEH. Well installation will be conducted in accordance with State and County regulations. A well permit application will be filed with the ACDEH. A site specific Health and Safety Plan will be prepared prior to the start of any field activities. OHM will contact Underground Service Alert (USA) to provide clearance for above-and below-ground utilities. Drilling will not commence until the borehole locations have been cleared by all utility firms identified by USA.

3.4 DRILLING PROCEDURES

A truck-mounted, hollow-stem auger drilling rig will be used to install three groundwater monitoring wells. Each well boring will be drilled with 8-inch diameter hollow-stem augers to a depth of approximately 20 feet bgs. The final depth of each borehole will be determined by the project geologist based upon site-specific conditions.

An OHM geologist will be present at the site during all drilling operations. The OHM geologist will classify each soil sample collected at five-foot intervals according to the Unified Soil Classification System (USCS) and will note any additional soil characteristics including but not limited to moisture, sorting, color, and composition. This information will be recorded on a field borehole log. In addition to these descriptions, the OHM geologist will also monitor drill cuttings and note any changes in lithology and record any observations or comments from the drilling crew which refer to conditions at the borehole. Upon completion of each monitoring well, a final borehole lithologic log will be prepared incorporating all of the above data.

3.5 SOIL SAMPLING

As discussed in a recent telephone conversation between OHM and Ms. Juliet Shin of the ACDEH, soil samples collected from monitoring wells MW-1, MW-2, and MW-3 will be used to provide additional data concerning the lateral extent of soil contamination related to the former waste oil storage tank and hoist areas.

Soil samples will be collected by advancing a modified California split-spoon sampler, equipped with brass liners, into the soil beyond the tip of the augers. Each soil sample will be screened on site with a portable photoionization detector (PID). Based upon site conditions encountered during the removal of the underground tank, groundwater is estimated to be approximately ten feet bgs; therefore, one sample will be collected from a depth of approximately five feet bgs and another from just above the soil/groundwater interface, at a depth of approximately ten feet bgs.

Previous investigations have suggested the presence of a gravel layer at a depth of approximately 6 feet bgs. For this reason, the site geologist will select the proper sample location based upon soil lithology as well as the result of field screening methods with the photoionization detection (PID). This information may then be used to determine if subsurface structures are influencing the migration of residual contaminants.

3.6 WELL INSTALLATION

The installation of each monitoring well will be inspected by an ACDEH representative. The boreholes will be completed to a depth of approximately ten feet below the depth at which groundwater is first encountered. Water should be encountered at a depth of approximately ten feet and the total depth of the wells will be approximately 20 feet.

Each well will be completed with two-inch diameter polyvinyl chloride (PVC) screen and riser. The screen interval in the wells will extend approximately 10 feet below the depth at which water is encountered and have a slot opening width of 0.020 inches. Because of the high water table at this site the top of the screen interval will extend an appropriate length above the water table to allow for seasonal fluctuations of the water table, while at the same time providing an effective surface seal. The screen interval will be determined in the field by the OHM geologist and will be based on conditions encountered during drilling. OHM anticipates that the top of the screen interval will extend to approximately 8 feet bgs. The annular space around the well screen will be filled with a sand filter pack to prevent collapse of the borehole against the well screen. The sand filter pack will extend a minimum of one foot above the top of the well screen. A minimum one-foot thick bentonite seal will be installed directly above the filter pack in the annular space between the riser and borehole to prevent leakage of grout into the filter pack. A cement grout seal will be placed from above the bentonite seal to the ground surface. The wells will be completed flush to the ground surface with a locking, traffic-rated well box. The proposed construction of the monitoring wells is shown in Figure 3.

The completed well locations and elevations (mean sea level) will be surveyed by a licensed surveyor relative to a City of Albany benchmark to an accuracy of 0.01 feet.

3.7 WELL DEVELOPMENT

The monitoring wells will not be developed until at least 24 hours after installation, in accordance with ACDEH guidelines. The objectives of well development are to: 1) restore natural hydraulic properties of the aquifer damaged during well installation; and 2) improve basic physical characteristics of the aquifer in order to maximize entry of fluids into the wellbore.

Prior to well development, depth to water will be measured with an electronic water level meter. Development of the well will consist of bailing, surging, and/or pumping. First, the well will be bailed to remove fine particles. Following bailing, the well be surged with a surge block moved up and down repeatedly within the saturated zone to induce movement of residual fine-grained material from the filter pack either into the well casing where it can be removed by bailing or back into the formation.

Temperature, pH, and specific conductivity will be monitored during development. Pumping/bailing will continue until these parameters have stabilized (less than a 10% change between four consecutive readings taken at least 15 minutes apart).

