

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY



DAVID J. KEARS, Agency Director

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RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

August 4, 1993
StID # 2064

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

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

**Re: Comment on July 23, 1993 Well Installation and Groundwater
Sampling Report at 852 85th Ave., Oakland 94621**

Dear Mr. Raudsep:

Thank you for the submittal of the above referenced report detailing the installation of two monitoring wells and one piezometer. The soil results indicate very low gasoline contamination. It appears that the lateral extent of soil contamination has been confined to the area of the former tank. Low levels of gasoline and its aromatic constituents, toluene, ethylbenzene and xylene were detected in MW-2, the apparent downgradient well. Soluble barium was also found at its highest concentration of 0.32 mg/l (ppm) in MW-1. These levels are below the state MCL (Maximum Contaminant Level), but you should continue to monitor the wells and take groundwater elevation measurements on a quarterly fashion to see if this trend continues.

Our office also has the following observations; in Table 2 you should note under the groundwater analysis section, all concentrations should be in ppb (parts per billion) not ppm as stated. Secondly, it was noticed that in the well/boring logs, only 4-5 of the well screen is in the water bearing zone. This may be a concern if the groundwater depth falls during the year.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

cc: J. Robbins, CEC Inc., 536 Stone Rd., Suite J, Benicia, CA
94510
E. Howell, files
QMR852-85

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



Roll 100

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

June 25, 1993
StID # 2064

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

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

**Re: Comment on Revised Work Plan for Monitoring former Tank at
852 85th Ave., Oakland CA 94621**

Dear Mr. Raudsep:

Our office has received and reviewed the June 22, 1993 revised work plan referenced above as provided by your consultant, Certified Environmental Consulting Inc. This work plan calls for the installation of two monitoring wells and one piezometer. The review of the results from the installation of the four borings around the former tank confirm limited petroleum hydrocarbon contamination and also limited barium contamination. The work plan is acceptable and you may proceed in accordance to the conditions stated within this work plan.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials

cc: G. Jensen, Alameda County District Attorney
J. Robbins, CEC Inc., 536 Stone Road, Suite J, Benicia,
CA 94510
E. Howell, files

wpAp952-85th

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



Roll 100

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

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

May 21, 1993
StID # 2064

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

**Re: Comment on Modified April 1993 Work Plan for Subsurface Soil
Characterization for 852 85th Ave., Oakland 94621**

Dear Mr. Raudsep:

Our office has received and reviewed the above referenced report detailing the installation of four borings around the former gasoline pit as provided by CEC, Inc. The results of the report indicate that there has been limited migration of gasoline and BTEX (Benzene, Toluene, Ethylbenzene and Xylenes) around the tank pit and that the concentrations of barium in the soil are not at hazardous levels. Because of the limited petroleum contamination found in the deeper 10' samples, our office agrees in theory with the recommendation for the installation of one monitoring well in the **verified** downgradient direction within 10 feet of the former tank.

The work plan is acceptable with the condition that the following concerns and observations are addressed:

1. Please indentify the boring and include a scale on the site map. These items were left off on Figure 2 of this report.
2. CEC's research on determining groundwater gradient at this site is insufficient. Please elaborate on the gradient found on neighboring sites. You should be aware that monitoring wells are scheduled to be installed at 8410 Amelia Street. The groundwater gradient from these wells should be used to support your site's gradient. In the event this information does not support your assumed gradient, additional work will be required. It is critical that you be able to show that the groundwater on this site is from the same water bearing zone as the wells being used for comparison.
3. After the installation of the monitoring well, our office will require a **minimum** of four consecutive quarters of monitoring. The remedial concentrations mentioned in the work plan proposal should be modified to reflect for BTEX, levels to less than 0.5ppb and for barium levels less than 1ppm, the State MCL.

