aqua science engineers inc.

June 11, 1993

Alameda County Health Care Services Agency
80 Swan Way, Room 350
Oakland, California 94621

ATTENTION: Ms. Juliet Shin
Hazardous Materials Specialist

SUBJECT: FINAL REPORT OF ENVIRONMENTAL ACTIVITIES
Goodman Property
2501 Santa Clara Avenue
Alameda, CA 94501

Dear Ms. Shin:

Please find attached a copy of Aqua Science Engineer's subject report. As I mentioned on the telephone, you've seen everything in Appendix A & B. I have enclosed the reports detailing with everything since the overexcavation activities in Appendix C. Ms. Goodman and her prospective property buyer will probably be anxious to receive your response to the latest reports in Appendix C.

I have sent a copy of all the Appendix C reports to Rich Hiett, so now he all the appropriate documents.

If you have any questions or comments, please feel free to give me a call at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

WE'VE MOVED TO
2411 OLD CROW CANYON RD #4
SAN RAMON, CA 94583
510-820-9391

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aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
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June 8, 1993

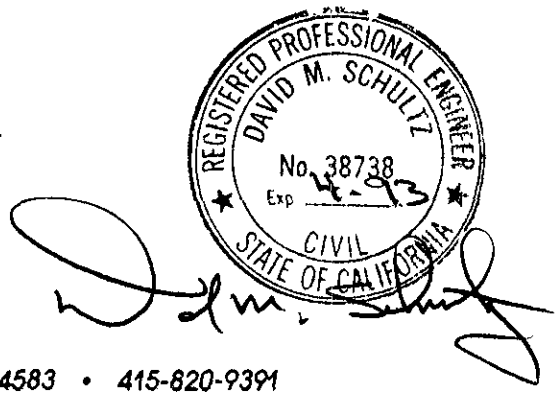
FINAL REPORT
of
ENVIRONMENTAL ACTIVITIES
detailing
"SOURCE REMOVAL AND
ASSESSMENT OPERATIONS"

at

The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Submitted by:

Aqua Science Engineers
2411 Old Crow Canyon Road, #4
San Ramon, California 94583
(510) 820-9391



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B-1 Phase II Report of Methods and Findings (dated 11/6/92)

APPENDIX C - Reports, Workplans, and details regarding the Overexcavation and Disposal of Gasoline Contaminated Soils, Backfilling and Resurfacing of Excavations, and Re-installation of Monitoring Well MW-2A

C-1 Report Detailing Disposal of Gas and Waste-oil Contaminated Soil Generated During Tank Removal Operations (dated 2/16/93)

C-2 Report Detailing the Overexcavation of Gasoline-Contaminated Soils Discovered During Phase II Site Assessment Activities. Backfilling and Resurfacing (dated 3/17/93)

C-3 Report Detailing Offhaul and Disposal of Gasoline-Contaminated Soils (dated 5/14/93)

C-4 Report Detailing Methods and Findings of Re-installation of Destroyed Monitoring Well (MW-2A), and the First Quarter's Monitoring Report (dated 5/27/93)

1.0 INTRODUCTION

This report documents the environmental activities conducted at the Goodman Property located at 2501 Santa Clara Avenue, in Alameda, California. This report details on-site activities performed by Aqua Science Engineers, Inc. (ASE) dating back to August 1992 through May 1993. In summation, this report will detail the following: (1) the removal and disposal of four underground storage tanks (UST) formerly containing gasoline and waste oil, (2) the overexcavation and disposal of contaminated soil as a result of an unauthorized leak of tank contents, (3) the initial subsurface assessment investigating and further delineating the potential of soil and groundwater contamination, and (4) the current quarterly groundwater monitoring program for the site. All of ASE's work performed on site was in response to the request by Ms. Helen Goodman, the current property owner, for fulfillment of the requirements set forth by the Alameda County Health Care Services Agency (ACHCSA) and the RWQCB, San Francisco Bay Region (RWQCB).