3.8 GROUNDWATER SAMPLING

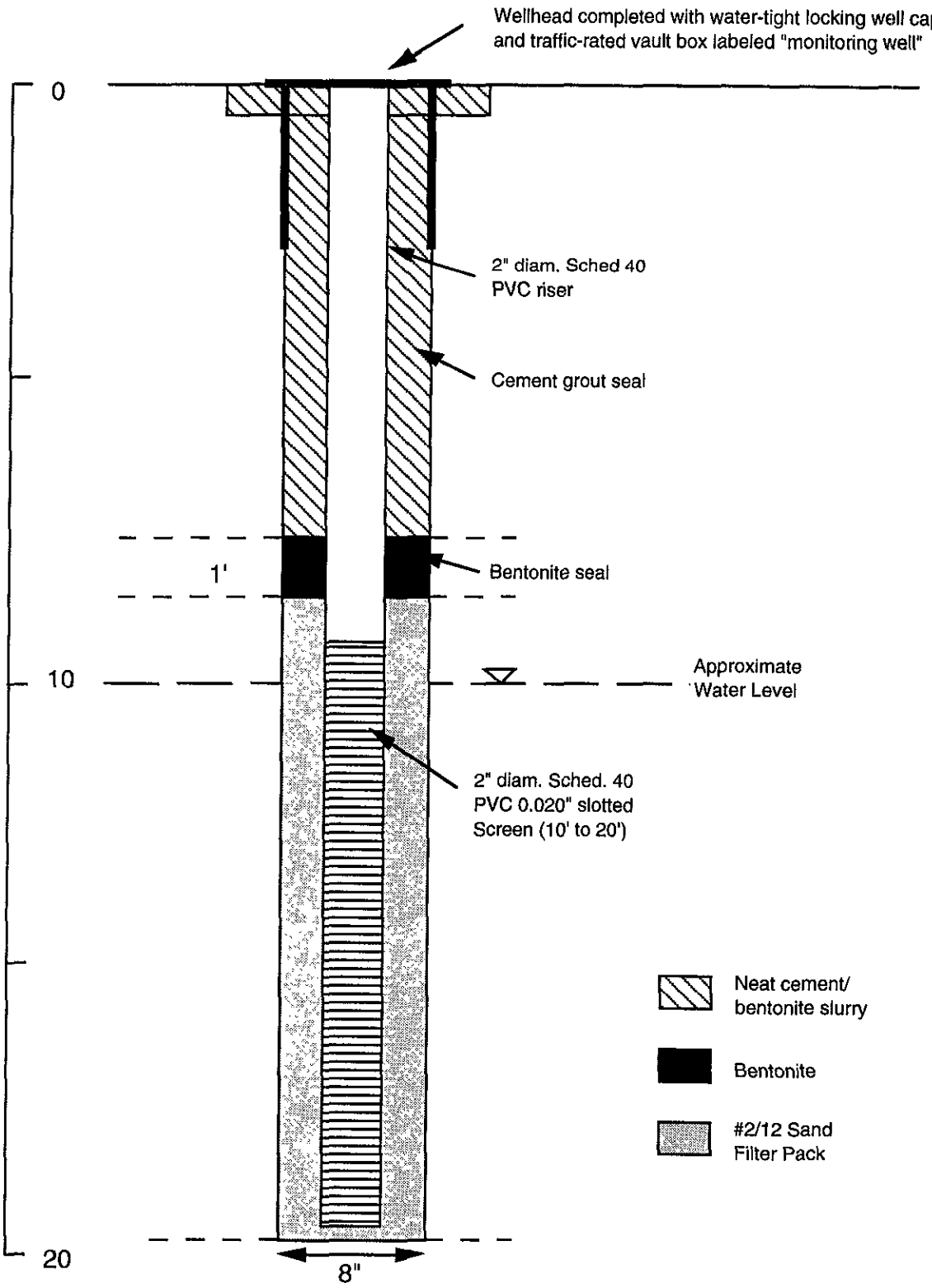
Following well development, each well will be allowed to stabilize for an additional 24 hours, after which the water level will be measured and the well purged with a bailer. The bailer will be used to remove fine-grained sediments from the wells. A minimum of three well volumes will be removed from each well prior to obtaining any groundwater samples. Groundwater samples for laboratory analyses will be collected using a Teflon bailer lowered into each well with a nylon rope. Each sample will be collected in 40-ml VOA vials with Teflon septums to assure zero head space and one-liter bottles depending upon the analytical requirements.

