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ROBERT GILS
ASSOCIATES, INC.

ENVIRONMENTAL
CONSULTANTS
HAZARD
ASSESSMENTS

CERTIFIED
INDUSTRIAL
HYGIENISTS

510-547-7771

Tank Removal
PG&E Power Plant
510 Martin Luther King, Jr. Way
Oakland, California




Written By:



Chris Nwabuzoh
Project Geologist
REA #02842

Reviewed By:



Robert Gils
CIH #1151

TABLE OF CONTENTS

Introduction	1
Local Geology	1
Excavation and Tank Inspection	1
Soil Sampling	1
Laboratory Analyses and Results	2
Conclusion	2

LIST OF FIGURES

Figure 1	Site Location Map
Figure 2	Sampling Locations

LIST OF APPENDICES

Appendix A	Soil Samples, Laboratory Results and Chain-of-Custody
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INTRODUCTION

Quamm, Inc. contracted with RGA to provide technical assistance in the removal of underground storage tanks and to collect soil samples from the tank pit excavation at the Power Gas & Electric (PG&E) power plant in Oakland. The PG&E power plant is located at 50 Martin Luther King, Jr. Way, in Oakland, California (see site location map Figure 1). The purpose of the soil sampling was to determine the absence or presence of petroleum hydrocarbon-containing soils beneath the underground diesel storage tanks and to evaluate the structural integrity of these tanks.

LOCAL GEOLOGY

The subject site is situated between the San Andreas and Hayward-Calaveras Fault Zones and in the vicinity of the Oakland harbor. The depth to groundwater ranges from 10 feet to 15 feet below ground surface. Groundwater flow is generally southwest, towards the inner harbor.

The reported geology in this area consists of silty sand to clayey sand. The soil types encountered during the tank removal were silty sand, and gravel.

No groundwater was encountered in the excavation pit.

EXCAVATION AND TANK INSPECTION

On November 6, 1991, Tom Daniels Excavating, Inc. (TD), of Danville, California, excavated the tank pits of three underground storage tanks. The three tanks, all 70 gallon capacity, were constructed of steel and contained diesel fuel. On November 14, 1991, after tank dry-icing and LEL monitoring, Fire Inspector Steve Hallard of Oakland Fire Prevention approved the removal of the tanks. On November 14, 1991, TD removed the underground diesel storage tanks from the tank pits, and loaded them on to a truck. The tanks were transported to H & H, in San Francisco, for scraping. The tanks were visually inspected to determine their respective external condition and structural integrity. No holes were found in the tanks. Signs of pitting and rust, however, were observed on all the tanks. Hazardous Waste Specialist Mr. Dennis J. Byrne of the Alameda County Environmental Health, and Mr. Craig "Boomer" Angove of Quamm, Inc., witnessed the tank removals.

