

Canonie Environmental

92 APR 23 1992

Canonie Environmental Services Corp
7901 Stoneridge Drive
Suite 100
Pleasanton, California 94588

Phone: 510-463-9117
FAX: 510-463-2981

91-153-05

April 29, 1992

Mr. Scott Seery
Senior Hazardous Materials Specialist
Alameda County Health Care Services
Agency
Department of Environmental Health
Hazardous Materials Program
80 Swan Way, Room 200
Oakland, CA 94621

Transmittal
Response to Agency Review Comments
Work Plan for Preliminary Site Assessment
Garcia Enterprises, Inc. Site
San Leandro, California

Dear Mr. Seery:

This letter is written in response to Work Plan Review Comments presented in a letter to Canonie Environmental Services Corp. (Canonie) from Alameda County Health Care Services Agency, Department of Environmental Health (County) dated April 13, 1992. In accordance with the County's request, this letter is sent to provide modifications and clarification to the Work Plan for Preliminary Site Assessment (PSA) for the Garcia Enterprises, Inc. (Garcia) site located at 16211 East 14th Street in San Leandro, California.

The PSA was prepared by Canonie on behalf of Garcia Enterprises, Inc. to assess the potential impact to shallow ground water associated with underground storage tanks (which were removed from the site in July, 1991) at the former car wash location. Responses to each of the County's comments on the preliminary assessment of ground water are provided below:

Comment 1) All work must be performed under the direction of a California-registered geologist or civil engineer with appropriate environmental assessment background. Please submit a statement of qualifications for the registered professional overseeing this assessment. All future reports and proposals must be submitted under this person's signature.

✓ Response 1) Work at the Garcia Enterprises, Inc. site has been performed and will be performed under my direction, and all reports will be submitted under my signature. I am a Registered Geologist in the state of California, RG #4515. A copy of my statement of qualifications is provided in Attachment A.

Comment 2) Review of ground water gradient information generated between June 1989 and September 1991 for the Unocal station located at 15803 E. 14th Street, approximately 1000 feet northwest of the subject site, reveals that gradients have fluctuated as much as 180°, from SW to NE, during the study period. The latest report indicates flow was to the NW during September 1991.

Determination of an appropriate location for a single well at this site is not possible in light of such apparent, marked local gradient shifts, particularly when there is a requirement for this well to be located in the confirmed downgradient position from the tank pit. Please submit plans for alternative well locations to satisfy this requirement.

✓ Response 2) Three wells will be installed at the locations shown on Figure 1 (Attachment B). As shown, monitoring wells MW-2 and MW-3 are both expected to be downgradient monitoring wells.

Comment 3) Soil samples must also be collected at any significant changes in lithology, and at the soil/water interface during boring advancement.

✓ Response 3) Soil samples will be collected at any significant changes in lithology and at the soil/water interface. The PSA specified that soil samples would be collected at depth intervals of five and ten feet (note that water was encountered at a depth of approximately 10.5 feet in the excavation for tank removal).

Comment 4) Please describe criteria for evaluating adequacy of well development.

✓ Response 4) The wells will be developed by surge block and bailing. A minimum of five to ten casing volumes of water will be removed from each well. The wells will be developed until the water removed is visually clear and free of sediment. This determination will be made by the field engineer or geologist.

Comment 5) Please describe plans for characterizing and disposing of soil cuttings, and well development and purge water.

✓ Response 5) A composite water sample will be collected and analyzed for total petroleum hydrocarbons-diesel range (TPH-D), total petroleum hydrocarbons-gasoline range (TPH-G), and benzene, toluene, ethyl benzene, and xylenes (BTEX) to profile well development water, well purge water, and steam cleaning water for

disposal. The water will then be transported to a recycling facility. Water pumped from the original excavation was analyzed and transported as non-hazardous by Erickson, Inc. to Gibson-Pilot in Redwood City for recycling.

Similarly, a composite soil sample from the drilling cuttings will be collected and analyzed for petroleum hydrocarbons and BTEX. It is expected that the soil cuttings will have nondetectable concentrations of petroleum hydrocarbons and will remain on-site.

Comment 6) Describe well surveying plans. Wells must be surveyed to an established benchmark to an accuracy of 0.01 foot.

Response 6) Wells will be surveyed into an established benchmark to determine the elevation of the measuring point of each well in feet relative to mean sea level (MSL). The ground surface elevation at the well will also be surveyed. The elevation of each well's measuring point will be determined with an accuracy of 0.01 foot.

Comment 7) Describe water level measurement method.

Response 7) Water levels will be measured using a battery powered sounder. The water level for each well will be measured in reference to a measuring point on the polyvinyl chloride (PVC) well casing (indelibly marked).

Comment 8) Describe method for measuring free product, and observation of sheen and odor. Such must occur prior to well purging.

Response 8) Free product is not expected to be present since no observation of visible sheen was recorded during tank removal activities. Further, the relatively low concentrations of petroleum hydrocarbons found (the highest concentration observed was 43 parts per million TPH-G) do not suggest that free product will be encountered. In the unlikely event that free product is present, a clear disposable PVC bailer will be used to collect a sample and measure product column. Due to the shallow depth of ground water (approximately 10.5 feet) a flashlight could be used to ensure that the bailer could be lowered into the well without becoming fully immersed and result in a representative depth of product column.

Comment 9) Describe well purging procedures. Well purging is to occur immediately prior to sample collection (not several days beforehand).

Response 9) Prior to sampling, a disposable PVC or teflon bailer will be used to purge the wells. While purging, a minimum of three consecutive measurements of the indicator parameters pH, temperature, and conductivity will be recorded

immediately prior to sample collection. Stabilization of parameters will be based on agreement between sequential measurements of the parameters as follows:

- 1) pH to within ± 0.1 pH units;
- 2) Temperature to within $\pm 2^\circ$ F;
- 3) Conductivity to within $\pm 120\mu$ ohms/cm.

A minimum of three casing volumes will be purged prior to sampling. If a well is purged dry before three casing volumes have been removed, the water sample will be taken after the well has recovered to within 80 percent of the water column measured prior to well purging.

Comment 10) Describe water sample collection protocol. Provide a sampling quality assurance/quality control (QA/QC) plan.

*- need duplicate
VOAs
- need trip blank*
Response 10) Water samples will be collected with a teflon bailer or disposable PVC bailer. Water samples will be collected in triplicate in 40-milliliter volatile organic analysis (VOA) bottles and one-liter amber glass containers. Samples will be labeled with the sample identification number, date, time, job number, and sampler's initials. Each sample will be recorded on a chain of custody form which will remain with the samples. The samples will be placed immediately in an iced cooler and transported the same day to Sequoia Analytical in Redwood City for analysis, when possible.

Due to the limited scope of the proposed sampling program (three ground water samples), no field QA/QC samples have been proposed. Canonie intends to use Sequoia Analytical or an equivalent state-certified analytical laboratory. A summary of Sequoia's laboratory QA/QC procedures has been included as Attachment C.