3.9 LABORATORY PROCEDURES

Each of the six soil samples collected from monitoring wells MW-1, MW-2, and MW-3 and one groundwater sample per well will be submitted to a California-certified hazardous waste laboratory for analysis. Each sample will be analyzed by the certified laboratory for TPH calculated as diesel/motor oil and gas (modified EPA method 8015), benzene, toluene, ethyl-benzene and xylene (EPA method 8020), oil and grease (Standard Method 5520), and total lead, cadmium, chromium, zinc and nickel (EPA method 7421) in accordance with the ACDEH letter of October 21, 1993 (Appendix A). Chromium will also be analyzed by the STLC extraction method (WET/3010/6010). As indicated by ACDEH (October 21, 1993), analyses for chlorinated hydrocarbons (EPA Method 8010) or semi-volatile constituents (EPA Method 8270) will not be necessary. Samples will be prepared and preserved in accordance with standard sampling procedures and delivered to the analytical laboratory within 24 hours of sample collection. All samples will be analyzed in a timely manner in accordance with LUFT program and EPA protocols.

3.10 QUARTERLY GROUNDWATER MONITORING

Following installation of the three groundwater monitoring wells, OHM will initiate a quarterly groundwater monitoring program. In addition, water level measurements will be collected from each well on a monthly basis for the first three months and quarterly thereafter. The analytes to be evaluated during the monitoring program will be determined by the results obtained during the initial sampling phase following well installation.



OHM
Remediation Services Corp.
Walnut Creek, CA

PROPOSED MONITORING WELL
CONSTRUCTION DIAGRAM

Figure 3

DWG. NO.	DRAWN BY:	APPROVED BY:	PRO NO. 15422
FIGURE NO.	DESIGN BY:	DATE DRAWN:	SHEET 1 OF 1

Upon completion of sampling activities and receipt of analytical results, OHM will prepare a report of Quarterly Groundwater Monitoring summarizing the results of all sampling activities. This report will be prepared to conform with all applicable regulatory guidelines. This report will include, at a minimum, the following elements:

- Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.

- Status of groundwater contamination characterization.

- Interpretations of results: water level contour maps showing gradient, free and dissolved product plume maps for each target component, geologic cross sections, etc.

- Recommendations or plans for additional investigative work or remediation.

3.11 COLLECTION AND DISPOSAL OF DRILL CUTTINGS AND WASTEWATER

Soil cuttings and waste water generated during drilling activities will be stored in DOT-approved 55-gallon drums, labeled and staged on-site for further characterization and disposal. A composite sample will be collected from both the soil cuttings and waste water and submitted for analysis. The results of the analyses will be used to determine the appropriate method for disposal.

3.12 DECONTAMINATION PROCEDURES

The drill rig and augers will be thoroughly decontaminated prior to arrival on site. The split-spoon sampler and associated small tools will be decontaminated prior to the initiation of sampling and before each successive sampling event. Decontamination procedures will include washing all equipment in a bath of Alconox and water, then rinsing the equipment with clean, distilled water. All rinsate water generated during decontamination procedures will be stored in DOT approved, 55-gallon drums.

3.13 REPORTING

Upon completion of drilling and sampling activities and receipt of analytical results, OHM will prepare a Preliminary Site Assessment Report. This report will be prepared to conform with all applicable regulatory guidelines and will include at a minimum the following items:

- Description of drilling, well installation, and sampling and analytical techniques
- Copies of the well installation permits and DWR water well driller's reports
- Exploratory boring logs, monitoring well construction details, and a site map
- Groundwater contour map and chemical data maps, where appropriate
- Certified analytical results, water sample field data sheets, and chain-of-custody documentation
- Discussion of the findings, with conclusions and recommendations

4.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

The following QA/QC activities will be implemented for this project in order to assure that defined standards of quality are met. These activities will be conducted in accordance with guidelines presented in the State of California *LUFT FIELD MANUAL, October 1989, pp. A 30 to A-34.*

4.1 CHAIN OF CUSTODY

A Chain of Custody Record will be completed for all samples by field personnel collecting, relinquishing and receiving samples. In addition, all samples will be properly identified, dated, and signed on the labels provided for each sample container. This information will match identifying information included on the Chain of Custody Record.

4.2 LABORATORY CERTIFICATION

All water samples will be analyzed by a California-certified hazardous waste laboratory. The laboratory must achieve detection limit criteria provided by the LUFT Program. These criteria are presented in Table 3.