*I thought
Quamm
removed
the tanks*

SOIL SAMPLING

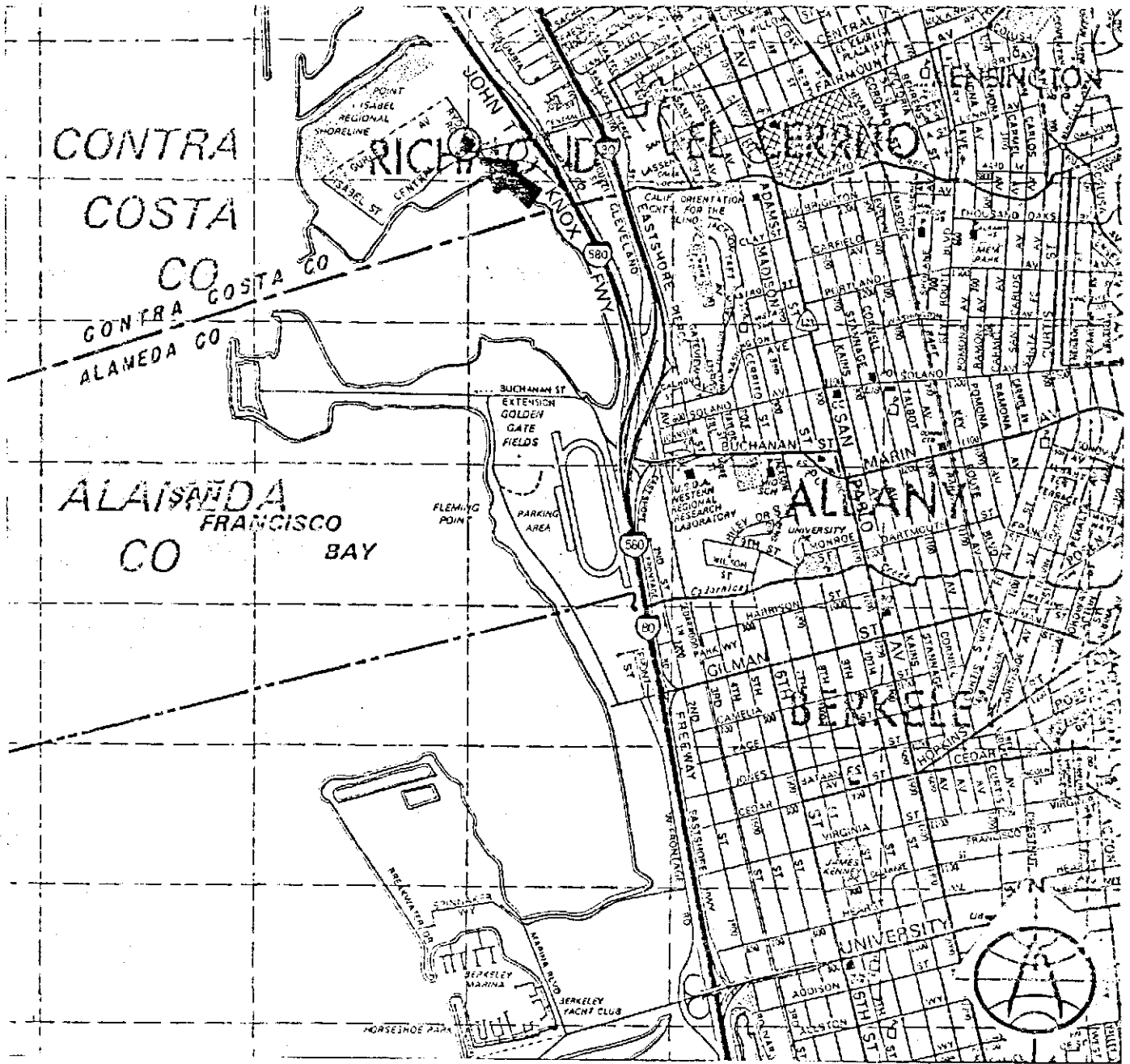
On November 14, 1991, six soil samples were collected from locations 2 to 3 feet beneath the tanks bottom, under the direction of Mr. Byrne. Soil samples were also collected from each excavation soil pile. Sample locations are shown on the site plan (Figure 2). All tank pit samples were collected from the backhoe scoop following safe collection procedures, and grab samples were taken from the soil piles. All samples were collected in brass rings, covered with aluminium foil, Teflon caps, and duct, and placed on ice. Following a strict Chain-of-Custody procedure, the samples were shipped to state-certified Carter Analytical Laboratories, Inc. in Campbell, California.

LABORATORY ANALYSES AND RESULTS

Soil samples T1-A, T2-A, and T3-A from the tank pit and soil samples SP-1, SP-2, and SP-3 from the soil piles were analyzed for Total Petroleum Hydrocarbons diesel (TPH d), and for Aromatic hydrocarbons (BTEX) using EPA methods. Laboratory analyses indicated that sample ~~T2-A~~ contained ~~4,901 ppm of TPH d~~ and 0.2 ppm of Ethyl Benzene. Sample ~~T2-A~~ contained ~~7,000 ppm of TPH d~~. Sample SP-1 contained .3ppm of Ethyl Benzene. Sample SP-2 contained 0.4 ppm of Ethyl Benzene. Sample ~~SP-1~~ contained ~~2,770 ppm of TPH d~~. Samples T1-A and SP-3 were below detection limits for the analyses.

