ALLCAL PROPERTY SERVICES, INC.
ENVIRONMENTAL INVESTIGATIONS

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December 3, 1998

X 4241

Mr. Barney Chan
Hazardous Materials Specialist
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

GROUNDWATER MONITORING WORKPLAN

RE: Former Fiesta Beverage, 966 89th Avenue, Oakland, CA 94621

Dear Mr. Chan:

In response to your November 4, 1998, letter to Mr. Ted Walbey requesting groundwater monitoring and other work at the above referenced site, Mr Walbey has contracted with Allcal Property Services, Inc. (ALLCAL) to conduct the monitoring event. In addition to monitoring the existing three wells, your letter discusses implementing the installation of a fourth, downgradient, groundwater monitoring well; the installation of oxygen releasing compound (ORC) into the three existing wells; and the measurement of natural attenuation indicators (dissolved oxygen, oxidation-reduction potential, alkalinity, nitrate, sulfate, and ferrous iron). These recommendations are based on a November 21, 1996, monitoring report by Century West Engineering Corporation.

In a conversation with you on November 20, 1998, I recommended that, at this time, a routine groundwater monitoring event for gasoline products be conducted because about two years have passed since the last monitoring event and groundwater conditions may have changed. Based on results of this proposed monitoring event, an evaluation can be made of the appropriateness of Century West's 1996 recommendation, at this time. You concurred with the recommendation subject to, additionally, monitoring the wells for dissolved oxygen and oxidation-reduction potential.

Based on the above, ALLCAL proposes the following scope of work for your approval.

SCOPE OF WORK

Before sampling, (1) depth-to-water will be measured to the nearest .05 foot in each well from the top-of-casing using an electronic water level meter; (2) each well will be checked for floating product using a dedicated disposable polyethylene bailer; if floating product is present, the thickness of product in the bailer will be measured and recorded to the nearest .05 inch; (3) dissolved oxygen and

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oxidation-reduction potential will be measured in each well using a YSI Model 55 and a Horiba Model D22 instrument, respectively; these parameters will be measured and recorded at the top, middle, and bottom of the water columns. (pre + post purge)

Sampling will be conducted by purging each well a minimum of 3 wetted well volumes with a dedicated polyethylene bailer (since dedicated bailers will be used for each well, no decontamination will be necessary between sampling events). Temperature, pH, and electrical conductivity will be monitored and purging will continue until they are stabilized. After purging is completed, water samples will be collected in 40-milliliter, sterilized, glass vials having Teflon-lined screw caps, immediately sealed in the vials, and labeled to include: date, time, sample location, project number, and sampler name. The samples will be immediately stored in an iced-cooler for transport to a California Department of Health Services certified laboratory accompanied by chain-of-custody documentation.

After the above sampling, dissolved oxygen and oxygen-reduction potential will again be measured and recorded as above.

Attachments A, B, C, and D document ALLCAL's protocols relative to monitoring well sampling procedures, sample handling procedures, waste handling and decontamination procedures, and quality assurance and quality control procedures, respectively.

Purge water will be stored on site in a labeled 55-gallon drum.

The water samples are proposed to be analyzed for total petroleum hydrocarbons as gasoline (TPHG); benzene, toluene, ethylbenzene, and xylenes (BTEX); and methyl-tertiary-butyl ether (MTBE). Additionally, a trip blank sample will be analyzed for TPHG and BTEX.

ALLCAL will document the work conducted and analytical results in a letter report. The report will include: a site plan showing location of the wells, a groundwater gradient map, results of chemical analyses, and copies of certified analytical reports with chains-of-custody.

The report will be certified by a California Registered Geologist.

SITE HEALTH AND SAFETY PLAN

A Site Health and Safety Plan for conducting the above work is attached.

TIME SCHEDULE

ALLCAL will implement the above scope of work within one week of regulatory approval. Results of chemical analyses are expected to be received one to two weeks after collecting the samples, and a report will be delivered to the client one to two weeks after receiving the results of chemical analyses.

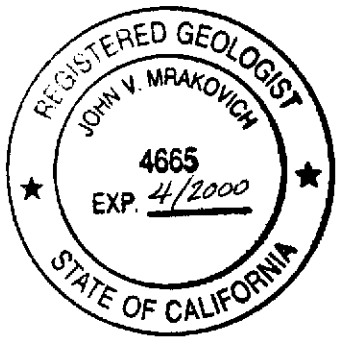
The schedule reflects a relatively problem-free program. However, delays in the workplan review or laboratory analyses, or adverse weather could lengthen the project schedule.

If you have any questions, please call me at (510) 581-2320.