Comment 11) Water analysis for BTEX should be EPA Method 602, not 601 as stated in text.

Response 11) The analytical method was mistakenly reported in the PSA work plan. EPA Method 602 is the correct method to be used for analysis.

Comment 12) Provide a Site Safety Plan.

Response 12) A Site Safety Plan has been included as Attachment D.

Please notify us in writing if the County finds these responses to comments acceptable so that we may proceed with the PSA field work in a timely manner. If you have any

Mr. Scott Seery

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April 29, 1992

questions concerning these responses that require clarification, please contact me or Dave Poole at (510) 463-9117.

Very truly yours,

A handwritten signature in black ink that reads "James W. Babcock". The signature is written in a cursive style and includes a small "JWB" monogram at the end.

James W. Babcock, Ph.D.
Project Manager

JWB/pm

Attachments

cc: J. Garcia, Garcia Enterprises, Inc.
D. Poole, Canonie Environmental Services Corp.

ATTACHMENT A

STATEMENT OF QUALIFICATIONS

JAMES W. BABCOCK
Project Manager

EDUCATION AND REGISTRATIONS

PhD, Geology, University of California
MA, Geology, University of California
BA, Geology, University of Colorado

Registered Geologist: CA

PROFESSIONAL EXPERIENCE

Project Management and Administration

Oversight manager for several in-situ soil aeration systems
Management, design, and implementation of hazardous waste remedial investigation/
feasibility studies and of site remediation
Supervision and management of project team in designing remedial investigations at a
multisite industrial complex including:

- Uncontrolled landfills
- Metal plating shops
- Aircraft repair facilities
- Underground storage tanks
- Pesticide storage and handling areas
- Deep water-supply wells
- Sand-blasting grit
- Environmentally impaired wetlands

Regulatory Negotiations

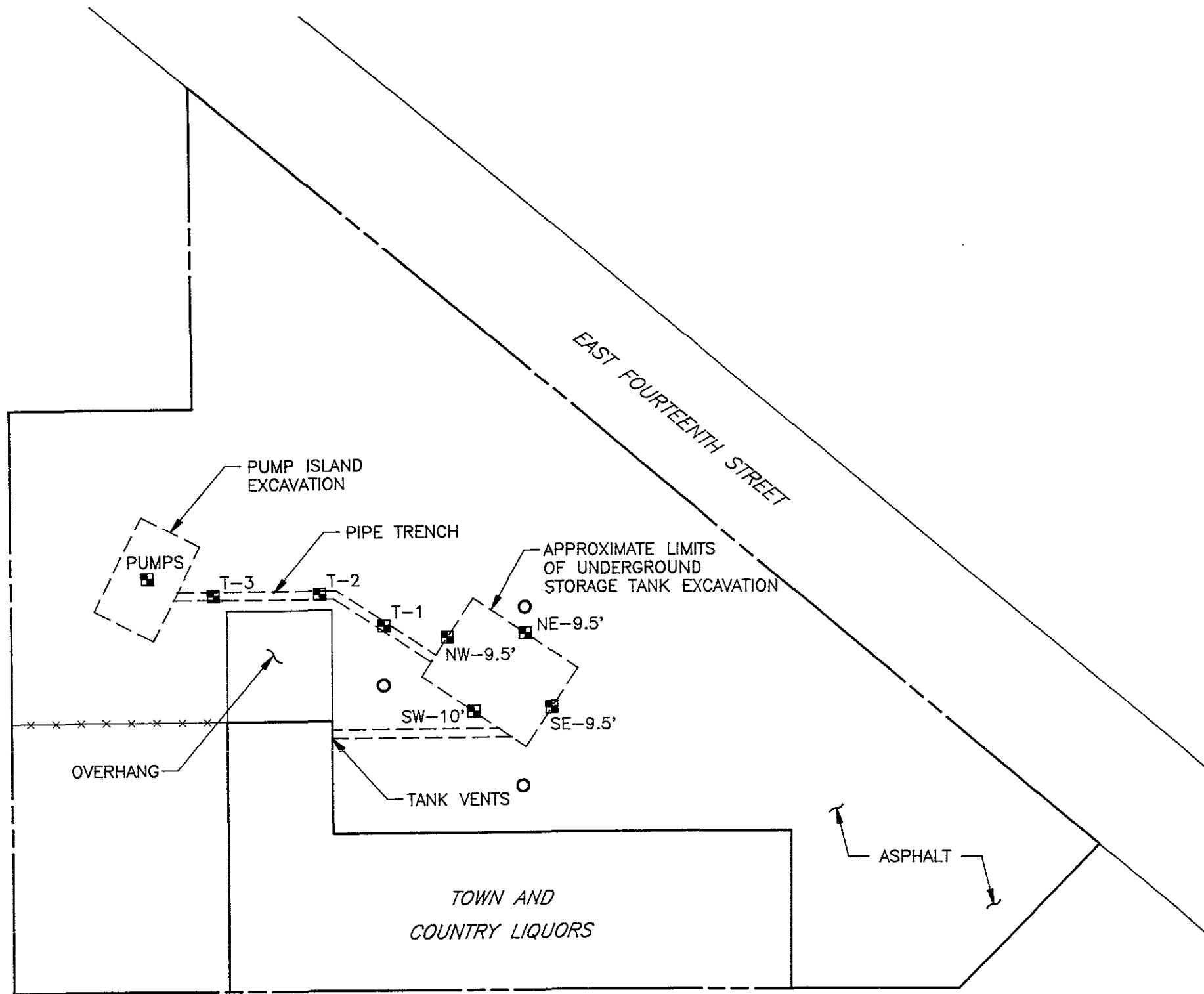
Assisted clients in negotiation of scope of work and schedule for remedial work activities
with the EPA and state agencies
Designed and implemented PCB remediation at an electrical manufacturing facility after
negotiating the remediation with state and local agencies

Remedial Technology Assessments

Performed environmental assessments at numerous manufacturing facilities
Conducted landslide mapping, geologic mapping, and shoreline stability analyses at sites
throughout the United States
Conducted and supervised applied geology and geochemical research including the
migration of metals through rock and soil
Performed investigations in rock mechanics as it applies to fracturing and folding of rock
systems
Provided consulting to the Society of Mining Engineers as a technical editor of Mining
Engineering

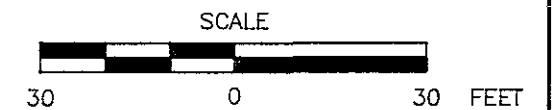
ATTACHMENT B

SITE PLAN



LEGEND:

- PROPERTY LINE
- APPROXIMATE LIMITS OF EXCAVATION
- SOIL SAMPLE LOCATION
- PROPOSED MONITORING WELL LOCATION



SITE PLAN
 GARCIA ENTERPRISES SITE
 SAN LEANDRO, CALIFORNIA
 PREPARED FOR
 GARCIA ENTERPRISES, INC.
 SAN LEANDRO, CALIFORNIA
Canonie Environmental

4-30-92	ISSUED FOR REVIEW COMMENTS	VZC	[Signature]	
3-23-92	ISSUED FOR PRELIMINARY SITE ASSESSMENT REPORT	VZC	DPP	
No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY

DATE: 3-12-92	DRAWING NUMBER: 91-153-B5
SCALE: AS SHOWN	

ATTACHMENT C

LABORATORY QA/QC SUMMARY

QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

Our QA/QC program is designed to ensure the integrity of analytical results, in accordance with guidelines established by EPA and the California Department of Health Services. The following summarizes our QA/QC system: a copy of our detailed Quality Assurance Program is available upon request.