2.0 PROJECT ACTIVITIES

ACTIVITY 1 - UNDERGROUND TANKS REMOVAL AND DISPOSAL

Per ASE Proposal Number 92-035 and upon completion and approval of a workplan required by the ACHCSA and the Alameda Fire Department, ASE mobilized on site for the removal and disposal of four UST's on August 13, 1992. The tanks' capacities and contents were as follows: two (2) steel 5,000 gallon, gasoline tanks; one (1) steel 6,000 gallon gasoline tank; and one (1) steel 250 gallon waste-oil tank. The aforementioned UST's were properly removed, inspected and subsequently disposed of at a local recycling facility. During tank removal operations, it was apparent that an unauthorized leak of the tank(s) and/or associated piping/dispensers had occurred which would require remediation of contaminated soils. It was also apparent that on-site groundwater had been impacted due to the presence of groundwater within the gasoline tank's pit and the strong petroleum odor emanating from the excavation. The overburden contaminated soil (material directly surrounding the UST's) was removed from the excavations and was segregated, stockpiled, covered, and left on site for future off-site disposal.

Approximately 6 weeks after the initial tank's removal activities, ASE re-mobilized on site (on September 25, 1992) to perform overexcavation of the Waste-Oil tank pit. Present on site was Ms. Juliet Shin representing the ACHCSA. An additional 30 yards of contaminated material was removed and stockpiled on site with the original overburden material from the waste-oil tank pit. The new sidewalls of the excavation were sampled and analyzed as before. Chemical analytical results indicated that there was no longer detectable levels of contamination in the soil in the area of the former waste-oil tank.

For complete details regarding the tank removal and disposal activities and overexcavation of the waste-oil pit, please see Appendix A for copies of the workplan, permits, and associated reports.

Due to the levels of soil contamination found in the remaining on-site soils and the presence of groundwater in the gas tank's pit, it was determined that a Phase II Site Assessment would be required by the ACHCSA and the RWQCB. This Phase II Site Assessment included the installation of three 2" groundwater monitoring wells and one soil boring. For details regarding these activities, please see the following section.

ACTIVITY 2 - PHASE II SITE ASSESSMENT

The Phase II activities were initiated in response to an ACHCSA letter in which it required the property owner to further address the soil and groundwater contamination on site that was discovered during tank removal activities. A workplan was designed and approved, with minor modifications, by the ACHCSA. The purpose of this Phase II site assessment would be threefold: (1) further delineate the plume of petroleum hydrocarbon contamination as a result of an unauthorized leak from any or all of the former UST's; (2) provide an initial assessment (possibility/degree of contamination) of the on-site groundwater; and (3) determine the groundwater gradient and direction of flow at the site.

One soil boring and three groundwater monitoring wells were installed at the site on October 20, 1992. The on-site activities corresponded to the October 1, 1992 workplan that was approved by the ACHCSA. Chemical analytical results of the soil samples collected during the drilling activities resulted in elevated levels of petroleum hydrocarbons in the soil in the areas near the former gas tanks and beneath one of the

two former pump islands. Subsequent groundwater monitoring well installation and chemical analysis of groundwater samples detected elevated levels of petroleum hydrocarbon contamination at the two wells closest to the former gas tank's excavation.

For complete details regarding the Phase II Site Assessment activities described above, please see Appendix B for a copy of the final report.

Based on the levels of petroleum-hydrocarbon contamination detected in the on-site groundwater, it was proposed and agreed upon that additional overexcavation and stockpiling tasks would be an efficient and cost-affective method to reduce the levels of soil contamination that were contributing to the groundwater contamination on site. For details regarding the overexcavation activities, please see the following section.