CONCLUSION

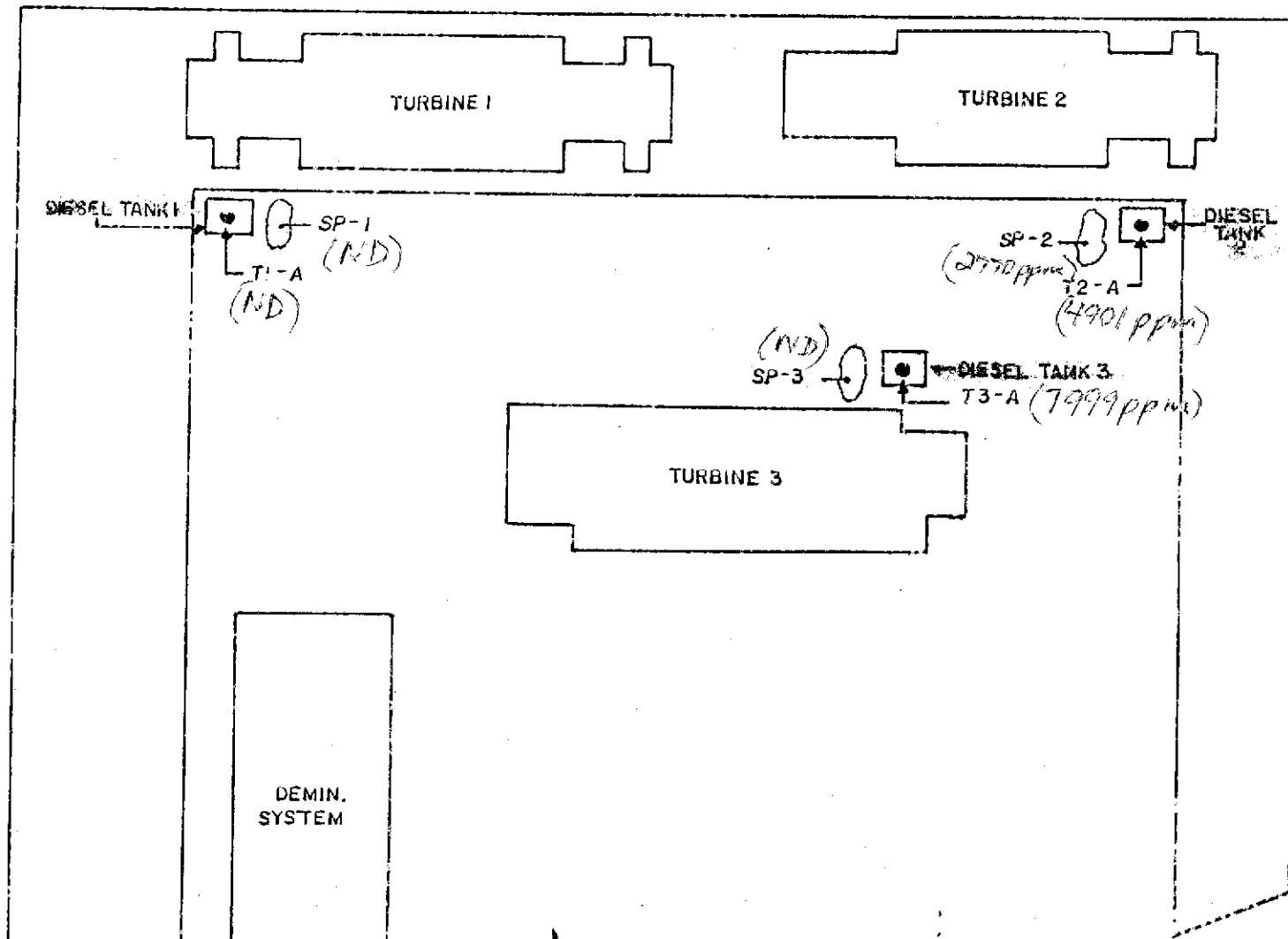
There are levels of petroleum hydrocarbons in the soil beneath the locations of tanks #2 and #3. Subsequent excavation in the affected areas could reduce the levels, barring all structural constraints about the subject site.