Mr. Ned Raudsep
Geo. M. Robinson & Co.
StID # 2064
May 21, 1993
Page 2.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiatt, RWQCB
J. Robbins, 536 Stone Road, Suite J, Benicia, CA 94510-1170
E. Howell, files

2-85285

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



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RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

April 14, 1993
StID# 2064

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

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

**Re: Review of Work Plan for Subsurface Soil Characterization at
852 85th Ave., Oakland CA 94621**

Dear Mr. Raudsep:

This letter is to acknowledge the receipt and our office's review of the April 1993 work plan for subsurface soil characterization for the above referenced site as provided by Certified Environmental Consulting, Inc. This work plan calls for the advancing of borings around the former tank pit to determine the extent of gasoline and barium contamination, the verification of groundwater gradient through records research and the installation of one monitoring well in the verified downgradient location relative to the former tank pit. In general, this work plan is acceptable and you may proceed with the following provisions:

1. The work plan states that up to six borings will be advanced around the former tank pit, four borings initially and additional ones if field screening indicates contamination. Our office would recommend an appropriate number of borings in order to define the extent of the gasoline contamination.
2. Composite soil samples will be analyzed at the 5 and 10 feet depth for barium. Total barium is required and soluble barium should be run if the total barium concentration exceeds ten times the STLC (soluble threshold limit concentration).
3. Upon establishing a quarterly monitoring program, our office would like soluble barium run in addition to TPH as gasoline and BTEX. You may contact me at (510) 271-4530 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

cc: R. Hiett, RWQCB
J. Robbins, CEC Inc., 536 Stone Rd, Suite J, Benicia,
CA 94510-1170
E. Howell, files wp852-85

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



Roll 06

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

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

February 10, 1993
StID# 2064

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

SECOND NOTICE OF VIOLATION

**Re: Request for Work Plan Addendum for Additional Site
Investigation at Geo. M. Robinson, 852 85th Ave.,
Oakland CA 94621**

Dear Mr. Raudsep:

Recall that I wrote to you on December 15, 1992 requesting a work plan addendum for additional investigation to determine the extent of petroleum and barium contamination at the above site. You were requested to provide this workplan to our office within 30 days. To this date, we have not received the requested document.

I have recently spoke with Mr. Tom Gillespie of CEC and he stated that he had given you a copy of a workplan addendum for your review. I would like to inform you that the workplan from CEC was written after extensive discussion as to the most efficient way to investigate the site. I'm aware of your concern with the high barium concentration found in your stockpiled soils and your fear of uncovering more of the same. Please provide a description of the location and sampling method for the soil sample(s) yeilding the high barium results. You should also provide a copy of the analytical results and chain of custody document for the sample(s). Mr. Gillespie mentioned that he felt that the barium found was due to a localized hot spot and that the rest of your site likely has much lower concentrations. If sampling has occurred to substantiate this belief, you should provide us with a sampling map, chain of custody document and analytical results. This information will enable our office determine whether this contamination is localized or extensive throughout the site.

Mr. Gillespie has described CEC's workplan proposal and it appears appropriate for the determination of the extent of both petroleum hydrocarbon and barium contamination. At this point, the site is considered to have experienced a petroleum hydrocarbon release and a barium release which has yet to be defined. The Local Oversight Program (LOP) can oversee both

Mr. Ned Raudsep
StID # 2064
852 85th Ave.
February 10, 1993
Page 2.

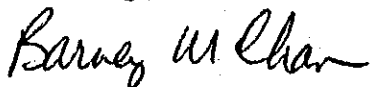
issues as long as the non-fuel related release is a minor part of the problem. If this is not the case, an individual from our inspection program along with myself will be overseeing your site, each with independent requests. I believe it would be most prudent to address both contaminants now while it is possible for me to be your only contact. There is no benefit in addressing one contaminant without addressing the other, since your site is considered contaminated by either event. Certainly, there are less formal guidelines for non-fuel related releases and I believe that in CEC's workplan, they have incorporated a few suggestions which may be a cost saving to you.

Please provide the requested documents to our office **within 30 days** of receipt of this letter.

Again, you should be reminded that this letter should be considered a formal request for technical reports as authorized by the California Water Code, The California Code of Regulations, Title 23, Division 3, Chapter 16 and the California Health and Safety Code. Civil liabilities exist for the non-compliance with our office's request for the appropriate workplans, analytical results or reports. In addition, this case will then be referred to the District Attorney's Office for enforcement.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,



Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
T. Gillespie, CEC Inc., 140 West Industrial Way, Benicia,
CA, 94510
E. Howell, files

2NOV-852

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



R01100

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

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

December 15, 1992
STID # 2064

Mr. Ned Raudsep
Geo. M. Robinson & Co.
915 Commercial St.
San Jose, CA 95112

NOTICE OF VIOLATION

**Re: Request for Work Plan Addendum for Additional Site
Investigation at Geo. M. Robinson, 852 85th Ave.,
Oakland CA 94621**

Dear Mr. Raudsep:

In my last correspondence with you on April 6, 1992, I inquired about the performance of the additional site investigation recommended by Certified Environmental Consulting Inc., (CEC). CEC responded to this in their April 21, 1992 letter, by requesting an additional 30 days to comply with this request. To this date our office has not received a work plan addendum.