ACTIVITY 3 - OVEREXCAVATION, SOIL OFFHAUL/DISPOSAL, BACKFILLING AND RESURFACING, AND SITE CLEANUP TASKS

As detailed in the previous section, the site assessment revealed areas of elevated levels of petroleum-hydrocarbon contamination in the soil. These areas were basically what surrounded the former gasoline UST's and the former dispenser islands (under the canopy). In an effort to remove and fully delineate the soil contamination plume, ASE prepared and received approval for Proposal Number 92-081, dated November 20, 1992. The associated workplan was delivered to and approved by the ACHCSA prior to work initiation. This portion of the project, of which ASE labeled Phase III, was split into three separate areas: PHASE IIIA - Offhaul and Disposal of Stockpiled Material generated during tank removal operations; PHASE IIIB - Overexcavation of Gasoline Tank's Pit and Dispenser Islands; and PHASE IIIC - Offhaul and Disposal of Newly Overexcavated Soil.

PHASE IIIA

On December 18, 1992, ASE mobilized onto the site and loaded, offhauled and properly disposed of 198 cubic yards of gasoline contaminated soil that had been stockpiled on site since the original tank removal operations. Prior to disposal, the material was sampled, chemically analyzed, and profiled for acceptance into the Durham Road landfill in Fremont, California.

On January 5, 1993, ASE again mobilized onto the site to load, offhaul, and properly dispose of approximately 42 tons of waste-oil contaminated soil that had been stockpiled on site since the original tank removal and overexcavation operations. Prior to disposal, the material was sampled, chemically analyzed, and profiled for acceptance into the Port Costa Materials facility in Port Costa, California.

For a complete report detailing the methods and findings of the aforementioned activities, please see the documents attached in Appendix C.

PHASE IIIB

This task involved the overexcavation of the gasoline contaminated soil near and around the former gasoline UST's and the two dispenser islands. In order to gain access to the contaminated soil zones, the canopy, dispenser islands and concrete pads were removed and disposed of on January 21, 1993.

Later that day and extending into January 22, 1993 ASE overexcavated and stockpiled over 525 cubic yards of gasoline-contaminated soil from the areas near or surrounding the former gasoline UST's and pump islands. The presence of shallow groundwater in the excavation (approximately 6 feet below ground surface) limited the depth of overexcavation activities. Equally, the on-site building and close proximity of Santa Clara Avenue limited the limits of overexcavation. Once it was determined that the appropriate limits of overexcavation had been reached, sidewall soil samples were collected, under the supervision of the ACHCSA representative Ms. Juliet Shin. Subsequent chemical analysis of the soil samples resulted in non-detectable (N.D.) levels of contaminants in each sidewall sampled except for the one sidewall nearest the building. This sample resulted in 3000 parts per million (ppm) Total Petroleum Hydrocarbons (TPH) as gasoline and equally significant levels of the fractions BTEX. Due to the proximity of the building, ASE was unable to overexcavate any further toward the building without jeopardizing the building's integrity. This issue was discussed with Ms. Shin on site, and she agreed that overexcavation should not continue any closer to the building.

7/14/93 I stated that any further overexcavation would undermine building, but I never said to not continue. Juliet S.

Once it was determined that the overexcavation activities were complete, the excavation pits were backfilled and compacted in mid February 1993. After a brief hiatus due to inclement weather, the excavations were resurfaced with asphalt.

During the afore-mentioned overexcavation activities, it was necessary to destroy one of the initial monitoring wells (MW-2) because of its location in respect to the plume of soil contamination. Therefore, on April 23, 1993 ASE re-installed the groundwater monitoring well and labeled at MW-2A. MW-2A was located in the on-site native material closest to previous location. Soil sampling conducted during the well's installation, followed by definitive chemical analysis, resulted in N.D. levels of the contaminants tested. Subsequent groundwater sampling and chemical analysis of all three monitoring wells resulted in N.D. levels in two of the three wells, and negligible levels of contaminants on the other well. It appeared that overexcavation activities had been successful in reducing the affect of groundwater contamination due to the soil contamination.

For a complete report detailing the methods and findings of the afore-mentioned activities, please see the documents attached in Appendix C.