LOCAL AREA SITE LOCATION MAP

⊗ - SITE LOCATION
FIGURE 1

copy site map



LEGEND:
 • - SAMPLING LOCATION

RGA Environmental Consultants	Job Number: 100736, FIGURE 2	PG&E's OAKLAND POWER PLANT, 50 MARTIN LUTHER KING JR WAY
Emeryville, California	SCALE: 1" = 40' - 00"	SAMPLING LOCATIONS

05/02/1991

18.....

ENVIRONMENTAL ANALYSIS REPORT

CARTER ANALYTICAL LABORATORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

ANALYSIS REPORT
FOR

RGA Environmental Consulting
1260 45th Street
Emeryville, CA 94608

Revised 11-27-91
DATE: 11-22-91

CONTACT: Chris Nwabuzoh

CHAIN OF CUSTODY ID NO: QMI-736

ORDER NO: 11880A-TD P.O. NO: QMI-736

SITE DESCRIPTION: PG&E Power Plant
Oakland, CA

SAMPLE DESCRIPTION:

Soil
Sampled: 11-15-91
Received: 11-15-91
Analyzed: 11-21-91
Number of Samples: 6

REQUESTED ANALYSIS:

Methods: Total Petroleum Hydrocarbons as Diesel (TPH-D)
and Benzene, Toluene, Ethyl Benzene, and Xylenes (BTEX).

The analyses reported are considered accurate. Should you wish further support for the reported data, submit your requirements in writing within 10 days. It is Carter Analytical Labs intent to give you complete satisfaction. Please reference the order number when communicating with us. The invoice is due and payable within 30 days from invoice date.

Hazardous Materials Certification No: 304 • Drinking Water Certification No: 953
from the
State of California • Department of Health Services

CARTER ANALYTICAL LABORATORY, INC.

590 DIVISION STREET • CAMPBELL, CA 95008 • (408) 364-3030 • FAX (408) 866-0319

<u>Sample</u>	<u>Customer Label</u>	<u>Description</u>
L1	T1-A	soil
L2	T2-A	soil
L3	T3-A	soil
L4	SP-1	soil
L5	SP-2	soil
L6	SP-3	soil


Hydrocarbons and BTEX Analysis of Soil

<u>Sample Number</u>	<u>TPH-D (mg/Kg)</u>	<u>Benzene (mg/Kg)</u>	<u>Toluene (mg/Kg)</u>	<u>Ethyl Benzene (mg/Kg)</u>	<u>Xylenes (mg/Kg)</u>
L1	LDL	LDL	LDL	LDL	LDL
L2	4901	LDL	LDL	0.2	LDL
L3	7999	LDL	LDL	LDL	LDL
L4	LDL	LDL	LDL	0.3	LDL
L5	2770	LDL	LDL	0.4	LDL
L6	LDL	LDL	LDL	LDL	LDL
DL:	1.0	0.005	0.005	0.005	0.005
AR (%):	94.3	---	80.1	---	---

LDL indicates results are less than detection limit.
 DL = Detection Limit
 AR = Average Recovery

=====

CARTER ANALYTICAL LABORATORY


 Dr. A. Edward Robinson
 Laboratory Manager


 J.L. Carter
 QAQC Manager

FROM:

COMPANY R G A

ADDRESS 1260 45th Street

CITY Emeryville STATE CA ZIP 94606

Page 1 of 1

Ref. No. SO#11880-41-26

TO:
Carter Analytical Laboratory, Inc.
(408) 364-3030 • (408) 866-0319 (FAX)

Chain of Custody

PROJECT NO.	SITE NAME & ADDRESS	DATE SAMPLE TAKEN	ANALYSIS						REMARKS
			TPH	VOL	BIX	2/E			
QMI-736	PG&E Power Plant Oakland, CA								
L1	T1-A	11-15	✓	✓					
L2	T2-A	11-15	✓	✓					ALL SAMPLES
L3	T3-A	11-15	✓	✓					ARE SOILS
L4	SP-1	11-15	✓	✓					
L5	SP-2	11-15	✓	✓					
L6	SP-3	11-15	✓	✓					

Relinquished By: (Signature): Chris Arabuzoh Date: 11-15-91 Received By: (Signature): D. Valentine 732 Date: 11/15/91 Remarks:

Relinquished By: (Signature): Aero Spec. Del. Date: 11/15/91 Received By: (Signature): Deborah Richmond Date: 11/15/91 Remarks: Samples rec'd. cold

Relinquished By: (Signature): Deborah Richmond Date: 11/18/91 Received By: (Signature): Frankie Date: 11/18/91 Remarks:

Relinquished By: (Signature): Frankie Date: 11/21/91 Received By: (Signature): Deborah Richmond Date: 11/21/91 Remarks:



BAY AREA AIR QUALITY MANAGEMENT DISTRICT

939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

REGULATION 8, RULE 40 Aeration of Contaminated Soil and Removal of Underground Storage Tanks

NOTIFICATION FORM

- Removal or Replacement of Tanks
- Excavation of Contaminated Soil

SITE INFORMATION

SITE ADDRESS <u>50 Martin Luther King Way</u>	
CITY, STATE, ZIP <u>Oakland, CA 94607</u>	
OWNER NAME <u>Pacific Gas & Electric Company</u>	
SPECIFIC LOCATION OF PROJECT <u>Oakland Power Plant</u>	
TANK REMOVAL	CONTAMINATED SOIL EXCAVATION
SCHEDULED STARTUP DATE _____	SCHEDULED STARTUP DATE _____
VAPORS REMOVED BY:	STOCKPILES WILL BE COVERED? YES _____ NO _____
<input type="checkbox"/> WATER WASH	ALTERNATIVE METHOD OF AERATION (DESCRIBE BELOW):
<input checked="" type="checkbox"/> VAPOR FREEING (CO ²)	_____
<input type="checkbox"/> VENTILATION	(MAY REQUIRE PERMIT)

CONTRACTOR INFORMATION

NAME <u>Tom Daniels Excavating, Inc.</u>	CONTACT <u>Betty Castro</u>
ADDRESS <u>P. O. Box 335</u>	PHONE (<u>510</u>) <u>820-3558</u>
CITY, STATE, ZIP <u>Danville, CA 94526</u>	

CONSULTANT INFORMATION (IF APPLICABLE)

NAME <u>RGA, INC.</u>	CONTACT <u>CHRIS NWABUZH</u>
ADDRESS <u>1260 45th STREET</u>	PHONE (<u>510</u>) <u>547-7771</u>
CITY, STATE, ZIP <u>EMERYVILLE, CA 94608</u>	

Unsigned by PG+E Rep

FOR OFFICE USE ONLY			
DATE RECEIVED _____	BY _____		
CC: INSPECTOR NO. _____	DATE _____	(INIT.)	BY _____
TELEPHONE UPDATE: CALLER _____	CHANGE MADE _____		
BAAQMD N # _____			

CITY OF OAKLAND
FIRE MARSHAL'S OFFICE
ROOM 201, CITY HALL
OAKLAND, CALIFORNIA 94612
273-3851

Permit No.	_____
Copies to	_____
Date Issued	_____

APPLICATION for PERMIT to INSTALL, REMOVE or REPAIR TANKS

IN THE CITY OF OAKLAND

Date 9/19/91

Application is hereby made for permit to remove diesel gasoline tank and excavate, commencing four feet inside the curb line inside the property line
install fuel oil repair

on the _____ side of _____ St. _____ Ave. _____ feet _____ of _____ St. _____ Ave.

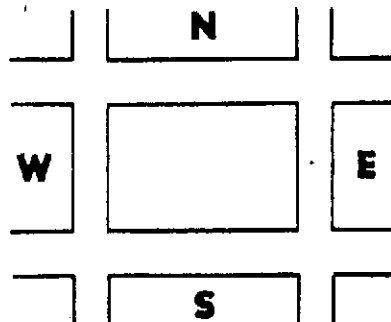
House No. _____ Street _____
and Street 50 Martin Luther King Way Avenue Present storage diesel fuel

Owner P. G. & E. Co. Address 1000 Evans Ave., S. F. Phone 695-2267

Applicant Tom Daniels Excavating, Inc Address P. O. Box 335, Danville Phone 820-3558

Remarks 3 underground tanks and 6 above ground tanks

Sidewalk surface to be disturbed X Number of Tanks 9 Capacity 70 Gallons each



Signature Tom Daniels

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