I. Sample Collection

- Laboratory personnel use appropriate sampling devices to collect samples. Procedures for the proper use and cleaning of all sampling equipment are posted and observed. Field instruments are calibrated in the laboratory before each sampling event.
- Samples are field preserved using prescribed preservatives. Specialized sample transportation requirements, if any, are identified and met.
- When samples are to be collected by the client, sample containers are provided free of charge, upon request. Advice is also available regarding sampling procedures, necessary preservatives, and sample transport considerations.

II. Sample Containers and Preservatives

- Containers are purchased in large lots from commercial sources and are equivalent to those listed in 40 CFR Part 136.
- Preservatives are prepared and added to the bottles in a designated area, clearly marked, and stored in an organized manner. Bottles for organic analyses are purchased only from suppliers who certify that containers were cleaned using EPA protocols.

III. Chain of Custody

- Samples collected by laboratory personnel are accompanied by a chain of custody form which includes the client name, date and time of collection, bottles and preservatives used in the field, sample description, and analyses requested.
- Chain of custody forms for samples collected by clients are signed and copied upon receipt.

IV. Sample Receipt and Control

- Samples received by the laboratory are immediately brought to the designated sample log-in area. Sample information, including analyses to be performed, is recorded into a bound master logbook.
- A specific person is designated Sample Control Officer with the following responsibilities:
 - 1) Document that condition and quantity of sample is satisfactory, and record resolution of any discrepancies.
 - 2) Perform additional preservation as required, including splitting of samples into appropriate containers.
 - 3) Assign a unique sample number to each sample. The sample number is marked on the sample container and on the laboratory worksheet for the sample.
 - 4) Store the samples in one of several designated refrigerators or shelves for the particular type of analysis required.
- Each analyst is aware of and responsible for meeting holding time requirements. Following analysis, samples are stored for 45 days in case follow-up or confirmatory analyses are requested by the client.
- Samples determined to be hazardous are returned to the client. The chain of custody is continued, or else a release form is signed by the client.

V. Maintenance and Calibration of Instruments

- Major instruments are professionally serviced whenever it is deemed necessary, and in any case at least once a year. Maintenance records are kept in a bound notebook.
- All instruments are calibrated using at least three standards, and a permanent calibration record is kept. Thereafter, daily standards are run and should generally read within 20% of the calibration curve. Some instruments require calibration for each analyte to be tested.

VI. Quality Control Protocol

- We employ a Quality Assurance Officer who is responsible for the design and implementation of our QA/QC systems and protocols. The QA officer conducts quarterly performance audits of each analyst to review their quality control documentation.
- Quality control checks at the analytical level include the use of calibration blanks and standards, method blanks, matrix spike and matrix spike duplicates, internal standards, surrogates, and duplicate samples.
- Method blanks and standards are completed for every analytical batch. Method blanks are matrix-matched to samples; daily standards are run as described above.

- One matrix spike and duplicate are run on at least 10% of the samples in an analytical batch.
- Acceptance limits for compounds must not exceed those prescribed by regulations. If acceptance limits are exceeded, corrective action is immediately taken. Samples run prior to corrective action are re-analyzed, and corrective action forms are reviewed by the Quality Assurance Officer.

VII. Quality Control Samples

- We participate in the EPA WS and WP Performance Evaluation Program; these include a variety of organic and inorganic analyses for drinking water and wastewater. Reference materials are tested, and results of these studies are discussed with the analysts involved and kept on file. For clients with NPDES permits, we participate in the annual EPA DMR reference sample program. In addition, we participate in the analysis of EPA reference samples as part of their Quality Assurance Program.
- We participate in the QC program of the Laboratory Committee of the California Water Pollution Control Association Bay Section.
- Clients are encouraged to submit QC samples to us. On request, we will split samples and subcontract to another laboratory as a confirmation check.

VIII. Review and Reporting of Analytical Results

- Quantitated results are recorded by the analyst onto a set of laboratory worksheets specific to the client's analytical requests.
- The Project Manager reviews the analytical results on the analyst's worksheets before submitting the final report to the client.
- The review process involves comparing related analytical results on the same sample for coherence and mass or cation/anion balance. It also involves comparison with previous results for the same source to observe possible deviations from established trends. Final review may involve further consultation with clients.
- Typed and signed final reports and chain of custody forms are kept on file for at least five years.
- Raw data, including laboratory worksheets and instrument printouts are stored for at least 3 years.

ATTACHMENT D

SITE SAFETY PLAN

April 1992

91-153

CANONIE ENVIRONMENTAL SERVICES CORP.
SITE SAFETY PLAN
PRELIMINARY SITE ASSESSMENT

Garcia Enterprises Site
16211 East 14th Street
San Leandro, California

Adopted By: _____ Date: _____
Project Manager

Adopted By: _____ Date: _____
Project Site Safety Officer

Adopted By: _____ Date: _____
Regional Health & Safety Officer

PROJECT INFORMATION

Client Name:

Mr. Anthony J. Garcia
Garcia Enterprises, Inc.
16115 East 14th Street
San Leandro, CA 94578

Project Number: 91-153

Site Tenant:

Town and Country Liquors

Site Address:

16211 East 14th Street
San Leandro, California

Directions to the Site:

From Highway 580 take the 164th Avenue exit. Go southwest on 164th Avenue to East 14th Street. Turn right on East 14th Street, site is located two blocks down on the left hand side of the street (Figure 1).

Project Duration:

Approximately 4 working days.

SITE SAFETY PLAN
PRELIMINARY SITE ASSESSMENT
GARCIA ENTERPRISES SITE
SAN LEANDRO, CALIFORNIA

1.0 PROJECT SPECIFIC PLAN

1.1 Training and Medical Monitoring Requirements

All employees of Canonie Environmental Services Corp. (Canonie) and subcontractors performing field activities on-site will have successfully completed hazardous training programs and medical monitoring programs, as required by the Occupational Safety and Health Administration (OSHA) under the Code of Federal Regulations, Title 29 Part 1910, Section 120 (29 CFR 1910.120). A site safety officer in conjunction with a regional health and safety coordinator will be responsible for monitoring safety for all personnel on-site, as well as enforcement of proper safety procedures for all field operations. Other 29 CFR 1910 and 1926 requirements shall be applied as appropriate. All Federal, State and local requirements shall also be adhered to as appropriate.