PHASE IIIC

On March 23, 1993, ASE mobilized onto the site and loaded, offhauled and properly disposed of 368 cubic yards of gasoline contaminated soil that had been overexcavated and stockpiled on site on January 21 and 22, 1993. Prior to disposal, the material was sampled, chemically analyzed, and profiled for acceptance into the Durham Road landfill in Fremont California.

Of the material overexcavated in January 1993, 168 cubic yards of said material needed to be aerated for several days to reduce the levels of gasoline contamination prior to being accepted for disposal at the Durham Road Landfill. For several days, ASE personnel aerated the stockpiled soil, in small, acceptable amounts, and then re-sampled the soil for use as profile data for the landfill. Upon acceptance, ASE re-mobilized onto the site on April 7, 1993 and loaded, offhauled, and disposed of 168 cubic yards of gasoline-contaminated soil that had been overexcavated and stockpiled on site on January 21 and 22, 1993.

For a complete report detailing the methods and findings of the afore-mentioned activities, please see the documents attached in Appendix C.

3.0 CONCLUSIONS

Four UST's and their associated dispensers, plumbing, and hardware were removed and properly disposed of from the property located at 2501 Santa Clara Avenue in Alameda, California. Soil contamination as a result of leaking tank(s) and/or product supply lines has been removed (as successfully as possible) and properly disposed of at local landfill's licensed to accept such material.

Although a complete assessment of the soils underlying the on-site building has not been completed, soil sampling at the edge of the building and subsequent chemical analysis has resulted in significant TPH as gasoline and the fractions BTEX contamination.

An assessment of the soil underlying the building, around the hydraulic lifts, and underneath the in-building sump has not been performed.

The discharge line of the in-building sump/oil-water separator was capped at the limits of the excavation pit. The sump had not been used in years past, and it was determined through conversations with ACHCSA and the property owner that abondonment/closure would be the most practical thing to do.

Currently, a quarterly groundwater monitoring program has been initiated at the site. At the present time, only one of the three on-site groundwater monitoring wells (MW-3) is detecting petroleum-hydrocarbon contamination; however, the degree of contamination appears to be fairly insignificant at this time. The current groundwater flow is directed from the front of the site toward the back, in a northly direction.

The site is currently under the direction of Ms. Juliet Shin of the ACHCSA. Also reviewing and following on-site activities is Mr. Richard Hiett of the RWQCB.

4.0 RECOMMENDATIONS

The site's groundwater needs to be monitored on a quarterly basis for a period of no less than one year. The groundwater monitoring program should follow the format of the Quarterly report dated April 26, 1993 and should be completed and submitted every three months to the ACHCSA and to the RWQCB.

Monthly water level readings should be collected from the three on-site wells (for a period of 6 months) to monitor the groundwater flow and direction during the different months/seasons.

After the groundwater flow and direction has been calculated monthly for a period of 6 months, soil borings should be completed inside the building to further delineate the extent of soil contamination. At the same time, if necessary, an additional monitoring well should be installed downgradient of the remaining contaminated soil underlying the building. This additional well (if necessary) should be placed at or near the property limits downgradient of the source to investigate the possibility of groundwater contamination and its influence on neighboring properties.

Prior to re-use, the integrity of the hydraulic lifts should be certified. Should the integrity of the lifts be at all questionable, ASE recommends repair of the lift(s) and a subsurface soil investigation to investigate for the possibility of contamination.

The sump/oil-water separator should be cleaned-out, inspected for its integrity, and abandoned in place (this task would need to be permitted by the ACHCSA).

Should the building be removed, remodeled, or retrofitted in any way that would allow access to the underlying soil, ASE recommends overexcavation/stockpiling/disposal of any contaminated material along with a complete assessment of the area as appropriate.

If it appears that the groundwater contamination remains insignificant as it has this initial sampling period, and that neighboring properties do not appear to be affected, then ASE recommends monitoring the groundwater as needed per the requirements of the ACHCSA and the RWQCB.

