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January 5, 1994  
92CB037

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, CA 94621

Subject: Continental Baking Company, 6841 Village Parkway, Dublin, CA  
Revisions to Site Assessment Workplan

Dear Ms. Chu:

Thank you for your prompt review of the Site Assessment Workplan submitted on December 1, 1993, for the above referenced Continental Baking Company (CBC) site. We have made revisions to the workplan pursuant to your requests made during our phone conversation on December 10, 1993.

These revisions include:

1. The addition of a soil boring (SB1) in the vicinity of the former fuel dispenser (as shown on the revised Figure 3 attached). The boring will initially be advanced to a depth of approximately 5 feet using hollow-stem augers. If the soil from depth being sampled has a petroleum odor, the boring will be extended in intervals of 5 feet in depth, to a maximum depth of 20 feet, or just below the water table. Soil samples will be collected at 5-foot intervals beginning at 5 feet below grade. Samples will be analyzed as described in the workplan by EPA method 8015 for total petroleum hydrocarbons quantified as diesel (TPH-diesel) and by EPA method 8020 for the petroleum hydrocarbon constituents of benzene, toluene, ethyl benzene, and xylene (BTEX). The boring will be grouted to the surface after the completion of sampling, unless it has been extended to the water table, in which case it will be completed as a monitoring well (MW4).
2. Correction of Figure 3 to properly show the anticipated groundwater gradient direction to the southeast.



# Woodward-Clyde Consultants

Ms. Eva Chu  
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3. Relocation of monitoring wells (as shown on the revised Figure 3 attached).

MW1 will be located within 10 feet of the former UST location and to the southeast in the anticipated downgradient direction.

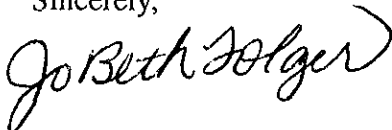
MW2 will be located to the northwest of the former UST location in the anticipated upgradient direction or background location.

MW3 will be located in the anticipated cross gradient direction.

Woodward-Clyde Consultants is providing environmental engineering consulting services to CBC and is submitting these revisions on their behalf. Please consider this letter an official addendum to the workplan previously submitted. If you have any questions, please feel free to phone me at (510) 874-3138.

I am looking forward to working with you and other Alameda County staff on this project.

Sincerely,

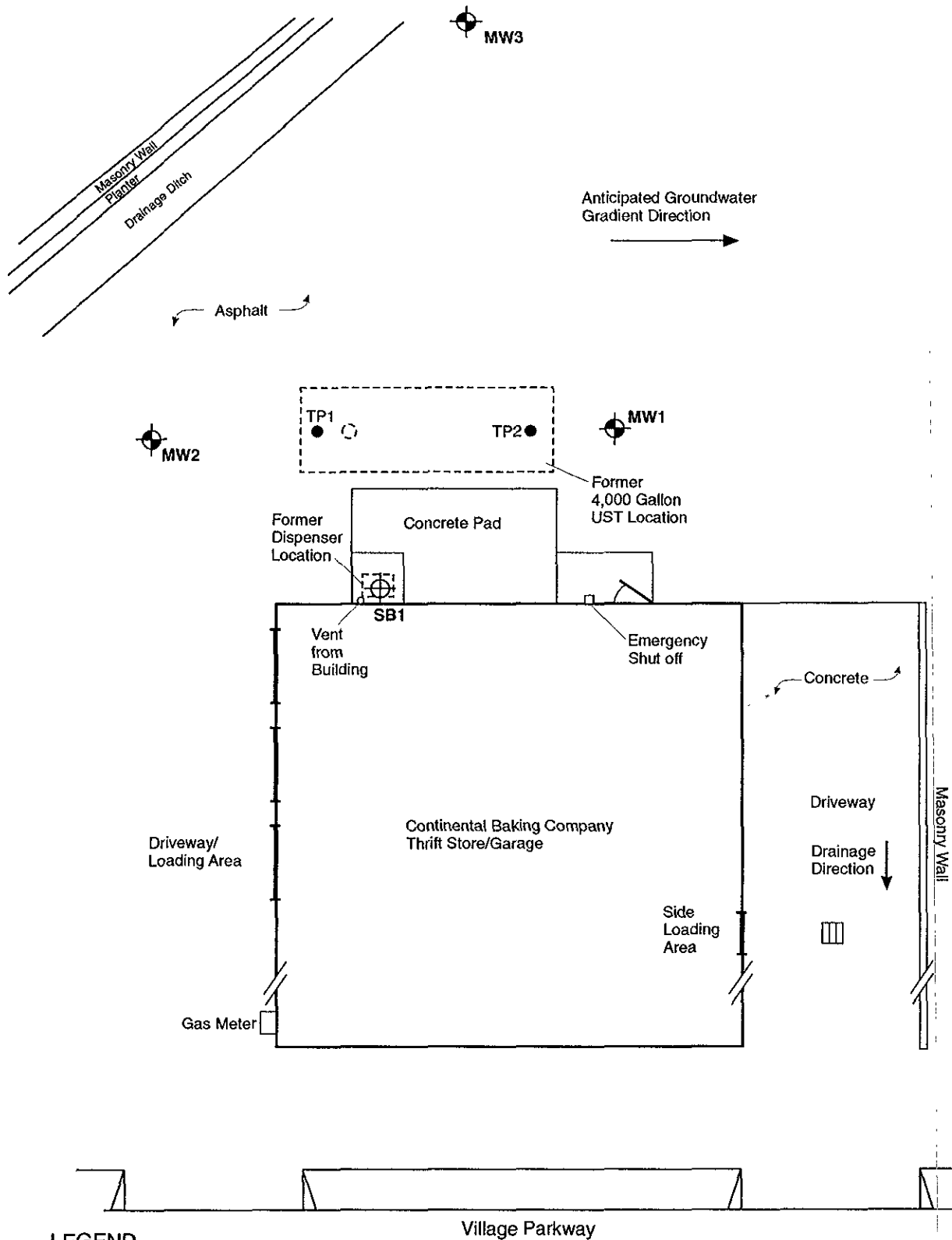


Jo Beth Folger



Attachment

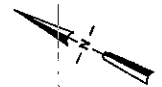
cc: Charles Gjersvik, CBC-SL  
Fred Dannecker, CBC-SF  
Jim Hummert, WCC-SL  
RWQCB





**LEGEND**

-  Proposed Soil Boring Location
-  Proposed Monitoring Well Locations
-  Tank Closure Soil Sample Locations
-  Storm Drain



(not to scale)

Project No. 92CB037	Continental Baking Company 6841 Village Parkway Dublin, California	<b>SITE PLAN AND LOCATIONS OF UST CLOSURE SOIL SAMPLES</b>	<b>Figure 3</b>
<b>Woodward-Clyde Consultants</b>			

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**PRELIMINARY SITE  
ASSESSMENT WORK PLAN  
CONTINENTAL BAKING  
COMPANY FACILITY  
6841 VILLAGE PARKWAY  
DUBLIN, CALIFORNIA**

Prepared for

**Continental Baking Company  
1525 Bryant Street  
San Francisco, California 94103**

November 19, 1993

**Woodward-Clyde  
Consultants**



500 12th Street, Suite 100  
Oakland, California 94607-4014

December 1, 1993  
92CB037

Ms. Eva Chu  
Alameda County Health Care Services Agency  
Department of Environmental Health  
80 Swan Way, Room 200  
Oakland, CA 94621

Subject: Continental Baking Company, 6841 Village Parkway, Dublin, CA  
Site Assessment Workplan

Dear Ms. Chu:

In response to your letter to Mr. Fred Dannecker, Continental Baking Company, dated October 6, 1993, and to my subsequent conversations with you, the attached workplan is being submitted.

Woodward-Clyde Consultants is providing environmental engineering consulting services to Continental Baking Company and is submitting this workplan on their behalf. If you have any questions, please feel free to phone me at (510) 874-3138.

I am looking forward to working with you and other Alameda County staff on this project.

Sincerely,



Jo Beth Folger

Attachment

cc: Charles Gjersvik, CBC-SL  
Fred Dannecker, CBC-SF  
Jim Hummert, WCC-SL  
RWQCB

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**PRELIMINARY SITE  
ASSESSMENT WORK PLAN  
CONTINENTAL BAKING  
COMPANY FACILITY  
6841 VILLAGE PARKWAY  
DUBLIN, CALIFORNIA**

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San Francisco, California 94103**

November 19, 1993

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500 12th Street, Suite 100  
Oakland, California 94607-4014

CERTIFICATION

PRELIMINARY SITE ASSESSMENT WORK PLAN  
CONTINENTAL BAKING COMPANY FACILITY  
6841 VILLAGE PARKWAY  
DUBLIN, CALIFORNIA

NOVEMBER 19, 1993  
92CB039-0010

This work plan has been prepared by the staff of Woodward-Clyde Consultants and has been reviewed and approved by the professionals whose signatures appear below.

The findings, recommendations, specifications, or professional opinions are presented within the limits prescribed by the client, and prepared in accordance with generally accepted engineering practice in Northern California at the time this work plan was prepared. No other warranty is either expressed or implied.

WOODWARD-CLYDE CONSULTANTS

Jo Beth Folger  
Project Engineer

J. Ross Wagner, Ph.D.  
R.G. No. 4312  
Associate Geologist

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## **1.1 SCOPE OF WORK**

This work plan has been prepared in accordance with the Tri-Regional Recommendations and North Coast Regional Water Quality Control Board guidelines. This plan addresses the procedures involved with the proposed Preliminary Investigation and Evaluation of the Continental Baking Company facility at 6841 Village Parkway in Dublin, California. This work is proposed in order to investigate the extent and magnitude of the presence of petroleum hydrocarbons in the subsurface soil and groundwater at the site. Specific activities include the collection of soil samples during the drilling and construction of three proposed groundwater monitoring wells at the site, initial monitoring well groundwater sample collection, sample analysis, and waste disposal. The investigation will be centered on the vicinity of a former diesel underground storage tank.

## **1.2 SITE CONTACTS**

The site is owned by Continental Baking Company (CBC) which has its headquarters in Saint Louis, Missouri. There is a local CBC office and site contact in San Francisco, California. Table 1 presents the name and address of the local CBC site contact and lists other important entities involved with the site investigation. Table 1 includes the regulatory agencies who will receive courtesy copies of reports and correspondence regarding this site investigation.

## **1.3 SITE DESCRIPTION**

### **1.3.1 Site Location and Local Land Use**

The site is located in the San Francisco Bay Area in the City of Dublin, California (Figure 1). Village Parkway is a major thoroughfare that runs parallel and to the east of Interstate 680. The local land use is commercial along Village Parkway, with residences located along the intersecting streets (Figure 2).

### **1.3.2 Site Vicinity and Local Land Use**

A review of public records has revealed a number of cases of leaking underground fuel tanks in the vicinity of the site. Appendix A is a report by Vista Environmental Information, Inc. showing sites within a one mile radius of the site which are listed in various government records.

## **1.4 SITE BACKGROUND**

The site is a baked goods distribution center and Thrift Store facility with an attached maintenance garage. The removed 4000-gallon underground storage tank was located at the rear of the facility (Figure 3). The precise age of the tank is unknown. However, this UST was reportedly at least 19 years old at the time of the removal and historically had been used to store diesel fuel for the delivery trucks. The UST was of single wall steel construction. A dispensing unit was also formerly located at the rear of the facility, immediately adjacent to the UST (Figure 3). The results of tank tests regularly performed prior to the UST removals did not suggest any problems with the integrity of the tank (Appendix B). There are currently no existing wells at the site. Appendix C contains the inventory reconciliation records for the diesel tank, as well as for an above ground waste oil tank still in use and not the subject of this investigation.

## **1.5 PREVIOUS WORK AND INVESTIGATIONS**

On December 17, 1992, one underground storage tank (UST) was excavated and removed from the Continental Banking Company site, located at 6841 Village Parkway in Dublin, California, as described by Woodward-Clyde Consultants (WCC) in their report dated October 11, 1993.

A 4,000-gallon fuel storage tank was removed from its underground location behind the facility. The age of the UST was estimated at least 19 years old at the time of the removal. Historically, this tank had been used to store diesel fuel for the delivery trucks. Personnel from the Alameda County Health Agency and from the Dougherty Regional Fire Authority were present during the time of the UST removal to conduct their respective inspections. No holes were found in the UST nor in the connecting pipes during the inspection.

Two closure samples were collected from the bottom of the excavation and they were analyzed for petroleum hydrocarbon constituents. Results from the analysis indicate that both samples contained elevated concentrations of diesel (2,200 and 1,600 mg/kg) and moderate levels of the more volatile fractions (ethylbenzene 38-88 µg/kg and total xylenes 60 and 53 µg/kg). No standing water or free product was observed at the site.

Four stockpile samples were collected from the removed soil and composited into one sample by the laboratory. This sample was analyzed for petroleum hydrocarbons, reactivity, corrosivity and ignitability to conform with the hazardous waste disposal characterization. Additionally, the composite sample was analyzed for lead as requested by the Alameda County Health Agency.

The analytical results of the composite sample indicate that 6,800 mg/kg of diesel and unknown hydrocarbons in the range of 220 mg/kg (possible weathered diesel) were reported. The tests indicated the soil was not corrosive, reactive or ignitable. The stockpiled soil totalling approximately 54 cubic yards was subsequently disposed at Forward, Inc. Landfill (Appendix D). Table 2 is a summary of the analytical results of the closure sampling. Table 3 is a summary of the stockpiled soil analyses for disposal.

## **1.6 REGULATORY REQUIREMENTS**

This Site Characterization Workplan falls under the jurisdiction of Chapter 6.7, Division 20 of the Health and Safety Code and the California Underground Storage Tank Regulations (Subchapter 16 of Title 23 of the California Code of Regulations). These regulations prescribe the activities required to investigate and mitigate soil and groundwater affected by the contents of USTs and its appurtenances. Guidance for conducting UST investigations in the Town of Ukiah is provided by the Regional Water Quality Control Board's (RWQCB) Tri-Regional Recommendations dated 10 August 1990, and Appendix A of these recommendations, dated 30 August 1991. Where these documents do not provide guidance, this investigation will proceed in accordance with the current Leaking Underground Fuel Tank (LUFT) guidelines prepared by the State Water Resources Control Board (SWRCB), dated October 1989.

The Appendix A of the Tri-Regional Board Recommendations contains an outline of the reporting requirements. In addition to this Site Characterization Workplan, the reporting requirements include:

1. The Preliminary Investigation and Evaluation Report (PIER), which presents whether the findings of the initial investigation indicate that only soil has been affected by the UST contents or if groundwater must also be investigated. Interim investigations are sometimes conducted in addition to the initial investigation until the lateral and vertical extent of affected soil and groundwater has been defined, prior to preparation of the next report.
2. A Soil Remediation Plan (SRP), which is prepared and implemented if soil only is found to be impacted during the initial investigation which provides the basis of the PIER.
3. The Problem Assessment Report (PAR) is prepared if groundwater is also found to be impacted. The PAR describes the lateral and vertical extent of a problem, and proposes mitigative or remedial actions to cleanup a site.
4. The Final Remediation Plan (FRP) contains proposals to the regulatory agencies of activities to remediate the problem(s) identified in the PAR, based upon negotiations between the Regulatory Agencies and the tank owner and their consultants.
5. Quarterly Status Reports (QSRs) will be submitted following the submission of the first investigation report. QSRs will continue to be submitted concurrent with the activities involved with the previously discussed reports until investigation and cleanup of the site is deemed adequate by the RWQCB.

## **1.7 TECHNICAL APPROACH**

### **1.7.1 Proposed Locations of Monitoring Wells**

The objective of the remedial site investigations is to provide adequate data to evaluate and delineate petroleum hydrocarbons in the soil and groundwater. Each site remedial investigation phase is designed to provide additional information on the horizontal and vertical extent of petroleum hydrocarbons in the soil and groundwater at the former diesel UST site. The purpose of the initial site investigation phase proposed in this work plan is to evaluate whether, or to what extent, the soil and shallow groundwater beneath this site has been affected by petroleum hydrocarbons. The initial site investigation includes the following soil boring/groundwater monitoring wells and sampling activities.

- (1) Drill 3 soil borings with two borings at locations verified during the public file review to be downgradient of the former 4,000-gallon diesel UST location. Collect and analyze soil samples at five-foot intervals.
- (2) Construct monitoring wells (to be designated MW1, MW2, and MW3) in the soil borings. Survey the wells for location and elevation, develop the wells, and measure depth to static groundwater. Examine the wells for free product. It is anticipated that the proposed wells will be completed to a depth of 20 feet below grade.
- (3) Collect and analyze groundwater samples from the monitoring wells for petroleum hydrocarbon constituents.

The borings/wells will be placed between the former UST location and the CBC facility property line to assess the lateral extent of fuel constituents within the property. The proposed well and boring locations are shown in Figure 3.

The available public file for 6973 Village Parkway (Corwood Carwash site) suggests that the groundwater gradient in the area flows to the southeast. At that site, groundwater was first encountered at 13 to 15 feet below ground and subsequently stabilized in monitoring wells at 6-1/2 to 7-1/2 feet below the ground surface. Monitoring well MW1 will be located within 10 feet to the southeast of the former diesel UST location. This location was selected to intercept groundwater which may have been impacted by a release associated with the former UST. Monitoring well MW2 is proposed at a location in the anticipated upgradient direction to the former UST. Analysis of soil and groundwater samples from MW2 will be used to

evaluate whether concentrations of petroleum hydrocarbon constituents (if detected) may have originated from an off-site, upgradient source. Monitoring well MW3 is proposed at a crossgradient location strategically selected to confirm the direction of the groundwater gradient.

### **1.7.2 Preliminary Investigation and Evaluation Report (PIER)**

Following completion of the initial field activities and the receipt of laboratory test results, a PIER will be prepared which will describe the initial site investigation activities. The report will follow RWQCB guidelines and will include:

- (1) a summary of field activities;
- (2) copies of boring logs with monitoring well construction details;
- (3) a site plan, drawn to scale, showing boring locations;
- (4) a groundwater elevation contour map showing the local flow direction;
- (5) geologic cross-sections;
- (6) petroleum hydrocarbon distribution maps, if appropriate;
- (7) field data sheets.

The PIER will include discussions of site location, history and background information, site description, investigation methods and procedures, and analytical results. Data interpretation methods and results will be discussed and presented with conclusions and recommendations for the need for additional work. The report and boring logs will be prepared with oversight by a registered geologist in California.



## PRELIMINARY INVESTIGATION

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## 2.1 SOIL INVESTIGATION

### 2.1.1 Boring Advancement and Soil Sample Collection

Three soil borings will be advanced at the proposed locations shown in Figure 3. The vicinities of all borings will be surveyed by an underground utility locator. If any underground utilities are discovered at the proposed boring locations, the boring will be relocated to a clear location nearby.

The borings will be advanced to depths of approximately 20 feet, or just below the groundwater table, using 6- or 8-inch hollow-stem augers on a truck mounted drill rig. Soil samples will be collected at 5-foot intervals beginning at 5 feet below grade. After the first boring has been advanced and the soil-water interface has been determined using a water interface probe, an attempt will be made to collect a sample from this depth from the next borings. The soil types encountered during drilling will be logged according to the Unified Soil Classification System and summarized on the boring logs.

*and at change  
of laboratory  
suspect  
contaminated  
soil.*

Sampling will be conducted using a 2- or 2.5-inch diameter modified California split-spoon sampler lined with clean brass tubes. The sampling unit will be decontaminated between uses. The sampler will be driven a maximum of 18 inches using a 140-pound hammer with a 30-inch drop. The number of blows required to drive the sampler the final 12 inches ("blow count") will be recorded on the logs. The soil samples will be retained in four 4-inch-long, 2-inch-diameter or similarly sized brass liners within the sampler. The bottom brass tube will be sealed with Teflon sheeting, plastic end caps, and then labeled and stored in an ice chest cooled with dry ice, and transported to the certified analytical laboratory, using chain-of-custody documentation, for analysis. The remaining soil in the brass tube liners will be examined by a qualified engineer or geologist to determine the soil types for descriptions consistent with the Unified Soil Classification System (USCS).

### **2.1.2 Quality Assurance Soil Samples**

One duplicate sample will be submitted to the analytical laboratory for analysis under a fictitious sample identification number ("blind"). The duplicate sample will be collected from the brass liner adjacent to the normal environmental sample. In order to assure representativeness, the adjacent ends of the liners will be marked for the laboratory to extract the sample for analysis. If a sample obviously contains petroleum hydrocarbons, the split-spoon sampler will be decontaminated as usual after sample collection, then rinsed with reagent-grade water which will be collected as a rinsate sample and analyzed. The analytical results of this rinsate sample will be reviewed for potential indications of cross-contamination due to decontamination procedures.

### **2.1.3 Soil Sample Analysis**

The soil samples will be submitted under chain of custody procedures to the analytical laboratory for chemical analysis. The analytical laboratory will be certified by the California Department of Toxic Substance Control for the analysis of hazardous materials. The samples will be analyzed by EPA method 8015 for total petroleum hydrocarbons quantified as diesel (TPH-diesel) and by EPA method 8020 for the petroleum hydrocarbon constituents of benzene, toluene, ethyl benzene, and xylenes (BTEX). These analyses were selected in accordance with the Tri-Regional Board Recommendations for the investigation of USTs in which diesel was stored.

In addition, a sieve analysis for the formation will be conducted for potential use to design future wells, if additional wells are necessary.

## **2.2 GROUNDWATER INVESTIGATION**

### **2.2.1 Monitoring Well Construction**

All three soil borings will be completed as groundwater monitoring wells. The proposed groundwater monitoring wells will be constructed of 4-inch diameter Schedule 40 polyvinyl chloride (PVC) piping with flush-threaded ends. The procedure for well installation follows:

- The drill rig and drilling equipment will be decontaminated by steam cleaning before and after drilling to minimize the potential for cross-contamination.
- Wells will be drilled utilizing 8-inch inner diameter (ID) hollow-stem augers. Split spoon soil samples or equivalent soil samples will be collected at approximately 5-foot intervals and will be used to prepare lithologic logs as discussed previously.
- Wells will be screened from below the level where the water table is first encountered. The screen will extend approximately 2 to 5 feet above the anticipated static water table. The screen length shall be 10 feet.
- Four-inch schedule 40 PVC casing and 0.020-inch slot size PVC screen will be installed through the hollow-stem auger. The bottom of the well will be capped with a slip cap secured in place with screws.
- Sand pack will be placed by the tremie method as the augers are removed. A conservatively small sand size such as Lone Star No. 2/12 will be selected to reduce the amount of sediment entering the well. The sand pack depth will be sounded continuously to ensure a solid pack with no bridging. The sand pack will extend approximately 2 feet above the top of the screen.
- Two to three feet of bentonite pellets will be placed into the borehole and hydrated with fresh water to form a seal above the sand pack.
- Neat cement grout will be installed from the top of the bentonite seal to the ground surface. The grout will be pumped through a tremie pipe from the bottom of the remaining annulus to the surface. The grout will be allowed to set for 24 hours prior to well development.
- Wells will be completed at grade, with a watertight locking cover and traffic-rated box.

Figure 4 shows a typical well construction detail.

### **2.2.2 Well Development**

The well will be allowed to set 24 hours or more after construction prior to well development. The well will be developed by a combination of bailing, surging, and pumping until the discharge water is relatively free of settleable solids or a maximum of 10 well casing volumes has been evacuated from the well. Particulate matter in water causes certain types of pumps to stall. Therefore bailing and surging are required during the early stage of well development to remove sand or larger particles. After the majority of particulate matter has been removed from the well, development will continue using a pump. Certain water quality parameters will be measured and recorded during development. Following development, the well will be allowed to stabilize for at least 72 hours prior to groundwater sampling.

### **2.2.3 Water Level Determination and Groundwater Monitoring**

The well will be surveyed by a licensed land surveyor for horizontal location and elevation relative to a referenced and established benchmark to a precision of 0.01 foot. The surveyor will produce a scaled site plan showing the boring locations, buildings, paved and unpaved areas. If their locations are known, subsurface utility lines and conduits will also be shown in the site plan. The site plan will show the approximate location of former UST. The precise location of the former UST will not be provided because the UST has been removed and scaled plans of the site showing the former UST location are unavailable. Depths to groundwater will be measured from the surveyed reference point at the top of the well casing. Water levels will be measured to the nearest 0.01 foot, prior to any purging activities to avoid disturbance of the static water table. This information will be used to determine the groundwater elevation and groundwater gradient direction. An oil-water interface probe will be used to measure the thickness of any floating immiscible layer, if present. The presence or absence of an immiscible layer above the shallow groundwater will be visually confirmed using a clear bailer.

#### **2.2.4 Groundwater Sample Collection**

Prior to sampling, the wells will be purged to get representative groundwater into the wells. Three to five well casing volumes of groundwater will be purged from each well. Water quality parameters including pH, temperature, and specific conductance will be recorded during well purging. Samples will be collected when these parameters have stabilized, however the water level will be allowed to return to at least 80 percent of its static level prior to sample collection. Stabilization of these water quality parameters suggests that the water within the well is representative of the groundwater around the well. Purge water will also be inspected in the field for the presence of odor and sheen. Groundwater samples will be collected using clean Teflon™ bailers decontaminated after each use. Water samples will be decanted into containers provided by the analytical laboratory specifically designed and prepared to prevent loss of volatile organic constituents from the sample. Samples will be labeled with identifying information and transported under standard chain of custody procedures to an analytical laboratory that is certified by the State of California Department of Toxic Substances Control for the analysis of hazardous materials.

#### **2.2.5 Quality Assurance Water Samples**

One duplicate and one rinsate sample will be collected to check for potential cross-contamination. In addition, a travel blank will accompany the cooler in which the samples are stored during transportation from the laboratory, to the site, and back to the laboratory.

The duplicate and rinsate samples will be analyzed for the same parameters as the normal samples. The travel blank will be analyzed for volatile organic hydrocarbons only.

#### **2.2.6 Water Sample Analysis**

The groundwater samples from all wells will be analyzed for TPH-diesel by EPA Method 8015 and for BTEX by EPA Method 8020.

**DECONTAMINATION PROCEDURES**

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All down-hole drilling equipment such as augers and well development equipment will be steam-cleaned between wells. The California split-spoon sampler, brass tube liners, oil-water interface probe/water level indicators and bailers will be decontaminated before use by washing in an Alconox™ solution followed by two tap water rinses and one deionized water rinse.

**WASTE DISPOSAL**

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All drill cuttings, purged groundwater, and equipment decontamination water will be collected in DOT-approved drums and left on site pending characterization, acceptance and transportation to an appropriate disposal facility. To ensure proper handling, treatment and/or disposal, the drums will be labeled. The labels will include the date of collection, the site address, waste material, material origins (e.g. well number), and the name and phone number of a contact person to whom questions may be addressed.

**SITE HEALTH AND SAFETY PLAN**

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The site health and safety plan is attached with this work plan as Appendix E. This health and safety plan outlines the measures that will be taken to ensure the health and safety of all workers, regulators, and public at the site.



**6.0**  
**SCHEDULE**

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Drilling will be scheduled pending approval of the well permit applications and this work plan and contractor availability. Well development will be conducted at least 24 hours following completion of the wells in order to allow the seals to set. Water samples will be collected at least 72 hours following well development. All samples will be analyzed using standard laboratory turnaround times (3 weeks). A report on the findings would be submitted within four weeks of receipt of the final analytical reports.

**REFERENCES**

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Woodward-Clyde Consultants, Underground Storage Tank Removal and Closure Report, 6841 Village Parkway, Dublin, California, October 11, 1993.

State of California Regional Water Quality Control Board, Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, August 10, 1990 and Appendix A - Reports, August 30, 1991.

**TABLE 1**  
**LIST OF CONTACTS**  
**CONTINENTAL BAKING COMPANY FACILITY**  
**6841 VILLAGE PARKWAY**  
**DUBLIN, CALIFORNIA**

---

**Facility Owner/Operator:**

Continental Baking Company  
1525 Bryant Street  
San Francisco, California 94103

Fred Dannecker  
(415) 552 0950

**Environmental Consultants to Continental Baking Company:**

Woodward-Clyde Consultants  
500-12th Street, Suite 100  
Oakland, California 94607

Jo Beth Folger  
(510) 874 3138

**Lead Implementing Agency:**

Alameda County Health Agency  
80 Swan Way, Room 200  
Oakland, California 94621

Eva Chu  
(510) 271 4530

**Regional Water Quality Control Board:**

Regional Water Quality Control Board  
1800 Harrison Street  
Oakland, California 94612

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TABLE 2

ANALYTICAL RESULTS (IN MG/KG, OR PPM) FOR SOIL SAMPLES COLLECTED IN  
SUPPORT OF THE UNDERGROUND STORAGE TANK CLOSURE AT THE CONTINENTAL  
BAKING COMPANY FACILITY  
6841 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

Sample Location	Sample Depth (feet)	Collection Date	Modified EPA 8015/8020							CA DHS 938
			TPH-D	TPH-K	TPH-O	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Organic Lead
TP1	10.5	12/17/92	2,200	<10	<100	<0.020	<0.020	0.038	0.060	<0.50
TP2	10	12/17/92	1,600	<10	<100	<0.020	<0.020	0.088	0.058	<0.50

Notes:

- TPH-D: Total Petroleum Hydrocarbons quantified as diesel.
- TPH-K: Total Petroleum Hydrocarbons quantified as kerosene.
- TPH-O: Total Petroleum Hydrocarbons quantified as motor oil.