Table 3
Groundwater Analytical Methods

Required Analysis	EPA Analytical Method	EPA Preparation Method	Estimated Detection Limit (mg/L)	Holding Times
TPH	8015 mod. (Gas and Diesel)	5020 or 5030	0.050	14 days
Benzene	602 or 624	n/a	0.0003	7 days*
Toluene	602 or 624	n/a	0.0003	7 days*
Ethyl-Benzene	602 or 624	n/a	0.0006	7 days*
Xylenes	602 or 624	n/a	0.0006	7 days*
Metals	7420 or 7421	n/a	0.050	
Oil and Grease	5520	n/a	0.500	7 days*
STLC Chromium	WET/3010/6010	n/a	0.3	
*May be extended to 14 days if sample is pH adjusted with HCl				

4.3 QUALITY CONTROL SAMPLE

OHM will submit three quality control samples to determine the integrity of the sampling program and produce results that are accurate and can be validated. The quality assurance samples will consist of one trip blank, one equipment rinse and one duplicate soil sample.

The trip blank will consist of laboratory-grade organic-free water placed directly in 40-ml VOA vials prior to transport to the site and carried unopened during the sampling trip. It will be prepared by the laboratory supplying sample containers and analyzed by the same methodology as the primary samples. The results of these analyses will be used to identify contamination introduced during transport to and from the originating laboratory.

The equipment rinse sample will consist of laboratory-grade organic-free water poured through the decontaminated sampling equipment into the 40-ml VOA vials. The results of these analyses will be used to determine the effectiveness of decontamination procedures.

For this investigation, one duplicate soil sample will be collected. The location and depth of the sample interval will be left to the discretion of the OHM field geologist. The duplicate sample will be collected from a brass liner immediately below the designated sampling point for the field sample. Because they are collected in separate brass liners, "duplicate" soil samples obtained by sample drives are actually replicates, that is, material collected from immediately adjacent intervals and assumed to consist of geologically similar matrices. The duplicate sample material will be assigned a number different from the field sample for laboratory submittal

5.0 SITE SPECIFIC HEALTH AND SAFETY PLAN

The site Health and Safety Plan establishes the policies and procedures which protect workers and the public from potential hazards posed by work at this site. OHM considers safety the highest priority during work at a site containing potentially hazardous materials and has established a standard policy of minimum exposure which must be upheld on all projects. All project activities will be conducted in a manner that minimizes the probability of injury, accident, or incident occurrence.

Although the plan focuses on the specific work activities planned for this site, it must remain flexible because of the nature of this work. Conditions may change and unforeseen situations may arise that require deviations from the original plan. This flexibility allows modification by the OHM supervisors and health and safety officials. The Health and Safety Plan will be submitted prior to the start of field work.

6.0 PROJECT MANAGEMENT AND SCHEDULE

6.1 PROJECT TEAM

This section presents the proposed personnel for this project and a brief summary of their responsibilities.

The project manager, Larry Hudson, will be responsible for: coordinating office and field personnel and activities; monitoring the project schedule and budget; and reviewing work plans, construction plans and drawings, and engineering calculations of design parameters.

The project geologist, John Karachewski, Ph.D., R.G., will be responsible for: obtaining drilling permits and utility clearances; supervising and documenting drilling activities; classifying soil samples and preparing lithologic logs; and summarizing results in the *Preliminary Site Assessment Report.*

Additional field support for the project will be provided by the technical services group in Walnut Creek, California, and the operations staff in San Leandro, California.