I have recently talked to Mr. Tom Gillespie of CEC regarding performing the additional work and we discussed a number of alternative actions to overexcavation in order to determine the extent of the petroleum hydrocarbon and barium contamination. These alternatives included borings around the tank pit and analysis of soil samples for both Total Petroleum Hydrocarbons as gasoline (TPHg), BTEX, (Benzene, Toluene, Ethylbenzene and Xylenes) and total and soluble barium. We also discussed the need to provide gradient information in the area of this site to justify the need for only one monitoring well.

Please provide a work plan addendum as described above to our office **within 30 days** of receipt of this letter. You may contact me at (510) 271-4530 should you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
T. Gillespie, CEC Inc., 140 West Industrial Way, Benicia,
CA 94510
E. Howell, files NOV-852

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



R01106

RAFAT A. SHAHID, Assistant Agency Director

April 6, 1992
STID # 2064

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

Mr. Ned Raudsep II
George M. Robinson & Co.
852 85th Avenue
Oakland, CA 94621

Re: Site Investigation and Remediation at George M. Robinson &
Co., 852 85th Ave., Oakland CA 94621

Dear Mr. Raudsep:

As you are aware, our office has been delegated the authority to oversee sight cleanup of petroleum fuel release cases as agent of the Regional Water Quality Control Board, (RWQCB). It is our understanding that a workplan was provided to our office for site investigation and remediation by Mr. Stanley Klemetson of Certified Environmental Consulting Inc., (CEC). This plan was reviewed by Cynthia Chapman of our office and given verbal approval. The plan called for the drilling of bore holes radially from the corners of the excavation pit to determine the extent of hydrocarbon contamination. It also called for the excavation of soils, if deemed necessary, and the installation of a minimum of one groundwater monitoring well in the verified downgradient direction to the excavation pit.

On March 28, 1991, our office received the results of this site investigation as provided in a CEC report. At the conclusion of the report it was recommended that the site be re-excavated. To this date, our office is not aware if this work has been performed. In addition, you should be reminded, as indicated in conversation with Ms. Cynthia Chapman of our office, a minimum of one monitoring well in the verified downgradient location must be installed within ten feet of the former tank pit area.

Our office yet to receive your tank closure report. This closure report should include at a minimum:

1. General description of the closure activities;
2. Description of the tank, fittings and piping conditions; stratigraphic units encountered within the excavation, any observation of odor-bearing soil and description of any water or free product present;

Mr. Ned Raudsep II
Geo. M. Robinson
STID # 2064
April 6, 1992
Page 2.

3. Description of any remedial activities performed at the time of the removals; and
4. A tabulation of the volume and final destination of all manifested and non-manifested contaminated materials hauled offsite.

Please submit within thirty (30) days, an updated workplan including a time schedule for the proposed work in addition to a complete tank closure report. You should consider this a formal request for technical reports pursuant to the California Water Code Section 13267 (b). All workplans, analytical results or reports should be sent to our office and to that of the RWQCB to the attention of Mr. Rich Hiatt. Their address is 2101 Webster St., Fourth Floor, Oakland CA 94612. Failure to submit the requested documents may subject you to civil liabilities.

Our office also has a Memorandum of Understanding (MOU) with the Department of Health Services (DOHS). As such, we are empowered to enforce the regulations of the California Health and Safety Code (CH&SC), Division 20, Chapter 6.7. Be aware that section 25298 (c) 4 of the CH&SC states that no person shall close an underground tank unless that person has taken steps to demonstrate to the appropriate agency that the site has been investigated to determine if there are any present, or were past, releases, and if so that appropriate corrective or remedial actions have been taken. Section 25299 (5) allows for the civil penalty of not less than \$500 or more than \$5,000 for each underground tank for each day which the operator or owner fails to properly close an underground tank as required by Section 25298. Failure to submit the requested documents may cause this case to be referred to the District Attorney's Office for enforcement in addition to civil liabilities.