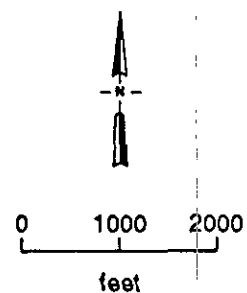
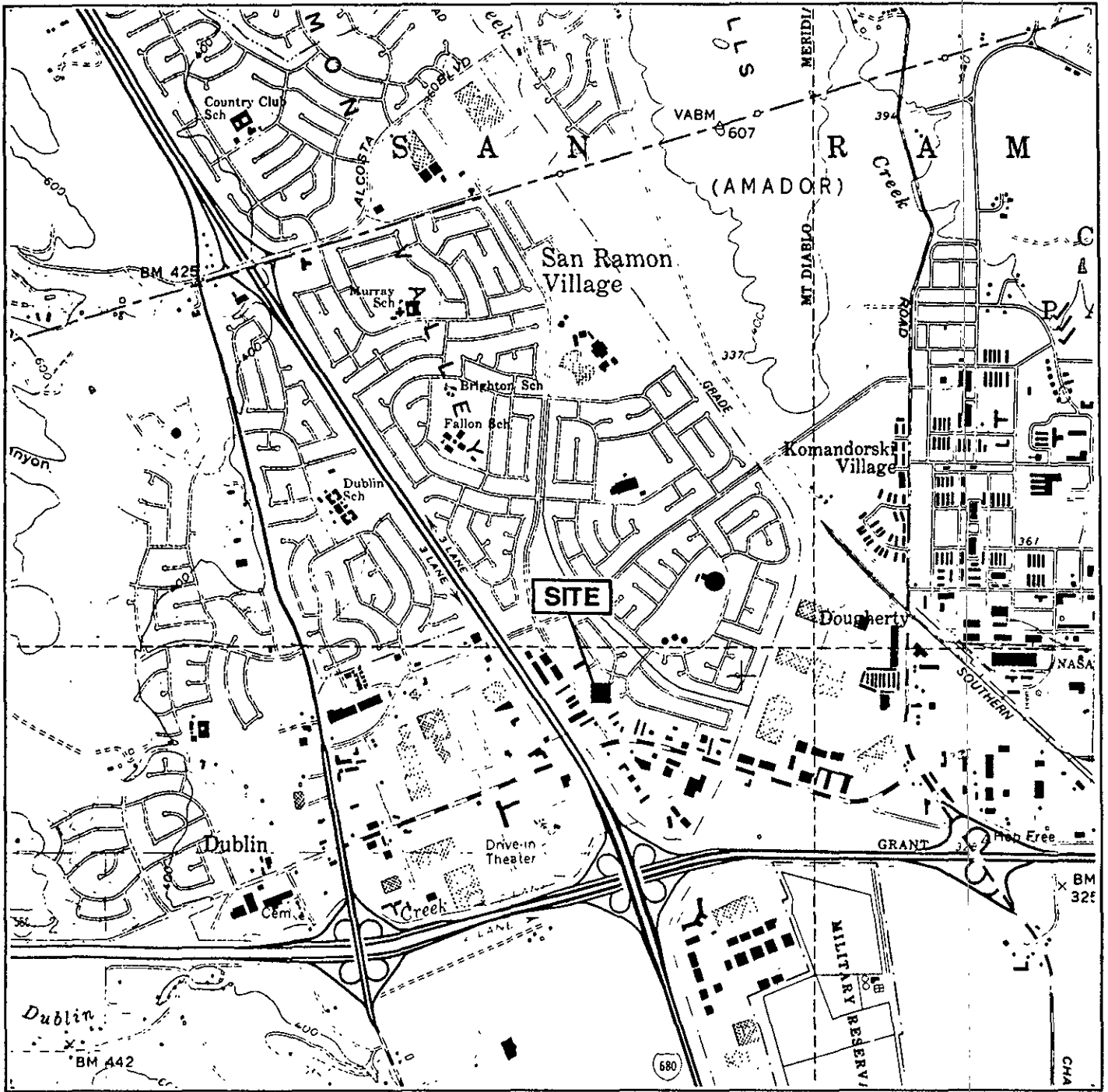
TABLE 3

ANALYTICAL RESULTS OF COMPOSITE SOIL SAMPLE  
 COLLECTED FROM EXCAVATED SOIL FOR UST REMOVAL  
 AT 6841 VILLAGE PARKWAY, SALINAS, CALIFORNIA

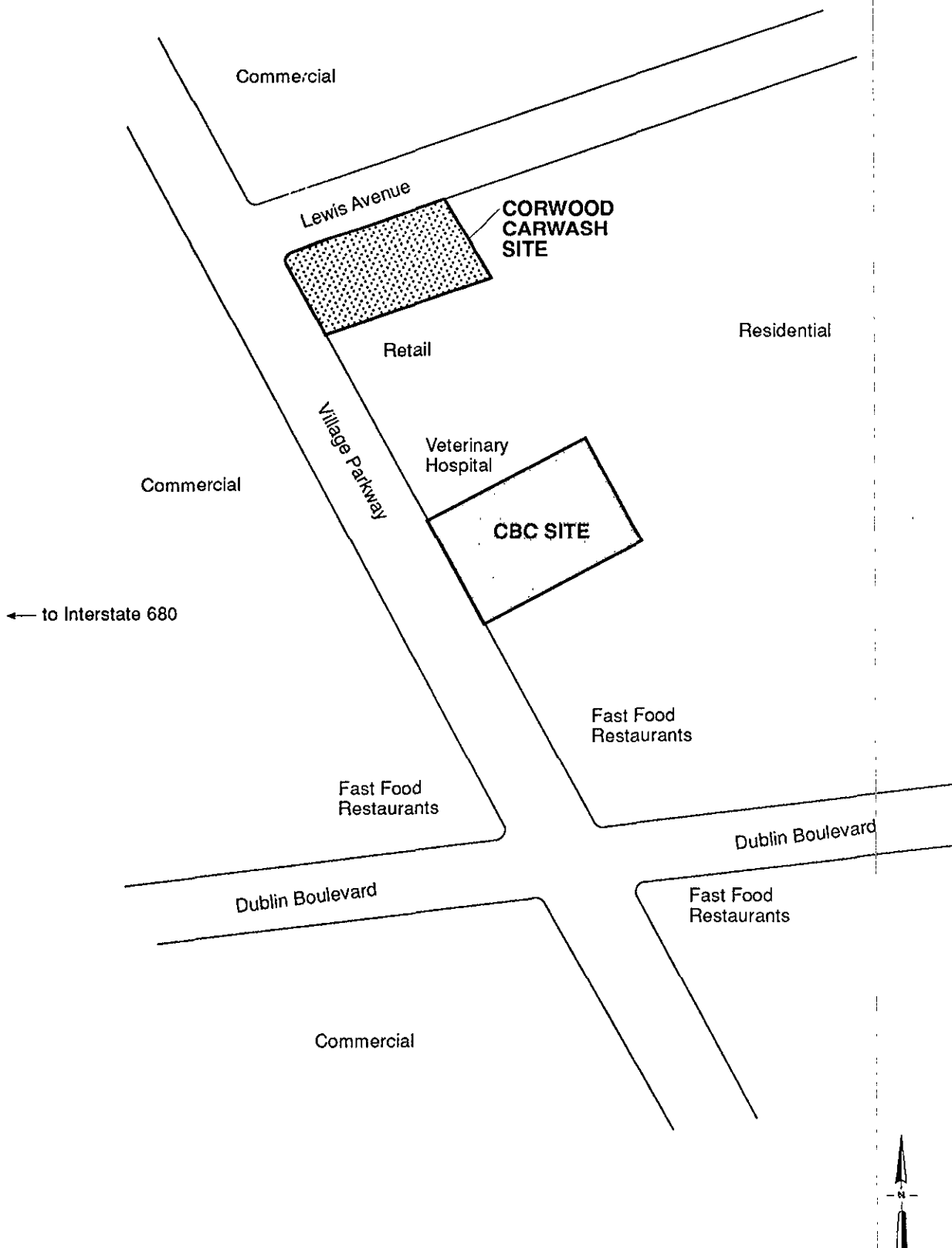
Sample ID: SP1-A,B,C,D		Collection Date: 12/17/993
Analysis	Concentration	
TPH-Diesel	6,800 mg/kg	
TPH-Gas	<20 <sup>1</sup> mg/kg	
TPH-Kerosene	<50 mg/kg	
TPH-Oil	<50 mg/kg	
TPH-Unknown	220 <sup>1</sup> mg/kg	
Benzene	<0.10 mg/kg	
Toluene	<0.10 mg/kg	
Ethylbenzene	0.11 mg/kg	
Total Xylenes	0.16 mg/kg	
Reactivity-Cyanide	<10 mg/L	
Reactivity-Sulfide	<10 mg/L	
Corrosivity	8.4 pH	
Ignitability	>70 °C	

Notes:

<sup>1</sup> The chromatographic pattern of the sample did not match those of the laboratory standard for TPH-Gas. This component was semi-quantitated by comparison to the gasoline standard and is reported as "unknown." This is likely the lighter portion of diesel carrying over into the gasoline analysis.

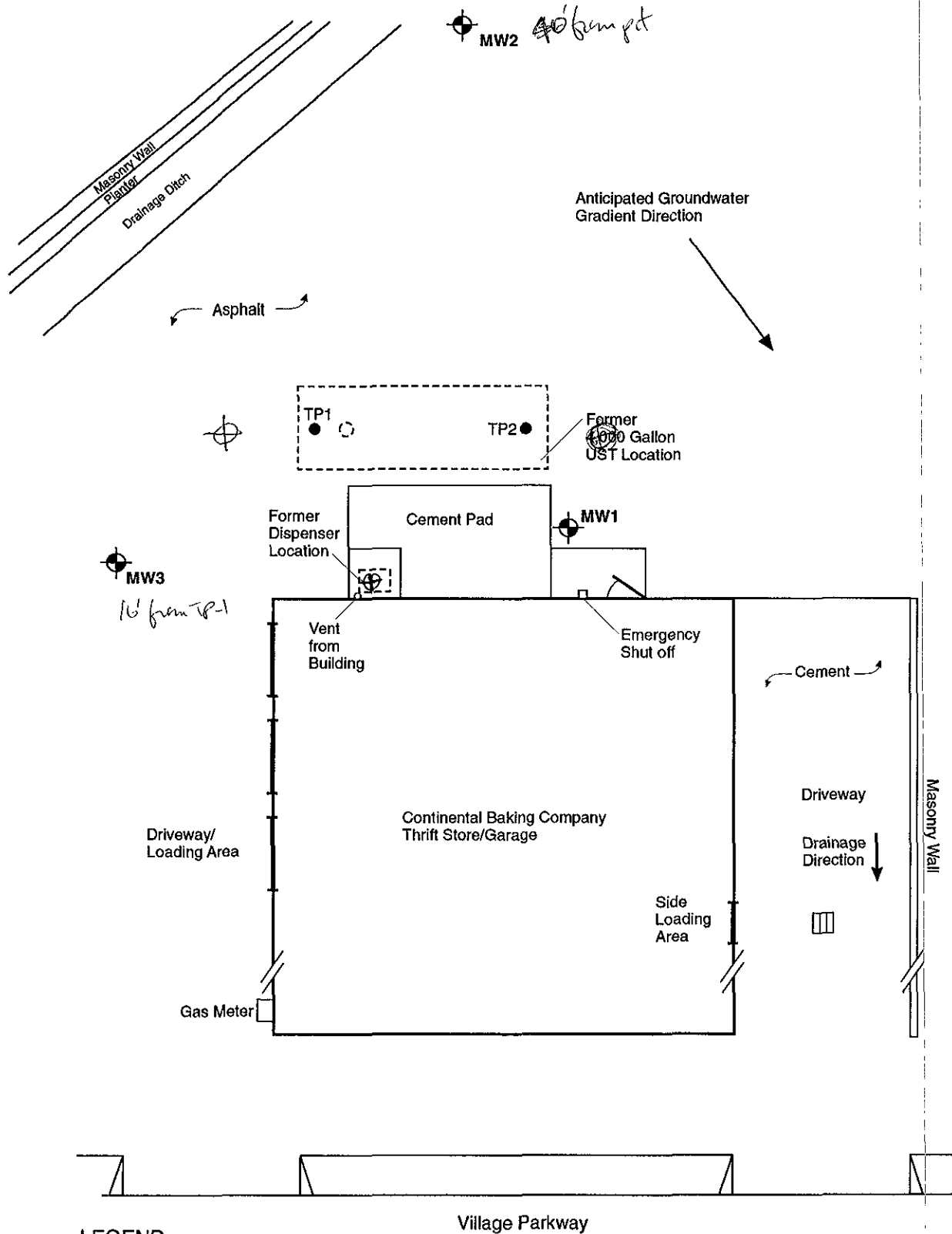


Project No. 92CB037	Continental Baking Company 6841 Village Parkway Dublin, California	SITE LOCATION	Figure 1
<b>Woodward-Clyde Consultants</b>			






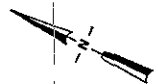
(not to scale)

Project No. 92CB037	Continental Baking Company 6841 Village Parkway Dublin, California	<b>LOCAL LAND USE</b>	<b>Figure 2</b>
<b>Woodward-Clyde Consultants</b>			



**LEGEND**

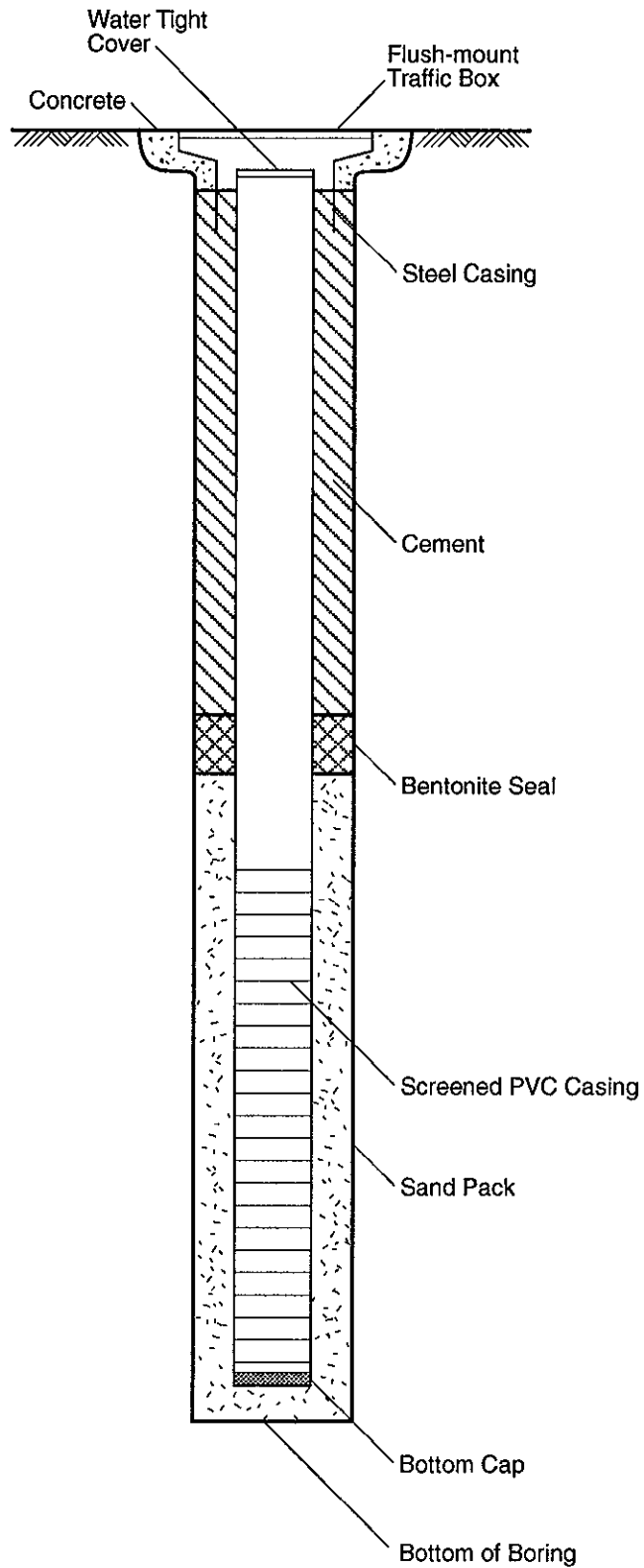
-  Proposed Monitoring Well Locations
-  Tank Closure Soil Sample Locations
-  Storm Drain



(not to scale)

Project No. 92CB037	Continental Baking Company 6841 Village Parkway Dublin, California	<b>SITE PLAN AND LOCATIONS OF UST CLOSURE SOIL SAMPLES</b>	<b>Figure 3</b>
<b>Woodward-Clyde Consultants</b>			





Project No. 92CB037	Continental Baking Company 6841 Village Parkway Dublin, California	<b>TYPICAL MONITORING WELL CONSTRUCTION</b>	Figure 4
<b>Woodward-Clyde Consultants</b>			

**APPENDIX A**  
**VISTA ENVIRONMENTAL INFORMATION, INC. REPORT**

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CLIENT NAME	: WOODWARD-CLYDE
ATTENTION	: JO BETH FOLGER
ADDRESS	: 500 12TH ST STE 100
CITY/STATE/ZIP	: OAKLAND, CA 94607
REF/LOAN #	: CONTINENTAL BAKING

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VISTA REPORT NUMBER	: 1/028109-001
DATE OF REPORT	: 10/12/1993
SUBJECT PROPERTY	: 6841 VILLAGE PARKWAY
CITY/COUNTY/STATE/ZIP	: DUBLIN, ALAMEDA, CA 94566

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Dear Client:

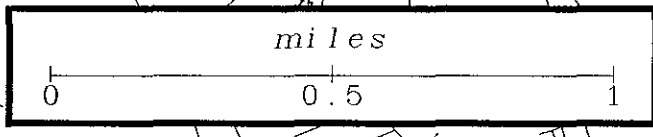
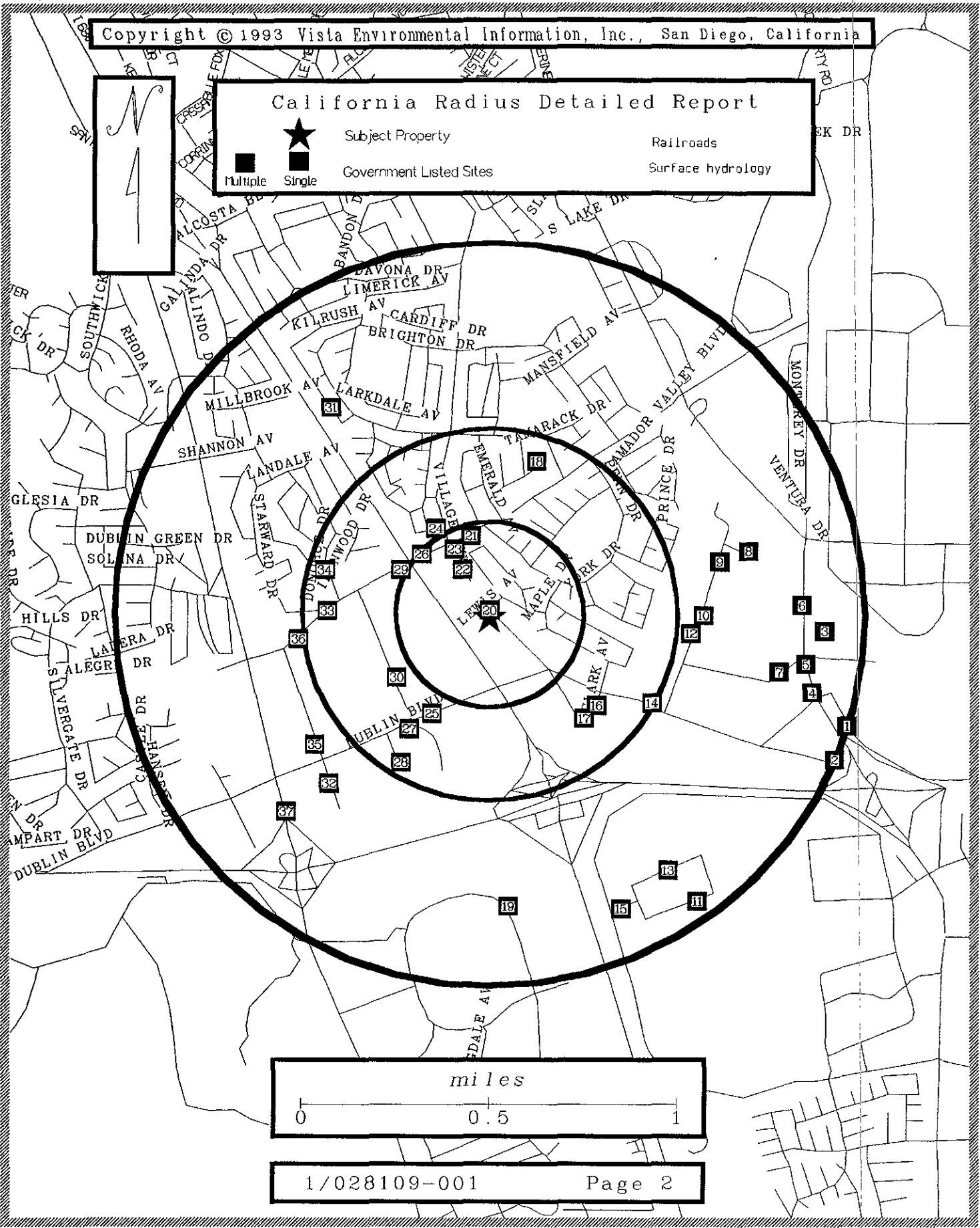
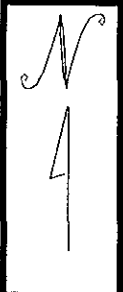
In response to your recent order for services, we enclose your *Vista California Radius Detailed Report*. We hope you find the information helpful in your investigation. In the event you require additional information about any site identified in this report, please contact our *Customer Service Department* at (619) 450-6100.

Please remember that this report represents only a search of the specific government records listed in the table of contents. Vista is aware of additional government record sources that have not been included in this report and Vista makes no representations of adequacy for Client's purposes. Please be aware that government environmental records often have incomplete or inaccurate locations and that all reports reflect locations of street addresses and do not necessarily indicate the size or specific location of any site. In addition, please recognize that government agencies do not list all sites of environmental contamination. Therefore, this report should not be used as a substitute for a complete Phase I Assessment.

This report is intended only for the use and benefit of the Client, and their assigns, who shall be the only parties authorized to review this report. This report is provided pursuant to a subscription agreement with Vista Environmental Information, Inc., and is subject to all of the terms and conditions thereof, SPECIFICALLY INCLUDING, BUT NOT LIMITED TO, PROVISIONS REGARDING CLIENTS USE AND LIMITATIONS OF VISTA ENVIRONMENTAL INFORMATION, INC.'S LIABILITY. We appreciate your patronage.

### California Radius Detailed Report

		Subject Property		Railroads
		Government Listed Sites		Surface hydrology



## LIST OF RECORDS SEARCHED

This report represents a search of the following government database sources:

<u>DATABASE</u>	<u>TYPE OF RECORDS</u>	<u>AGENCY</u>
<i>CERCLIS</i>	: Contaminated Sites Under CERCLA (1980)	U.S. EPA
<i>NPL</i>	: Federal Superfund Sites	U.S. EPA
<i>LIENS</i>	: Filed Notices of Superfund Liens	U.S. EPA
<i>CORTESE</i>	: Hazardous Waste & Substances Site List	CAL-EPA
<i>CAL-SITES/ AWP</i>	: Contaminated sites listed on the Annual Work Plan, and cleanup sites under the Bond Expenditure Plan	California EPA
<i>BZP</i>	: Sites designated as Border Zone Properties (Deed Restrictions)	California EPA
<i>CAL-SITES/ ASPIS</i>	: Actually or potentially contaminated sites under the Abandoned Site Program	California EPA
<i>HWIS</i>	: Hazardous Waste Generators, Treatment, Storage & Disposal Facilities	California EPA
<i>SWIS</i>	: Active & Inactive Sanitary Landfills and Disposal Facilities	California Waste Management Board
<i>LUST</i>	: Leaking Underground Storage Tanks	California Regional Water Resources Control Boards

Due to the scale of the map, red and green squares on the map may represent more than one agency listing or location. For a detailed description of each source, please refer to the legends on the following pages.

For more information please call your VISTA account representative at (619) 450-6100.

## CERCLIS

*The information presented in this report is updated to June, 1993.*

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Since 1982, U.S. EPA has developed and maintained lists of contaminated properties under the federal Superfund program pursuant to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), 42 U.S.C. Section 9601 (1985). U.S. EPA discovers these sites from citizen reports, routine inspection of hazardous waste generators, treatment, storage and disposal facilities, and reporting requirements.

MAP ID NO.	SITE NAME STREET ADDRESS, CITY and ZIP	EVENT* TYPES	EPA ID, REGIONAL UTILITY DESCRIPTION*
11	NUCLEPORE CORP 7035 COMMERCE CIR PLEASANTON 94566	DS1 HR1 PA1 SI1 SI2-N	CAD981171648 ERRIS SITE

\* See key on last page for definition

## NATIONAL PRIORITY LIST (NPL)

*The information presented in this report is updated to June, 1993.*

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U.S. EPA maintains this list under the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) 42 U.S.C. Section 9601 (1985). Once sites have been designated on the CERCLIS List, U.S. EPA uses its Hazard Ranking System (HRS) to determine potential risks to human health and the environment. Only those CERCLIS sites which present the greatest risk are added to the NPL, which qualifies the sites to receive CERCLA remedial funding.

MAP ID NO.	SITE NAME, STREET ADDRESS, CITY and ZIP	EPA ID, REGIONAL UTILITY DESCRIPTION*
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As of the date listed above, no sites listed in this database are located within a one mile radius of the subject property.

\* See key on last page for definition

**FEDERAL SUPERFUND LIENS (LIENS)**

*The information presented in this report is updated to September, 1991.*

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Under Section 107(L) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) 42 U.S.C. Section 9607 (1), US EPA has authority to file liens against real property to recover clean up, response, and any other expenditure made by US EPA under the CERCLA program. US EPA has prepared a listing of filed notices of Superfund liens which is updated quarterly. Because these liens are "statutory liens," they arise when the agency spends money on a site or when notification of potential liability is received by the owner of the property. EPA maintains that these liens can arise without filing, however, and they suggest checking CERCLIS sites for lien status.

MAP

ID

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NO.	SITE NAME	LOCATION	DATE FILED	RELEASE DATE
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As of the date listed above, no sites listed in this database are located within a one mile radius of the subject property.



**HAZARDOUS WASTE AND SUBSTANCES SITES LIST**  
**CORTESE**

*The information presented in this report is updated to November, 1992.*

The California Environmental Protection Agency (Cal-EPA) publishes a compilation of sites throughout the State of California. Under Government Code Section 65962.5, these sites are submitted to the Cal-EPA by the State Water Resources Control Board, the Integrated Waste Management Board, and the Department of Toxic Substances Control. The sites are extracted from the following databases:

A1025	Regulated Air Emissions at 10-25 tons/day.	IUR	Inventory Update Rule (Chemical Manufacturers)
AGT25	Regulated Air Emissions greater than 25 tons/day.	LTANK	Leaking Tank
ASPIS	Abandoned Sites Program Information System (included in CALSITES)	S1987 - S1990	California TRIS
DTSCD	Department of Toxic Substance Control Docket	SWRCB	State Water Resources Control Board
FINDS	Facility Index System	UTANK	Underground Tank
HWIS	Hazardous Waste Information System	WB-LF	Waste Board - Leaking Facility (site has known migration)
		WDSE	Waste Discharge System - Enforcement Action

MAP ID NO.	SITE	LOCATION	CITY	ZIP	DATABASE	AGENCY ID
3	AMERICAN CITIES TIRE SERVICE	6310 HOUSTON PL	DUBLIN	94568	LTANK	N/A
11	NUCLEPORE CORPORATION	7035 COMMERCE CIR	PLEASANTON	94566	LTANK	N/A
11	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566	S1987	10882
11	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566	S1988	10882
11	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566	S1989	10882
11	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566	S1990	10882
11	NUCLEPORE CORP	7035 COMMERCE CIR	PLEASANTON	94566	HWIS	CAD981171648
11	NUCLEPORE CORPORATION	7035 COMMERCE CIR	PLEASANTON	94566	FINDS	CAD981171648
11	NUCLEPORE	7035 COMMERCE CIR	PLEASANTON	94566	HWIS	CAX000031302
17	LUCKY STORES	6300 CLARK AVE	DUBLIN	94568	LTANK	N/A
21	SHELL	7194 AMADOR VALLEY BLVD	DUBLIN	94566	LTANK	N/A
21	GEORGE GRAY SHELL SERVICE	7194 AMADOR VALLEY BLVD	DUBLIN	94566	UTANK	28574

CORTESE continued...

MAP ID NO.	SITE	LOCATION	CITY	ZIP	DATABASE	AGENCY ID
23	MOBIL	7197 VILLAGE PKWY	DUBLIN	90017	LTANK	N/A
23	VILLAGE PARKWAY MOBILE	7197 VILLAGE PKWY	DUBLIN	90017	HWIS	CAL000019647
24	ARCO	7249 VILLAGE PKWY	DUBLIN	90071	LTANK	N/A
24	ARCO PRODUCTS FACILITY 6041	7249 VILLAGE PKWY	DUBLIN	90071	HWIS	CAL000009873
25	CHEVRON	7420 DUBLIN BLVD	DUBLIN	94583	LTANK	N/A
25	CHEVRON STATION #92582	7420 DUBLIN BLVD	DUBLIN	94583	HWIS	CAL000041749
26	UNOCAL	7375 AMADOR VALLEY BLVD	DUBLIN	N/A	LTANK	N/A
26	UNION OIL SS#5366	7375 AMADOR VALLEY BLVD	DUBLIN	N/A	UTANK	3260
26	UNOCAL SERVICE STATION #5366	7375 AMADOR VALLEY BLVD	DUBLIN	N/A	HWIS	CAL000000572
26	AMADOR UNION	7375 AMADOR VALLEY BLVD	DUBLIN	N/A	HWIS	CAL000021394
27	CHEVROLET-CROWN	7544 DUBLIN BLVD	DUBLIN	94568	LTANK	N/A
27	MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	N/A	LTANK	N/A
27	DUBLIN-MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	N/A	UTANK	63278
27	CROWN CHEVEROLET CO.	7544 DUBLIN BLVD	DUBLIN	94568	HWIS	CAD045290335
27	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	94568	FINDS	CAD981638968
27	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	94568	HWIS	CAD981638968
27	MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	N/A	HWIS	CAL000041159
29	DODGE PROPERTY	7400 AMADOR VALLEY BLVD	DUBLIN	94568	LTANK	N/A
32	TRANSAMERICA TITLE CO	6850 REGIONAL ST	DUBLIN	94010	LTANK	N/A
34	DSRSD FIRE STATION #1	7494 DONOHUE DR	DUBLIN	94568	LTANK	N/A

CORTESE continued...

MAP  
ID

NO.	SITE	LOCATION	CITY	ZIP	DATABASE	AGENCY ID
37	CHEVRON	7007 SAN RAMON RD	DUBLIN	N/A	LTANK	N/A
37	95542	7007 SAN RAMON RD	DUBLIN	N/A	UTANK	62768
37	CHEVRON STATION #95542	7007 SAN RAMON RD	DUBLIN	N/A	HWIS	CAL000030034

## CAL-SITES (AWP)

*The information presented in this report is updated to July, 1993.*

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The Annual Work Plan (AWP) contains a listing of all verified hazardous waste sites that are or will be targeted for abatement by the California Environmental Protection Agency under the Hazardous Substance Cleanup Bond Act of 1984 (Health and Safety Code Section 25356) and the Hazardous Substance Account (HSA). Hazardous waste sites may be discovered by the department directly or referred to the department for confirmation and follow up action by another government agency, such as a local health department, a Regional Water Quality Control Board, a responsible party or a concerned citizen. New sites are added to this database as they are verified and the "Preliminary Assessment, Site Investigation and Hazard Ranking System" processes are completed. This database is updated once annually after approval of the California state legislature and has been incorporated into the CAL-SITES database.