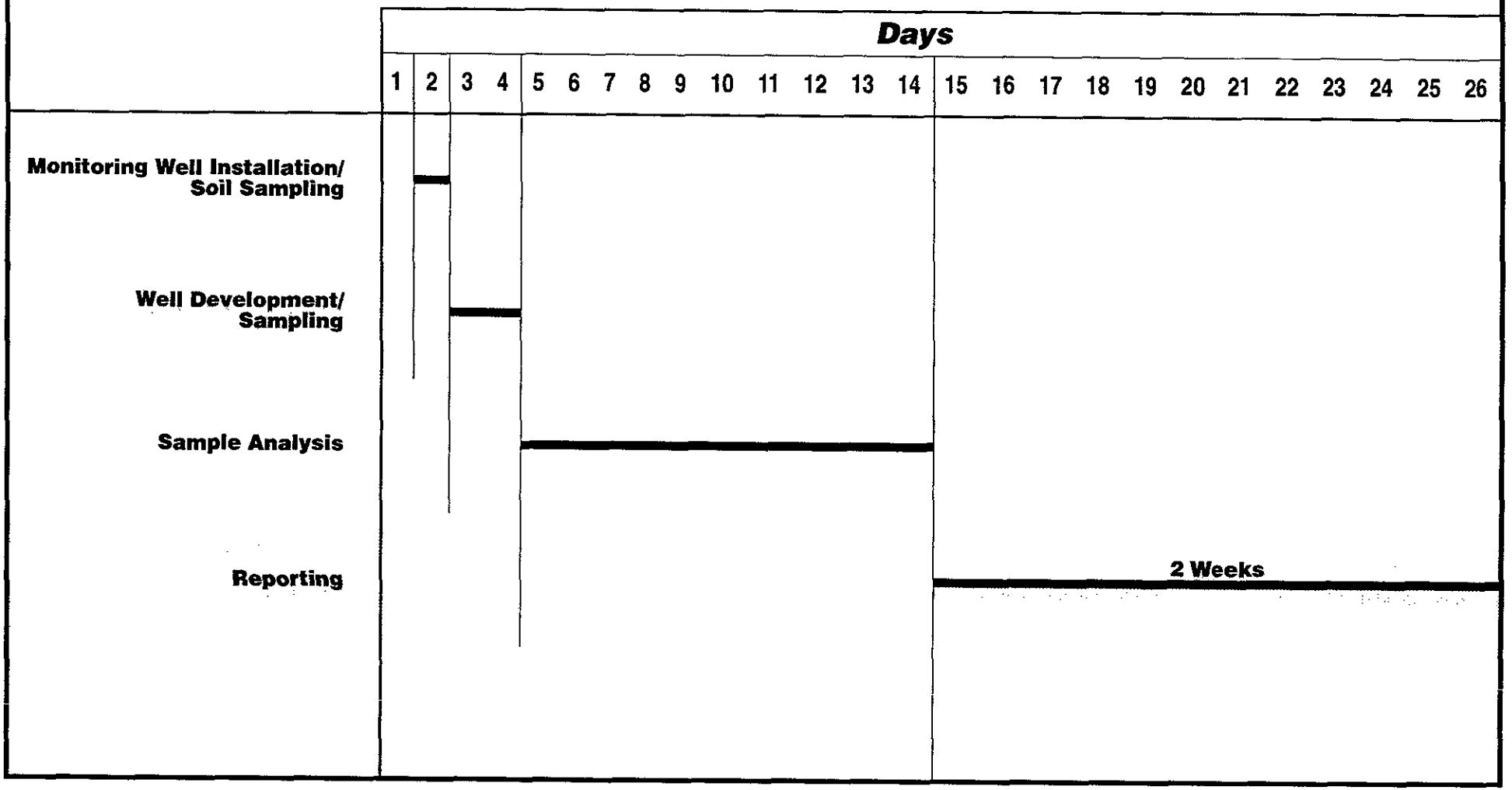
6.2 PROJECT SCHEDULE

The monitoring well installation will be scheduled to commence immediately following acceptance of this work plan by the ACDEH.

The activities described in this work plan which include, well installation, well development, and sampling from each of three wells are scheduled to take approximately three days to complete. Analytical laboratory results will be obtained within ten working days of the field work. A status report describing field work and analytical results will be submitted to the client within two weeks from completion of laboratory analyses. Figure 4 is a detailed project schedule showing the time interval for starting and completion dates for each task.

Figure 4

Preliminary Schedule for Soil Excavation & Groundwater Investigation at the Goodyear Tire Center — 431 San Pablo Ave. — Albany, CA



APPENDIX A
ACDEH LETTER, OCTOBER 21, 1993

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

October 21, 1993

Mr. Walter Inglehoffer
Good Year
7301 Ambassador Row
Dallas, TX 75247-4848

STID 1521

Re: Required investigations at 431 San Pablo Avenue, Albany, California

Dear Mr. Inglehoffer,

On July 20, 1993, one 550-gallon waste oil underground storage tank (UST) was removed from the above site. A 1/2" diameter hole, along with a number of smaller holes, were found on the tank. Additionally, extensive staining was observed on the walls of the tank pit.

One soil sample was collected from beneath the UST in native soil. Analysis of this soil sample identified 38 parts per million (ppm) Total Petroleum Hydrocarbons as diesel (TPHd). Additional excavation was conducted of the tank pit and soil samples were collected from the sidewalls and bottom of the enlarged pit. Upto 1,600 ppm TPHd, 49 ppm TPH as gasoline, 0.12 ppm benzene, and 240 ppm Oil & Grease were identified from the sidewall soil samples. Trace concentrations of metals were also identified, however, the level of chromium was of most concern, since the concentration exceeded ten times the Soluble Threshold Limit Concentration (STLC) for chromium.

Guidelines established by the California Regional Water Quality Control Board (RWQCB) require that soil and ground water investigations be conducted when a release from an underground storage tank may impact or may have already impacted ground water.