1.2 Canonie Employees, Roles, and Responsibilities

Supervisory personnel involved with this project are as follows:

1. The Project Manager for the Garcia Enterprises project is Jim Babcock. He will be responsible for off-site project management.
2. Project Engineer/Site Safety Officer is David Poole. Mr. Poole will be responsible for field operations, engineering support and implementation of this plan.
3. Regional Health and Safety Coordinator for the Garcia Enterprises project is Tami Renkoski. Ms. Renkoski will be responsible for Site Safety Plan approval and off-site technical assistance.

1.3 Canonie Subcontractors, Roles, and Responsibilities

Subcontractor involvement is scheduled for the field phase portion of this Preliminary Site Assessment (PSA). Respective roles and responsibilities are as follows:

1. Utility Locator Services - an subcontract locating service will be used to ensure proposed drilling locations do not have underground utilities beneath the asphalt pavement;
2. Drilling Services - a licensed drilling contractor will advance soil borings at three locations, install monitoring wells at these locations, and develop the wells;
3. Analytical Testing - an off-site laboratory will provide analytical testing support to the project.
4. Liquids Removal/Disposal (if required) - a licensed transportation and disposal contractor may provide vacuum truck, transportation and disposal services for any residual tank liquids;

1.4 Site History and Description

Canonie removed two 10,000-gallon underground storage tanks (USTs) from the facility (Figure 2) in July, 1991. The USTs contained fuel (gasoline or diesel) for service at the former car wash. The car wash was in operation from approximately 1954 through 1956. There is relatively little additional information regarding the historical use of these tanks. Tank removal activities and the results of chemical sampling may be referenced in Underground Storage Tank Closure Report, Garcia Enterprises, Inc. Site, San Leandro, California (Canonie, September, 1991).

1.5 Description of Field Work to be Performed

The field portion of the scope of work concerns the excavation, removal and off-site disposal of the two USTs, pumps, and piping. The field activities for tank removal is anticipated to include the following major tasks:

1. Underground utility survey;

2. Drilling, installation, and development of monitoring wells;
3. Purging and sampling of the monitoring wells;
4. Surveying in well locations and elevations;
5. Liquid and soil removal and disposal (if required).

1.6 Chemical Hazards

Potential exposure to hazardous chemicals, specifically gasoline and diesel fuels, at the site is anticipated. The routes of exposure will be inhalation and/or through direct contact with the skin.

Appendix A contains the respective Material Safety Data Sheets (MSDSs) for gasoline and diesel fuels and should be referenced for specific information.

1.7 Description of Levels of Personal Protective Equipment

Level D Personal Protective Equipment (PPE) is anticipated for the performance of the field activities. Level C PPE will be available on-site and utilized if required. The respective levels of personal protection are discussed in the following subsections.

1.7.1 Level C Protection

Level C PPE is not anticipated during this project, however, Level C PPE may be donned contingent with procedures set forth in Section 1.10 of this plan. Level C PPE provides protection against skin and inhalation hazards. Level C PPE will include:

1. Full-face, air-purifying respirator equipped with appropriate cartridges. Organic vapor (or combined organic vapor/acid gas) cartridges are anticipated and provide protection against low concentrations of most common organic vapors/gases;
2. Level D PPE as described below.

1.7.2 Level D Protection

Level D PPE provides the lowest degree of hazard protection and will be used when the atmosphere contains no known hazard and work functions preclude the potential for unexpected contact with hazardous levels of contaminants. As a minimum, Level D PPE will include:

1. Coveralls - consisting of one-piece, front zipped Tyvek™ suits or equivalent;
2. Safety shoes - reinforced with steel-toes;
3. Hard hats;
4. Safety glasses or goggles, as appropriate;
5. Nitrile gloves or other equivalent types of hand protection;
6. Face shields and rain suits, as appropriate.

1.8 Physical Hazards

Physical hazards associated with the field activities concern those associated with light-construction type projects. Field personnel will be exposed to heavy equipment and mechanical machinery. Due caution, inclusive of hearing protection, will be utilized when personnel are within the active construction zone.

Heat stress is another physical hazard associated with field activities. Heat stress may result from exhaustion from high atmospheric temperatures, use of protective clothing, heavy physical workload, and/or a combination of these factors. Training will be conducted to familiarize individuals with heat stress symptoms.

1.9 Physical Hazards and SOPs Associated with Field Activities

Site-specific physical hazards inherent to the performance of the field activities, and standard operating procedures will include the following:

1. The avoidance of direct contact with contaminated (or potentially

contaminated) surfaces. Personnel will walk around (not through) puddles and discolored surfaces;

2. No eating, drinking, or smoking will be allowed within the construction zone;
3. Proper decontamination procedures will be followed when exiting the excavation area;
4. Beards or other facial hair that interferes with respirator fit may preclude admission to the excavation area;
5. As appropriate, electrical equipment will be approved for the hazardous atmosphere encountered. Ground fault circuit interrupt circuits will be part of the power circuit.
6. Proper fluid replenishment and work-rest cycles will be taken as appropriate;
7. Proper safety equipment, including first-aid, fire extinguishers, etc., will be on-site;
8. Utilities will be located prior to initiating any drilling work.

Safety meetings will be held daily or as warranted by changed site conditions. This Site Safety Plan shall act as an outline for safety meetings.

1.10 Air Monitoring/Sampling and Action Levels

Air monitoring should not be required based upon the results of the original tank removal program. However, if the Site Safety Officer determines that air monitoring for volatile organic compounds (VOCs) should be performed, a Foxboro Organic Vapor Analyzer or similar equipment will be used. The frequency shall be determined by the Site Safety Officer. Full-face respiratory equipment will be required if VOC concentrations are sustained above ten parts-per-million (ppm) above background concentrations in the breathing zone.

All monitoring equipment will be calibrated daily, at a minimum, in accordance with manufacturer's specifications.

1.11 Description of Site Work Zones

Site work zones will be designated as appropriate. At a minimum, the entire construction area will be identified with "Caution" tape and barricades. No unauthorized personnel will be permitted within this area.

1.12 Decontamination Equipment and Procedures

All personnel exiting the active construction zone will be required to follow proper decontamination procedures. Protective clothing, gloves, etc. will be deposited in an appropriate container. Upon re-entry into the construction zone, all personnel will don fresh protective clothing.

1.13 Emergency Assistance Contacts (Confirmed Before Site Visit)

<u>Emergency</u>		<u>Non - Emergency</u>
Fire:	911	(415) 577-3319
Police:	911	(415) 577-3201
Ambulance:	911	N/A
Poison Control	911	N/A
Hospital:	911	(415) 667-7800

A phone is located at the site's tenant business.

1.14 Directions to the Hospital

Address: Fairmont Hospital
154 Foothill Blvd.
San Leandro, California

(See attached Figure 3)

Directions: Northwest on East 14th Street to Fairmont Drive, turn right on Foothill Blvd.