You may contact me at (510) 217-4320 should you have any questions regarding this letter.

Sincerely,



Barney M. Chan, Hazardous Materials Specialist

cc: M. Thomson, Alameda County District Attorney Office
R. Hiatt, RWQCB
Dr. W. Cornils, CEC, 140 West Industrial Way, Benicia, CA 94510
852-85th

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY
DAVID J. KEARS, Agency Director



Roll 100

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

December 24, 1990

Mr. Ned Raudsep II
Geo. M. Robinson & Co.
852-85th Avenue
Oakland, CA 94621

Dear Mr. Raudsep:

The Alameda County Hazardous Materials Division has reviewed the laboratory analyses provided to this office by Semco for the underground tank removal activities at 825-85th Avenue, Oakland. A 500 gallon tank was removed from this address on October 19, 1990.

The soil samples taken show total petroleum hydrocarbons (TPH) as gasoline at 4, 13, 64, and 140 ppm. Samples were taken between 9 and 11 feet. Benzene values ranged from 80 to 540 ppb, toluene values were from 12 to 440 ppb, ethylbenzene values were from 7 to 700 ppb, and xylenes ranged from 21 to 1,700 ppb. The composited soils from the excavation had a TPH value of 340 ppm, and high BTEX count. At the time of the removal, it was indicated to me that pea gravel would be backfilled into the pit and that the excavated soils would not be placed back in the former tank pit.

The level of contamination found in the soil samples and the presence of water in the bottom of the pit require that Geo. M. Robinson perform a soil and ground water investigation to determine the extent of the contamination associated with the underground storage tank.

You are required to complete a workplan that provides information on how the subsurface investigation will proceed. Please submit this workplan to our office within 45 days of the date of this letter. Our office will be the lead agency overseeing the soil and groundwater investigation at this site. The San Francisco Bay Regional Water Quality Control Board (RWQCB) has delegated the handling of this case to our Division. We will be in contact with the RWQCB in order to provide you with guidance concerning the RWQCB's investigation requirements. However, please be aware that you are responsible for diligent actions to protect the waters of the State. A format for the workplan and items to address is outlined on the following pages.

Geo. M. Robinson
December 24, 1990
Page 2

I. INTRODUCTION

- A. Statement of Scope of Work
- B. Site location
- C. Background
- D. Site History

Provide a brief description of the historic site use and ownership information, type of business and associated activities that take place at the site, and provide a history of the use of the underground tank, its contents, and include the date of installation.

II. SITE DESCRIPTION

- A. Provide a map which shows streets, site buildings, underground tank locations, subsurface conduits and utilities, on-site and nearby wells, and nearby streams or water bodies.
- B. Provide a description of the hydrogeologic setting of the site and surrounding area. Include a description of any subsurface work previously done at the site.

III. PLAN FOR DETERMINING EXTENT OF SOIL CONTAMINATION ON SITE

- A. Describe how the extent of soil contamination associated with the former underground tank will be determined.
- B. Describe the sampling methods and procedures to be used. If soil samples are to be collected for contamination delineation, consult the RWQCB guidelines for soil sampling protocols. During drilling of all boreholes and monitoring wells, undisturbed soil samples are to be collected at a minimum of every five feet in the unsaturated zone and at any changes in lithology for logging and analytical purposes. Borings and wells are to be permitted through Alameda County Flood Control and Water Conservation District, Zone 7. Their number is 415/484-2600. Borings and wells are to be logged from undisturbed soil samples. Logs shall include observed soil odors; blow counts shall be expressed in blows per 6 inches of drive.

Geo. M. Robinson
December 24, 1990
Page 3

If a soil gas survey is planned, the location of survey points must be identified along with the analytical methods and techniques to be used. A quality assurance plan for field analyses must be submitted.

- C. Soil samples are to be analyzed by a California State Certified Laboratory for the appropriate constituents.