You are required to conduct a **Preliminary Site Assessment (PSA)** to determine the lateral and vertical extent and severity of soil and ground water contamination which has resulted from the release at the site. The information gathered by the PSA will be used to determine an appropriate course of action to remediate the site, if deemed necessary. The PSA must be conducted in accordance with the RWQCB's Staff Recommendations for the Initial Evaluation and Investigation of Underground Tanks, and be consistent with requirements set forth in Article 11 of Title 23, California Code of Regulations. The major elements of such an

investigation are summarized in the attached **Appendix A.** The major elements of the guidelines include, but are not limited to, the following:

- At least one ground water monitoring well must be installed within 10 feet of the observed soil contamination, oriented in the confirmed downgradient direction relative to ground water flow. In the absence of data identifying the confirmed downgradient direction, a minimum of three wells will be required to verify gradient direction. During the installation of these wells, soil samples are to be collected at five-foot-depth intervals and any significant changes in lithology.

- Subsequent to the installation of the monitoring wells, these wells must be surveyed to an established benchmark, with an accuracy of 0.01 foot. Ground water samples are to be collected and analyzed quarterly, and water level measurements are to be collected monthly for the first three months, and then quarterly thereafter. If the initial ground water elevation contours indicate that ground water flow directions vary greatly than you will be required to continue monthly water level measurements until the ground water gradient behavior is known. **Both soil and ground water samples must be analyzed for TPHg, TPHd, BTEX, Oil & Grease, metals including lead, and lastly, a wet test must be conducted for chromium in the next round of sampling.** Method 8010 and 8270 will not be required in the next round of sampling since none of these constituents were identified in the last phase of sampling.

This Department will oversee the assessment and remediation of your site. Our oversight will include the review of and comment on work proposals and technical guidance on appropriate investigative approaches and monitoring schedules. The issuance of well drilling permits, however, will be through the Alameda County Flood Control and Water Conservation District, Zone 7, in Pleasanton. The RWQCB may choose to take over as lead agency if it is determined, following the completion of the initial assessment, that there has been a substantial impact to ground water.

All reports and proposals must be submitted under a seal of a California -Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer. Please include a statement of qualifications for each lead professional involved with this project.

The PSA proposal is due **within 60 days** of the receipt of this letter. Once the proposal is approved, field work should commence within 60 days. A report must be submitted within 45 days after the completion of this phase of work at the site. Subsequent reports are to be submitted quarterly until this site qualifies for final RWQCB "sign-off". Such quarterly reports are due the first day of the second month of each subsequent quarter.

The referenced initial and quarterly reports must describe the status of the investigation and must include, among others, the following elements:

- Details and results of all work performed during the designated period of time: records of field observations and data, boring and well construction logs, water level data, chain-of-custody forms, laboratory results for all samples collected and analyzed, tabulations of free product thicknesses and dissolved fractions, etc.
- Status of ground water contamination characterization.
- Interpretations of results: water level contour maps showing gradients, free and dissolved product, plume definition maps for each target component, geologic cross sections, etc.
- Recommendations or plans for additional investigative work or remediation.

Please be advised that this is a formal request for a work plan pursuant to **Section 2722 (c)(d) of Title 23 California Code of Regulations.** Any extensions of the stated deadlines, or modifications of the required tasks, must be confirmed in writing by either this agency or RWQCB.

Additionally, please submit information/documentation for the fate of the excavated/stockpiled soil at the site **within 15 days** of the date of this letter.

Lastly, this office noted that further excavation was proposed in the October 14, 1993 report. This proposed excavation is an acceptable phase of investigations. Please be reminded that a representative from our office needs to be present for any overexcavation sampling. Please notify this office at least 48 hours in advance before this overexcavation.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

Juliet Shin
Hazardous Materials Specialist

cc: Mr. Robert Falaschi
3080 Frye St.
Oakland, CA 94602

Edgar Howell-File(JS)

August 20, 1991

Appendix A

Workplan for Initial Subsurface Investigation

In recent years, the number of initial site investigations related to unauthorized releases of fuel products has increased dramatically. To assure that the workplans associated with these investigations can be reviewed and approved in a timely manner, it is essential that these documents have uniform organization and content.

The purpose of this appendix is to present an outline to be followed by professional engineering or geologic consultants in preparing workplans to be submitted for review and approval by Local Implementing Agencies and the Regional Board.

A statement of qualifications and the registration number of the California registered engineer and/or California registered geologist responsible for the project must be included with the submitted workplan and subsequent reports.

This appendix should be used in conjunction with the " Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", August 1990.

PROPOSAL AND REPORT FORMAT

I. Introduction

A. Statement of Scope of Work

B. Site location

C. Background

D. Site History

1. Brief description of the type of business and associated activities that take place at the site, including the number and capacity of operating tanks.

2. Description of previous businesses at the site.

3. Complete description of tank activities, tank contents, and tank removal.

a. number of underground tanks, uses, etc...