This database currently contains a list of approximately 250 sites in the State of California.

MAP ID NO	SITE NAME	STREET ADDRESS	CITY	ZIP	SITE INFORMATION*
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As of the date listed above, no sites listed in this database are located within a one mile radius of the subject property.

\* See key on last page for definition

**BORDER ZONE PROPERTY ACT SITES**  
**(DEED RESTRICTIONS)**

*The information provided in this report is updated to September, 1992.*

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In accordance with Assembly Bill 816, and the Hazardous Waste Property/Border Zone Property Law (Health & Safety Code 25220), the CAL-EPA, Toxic Substances Control Program (TSCP) enters into voluntary deed restriction agreements with owners of property who propose building residences, schools, hospitals or day care centers on property that is "on or within 2,000 feet of a significant disposal of hazardous waste". Restrictions may include "activities on, over, or under the land, including, but not limited to, a prohibition against building, filling, grading, excavating, or mining" without the written permission of the TSCP.

This bill requires the TSCP to "notify the planning and building department of each city, county, or regional council of governments when a land use restriction has been recorded, and would require the planning and building department to enforce the restriction," although the TSCP has compiled a list of properties subject to environmental deed restrictions which is used to notify various building and planning departments in local jurisdictions.

MAP ID NO.	SITE NAME	ADDRESS	CITY	ZIP
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As of the date listed above, no sites listed in this database are located within a one mile radius of the subject property.

## CAL-SITES (ASPIS)

*The information presented in this report is updated to July, 1993.*

Developed under Section 25359.6 of the Health and Safety Code, the California EPA Toxic Substance Control Program (TSCP) maintains a listing of potential and known hazardous waste sites. TSCP staff have interviewed officials from county health agencies, local fire departments, county agricultural commissioners, and other local agencies that could reasonably be expected to have information regarding potential waste sites. The Regional Water Quality Control Boards, Department of Fish and Game and other state environmental regulatory agencies' TSCP staffs also review historical land use data sources to generate lists of potentially contaminated sites.

This database was formerly known as the Abandoned Site Program Information System, but was integrated into the CAL-SITES database in 1991. Information concerning most of these sites should be considered preliminary although most confirmed sites from this database are merged into the AWP once they have been hazard ranked. This database currently contains more than 26,000 sites in the State of California.

MAP ID NO.	FACILITY NAME	LOCATION	CITY	ZIP	FACILITY NO.	STATUS CODE*
4	BLALOCKS	6398 DOUGHERTY ROAD	PLEASANTON	94566	01370025	NFA
7	HEXCEL MEDICAL PRODUCTS	6700 SIERRA LANE	DUBLIN	94568	01280053	NFA
8	ACCURA-MED CORPORATION	6575 TRINITY COURT	DUBLIN	94568	01380002	NFA
12	EKOHWERKS	6488 SIERRA COURT	DUBLIN	94568	01350110	NFA
12	MULTISONICS INC	6444 SIERRA COURT	DUBLIN	94568	01360035	NFA
13	ENCOR INC	7074 COMMERCE CIRCLE	PLEASANTON	94566	01350009	NFA
13	GHIA CORPORATION	7071 COMMERCE CIRCLE	PLEASANTON	94566	01350060	NFA
13	PERFORMANCE ENGINE & MANUFACTURING C	7066 COMMERCE CIRCLE	PLEASANTON	94566	01370010	NFA
14	AMADOR VALLEY MOVING AND STORAGE	6855 DUBLIN BOULEVARD	PLEASANTON	94566	01420038	NFA
16	ADVANCE TECHNOLOGY ASSOCIATION	6377 CLARK AVENUE	PLEASANTON	94566	01890008	NFA

\* See "Key to Terms" on last page of report for definition

CAL-SITES (ASPIS) continued...

MAP ID NO.	FACILITY NAME	LOCATION	CITY	ZIP	FACILITY NO.	STATUS CODE*
18	DEMCO-DUBLIN ENGINEERING & MFG COMPA	7263 ELBA COURT	DUBLIN	94568	01890007	NFA
20	RICH WATER INC	7000 VILLAGE PARKWAY	PLEASANTON	94566	01500095	NFA
22	1' OLD SHOPPE	7106 VILLAGE PARKWAY	DUBLIN	94568	01560001	NFA
24	BRASS DECOR	7515 SUTTON LANE	PLEASANTON	94566	01360044	NFA
24	ESTLER'S OF DUBLIN	7301 VILLAGE PARKWAY	PLEASANTON	94566	01720038	NFA
31	SERVPRO OF DUBLIN	8049 ELGIN LANE	PLEASANTON	94566	01720030	NFA

\* See "Key to Terms" on last page of report for definition

## HAZARDOUS WASTE INFORMATION SYSTEMS (HWIS)

*The information presented in this report is updated to December, 1992.*

The California Department of Health Services, Toxic Substances Control Division, has developed and maintained lists of hazardous waste generators and hazardous waste treatment storage and disposal facilities in the State of California, pursuant to the Hazardous Waste Control Law (Health and Safety Code Section 25100 et seq.), and the Hazardous Waste Management Act of 1976 (Health and Safety Code Section 25179.1 et seq). In addition, this law requires all counties to prepare and submit hazardous waste management plans. To assist the counties, the Toxic Substances Control Division maintains lists containing generation and disposal data within each county. This information has been assembled by the Toxic Substances Control Division from manifest reports required from hazardous waste generators. This database currently lists over 20,000 sites in the state of California.

MAP ID NO.	EPA NO.	FACILITY NAME	ADDRESS	CITY	GEN/TSD *
1	CAL000038344	GILS BODY WORKS	6392 SCARLETT CT	DUBLIN	GEN
2	CAD982059099	UNOCAL SVC STA #6419	6401 DUBLIN BLVD	DUBLIN	GEN
5	CAD982471401	ENZYME SYSTEMS PRODUCTS	6497 SIERRA LANE	DUBLIN	GEN
6	CAL000015561	GOODYEAR TIRE CENTER	6000 DOUGHERTY ROAD	DUBLIN	GEN
7	CAD982496549	LABEL CONCEPTS INC	6700 SIERRA LANE	DUBLIN	GEN
8	CAD981660913	TVA ELECTRONICS	6575 TRINITY CT SUITE A	DUBLIN	GEN
9	CAD981994239	CONTINUOUS EXTRUDED PRODUCTS	6800A SIERRA COURT	DUBLIN	GEN
9	CAL912524306	ZENDEX CORPORATION	6780 SIERRA COURT, STE A	DUBLIN	GEN
10	CAL913313332	JAMES ALLYN PRINTING	6591 G SIERRA LANE	DUBLIN	GEN
11	CAD981171648	NUCLEPORE CORP	7035 COMMERCE CIRCLE	PLEASANTON	GEN
13	CAD981166051	GELMAN SCIENCES	7079 COMMERCE CIRCLE	PLEASANTON	GEN
15	CAD982482317	ALLIED ECOLOGY SERVICES, INC.	7066 A COMMERCE CIRCLE	PLEASANTON	GEN
16	CAD047413034	FOREMOST-MCKESSON RESEARCH CENTER	6363 CLARK AVE	DUBLIN	GEN
19	CAD982032013	STONERIDGE MOTORS INC	5940 STONERIDGE MALL RD	PLEASANTON	GEN
20	CAL000036893	JOHN AND BILLS TRANSMISSION	7016 VILLAGE PKWY	DUBLIN	GEN

\* See "Key to Terms" on last page of report for definition



HWIS continued...

MAP ID NO.	EPA NO.	FACILITY NAME	ADDRESS	CITY	GEN/TSD*
20	CAL000041350	MIDAS MUFFLER	6955 VILLAGE PARKWAY	DUBLIN	GEN
22	CAD981689425	PARKWAY BODY SHOP	7130 VILLAGE PKWY	DUBLIN	GEN
22	CAL000035360	BP OIL COMPANY	7149 VILLAGE PARKWAY	DUBLIN	GEN
24	CAL000009873	ARCO PRODUCTS FACILITY 6041	7249 VILLAGE PARKWAY	DUBLIN	GEN
25	CAD981171192	SHAMROCK FORD CHRYSLER PLYMOUTH	7499 DUBLIN BLVD	DUBLIN	GEN
25	CAL000041749	CHEVRON STATION #92582	7420 DUBLIN BLVD	DUBLIN	GEN
27	CAD981638968	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	GEN
28	CAD981639834	GALLUCCI BODY & PAINT	6401 GOLDEN GATE DR	DUBLIN	GEN
29	CAL000045005	DUBLIN VETERINARY HOSPITAL	7410 D AMADOR VALLEY BLD	DUBLIN	GEN
30	CAD981658990	DUBLIN HONDA	7099 AMADOR PLAZA RD	DUBLIN	GEN
35	CAD981398894	GRAND AUTO, INC	7100 REGIONAL ST	DUBLIN	GEN
36	CAL000028818	EXXON COMPANY USA #70210	7840 AMADOR VALLEY	DUBLIN	GEN

See "Key to Terms" on last page of report for definition

**SOLID WASTE INFORMATION SYSTEM (SWIS)**

*The information presented in this report is updated to March, 1993.*

The California Integrated Waste Management Board maintains an inventory list of both open as well as closed and inactive solid waste disposal facilities and transfer stations pursuant to the Solid Waste Management and Resource Recovery Act of 1972, Government Code Section 2.66790(b). Generally, the California Integrated Waste Management Board learns of locations of disposal facilities through permit applications and from local enforcement agencies. Since 1977, the SWIS system has grown to track over 1000 solid waste disposal facilities and transfer stations in the State of California.

MAP ID	SWIS NO. ID	FACILITY NAME	ADDRESS	CITY	OPERATIONAL STATUS	WASTE RECEIVED	TONS/DAY
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As of the date listed above, no sites listed in this database are located within a one mile radius of the subject property.

See "Key to Terms" on last page of report for definition

## LEAKING UNDERGROUND STORAGE TANKS (LUST)

*The information presented in this report is updated to:*

Region 1 - June 1993: North Coast	Region 5 - July 1993: Central Valley
Region 2 - May 1993: San Francisco Bay Area	Region 6 - June 1993: Lahontan Area
Region 3 - June 1993: Central Coast	Region 7 - April 1993: Colorado River Basin
Region 4 - January 1993: Greater Los Angeles Area	Region 8 - April 1993: Santa Ana Area
Region 9 - June 1993: Greater San Diego Area	

The California State Water Resources Control Board, in cooperation with the Office of Emergency Services, compiles lists of all leaks of hazardous substances from underground storage tanks in the State of California pursuant to Section 25295 (b) of the Health and Safety Code. The nine regional boards maintain information on all reported leak cases within their jurisdiction, both for those where the regional board and where other local agencies take the lead in overseeing investigations and remedial actions. The California Environmental Protection Agency's Department of Hazardous Materials Data Management collects the nine regional lists and publishes them as one database named LUSTIS.

Status codes for some regions are not available directly from the nine boards. For those regions VISTA supplements the region's status codes with state LUSTIS status codes. Information from LUSTIS is placed in parentheses and has been updated to May, 1993.

MAP ID NO.	FACILITY	STREET	CITY	ZIP	SUBSTANCE*	GALLONS LOST	CASE* TYPE	STATUS*	REMEDIAL* ACTION CODE
3	AMERICAN CITIES TIRE SERVICE	6310 HOUSTON PL	DUBLIN	N/A	(12034)		(G)	(5C)	(ED)
5	AMERICAN BUILDING COMPONENTS	6253 DOUGHERTY RD	DUBLIN	N/A	(12034)		(S)	(0)	(NT)
17	LUCKY STORES	6300 CLARK AVE	DUBLIN	N/A	(8006619)		(S)	(0)	(NT)
20	CORWOOD CARWASH	6973 VILLAGE PKWY	DUBLIN	N/A	(80066191)		(S)	(0)	(NT)
21	SHELL	7194 AMADOR VALLEY BLVD	DUBLIN	N/A	(12036)		(G)	(5R)	(ET)
23	MOBIL	7197 VILLAGE PKWY	DUBLIN	N/A	(12035)		(G)	(5C)	(ED)
24	ARCO	7249 VILLAGE PKWY	DUBLIN	N/A	(12034)		(G)	(3B)	(NT)
25	CHEVRON	7420 DUBLIN BLVD	DUBLIN	N/A	(12036)		(G)	(3B)	(NT)
26	UNOCAL	7375 AMADOR VALLEY RD	DUBLIN	N/A	(8006619)		(G)	(3B)	(ED)
27	CHEVROLET-CROWN	7544 DUBLIN BLVD	DUBLIN	N/A	(12036)		(S)	(0)	(NT)

\* See "Key to Terms" on last page of report for definition

LUST continued...

MAP ID NO.	FACILITY	STREET	CITY	ZIP	SUBSTANCE	GALLONS LOST	CASE* TYPE	STATUS*	REMEDIAL ACTION CODE*
27	MONTGOMERY WARD	6900 AMADOR PLAZA RD	DUBLIN	N/A	(12031)		(G)	(5R)	(FP)
29	DODGE PROPERTY	7400 AMADOR VALLEY BLVD	DUBLIN	N/A	(8006619)		(G)	(3B)	(NT)
30	DUBLIN HONDA	7099 AMADOR PLAZA RD	DUBLIN	N/A	(41)		(S)	(0)	(NT)
32	TRANSAMERICA TITLE CO	6850 REGIONAL ST	DUBLIN	N/A	(8006619)		(S)	(0)	(NT)
33	AMADOR VALLEY MEDICAL CLINIC	7667 AMADOR VALLEY BLVD	DUBLIN	N/A	(8006619)		(S)	(0)	(NT)
33	TARGET	7608 AMADOR VALLEY BLVD	DUBLIN	N/A	(8006619)		(G)	(5C)	(ED)
34	DSRSD FIRE STATION #1	7494 DONOHUE DR	DUBLIN	N/A	(12031)		(S)	(0)	(NT)
36	EXXON	7840 AMADOR VALLEY BLVD	DUBLIN	N/A	(8006619)		(S)	(0)	(ED)
37	CHEVRON	7007 SAN RAMON VALLEY BVD	DUBLIN	N/A	(8006619)		(G)	(5C)	(NT)

\* See "Key to Terms" on last page of report for definition

## KEY TO TERMS/ABBREVIATIONS USED IN THIS REPORT:

**N/A:** An entry having "N/A" in a field indicates no information is available at this time.

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### **CERCLIS:**

\* **EVENT TYPE** - Evaluation and disposition information:

AR = Administrative Record	NP = Proposal to NPL
AS = Aerial Survey	NR = Removed from Proposed NPL
CO = Combined RI/SI	OH = Other Event
CR = Remedial Community Relations	OM = Operations and Maintenance
CT = Community Relations Technical Assistance	OS = Oversight of State by Fund
DA = Design Assistance	PA = Preliminary Assessment
DS = Discovery	PD = Public Comments on Deletion Package
ED = Endangerment Assessment	PR = Planned Removal
EO = EDD	RA = Remedial Action
ER = Expedited Response Action	RC = Removal Community Relations
ES = Expanded Site Inspection	RD = Remedial Design
EV = Evacuation State/Local	RI = Remedial Investigation
FM = Forward Planning/Management Assistance	(Primarily for Historical Purposes)
FP = Forward Planning Activity	RM = RAMP -- Remedial Action Master Plan
(for Historical Purposes only)	(for Historical Purposes only)
FS = Feasibility Study	RO = ROD
(Primarily for Historical Purposes)	RS = Removal Investigation
GS = Geophysical Support/Mapping	RV = Removal Action
HA = Health Assessment	SE = Site Access
HR = Final Hazard Ranking Determined	SI = Site Inspection
IM = Initial Remedial Measure	TA = Technical Assistance
IR = Immediate Removal	TG = Community Relations Technical Assistance
LA = Long-Term Response	TO = Topographical Mapping
LR = Long-Term Response	TR = Temporary Relocation
MA = Management Assistance	UR = Underground Storage Tank Removal
NA = NAA	WP = RI/FS Workplan Approved by HQ
ND = NPL Deletion Process	Z_ = (For Internal Office Use only)
NF = Final Listing on NPL	

\* **EVENT QUALIFIER** - Actual or anticipated actions and priorities:

C = Clean up.	M = Medium priority.
D = Deferred.	N = No further remedial action planned.
E = Administrative record compilation / remedial event.	S = Stabilization.
G = Recommended for HRS scoring.	U = Unknown.
H = Higher priority.	V = Administrative record compilation /
L = Lower priority.	removal event.

\* **REGIONAL UTILITY DESCRIPTION** - Provides information developed by U.S. EPA's regional office about the nature of contamination at a specific site.

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### **NPL:**

\* **SITE DESCRIPTION** - Provides a brief explanation of the contaminants and circumstances of a particular site.

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**AWP (FORMERLY BEP):**

- \* **SITE INFORMATION** - Provides a brief description of the hazardous wastes on the site, the potential threat to public health and the status of the site.

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**CAL-SITES (FORMERLY ASPIS):**

- \* **STATUS CODE** - Indicates the current status of a site and whether it is scheduled for further investigation by DHS Toxic Substances Control Division.

"AWP"	"Annual Workplan" - in remediation.
"BKLG"	"Backlog" - potential AWP site which has been hazard ranked but which is not on the annual workplan.
"CERT"	"Certified" - has been remediated.
"CNTY"	"County lead site" - not a candidate for the annual workplan and the local county has the lead.
"COM"	"Certified Operation and Maintenance" - has been certified but is still in operation and maintenance.
"DLIST"	"Delisted" - taken off the AWP usually for administrative reasons, for example: if several sites are consolidated, the old sites could be given this status.
"EPA"	"EPA lead" - not on the NPL, yet EPA has assumed the lead.
"HRR"	"Hazard Ranking Required" - has had a Preliminary Endangerment Assessment or equivalent evaluation and needs to be hazard ranked.
"NFA"	"No Further Action" - based on the information available on the site's potential to threaten public health and/or the environment, DTSC staff have judged this site to require no further departmental action.
"OAL"	"Other Agency Lead" - not on the AWP and has a lead agency other than the county, the RWQCB, EPA, or RCRA.
"PEARH"	"Preliminary Endangerment Assessment Required, High priority" - judged by DTSC staff to have a high probability of posing a public health or environmental threat.
"PEARL"	"Preliminary Endangerment Assessment Required, Low priority".
"PEARM"	"Preliminary Endangerment Assessment Required, Medium priority".
"PRP"	"Potential Responsible Party search required" - not on the AWP but needs a PRP search, after which would normally receive a ranking of AWP or BKLG.
"RCRA"	"Resource Conservation and Recovery Act" lead - is being mitigated under the Permitting Program and has never been on the AWP or BEP.
"REFRC"	"Referred to RCRA" - has been on the AWP or BEP in the past and is being mitigated under the lead of the permitting program.
"REFRW"	"Referred to RWRQCB" - formerly on the AWP or BEP and is now being mitigated under the lead of the Regional Water Quality Control Board.
"RWQCB"	"Referred to RWQCB" - has never been on the AWP or BEP; is being mitigated under the lead of the RWQCB.
"SSR"	Site Screen Required. The site requires initial screening.

**HWIS:**

\* GEN/TSD - Indicates whether the listed facility is a generator of hazardous waste or is a treatment, storage or disposal facility.

**LUST:**

**\* SUBSTANCE CODES**

MOTOR OIL = 08  
BOILER FUEL = 09  
#6 FUEL OIL = 10  
HEATER FUEL = 12  
SOLVENTS = 13  
HYDRAULIC OIL = 14  
WASTE WATER = 32  
MINERAL SPIRITS = 41  
PAINT THINNER = 49  
OIL\GREASE WASTE = 51  
DRY CLEANING SOLVENT = 52  
WATER\WASTE OIL MIX = 61  
LUBRICATING OIL = 71  
HYDROCARBONS = 76  
COOLANT = 77  
ALIPHATIC HYDROCARBONS = 78  
TRANSMISSION FLUID = 80  
LACQUER THINNER = 84  
NAPTHA DISTILLATE = 101  
V,M&P NAPTHA = 116  
CUTTING OIL = 122

#5 FUEL OIL = 127  
CHLORINATED HYDROCARBONS = 142  
FREON = 171  
ALCOHOL = 172  
UNLEADED GASOLINE = 12031  
REGULAR GASOLINE = 12032  
PREMIUM GASOLINE = 12033  
DIESEL = 12034  
WASTE OIL = 12035  
MISC. VEHICLE FUEL = 12036  
JET FUEL = 12037  
CYANIDES, SALTS = 57125  
ETHYL ALCOLHOL = 64175  
ACETIC ACID = 64197  
METHYL ALCOLHOL = 67561  
ISOPROPYL ALCOHOL = 67630  
ACETONE = 67641  
BENZENE = 71432  
METHYLENE CHLORIDE = 75092  
METHYL ETHYL KETONES = 78933  
TCE = 79016

PSEUDODOCUMENE = 95636  
XYLENE = 106423  
ETHYLENE DICHLORIDE = 107062  
TOLUENE = 108883  
TETRAHYDROFURAN = 109999  
PERCHLORETHYLENE = 127184  
DINITROTOLUENES = 610399  
NICKEL OXIDE = 1313991  
PCB = 1336363  
LEAD = 7439921  
NICKEL = 7440020  
CHROMIUM = 7440473  
COPPER = 7440508  
CRUDE OIL (HAZ.) = 8002059  
GASOLINE = 8006619  
COAL TAR = 8007452  
KEROSENE = 8008206  
STODDARD SOLVENTS = 8052413  
ASPHALT = 8052424  
POLYESTER RESIN = 25037665

**\* CASE TYPE CODES**

*D* - One or more domestic or municipal supply wells have been contaminated.  
*G* - Ground water has been affected.  
*S* - Only soil has been affected.  
*U* - The type of resources affected or extent of the resources affected are not known.

**\* STATUS CODES**

- C Remedial action (cleanup) in progress.
- O No Action  
No action has been taken by the responsible party after the initial report of the leak.
- 1 Leak Being Confirmed  
A leak is suspected at a site, includes inspection of the excavation, and tank and appurtenant plumbing to determine existence of leak.
- 3A Preliminary Site Assessment Workplan Submitted  
A workplan/proposal has been requested of, or submitted by, the responsible party in order to determine whether groundwater has been, or will be, impacted as a result of a release from any underground tanks or associated piping.
- 3B Preliminary Site Assessment Underway  
Implementation of a workplan addressing the above described tasks.
- 5C Pollution Characterization  
Responsible party is in the process of installing additional monitoring wells and/or borings in order to fully define the lateral and vertical extent of contamination in soil and ground water and assess the Hydrogeology of the area. This phase of work may also include performing aquifer tests, soil gas surveys, continued ground water gradient determinations and monitoring, assessing impacts of surface and/or ground water.
- 5R Remediation plan  
A remediation plan has been submitted evaluating long term remediation options. A proposal and implementation schedule for an appropriate remediation option has also been submitted. This phase of work may also include preparing and submitting the necessary information for any permits needed prior to implementation of the plan (NPDES or WDR).
- 7 Remedial Action  
Implementation of corrective action plan.
- 8 Post Remedial Action Monitoring  
Periodic ground water or other monitoring at the site, as necessary, in order to verify and/or evaluate the effectiveness of remedial activities.
- 9 Case Closed  
The Regional Board and the Local Agency are in concurrence that no further work is necessary at the site. (9L: Closed by county. 9R: Closed by RWQCB.)
- 10 Cease and Abate Order

**\* REMEDIAL ACTION CODES**

- CB Containment Barrier -- install vertical dike to block horizontal movement of contaminant.
- CD Cap Site -- install horizontal impermeable layer to reduce rainfall infiltration.
- ED Excavate and Dispose -- remove contaminated soil and dispose in approved site.
- ET Excavate and Treat -- remove contaminated soil and treat (includes spreading or land farming).
- FP Remove Free Product -- remove floating product from water table.
- GT Pump and Treat Ground Water -- generally employed to remove dissolved contaminants.
- HU Treatment at Hookup -- install water treatment devices at each dwelling or other place of use.
- IT Enhanced Biodegradation -- use of any available technology to promote bacterial decomposition of contaminants.
- NA No Action Required -- incident is minor, requiring no remedial action.
- NT No Action Taken -- no indication that action was taken.
- OT Other
- RS Replace Supply -- provide alternative water supply to affected parties.
- UK Unknown -- action not known, or unknown if action taken.
- VE Vapor Extraction
- VS,VT Vent Soil -- bore holes in soil to allow volatilization of contaminants.

**COUNTY:**

- Class I Hazardous Materials Accepted (No Radioactivity)
- Class II Mixed Municipal rubbish
- Class III Solid waste (concrete) Type DB Debris Basin
- Class LV Large Volume transfer station Type LF Landfill
- Class SV Small Volume transfer station Type TS Transfer Station

NOTE: ALL DESIGNATIONS ARE SUBJECT TO CHANGE.



Index to Map Id Numbers

Map Id Nbr	Agency Name	Site Name	Street Address	City	ZIP
1	HWIS	GILS BODY WORKS	6392 SCARLETT CT	DUBLIN	N/A
2	HWIS	UNOCAL SVC STA #6419	6401 DUBLIN BLVD	DUBLIN	N/A
3	CORTESE	AMERICAN CITIES TIRE SERVICE	6310 HOUSTON PL	DUBLIN	94568
3	LUST	AMERICAN CITIES TIRE SERVICE	6310 HOUSTON PL	DUBLIN	N/A
4	CASITES	BLALOCKS	6398 DOUGHERTY ROAD	PLEASANTON	94566
5	LUST	AMERICAN BUILDING COMPONENTS	6253 DOUGHERTY RD	DUBLIN	N/A
5	HWIS	ENZYME SYSTEMS PRODUCTS	6497 SIERRA LANE	DUBLIN	N/A
6	HWIS	GOODYEAR TIRE CENTER	6000 DOUGHERTY ROAD	DUBLIN	N/A
7	CASITES	HEXCEL MEDICAL PRODUCTS	6700 SIERRA LANE	DUBLIN	94568
7	HWIS	LABEL CONCEPTS INC	6700 SIERRA LANE	DUBLIN	N/A
8	CASITES	ACCURA-MED CORPORATION	6575 TRINITY COURT	DUBLIN	94568
8	HWIS	TVA ELECTRONICS	6575 TRINITY CT SUITE A	DUBLIN	N/A
9	HWIS	CONTINUOUS EXTRUDED PRODUCTS	6800A SIERRA COURT	DUBLIN	N/A
9	HWIS	ZENDEX CORPORATION	6780 SIERRA COURT, STE A	DUBLIN	N/A
10	HWIS	JAMES ALLYN PRINTING	6591 G SIERRA LANE	DUBLIN	N/A
11	CERCLIS	NUCLEPORE CORP	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	NUCLEPORE CORPORATION	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	NUCLEPORE	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	NUCLEPORE CORP	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	NUCLEPORE CORPORATION	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566
11	CORTESE	COSTAR/NUCLEPORE CORP.	7035 COMMERCE CIR	PLEASANTON	94566
11	HWIS	NUCLEPORE CORP	7035 COMMERCE CIRCLE	PLEASANTON	N/A
12	CASITES	EKOHWERKS	6488 SIERRA COURT	DUBLIN	94568
12	CASITES	MULTISONICS INC	6444 SIERRA COURT	DUBLIN	94568
13	CASITES	PERFORMANCE ENGINE & MANUFACTURING C	7066 COMMERCE CIRCLE	PLEASANTON	94566
13	CASITES	GHIA CORPORATION	7071 COMMERCE CIRCLE	PLEASANTON	94566
13	CASITES	ENCOR INC	7074 COMMERCE CIRCLE	PLEASANTON	94566
13	HWIS	GELMAN SCIENCES	7079 COMMERCE CIRCLE	PLEASANTON	N/A
14	CASITES	AMADOR VALLEY MOVING AND STORAGE	6855 DUBLIN BOULEVARD	PLEASANTON	94566
15	HWIS	ALLIED ECOLOGY SERVICES, INC.	7066 A COMMERCE CIRCLE	PLEASANTON	N/A

Index to Map Id Numbers

Map Id Nmbr	Agency Name	Site Name	Street Address	City	ZIP
16	CASITES	ADVANCE TECHNOLOGY ASSOCIATION	6377 CLARK AVENUE	PLEASANTON	94566
16	HWIS	FOREMOST-MCKESSON RESEARCH CENTER	6363 CLARK AVE	DUBLIN	N/A
17	CORTESE	LUCKY STORES	6300 CLARK AVE	DUBLIN	94568
17	LUST	LUCKY STORES	6300 CLARK AVE	DUBLIN	N/A
18	CASITES	DEMCO-DUBLIN ENGINEERING & MFG COMPA	7263 ELBA COURT	DUBLIN	94568
19	HWIS	STONERIDGE MOTORS INC	5940 STONERIDGE MALL RD	PLEASANTON	N/A
20	CASITES	RICH WATER INC	7000 VILLAGE PARKWAY	PLEASANTON	94566
20	HWIS	JOHN AND BILLS TRANSMISSION	7016 VILLAGE PKWY	DUBLIN	N/A
20	HWIS	MIDAS MUFFLER	6955 VILLAGE PARKWAY	DUBLIN	N/A
20	LUST	CORWOOD CARWASH	6973 VILLAGE PKWY	DUBLIN	N/A
21	CORTESE	SHELL	7194 AMADOR VALLEY BLVD	DUBLIN	94566
21	CORTESE	GEORGE GRAY SHELL SERVICE	7194 AMADOR VALLEY BLVD	DUBLIN	94566
21	LUST	SHELL	7194 AMADOR VALLEY BLVD	DUBLIN	N/A
22	CASITES	1' OLD SHOPPE	7106 VILLAGE PARKWAY	DUBLIN	94568
22	HWIS	BP OIL COMPANY	7149 VILLAGE PARKWAY	DUBLIN	N/A
22	HWIS	PARKWAY BODY SHOP	7130 VILLAGE PKWY	DUBLIN	N/A
23	CORTESE	VILLAGE PARKWAY MOBILE	7197 VILLAGE PKWY	DUBLIN	90017
23	CORTESE	MOBIL	7197 VILLAGE PKWY	DUBLIN	90017
23	LUST	MOBIL	7197 VILLAGE PKWY	DUBLIN	N/A
24	CORTESE	ARCO PRODUCTS FACILITY 6041	7249 VILLAGE PKWY	DUBLIN	90071
24	CORTESE	ARCO	7249 VILLAGE PKWY	DUBLIN	90071
24	HWIS	ARCO PRODUCTS FACILITY 6041	7249 VILLAGE PARKWAY	DUBLIN	N/A
24	LUST	ARCO	7249 VILLAGE PKWY	DUBLIN	N/A
24	CASITES	ESTLER'S OF DUBLIN	7301 VILLAGE PARKWAY	PLEASANTON	94566
24	CASITES	BRASS DECOR	7515 SUTTON LANE	PLEASANTON	94566
25	CORTESE	CHEVRON STATION #92582	7420 DUBLIN BLVD	DUBLIN	94583
25	CORTESE	CHEVRON	7420 DUBLIN BLVD	DUBLIN	94583
25	HWIS	CHEVRON STATION #92582	7420 DUBLIN BLVD	DUBLIN	N/A
25	LUST	CHEVRON	7420 DUBLIN BLVD	DUBLIN	N/A
25	HWIS	SHAMROCK FORD CHRYSLER PLYMOUTH	7499 DUBLIN BLVD	DUBLIN	N/A
26	CORTESE	UNOCAL SERVICE STATION #5366	7375 AMADOR VALLEY BLVD	DUBLIN	00000
26	CORTESE	AMADOR UNION	7375 AMADOR VALLEY BLVD	DUBLIN	00000
26	CORTESE	UNOCAL	7375 AMADOR VALLEY BLVD	DUBLIN	00000
26	CORTESE	UNION OIL SS#5366	7375 AMADOR VALLEY BLVD	DUBLIN	00000
26	LUST	UNOCAL	7375 AMADOR VALLEY RD	DUBLIN	N/A
27	CORTESE	MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	00000
27	CORTESE	MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	00000