1.15 Emergency Supplies On-site

First-aid kit

Fire extinguisher

Additional gloves, hard hats, respirators and appropriate cartridges.

I have been informed, understand and will abide by the procedures set forth in this Site Safety Plan.

<u>Printed Name</u>	<u>Signature</u>	<u>Representing</u>	<u>Date</u>
_____	_____	_____	_____
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ATTACHMENT A

SITE MAPS

DRAWING NUMBER 91-153-A1



CALIFORNIA



QUADRANGLE LOCATION

SCALE



REFERENCES:

USGS 7.5 MIN TOPOGRAPHIC MAP
 TITLED: HAYWARD & SAN LEANDRO, CALIFORNIA
 DATED: 1959 (REV. 1980)

SITE LOCATION MAP
 GARCIA ENTERPRISES SITE
 SAN LEANDRO, CALIFORNIA

PREPARED FOR
GARCIA ENTERPRISES, INC.
 SAN LEANDRO, CALIFORNIA

Canonie Environmental

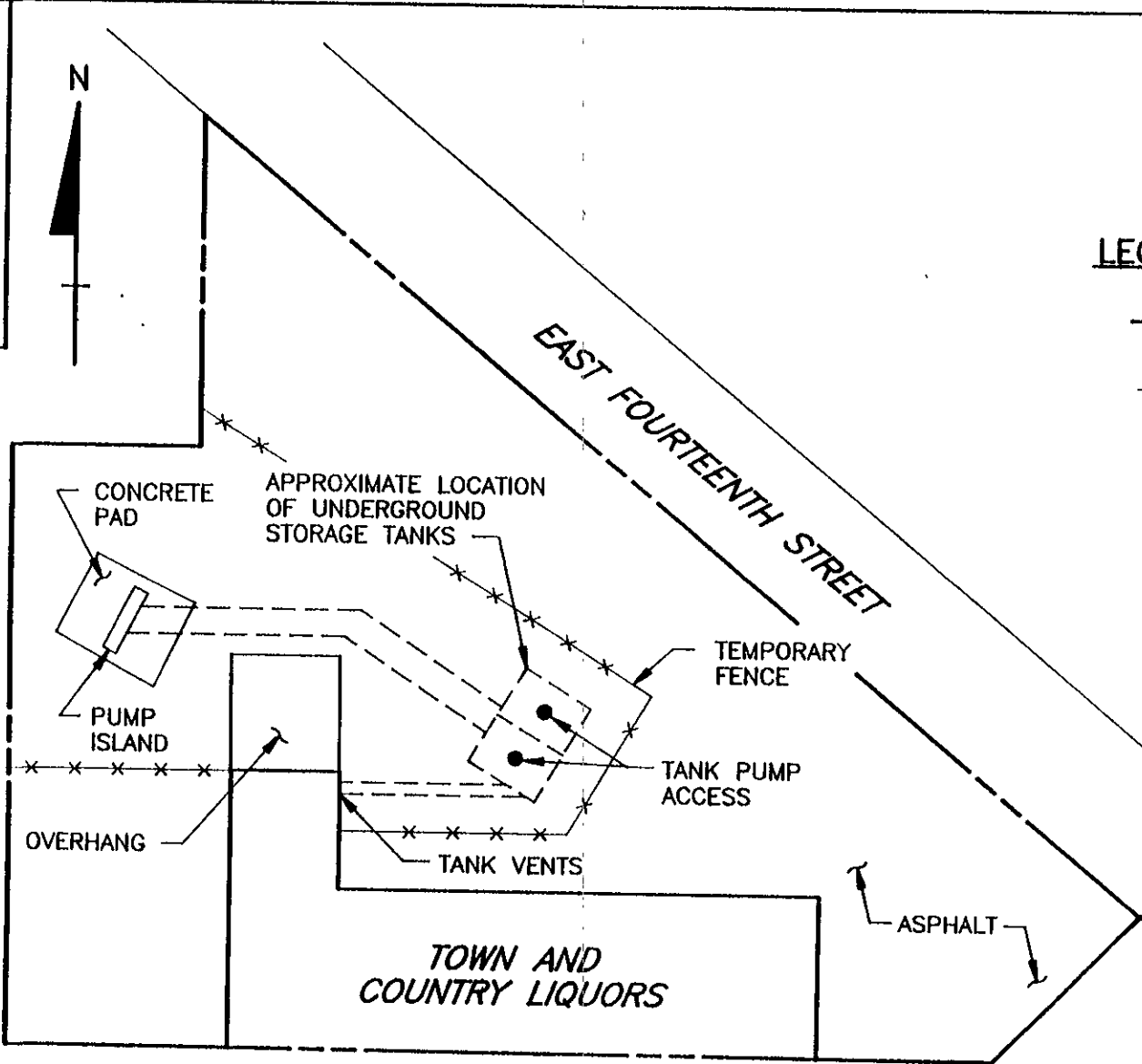
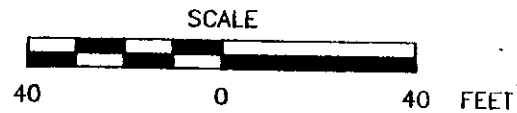
No.	DATE	ISSUE / REVISION	DWN. BY	C'D BY	DATE: 6-24-91	SCALE: AS SHOWN	FIGURE 1	DRAWING NUMBER 91-153-A1
6-25-91 ISSUED FOR HEALTH AND SAFETY PLAN	KCH		BLM					

DRAWING NUMBER 91-153-A3



LEGEND:

- PROPERTY LINE
- UNDERGROUND PIPING LOCATION, APPROXIMATE



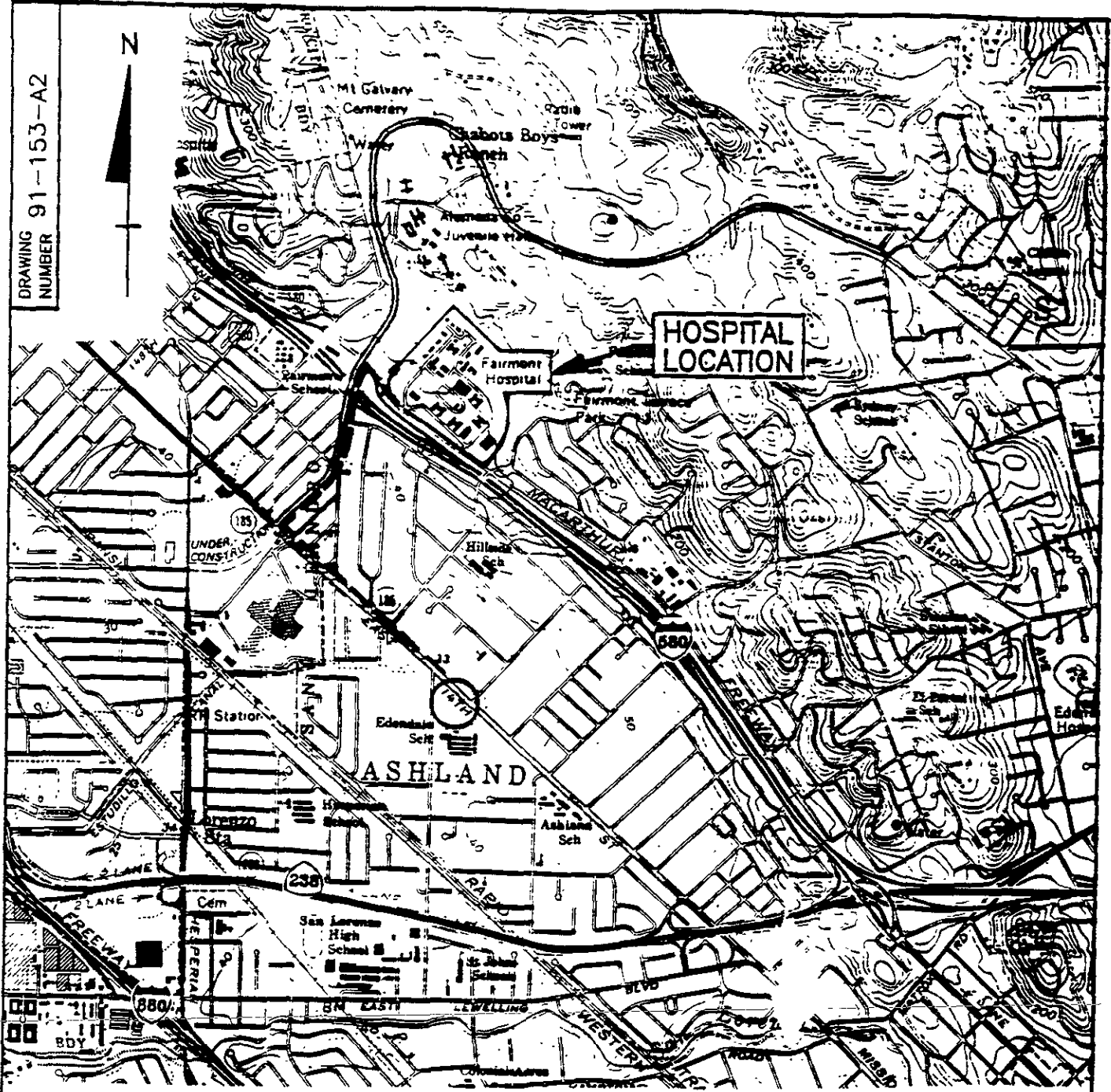
SITE PLAN
GARCIA ENTERPRISES SITE
SAN LEANDRO, CALIFORNIA

PREPARED FOR
GARCIA ENTERPRISES, INC.
SAN LEANDRO, CALIFORNIA
Canonie Environmental

▲	6-26-91	ISSUED FOR HEALTH AND SAFETY PLAN	KCH	<i>[Signature]</i>	BLW
No.	DATE	ISSUE / REVISION	OWN. BY	CK'D BY	AP'D BY

DATE: 6-24-91	FIGURE 2	DRAWING NUMBER 91-153-A3
SCALE: AS SHOWN		

DRAWING NUMBER 91-153-A2

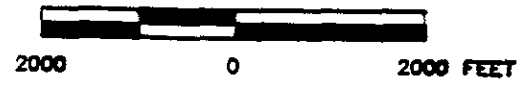


CALIFORNIA



QUADRANGLE LOCATION

SCALE



REFERENCES:

USGS 7.5 MIN TOPOGRAPHIC MAP
 TITLED: HAYWARD & SAN LEANDRO, CALIFORNIA
 DATED: 1959 (REV. 1980)

**HOSPITAL ROUTE MAP
 GARCIA ENTERPRISES SITE
 SAN LEANDRO, CALIFORNIA**

PREPARED FOR
**GARCIA ENTERPRISES, INC.
 SAN LEANDRO, CALIFORNIA**

Canonie Environmental

No.	DATE	ISSUE / REVISION	DWN. BY	CHECKED BY	DATE: 6-24-91	FIGURE 3	DRAWING NUMBER 91-153-A2
					SCALE: AS SHOWN		

ATTACHMENT B

MATERIAL SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEET

GENIUM PUBLISHING CORPORATION
 1145 CATALYN STREET
 SCHENECTADY NY 12303-1836 USA
 (518) 377-8855



No. 467

AUTOMOTIVE
 GASOLINE, LEAD-FREE

Date October 1981

SECTION I. MATERIAL IDENTIFICATION			
MATERIAL NAME: AUTOMOTIVE GASOLINE, LEAD-FREE DESCRIPTION: A volatile blend of hydrocarbons for automotive fuel OTHER DESIGNATIONS: Petrol, CAS #008 006 619, ASTM D439 MANUFACTURER: Available from several suppliers.			
SECTION II. INGREDIENTS AND HAZARDS		%	HAZARD DATA
Gasoline A hydrocarbon blend that can include normal and branched chain alkanes, cycloalkanes, alkenes, aromatics and other additives.** (Lead max 0.013 g/L, phosphorus max 0.0013 g/L, sulfur max 0.10 wt%. May contain benzene, <5%; see ASTM D3606). *ACGIH 1981 TLV (Intended Changes List). See also Am. Ind. Hyg. A. 39 110-117 (1978) **The composition of fuel is varied with altitude and seasonal requirements for a locality. The blend must meet antiknock requirements. (Antiknock Index min 85, ASTM D439.)		100	8-hr TWA 300 ppm or 900 mg/m ³ * Man Eye: 500 ppm/1H Moderate irritation Inhalation: TClO 900 ppm/1H TFX: CNS
SECTION III. PHYSICAL DATA			
Distillation at 1 atm, Initial, deg C >39 50% distilled - 77-121 End point ----- <240		Specific gravity, 60/60 F - 0.72-0.76 Melting point, deg C ----- -90.5-95.4 Evaporation rate ----- N/A	
Vapor density (Air=1) ----- 3.0-4.0 Solubility in water ----- Insoluble			
Appearance and Odor: A clear, mobile liquid with a characteristic odor which can be recognized at about 10 ppm in air. (Gasoline may be colored with dye.)			
SECTION IV. FIRE AND EXPLOSION DATA			
Flash Point and Method	Autoignition Temp.	Flammability Limits in Air	LOWER UPPER
-45 F	536-833 F	% by volume	1.4 7.6
Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam. Use of water may be ineffective to extinguish fire, but use water spray for cooling fire-exposed drums and tanks to prevent pressure rupture. It is a dangerous fire and explosion hazard when exposed to heat and flames. Vapors can flow along surfaces, reach distant ignition sources and flash back. Can react violently with oxidizing agents. Firefighters should wear self-contained breathing apparatus and full protective clothing.			
SECTION V. REACTIVITY DATA			
This is a stable material in closed containers at room temperature under normal storage and handling conditions. It does not undergo hazardous polymerization. This is an OSHA Class IA flammable liquid. A mixture of gasoline vapors and air can be explosive. It is incompatible with oxidizing agents. Thermal-oxidative degradation can yield carbon monoxide and partially oxidized hydrocarbons.			