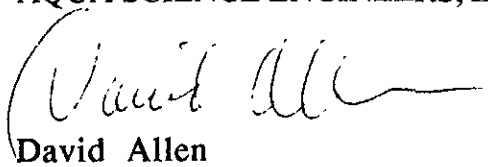
5.0 REPORT LIMITATIONS

The results of the investigations detailed in this and the reports in the following appendices represent conditions at the time and specific location at which soil and groundwater samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the underground storage tanks and associated plumbing at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in the reports was prepared under the direction of independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

ASE appreciates having the opportunity to provide our services to you. If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



David Allen
Project Engineer

Enclosures: Appendices A - C

APPENDIX A

Tank Removal Operations and Associated Activities

A-1 Tank Removal Report (dated 9/15/92)

A-2 Overexcavation of Waste-oil Tank Pit Report (11/18/92)

A-3 Health and Safety Plan

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714/833-3667 • Fax 714/833-3468

September 15, 1992

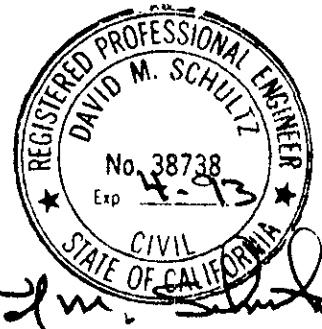
FINAL REPORT
UNDERGROUND STORAGE TANK REMOVAL

at

Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Submitted by:

Aqua Science Engineers
2411 Old Crow Canyon Road, #4
San Ramon, California 94583
(510) 820-9391



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1.0 INTRODUCTION

This report documents the removal and related activities of the underground storage tank closure performed at Goodman, 2501 Santa Clara Avenue, Alameda, California. The following tanks were removed from the site; two (2) steel 5,000 gallon, gasoline underground storage tanks, one (1) steel 6,000 gallon gasoline tank, and one (1) steel 250 gallon waste-oil underground storage tank. The scope of services provided by Aqua Science Engineers, Inc. (ASE) is in accordance with ASE proposal No. 92-035 and includes the following tasks:

- o Obtain necessary permits from appropriate agencies.
- o Remove and dispose of liquids from the tanks.
- o Remove and dispose of the underground storage tanks.
- o Sample and analyze the soil beneath the tanks.
- o Prepare a report of methods and findings.

2.0 PERMITS

The approvals/permits to remove the underground storage tanks were obtained from the City of Alameda Fire Prevention Bureau, the Alameda County Health Care Services Agency, CAL-OSHA, and the Bay Area Air Quality Management District. Originals of the permits, applications, forms and notification documents are contained in Appendix C.

3.0 LIQUID REMOVAL

The four tanks contained approximately 600 gallons total of residual product along with rinseate water used to clean the tanks' insides. The liquid was pumped out and transported to the Demenno Kerdoon Facility in Compton, California under a hazardous waste manifest by Waste Oil Recovery (WORS), a licensed hazardous waste hauler. See Appendix A for copies of manifest.

4.0 MOBILIZATION

ASE mobilized for on-site work on August 13, 1992. Project personnel included: Steve De Hope- Construction Manager, Field Personnel- Jerry Sasse, Steve Labare, and John Sabia.

5.0 EXCAVATION

On August 13, ASE personnel began tank pulling exercises by cutting the perimeter of the tank pits and removing the asphalt and concrete cover. The material was stockpiled on site, and excavation activities began.