IV. DETERMINATION OF GROUNDWATER QUALITY

- A. A minimum of three monitoring wells must be installed to determine the groundwater gradient. If the verified down-gradient location has been established, then complete gradient data must be submitted and one monitoring well will be required in the down-gradient direction.
- B. Monitoring wells shall be designed and constructed to be consistent with the RWQCB guidelines and to permit entrance of any free product into the wells. Filter pack and slot sizes for all wells should be based on particle analysis from each stratigraphic unit in at least one boring on the site and on the types of groundwater contaminants present. The well screen must be situated to intercept any floating product from both the highest and lowest ground water levels. All wells shall be surveyed to mean sea level to an established benchmark to 0.01 foot.
- C. Monitoring wells must be sampled for dissolved and floating constituents. Any free product is to be measured with an optical probe or by another method shown to have equivalent accuracy.
- D. A groundwater gradient map shall be developed for every water level data set. If the gradient fluctuates, water level measurements must continue to be made monthly until a gradient pattern is established.
- E. Sample monitoring wells monthly for three consecutive months. Free product thicknesses and water levels shall be measured in all wells for each sampling event before any purging or sampling activities are begun. After three consecutive months of sampling, all monitoring wells must be sampled at least quarterly for one year. Groundwater levels and quality must be monitored quarterly for a minimum of one year, even if no contamination is identified.

Geo. M. Robinson
December 24, 1990
Page 4

- F. Groundwater samples are to be analyzed by a California State Certified Laboratory for the appropriate constituents.

V. INTERPRETATION OF HYDROGEOLOGIC DATA

- A. Water level contour maps showing groundwater gradient direction and free and dissolved product plume definition maps of each contaminant constituent should be prepared routinely and submitted with other sampling results.
- B. The hydrogeologic characteristics of the aquifer must be described. An estimate of vertical transmissivity, based on a laboratory permeability test or a pump test, is required for any unit identified as a clay. Identification of the clay should be verified by particle analysis (ASTM D-422).
- C. The cross sections, groundwater gradients (horizontal and vertical) should be interpreted to explain pollution migration patterns.

VI. DETERMINATION OF THE TYPES OF BENEFICIAL USES OF THE GROUNDWATER

The State has defined all San Francisco Bay Area water as having beneficial uses; however, the types of beneficial uses vary and must be determined in order to establish appropriate cleanup levels. Beneficial uses include drinking water, irrigation, groundwater recharge, wild life habitat, contact and non-contact recreation, fish migration, etc. A drinking-water beneficial use "aquifer" is defined as an aquifer yielding water of less than 3,000 units of total dissolved solids and yielding water at a rate of at least 200 gallons per day.

VII. SITE SAFETY PLAN

VIII. REPORTING

- A. A technical report must be submitted, **within 30 days of completion of the investigation**, which presents and interprets the information generated during the initial subsurface site investigation. At a minimum, the report must include the following items: Site history information, boring and well construction logs, records of field observations and data, chain-of-custody forms, water level data, water level contour map showing groundwater gradient direction, contaminant plume maps, tabulations of soil and

Geo. M. Robinson
December 24, 1990
Page 5

groundwater contaminant concentrations, status of soil contamination characterization, description of any remedial work performed, laboratory-originated analytical results for all soil and groundwater samples analyzed, copies of TSDF-to-Generator manifests for any hazardous wastes hauled off-site, a description on where non-hazardous contaminated soils went, and any recommendations for additional investigative or remedial work.

- B. All reports and proposals must be signed by a California-Certified Engineering Geologist, California-Registered Geologist or a California-Registered Civil Engineer. A statement of qualifications should be included in all reports. Borehole and monitoring well installation and logging, and impact assessments will require the signature of such a professional.
- C. The technical report must be submitted with a cover letter from Geo. M. Robinson and received in this office by the established due date. The letter must be signed by a principal executive officer or by an authorized representative of the company.

Any stockpiled soil associated with tank removal activities or investigation activities must be sampled to determine the proper disposition of the soil. The number of samples collected from the stockpile(s) must be adequate to characterize the soil for the appropriate soil handling method.

All proposals, reports and analytical results pertaining to this investigation and remediation must be sent to our office and to the RWQCB to the attention of Lester Feldman. The address is:

Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, CA 94612

You should be aware that this Division is working in conjunction with the RWQCB and that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Any extensions of agreed upon time deadlines must be confirmed in writing by either this Division or the RWQCB.

We will require a deposit/refund for reviewing the work plan and for oversight of your case. Please remit \$600.00, payable to Alameda County.

Geo. M. Robinson
December 24, 1990
Page 6

Should you have any questions concerning the contents of this letter or the status of this case, please feel free to contact me at 415/271-4320.