Index to Map Id Numbers

Map Id Nbr	Agency Name	Site Name	Street Address	City	ZIP
27	CORTESE	DUBLIN-MONTGOMERY WARD	6900 AMADOR PLAZA	DUBLIN	00000
27	LUST	MONTGOMERY WARD	6900 AMADOR PLAZA RD	DUBLIN	N/A
27	CORTESE	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	94568
27	CORTESE	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	94568
27	CORTESE	CROWN CHEVEROLET CO.	7544 DUBLIN BLVD	DUBLIN	94568
27	CORTESE	CHEVROLET-CROWN	7544 DUBLIN BLVD	DUBLIN	94568
27	HWIS	CROWN CHEVROLET	7544 DUBLIN BLVD	DUBLIN	N/A
27	LUST	CHEVROLET-CROWN	7544 DUBLIN BLVD	DUBLIN	N/A
28	HWIS	GALLUCCI BODY & PAINT	6401 GOLDEN GATE DR	DUBLIN	N/A
29	CORTESE	DODGE PROPERTY	7400 AMADOR VALLEY BLVD	DUBLIN	94568
29	LUST	DODGE PROPERTY	7400 AMADOR VALLEY BLVD	DUBLIN	N/A
29	HWIS	DUBLIN VETERINARY HOSPITAL	7410 D AMADOR VALLEY BLD	DUBLIN	N/A
30	HWIS	DUBLIN HONDA	7099 AMADOR PLAZA RD	DUBLIN	N/A
30	LUST	DUBLIN HONDA	7099 AMADOR PLAZA RD	DUBLIN	N/A
31	CASITES	SERVPRO OF DUBLIN	8049 ELGIN LANE	PLEASANTON	94566
32	CORTESE	TRANSAMERICA TITLE CO	6850 REGIONAL ST	DUBLIN	94010
32	LUST	TRANSAMERICA TITLE CO	6850 REGIONAL ST	DUBLIN	N/A
33	LUST	TARGET	7608 AMADOR VALLEY BLVD	DUBLIN	N/A
33	LUST	AMADOR VALLEY MEDICAL CLINIC	7667 AMADOR VALLEY BLVD	DUBLIN	N/A
34	CORTESE	DSRSD FIRE STATION #1	7494 DONOHUE DR	DUBLIN	94568
34	LUST	DSRSD FIRE STATION #1	7494 DONOHUE DR	DUBLIN	N/A
35	HWIS	GRAND AUTO, INC	7100 REGIONAL ST	DUBLIN	N/A
36	HWIS	EXXON COMPANY USA #70210	7840 AMADOR VALLEY	DUBLIN	N/A
36	LUST	EXXON	7840 AMADOR VALLEY BLVD	DUBLIN	N/A
37	CORTESE	CHEVRON STATION #95542	7007 SAN RAMON RD	DUBLIN	00000
37	CORTESE	CHEVRON	7007 SAN RAMON RD	DUBLIN	00000
37	CORTESE	95542	7007 SAN RAMON RD	DUBLIN	00000
37	LUST	CHEVRON	7007 SAN RAMON VALLEY BVD	DUBLIN	N/A



Dear Vista Customer:

The report you have just received may show several sites in the mentions section. Mentions are environmental risk sites that have not been or can not be plotted on a map. This is due to one of two circumstances related to how we locate street addresses on our maps. Plotting consists of translating a street address into a latitude and longitude coordinate, or an actual point on a map.

1) A site cannot be plotted because of inaccurate or missing locational information in the record provided by the reporting agency. For many of these records, Vista has corrected or added locational information from private industry address files. However, many site addresses cannot be corrected using these techniques and those sites cannot be mapped.

2) Also, we are continually updating our database. We receive information from the various agencies and go through the mapping process as quickly as possible; however, there are sites that cannot be processed immediately. In order to best serve our customers, we include those sites that we have not been able to rule out, or map. Mappable sites may fall within your radius, or they may have been included because of a similar zip code or area name.

In order to provide you with the most current and comprehensive data it is necessary to include these "unmappables" in your report. As the data matures we will be able to plot more of the sites and look forward to providing you with reports with fewer mentions in the future.

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VISTA ENVIRONMENTAL INFORMATION, INC.

5060 SHOREHAM PLACE, SUITE 300 • SAN DIEGO, CALIFORNIA 92122 • (619) 450-6100 • FAX (619) 450-6195  
415 EAGLEVIEW BOULEVARD, SUITE 112 • EXTON, PA 19341 • (215) 458-1122 • FAX (215) 458-1134  
130 SHORE ROAD, SUITE 296 • PORT WASHINGTON, NY 11050 • (516) 733-4572 • FAX (516) 883-0604

## Mentions for report 1/028109-001

Agency	City	Zip	St #	Street Name	Site Name	NFA?
CERCLIS	PLEASANTON	94566		CAMP PARKS	LAWRENCE LIVERMORE NATL LAB - CAMP P	Y
CERCLIS	PLEASANTON	94566		ONIZUKA AIR FORCE BASE	CAMP PARKS COMMUNICATION ANNEX	Y
CORTESE	DUBLIN	94568	8301	SCARLETT CT	LEW DOTY CADILLAC	-
CORTESE	DUBLIN	94568	8301	SCARLETT CT	LEW DOTY CADILLAC	-
CORTESE	DUBLIN	94568	8301	SCARLETT CT	LEW DOTY CADILLAC	-
CORTESE	DUBLIN	94568	8301	SCARLETT CT	LEW DOTY CADILLAC	-
CORTESE	DUBLIN	94568	8301	SCARLETT CT	CCB BANCORP	-
CORTESE	JULIAN	94566	23690	VOLCAN RD	AT AND T	-
CORTESE	JULIAN	94566	23690	VOLCAN RD	JULIAN RADIO RELAY	-
CORTESE	PLEASANTON	00000		SANTA RITA RD	SANTA RITA REHABILITATION CTR	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	KAISER CENTER FOR TECHNOLOGY	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	KAISER NATIONAL REFRACTORIES A	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	ENGELHARD CORP	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	ENGELHARD CORP	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	KAISER ALUMINUM & CHEMICAL COR	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	NATIONAL REFRACTORIES & MINERA	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	KAISER ALUMINUM & CHEM. CORP.	-
CORTESE	PLEASANTON	94566	8177	SUNOL BLVD	KAISER ALUMINUM AND CHEMICAL C	-
ASPIS	PLEASANTON	94566	2035	COMMERCE CIRCLE	NUCLEPORE CORPORATION	NO
ASPIS	PLEASANTON	94566		VALLECITOS ROAD	GENERAL ELECTRIC CO., VALLECITOS NUC	NO
ASPIS	DUBLIN	94568	11815	DUBLIN BOULEVARD	STANDARD METER LABORATORY INC	Y
ASPIS	DUBLIN	94568	2901	VILLAGE PARKWAY	ESLER'S CLEANERS	Y
ASPIS	PLEASANTON	94566	3950	FAIRBANKS DRIVE	C & G TRUCKING	Y
ASPIS	PLEASANTON	94566		I-580 AND ROWELL ROAD	S J GROUPS & SONS	Y
ASPIS	PLEASANTON	94566		ISABEL AVENUE	KAMAC TRUCKING	Y
ASPIS	PLEASANTON	94566	278	MOCKINGBIRD STREET	ED TURMAN & COMPANY	Y
ASPIS	PLEASANTON	94566		PO BOX 909	NORICK BROTHERS	Y
HWIS	DUBLIN	N/A	6400	DIERA CT	DUBLIN RECORDS CENTER	-
HWIS	DUBLIN	N/A	7007	SAN RAMON VALLEY BLVD	CHEVRON STATION #95542	-
HWIS	N/A	N/A		ALAMEDA COUNTY	ALAMEDA COUNTY/EMERG RESPONSE ONLY	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	N/A	N/A		COUNTY OF ALAMEDA / EMERGENCY RESPONSE	STATE DEPT OF HEALTH SERVICES	-
HWIS	PLEASANTON	N/A	4847	ALTAMARINO AVE	ALAMEDA COUNTY JAIL	-
HWIS	PLEASANTON	N/A		BLDG 730 CAMP PARKS	AMSA ECS 30G	-
HWIS	PLEASANTON	N/A		PO BOX 249	LONE STAR INDUSTRIES	-
HWIS	PLEASANTON	N/A	2355	ROSEWOOD DRIVE	EAST BAY BMW	-
LUST	N/A	N/A		BRUSH CR/FRSTGLN/SHE	BRUSH CREEK DEVELOPMENT AREA	NO
LUST	N/A	N/A		N/A	K-T JUSD CORPORATION YARD	NO

Mentions for report 1/028109-001

Agency	City	Zip	St #	Street Name	Site Name	NFA?
LUST	N/A	N/A		N/A	MCNAMARA & PEEPE	NO
LUST	PLEASANTON	N/A	707	COUNTRY CLUB CIRCLE	CASTLEWOOD COUNTRY CLUB	NO
LUST	PLEASANTON	N/A	707	COUNTRY CLUB CIRCLE	CASTLEWOOD COUNTRY CLUB	NO
LUST	PLEASANTON	N/A		SANTA RITA RD	SANTA RITA REHABILITATION CTR	NO

NFA code descriptions: "-" indicates the agency did not supply this information; "Y" indicates there was "No Further Action" planned for the site (ASPIS/CAL-SITES) or "Case Closed" (LUST); "NO" indicates the agency did not mark the site "No Further Action" or "Case Closed", but does supply this information. For the CERCLIS database a "Y" indicates that all CERCLIS events for the site show an actual completion date and the most recent event indicates "no further remedial action planned."

**APPENDIX B**  
**TANK TEST RESULTS**

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Company Name CONTINENTAL BAKING  
 Contact Fred Danneken  
 Address 1525 Bryant Street  
 City, State, Zip San Francisco, CA 94103  
 Telephone (415) 861-3858  
 Contractor ACCUTITE  
 Address 35 South Linden Avenue  
 City, State, Zip So. San Francisco, CA 94080

Tank Farm Location 6841 Village Parkway, Dublin, CA  
 Contact John Santiago  
 Address \_\_\_\_\_  
 City, State, Zip \_\_\_\_\_  
 Telephone (510) 829-5744  
 Operator Mark Lyon, Lic #94-1469  
 Date February 5, 1992  
 Telephone (415) 952-5551

TANK NO.	CAPACITY	DIAMETER	PRODUCT	HIGH TEST RESULTS	LOW TEST RESULTS	CERTIFIED TIGHT
<u>1</u>	<u>4,000</u>	<u>75"S</u>	<u>Diesel</u>	<u>+ .005 GPH</u>	<u>N/A</u>	<u>YES</u>

**LINE TEST RESULTS:**

- Full system "TIGHT"

Remarks Arrived on site at 9:30 a.m. Tank was filled 24 hours prior to test. Remeasured tank, checked for water and took A.P.I. sample. Capped product line under pump. Set up Horner II equipment. Adjusted stand-pipe and filled system with 15 gallons. Bled air and restored level until stable. Calibrated and lowered C.P.C. box. Let stabilize for 3 hours. Monitored and ran test. This full system test, tested under the legal limit allowed by N.F.P.A. Criteria #329 of plus or minus .0500 GPH.



CONTINENTAL BAKING CO.

8641 VILLAGE PARKWAY

MINNAPOLIS

DATE: 02/05/92

TIME: 14:08

FUEL TYPE: DIESEL

CAPACITY TANK 1: 4010 GALLONS

TEST CRITERIA: +0.05 GPH TO -0.05 GPH

TEMPERATURE COEFFICIENT: 443 ppm/deg F

RELATIVE FUEL TEMPERATURE 58.01 deg F

VOLUME CHANGE PER DEG F: 1.78 GALLONS

TANK TESTER VER 2.01

TANK 1 CAPACITY CHANGE GALLONS

TANK 2 CAPACITY CHANGE GALLONS

TIME	VOLUME	TEMP.	NET	RATE GPH	VOLUME	TEMP.	NET	RATE GPH
14:08	+0.0000	+0.0000	+0.0000	+0.000				
14:09	-0.0001	-0.0001	-0.0000	-0.001				
14:10	-0.0001	-0.0000	-0.0000	-0.003				
14:10	-0.0001	-0.0001	-0.0001	-0.004				
14:11	-0.0001	-0.0001	-0.0000	-0.004				
14:11	-0.0001	-0.0001	-0.0000	-0.004				
14:12	-0.0001	-0.0001	-0.0001	-0.004				
14:12	-0.0001	-0.0001	-0.0001	-0.005				
14:13	-0.0001	-0.0001	-0.0001	-0.005				
14:13	-0.0001	-0.0001	-0.0001	-0.006				
14:14	-0.0002	-0.0001	-0.0001	-0.006				
14:15	-0.0002	-0.0001	-0.0001	-0.007				
14:15	-0.0002	-0.0000	-0.0001	-0.007				
14:16	-0.0002	-0.0001	-0.0001	-0.008				
14:16	-0.0002	-0.0000	-0.0001	-0.008				
14:17	-0.0002	-0.0001	-0.0001	-0.009				
14:17	-0.0002	-0.0001	-0.0002	-0.009				
14:18	-0.0002	-0.0001	-0.0001	-0.010				
14:19	-0.0002	-0.0000	-0.0002	-0.010				
14:19	-0.0002	-0.0000	-0.0002	-0.011				
14:20	-0.0002	-0.0001	-0.0002	-0.011				
14:20	-0.0002	-0.0001	-0.0002	-0.012				
14:21	-0.0003	-0.0001	-0.0002	-0.012				
14:21	-0.0003	-0.0001	-0.0002	-0.012				
14:22	-0.0003	-0.0001	-0.0002	-0.013				
14:22	-0.0003	-0.0001	-0.0002	-0.013				
14:23	-0.0003	-0.0001	-0.0002	-0.014				
14:24	-0.0003	-0.0001	-0.0002	-0.014				
14:24	-0.0003	-0.0001	-0.0002	-0.015				
14:25	-0.0003	-0.0001	-0.0002	-0.015				
14:25	-0.0003	-0.0001	-0.0002	-0.015				
14:26	+0.0000	+0.0000	+0.0000	+0.000				
14:26	-0.0003	-0.0001	-0.0002	-0.022				
14:27	-0.0003	-0.0001	-0.0002	-0.022				
14:27	-0.0003	-0.0001	-0.0002	-0.022				
14:28	-0.0003	-0.0001	-0.0002	-0.023				
14:29	-0.0003	-0.0003	+0.0000	-0.020				
14:29	-0.0003	-0.0001	-0.0002	-0.019				
14:30	-0.0003	-0.0001	-0.0002	-0.019				
14:30	-0.0003	-0.0001	-0.0002	-0.019				
14:31	-0.0003	-0.0001	-0.0002	-0.019				

14:31	-0.0003	-0.0001	-0.0002	-0.020
14:32	-0.0003	-0.0001	-0.0002	-0.020
14:33	-0.0003	-0.0001	-0.0003	-0.021
14:33	-0.0003	-0.0001	-0.0002	-0.021
14:34	-0.0003	-0.0001	-0.0002	-0.022
14:34	-0.0003	-0.0001	-0.0002	-0.022
14:35	-0.0003	-0.0001	-0.0002	-0.022
14:35	-0.0003	-0.0001	-0.0002	-0.023
14:36	-0.0003	-0.0001	-0.0002	-0.023
14:36	-0.0003	-0.0001	-0.0002	-0.023
14:37	-0.0003	-0.0001	-0.0002	-0.023
14:38	-0.0003	-0.0001	-0.0002	-0.023
14:38	-0.0003	-0.0001	-0.0002	-0.023
14:39	-0.0003	-0.0001	-0.0002	-0.023
14:39	-0.0003	-0.0001	-0.0002	-0.023
14:40	-0.0003	-0.0001	-0.0002	-0.024
14:40	-0.0003	-0.0001	-0.0002	-0.024
14:41	-0.0003	-0.0001	-0.0002	-0.024
14:41	-0.0003	-0.0001	-0.0002	-0.024
14:42	-0.0003	-0.0001	-0.0002	-0.024
14:43	-0.0003	-0.0001	-0.0002	-0.024
14:43	+0.0000	+0.0000	+0.0000	+0.000
14:44	-0.0003	-0.0001	-0.0003	-0.027
14:44	-0.0003	-0.0001	-0.0003	-0.028
14:45	-0.0003	-0.0001	-0.0003	-0.028
14:45	-0.0003	-0.0001	-0.0002	-0.028
14:46	-0.0004	-0.0001	-0.0003	-0.028
14:47	-0.0003	-0.0001	-0.0003	-0.028
14:47	-0.0003	-0.0001	-0.0003	-0.029
14:48	-0.0003	-0.0001	-0.0003	-0.029
14:48	-0.0003	-0.0001	-0.0003	-0.029
14:49	-0.0003	-0.0000	-0.0003	-0.029
14:49	-0.0003	-0.0001	-0.0003	-0.029
14:50	-0.0003	-0.0001	-0.0003	-0.029
14:50	-0.0003	-0.0001	-0.0003	-0.029
14:51	-0.0003	-0.0001	-0.0003	-0.029
14:52	-0.0003	-0.0001	-0.0003	-0.029
14:52	-0.0004	-0.0001	-0.0003	-0.030
14:53	-0.0004	-0.0001	-0.0003	-0.030
14:53	-0.0004	-0.0001	-0.0003	-0.030
14:54	-0.0004	-0.0001	-0.0004	-0.030
14:54	-0.0004	-0.0001	-0.0003	-0.030
14:55	-0.0004	-0.0001	-0.0003	-0.031
14:55	-0.0004	-0.0001	-0.0003	-0.031
14:56	-0.0004	-0.0001	-0.0003	-0.031
14:57	-0.0004	-0.0001	-0.0003	-0.031
14:57	-0.0004	-0.0001	-0.0003	-0.032
14:58	-0.0004	-0.0001	-0.0003	-0.032
14:58	-0.0004	-0.0001	-0.0003	-0.032
14:59	-0.0004	-0.0001	-0.0003	-0.032
14:59	-0.0004	-0.0001	-0.0004	-0.032
15:00	-0.0004	-0.0001	-0.0003	-0.033
15:01	+0.0000	+0.0000	+0.0000	+0.000
15:01	-0.0004	-0.0001	-0.0003	-0.035
15:02	-0.0004	-0.0001	-0.0003	-0.036
15:02	-0.0004	-0.0001	-0.0003	-0.035
15:03	-0.0005	-0.0001	-0.0004	-0.037
15:03	-0.0004	-0.0001	-0.0003	-0.037
15:04	-0.0004	-0.0001	-0.0004	-0.038
15:04	-0.0003	-0.0001	-0.0003	-0.037

15:05	-0.0003	-0.0001	-0.0002	-0.036
15:06	-0.0004	-0.0001	-0.0003	-0.036
15:06	-0.0004	-0.0001	-0.0003	-0.035
15:07	-0.0003	-0.0001	-0.0003	-0.035
15:07	-0.0003	-0.0001	-0.0003	-0.034
15:08	-0.0003	-0.0001	-0.0003	-0.034
15:08	-0.0003	-0.0001	-0.0003	-0.034
15:09	-0.0004	-0.0001	-0.0003	-0.033
15:09	-0.0004	-0.0001	-0.0003	-0.033
15:10	+0.0000	+0.0000	+0.0000	+0.000*
15:11	-0.0003	-0.0001	-0.0003	-0.031
15:11	-0.0004	-0.0001	-0.0003	-0.032
15:12	-0.0004	-0.0001	-0.0003	-0.032
15:12	-0.0003	-0.0001	-0.0003	-0.032
15:13	-0.0003	-0.0001	-0.0003	-0.031
15:13	-0.0003	-0.0001	-0.0003	-0.031
15:14	-0.0004	-0.0001	-0.0003	-0.031
15:15	-0.0004	-0.0001	-0.0003	-0.031
15:15	-0.0003	-0.0001	-0.0003	-0.031
15:16	-0.0003	-0.0001	-0.0003	-0.031
15:16	-0.0003	-0.0001	-0.0003	-0.031
15:17	-0.0004	-0.0001	-0.0003	-0.031
15:17	-0.0004	-0.0001	-0.0003	-0.031
15:18	-0.0003	-0.0001	-0.0003	-0.031
15:18	-0.0003	-0.0001	-0.0003	-0.031
15:19	-0.0003	-0.0001	-0.0003	-0.031
15:20	-0.0003	-0.0001	-0.0002	-0.030
15:20	-0.0003	-0.0001	-0.0003	-0.030
15:21	-0.0004	-0.0001	-0.0003	-0.030
15:21	-0.0003	-0.0001	-0.0003	-0.030
15:22	-0.0003	-0.0001	-0.0003	-0.030
15:22	-0.0004	-0.0001	-0.0003	-0.030
15:23	-0.0004	-0.0001	-0.0003	-0.030
15:23	-0.0003	+0.0000	-0.0003	-0.030
15:24	-0.0003	+0.0001	-0.0003	-0.030
15:25	-0.0003	-0.0001	-0.0003	-0.030
15:25	-0.0003	-0.0001	-0.0002	-0.030
15:26	-0.0003	-0.0005	+0.0002	-0.030
15:26	-0.0003	-0.0006	+0.0003	-0.029
15:27	-0.0002	-0.0006	+0.0003	-0.028
15:27	-0.0003	-0.0004	+0.0001	-0.027
15:28	-0.0003	-0.0001	-0.0002	-0.026
15:29	-0.0003	-0.0001	-0.0002	-0.025
15:29	-0.0003	-0.0001	-0.0002	-0.025
15:30	-0.0003	-0.0001	-0.0002	-0.024
15:30	-0.0003	-0.0001	-0.0002	-0.024
15:31	-0.0003	-0.0001	-0.0002	-0.023
15:31	-0.0003	-0.0001	-0.0002	-0.023
15:32	-0.0003	-0.0001	-0.0002	-0.023
15:32	-0.0003	-0.0001	-0.0002	-0.022
15:33	-0.0003	-0.0001	-0.0002	-0.022
15:34	-0.0003	-0.0001	-0.0002	-0.022
15:34	-0.0003	-0.0001	-0.0002	-0.022
15:35	-0.0003	-0.0001	-0.0002	-0.022
15:35	-0.0003	-0.0001	-0.0002	-0.022
15:36	-0.0003	-0.0001	-0.0002	-0.021
15:36	-0.0003	-0.0001	-0.0002	-0.021
15:37	-0.0003	-0.0001	-0.0002	-0.021
15:37	-0.0003	-0.0001	-0.0003	-0.021
15:38	-0.0003	-0.0001	-0.0002	-0.021

15:39	-0.0003	-0.0001	-0.0003	-0.021
15:39	-0.0003	-0.0001	-0.0003	-0.021
15:40	-0.0003	-0.0001	-0.0003	-0.021
15:40	-0.0003	-0.0001	-0.0003	-0.021
15:41	-0.0004	-0.0001	-0.0003	-0.021
15:41	-0.0004	-0.0001	-0.0003	-0.022
15:42	-0.0004	-0.0001	-0.0003	-0.022
15:43	-0.0004	-0.0001	-0.0003	-0.022
15:43	-0.0004	-0.0001	-0.0003	-0.022

VOLUME RATE OF CHANGE -0.022 GPH  
99 % CONFIDENCE INTERVAL: +/-0.001 GPH  
RELATIVE FUEL TEMPERATURE: 58.01 deg F

CONTINENTAL BAKING CO.  
6841 VILLAGE PARKWAY  
DUBLIN CA

TANK TESTER VER 2.01

FUEL TYPE: DIESEL  
CAPACITY TANK 1: 4010 GALLONS  
TEMPERATURE COEFFICIENT: 443 ppm/deg F  
TEST CRITERIA: +0.050 GPH TO -0.050 GPH

02/05/92 TEST TIME FROM 15:10 TO 15:43  
DATA ANALYSIS INDICATES:

A GROSS VOLUME CHANGE OF: -0.019 GALLONS  
A VOLUME CHANGE DUE TO TEMPERATURE OF: -0.005 GALLONS

A LIQUID VOLUME RATE OF CHANGE OF: -0.022 GPH  
WITH A 99 % CONFIDENCE INTERVAL OF: +/-0.001 GPH  
(-0.021 TO -0.023 GPH)

TESTER... *Jeff Strick* .....

CUSTOMER.....

CONTINENTAL BAKING CO.  
 6841 VILLAGE PARKWAY  
 DUBLIN CA

DATE: 02/05/92 TIME: 15:44

FUEL TYPE: DIESEL

CAPACITY TANK 1: 4010 GALLONS

TEST CRITERIA: +0.05 GPH TO -0.05 GPH

TEMPERATURE COEFFICIENT: 443 ppm/deg F

RELATIVE FUEL TEMPERATURE 58.01 deg F

VOLUME CHANGE PER DEG F: 1.78 GALLONS

TANK TESTER VER 2.01

TANK 1 CAPACITY CHANGE GALLONS

TANK 2 CAPACITY CHANGE GALLONS

TIME	VOLUME	TEMP.	NET	RATE GPH	VOLUME	TEMP.	NET	RATE GPH
15:45	+0.0000	+0.0000	+0.0000	+0.000*				
15:45	-0.0000	+0.0001	-0.0001	-0.006				
15:46	-0.0001	+0.0001	-0.0001	-0.009				
15:46	-0.0000	+0.0000	-0.0001	-0.009				
15:47	-0.0000	+0.0000	-0.0001	-0.009				
15:48	-0.0001	+0.0001	-0.0001	-0.009				
15:48	-0.0001	+0.0001	-0.0001	-0.010				
15:49	-0.0001	+0.0001	-0.0001	-0.011				
15:49	-0.0001	+0.0000	-0.0001	-0.011				
15:50	-0.0001	+0.0001	-0.0002	-0.012				
15:50	-0.0002	+0.0000	-0.0002	-0.013				
15:51	-0.0002	+0.0000	-0.0002	-0.014				
15:51	-0.0002	+0.0000	-0.0002	-0.014				
15:52	-0.0002	-0.0000	-0.0002	-0.015				
15:53	-0.0002	+0.0000	-0.0002	-0.016				
15:53	-0.0002	-0.0001	-0.0001	-0.016				
15:54	-0.0002	-0.0001	-0.0001	-0.016				
15:54	-0.0002	-0.0001	-0.0001	-0.016				
15:55	-0.0002	-0.0001	-0.0001	-0.016				
15:55	-0.0002	-0.0001	-0.0001	-0.016				
15:56	-0.0002	-0.0001	-0.0002	-0.016				
15:57	-0.0002	-0.0003	+0.0001	-0.016				
15:57	-0.0002	-0.0003	+0.0001	-0.015				
15:58	-0.0002	-0.0001	-0.0002	-0.015				
15:58	-0.0002	-0.0001	-0.0002	-0.015				
15:59	-0.0003	-0.0001	-0.0002	-0.014				
15:59	-0.0002	-0.0003	+0.0001	-0.014				
16:00	-0.0003	-0.0004	+0.0001	-0.014				
16:00	-0.0003	-0.0004	+0.0002	-0.013				
16:01	-0.0003	-0.0005	+0.0002	-0.012				
16:02	-0.0003	-0.0005	+0.0003	-0.012				
16:02	-0.0003	-0.0004	+0.0001	-0.011				
16:03	-0.0003	-0.0004	+0.0002	-0.010				
16:03	-0.0003	-0.0004	+0.0001	-0.009				
16:04	-0.0003	-0.0004	+0.0001	-0.008				
16:04	-0.0003	-0.0005	+0.0002	-0.008				
16:05	-0.0003	-0.0004	+0.0002	-0.007				
16:05	-0.0003	-0.0004	+0.0001	-0.006				
16:06	-0.0003	-0.0004	+0.0001	-0.005				
16:07	-0.0003	-0.0005	+0.0002	-0.005				

16:08	-0.0003	-0.0004	+0.0001	-0.003
16:08	-0.0003	-0.0004	+0.0001	-0.003
16:09	-0.0003	-0.0004	+0.0001	-0.002
16:09	-0.0003	-0.0005	+0.0002	-0.002
16:10	-0.0003	-0.0005	+0.0002	-0.001
16:11	-0.0003	-0.0005	+0.0002	-0.001
16:11	-0.0003	-0.0005	+0.0002	-0.000
16:12	-0.0003	-0.0005	+0.0002	+0.000
16:12	-0.0003	-0.0005	+0.0002	+0.001
16:13	-0.0003	-0.0005	+0.0002	+0.001
16:13	-0.0003	-0.0005	+0.0002	+0.002
16:14	-0.0003	-0.0005	+0.0002	+0.002
16:14	-0.0003	-0.0005	+0.0002	+0.003
16:15	-0.0003	-0.0005	+0.0002	+0.003
16:16	-0.0003	-0.0005	+0.0002	+0.003
16:16	-0.0003	-0.0006	+0.0003	+0.004
16:17	-0.0003	-0.0006	+0.0003	+0.004
16:17	-0.0003	-0.0006	+0.0002	+0.005
16:18	-0.0003	-0.0005	+0.0002	+0.005

VOLUME RATE OF CHANGE                    0.005 GPH  
99 % CONFIDENCE INTERVAL: +/-0.003 GPH  
RELATIVE FUEL TEMPERATURE: 58.00 deg F

CONTINENTAL BAKING CO.  
6841 VILLAGE PARKWAY  
DUBLIN CA

TANK TESTER VER 2.01

FUEL TYPE: DIESEL  
CAPACITY TANK 1: 4010 GALLONS  
TEMPERATURE COEFFICIENT: 443 ppm/deg F  
TEST CRITERIA: +0.050 GPH TO -0.050 GPH

02/05/92 TEST TIME FROM 15:45 TO 16:18  
DATA ANALYSIS INDICATES:

A GROSS VOLUME CHANGE OF: -0.014 GALLONS  
A VOLUME CHANGE DUE TO TEMPERATURE OF: -0.017 GALLONS  
A LIQUID VOLUME RATE OF CHANGE OF: +0.005 GPH  
WITH A 99 % CONFIDENCE INTERVAL OF: +/-0.003 GPH  
(+0.008 TO +0.002 GPH)

TESTER. *Jeff Steel*.....