5.1 One (1) 6,000 and Two (2) 5,000 Gallon Gasoline Tanks:

ASE began excavation of the three gasoline, underground storage tanks (all laying in one tank pit). After removing ground cover (3" A.C.), approximately 12 inches of base rock was encountered. Native material was comprised of a silty, clayey sand. As the tank excavation activities continued, the associated piping and vent lines were removed. At three feet below grade, heavily stained soils were encountered, approximately 1 foot thick. From 4 feet below grade to a 9 foot depth (groundwater encountered) discolored soils were encountered. A strong petroleum odor was detected throughout the entire excavation. Air sampling was conducted throughout excavation activities at the edge of the excavation by use of a hand-held organic vapor monitor (OVM 580A); no action levels were encountered, work proceeded. Tank bottoms were measured at 11 feet to 12 feet below grade. Excavated soils were stockpiled on site and covered with plastic.

5.2 One (1) 250 Gallon Waste-Oil Tank:

ASE began excavation activities on the former underground waste-oil tank pit by removing approximately 3" of A.C. Approximately 12 inches of base rock was then excavated. Native material was a sandy clay. As tank excavation activities continued, all associated piping and vent lines were removed. The tank bottom was measured at five feet below grade; heavy petroleum odors were detected throughout the excavation. The tank and its piping showed signs of corrosion; no overspill protection was in place. No groundwater was encountered. Excavated soils were stockpiled on site and covered with plastic.

6.0 TANK REMOVAL

Prior to tank removal on the morning of August 14, 1992, ASE inerted the tanks by adding dry ice at the rate of at least 1.5 pounds per 100 gallons of tank volume. The tank removal operations were witnessed by Mr. Kevin Tinsley of the Alameda County Health Care Services Agency (ACHCSA) and Mr. Steven McKinley of the Alameda Fire Department. After verifying a safe LEL of each of the the tank's atmosphere, by use of a 25-ton crane, the tanks were lifted from the excavation, placed on plastic, hand cleaned, and inspected prior to being loaded onto the transport vehicle. Of the former gasoline tanks (see Figure 1, Site Plan), "Tank A" (5,000 gallon capacity) was noted to have a 1-inch hole in the north sidewall above the interface of groundwater on the fill end of the tank. "Tank B" (5,000 gallon capacity) was noted to have a crack in the seam of the southwest end of the tank. "Tank C" (6,000 gallon capacity), had minor signs of corrosion and no apparent holes. An Underground Storage Tank Unauthorized Release (leak)/Contamination Site Report was submitted. Upon removal of the 3 gasoline tanks, groundwater was exposed in the excavation beneath the tanks.

In reference to the former waste-oil tank "Tank D" (see Figure 1, Site Plan), the tank was inerted with dry ice, lifted from the excavation, placed on plastic for inspection prior to being placed on the transport vehicle. Upon inspection, it was noted that the tank had a 1/2-inch hole in the south end, and showed signs of corrosion.

Photos are contained in Appendix D of this report.

Tanks were transported to the Erickson Facility in Richmond, CA by Erickson, Inc., a licensed hazardous waste hauler, where they were disposed. See Appendix A for manifests and disposal certifications of tanks.

7.0 SAMPLING AND ANALYSIS

7.1 Waste-Oil Excavation and Stockpile:

One soil sample (W/O-3-B) was extracted from the waste-oil tank excavation. The soil sample was collected by ASE personnel, Construction Supervisor, Steve De Hope, trained in sampling protocol by a registered civil engineer. The sample was collected from the excavation bottom at a depth of 7 feet below grade (see Figure 2, Sample Location Map for location of samples). The stockpiled soils were sampled by collecting two tubes ((W-O-1-S, AND W-O-2-W) which were later composited to one at the laboratory. The samples were secured using aluminum foil, capped, and sealed with tape and transported directly to the analyzing laboratory under chain of custody procedures. Soil samples were submitted for analysis to the state certified laboratory, Priority Environmental Labs in Milpitas, California (408) 946-9636, and analyzed for Total Petroleum Hydrocarbons as Gasoline (EPA 5030/8015), Diesel (EPA 3550/8015), and BTEX (EPA 8020), Volatile Organics (EPA 8240), and Oil and Grease (EPA 5520 E & F. Analysis results can be found below (Table One), and hard copies in Appendix B. Results of EPA 8240 showed detectable levels of the factions BTEX and other constituents ranging from 14-110 ppb; these results were not tabulated.