Sincerely,

John V. Mrakovich

John V. Mrakovich, Ph.D.
California Registered Geologist



cc: Mr. Ted Walbey

ATTACHMENT A

GROUNDWATER SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 48 hours after well development. Groundwater samples will be obtained using either a bladder pump, clear Teflon bailer, or disposable polyethylene bailer. Prior to sampling, sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well, or a factory sealed, dedicated, disposable bailer will be used minimize the potential for cross-contamination. Monitoring wells will be sampled after three to five wetted casing volumes of groundwater have been evacuated and after the ALLCAL sampler determines that water representative of the formation is being obtained. The well will be purged until conductivity, temperature, and pH have been stabilized (three consecutive conductivity reading within 15% of one another). If the well is emptied before three to five well volumes are removed, the sample shall be taken when the water level in the well recovers to 80% of its initial water level or better.

ALLCAL will also measure the thickness of any floating product in the monitoring wells using a probe or clear Teflon bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, ALLCAL will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples shall be handled and preserved according to the latest EPA methods as described in the Federal Register (Volume 44, No.233, Page 69544, Table II) for the type of analysis to be performed.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

Parameter	Units of Measurement
pH	Units
Electrical conductivity	Umhos
Temperature	Degrees F
Depth to Water	Feet/Tenths/Hundredth
Volume of Water Discharged	Gallons

Documentation: All parameter measurements shall be documented in writing on ALLCAL development logs.

ATTACHMENT B

SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination and will be delivered to the laboratory in an iced-cooler. Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers.

Samples will be stored in iced-coolers to maintain custody, control temperature, and prevent breakage during transportation to the laboratory. Ice, blue ice, or dry ice will be used to cool samples during transport to the laboratory.

Each sample will be identified by affixing a label on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection, and the collector's initials.

Soil samples collected in brass or stainless-steel tubes will be preserved by covering the ends with Teflon tape and capping with plastic end-caps. The tubes will be labeled, sealed in quart-size bags, and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory. All sample transfers will be documented in the chain-of-custody. All field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated as being responsible for sample shipment to the appropriate laboratory. The custody record will include the following information: site identification, name of person collecting the sample(s), date and time sample(s) were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used, and signature of the person relinquishing samples to another person with the date and time of transfer noted.

ATTACHMENT C

WASTE HANDLING AND DECONTAMINATION PROCEDURES

Decontamination: Any drilling, sampling, or field equipment that comes into contact with soil or groundwater will be decontaminated prior to its use at the site and after each incident of contact with the soil or groundwater being investigated. Decontamination is essential to obtain samples that are representative of environmental conditions and to accurately characterize the extent of soil and groundwater contamination. Hollow-stem auger flights, the drill bit, and all other soil boring devices will be steam-cleaned between the drilling of each boring.

All sample equipment, including the split-spoon sampler and brass or stainless-steel tubes, will be cleaned by washing with trisodium phosphate or Alconox detergent, followed by rinsing with tap water. Where required by specific regulatory guidelines, a nonphosphate detergent will be used.

Waste Handling: Waste materials generated during site characterization activities will be handled and stored as hazardous waste and will be stored on site in appropriately labeled containers. Waste materials anticipated include: excavated soil, drill cuttings, development and purge water, water generated during aquifer testing, water generated during decontamination, and used personnel protection equipment such as gloves and Tyvek. The site owner will be responsible for providing the storage containers and will be responsible for the disposal of the waste materials. Drill cuttings from individual borings will be stored separately in drums or covered by plastic sheeting, and the appropriate disposal procedure will be determined by the site owner following receipt of the soil sample analytical results. Storage containers will be labeled to show material stored, known or suspected contaminant, date stored, expected removal date, company name, contact, and telephone number.

ATTACHMENT D

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling, and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinsate samples, and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits, and proper sample preservation and holding times also provide assurance of accurate analytical data.

A quality assurance and quality control (QA/QC) program may be conducted in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip blanks, field blanks, and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and laboratory analysis. They are water samples that remain with the collected samples during transportation and are analyzed along with the field samples to check for residual contamination. Analytically confirmed organic-free water will be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blanks will be numbered, packaged, and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is not to be opened by either the sample collectors or the handlers.

The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water sample is poured into appropriate containers to simulate actual sampling conditions. Contamination due to air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of trip and field blanks, and false identifying numbers will be put on the labels.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC tests designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and the United States Environmental Protection Agency-certified standards), duplicates, replicates, and sample spikes. Internal QC also requires adherence to written methods, procedural documentation, and the observance of good laboratory practices.

SITE HEALTH AND SAFETY PLAN

Site: **Former Fiesta Beverage**
966 89th Avenue
Oakland, CA 94621

Plan Prepared by: **John Mrakovich** Date: **11/3/98**

1.0 KEY PERSONNEL AND RESPONSIBILITIES

Project Manager:	**John Mrakovich**	**(510) 582-2320**
Site Safety Manager:	**John Mrakovich**	
Alternate Site Safety Manager:	**N/A**	
Field Team Members:	**N/A**	

Agency Reps: **Alameda County Environmental Health Services (510) 567-6700**

2.0 JOB HAZARD ANALYSIS

2.1 OVERALL HAZARD EVALUATION

Hazard Level: High ( ) Moderate ( ) Low (**X**) Unknown ()
Hazard Type: Liquid (**X**) Solid ( ) Sludge ( ) Vapor/Gas (**X**)

Known or suspected hazardous materials present on site:

Gasoline Chemicals.