CUSTOMER.....



APPENDIX C  
INVENTORY RECONCILIATION RECORDS

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LOCATION DUBLIN MONTH SEPT WEEK/END 9-19 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	877		877		877				
TUES	877		877		877				
WED	877		877		877				
THU	877		877		877				
FRI	877		877		877				
SAT	877		877		877				
TOTAL									

LOCATION Dublin MONTH Sept WEEK/END 9-19 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	791		791		791			9489	9489
TUES	791		791		791			9489	9489
WED	791		791		791			9489	9489
THU	791		791		791			9594	9594
FRI	791		791		791			9594	9594
SAT	686		686		686			9594	9594
TOTAL	105		105		105			105	105

LOCATION Dublin MONTH Sept WEEK/END 9/26 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	3686	3000	3686		3686				9594
TUES	3686		3686		3686				9594
WED	3686		3686		3686				9594
THU	3686		3686		3686				9594
FRI	3686		3686		3576	110			9700
SAT	3576		3576		3576				9700
TOTAL									

LOCATION Dublin MONTH Oct WEEK/END 10/3 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Oil TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	57		57		57			57	57
TUES	57		57		57			57	57
WED	57		57		57			57	57
THU	57		57		57			57	57
FRI	57		57		57			57	57
SAT	57		57		57			57	57
TOTAL	57		57		57			57	57

LOCATION Dublin MONTH Oct WEEK/END 10/3 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	3576		3576		3576				9700
TUES	3576		3576		3576				9700
WED	3576		3576		3576				9700
THU	3576		3576		3576				9801
FRI	3576		3576		3576				9801
SAT	3475		3475		3475				9801
TOTAL	21		101		101				101

LOCATION Dublin MONTH DEC WEEK/END 12/11 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON	2844	-	2844		2844				10533
TUES	2844	-	2844		2844				10533
WED									
THU	2844	-	2844		2844				10533
FRI	2844	-	2844		2714				10663
SAT	2714	-	2714		2714				10663
TOTAL	1302		1302		1302				1302

LOCATION Dub MONTH DEC WEEK/END 12/12 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN	2714	-	2714		2714				10663
MON	2714	-	2714		2714				10663
TUES	2714	-	2714		2714				10663
WED	2714	-	2714		2714				10663
THU	2714	-	2714		2714				10663
FRI	2714	-	2714		2604	110	110	-1	10773
SAT	2604	-	2604		2604				10773
TOTAL									

LOCATION Dublin MONTH DEC WEEK/END 12/18 SIGNATURE [Signature]

CBC FORM 433P CBC 5941B-88A7 TYPE OF FUEL Diesel TANK # \_\_\_\_\_ WATER CHECK \_\_\_\_\_ METER CHECK \_\_\_\_\_

DAY	1 OPENING DIPSTICK (GALLONS)	2 DELIVERIES (IN GALLONS)	3 TOTAL COL. 1 + COL. 2	4 CLOSING DIPSTICK (INCHES)	5 CLOSING DIPSTICK (GALLONS)	6 GALLONS FROM TANK COL. 3 - COL. 5	7 GALLONS FROM FORM 25	8 COLUMN 7 LESS THAN (-) OR GREATER THAN (+) COLUMN 6	9 PUMP METER READING
SUN									
MON									
TUES									
WED									
THU									
FRI									
SAT									
TOTAL									

TANK REMOVED  
12/14/22

**APPENDIX D**  
**SOIL DISPOSAL DOCUMENTATION**

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JOB ACCEPTANCE NO.

NON-HAZARDOUS WASTE MANIFEST  
WASTE TREATMENT AND DISPOSAL FACILITY

93 - 406

*Subline*  
*54 yds*

TO BE COMPLETED BY THE GENERATOR

GENERATOR  
Continental Baking Company

MAILING ADDRESS  
1525 Byrant Street

CITY, STATE, ZIP  
San Francisco, CA 94103

PHONE  
(415) 861-3858

CONTACT PERSON  
Donna Pedersen

SIGNATURE OF AUTHORIZED AGENT / TITLE  
\* *[Signature]*

DATE  
10/19/93

REQUIRED PERSONAL PROTECTIVE EQUIPMENT

GLOVES  GOGGLES  RESPIRATOR  HARD HAT

TY-VEK  OTHER

SPECIAL HANDLING PROCEDURES:

WASTE TYPE

TREATMENT SOIL  
 DISPOSAL SOIL  
 CONSTRUCTION SOIL

SLUDGE  
 NON-FRIABLE ASBESTOS  
 WOOD  
 ASH  
 OTHER

RECEIVING FACILITY

FORWARD INC. LANDFILL  
9999 SOUTH AUSTIN ROAD  
MANTECA, CALIFORNIA 95336  
(209) 982-4298 PHONE  
(209) 982-1009 FAX

GENERATING FACILITY  
Continental Baking Company  
6841 Village Parkway  
Dublin, CA

FACILITY REQUIREMENTS

NAME  
Dillard Trucking, Inc.

ADDRESS  
P.O. Box 218

CITY, STATE, ZIP  
Byron, CA 94514

PHONE  
(510) 634-6850

SIGNATURE OF AUTHORIZED AGENT OR DRIVER  
\* *[Signature]*

DATE

NOTES  
Job# 38471

P.O.# 02-10086

END OF P.  BOTTOM OF P.

ROLL OFF  FLAT BED

TRUCKS

**FORWARD INC. LANDFILL**

Forward shall have no obligation to accept the waste if weather or other conditions impair the safe and effective disposal of the waste or if the waste impairs the safe and effective operation of the Landfill. Forward shall use reasonable efforts to promptly notify Disposer of its inability to accept the waste for any reason. If Forward's refusal to accept the waste is based on weather or other site conditions, Forward shall notify the Disposer when site conditions are expected to change such that Forward will be able to accept the waste.

REMARKS

FACILITY TICKET NUMBER

SIGNATURE OF AUTHORIZED AGENT  
\* *[Signature]*

DATE

CUBIC YARDS  
18 Cubic Yards

DISPOSER	SOIL	SLUDGE	NON-FRIABLE ASBESTOS	WOOD	ASH	OTHER

SCHEDULING MUST BE MADE PRIOR TO 4:00 P.M. THE DAY PRIOR TO EXPECTED ARRIVAL • ANY UNSCHEDULED LOADS ARE SUBJECT TO REFUSAL UPON ARRIVAL. ONGOING DAILY DELIVERIES MUST BE SCHEDULED WITH THE LANDFILL THE DAY BEFORE TO SCHEDULE CALL (209) 982-4298



*Dublin*  
*54 yds*

# NON-HAZARDOUS WASTE MANIFEST

WASTE TREATMENT AND DISPOSAL FACILITY

JOB ACCEPTANCE NO.

93 - 406

TO BE COMPLETED BY THE GENERATOR

**GENERATOR**  
Continental Baking Company

**MAILING ADDRESS**  
1525 Byrant Street

**CITY, STATE, ZIP**  
San Francisco, CA 94103

**PHONE**  
(415) 861-3858

**CONTACT PERSON**  
Donna Pedersen

**SIGNATURE OF AUTHORIZED AGENT / TITLE** \_\_\_\_\_ **DATE** 10/12/93

**REQUIRED PERSONAL PROTECTIVE EQUIPMENT**

GLOVES  GOGGLES  RESPIRATOR  HARD HAT

TY-VEK  OTHER

**SPECIAL HANDLING PROCEDURES:**

**WASTE TYPE**

TREATMENT SOIL

DISPOSAL SOIL

CONSTRUCTION SOIL

SLUDGE

NON-FRIABLE ASBESTOS

WOOD

ASH

OTHER

**RECEIVING FACILITY**

**FORWARD INC. LANDFILL**  
9999 SOUTH AUSTIN ROAD  
MANTECA, CALIFORNIA 95336  
(209) 982-4298 PHONE  
(209) 982-1009 FAX

**GENERATING FACILITY**  
Continental Baking Company  
6841 Village Parkway  
Dublin, CA

TO BE COMPLETED BY THE FACILITY

**NAME**  
Dillard Trucking, Inc.

**ADDRESS**  
P.O. Box 218

**CITY, STATE, ZIP**  
Byron, CA 94514

**PHONE**  
(510) 634-6850

**SIGNATURE OF AUTHORIZED AGENT OR DRIVER** \_\_\_\_\_ **DATE** 10-19-93

**NOTES**  
Job #384/1  
P.O.# 02-10086

**TRUCK NUMBER**  
78-78A

**END DUMP**  **BOTTOM DUMP**  **TRANSFER**

**ROLL OFF(S)**  **FLAT BED**  **TRAILER**  **TRUCKS**

**FORWARD INC. LANDFILL**

Forward shall have no obligation to accept the waste if weather or other conditions impair the safe and effective disposal of the waste or if the waste impairs the safe and effective operation of the Landfill. Forward shall use reasonable efforts to promptly notify Disposer of its inability to accept the waste for any reason. If Forward's refusal to accept the waste is based on weather or other site conditions, Forward shall notify the Disposer when site conditions are expected to change such that Forward will be able to accept the waste.

**REMARKS**

**FACILITY TICKET NUMBER**

**SIGNATURE OF AUTHORIZED AGENT** \_\_\_\_\_ **DATE** \_\_\_\_\_

**CUBIC YARDS**  
18 Cubic Yards

DISPOSAL METHOD	RECEIVED				STORAGE	REMOVED
	DISPOSED	RECEIVED	STORAGE	REMOVED		
<input type="checkbox"/> SOIL						
<input type="checkbox"/> SLUDGE						
<input type="checkbox"/> NON-FRIABLE ASBESTOS						
<input type="checkbox"/> WOOD						
<input type="checkbox"/> ASH						
<input type="checkbox"/> OTHER						

SCHEDULING MUST BE MADE PRIOR TO 4:00 P.M. THE DAY PRIOR TO EXPECTED ARRIVAL • ANY UNSCHEDULED LOADS ARE SUBJECT TO REFUSAL UPON ARRIVAL. ONGOING DAILY DELIVERIES MUST BE SCHEDULED WITH THE LANDFILL THE DAY BEFORE. TO SCHEDULE CALL (209) 982-4298

JOB ACCEPTANCE NO.

93 --- 406

TO BE COMPLETED BY THE GENERATOR

**GENERATOR**  
Continental Baking Company

**MAILING ADDRESS**  
1525 Byrant Street

**CITY, STATE, ZIP**  
San Francisco, CA 94103

**PHONE**  
(415) 861-3858

**CONTACT PERSON**  
Donna Pedersen

**SIGNATURE OF AUTHORIZED AGENT / TITLE**      **DATE**  
\* *Cherie Y...*      10/19/93

**REQUIRED PERSONAL PROTECTIVE EQUIPMENT**  
 GLOVES     GOGGLES     RESPIRATOR     HARD HAT  
 TY-VEK     OTHER

**SPECIAL HANDLING PROCEDURES:**

**WASTE TYPE**

<input checked="" type="checkbox"/> TREATMENT SOIL	<input type="checkbox"/> SLUDGE
<input type="checkbox"/> DISPOSAL SOIL	<input type="checkbox"/> NON-FRIABLE ASBESTOS
<input type="checkbox"/> CONSTRUCTION SOIL	<input type="checkbox"/> WOOD
	<input type="checkbox"/> ASH
	<input type="checkbox"/> OTHER

**RECEIVING FACILITY**

**FORWARD INC. LANDFILL**  
9999 SOUTH AUSTIN ROAD  
MANTECA, CALIFORNIA 95336  
(209) 982-4298 PHONE  
(209) 982-1009 FAX

**GENERATING FACILITY**  
Continental Baking Company  
6841 Village Parkway  
Dublin, CA

TO BE COMPLETED BY THE TRANSPORTER (MULTIPLE USE ONLY)

**NAME**  
Dillard Trucking, Inc.

**ADDRESS**  
P.O. Box 218

**CITY, STATE, ZIP**  
Byron, CA 94514

**PHONE**  
(510) 634-6850

**SIGNATURE OF AUTHORIZED AGENT OR DRIVER**      **DATE**  
\* *Dorey...*      10/19/93

**NOTES:**  
Job #384/1

**TRUCK NUMBER**  
87    87A

P.O. # 02-10086

<input type="checkbox"/> END DUMP	<input type="checkbox"/> BOTTOM DUMP	<input checked="" type="checkbox"/> TRANSFER
<input type="checkbox"/> ROLL-OFF(S)	<input type="checkbox"/> FLAT-BED	<input type="checkbox"/> VAN <input type="checkbox"/> DRUMS

**FORWARD INC. LANDFILL:**

Forward shall have no obligation to accept the waste if weather or other conditions impair the safe and effective disposal of the waste or if the waste impairs the safe and effective operation of the Landfill. Forward shall use reasonable efforts to promptly notify Disposer of its inability to accept the waste for any reason. If Forward's refusal to accept the waste is based on weather or other site conditions, Forward shall notify the Disposer when site conditions are expected to change such that Forward will be able to accept the waste.

**REMARKS**

**FACILITY TICKET NUMBER**

**SIGNATURE OF AUTHORIZED AGENT**      **DATE**  
\*     

<b>CUBIC YARDS</b>	18 Cubic Yards				
<b>DISPOSAL METHOD (TO BE COMPLETED BY FORWARD)</b>	DISPOSE	BIG	AERATE	STOCKPILE	OTHER
<input type="checkbox"/> SOIL					
<input type="checkbox"/> SLUDGE					
<input type="checkbox"/> NON-FRIABLE ASBESTOS					
<input type="checkbox"/> WOOD					
<input type="checkbox"/> ASH					
<input type="checkbox"/> OTHER					

SCHEDULING MUST BE MADE PRIOR TO 4:00 P.M. THE DAY PRIOR TO EXPECTED ARRIVAL • ANY UNSCHEDULED LOADS ARE SUBJECT TO REFUSAL UPON ARRIVAL. ONGOING DAILY DELIVERIES MUST BE SCHEDULED WITH THE LANDFILL THE DAY BEFORE. TO SCHEDULE CALL (209) 982-4298

**APPENDIX E**  
**SITE HEALTH AND SAFETY PLAN**

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FORM HS-507  
SITE SAFETY PLAN\*  
FIELD INVESTIGATION OF UNDERGROUND FUEL SPILLS

ADMINISTRATIVE INFORMATION

Project No. 9200037 Project Name ABC - DUBLIN UST  
Project Manager JIM HUMBERT Business Unit WCC - STL  
SSO \_\_\_\_\_ HSO JEFF MOHN  
Date of Issue 11 NOVEMBER 92 Effective Dates 11 NOVEMBER 92 - 11 NOVEMBER 93

SITE INFORMATION

Location: 6841 VILLAGE PARKWAY, DUBLIN  
Pertinent History: BAKERY THRIFT SHOP WITH ATTACHED MAINTENANCE GARAGE.

Material(s) Spilled: POTENTIAL DIESEL

FIELD ACTIVITIES

UST CLOSURE SAMPLING, EXCAVATION

EMERGENCY TELEPHONE NUMBERS

Fire Dept. 911 Project Mgr. LOCAL TASK MGR - ANITA YAN (510) 874 3081  
Ambulance 911 HSO JEFF MOHN (408) 297-9585  
Hospital VALLEYCARE MEDICAL CENTER (510) 847-3000

\* Must be used with Operating procedure HS-507

FORM HS-507  
SITE SAFETY PLAN  
FIELD INVESTIGATION OF UNDERGROUND FUEL SPILLS

HOSPITAL NAME, ADDRESS, & ROUTE

Name: VALLEYCARE HEALTH Address: 5555 W. LAS POSITAS BLVD, PLEASANTON  
Route: SOUTH (LEFT) ON VILLAGE PARKWAY, LEFT ON DUBLIN BLVD, RIGHT  
ON DOUGHERTY RD, OVER 580 ONTO HOPYARD ROAD, LEFT ON STONERIDGE, LEFT  
ON LAS POSITAS BLVD, HOSPITAL AT CORNER OF SANTA RITA RD.

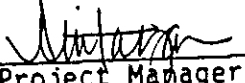
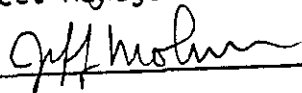
AUTHORIZED FIELD PERSONNEL

<u>KAREN SWOBODA</u>	<u>JOEL KUSHINS</u>
<u>KIM BRADLEY</u>	<u>BILL COPELAND</u>
<u>ANITA YAN</u>	
<u>JO BETH FOLGER</u>	

NAME OF SUBCONTRACTORS (Field Work)

Name: \_\_\_\_\_ Telephone No. \_\_\_\_\_  
Address: \_\_\_\_\_  
Authorized Representative: \_\_\_\_\_  
Name: \_\_\_\_\_ Telephone No. \_\_\_\_\_  
Address: \_\_\_\_\_  
Authorized Representative: \_\_\_\_\_

APPROVALS

<u> for Jim Hammert</u>	<u>11 NOVEMBER 1992</u>
Project Manager	Date
<u></u>	<u>11-16-92</u>
HSD	Date
_____	Date
CHSD*	

\* Signature required only for modified plans.

HEALTH AND SAFETY EQUIPMENT CHECKLIST

Project Name: CBC DUBLIN WST

Project Number: 9202037

The checked items shall be present on site:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Eye Protection  | <input checked="" type="checkbox"/> HNu<br>or                                     |
| <input checked="" type="checkbox"/> Hard Hat  | <input checked="" type="checkbox"/> OVA   |
| <input checked="" type="checkbox"/> Safety Shoes/Boots  | <input type="checkbox"/> Combustible Gas Meter                                    |
| <input checked="" type="checkbox"/> Hearing Protection  | <input type="checkbox"/> Sensidyne or Draeger Tubes<br>and Pump<br>Specify: _____ |
| <input checked="" type="checkbox"/> First Aid Kit   | <input type="checkbox"/> Barricades/Pylons  |
| <input type="checkbox"/> Eye Wash   | <input checked="" type="checkbox"/> Barricade Tape                                |
| <input checked="" type="checkbox"/> Fire Extinguisher   | <input type="checkbox"/> "Authorized Personnel Only" signs                        |
| <input type="checkbox"/> Splash Shield  | <input type="checkbox"/> Latex Gloves   |
| <input type="checkbox"/> Splash Apron   | <input checked="" type="checkbox"/> Nitrile Gloves                                |
| <input type="checkbox"/> Dust Mask  | <input type="checkbox"/> Neoprene Gloves  |
| <input checked="" type="checkbox"/> Respirator (Half-face APR) <i>on site</i>                         | <input type="checkbox"/> Leather Gloves   |
| <input type="checkbox"/> Respirator (Full-face APR)   | <input checked="" type="checkbox"/> Uncoated Tyvek                                |
| <input type="checkbox"/> Airline System   | <input type="checkbox"/> Poly laminated Tyvek                                     |
| <input type="checkbox"/> SCBA   | <input type="checkbox"/> Saranex coated Tyvek                                     |
| <input checked="" type="checkbox"/> Cartridges  | <input type="checkbox"/> Boot Covers  |
| <input checked="" type="checkbox"/> Organic Vapor (color coded black)                                 | <input type="checkbox"/> Duct Tape  |
| <input type="checkbox"/> Acid Gases and Organic Vapor (color coded yellow)                            |   |
| <input type="checkbox"/> Dust and Mists (filter pad with cover)                                       |   |
| <input type="checkbox"/> HEPA (color coded purple)  |   |
| <input type="checkbox"/> Combination- Acid gas, organic vapor and HEPA (color coded<br>yellow/purple) |   |
| <input type="checkbox"/> Other Specify: _____   |   |
| <input checked="" type="checkbox"/> Decontamination Equipment (See Operating Procedure HS-512 )       |   |
| <input checked="" type="checkbox"/> Buckets   | <input type="checkbox"/> Plastic Sheeting   |
| <input checked="" type="checkbox"/> Scrub Brushes   | <input type="checkbox"/> Paper Towels   |
| <input checked="" type="checkbox"/> Detergent (Alconox)   | <input type="checkbox"/> Hand Soap  |

AIR MONITORING DATA SHEET

Site or Project Name \_\_\_\_\_ Project No. \_\_\_\_\_ Date: \_\_\_\_\_

Person(s) Collecting Data \_\_\_\_\_

General Operation and Location at Site \_\_\_\_\_

Instrument Type, Make, Model \_\_\_\_\_

Instrument Serial or ID No. \_\_\_\_\_ Battery Check Results \_\_\_\_\_

Date of Last Calibration or Check \_\_\_\_\_ Date of Last Service \_\_\_\_\_

Contaminant(s) Suspected \_\_\_\_\_

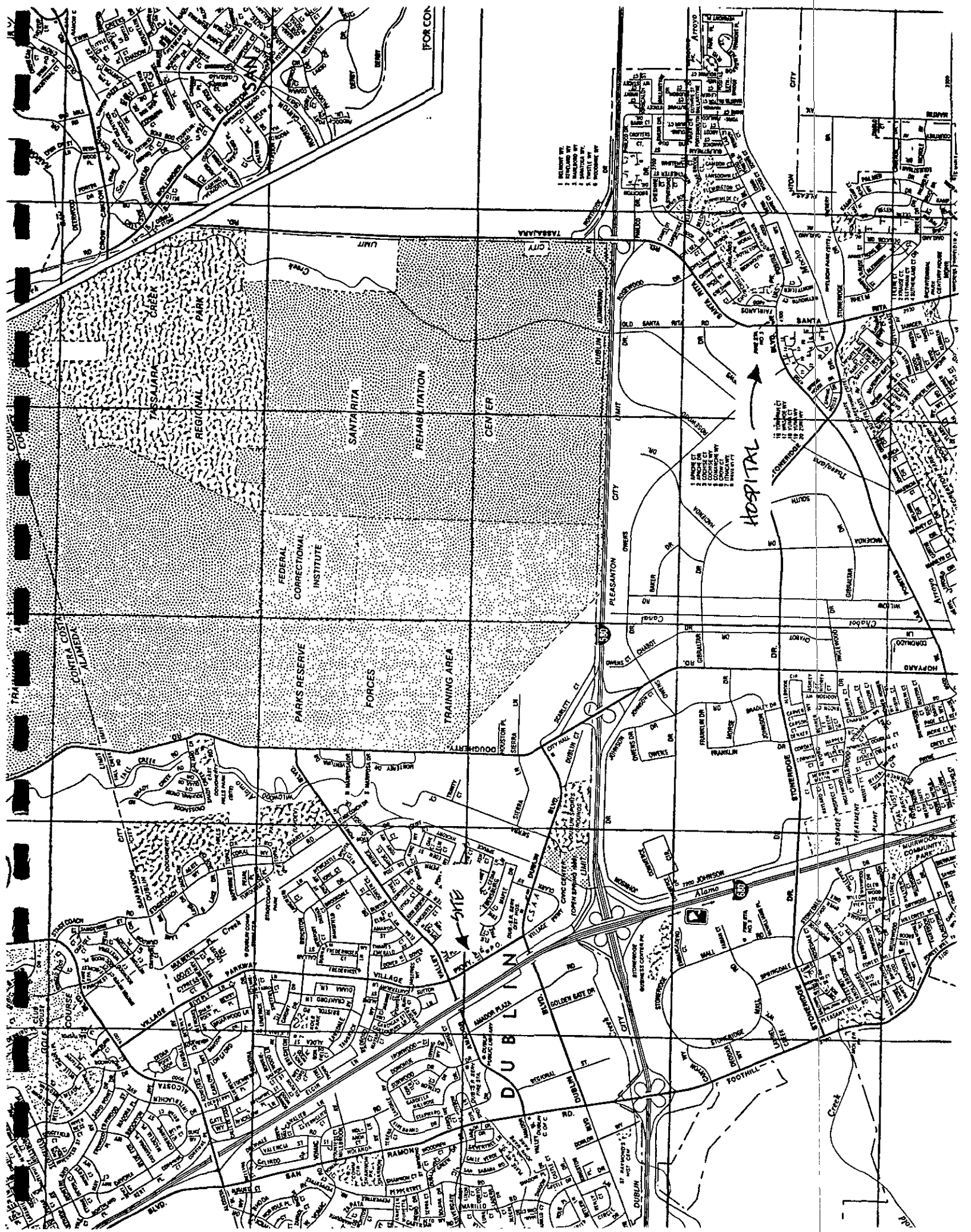
	Specific Location	Specific Operation or Work Phase	Employee Name If Breathing Zone Monitored	Time	Reading	Comments (e.g., duration, causation of reading)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

General Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature of Person Responsible for Data: \_\_\_\_\_ Date Signed \_\_\_\_\_



- 1. RAILROAD
- 2. HIGHWAY
- 3. AIRPORT
- 4. CANAL
- 5. RIVER
- 6. LAKE
- 7. WETLAND
- 8. SWAMP
- 9. MOUNTAIN
- 10. HILL
- 11. VALLEY
- 12. PLAIN
- 13. DESERT
- 14. FOREST
- 15. PARK
- 16. GARDEN
- 17. FARM
- 18. INDUSTRIAL
- 19. COMMERCIAL
- 20. RESIDENTIAL
- 21. SCHOOL
- 22. CHURCH
- 23. SYNAGOGUE
- 24. MOSQUE
- 25. TEMPLE
- 26. MONASTERY
- 27. CASTLE
- 28. PALACE
- 29. MANSION
- 30. HOUSE
- 31. GARAGE
- 32. DRIVE
- 33. WALKWAY
- 34. BRIDGE
- 35. TUNNEL
- 36. ELEVATOR
- 37. ESCALATOR
- 38. STAIRWAY
- 39. RAMP
- 40. PLATFORM
- 41. CONCOURSE
- 42. TERMINAL
- 43. STATION
- 44. DEPOT
- 45. WHARF
- 46. DOCK
- 47. PIER
- 48. QUAY
- 49. BARRACKS
- 50. CASERNE
- 51. QUARTERS
- 52. BARRACKS
- 53. CASERNE
- 54. QUARTERS
- 55. BARRACKS
- 56. CASERNE
- 57. QUARTERS
- 58. BARRACKS
- 59. CASERNE
- 60. QUARTERS

HOSPITAL

DUBLIN

SANTA RITA

FEDERAL CORRECTIONAL INSTITUTE

REHABILITATION CENTER

PARKS RESERVE

FORCES

TRAINING AREA

CONTRA COSTA

ALAMEDA

REGIONAL PARK

SALARIAL CREEK

TASSALANA

PLEASANTON

TOWERS

STONEMORE

ALONG

STONEMORE

FOOTHILL

CREST

**OPERATING PROCEDURE NO. HS-507**

**507.0 PROCEDURES FOR FIELD INVESTIGATIONS OF UNDERGROUND  
SPILLS OF GASOLINE AND OTHER PETROLEUM DISTILLATE  
FUELS**

**507.1 PURPOSE**

The purpose of this procedure is to establish sound and uniform health and safety procedures and guidelines for field operations associated with investigations of leakage of petroleum hydrocarbon fuels from underground storage tanks and pipes.

**507.2 SCOPE**

This procedure identifies the types of fuels and field activities to which it applies, assesses the hazards of fuels, and describes risk control measures.

**507.3 APPLICABILITY**

This procedure applies to: (1) collection of samples of surface and subsurface soil, (2) construction, completion, testing, and abandonment of groundwater monitoring wells, (3) collection of water samples from new and existing wells, and observing removal of underground fuel pipes and storage tanks at facilities that currently dispense or store:

- (1) leaded gasoline
- (2) unleaded gasoline,
- (3) gasohol,
- (4) Numbers 1, 1D (diesel), 2, 2D (diesel), 4, 5, or 6 fuel oils,
- (5) jet A, jet A-1, jet B, JP-1, JP-3, JP-4, and JP-5 jet fuels,
- (6) crankcase oil,
- (7) methanol (when used as a motor fuel), and/or
- (8) stoddard solvent:

This procedure shall not be used for confined space entry or for installing or operating pilot and full-scale fuel recovery systems. This plan may be used for the installation of vapor extraction systems only by appropriate modification and proper health and safety approvals. This plan may not be used for the start-up or operation of vapor extraction systems. It is also not applicable to field work performed at refineries, sites where spills of chemicals other than the substances listed above have occurred, sites of unusual hazard, and any other site or activity for which the use of this plan is identified as inappropriate by the operating unit HSO.

This plan is applicable to work involving the removal of underground fuel pipes and storage tanks only when used with and attached to the American Petroleum Institute API Recommended Practice 1604, Second Ed. 1987 as revised March 6, 1989, Removal and Disposal of Used Underground Petroleum Storage Tanks.

This plan is applicable to work involving boring with power equipment only when used with and attached to Woodward-Clyde Operating Procedure HS-509, Safety Guidelines For Drilling Into Soil and Rocks.

This plan is applicable to work involving entry into excavations by Woodward-Clyde or Woodward-Clyde subcontractor personnel only when used with and attached to Woodward-Clyde Operating Procedure HS-510, Safety Procedures for Trench Construction and Other Excavating Operations.

#### **507.4 - RESPONSIBILITY AND AUTHORITY**

The Project Manager has overall responsibility for safe conduct of all field work, including ensuring full implementation of this procedure by the site manager, project staff and subcontractors assisting with field work. The PM shall assign (with the concurrence of the operating unit HSO or HSC) a Site Safety Officer (SSO) to attend to day-to-day health and safety matters in the field. The PM may elect, if qualified, to serve as SSO. The SSO must be on-site whenever work by employees of WC or its subcontractors is being performed at the site.

Both the PM and SSO are authorized to suspend work when working conditions become too hazardous and are authorized to remove from the site any WC and subcontractor employee whose conduct endangers the health and safety of the employee or of others.