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SECTION VI. HEALTH HAZARD INFORMATION

TLV 300 ppm (See Sect. II)

Inhalation causes intense burning of the mucous membranes, throat and respiratory tract; overexposure to vapors can lead to bronchopneumonia. Inhalation of high conc. can cause fatal pulmonary edema. Repeated or prolonged skin exposure causes dermatitis. Can cause blistering of skin due to its defatting properties. Exposure to eyes can cause hyperemia of the conjunctiva.

Ingestion or excessive vapors can cause inebriation, drowsiness, blurred vision, vertigo, confusion, vomiting and cyanosis (2000 ppm produces mild anesthesia in 30 min, higher conc. are intoxicating in less time.) Aspiration after ingestion causes bronchitis, pneumonia, or edema which can be fatal.

FIRST AID:

Eye Contact: Flush thoroughly with running water for 15 min. including under eyelids.

Skin Contact: Remove contaminated clothing. Wash affected area with soap and water.

Inhalation: Remove to fresh air. Restore breathing and administer oxygen if needed.

Ingestion: Do not induce vomiting. Aspiration hazard. Contact physician.

Seek prompt medical assistance for further treatment, observation and support.

SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

Notify safety personnel of leaks or spills. Remove sources of heat or ignition. Provide adequate ventilation. Clean-up personnel require protection against liquid contact and vapor inhalation. If a leak or spill has not ignited, use water spray to disperse vapors and to protect men attempting to stop the leakage. Contain spill. Do not allow to enter sewer or surface water. Add absorbent solid to small spills or residues and pick up for disposal.

DISPOSAL: Burn scrap material in an approved incinerator. Burn contaminated liquid by spraying into an incinerator. Follow Federal, State, and Local regulations.

SECTION VIII. SPECIAL PROTECTION INFORMATION

Use general and local exhaust ventilation (explosion-proof) to keep vapors below the TLV requirements in the workplace. Respirators should be available for nonroutine or emergency use above the TLV.

Avoid eye contact by use of chemical safety goggles and/or full facemask where splashing is possible. Wear protective clothing appropriate for the work situation to minimize skin contact such as rubber gloves and boots. Clothing to be changed daily and laundered.

Eyewash fountains, showers and washing facilities should be readily accessible. Provide suitable training to those handling and working with this material.

SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Store in closed containers in a cool, dry, well-ventilated area away from sources of heat, ignition and strong oxidizing agents. Protect containers from physical damage.

Avoid direct sunlight. Storage must meet requirements of OSHA Class IA liquid. Outdoor or detached storage preferred. No smoking in areas of use. Prevent static electric sparks and use explosion-proof electrical services. (Must meet code.)

Avoid skin and eye contact. Avoid inhalation of vapors. Wear clean work clothing daily. Indoor use of this material requires exhaust ventilation to remove vapors.

ICC Flammable Liquid, Red Label. LABEL: Flammable Liquid DOT H.B. No. UN 1203.

DOT Classification: FLAMMABLE LIQUID

DATA SOURCE(S) CODE: 2.4-9.34.37

APPROVALS: MIS
CRD

Industrial Hygiene
and Safety

MEDICAL REVIEW: 16 November 1981

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Sheet No. 470
Diesel Fuel Oil No. 2-D

Issued: 10/81

Revision: A, 11/90

Section 1: Material Identification

Diesel Fuel Oil No. 2-D Description: Diesel fuel is obtained from the middle distillate in petroleum separation; a distillate oil of low sulfur content. It is composed chiefly of unbranched paraffins. Diesel fuel is available in various grades, one of which is synonymous with fuel oil No. 2-D. This diesel fuel oil requires a minimum Cetane No. (efficiency rating for diesel fuel comparable to octane number ratings for gasoline) of 40 (ASTM D613). Used as a fuel for trucks, ships, and other automotive engines; as mosquito control (coating on breeding waters); and for drilling muds.

Other Designations: CAS No. 68334-30-5, diesel fuel.

Manufacturer: Contact your supplier or distributor. Consult the latest *Chemicalweek Buyers' Guide*^(TM) for a suppliers list.

Cautions: Diesel fuel oil No. 2-D is a skin irritant and central nervous depressant with high mist concentrations. It is an environmental hazard and moderate fire risk.

R	1	NFPA
I	-	
S	2	
K	2	
HMIS		
H	0	
F	2	
R	0	
PPG*		
		* See 8

Section 2: Ingredients and Occupational Exposure Limits

Diesel fuel oil No. 2-D*

1989 OSHA PEL
None established

1990-91 ACGIH TLV
Mineral Oil Mist
TWA: 5 mg/m³†
STEL: 10 mg/m³

1988 NIOSH REL
None established

1985-86 Toxicity Data‡

Rat, oral, LD₅₀: 9 g/kg produces gastrointestinal (hypermotility, diarrhea) effects

* Diesel fuel No. 2-D tends to be low in aromatics and high in paraffins. This fuel oil is complex mixture of: 1) >95% paraffinic, olefinic, naphthenic, and aromatic hydrocarbons, 2) sulfur (<0.5%), and 3) benzene (<100 ppm). (A low benzene level reduces carcinogenic risk. Fuel oils can be exempted under the benzene standard (29 CFR 1910.1028)). Although low in the fuel itself, benzene concentrations are likely to be much higher in processing areas.

† As sampled by nonvapor-collecting method.

‡ Monitor NIOSH, RTECS (HE1800000), for future toxicity data.

Section 3: Physical Data

Boiling Point Range: 340 to 675 °F (171 to 358 °C)

Specific Gravity: <0.86

Viscosity: 1.9 to 4.1 centistokes at 104 °F (40 °C)

Water Solubility: Insoluble

Appearance and Odor: Brown, slightly viscous liquid.

Section 4: Fire and Explosion Data

Flash Point: 125 °F (52 °C) min.

Autoignition Temperature: >500 °F (932 °C)

LEL: 0.6% v/v

UEL: 7.5% v/v

Extinguishing Media: Use dry chemical, carbon dioxide, or foam to fight fire. Use a water spray to cool fire exposed containers. Do not use a forced water spray directly on burning oil since this will scatter the fire. Use a smothering technique for extinguishing fire.

Unusual Fire or Explosion Hazards: Diesel fuel oil No. 2-D is a OSHA Class II combustible liquid. Its volatility is similar to that of gas oil. Vapors may travel to a source of ignition and flash back.