Characteristics of hazardous materials included above (complete for each chemical presents):

Corrosive ( ) Ignitable (**X**) Toxic (**X**) Reactive ( ) Volatile (**X**) Radioactive ( ) Biological Agent ( )

Exposure Routes: Inhalation (**X**) Ingestion (**X**) Contact (**X**)

2.2 JOB-SPECIFIC HAZARDS

For each labor category specify the possible hazards based on information available (eg., Task-driller, Hazards-trauma from drill rig accidents, etc.). For each hazard, indicate steps to be taken to minimize the hazard.

Driller/Helper/Geologist-Trauma from drilling rig accidents- wear hard hat, gloves, steel-toed boots.

The following additional hazards are expected on site (i.e., snake infested area, extreme heat, etc.):

Temporary open boreholes.

Measures to minimize the effects of the additional hazards are:

Protect with barricades, caution tape, or traffic cones when unattended.

3.0 MONITORING PLAN

3.1 (a) Air Monitoring Plan

Action levels for implementation of air monitoring. Action levels should be based on published data available on contaminants of concern. Action levels should be set by persons experienced in industrial hygiene.

Level (i.e., .5 ppm)	Action Taken (i.e., commence perimeter monitoring)
5 ppm	**Stop work and monitor until air level drops below 5 ppm.**

(b) Air Monitoring Equipment

Outline the specific equipment to be used, calibration method, frequency of monitoring, locations to be monitored, and analysis of samples (if applicable).

If air monitoring is not to be implemented for this site, explain why:

Air monitoring will not be conducted because excessive vapors are not expected.

3.2 Personnel Monitoring (Include hierarchy of responsibilities decision making on the site)

N/A

4.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment used by employees for the site tasks and operations being conducted. Be Specific (eg., hard hat, impact resistance goggles, other protective gloves, etc.).

Hard hat, protective gloves (when necessary), steel-toed boots.

5.0 SITE CONTROL AND SECURITY MEASURES

The following general work zone security guidelines should be implemented:

- Work zone shall be delineated with traffic cones.
- Boreholes shall be delineated with traffic cones when drilling and sampling activities are not actually taking place.
- Visitors will not be allowed to enter the work zone unless they have attended a project safety briefing.

6.0 DECONTAMINATION PROCEDURE

List the procedures and specific steps to be taken to decontaminate equipment and PPE.

Wash equipment with a trisodium phosphate or Alconox solution and rinse with clean potable water.

7.0 TRAINING REQUIREMENTS

Prior to mobilization at the job site, employees will attend a safety briefing. The briefing will include the nature of the wastes and the site, donning personal protection equipment, decontamination procedures and emergency procedures.

8.0 MEDICAL SURVEILLANCE REQUIREMENTS

If any task requires a very high personnel protection level (OSHA Level A or B), personnel shall provide assurances that they have received a physical examination and they are fit to do the task. Also personnel will be instructed to look for any symptom of heat stress, heat stroke, heat exhaustion or any other unusual symptom. If there is any report of that kind it will be immediately followed through, and appropriate action will be taken.

9.0 STANDARD OPERATION PROCEDURES

Allcal Property Services, Inc. (ALLCAL) is responsible for the safety of its employees on site. Each contractor shall provide all the equipment necessary to meet safe operation practices and procedures for their personnel on site and be responsible for their safety.

A "Three Warning" system is utilized to enforce compliance with Health and Safety procedures practices which will be implemented at the site for worker safety:

- Eating, drinking, chewing gum or tobacco, and smoking will be allowed only in designated areas.
- Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of the toilet facilities.

- Containers will be labeled identifying them as waste, debris, or contaminated clothing.
- All drilling work will comply with regulatory agency requirements.
- All site personnel will be required to wear hard hats and advised to take adequate measures for self protection.
- Any other action which is determined to be unsafe by the site safety officer will be taken.

10.0 CONFINED SPACE ENTRY PROCEDURES

No one is allowed to enter any confined space operation without proper safety measures. Specifically in case of an excavated tank pit no one should enter at any time.

11.0 EMERGENCY RESPONSE PLAN

Relevant phone numbers:

Person	Title/Phone No.
Ted Walbey	Owner (510) 832-6081
John Mrakovich	Project Manager (510) 581-2320
Fire	911
Police	911
Ambulance	911

HEALTH AND SAFETY COMPLIANCE STATEMENT

I have received and read a copy of the project Health and Safety Plan.

I understand that I am required to have read the aforementioned document and have received proper training under the Occupational Safety and Health Act (29 CFR, Part 1910.120) prior to conducting site activities at the site.

_____ _____

Signature Date

_____ _____

Signature Date