#### **507.5 HAZARD EVALUATION**

Petroleum distillate fuels are mixtures of aliphatic and aromatic hydrocarbons, the constituent concentrations of which can vary significantly dependent upon the crude feedstock, refining process, and seasonal variations. The predominant types of compounds in fuels are paraffins (e.g., pentane, hexane), naphthenes (e.g., cyclohexane) and aromatics (e.g., benzene, toluene, polynuclear aromatics). Gasoline contains about 80 percent paraffins, 6 percent naphthenes, and 14 percent aromatics. JP-1 and 4 contain up to 48 percent paraffin, 38 percent naphthenes, and 20 percent aromatics. Fuel oils and certain jet fuels (JP-3 and 5) contain about 10 percent paraffin, up to 23 percent naphthenes, and up to 78 percent non-volatile aromatic hydrocarbons. Gasohol is gasoline containing 10 to 40 percent ethyl alcohol. Methanol as it is used as a motor fuel typically contains up to 20% gasoline to improve cold starting characteristics as a safety factor to provide a visible flame. To improve their burning properties, compounds such as tetraethyl-lead, methyl tertbutyl ether (MTBE) and ethylene dibromide (EDB) are often added to automotive and aviation fuels.

Petroleum distillate fuels exhibit relatively low acute inhalation and dermal toxicity. Concentrations of 160 to 270 ppm gasoline vapor have been reported to cause eye, nose, and throat irritation in people after several hours of exposure. Levels of 500 to 900 ppm have been reported to cause irritation and dizziness in one hour and 2,000 ppm has been reported to cause mild anesthesia in 30 minutes. Gasoline, kerosene, and some jet fuels will cause severe eye irritation on contact with the eye and low to moderate skin irritation on contact with the skin. Methanol can be toxic by either skin or inhalation exposure, and is unique in that it attacks the optic nerve. Methanol blindness can be irreversible.

Ingestion of 10 to 15 grams (2 to 3 teaspoons) of gasoline has caused death in children. In adults, ingestion of 20 to 50 grams may produce severe symptoms of poisoning. The most dangerous aspect of ingestion of these motor fuels is the development of chemical pneumonia from the aspiration of gasoline or other fuels are aspirated into the lungs.



Aspiration of very small quantities of these motor fuels into the lungs is often fatal. Some gasoline additives, such as ethylene dichloride, ethylene dibromide, and tetraethyl- and tetramethyl-lead are highly toxic materials; however, their concentrations in gasoline are so low that their contribution to the overall toxicity of gasoline is negligible in most instances.

Petroleum distillate fuels are flammable. Under certain conditions, this property presents a greater risk than toxicity. Six of the fuels covered by this procedure are classified by the Federal Department of Transportation as flammable liquids as all six typically have flash points of 100 degrees F or less. These fuels are gasoline, gasohol, Jet B, JP-1, JP-4, and No. 1 fuel oil. Lower explosive limits of the fuels range from 0.6 to 1.4 percent (6,000 to 14,000 ppm).

#### **507.6 HEALTH AND SAFETY CLEARANCE**

WC employees as well as subcontractor employees assigned to perform field activities covered by this procedure must be currently approved for hazardous waste field work, including:

Current medical clearance to conduct hazardous waste field work and to wear a respirator;

Successful completion of a respirator fit test within the last 12 months for the make and model of the respirator assigned to that individual for use at that site;

Completion of training as required by 29 CFR 1910.120(e), including either:

40 hours of hazardous waste worker basic instruction within the last 12 months, or,

8 hours of hazardous waste worker refresher training within the last 12 months, subsequent to completion of 40 hours of basic hazardous waste worker training.

**507.7 HEALTH AND SAFETY BRIEFING**

Before field work begins, all field personnel, including subcontractor employees, must be briefed on their work assignments and the provisions of this procedure, and each person briefed must be given a copy of this document and each must acknowledge receipt and willingness to comply by submitting a signed safety compliance agreement to the WC Project Manager. Individuals refusing to sign the agreement will be prohibited from working at the site.

**507.8 PERSONAL PROTECTIVE EQUIPMENT**

Equipment listed below must be available on-site in appropriate sizes for use when needed.

1. NIOSH approved full- or half-face respirator with organic vapor cartridges. Respirators must be worn when airborne hydrocarbon action levels are reached or exceeded.
2. Saranex or polyethylene coated Tyvek coveralls. Coated coveralls must be worn when product quantities of fuel are encountered and when fuel-saturated soil is handled.
3. Safety goggles or glasses. Must be worn when working within 10 feet of operating heavy equipment (e.g., drill rig, backhoe). Must be splash-proof when handling concentrated fuel product.
4. Nitrile or neoprene gloves for all fuels except methanol. Workers handling methanol must wear butyl gloves. Gloves must be worn when handling contaminated soil or water or drilling or digging into contaminated soil. Confirm with your HSO the applicability of model and brand of gloves!
5. Neoprene or butyl rubber safety boots, calf-length. Must be worn when walking on obviously contaminated soil and when working within 10 feet of operating heavy equipment.

6. **Hardhat.** Must be worn when working within 10 feet of operating heavy equipment.

## **507.9 ORGANIC VAPOR MONITORING**

### **507.9.1 Monitoring Instruments**

Two instruments are required for this work:

- 1) Combustible Gas/Oxygen indicator (CGI/O<sub>2</sub>) with readout in %LEL and %O<sub>2</sub>.
- 2) Photoionization (PID) field survey instrument (HNU, ThermoEnvironmental 580A, Photovac Microtip, or equivalent)\*, or, Flame-ionization (FID) field survey instrument (Foxboro OVA or equivalent).

\*PID instruments cannot readily detect methanol, and therefore may NOT be used on sites where methanol is or may be encountered.

### **507.9.2 Toxicity Action Levels**

The toxicity action levels given below are set to comply with OSHA Permissible Exposure Levels and ACGIH Threshold Limit Values. Some of the more volatile motor fuels also contain some concentration of benzene. Gasoline averages approximately 1% benzene. Therefore, for motor fuels which may contain benzene, the action levels specified below are also set to comply with the proposed TLV of 0.1 ppm. These action levels are also adjusted for the relative response of common PID or FID instruments to motor fuel vapors.

Respirators must be worn when meter readings averaged over 10 minutes equal or exceed the action level for upgrade to Level C PPE. Workers must be evacuated from the area when organic vapor concentrations exceeding respiratory protective equipment protection factors are encountered.

**507.9.2.1 Toxicity Action Levels for Gasoline and Jet B**

**TOXICITY ACTION LEVELS  
GASOLINE AND JET B  
(in PPM indicated)**

<b>Instrument</b>	<b>Calibration Gas</b>	<b>Action Upgrade to Level C</b>	<b>Evacuate</b>
Photoionization meter# (10.0 to 10.2 eV lamp)	H.Nu calibration gas* or Benzene	2	60** 300***
Photoionization meter (10.0 to 10.2 eV lamp)	Isobutylene	3.3	100** 500***
Flame-ionization meter (OVA-128)	Methane	10	300** 1500***

# Photoionization instruments do not work and shall not be used for work in high (<90%) humidity or rainy weather, or sites where methanol is or may be present.

\* Although the calibration gas purchased from HNU is isobutylene, the concentration identified on the cylinder for calibration of an HNU with 10.2 eV lamps is a benzene equivalent.

\*\* for workers wearing 1/2 face respirators.

\*\*\* for workers wearing full face respirators.

507.9.2.2 Toxicity Action Levels for Fuels other than Gasoline and Jet B

**TOXICITY ACTION LEVELS  
FUELS OTHER THAN GASOLINE, METHANOL AND JET B  
(in PPM indicated)**

Instrument	Calibration Gas	Action Upgrade to Level C	Evacuate
Photoionization meter# (10.0 to 10.2 eV lamp)	H.Nu calibration gas* or Benzene	20	60** 300***
Photoionization meter (10.0 to 10.2 eV lamp)	Isobutylene	33	100** 500***
Flame-ionization meter (OVA-128)	Methane	99	300** 1500***

# Photoionization instruments do not work and shall not be used for work in high (<90%) humidity or rainy weather.

\* Although the calibration gas purchased from H.Nu is isobutylene, the concentration identified on the cylinder for calibration of H.Nu's with 10.2 eV lamps is a benzene equivalent.

\*\* for workers wearing 1/2 face respirators.

\*\*\* for workers wearing full face respirators.

All instruments shall be calibrated both immediately prior to commencing the day's field work and after work ceases for the day. Calibration and monitoring records shall be kept in the project file and provided to the operating unit HSO. Records shall include:

Worker's name,  
Date,  
Time,  
Location,  
Temperature and humidity, and  
Calibration gas identity and concentration.  
Exposure data (time, location, and concentration)

**507.9.3 Explosion Hazard Action Levels**

The explosivity action levels below are set to prevent the creation of flammable or explosive atmospheres. Measurements should be taken at all locations where personnel are present or power/hand tools are in use.

**EXPLOSIVITY ACTION LEVELS  
(% of the LEL)**

<b>Instrument</b>	<b>Calibration Gas</b>	<b>Action Level (Evacuate)</b>
Combustible Gas Indicator	hexane	20%
Combustible Gas Indicator	methane	20%

The CGI alarm must be set to sound at the action level. For this work it is highly recommended that hexane be used as the calibration gas.

When measurements with a combustible gas indicator (CGI) indicate the presence of combustible gas levels equal to or exceeding the explosivity action level in the work area, the following action must be taken:

1. Extinguish all possible ignition sources in the work area and shut down all powered equipment.

2. Move personnel at least 100 feet away from work area.
3. Contact Health and Safety Officer (HSO).
4. At the instruction of the HSO and after waiting 5 minutes for organic vapors to dissipate, the SSO or PM may use the CGI to cautiously and with prudence approach the worksite to determine the extent and concentration of organic emissions. The SSO or PM shall not enter any area where CGI readings exceed the explosivity action level, nor shall the SSO or PM make any approach if there is possibility of fire or explosion.
5. Personnel may reenter the work area only by clearance of the HSO after the cause of the emission has been determined and the source abated.
6. Prepare incident report and submit to HSO.

#### **507.9.4 Monitoring Guidelines**

Personnel exposure monitoring should be performed as often as necessary and wherever necessary to protect field personnel from hazardous concentrations of organic vapors. Monitoring must be performed by individuals trained in the calibration, use and care of the required instruments.

Toxicity action levels are considerably lower than explosivity action levels. Therefore initial and periodic monitoring should be conducted with the PID or FID. Monitoring shall be conducted in the worker's breathing zone, which is a 1 foot diameter sphere surrounding the worker's head. The alarm on this instrument should be set to sound at the action level. If vapors are measured continuously and the instrument must be unattended, the detector inlet should be located as close to the worker's breathing zone as possible. Decisions regarding respirator use should be based on breathing zone vapor concentrations of personnel expected to have the greatest exposures. Particular effort should be made to monitor personnel exposures while trenching, boring or tank inerting is progressing.

Explosivity monitoring should be continuous, with the detector set at a location near and downwind of the source of emission. Additional monitoring with the CGI should be

performed when organic vapor concentrations exceed the ppm range of the PID or FID instrument. If the alarm sounds while continuously monitoring with a CGI, initiate shut-down and evacuation procedures immediately.

#### **507.10 AREA CONTROL**

Access to hazardous and potentially hazardous areas of spill sites must be controlled to reduce the probability of occurrence of physical injury and chemical exposure of field personnel, visitors, and the public. A hazardous or potentially hazardous area includes any area where (1) field personnel are required to wear respirators, (2) borings are being drilled with powered augers, or (3) excavating operations with heavy equipment are being performed.

The boundaries of hazardous and potentially hazardous areas must be identified by cordons, barricades, or emergency traffic cones or posts, depending on conditions. If such areas are left unattended, signs warning of the danger and forbidding entry must be placed around the perimeter if the areas are accessible to the public. Trenches and other large holes must be guarded with wooden or metal barricades spaced no further than 20 feet apart and connected with yellow or yellow and black nylon tape not less than 3/4-inches wide. The barricades must be placed no less than two feet from the edge of the excavation or hole.

Entry of hazardous areas shall be limited to individuals who must work in those areas. Unofficial visitors must not be permitted to enter hazardous areas while work in those areas is in progress. Official visitors should be discouraged from entering hazardous areas, but may be allowed to enter only if they agree to abide by the provisions of this document, follow orders issued by the site safety officer, and are informed of the potential dangers that could be encountered in the areas.

#### **507.11 DECONTAMINATION**

Field decontamination of personnel and equipment is not required except when contamination is obvious (visually or by odor). Recommended decontamination procedures follow.



**507.11.1 Personnel Decontamination**

Gasoline, kerosene, jet fuel, and gasohol should be removed from skin using a mild detergent and water. Hot water is more effective than cold. Liquid dishwashing detergent is more effective than hand soap.

**507.11.2 Equipment Decontamination**

Gloves, respirators, hardhats, boots and goggles should be cleaned as described under personnel; however, if boots do not become clean after washing with detergent and water, wash them with a strong solution of trisodium phosphate and hot water.

Sampling equipment, augers, vehicle undercarriages, and tires should be steam or high pressure washer cleaned. The steam cleaner is a convenient source of hot water for personnel and protective equipment cleaning.

**507.12 SMOKING**

Smoking and open flames are strictly prohibited at sites under investigation.

**507.13 INERTING OF TANKS**

Whenever WC personnel must be present during removal or transport of fuel storage tanks, the SSO or designee must determine whether or not the procedures to be used by the firm responsible for tank removal/transport agree with API Recommended Practice 1604, Second Ed. 1987 as revised March 6, 1989, Removal and Disposal of Used Underground Petroleum Storage Tanks. If the firm's procedures, especially those addressing removal/inactivation of flammable vapors, disagree substantially with API's procedures, the PM and HSO must be notified immediately (by telephone, if possible). In turn, the PM shall inform the client that WC personnel will not report to the site during tank/removal operations unless proper procedures are used. If the firm responsible for tank removal/transport is under subcontract to WC, the WC project manager shall require the subcontractor to follow API procedures.

OPERATING PROCEDURES NO. HS-102

102.0 HEAT STRESS

102.1 PURPOSE

The purpose of this OP is to provide general information on heat stress and the methods that can be utilized to prevent or minimize the occurrence of heat stress.

Adverse climatic conditions are important considerations in planning and conducting site operations. Ambient temperature effects can include physical discomfort, reduced efficiency, personal injury, and increased accident probability. Heat stress is of particular concern while wearing impermeable protective garments, since these garments inhibit evaporative body cooling.

102.2 REQUIREMENTS

The NIOSH criteria document for heat stress recommends that environmental monitoring and other preventive measures be adopted in hot work environments. However, the provisions are not directly applicable to employees who are required to wear impermeable protective clothing. The reason for this exception is that impermeable clothing prevents the evaporation of sweat, which is one of the most important cooling mechanisms of the body. There is no recognized health standard protection for workers wearing impermeable protective clothing and respirators in hot environments.

The ACGIH has adopted a TLV for heat stress. These guides relate to work/rest regimes.

102.3

#### ADDITIONAL HAZARD

The use of Personal Protective Equipment of the types commonly used for hazardous waste work can place stress on the body. One common problem with the use of personal protective equipment, especially in hot environments, is heat stress. Protective clothing can cause excessive sweating and can prevent the body from properly regulating body temperature.

102.4

#### TYPES OF HEAT STRESS

Heat stress is the aggregate of environmental and physical work factors that constitute the total heat load imposed on the body. The environmental factors of heat stress are the air temperature, radiant heat exchange, air movement, and water vapor pressure. Physical work contributes to the total heat stress of the job by producing metabolic heat in the body in proportion to the intensity of the work. The amount and type of clothing also affect the heat stress.

Heat strain is the series of physiological responses to heat stress. When the strain is excessive for the exposed individual, a feeling of discomfort or distress may result, and, finally, a heat disorder may ensue. The severity of strain will depend not only on the magnitude of the prevailing stress, but also on the age, physical fitness, degree of acclimatization, and dehydration of the worker.

Heat disorder is a general term used to describe one or more of the following heat-related disabilities or illnesses:

- o Heat Cramps - painful intermittent spasms of the voluntary muscles following hard physical work in a hot

environment. Cramps usually occur after heavy sweating, and often begin at the end of a work shift.

- o Heat Exhaustion - profuse sweating, weakness, rapid pulse, dizziness, nausea, and headache. The skin is cool and sometimes pale and clammy with sweat. Body temperature is normal or subnormal. Nausea, vomiting, and unconsciousness may occur.
- o Heat Stroke - sweating is diminished or absent. The skin is hot, dry, and flushed. Increased body temperature, which, if uncontrolled, may lead to delirium, convulsions, coma, and even death. Medical care is urgently needed.

#### 102.5 METHODS OF CONTROLLING HEAT STRESS

As many of the following control measures as are appropriate to site conditions should be utilized to aid in controlling heat stress:

- o Provide for adequate liquids to replace lost body fluids and replace water and salt lost from sweating. Encourage personnel to drink more than the amount required to satisfy thirst. Thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement.
- o Replace fluids with water, commercial mixes such as Gatorade or Quick Kick, or a combination of these.
- o Establish a work regimen that will provide adequate rest periods for cooling down. This may require additional shifts of workers.

- o Wear cooling devices such as vortex tubes or cooling vests beneath protective garments.
- o Take all breaks in a cool rest area (77°F is best).
- o Remove impermeable protective garments during rest periods.
- o Do not assign other tasks to personnel during rest periods.
- o Inform personnel of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress.

## 102.6

### MONITORING

#### 102.6.1 TEMPERATURE

The heat stress of an area can be monitored by the Wet Bulb Globe Temperature Index (WBGT) technique. Where heat stress is a possibility, a heat stress monitoring device, such as the Wibget Heat Stress Monitor (Reuter Stokes) can be utilized.

The WBGT shall be compared to the Threshold Limit Values (TLV) outlined by the ACGIH TLV guides, and a work-rest regiment can be established in accordance with the WBGT. Note that 5 degrees C must be subtracted from the TLVs for heat stress listed to compensate for the wearing of impermeable protective clothing.

## 102.6.2 MEDICAL

In addition to the provisions of the WCC medical surveillance program, on-site medical monitoring of personnel should be performed by qualified medical personnel for projects where heat stress is a major concern. Blood pressure, pulse, body temperature (oral), and body weight loss should be taken and recorded.

**Heart Rate:** Count the radial pulse during a 30-second period as early as possible in the rest period. If the heart rate exceeds 110 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the same. If the heart rate still exceeds 110 beats per minute at the next rest cycle, shorten the following work cycle by one-third.

**Oral Temperature:** Use a clinical thermometer or similar device to measure the oral temperature at the end of the work period (before drinking liquids). If the oral temperature exceeds 99.6F (37.6C), shorten the next work cycle by one-third without changing the rest period. If the oral temperature still exceeds 99.6F (37.6C) at the beginning of the next rest period, shorten the following work cycle by one-third.

Do not permit a worker to wear a semipermeable or impermeable garment if his/her oral temperature exceeds 100.6F (38.1C).

**Body Water Loss:** Measure body weight on a scale accurate to  $\pm 0.25$  pounds at the beginning and end of each work day (also lunch break, if possible) to see if enough fluids are being taken to prevent dehydration. Weights should be taken while the employee wears similar clothing or, ideally, nude. The body water loss should not exceed 1.5 percent total body weight loss in a work day.

Portable water and Gatorade or other electrolyte replacement fluid should be available. Workers should be encouraged to drink fluids during rest periods.

**Physiological Monitoring:** Initially, the frequency of physiological monitoring depends on the air temperature adjusted for solar radiation and the level of physical work (see Table 2). The length of the work cycle will be governed by the frequency of the required physiological monitoring.

#### 102.7 REFERENCES

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/H&S2

# **HEAT STRESS**

**FROM**

**OCCUPATIONAL EXPOSURE TO HOT ENVIRONMENTS, NIOSH**

**Revised Criteria 1986**

**NIOSH**

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
PUBLIC HEALTH SERVICE  
CENTERS FOR DISEASE CONTROL  
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH**



## 1. Heatstroke

The classical description of heatstroke includes: (1) a major disruption of central nervous function (unconsciousness or convulsions); (2) a lack of sweating; and (3) a rectal temperature in excess of 41°C (105.8°F) [4,59,75,76]. The 41°C rectal temperature is an arbitrary value for hyperpyrexia, because the disorder has not been produced experimentally in humans so that observations are made only after the admission of patients to hospitals, which may vary in time from about 30 minutes to several hours after the event. In some heatstroke cases, sweating may be present [76]. The local circumstances of metabolic and environmental heat loads which give rise to the disorder are highly variable and are often difficult or impossible to reconstruct with accuracy. The period between the occurrence of the event and admission to a hospital may result in a quite different medical outcome from one patient to another depending on the knowledge, understanding, skill, and facilities available to those who render first aid in the intervening period. Recently, the sequence of biologic events in some fatal heatstroke cases have been described [77].

Heatstroke is a MEDICAL EMERGENCY, and any procedure from the moment of onset which will cool the patient improves the prognosis. Placing the patient in a shady area, removing outer clothing and wetting the skin, and increasing air movement to enhance evaporative cooling are all urgently needed until professional methods of cooling and assessment of the degree of the disorder are available. Frequently, by the time a patient is admitted to a hospital, the disorder has progressed to a multisystem lesion affecting virtually all tissues and organs [77]. In the typical clinical presentation, the central nervous system is disorganized, and there is commonly evidence of fragility of small blood vessels, possibly coupled with the loss of integrity of cellular membranes in many tissues. The blood-clotting mechanism is often severely disturbed, as are liver and kidney functions. It is not clear, however, whether these events are present at the onset of the disorder, or whether their development requires a combination of a given degree of elevated body temperature and a certain period for tissue or cellular damage to occur. Postmortem evaluation indicates there are few tissues which escape pathological involvement. Early recognition of the disorder or its impending onset, associated with appropriate treatment, considerably reduces the death rate and the extent of organ and tissue involvement. An ill worker should not be sent home or left unattended without a physician's specific order.

## 2. Heat Exhaustion

Heat exhaustion is a mild form of heat disorder which readily yields to prompt treatment. This disorder has been encountered frequently in experimental assessment of heat tolerance. Characteristically, it is sometimes but not always accompanied by a small increase in body temperature (38°-39°C or 100.4°-102.2°F). The symptoms of headache, nausea, vertigo, weakness, thirst, and giddiness are common to both heat exhaustion and the early stage of heatstroke. There is a wide interindividual variation in the ability to tolerate an increased body

temperature; some individuals cannot tolerate rectal temperatures of 38°-39°C, and others continue to perform well at even higher rectal temperatures [78].

There are, of course, many variants in the development of heat disorders. Failure to replace water may predispose the individual to one or more of the heat disorders and may complicate an already complex situation. Therefore, cases of hyperpyrexia can be precipitated by hypohydration. It is unlikely that there is only one cause of hyperpyrexia without some influence from another. Recent data suggest that cases of heat exhaustion can be expected to occur some 10 times more frequently than cases of heatstroke [59].

### 3. Heat Cramps

Heat cramps are not uncommon in individuals who work hard in the heat. They are attributable to a continued loss of salt in the sweat, accompanied by copious intake of water without appropriate replacement of salt. Other electrolytes such as  $Mg^{++}$ ,  $Ca^{++}$ , and  $K^+$  may also be involved. Cramps often occur in the muscles principally used during work and can be readily alleviated by rest, the ingestion of water, and the correction of any body fluid electrolyte imbalance.

### 4. Heat Rashes

The most common heat rash is prickly heat (miliaria rubra), which appears as red papules, usually in areas where the clothing is restrictive, and gives rise to a prickling sensation, particularly as sweating increases. It occurs in skin that is persistently wetted by unevaporated sweat, apparently because the keratinous layers of the skin absorb water, swell, and mechanically obstruct the sweat ducts [21,79,80]. The papules may become infected unless they are treated.

Another skin disorder (miliaria crystallina) appears with the onset of sweating in skin previously injured at the surface, commonly in sunburned areas. The damage prevents the escape of sweat with the formation of small to large watery vesicles which rapidly subside once sweating stops, and the problem ceases to exist once the damaged skin is sloughed.

Miliaria profunda occurs when the blockage of sweat ducts is below the skin surface. This rash also occurs following sunburn injury, but has been reported to occur without clear evidence of previous skin injury. Discrete and pale elevations of the skin, resembling gooseflesh, are present.

In most cases, the rashes disappear when the individuals are returned to cool environments. It seems likely that none of the rashes occur (or if they do, certainly with greatly diminished frequency) when a substantial part of the day is spent in cool and/or dry areas so that the skin surface can dry.

Although these heat rashes are not dangerous in themselves, each of them carries the possibility of resulting patchy areas which are anhidrotic, and thereby adversely affects evaporative heat loss and thermoregulation. In experimentally induced miliaria rubra, sweating capacity recovers within 3-4 weeks [79,80]. Wet and/or damaged skin could absorb toxic chemicals more readily than dry unbroken skin.

### C. Chronic Heat Disorders

Some long term effects from exposure to heat stress (based on anecdotal, historical, and some epidemiologic and experimental evidence) have been suggested. Recently, the evidence was reviewed by Dukes-Dobos who proposed a three-category classification of possible heat-related chronic health effects [77]. The three categories are Type I - those related to acute heat illnesses such as reduced heat tolerance following heatstroke or reduced sweating capacity; Type II - not clear clinical entities, but are similar to general stress reactions; and Type III - which includes anhidrotic heat exhaustion, tropical neurosthenia, and increased incidence of kidney stones. The primary references cited in the review are suggestive of some possible chronic heat effects. However, the available data do not contribute information of value in protecting workers from heat effects. Nevertheless, the concept of chronic health effects from heat exposure may merit further formal laboratory and hot industry investigations.

TABLE IV-1.--Classification, medical aspects, and prevention of heat illness.

Category and clinical features	Predisposing factors	Underlying physiologic disturbance	Treatment	Prevention		
1. Temperature Regulation Heatstroke	Heatstroke: (1) Hot dry skin usually red, mottled or cyanotic; (2) $t_{re}$ , 40.5°C (104°F) and over; (3) confusion, loss of consciousness, convulsions, $t_{re}$ continues to rise; fatal if treatment delayed	(1) Sustained exertion in heat by unacclimatized workers; (2) Lack of physical fitness and obesity; (3) Recent alcohol intake; (4) Dehydration; (5) Individual susceptibility; and (6) Chronic cardiovascular disease	Failure of the central drive for sweating (cause unknown) leading to loss of evaporative cooling and an uncontrolled accelerating rise in $t_{re}$ , there may be partial rather than complete failure of sweating	Immediate and rapid cooling by immersion in chilled water with massage or by wrapping in wet sheet with vigorous fanning with cool dry air, avoid overcooling, treat shock if present	Medical screening of workers, selection based on health and physical fitness, acclimatization for 5-7 days by graded work and heat exposure, monitoring workers during sustained work in severe heat	
2. Circulatory Hypostasis Heat Syncope	Fainting while standing erect and immobile in heat	Lack of acclimatization	Pooling of blood in dilated vessels of skin and lower parts of body	Remove to cooler area, rest recumbent position, recovery prompt and complete	Acclimatization, intermittent activity to assist venous return to heart	
3. Water and/or Salt Depletion	(a) Heat Exhaustion	(1) Fatigue, nausea, headache, giddiness; (2) Skin clammy and moist; complexion pale, muddy, or hectic	(1) Sustained exertion in heat; (2) Lack of acclimatization; and (3) Failure to replace water lost in sweat	(1) Dehydration from deficiency of water; (2) Depletion of circulating blood volume; (3) Circulatory strain from	Remove to cooler environment, rest recumbent position, administer fluids by mouth, keep at rest	Acclimatize workers using a breaking-in schedule for 5 to 7 days, supplement dietary salt only

(continued)

TABLE IV-1.--Classification, medical aspects, and prevention of heat illness

Category and clinical features	Predisposing factors	Underlying physiologic disturbance	Treatment	Prevention
flush; (3) May faint on standing with rapid thready pulse and low blood pressure; (4) Oral temperature normal or low but rectal temperature usually elevated (37.5°-38.5°C) (99.5°-101.3°F); water restriction type: urine volume small, highly concentrated; salt restriction type: urine less concentrated, chlorides less than 3 g/L		competing demands for blood flow to skin and to active muscles	until urine volume indicates that water balances have been restored	during acclimatization, ample drinking water to be available at all times and to be taken frequently during work day
(b) Heat Cramps				
Painful spasms of muscles used during work (arms, legs, or abdominal); onset during or after work hours	(1) Heavy sweating during hot work; (2) Drinking large volumes of water without replacing salt loss	Loss of body salt in sweat, water intake dilutes electrolytes, water enters muscles, causing spasm	Salted liquids by mouth, or more prompt relief by I-V infusion	Adequate salt intake with meals; in unacclimatized workers supplement salt intake at meals
4. Skin Eruptions				
(a) Heat Rash (miliaria rubra; "prickly heat")				
Profuse tiny raised red vesicles (blister-like) on affected areas, pricking sensations during heat exposure	Unrelieved exposure to humid heat with skin continuously wet with unevaporated sweat	Plugging of sweat gland ducts with retention of sweat and inflammatory reaction	Mild drying lotions, skin cleanliness to prevent infection	Cool sleeping quarters to allow skin to dry between heat exposures

(continued)

TABLE IV-1.--Classification, medical aspects, and prevention of heat illness

Category and clinical features	Predisposing factors	Underlying physiologic disturbance	Treatment	Prevention
(b) Anhidrotic Heat Exhaustion (miliaria profunda)				
Extensive areas of skin which do not sweat on heat exposure, but present gooseflesh appearance, which subsides with cool environments; associated with incapacitation in heat	Weeks or months of constant exposure to climatic heat with previous history of extensive heat rash and sunburn	Skin trauma (heat rash; sunburn) causes sweat retention deep in skin, reduced evaporative cooling causes heat intolerance	No effective treatment available for anhidrotic areas of skin, recovery of sweating occurs gradually on return to cooler climate	Treat heat rash and avoid further skin trauma by sunburn, periodic relief from sustained heat
5. Behavioral Disorders				
(a) Heat Fatigue-- Transient				
Impaired performance of skilled sensorimotor, mental, or vigilance tasks, in heat	Performance decrement greater in unacclimatized and unskilled worker	Discomfort and physiologic strain	Not indicated unless accompanied by other heat illness	Acclimatization and training for work in the heat
(b) Heat Fatigue-- Chronic				
Reduced performance capacity, lowering of self-imposed standards of social behavior (e.g., alcoholic overindulgence), inability to concentrate, etc.	Workers at risk come from temperate climates, for long residence in tropical latitudes	Psychosocial stresses probably as important as heat stress, may involve hormonal imbalance but no positive evidence	Medical treatment for serious cases, speedy relief of symptoms on re-turning home	Orientation on life in hot regions (customs, climate, living conditions, etc.)

Adapted from Reference 73.

## OPERATING PROCEDURE NO. HS-103

### 103.0 Cold Stress

#### 103.1 Purpose

The purpose of this OP is to provide information on cold stress and procedures for preventing and dealing with cold stress. Adverse climatic conditions of cold are important considerations in planning and conducting site operations. Ambient temperature effects can include physical discomfort, reduced efficiency, personal injury, and increased accident probability.