3. Describe soil types and soil strata encountered in excavation(s).

4. Provide in tabular form the analytic results of all previous soil and water sampling. The location of these samples should be included on the site map. The date sampled, the identity of the sampler, and signed laboratory data sheets need to be included. The laboratory data sheets must include the laboratory's assessment of the condition of samples upon receipt, including: a) temperature, b) container type, c) air bubbles present/absent in VOA bottles, d) proper preservation, and e) any other relevant information which might affect the analytic results of the sample(s).

5. Identify underground utilities.

6. Describe any unusual problems encountered during excavation or tank removal.

7. Describe in detail the methods used for storing, characterizing, and disposing of all contaminated soil and groundwater.

8. Reference all required permits, including those issued by the Air Quality Management District and local underground tank permitting agency and public encroachment permits when drilling offsite..

III. Plan for determining the extent of soil contamination on site.

A. Describe the method/technique(s) proposed for determining the extent of contamination within the excavation.

B. Describe sampling methods and procedures to be used.

1. If soil gas survey is planned, then:

a. Identify number of boreholes, location (on site map), sampling depth, etc...

b. Identify subcontractors, if any

c. Identify methods or techniques used for analysis

d. Provide quality assurance plan for field testing

Please note that soil gas surveys are not considered to

B. Drilling method for construction of monitoring wells, including decontamination procedures.

1. Expected depth and diameter of monitoring wells

2. Expected drilling date

3. Sampling method and sampling interval (split spoon, every 5', at changes of lithology, at the soil/water interface, etc...)

4. Well design and construction specifications, including casing type, diameter, screen length and interval, and filter pack and screen slot specifications including rational for their selection (sieve analysis, etc..).

5. Depth interval and type of seal

6. Construction diagram for wells

7. Well development method and criteria used for assessing adequacy of development (the time period between construction, development, and sampling should be noted)

8. Plans for characterizing and disposing of cutting spoils and development water (contact your Regional Board or Local Implementing Agency for guidance if on-site disposal is proposed)

9. Surveying plan for wells (requirements include surveying to established benchmark to 0.01 foot).

C. groundwater sampling plans (this should include plans for sampling of on-site domestic wells).

1. Water level measurement method

2. Method(s) for measuring free-product, observation of sheen and odor (must be done prior to well purging; the use of an interface probe when checking for the presence of free-product is highly recommended)

3. Well purging procedures

4. Well purge water characterization and disposal plans

5. Water sample collection protocol (include the pH, conductivity, and temperature of groundwater prior to sampling)

APPENDIX B
LABORATORY ANALYTICAL REPORTS, OCTOBER 28, 1993

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

WALKER'S HYDRAULICS, INC.
Attn: PAT CASHMAN

Project ALBANY GOODYR
Reported 10/28/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
90397- 1	6-1	10/21/93	10/28/93	Soil
90397- 2	7-1	10/21/93	10/28/93	Soil

RESULTS OF ANALYSIS

Laboratory Number:	90397- 1	90397- 2.
Diesel Range:	3900	1500
Concentration:	mg/kg	mg/kg

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / Fax (510) 229-1526

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 90397

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 10mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Diesel Range:	98/101	3%	75-125

10/28/

Senior Chemist

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

WALKER'S HYDRAULICS, INC.
Attn: PAT CASHMAN

Project ALBANY GOODYR
Reported 10/26/93

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
90373- 1	2-1	10/22/93	10/26/93	Soil
90373- 2	6-1	10/22/93	10/26/93	Soil
90373- 3	7-1	10/22/93	10/26/93	Soil

RESULTS OF ANALYSIS

Laboratory Number:	90373- 1	90373- 2	90373- 3
Oil and Grease:	ND<50	840	ND<50
Gasoline:	ND<1	2.	18
Concentration:	mg/Kg	mg/Kg	mg/Kg

Superior Precision Analytical, Inc.
825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / Fax (510) 229-1526

CERTIFICATE OF ANALYSIS

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 90373

NA - ANALYSIS NOT REQUESTED
ND - ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Oil and Grease:	60/62	3%	56-106
Gasoline:	87/74	16%	70-130

10/26/93

Senior Chemist

CONCORD, CA 94520

Client: GOODYEAR

Project name: ALBANY GOODYEAR

Job number: 8439

Project manager: PAT CASHMAN

Sampler(s): WALKERS HYD

Sample number	Date sampled	Time sampled	Type Composite w Grab	Sample description	Number of containers	Analyses required						Hazardous sample special handling required	Remarks
2-1	10/22/93	11:30AM	GRAB	LIFT #2 @ 9'-6"	1	X	X						X/R TAT
-1	10/22/93	10:00AM	GRAB	LIFT #6 @ 9'-6"	1	X	X						" "
7-1	10/22/93	3:30PM	GRAB	LIFT #7 @ 8'-2"	1	X	X						" "
													IN REFER -
													OVER WEEKEND