Special Fire-fighting Procedures: Isolate hazard area and deny entry. Since fire may produce toxic fumes, wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in the pressure-demand or positive-pressure mode and full protective clothing. If feasible, remove containers from fire. Be aware of runoff from fire control methods. Do not release to sewers or waterways due to pollution and fire or explosion hazard.

Section 5: Reactivity Data

Stability/Polymerization: Diesel fuel oil No. 2-D is stable at room temperature in closed containers under normal storage and handling conditions. Hazardous polymerization cannot occur.

Chemical Incompatibilities: It is incompatible with strong oxidizing agents; heating greatly increases the fire hazard.

Conditions to Avoid: Avoid heat and ignition sources.

Hazardous Products of Decomposition: Thermal oxidative decomposition of diesel fuel oil No. 2-D can produce various hydrocarbons and hydrocarbon derivatives, and other partial oxidation products such as carbon dioxide, carbon monoxide, and sulfur dioxide.

Section 6. Health Hazard Data

Carcinogenicity: Although the IARC has not assigned an overall evaluation to diesel fuels as a group, it has evaluated occupational exposures in petroleum refining as an IARC probable human carcinogen (Group 2A). It has evaluated distillate (light) diesel oils as not classifiable as human carcinogens (Group 3).

Summary of Risks: Although diesel fuel's toxicologic effects should resemble kerosene's, they are somewhat more pronounced due to additives such as sulfurized esters. Excessive inhalation of aerosol or mist can cause respiratory tract irritation, headache, dizziness, nausea, vomiting, and loss of coordination, depending on concentration and exposure time. When removed from exposure area, affected persons usually recover completely. If vomiting occurs after ingestion and if oil is aspirated into the lungs, hemorrhaging and pulmonary edema, progressing to renal involvement and chemical pneumonitis, may result. A comparative ratio of oral to aspirated lethal doses may be 1 pt vs. 5 ml. Aspiration may also result in transient CNS depression or excitement. Secondary effects may include hypoxia (insufficient oxygen in body cells), infection, pneumatocele formation, and chronic lung dysfunction. Inhalation may result in euphoria, cardiac dysrhythmias, respiratory arrest, and CNS toxicity. Prolonged or repeated skin contact may irritate hair follicles and block sebaceous glands, producing a rash of acne pimples and spots, usually on arms and legs.

Medical Conditions Aggravated by Long-Term Exposure: None reported.

Target Organs: Central nervous system, skin, and mucous membranes.

Primary Entry Routes: Inhalation, ingestion.

Acute Effects: Systemic effects from ingestion include gastrointestinal irritation, vomiting, diarrhea, and in severe cases central nervous system depression, progressing to coma or death. Inhalation of aerosols or mists may result in increased rate of respiration, tachycardia (excessively rapid heart beat), and cyanosis (dark purplish discoloration of the skin and mucous membranes caused by deficient blood oxygenation).

Chronic Effects: Repeated contact with the skin causes dermatitis.

FIRST AID

Eyes: Gently lift the eyelids and flush immediately and continuously with flooding amounts of water until transported to an emergency medical facility. Consult a physician immediately.

Skin: Quickly remove contaminated clothing. Rinse with flooding amounts of water for at least 15 min. If large areas of the body have been exposed or if irritation persists, get medical help immediately. Wash affected area with soap and water.

Inhalation: Remove exposed person to fresh air and support breathing as needed.

Ingestion: Never give anything by mouth to an unconscious or convulsing person. If ingested, do not induce vomiting due to aspiration hazard.

Contact a physician immediately. Position to avoid aspiration.

After first aid, get appropriate in-plant, paramedic, or community medical support.

Notes to Physicians: Gastric lavage is contraindicated due to aspiration hazard. Preferred antidotes are charcoal and milk. In cases of severe aspiration pneumonitis, consider monitoring arterial blood gases to ensure adequate ventilation. Observe the patient for 6 hr. If vital signs become abnormal or symptoms develop, obtain a chest x-ray.

Section 7. Spill, Leak, and Disposal Procedures

Spill/Leak: Notify safety personnel, evacuate area for large spills, remove all heat and ignition sources, and provide maximum explosion-proof ventilation. Cleanup personnel should protect against vapor inhalation and liquid contact. Clean up spills promptly to reduce fire or vapor hazards. Use a noncombustible absorbent material to pick up small spills or residues. For large spills, dike far ahead to contain. Pick up liquid for reclamation or disposal. Do not release to sewers or waterways due to health and fire and/or explosion hazard. Follow applicable OSHA regulations (29 CFR 1910.120). Diesel fuel oil No. 2-D spills may be environmental hazards. Report large spills.

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

EPA Designations

RCRA Hazardous Waste (40 CFR 261.21): Ignitable waste

CERCLA Hazardous Substance (40 CFR 302.4): Not listed

SARA Extremely Hazardous Substance (40 CFR 355): Not listed

SARA Toxic Chemical (40 CFR 372.65): Not listed

OSHA Designations

Air Contaminant (29 CFR 1910.1000, Subpart Z): Not listed

Section 8. Special Protection Data

Goggles: Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133).

Respirator: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use a NIOSH-approved respirator with a mist filter and organic vapor cartridge. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.*

Other: Wear impervious gloves, boots, aprons, and gauntlets to prevent skin contact.

Ventilation: Provide general and local explosion-proof ventilation systems to maintain airborne concentrations that promote worker safety and productivity. Local exhaust ventilation is preferred since it prevents contaminant dispersion into the work area by controlling it at its source.⁽¹²⁰⁾

Safety Stations: Make available in the work area emergency eyewash stations, safety/quick-drench showers, and washing facilities.

Contaminated Equipment: Never wear contact lenses in the work area; soft lenses may absorb, and all lenses concentrate, irritants. Remove this material from your shoes and equipment. Launder contaminated clothing before wearing.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9. Special Precautions and Comments

Storage Requirements: Use and storage conditions should be suitable for a OSHA Class II combustible liquid. Store in closed containers in a well-ventilated area away from heat and ignition sources and strong oxidizing agents. Protect containers from physical damage. To prevent static and explosion-proof electrical equipment. No smoking in storage or use areas.

Engineering Controls: Avoid vapor or mist inhalation and prolonged skin contact. Wear protective rubber gloves and chemical safety glasses where contact with liquid or high mist concentration may occur. Additional suitable protective clothing may be required depending on working conditions. Institute a respiratory protection program that includes regular training, maintenance, inspection, and evaluation. Practice good personal hygiene and housekeeping procedures. Do not wear oil contaminated clothing. At least weekly laundering of work clothes is recommended. Do not put oily rags in pockets. When working with this material, wear gloves or use barrier cream.

Transportation Data (49 CFR 172.101)

DOT Shipping Name: Fuel oil

DOT Hazard Class: Combustible liquid

ID No.: NA1993

DOT Label: None

DOT Packaging Exceptions: 173.118a

DOT Packaging Requirements: None

MSDS Collection References: 1, 6, 7, 12, 73, 84, 101, 103, 126, 127, 132, 133, 136, 143, 146

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