Sincerely,

Cynthia Chapman

Cynthia Chapman
Hazardous Materials Specialist

c: Mr. Lester Feldman, RWQCB

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



R01100

DEPARTMENT OF ENVIRONMENTAL HEALTH
Hazardous Materials Program
80 Swan Way, Rm. 200
Oakland, CA 94621
(415)

December 24, 1990

Mr. Ned Raudsep II
Geo. M. Robinson & Co.
852-85th Avenue
Oakland, CA 94621

Dear Mr. Raudsep:

The Alameda County Hazardous Materials Division has reviewed the laboratory analyses provided to this office by Semco for the underground tank removal activities at 825-85th Avenue, Oakland. A 500 gallon tank was removed from this address on October 19, 1990.

The soil samples taken show total petroleum hydrocarbons (TPH) as gasoline at 4, 13, 64, and 140 ppm. Samples were taken between 9 and 11 feet. Benzene values ranged from 80 to 540 ppb, toluene values were from 12 to 440 ppb, ethylbenzene values were from 7 to 700 ppb, and xylenes ranged from 21 to 1,700 ppb. The composited soils from the excavation had a TPH value of 340 ppm, and high BTEX count. At the time of the removal, it was indicated to me that pea gravel would be backfilled into the pit and that the excavated soils would not be placed back in the former tank pit.

The level of contamination found in the soil samples and the presence of water in the bottom of the pit require that Geo. M. Robinson perform a soil and ground water investigation to determine the extent of the contamination associated with the underground storage tank.

You are required to complete a workplan that provides information on how the subsurface investigation will proceed. Please submit this workplan to our office within 45 days of the date of this letter. Our office will be the lead agency overseeing the soil and groundwater investigation at this site. The San Francisco Bay Regional Water Quality Control Board (RWQCB) has delegated the handling of this case to our Division. We will be in contact with the RWQCB in order to provide you with guidance concerning the RWQCB's investigation requirements. However, please be aware that you are responsible for diligent actions to protect the waters of the State. A format for the workplan and items to address is outlined on the following pages.

Geo. M. Robinson
December 24, 1990
Page 2

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- A. Statement of Scope of Work
- B. Site location
- C. Background
- D. Site History

Provide a brief description of the historic site use and ownership information, type of business and associated activities that take place at the site, and provide a history of the use of the underground tank, its contents, and include the date of installation.

II. SITE DESCRIPTION

- A. Provide a map which shows streets, site buildings, underground tank locations, subsurface conduits and utilities, on-site and nearby wells, and nearby streams or water bodies.
- B. Provide a description of the hydrogeologic setting of the site and surrounding area. Include a description of any subsurface work previously done at the site.

III. PLAN FOR DETERMINING EXTENT OF SOIL CONTAMINATION ON SITE

- A. Describe how the extent of soil contamination associated with the former underground tank will be determined.
- B. Describe the sampling methods and procedures to be used. If soil samples are to be collected for contamination delineation, consult the RWQCB guidelines for soil sampling protocols. During drilling of all boreholes and monitoring wells, undisturbed soil samples are to be collected at a minimum of every five feet in the unsaturated zone and at any changes in lithology for logging and analytical purposes. Borings and wells are to be permitted through Alameda County Flood Control and Water Conservation District, Zone 7. Their number is 415/484-2600. Borings and wells are to be logged from undisturbed soil samples. Logs shall include observed soil odors; blow counts shall be expressed in blows per 6 inches of drive.

Geo. M. Robinson
December 24, 1990
Page 3

If a soil gas survey is planned, the location of survey points must be identified along with the analytical methods and techniques to be used. A quality assurance plan for field analyses must be submitted.

- C. Soil samples are to be analyzed by a California State Certified Laboratory for the appropriate constituents.