	Signature	Company	Date	Time
Relinquished by	[signature]	WALKERS Hydraulics	10/22/93	5:20 PM
Received by	[signature]	" "		
Relinquished by	[signature]	" "	10-24-93	11:45AM
Received by				
Relinquished by				
Received by	[signature]		10-25-93	
			" 9AM	

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

APPENDIX C
LABORATORY ANALYTICAL REPORTS, NOVEMBER 29, 1993

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 30, 1993

ChromaLab File#: 9311249

OHM CORPORATION

Attn: Scott Rice

Project: GOODYEAR ALBANY Project#: 15922
Submitted: November 19, 1993

re: 5 samples for BTEX compounds analysis.

Matrix: SOIL
Sampled on: November 19, 1993 *Analyzed on:* November 29, 1993
Method: EPA 8020. *Run#:* 1701

Lab #	SAMPLE ID	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
37508	LS-001	N.D.	38	67	260
37509	RS-002	N.D.	N.D.	18	38
37510	BS-003	N.D.	7.5	12	25
37511	FS-004	N.D.	10	10	22
37512	B-005	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS		5	5	5	5
BLANK		N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)		95	100	97	97

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

B

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 29, 1993

ChromaLab File No.: 9311249

OHM CORPORATION

Attn: Scott Rice

RE: Five soil samples for Diesel analysis

Project Name: GOODYEAR ALBANY
Project Number: 15922
Date Sampled: November 19, 1993 Date Submitted: November 19, 1993
Date Extracted: November 22, 1993 Date Analyzed: November 22, 1993

RESULTS:

Sample I.D.	Diesel (mg/Kg)
LS-001	1800
RS-002	130
BS-003	93
FS-004	250
B-005	43
BLANK	N.D.
SPIKE RECOVERY	80%
DUP SPIKE RECOVERY	76%
DETECTION LIMIT	1.0
METHOD OF ANALYSIS	3550/8015

ChromaLab, Inc.

Alex Tam
Analytical Chemist

Eric Tam
Laboratory Director

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

November 29, 1993 ChromaLab File No.: 9311249

OHM CORPORATION

Attn: Scott Rice

RE: Five soil samples for Oil & Grease analysis

Project Name: GOODYEAR ALBANY
Project Number: 15922
Date Sampled: Nov. 19, 1993 Date Submitted: Nov. 19, 1993
Date Analyzed: Nov. 23, 1993

RESULTS:

Sample I.D.	Oil & Grease (mg/Kg)
LS-001	89
RS-002	150
BS-003	N.D.
FS-004	82
B-005	N.D.
BLANK	N.D.
DETECTION LIMIT	50
METHOD OF ANALYSIS	STD METHOD 5520 E & F

ChromaLab, Inc.

Carolyn M. House
Analyst

Eric Tam
Laboratory Director

cc

M Corporation

CHAIN-OF-CUSTODY RECORD

Form 6015
Field Technical Services
Rev. 08/89

№ 119280

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

PROJECT NAME: GOODYEAR ALBANY
PROJECT LOCATION: ALBANY
J.I. NO.: 5422
PROJECT CONTACT: SCOTT RICE
PROJECT TELEPHONE NO.:
CLIENT'S REPRESENTATIVE:
PROJECT MANAGER/SUPERVISOR:

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS) TPH/BTEX	TPH/DIESEL	TPH/OIL&GREASE	STLC PB-BA-CD-CR	REMARKS
LS-001	11/19/93	1530		X	2½ BRASS SLEVE	1 EA	X	X	X		STANDARD
RS002	11/19/93	1545		X	2½ IN BRASS SLEVE	1 EA	X	X	X		TURN AROUND
BS003	11/19/93	1615		X	2½ IN BRASS SLEVE	1 EA	X	X	X		TIME.
SS004	11/19/93	1630		X	2½ IN BRASS SLEVE	1 EA	X	X	X		
LS-005	11/19/93	1645		X	2½ BRASS SLEVE.	1 EA	X	X	X		
			COMP								

ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1-5	BRYAN REINKE	Gary Cook	11/19/93	18:55

REMARKS
GENERATE 1 COMPOSITE SAMPLE FROM SAMPLES 1, 2, 3, 4, AND 5. ANALYSIS FOR THE COMPOSITE WILL BE STLC FOR LEAD BARIUM CADMIUM AND CHROMIUM.

SAMPLER'S SIGNATURE

TRANSFER 3