TABLE ONE: WASTE-OIL SOIL SAMPLE RESULTS

Sample No.	TPH Gasoline (ppm)	TPH Diesel (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil and Grease (ppm)
W/O-1,2*	5.2	38	6.7	19	11	130	1800
W/O-3-B	39	250	19	27	43	150	12000

* - Composited sample
ND - Non Detectable at analytical method limits
ppm - parts per million
ppb - parts per billion

7.2 Gasoline Tank Excavation and Stockpile:

Three soil samples (SW-4-W, SW-5-S, SW-6-N) were extracted from the gasoline tank excavation at approximately 8 1/2 feet below grade (groundwater/soil interface) by use of the backhoe bucket, then a 2"x 6" brass sample tube was inserted to collect a sample (see Figure 2, Sample Location Map). The stockpiled soils were sampled by collecting four samples (STKP-G-7-W, STKP-G-8-S, STKP-G-9-E, and STKP-G-10-N) which were later composited for analysis at the laboratory. The soil samples were secured using aluminum foil, capped, and sealed with tape and transported directly to the analyzing laboratory under chain of custody procedures. Samples were submitted for analysis to the state certified laboratory, Priority Environmental Labs in Milpitas, California (408) 946-9636. The soil samples taken were analyzed for Total Petroleum Hydrocarbons as Gasoline (EPA 5030/8015), Diesel (EPA 3550/8015), and BTEX (EPA 8020) and Total Extractable Lead. Analysis results are shown below (Table Two) and hard copies can be found in Appendix B. A "Tank Pit" water sample was collected and analyzed for TPH as gasoline and the fractions BTEX (EPA 5030/8015). Results are in the table below.

TABLE TWO: GASOLINE EXCAVATION SOIL AND TANK-PIT WATER SAMPLE RESULTS

Sample No.	TPH Gasoline (ppm)	TPH Diesel (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Lead (mg/kg)
SW-4-W	21	---	24	31	39	190	6.0
SW-5-S	150	---	370	1000	1400	4200	6.8
SW-6-N	7200	---	4900	11000	12000	36000	9.2
STKP-G*	1300	---	500	1400	1700	5200	20
TANK PIT WATER	330	---	1600	2600	1800	6400	---

* - Composited sample
ND - Non Detectable at analytical method limits
ppm - parts per million
ppb - parts per billion

8.0 BACKFILLING AND RESURFACING

The excavations were not backfilled while awaiting soil sample analytical results. Due to levels of contamination found in the soil, a Phase II site assessment was recommended; therefore, the excavations will be left open pending soil boring analysis and groundwater monitoring well installation and sampling.

9.0 DISCUSSION AND CONCLUSIONS

Four steel, underground tanks were were removed from the site, 1 - 6,000 gallon gasoline, 2 - 5,000 gallon gasoline, and 1 - 250 gallon waste-oil tank, and transported as hazardous waste to the Erickson Facility in Richmond California, to be cleaned and disposed of as scrap.

The results of laboratory analysis of soil samples from the excavations showed detectable concentrations of Total Petroleum Hydrocarbons (TPH) as gasoline and diesel. A copy of the certified laboratory results appear in Appendix C. The native soil at this elevation below the tanks did not appear clean, dry, or free of petroleum odor. An Underground Storage Tank Unauthorized Release form was prepared by Aqua Science and filed with the Alameda County Health Services Department.

It is the recommendation of Aqua Science Engineers, Inc. that, based on LUFT Manual Standards, a Phase II Site Investigation is necessary to further examine the site and to determine the vertical and lateral affects of the plume of the contaminants.