IV. DETERMINATION OF GROUNDWATER QUALITY

- A. A minimum of three monitoring wells must be installed to determine the groundwater gradient. If the verified down-gradient location has been established, then complete gradient data must be submitted and one monitoring well will be required in the down-gradient direction.
- B. Monitoring wells shall be designed and constructed to be consistent with the RWQCB guidelines and to permit entrance of any free product into the wells. Filter pack and slot sizes for all wells should be based on particle analysis from each stratigraphic unit in at least one boring on the site and on the types of groundwater contaminants present. The well screen must be situated to intercept any floating product from both the highest and lowest ground water levels. All wells shall be surveyed to mean sea level to an established benchmark to 0.01 foot.
- C. Monitoring wells must be sampled for dissolved and floating constituents. Any free product is to be measured with an optical probe or by another method shown to have equivalent accuracy.
- D. A groundwater gradient map shall be developed for every water level data set. If the gradient fluctuates, water level measurements must continue to be made monthly until a gradient pattern is established.
- E. Sample monitoring wells monthly for three consecutive months. Free product thicknesses and water levels shall be measured in all wells for each sampling event before any purging or sampling activities are begun. After three consecutive months of sampling, all monitoring wells must be sampled at least quarterly for one year. Groundwater levels and quality must be monitored quarterly for a minimum of one year, even if no contamination is identified.

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- F. Groundwater samples are to be analyzed by a California State Certified Laboratory for the appropriate constituents.

V. INTERPRETATION OF HYDROGEOLOGIC DATA

- A. Water level contour maps showing groundwater gradient direction and free and dissolved product plume definition maps of each contaminant constituent should be prepared routinely and submitted with other sampling results.
- B. The hydrogeologic characteristics of the aquifer must be described. An estimate of vertical transmissivity, based on a laboratory permeability test or a pump test, is required for any unit identified as a clay. Identification of the clay should be verified by particle analysis (ASTM D-422).
- C. The cross sections, groundwater gradients (horizontal and vertical) should be interpreted to explain pollution migration patterns.

VI. DETERMINATION OF THE TYPES OF BENEFICIAL USES OF THE GROUNDWATER

The State has defined all San Francisco Bay Area water as having beneficial uses; however, the types of beneficial uses vary and must be determined in order to establish appropriate cleanup levels. Beneficial uses include drinking water, irrigation, groundwater recharge, wild life habitat, contact and non-contact recreation, fish migration, etc. A drinking-water beneficial use "aquifer" is defined as an aquifer yielding water of less than 3,000 units of total dissolved solids and yielding water at a rate of at least 200 gallons per day.

VII. SITE SAFETY PLAN

VIII. REPORTING

- A. A technical report must be submitted, within 30 days of completion of the investigation, which presents and interprets the information generated during the initial subsurface site investigation. At a minimum, the report must include the following items: Site history information, boring and well construction logs, records of field observations and data, chain-of-custody forms, water level data, water level contour map showing groundwater gradient direction, contaminant plume maps, tabulations of soil and

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groundwater contaminant concentrations, status of soil contamination characterization, description of any remedial work performed, laboratory-originated analytical results for all soil and groundwater samples analyzed, copies of TSDF-to-Generator manifests for any hazardous wastes hauled off-site, a description on where non-hazardous contaminated soils went, and any recommendations for additional investigative or remedial work.

- B. All reports and proposals must be signed by a California-Certified Engineering Geologist, California-Registered Geologist or a California-Registered Civil Engineer. A statement of qualifications should be included in all reports. Borehole and monitoring well installation and logging, and impact assessments will require the signature of such a professional.
- C. The technical report must be submitted with a cover letter from Geo. M. Robinson and received in this office by the established due date. The letter must be signed by a principal executive officer or by an authorized representative of the company.

Any stockpiled soil associated with tank removal activities or investigation activities must be sampled to determine the proper disposition of the soil. The number of samples collected from the stockpile(s) must be adequate to characterize the soil for the appropriate soil handling method.

All proposals, reports and analytical results pertaining to this investigation and remediation must be sent to our office and to the RWQCB to the attention of Lester Feldman. The address is:

Regional Water Quality Control Board
1800 Harrison Street, Suite 700
Oakland, CA 94612

You should be aware that this Division is working in conjunction with the RWQCB and that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Any extensions of agreed upon time deadlines must be confirmed in writing by either this Division or the RWQCB.

We will require a deposit/refund for reviewing the work plan and for oversight of your case. Please remit \$600.00, payable to Alameda County.

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Should you have any questions concerning the contents of this letter or the status of this case, please feel free to contact me at 415/271-4320.

Sincerely,

Cynthia Chapman

Cynthia Chapman
Hazardous Materials Specialist

c: Mr. Lester Feldman, RWQCB