#### 103.2 Types of Cold Stress Effects

Persons working outdoors in temperatures at or below freezing may be frostbitten. Extreme cold for a short time may cause severe injury to the surface of the body, or result in profound generalized cooling, causing death. Areas of the body that have high surface-area-to-volume ratio such as fingers, toes, and ears, are the most susceptible.

Local injury resulting from cold is included in the generic term frostbite. There are several degrees of damage. Frostbite of the extremities can be categorized into:

- Frost nip or initial frostbite: characterized by suddenly blanching or whitening of skin.
- Superficial frostbite: skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: tissues are cold, pale, and solid; extremely serious injury.

Another form of cold stress that can be quite serious is hypothermia. Hypothermia results when the body loses heat faster than it can produce it. When this situation first occurs, blood vessels in the skin constrict in an attempt to conserve vital internal heat. Hands and feet are first affected. If the body continues to lose heat, involuntary shivers begin. This is the body's way of attempting to produce more heat, and it is usually the first real warning sign of hypothermia. Further heat loss produces speech difficulty, forgetfulness, loss of manual dexterity, collapse, and finally death.

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages:

1. shivering;
2. apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95°F;
3. unconsciousness, glassy stare, slow pulse, and slow respiratory rate;
4. freezing of the extremities; and finally
5. death.

### 103.3 Climatic Factors

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. For instance, 10°F with a wind of 15 miles per hour (mph) is equivalent in chilling effect to still air at -18°F. See the wind chill chart in Table 103-1.

As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air. Thus, the body cools suddenly when chemical-protective equipment is removed if the clothing underneath is perspiration soaked.



#### 103.4 Exposure Limits

Typical exposure limits for work in cold are presented in Table 103-2, as a guide for establishing work schedules.

#### 103.5 Control Measures

The dead air space between the warm body and clothing and the outside air is essential. Clothing is worn to keep the body warmth in and the cold out. Usually, no one type of clothing is best for all weather conditions. Denim is relatively loosewoven, that not only allows water to penetrate, but permits wind to blow away the body heat that should remain trapped between the body and clothing worn. Duck or goose down is good for stopping wind, but is of little use when wet. Clear plastic or closely woven nylon is good protection from wind and rain but offers little insulation against cold.

Many layers of relatively light clothing with an outer shell of windproof material maintain body temperature much better than a single heavy outer garment worn over ordinary indoor clothing. The more air cells each of these clothing layers has, the more efficient it insulates against body heat loss. Make sure that clothing allows some venting of perspiration. Because wet skin will freeze more rapidly than dry skin, use all feasible means to keep as dry as possible. Make full use of windbreaks and avoid exposing skin to direct effects of the wind. Problems are created by the need to wear layers of special clothing that make the wearer very clumsy in performing many routine work procedures. Increased body dimensions must also be considered if tight spaces are encountered.

#### 103.6 References

Olishefsky, J.B., Fundamentals of Industrial Hygiene, National Safety Council, 1983.

TABLE 103-1. WIND CHILL CHART.

Wind Speed (in mph)	Actual Thermometer Reading (F)									
	50	40	30	20	10	0	-10	-20	-30	-40
calm	50	40	30	20	10	0	-10	-20	-30	-40
5	48	37	27	16	6	-5	-15	-26	-36	-47
10	40	28	16	4	-9	-21	-33	-46	-58	-70
15	36	22	9	-5	-18	-36	-45	-58	-72	-83
20	32	18	4	-10	-25	-39	-53	-67	-82	-96
25	30	16	0	-15	-29	-44	-59	-74	-88	-104
30	28	13	-2	-18	-33	-48	-63	-79	-94	-109
35	27	11	-4	-20	-37	-53	-69	-85	-100	-116
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116
Over 40 mph (little added effect)	LITTLE DANGER  (for properly clothed person)				INCREASING DANGER  (danger from of exposed			GREAT DANGER  freezing flesh)		

The human body senses "cold" as a result of both the air temperature and the wind velocity. Cooling of exposed flesh increases rapidly as the wind velocity goes up. Frostbite can occur at relatively mild temperatures if wind penetrates the body insulation. For example, when the actual air temperature of the wind is 40 F (4.4 C) and its velocity is 30 mph (48 km/h), the exposed skin would perceive this situation as an equivalent still air temperature of 13 F (-11 C).

TABLE 103-2 MAXIMUM DAILY TIME LIMITS FOR EXPOSURE AT LOW TEMPERATURES.

Temperature Range		Maximum Daily Exposure
Celcius (degrees)	Fahrenheit (degrees)	
0 to -18	30 to 0	No limit, providing that the person is properly clothed.
-18 to -34	0 to -30	Total work time; 4 hours. Alternate one hour in and one hour out of the low-temperature area.
-34 to -57	-30 to -70	Two periods of 30 minutes each, at least 4 hours apart. Total low temperature work time allowed: one hour. (Note that some difference exists among individuals: one report recommends 15-minute periods—not over four periods per work 8-hour shift; another limits periods to one hour out of every four, with a low chill factor, i.e., no wind; a third says that continuous operation for 3 hours at -53 has been experienced without ill effect.
-57 to -73	-70 to -100	Maximum permissible work time: 5 minutes during an 8-hour working day. At these extreme temperatures, completely enclosed headgear, equipped with a breathing tube running under the clothing and down the leg to preheat the air, is recommended.

Source: NSC Data Sheet 465, Cold Room Testing of Gasoline and Diesel Engines.

**510.0 SAFETY PROCEDURES FOR TRENCH CONSTRUCTION AND OTHER EXCAVATING OPERATIONS**

**510.1 PURPOSE**

This procedure contains general safety requirements for excavating and trenching operations and work performed therein. The requirements are consistent with standards established by the Occupational Safety and Health Administration (OSHA) and described in 29 CFR 1926.650. The detailed OSHA standard was effective in January 1990 and should be consulted before design of a shoring system or questions regarding a sloping option.

**510.2 PRIMARY RESPONSIBILITY**

The WC project manager is responsible for ensuring that employees of WC and of firms contracted by WC comply with the requirements.

WC employees are responsible for not entering improper trenches or excavations.

**510.3 APPLICABILITY**

This procedure is applicable to all WC projects in which trenching or other excavating operations, exclusive of borings, are entered by WC personnel or personnel employed by firms under contract to WC. It is also applicable to WC projects requiring WC personnel or personnel of firms under contract to WC to enter trenches and other types of excavations.

The best approach for avoiding the detailed trenching requirements is to perform sampling and other procedures without entry into excavations. Use of a backhoe to bring up samples, use of long-handled sampling devices, and similar techniques are recommended.

**510.4 REQUIREMENTS**

**510.4.1 PRELIMINARY REQUIREMENTS**

Certain government agencies (e.g., California) require a permit to perform excavation operations.

Before digging, determine or have the client determine if underground installations, such as sewer, water, fuel, or electrical lines are to be encountered, and if so, determine the exact locations of the lines. Information can be obtained by contacting Underground Service Alert (consult local telephone directory for toll-free number), local utility companies, and the owner of the property on which excavating operations are planned.

Trees, boulders, and other surface encumbrances, located so as to pose a potential hazard to employees must be removed or made safe before the operation begins.

#### **510.4.2 PLACEMENT OF EXCAVATED MATERIALS**

Excavated materials must be placed at least two feet back from the edge of the excavation and precautions must be taken to prevent the materials from falling into the excavation.

#### **510.4.3 WORKING IN EXCAVATIONS**

##### **510.4.3.1 SHORING AND SLOPING**

Trenches in which personnel are required to work must be shored or sloped if the depth of the excavation is five (5) feet or more. When a shoring system is used, it shall consist of hydraulic shores or the equivalent, with sheathing or sheet piling as needed. Trench boxes are also permitted. OSHA uses a soil classification system to determine the allowable slopes for trenches. The shoring system must be properly designed and installed to sustain all existing and expected loads. For details on shoring and sloping, consult 29 CFR, Subpart P, Sections 1926.650 to 1926.653.

##### **510.4.3.2 ACCESS**

When work is to be performed in any excavation, safe access to the excavation must be provided by means of ladders, stairs or ramps. Trenches four or more feet deep must have ladders spaced no less than 25 feet apart, and the ladders must extend at least three feet above grade.

##### **510.4.3.3 HAZARDOUS ATMOSPHERES**

At sites where oxygen deficiency or hazardous concentrations of flammable or toxic vapors or gases may be encountered in excavations, the atmosphere in the excavations must be tested by the project safety officer or other qualified person before work in an excavation begins and at appropriate intervals afterward.

#### **510.4.4 INSPECTION OF EXCAVATIONS**

Excavations must be observed daily by the project or site safety officer. If no safety officer has been assigned to the project, inspections must be made by the project manager or his designee. If evidence for potential cave-ins or slides is apparent, all work in the excavation must be suspended until necessary steps have been taken to safeguard employees.

#### **510.4.5 OPERATION OF VEHICLES NEAR EXCAVATIONS**

When vehicles or heavy equipment must operate near an excavation, the sides of the excavation must be shored or braced as necessary to withstand forces exerted by the superimposed load and the earth pressure. Stop logs or other types of secure barriers must be installed at the edges of the excavations.

#### **510.4.6 BELL-BOTTOM PIER HOLES**

Employees entering drilled pier holes must be protected by a casing proportioned to sustain the maximum stresses imposed by earth and water or slurry that extends the full depth of the shaft and to the bottom of the bell. A safety cage or a shoulder harness secured to a full-time tended lifeline shall be required for entry and exit.

#### **510.4.7 BRIDGES AND WALKWAYS**

Walkways or bridges with standard guardrails must be provided where employees or equipment are required or permitted to cross over excavations. Pedestrian walkways shall be of sufficient strength to permit a vertical deflection of no more than 0.5 inch when a 250-pound weight is applied to the center of the walkway. All bridges intended for vehicular traffic must be constructed to withstand twice the load of the heaviest vehicle expected.

#### **510.4.8 BARRICADES AND FENCES**

Excavated areas must be completely guarded on all sides with barricades or fences, as appropriate. If barricades are used, they must be spaced no more than 20 feet apart and shall not be less than 35 inches high when erected. A yellow or yellow and black tape, at least 0.75 inches wide, shall be stretched between the barricades.

#### **510.4.9 BACKFILLING**

Excavated areas must be backfilled in accordance with the work plan as soon as practical after work is completed, and all associated equipment must be removed from the area.

#### **510.5 EXCAVATIONS NEXT TO EXISTING STRUCTURES**

A registered engineer will review all plans for excavations next to existing structures to avoid undermining the structures and possible collapse.

STATE OF CALIFORNIA  
HEALTH AND WELFARE AGENCY  
SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986

CHEMICALS KNOWN TO THE STATE TO CAUSE CANCER OR REPRODUCTIVE TOXICITY

The Safe Drinking Water and Toxic Enforcement Act of 1986 requires that the Governor advise and republish at least once per year the list of chemicals known to the State to cause cancer or reproductive toxicity. The identification number indicated in the following list is the Chemical Abstracts Service (CAS) Registry Number. No CAS number is given when several substances are presented as a single listing. The date refers to the initial appearance of the chemical on the list.

CHEMICALS KNOWN TO THE STATE TO CAUSE CANCER

Chemical	CAS Number	Date
-alpha-C (2-Amino-9H-pyrido[2,3-b]indole)	26148685	January 1, 1990
acetaldehyde	75070	April 1, 1988
acetamide	60355	January 1, 1990
acetochlor	34256821	January 1, 1989
-Acetylaminofluorene	33963	July 1, 1987
acifluorfen	62476599	January 1, 1990
acrylamide	79061	January 1, 1990
acrylonitrile	107131	July 1, 1987
actinomycin D	50760	October 1, 1989
adriamycin (Doxorubicin hydrochloride)	23214928	July 1, 1987
P-2;[2-(2-furyl)-3-(5-nitro-2-furyl)]acrylamide	3688537	July 1, 1987
aflotoxins	...	January 1, 1988
alachlor	15972608	January 1, 1989
alcoholic beverages, when associated with alcohol abuse	...	July 1, 1988
aldrin	309002	July 1, 1988
allyl chloride	107051	January 1, 1990
-Aminoanthraquinone	117793	October 1, 1989
-Aminozobenzene	60093	January 1, 1990
ortho-Aminoazotoluene	97563	July 1, 1987
-Aminobiphenyl (4-aminodiphenyl)	92671	February 27, 1987
-Amino-9-ethylcarbazole hydrochloride	6109973	July 1, 1989
-Amino-2-methylanthraquinone	82280	October 1, 1989
-Amino-3-(5-nitro-2-furyl)-1,2,4-thiadiazole	712683	July 1, 1987
atrazine	61825	July 1, 1987
analgesic mixtures containing phenacetin	...	February 27, 1987
atiline	62533	January 1, 1990
ortho-Anilidine	90040	July 1, 1987
ortho-Anilidine hydrochloride	134292	July 1, 1987
antimony oxide (Antimony trioxide)	1309644	October 1, 1990
arsite	140578	July 1, 1987
arsenic (Inorganic arsenic compounds)	...	February 27, 1987
asbestos	1332214	February 27, 1987
asparagine	492808	July 1, 1987
aspartine	115028	July 1, 1987
azathioprine	446866	February 27, 1987
azobenzene	103333	January 1, 1990

Benz[a]anthracene	56553	July 1, 1987
Benzene	71432	February 27, 1987
Benzidine [and its salts]	92873	February 27, 1987
Benzo[b]fluoranthene	205992	July 1, 1987
Benzo[j]fluoranthene	205823	July 1, 1987
Benzo[k]fluoranthene	207089	July 1, 1987
Benzo[ghi]perylene	271896	October 1, 1990
Benzo[a]pyrene	50328	July 1, 1987
Benzotrichloride	98077	July 1, 1987
Benzyl chloride	100447	January 1, 1990
Benzyl violet 4B	1694093	July 1, 1987
Beryllium and beryllium compounds	...	October 1, 1987
Betal quid with tobacco	...	January 1, 1990
Bis(2-chloroethyl)ether	111444	April 1, 1988
N,N-Bis(2-chloroethyl)-2-naphthylamine (Chloroaniline)	494031	February 27, 1987
Bis(chloroethyl)nitrosourea (BCMU) (Carbustine)	154938	July 1, 1987
Bis(chloromethyl)ether	542881	February 27, 1987
Bitumens, extracts of steam-refined and air refined	...	January 1, 1990
Bracken fern	...	January 1, 1990
Bromodichloromethane	75274	January 1, 1990
1,3-Butadiene	106990	April 1, 1988
1,4-Butanediol dimethanesulfonate (Busulfan)	55981	February 27, 1987
Butylated hydroxyanisole	25013165	January 1, 1990
beta-Butyrolactone	1068880	July 1, 1987
Cadmium and cadmium compounds	...	October 1, 1987
Captafol	2425041	October 1, 1988
Captaon	133042	January 1, 1990
Carbon tetrachloride	36235	October 1, 1987
Carbon-black extracts	...	January 1, 1990
Ceramic fibers (airborne particles of respirable size)	...	July 1, 1990
Certain combined chemotherapy for lymphomas	...	February 27, 1987
Chlorambucil	305033	February 27, 1987
Chloramphenicol	56757	October 1, 1989
Chlordane	57749	July 1, 1988
Chlordecone (Kepone)	143500	January 1, 1988
Chloroform	6164983	January 1, 1989
Chlorogenic acid	115284	July 1, 1989
Chlorinated paraffins (Average chain length, C12; approximately 60 percent chlorine by weight)	108171262	July 1, 1989
Chlorodibromomethane	124481	January 1, 1990
Chloroethane	75003	July 1, 1990
1-(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCMU) (Lomustine)	13010474	January 1, 1988
1-(2-Chloroethyl)-3-(4-methylcyclohexyl)-1-nitrosourea (Methyl-CCMU)	13909096	October 1, 1988
Chloroform	67663	October 1, 1987
Chloromethyl methyl ether (technical grade)	107302	February 27, 1987
3-Chloro-2-methylpropene	563473	July 1, 1989
4-Chloro-ortho-phenylenediamine	95830	January 1, 1988
p-Chloro-o-toluidine	93692	January 1, 1990
Chlorothalonil	1897456	January 1, 1989



hexavalent compounds)	...	February 27, 1987	Diepoxybutane	1464535	January 1, 1990
...	218019	January 1, 1990	Diesel engine exhaust	...	October 1, 1990
asie Red 9 monohydrochloride	349619	July 1, 1989	Di(2-ethylhexyl)phthalate	117817	January 1, 1988
1 anthranilate	87296	July 1, 1989	1,2-Diethylhydrazine	1615801	January 1, 1988
in	15663271	October 1, 1988	Diethyl sulfate	64675	January 1, 1988
Red No. 2	6358538	October 1, 1989	Diethylstilbestrol	56551	February 27, 1987
on emissions	...	February 27, 1987	Diglycidyl resorcinol ether (DGRE)	101906	July 1, 1989
ted estrogens	...	February 27, 1987	Dihydroxatrole	94586	January 1, 1988
as	...	October 1, 1988	3,3'-Dimethoxybenzidine (ortho-Dianisidine)	119904	January 1, 1988
asidine	120718	January 1, 1988	3,3'-Dimethoxybenzidine dihydrochloride	20325400	October 1, 1990
on	135206	January 1, 1988	(ortho-Dianisidine dihydrochloride)		
...	14901087	January 1, 1988	Diethyl sulfate	77781	January 1, 1988
osphamide (anhydrous)	50180	February 27, 1987	4-Dimethylaminoazobenzene	60117	January 1, 1988
osphamide (hydrated)	6055192	February 27, 1987	trans-2-[(Dimethylamino)methylimino]-5-[2-(5-nitro-2-furyl)vinyl]-1,3,4-oxadiazole	55738540	January 1, 1988
...			7,12-Dimethylbenz(a)anthracene	57976	January 1, 1990
ange No. 17	3468631	July 1, 1990	3,3'-Dimethylbenzidine (ortho-Tolidine)	119937	January 1, 1988
... No. 8	2092560	October 1, 1990	Diethylcarbamoyl chloride	79447	January 1, 1988
... No. 9	5160021	July 1, 1990	1,1-Dimethylhydrazine	57147	October 1, 1989
... No. 19	81889	July 1, 1990	1,2-Dimethylhydrazine	540738	January 1, 1988
zine	4362034	January 1, 1988	Diethylvinylchloride	513271	July 1, 1989
ide	1596845	January 1, 1990	1,6-Dinitropyrene	42397648	October 1, 1990
cin	20830813	January 1, 1988	1,8-Dinitropyrene	42397659	October 1, 1990
chlorodiphenyldichloroethane)	72548	January 1, 1989	2,4-Dinitrotoluene	121142	July 1, 1988
chlorodiphenyldichloroethylene)	72559	January 1, 1989	1,4-Dioxane	123911	January 1, 1988
chlorodiphenyltrichloroethane)	50293	October 1, 1987	Diphenylhydantoin (Phenytoin)	57610	January 1, 1988
(chloro)	62737	January 1, 1989	Diphenylhydantoin (Phenytoin), sodium salt	630933	January 1, 1988
acetylbenzidine	613354	October 1, 1989	Direct Black 38 (technical grade)	1937377	January 1, 1988
aminoanisole	615054	October 1, 1990	Direct Blue 6 (technical grade)	2602662	January 1, 1988
aminoanisole sulfata	39156417	January 1, 1988	Direct Brown 95 (technical grade)	16071866	October 1, 1988
aminodiphenyl ether (4,4'-Oxydianiline)	101804	January 1, 1988	Disperse Blue 1	2475458	October 1, 1990
aminotoluene	95807	January 1, 1988			
toluene (mixed)	...	January 1, 1990	Epichlorohydrin	106898	October 1, 1987
a,h]acridine	226368	January 1, 1988	Erlonite	12510428	October 1, 1988
a,j]acridine	224420	January 1, 1988	Estradiol 17β	50282	January 1, 1988
a,h]anthracene	53703	January 1, 1988	Estrore	52167	January 1, 1988
nze[a,g]carbazole	194392	January 1, 1988	Ethinylestradiol	57436	January 1, 1988
[a,e]pyrene	192654	January 1, 1988	Ethyl acetate	140883	July 1, 1989
[a,h]pyrene	189640	January 1, 1988	Ethyl methanesulfonate	62500	January 1, 1988
[a,i]pyrene	189359	January 1, 1988	Ethyl-4,4'-dichlorobenzilate	510156	January 1, 1990
[a,l]pyrene	191300	January 1, 1988	Ethylene dibromide	106934	July 1, 1987
romo-3-chloropropane (DBCP)	96128	July 1, 1987	Ethylene dichloride (1,2-Dichloroethane)	107062	October 1, 1987
orobenzene	106467	January 1, 1989	Ethylene oxide	75218	July 1, 1987
chlorobenzidine	91941	October 1, 1987	Ethylene thiourea	96437	January 1, 1988
hloro-2-butane	764410	January 1, 1990	Ethyleneimine	151564	January 1, 1988
hloro-4,4'-diaminodiphenyl ether	28434868	January 1, 1988			
hloroethane	75363	January 1, 1990	folpet	133073	January 1, 1989
omethane (Methylene chloride)	75092	April 1, 1988	Formaldehyde (gas)	50000	January 1, 1988
hloropropane	78875	January 1, 1990	2-(2-Farmylhydrazino)-4-(3-nitro-2-furyl)thiazole	3570750	January 1, 1988
hloropropane	542756	January 1, 1989	Furazolidone	67458	January 1, 1990
n	60571	July 1, 1988	Furacicylox	60568050	January 1, 1990
col	84173	January 1, 1990			

Casoline engine exhaust (condensates/extracts)	...	October 1, 1990
Classwool fibers (airborne particles of respirable size)	...	July 1, 1990
Clu-P-1 (2-Amino-6-methylpyrido[1,2-a:3',2'-d]imidazole)	67730114	January 1, 1990
Clu-P-2 (2-Aminodipyrido[1,2-a:3',2'-d]imidazole)	67730103	January 1, 1990
Clycidaldehyde	765344	January 1, 1988
Clycidol	536523	July 1, 1990
Crisoofulvin	126078	January 1, 1990
Cyromltrin (Acetaldehyde methylformylhydrazone)	16368028	January 1, 1988
NC Blue 1	2784943	July 1, 1989
Heptachlor	76448	July 1, 1988
Heptachlor epoxide	1024373	July 1, 1988
Hexachlorobenzene	118741	October 1, 1987
Hexachlorocyclohexane (technical grade)	...	October 1, 1987
Hexachlorodibenzodioxin	34465468	April 1, 1988
Hexachloroethane	67721	July 1, 1990
Hexamethylphosphoramide	680319	January 1, 1988
Hydrazine	302012	January 1, 1988
Hydrazine sulfate	10034932	January 1, 1988
Hydrazobenzene (1,2-Diphenylhydrazine)	122667	January 1, 1988
Indeno [1,2,3-cd]pyrene	193395	January 1, 1988
IQ (2-Amino-3-methylimidazo[4,5-f]quinoline)	76180966	April 1, 1990
Iron dextran complex	9004664	January 1, 1988
Isosafrole	120581	October 1, 1989
Lactofen	77501634	January 1, 1989
Lasincarpine	303344	April 1, 1988
Lead acetate	301042	January 1, 1988
Lead phosphate	7446277	April 1, 1988
Lead subacetate	1335326	October 1, 1989
Lindane and other hexachlorocyclohexane isomers	...	October 1, 1989
Mancoseb	8018017	January 1, 1990
Maneb	12427382	January 1, 1990
Me-A-alpha-C (2-Amino-3-methyl-9H-pyrdo[2,3-b]indole)	68006837	January 1, 1990
Medroxyprogesterone acetate	71589	January 1, 1990
Melphalan	148823	February 27, 1987
Merphalan	531760	April 1, 1988
Mestranol	72333	April 1, 1988
8-Methoxy psoralen with ultraviolet A therapy	298817	February 27, 1987
5-Methoxy psoralen with ultraviolet A therapy	484208	October 1, 1988
2-Methylaziridine (Propyleneimine)	75558	January 1, 1988
Methylazoxymethanol	590965	April 1, 1988
Methylazoxymethanol acetate	592621	April 1, 1988
3-Methylcholanthrene	56495	January 1, 1990
5-Methylchryseno	3697243	April 1, 1988
4,4'-Methylene bis(2-chloroaniline)	101144	July 1, 1987
4,4'-Methylene bis(N,N-dimethyl)benzenamine	101411	October 1, 1989
4,4'-Methylene bis(2-methylaniline)	838880	April 1, 1988
4,4'-Methylenedianiline	101779	January 1, 1988
4,4'-Methylenedianiline dihydrochloride	13552448	January 1, 1988

Methyl iodide	74884	April 1, 1988
Methyl methanesulfonate	66273	April 1, 1988
2-Methyl-1-nitroanthraquinone (of uncertain purity)	129157	April 1, 1988
N-Methyl-N'-nitro-N-nitrosoguanidine	70257	April 1, 1988
N-Methylolacrylamide	924425	July 1, 1990
Methylthiouracil	56042	October 1, 1989
Metirac	9006472	January 1, 1990
Metronidazole	443481	January 1, 1988
Michler's ketone	90948	January 1, 1988
Mirex	2385855	January 1, 1988
Mitomycin C	50077	April 1, 1988
Monocrotaline	315220	April 1, 1988
5-(Morpholinomethyl)-3-[(5-nitro-furfurylidene)-amino]-2-oxalolidinone	139913	April 1, 1988
Mustard Gas	305602	February 27, 1987
Mafenopin	3771195	April 1, 1988
1-Naphthylamine	134327	October 1, 1989
2-Naphthylamine	91598	February 27, 1987
Nickel and certain nickel compounds	...	October 1, 1989
Nickel carbonyl	13463393	October 1, 1987
Nickel refinery dust from the pyrometallurgical process	...	October 1, 1987
Nickel subsulfide	12035722	October 1, 1987
Nitidazole	61574	April 1, 1988
Nitrilotriacetic acid	139139	January 1, 1988
Nitrilotriacetic acid, trisodium salt monohydrate	18662538	April 1, 1989
5-Nitroacenaphthene	602879	April 1, 1988
5-Nitro-o-anisidine	99592	October 1, 1989
4-Nitrobiphenyl	92933	April 1, 1988
6-Nitrochryseno	7496028	October 1, 1990
Nitrofen (technical grade)	1836755	January 1, 1988
2-Nitrofluoreno	607578	October 1, 1990
Nitrosurazone	59870	January 1, 1990
1-[(5-Nitrofurfurylidene)-amino]-2-imidazolidinone	555840	April 1, 1988
N-[4-(5-Nitro-2-furyl)-2-thiazolyl]acetamide	531828	April 1, 1988
Nitrogen mustard (Mechlorethamine)	51752	January 1, 1988
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	55867	April 1, 1988
Nitrogen mustard N-oxide	126852	April 1, 1988
Nitrogen mustard N-oxide hydrochloride	302703	April 1, 1988
2-Nitropropane	79469	January 1, 1988
1-Nitropyrene	5522430	October 1, 1990
4-Nitropyrene	5783524	October 1, 1990
N-Nitrosodi-n-butylamine	924163	October 1, 1987
N-Nitrosodiethanolamine	1116547	January 1, 1988
N-Nitrosodiethylamine	55185	October 1, 1987
N-Nitrosodimethylamine	62759	October 1, 1987
p-Nitrosodiphenylamine	156103	January 1, 1988
N-Nitrosodiphenylamine	86306	April 1, 1988
N-Nitrosodi-n-propylamine	621647	January 1, 1988
N-Nitroso-N-ethylurea	759739	October 1, 1987
3-(N-Nitrosomethylamino)propionitrile	60153493	April 1, 1990
4-(N-Nitrosomethylamino)-1-(3-pyridyl)1-butanone	64091914	April 1, 1990
N-Nitrosomethylethylamine	10595936	October 1, 1989
N-Nitroso-N-methylurea	684935	October 1, 1987

teroso-N-methylurethane	615532	April 1, 1988
teroso-methylvinylamine	4549400	January 1, 1988
terosomorpholine	59892	January 1, 1988
terosonornicotine	16543558	January 1, 1988
terosopiperidine	100754	January 1, 1988
terosopyrrolidine	910552	October 1, 1987
terososarcosine	13256229	January 1, 1988
schisterone (Norethindrone)	68224	October 1, 1989
atorzin A	303479	July 1, 1990
Orange S1	2646175	April 1, 1988
l contraceptives, combined	...	October 1, 1989
l contraceptives, sequential	...	October 1, 1989
echolone	434071	January 1, 1988
uran 3	...	January 1, 1988
tachlorophenol	87865	January 1, 1990
nacetin	62442	October 1, 1989
nazopyridine	94780	January 1, 1988
nazopyridine hydrochloride	136403	January 1, 1988
nesterin	3546109	July 1, 1989
nobarbital	50066	January 1, 1990
noxybenzamine	59961	April 1, 1988
noxybenzamine hydrochloride	63923	April 1, 1988
nyl glycidyl ether	1675543	October 1, 1990
nyphenate, sodium	132274	January 1, 1990
nbrominated biphenyls	...	January 1, 1988
ychlorinated biphenyls	...	October 1, 1989
ychlorinated biphenyls (containing 60 or more percent chlorine by molecular weight)	...	January 1, 1988
ngenan	53973981	January 1, 1988
ceau MX	3761533	April 1, 1988
ceau XR	3564098	April 1, 1988
assium bromate	7758012	January 1, 1990
carbazine	671169	January 1, 1988
carbazine hydrochloride	366701	January 1, 1988
gesterone	57830	January 1, 1988
l-Propane sulfone	1120714	January 1, 1988
o-Propiolactone	57578	January 1, 1988
pylene oxide	75569	October 1, 1988
pylthiouracil	51525	January 1, 1988
tiomuclides	...	July 1, 1989
terpine	50555	October 1, 1989
tidual (heavy) fuel oils	...	October 1, 1990
charin	81072	October 1, 1989
charin, sodium	128449	January 1, 1988
rola	94597	January 1, 1988
lenium sulfide	7646346	October 1, 1989
lie-oils	68308349	April 1, 1990
lica, crystalline (disborna particles of respirable size)	...	October 1, 1988

Soots, tars, and certain mineral oils (mineral oils may vary in composition, particularly in relation to their content of carcinogenic polycyclic aromatic hydrocarbons)	...	February 27, 1987
Scarigmatoxystin	10048132	April 1, 1988
Streptozotocin	18883664	January 1, 1988
Styrene oxide	96093	October 1, 1988
Sulfallate	95067	January 1, 1988
Talc containing asbestiform fibers	...	April 1, 1990
Testosterone and its esters	58220	April 1, 1988
2,3,7,8-Tetrachlorodibenzo-para-dioxin (TCDD)	1746016	January 1, 1988
1,1,2,2-Tetrachloroethane	79365	July 1, 1990
Tetrachloroethylene (Perchloroethylene)	127184	April 1, 1988
p-a,a,a-Tetrachlorotoluene	5216251	January 1, 1990
Tetranitromethane	509140	July 1, 1990
Thioacetamide	62555	January 1, 1988
4,4'-Thiodianiline	139651	April 1, 1988
Thiourea	62566	January 1, 1988
Thorium dioxide	1314201	February 27, 1987
Tobacco, oral use of smokeless products	...	April 1, 1988
Tobacco smoke	...	April 1, 1988
Toluene diisocyanate	26471625	October 1, 1989
ortho-Toluidine	95534	January 1, 1988
ortho-Toluidine hydrochloride	636215	January 1, 1988
para-Toluidine	106490	January 1, 1990
Toraphene (Polychlorinated camphenes)	8001352	January 1, 1988
Trosulfan	299752	February 27, 1987
2,4,6-Trichlorophenol	88062	January 1, 1988
Trichloroethylene	79016	April 1, 1988
Tris(aziridinyl)-para-benzoquinone (Triaziquone)	68768	October 1, 1989
Tris(1-aziridinyl)phosphine sulfide (Thiotepa)	52244	January 1, 1988
Tris(2,3-dibromopropyl)phosphate	128727	January 1, 1988
Trp-P-1 (Tryptophan-P-1)	62450060	April 1, 1988
Trp-P-2 (Tryptophan-P-2)	62450071	April 1, 1988
Trypan blue (commercial grade)	72571	October 1, 1989
Unleaded gasoline (wholly vaporized)	...	April 1, 1988
Uracil mustard	66751	April 1, 1988
Urethane (Ethyl carbamate)	51796	January 1, 1988
Vinyl bromide	593602	October 1, 1988
Vinyl chloride	75016	February 27, 1987
4-Vinyl-1-cyclohexene diepoxide (Vinyl cyclohexene dioxide)	106876	July 1, 1990
Vinyl trichloride (1,1,2-Trichloroethane)	79005	October 1, 1990
2,6-Xylidene	87627	January 1, 1991
Zincb	12122677	January 1, 1990

CHEMICALS KNOWN TO THE STATE TO CAUSE REPRODUCTIVE TOXICITY

Environmental toxicity

acetoacetic acid	546883	April 1, 1990
1-trans retinoic acid	302794	January 1, 1989
acrazolan	28981977	July 1, 1990
alkalin sulfate	39831555	July 1, 1990
aminoglutethimide	125848	July 1, 1990
aminopterin	54626	July 1, 1987
aspirin (NOTE: It is especially important not to use aspirin during the last three months of pregnancy, unless specifically directed to do so by a physician because it may cause problems in the unborn child or complications during delivery.)	50782	July 1, 1990
asphatamine hydrochloride	5411223	April 1, 1990
chloroethyl nitrosourea (BCNU) (Carmustine)	154938	July 1, 1990
carboxynil	1689845	October 1, 1990
4-Butanediol dimethylsulfonate (Busulfan)	55981	January 1, 1989
carbon disulfide	75150	July 1, 1989
carbon monoxide	630080	July 1, 1989
carboplatin	41575944	July 1, 1990
carbidol	474259	April 1, 1990
chlorcyclizine hydrochloride	1620219	July 1, 1987
chlorambucil	305033	January 1, 1989
chlordecone (Kepone)	143500	January 1, 1989
(2-Chloroethyl)-3-cyclohexyl-1-nitrosourea (CCNU) (Lomustine)	13010474	July 1, 1990
chlorthalidone	50419	April 1, 1990
chlorthalidone citrate	50362	July 1, 1989
choline	---	April 1, 1990
conjugated estrogens	21725462	April 1, 1990
canazine	66819	January 1, 1989
chlorheximide	50180	January 1, 1989
chlorophosphamide (anhydrous)	6055192	January 1, 1989
chlorophosphamide (hydrated)	13121705	January 1, 1989
chexatin	147944	January 1, 1989
chloramine	17230885	April 1, 1990
doxorubicin hydrochloride	23541506	July 1, 1990
diethylstilbestrol (DES)	56531	July 1, 1987
doxap	39300453	April 1, 1990
doxepin	88857	January 1, 1989
diphenylhydantoin (Phenytoin)	57410	July 1, 1987
oxytetracycline	564250	July 1, 1990
ergotamine tartrate	379793	April 1, 1990
ethyl alcohol in alcoholic beverages	---	October 1, 1987
ethylene glycol monomethyl ether	110805	January 1, 1989
ethylene glycol dimethyl ether	109864	January 1, 1989
eposide	33419420	July 1, 1990
erythrate	54350480	July 1, 1987

Fluorouracil	51218	January 1, 1989
Fluoxymesterone	76437	April 1, 1990
Flutamide	13311847	July 1, 1990
Halazepam	23092173	July 1, 1990
Hexachlorobenzene	118741	January 1, 1989
Ifosfamide	3778732	July 1, 1990
Iodine-131	24267589	January 1, 1990
Isotretinoin	4759482	July 1, 1987
Lead	---	February 27, 1987
Lithium carbonate	554132	January 1, 1991
Lithium citrate	919164	January 1, 1991
Lorazepam	846491	July 1, 1990
Megestrol acetate	71589	April 1, 1990
Megestrol acetate	395335	January 1, 1991
Melphalan	148823	July 1, 1990
Menotropins	9002680	April 1, 1990
Mercaptopurine	6112761	July 1, 1990
Mercury and mercury compounds	---	July 1, 1990
Methacycline hydrochloride	3963959	January 1, 1991
Methimazole	60560	July 1, 1990
Methotrexate	39052	January 1, 1989
Methotrexate sodium	15475546	April 1, 1990
Methyl mercury	---	July 1, 1987
Methyltestosterone	58184	April 1, 1990
Midazolam hydrochloride	59467968	July 1, 1990
Misoprostol	62015398	April 1, 1990
Nitroxantrone hydrochloride	70476823	July 1, 1990
Nafarelin acetate	86220420	April 1, 1990
Netilmicin sulfate	56391572	July 1, 1990
Nicotina	94115	April 1, 1990
Nitrogen mustard (Mechlorethamine)	51752	January 1, 1989
Nitrogen mustard hydrochloride (Mechlorethamine hydrochloride)	55867	July 1, 1990
Norethisterone (Norethindrone)	68224	April 1, 1990
Norethisterone (Norethindrone)/Ethinyl oestradiol	68224/57836	April 1, 1990
Norethisterone (Norethindrone)/Mestranol	68224/72333	April 1, 1990
Norgestrel	6533002	April 1, 1990
Oxytetracycline	79572	January 1, 1991
Paranehadione	115673	July 1, 1990
Penicillamine	32675	January 1, 1991
Pentobarbital sodium	37350	July 1, 1990
Phenacemide	63989	July 1, 1990
Pipobroman	34911	July 1, 1990

in  
 brominated biphenyls 18378897 April 1, 1990  
 benzine hydrochloride ... January 1, 1991  
 thioracil 366701 July 1, 1990  
 51525 July 1, 1990  
 ... July 1, 1989  
 /retinyl esters, when in daily dosages in  
 sa of 10,000 IU, or 3,000 retinol equivalents.  
 it: Retinol/retinyl esters are required and  
 ntial for maintenance of normal reproductive  
 tion. The recommended daily level during  
 nancy is 8,000 IU.)  
 in 36791043 April 1, 1990  
 mycin sulfate 3810740 January 1, 1991  
 on citrate 54965241 July 1, 1990  
 an 846504 April 1, 1990  
 erone eranthate 315377 April 1, 1990  
 eline hydrochloride 64755 January 1, 1991  
 mide 50351 July 1, 1987  
 nine 154427 July 1, 1990  
 smoke (primary) ... April 1, 1988  
 cin sulfate 49842071 July 1, 1990  
 108883 January 1, 1991  
 an 28911015 April 1, 1990  
 ane 13647353 April 1, 1990  
 adione 127480 January 1, 1991  
 icropin 26993915 April 1, 1990  
 ite 99661 July 1, 1987  
 ctine sulfate 143679 July 1, 1990  
 ctine sulfate 2068782 July 1, 1990  
 in 81812 July 1, 1987  
reproductive toxicity  
 icin 54626 July 1, 1987  
 ic steroids ... April 1, 1990  
 50782 July 1, 1990  
 (NOTE: It is especially important not to use  
 icin during the last three months of pregnancy,  
 use specifically directed to do so by a  
 sician because it may cause problems in the  
 rn child or complications during delivery.)  
 disulfide 75150 July 1, 1989  
 50362 July 1, 1989  
 osophamide (anhydrous) 50180 January 1, 1989  
 osophamide (hydrated) 6055192 January 1, 1989

Ethylene oxide 75218 February 27, 1987  
 Lead ... February 27, 1987  
 Tobacco smoke (primary) ... April 1, 1988  
Male reproductive toxicity  
 Anabolic steroids ... April 1, 1990  
 Carbon disulfide 75150 July 1, 1989  
 Cyclophosphamide (anhydrous) 50180 January 1, 1989  
 Cyclophosphamide (hydrated) 6055192 January 1, 1989  
 1,2-Dibromo-3-chloropropane (DBCP) 96128 February 27, 1987  
 Dinitrobenzene 25154545 July 1, 1990  
 Dinoseb 88657 January 1, 1989  
 Ethylene glycol monoethyl ether 110805 January 1, 1989  
 Ethylene glycol monomethyl ether 109864 January 1, 1989  
 Lead ... February 27, 1987  
 Tobacco smoke (primary) ... April 1, 1988  
 Date: January 1, 1991

## WARNING CONCENTRATIONS

Chemical	CAS #	PEL	Warning Concentration	VP	eV	Solubility	Density
___ Acetic	67641	750 ppm	100 ppm	266 mm	9.69	Miscible	0.80
___ Benzene	71432	1 ppm	4.68 ppm	75 mm	9.25	0.18 %	0.88
___ Chloroform	67663	2 ppm	50 ppm	160 mm	11.42	0.8 %	1.50
___ Coal Tar Naphtha	69996794	None	Variable	5 mm	N/A	Insoluble	N/A
___ Ethylbenzene	100414	100 ppm	0.25 ppm	7.1 mm	8.76	0.015 %	0.87
___ Hexane	110543	50 ppm	1400 ppm	124 mm	10.18	0.014 %	0.66
___ Hydrogen Sulfide	7783064	10 ppm	0.8 ppm	20 mm	10.43	2.9 %	N/A
___ Methylene Chloride	750092	100 ppm	25 ppm	350 mm	11.25	1.3 %	1.33
___ Methyl Ethyl Ketone	78933	200 ppm	4.8 ppm	70 mm	9.48	27 %	0.81
___ PCBs	53469219	0.5 mg/m <sup>3</sup>	N/A	0.001 mm	N/A	Insoluble	1.44
___ Petroleum Distillates	8002059	400 ppm	Variable	40 mm	N/A	0.04 %	N/A
___ Pseud	108952	5 ppm	0.1 ppm	0.36 mm	8.5	8.4 %	1.07
___ Tetrachloroethylene	127184	25 ppm	4.68 ppm	14 mm	9.32	0.015 %	1.63
___ Toluene	108883	100 ppm	0.17 ppm	22 mm	8.82	0.05 %	0.87
___ 1,1,1, Trichloroethane	71556	350 ppm	20 ppm	100 mm	11.25	0.07 %	1.34
___ Trichloroethylene	79016	25 ppm	21.4 ppm	58 mm	9.47	0.1 %	1.47
___ Vinyl Chloride	75014	1 ppm	260 ppm	2580 mm	9.9995	Slight	0.92
___ Xylene	1330207	100 ppm	1.8 ppm	9 mm	8.56	0.00003 %	0.86

N/A - Not Available  
 CAS# - Chemical Abstract Services Number  
 PEL - OSHA Permissible Exposure Limit  
 VP - Vapor Pressure

Pesticide	CAS #	PEL	Warning Concentration	VP	Solubility
___ Aldrin	309002	0.25mg/m <sup>3</sup>	N/A	0.000006 mm	Insoluble
___ Carbofuryl	63252	5mg/m <sup>3</sup>	Odorless	0.005 mm	0.004 %
___ Chlordane	57749	0.5mg/m <sup>3</sup>	Odorless	0.00001 mm	Insoluble
___ DBCP	96128	1 ppb	N/A	0.8 mm	0.1 %
___ DDT	50293	1 mg/m <sup>3</sup>	2.9mg/m <sup>3</sup>	0.00000017 mm	0.00001 %
___ Dieldrin	60571	0.25mg/m <sup>3</sup>	0.41 ppm	0.00000018 mm	10 ppb
___ Endrin	72208	0.1mg/m <sup>3</sup>	N/A	0.0000002 mm	160 ppb
___ Ethylene Dibromide	109934	0.13 ppm	10 ppm	11 mm	0.4 %
___ Heptachlor	76448	0.5mg/m <sup>3</sup>	0.02 ppm	0.0003 mm	Insoluble
___ Lindane	58899	0.5mg/m <sup>3</sup>	3.9mg/m <sup>3</sup>	0.0000094 mm	0.001 %
___ Malathion	121755	10mg/m <sup>3</sup>	10mg/m <sup>3</sup>	0.00004 mm	0.0145 %
___ Parathion	56382	0.1mg/m <sup>3</sup>	0.48mg/m <sup>3</sup>	0.0004 mm	0.00002 % =

CAS# - Chemical Abstract Services Number  
 PEL - OSHA Permissible Exposure Limit  
 VP - Vapor Pressure

# HEALTH EFFECTS

Chemical	Health Effects	Target Organs	Chemical	Health Effects	Target Organs
Acetone	4,6,8,11,16,21	I,K	Aldrin	C,2,3,7,11,15	D,G,I,K
Benzene	Ca,1,4,8,11,15,17,18	C,D,E,I,K	Carbaryl	1,3,5,13,15,22	D,I,K
Chloroform	Ca,7,8,11,15	E,G,I,K	Chlordane	1,3,5,15,22	D,E,G,H,I,K
Coal Tar Naphtha	4,8,16	E,I,K	DBCP	Ca,8,15,16,21,22	D,G,I,K
Ethylbenzene	2,4,8,11	D,E,I,K	DDT	Ca,3,7,8,22	D,G,I,K
Hexane	4,8,10,11,12,16	E,H,I,K	Dieldrin	Ca,2,3,7,11,15,22	D,G,I,K
Hydrogen Sulfide	2,3,7,8,9,14,17	E,I	Endrin	1,3,7,15,22	D,G
Methylene Chloride	8,9,12,14,21	D,E,I	Ethylene Dibromide	Ca,4,8,17	E,G,I,J,K
Methyl Ethyl Ketone	7,8,11,16,22	D,H	Heptachlor	3	D,G
PCBs	Ca,4,8	E,G,K	Lindane	1,4,8,16	B,D,E,G,I,K
Petroleum Distillates	7,8,11,16,21	D,E,I,K	Malathion	1,5,8,13,15,22	B,D,G,I
Phenol	1,4,8,16,21	G,I,K	Parathion	1,3,4,5,11,13,15,19	B,D,E,I,K
Tetrachloroethylene	Ca,7,8,11,16,20	D,E,G,I,J			
Toluene	4,6,11	D,G,I,K			
1,1,1-Trichloroethane	4,8,11	D,E,K			
Trichloroethylene	Ca,4,8,11,15,22	D,G,I,J,K			
Vinyl Chloride	Ca,1	B,D,G,I			
Xylene	1,5,8,15,18,21	B,D,E,G,I,K			

Metal	CAS #	PEL	Health Effects	Target Organs
Arsenic, inorganic	740382	0.01 mg/m <sup>3</sup>	Ca, 4, 17, 20	G, H, I, K
Asbestos	1332214	0.2 fibers/cc	Ca, 17	H
Chromium VI	7440473	0.05 mg/m <sup>3</sup>	Ca, 17	J
Copper	7440508	1.0 mg/m <sup>3</sup>	4,8,16,21	G,I,K
Cyanide	151508	5.0 mg/m <sup>3</sup>	4,8,11,15,17,23	D,E,I,K
Lead	7439721	0.05 mg/m <sup>3</sup>	1	B,D,I
Mercury	7439776	0.05 mg/m <sup>3</sup>	4,8,9,11	D,E,I,J,F
Phosphorus	7723140	0.1 mg/m <sup>3</sup>	1,8,17	B,E,G,I,K
Polynuclear Aromatics (coal tar pitch volatiles)	8007452	0.2 mg/m <sup>3</sup>	Ca, 4	A,I,K
Silica (crystalline)	14808607	0.05 mg/m <sup>3</sup>	17	J

CAS# = Chemical Abstract Service Number

PEL = OSHA Permissible Exposure Limit

## HEALTH EFFECTS

1. Abdominal Pain
2. Coma
3. Convulsions
4. Dermatitis
5. Diarrhea
6. Dilated Pupils
7. Dizziness
8. Eye Irritation
9. Fatigue
10. Giddiness
11. Headache
12. Light Headed
13. Miosis (Pinpoint Pupils)
14. Narcosis
15. Nausea
16. Nose Irritation
17. Respiratory Irritant
18. Staggering Gait
19. Sweating
20. Tearing
21. Throat Irritation
22. Vertigo
23. Vomiting
- Ca. Carcinogen

## TARGET ORGANS

- A. Bladder
- B. Blood
- C. Bone Marrow
- D. Central Nervous System
- E. Eyes
- F. Heart
- G. Liver
- H. Lungs
- I. Kidneys
- J. Respiratory System
- K. Skin

# JOB SAFETY & HEALTH PROTECTION

The Occupational Safety and Health Act of 1970 provides job safety and health protection for workers by promoting safe and healthful working conditions throughout the Nation. Requirements of the Act include the following:

## Employers

All employers must furnish to employees employment and a place of employment free from recognized hazards that are causing or are likely to cause death or serious harm to employees. Employers must comply with occupational safety and health standards issued under the Act.

## Employees

Employees must comply with all occupational safety and health standards, rules, regulations and orders issued under the Act that apply to their own actions and conduct on the job.

The Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor has the primary responsibility for administering the Act. OSHA issues occupational safety and health standards and its Compliance Safety and Health Officers conduct periodic inspections to help ensure compliance with the Act.

## Inspection

The Act requires that a representative of the employer and a representative authorized by the employees be given an opportunity to accompany the OSHA inspector for the purpose of aiding the inspection.

Where there is no authorized employee representative, the OSHA Compliance Officer must consult with a reasonable number of employees concerning safety and health conditions in the workplace.

## Complain

Employees or their representatives have the right to file a complaint with the nearest OSHA office requesting an inspection if they believe unsafe or unhealthy conditions exist in their workplace. OSHA will withhold on request names of employees complaining.

The Act provides that employees may not be discharged or discriminated against in any way for filing safety and health complaints or for otherwise exercising their rights under the Act.

Employees who believe they have been discriminated against may file a complaint with their nearest OSHA office within 30 days of the alleged discrimination.

## Citation

If upon inspection OSHA believes an employer has violated the Act a citation alleging such violations will be issued to the employer. Each

citation will specify a time period within which the alleged violation must be corrected.

The OSHA citation must be prominently displayed in or near the place of alleged violation for three days, or until it is corrected, whichever is later, to warn employees of dangers that may exist there.

## Proposed Penalty

The Act provides for mandatory penalties against employers of up to \$1,000 for each serious violation and for optional penalties of up to \$1,000 for each non-serious violation. Penalties of up to \$1,000 per day may be proposed for failure to correct violations within the proposed time period. Also, any employer who willfully or repeatedly violates the Act may be assessed penalties of up to \$10,000 for each such violation.

Criminal penalties are also provided for in the Act. Any willful violation resulting in death of an employee upon conviction is punishable by a fine of not more than \$10,000, or by imprisonment for not more than six months, or by both. Conviction of an employer after a first conviction doubles these maximum penalties.

## Voluntary Activity

While providing penalties for violations, the Act also encourages efforts by labor and management before an OSHA inspection to reduce workplace hazards voluntarily and to develop and improve safety and health programs in all workplaces and industries. OSHA's Voluntary Protection Programs recognize outstanding efforts of this nature.

Such voluntary action should initially focus on the identification and elimination of hazards that could cause death, injury or illness to employees and supervisors. There are many public and private organizations that can provide information and assistance in this effort, if requested. Also, your local OSHA office can provide considerable help and advice on solving safety and health problems or can refer you to other sources for help such as training.

## Consultation

Free consultative assistance, without citation or penalty, is available to employers, on request, through OSHA supported programs in most State departments of labor or health.

## More Information

Additional information and copies of the Act, specific OSHA safety and health standards and other applicable regulations may be obtained from your employer or from the nearest OSHA Regional Office in the following locations:

Atlanta, Georgia  
Boston, Massachusetts  
Chicago, Illinois  
Dallas, Texas  
Denver, Colorado  
Kansas City, Missouri  
New York, New York  
Philadelphia, Pennsylvania  
San Francisco, California  
Seattle, Washington

Telephone numbers for these offices and additional area office locations are listed in the telephone directory under the United States Department of Labor in the United States Government listing.

Washington, D.C.  
1985  
OSHA 2203

  
William E. Brock, Secretary of Labor  
U.S. Department of Labor  
Occupational Safety and Health Administration





# SAFETY AND HEALTH PROTECTION ON THE JOB



State of California  
Department of Industrial Relations

The California Occupational Safety and Health Act of 1973 provides job safety and health protection for workers. The Department of Industrial Relations has primary responsibility for administering the Cal/OSHA program. Job safety and health standards are promulgated by the Occupational Safety and Health Standards Board. Employers and employees are required to comply with these standards. Enforcement is carried out by the Division of Occupational Safety and Health within the Department of Industrial Relations.

## EMPLOYERS AND EMPLOYEES

California law requires every employer to provide employment and a place of employment which are safe and healthful for the employees therein. Employers and employees are required to comply with the occupational safety and health standards contained in Title 8 of the California Code of Regulations and all rules, regulations and orders pursuant to Division 5 of the California Labor Code which are applicable to their employment and actions on the job.

## COMPLIANCE WITH JOB SAFETY AND HEALTH REQUIREMENTS

To ensure compliance with State job safety and health requirements, the Division of Occupational Safety and Health conducts periodic jobsite inspections. The inspections are made by trained safety engineers and industrial hygienists.

The law provides that an authorized representative of the employer and a representative of the employees be given an opportunity to accompany the safety engineer/industrial hygienist for the purpose of aiding the inspection. Where there is no authorized employee representative, the safety engineer/industrial hygienist talks with a reasonable number of employees about the safety and health conditions in the workplace.

Every employee has the right to bring unsafe or unhealthful conditions to the attention of the safety engineer/industrial hygienist making the inspection. In addition, any employee who believes unsafe or unhealthful conditions exist at the worksite has the right to notify the Division of Occupational Safety and Health. The Division upon request will withhold the names of employees who submit or make statements during an inspection or investigation.

If the Division of Occupational Safety and Health believes that an employer has violated a safety and health standard or order, it issues a citation to the employer. Each citation specifies a date by which the alleged violation must be corrected. The law provides for mandatory penalties against employers of up to \$2,000 for each serious violation and for optional penalties of up to \$1,000 for each general violation. Penalties of up to \$2,000 per day may be proposed for failure to correct serious violations and up to \$1,000 per day may be proposed for failure to correct general violations by the abatement date. Also any employer who willfully or repeatedly violates any occupational safety and health standard or order may be assessed civil penalties of not more than \$20,000 for serious violations and \$10,000 for general violations.

A willful violation that causes death or permanent impairment of the body of any employee results, upon conviction, in a fine of not more than \$10,000 or imprisonment of not more than six months, or both. A second conviction, after a first conviction, doubles these maximum penalties.

While governmental entities may be cited on the same basis as other employers, and abatement dates set, civil penalties will not be assessed.

An employer who receives a citation, Order to Take Special Action or Special Order must post it prominently at or near the place of the violation for three working days, or until the unsafe condition is corrected, whichever is longer, to warn employees of danger that may exist there. Any employee may protest the time allowed for correction of the violation.

## COMPLAINTS

Employees or their representatives who believe unsafe or unhealthful conditions exist in their workplace have the right to file a complaint with any office of the Division of Occupational Safety and Health and thereby to request an inspection. The Division keeps confidential the names of complainants unless they request otherwise.

An employee may not be fired or punished in any way for filing a complaint about unsafe or unhealthful working conditions or using any other right given to employees by the Cal/OSHA law. An employee of a private employer who believes that he/she has been fired or punished for exercising such rights may file a complaint about this discrimination with the nearest office of the Department of Industrial Relations - Division of Labor Standards Enforcement (State Labor Commissioner) or with the San Francisco office of the U.S. Department of Labor, Occupational Safety and Health Administration. Employees of state or local government agencies may file discrimination complaints only with the State Labor Commissioner. Consult your local telephone directory for the office nearest you.

## OTHER EMPLOYEE RIGHTS

Any employee has the right to refuse to perform work which would violate the Cal/OSHA Act or any occupational safety or health standard or order where such violation would create a real and apparent hazard to the employee or other employees.

Employees who use any substance listed as a hazardous substance in Section 339 of Title 8 of the California Code of Regulations or subject to the Federal Hazard Communication Standard (29 CFR 1910.1200) must provide employees with information on the contents of material safety data sheets (MSDS) or equivalent information about the substance which trains employees to use the substance safely.

Employers shall make available on a timely and reasonable basis a material safety data sheet on each hazardous substance in the workplace upon request of an employee collective bargaining representative, or an employee's physician.

Employees have the right to see and copy their medical records and accurate records of employee exposure to potentially toxic materials or harmful physical agents.

Any employee has the right to observe monitoring or measuring of employee exposure to hazards conducted pursuant to Cal/OSHA standards. Employers must tell their employees when they are being, or have been, exposed to concentrations of harmful substances higher than the exposure limits allowed by Cal/OSHA standards, and the corrective action being taken.

For information and assistance, contact the nearest office of the Division of Occupational Safety and Health. See addresses below.

The law requires each employer in California to post this poster conspicuously in each workplace.

## CONSULTATION SERVICE

In order to encourage voluntary compliance, Cal/OSHA provides free, upon request, a full range of occupational safety and health consulting services. The Cal/OSHA Consultation Service is separate from Cal/OSHA enforcement activities.

## OFFICES OF THE DIVISION OF OCCUPATIONAL SAFETY AND HEALTH

HEADQUARTERS: 395 Oyster Point Blvd. So. San Francisco 94080

### Regional Offices

Anaheim	2100 E. Katella Ave., Room 125, 92806	(714) 939-8611
Los Angeles	3550 West Sixth Street, Suite 413, 90020	(213) 736-4911
Sacramento	2422 Arden Way, Suite B-53, 95825	(916) 920-6127
San Francisco	455 Golden Gate Ave., Room 1171, 94102	(415) 557-8640

Van Nuys	6150 Van Nuys Blvd., Suite 405, 91401	(818) 901-6403
Ventura	1855 Mesa Verde, 93003	(805) 654-4581
Yemom	13050 Heritage Pk Dr, Ste 201, Santa Fe Spgs 90670	(213) 944-7676

### District Offices

Anaheim	2100 E. Katella Ave., Room 140, 92806	(714) 939-0145
Bakersfield	4800 Stockdale Highway, Suite 212, 93309	(805) 395-2718
Concord	1465 Enea Circle, Bldg E, Suite 900, 94520	(415) 676-5333
Covina	1123 So. Parkview, Suite 100, 91724	(818) 966-1166
Fresno	2550 Mariposa St., Room 4000, 93721	(209) 445-5302
Long Beach	401 E. Ocean Blvd., Room, 400, 90802	(213) 590-5035
Los Angeles	3550 West Sixth St., Room 431, 90020	(213) 736-3041
Modesto	1209 Woodrow Ave., Suite C-4, 95350	(209) 576-6260
Oakland	7700 Edgewater Dr., Suite 658, 94621	(415) 568-8602
Redding	381 Hemsted Drive, 96002	(916) 224-4743
Sacramento	2422 Arden Way, Suite B-55, 95825	(916) 920-6123
San Bernardino	303 West Third St., Room 640, 92401	(714) 383-4321
San Diego	7807 Convoy Court, Suite 140, 92111	(619) 237-7325
San Francisco	455 Golden Gate Ave., Room 1193, 94102	(415) 557-1677
San Jose	100 Paseo De San Antonio, Suite 101, 95113	(408) 277-1200
San Mateo	1900 So. Norfolk St., Suite 215, 94403	(415) 573-3812
Santa Fe Spgs	13050 Heritage Park Dr. Ste. 201, 90670	(213) 944-7676
Santa Rosa	50 "D" St., Suite 430, 95404	(707) 576-2388

### Field Offices

Chico	555 Rio Lindo, Suite A, 95926	(916) 895-4761
Eureka	619 Second St., Room 109, 95501	(707) 445-6611
Salinas	1164 Monroe St., Suite 1, 93906	(408) 443-3050
Stockton	31 E. Channel St., Room 418, 95202	(209) 948-7762
Ukiah	620 Kings Court, Suite 5, 95482	(707) 463-4783

## CAL OSHA CONSULTATION SERVICE

Headquarters: 395 Oyster Pt. Blvd., 3rd Fl., So. San Francisco, 94080 (415) 737-2843

### Area Offices

Downey	8535 E. Florence Ave., Suite 200, 90240	(213) 861-9993
Fresno	1901 N Gateway, Suite 102, 93727	(209) 454-1295
Sacramento	2424 Arden Way, Suite D-90, 95825	(916) 920-6131
San Diego	7827 Convoy Court, Suite 406, 92111	(619) 279-3771
San Mateo	3 Waters Park Drive, Suite 230, 94403	(415) 573-3862

Persons wishing to register a complaint alleging inadequacy in the administration of the California Occupational Safety and Health Plan may do so by contacting the San Francisco Regional Office of the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor (Tel. 415/744-6670). OSHA monitors the operation of State plans to assure that continued approval is merited.

TO ALL EMPLOYERS OF CALIFORNIA EMPLOYEES: Section 6408(a) of the California Labor Code requires that information shall be posted regarding protections and obligations of employees under the occupational safety and health laws. This poster meets that requirement and must be prominently posted in all places of employment in the state of California. Section 6431 of the California Labor Code provides that any employer who violates any of the posting requirements of Section 6408 of the California Labor Code shall be assessed a civil penalty of up to one thousand dollars (\$1,000) for each violation.

HEALTH AND SAFETY COMPLIANCE AGREEMENT

I, the undersigned, have received a copy of the health and safety plan for the project identified below. I have read the plan, understand it, and agree to comply with all of the health and safety requirements therein. I understand that I may be prohibited from continuing work on the project for failing to comply.

I have  have not  (check one) been briefed by a project safety authority on the health and safety requirements of the project.

Project No. \_\_\_\_\_

Project Title \_\_\_\_\_

Date of Plan \_\_\_\_\_

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Firm

\_\_\_\_\_  
Date

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Signature

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Date