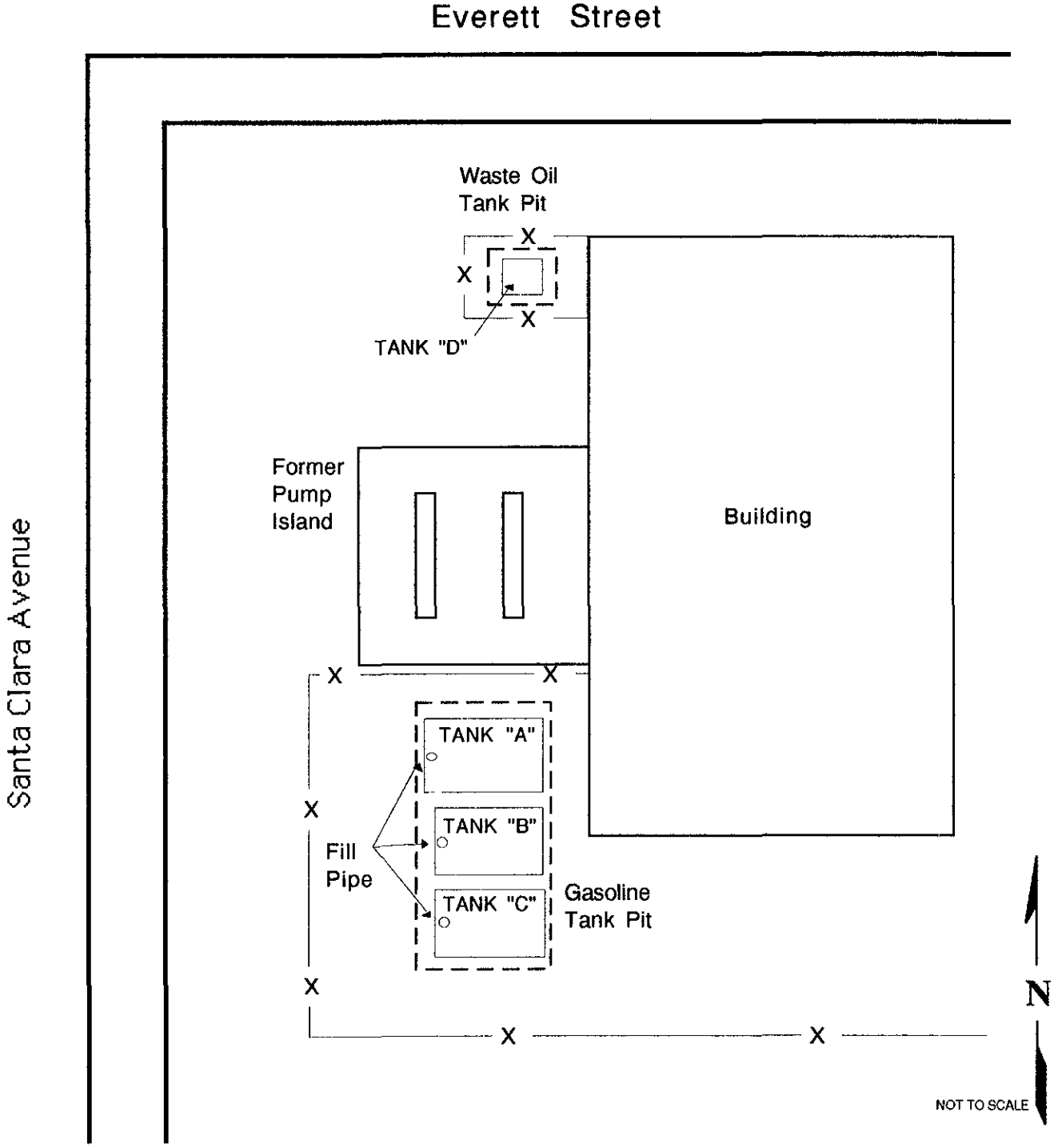
ASE appreciates having the opportunity to provide our services to you. If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Engineer

Enclosures: Figure 1
Figure 2
Appendices A - D



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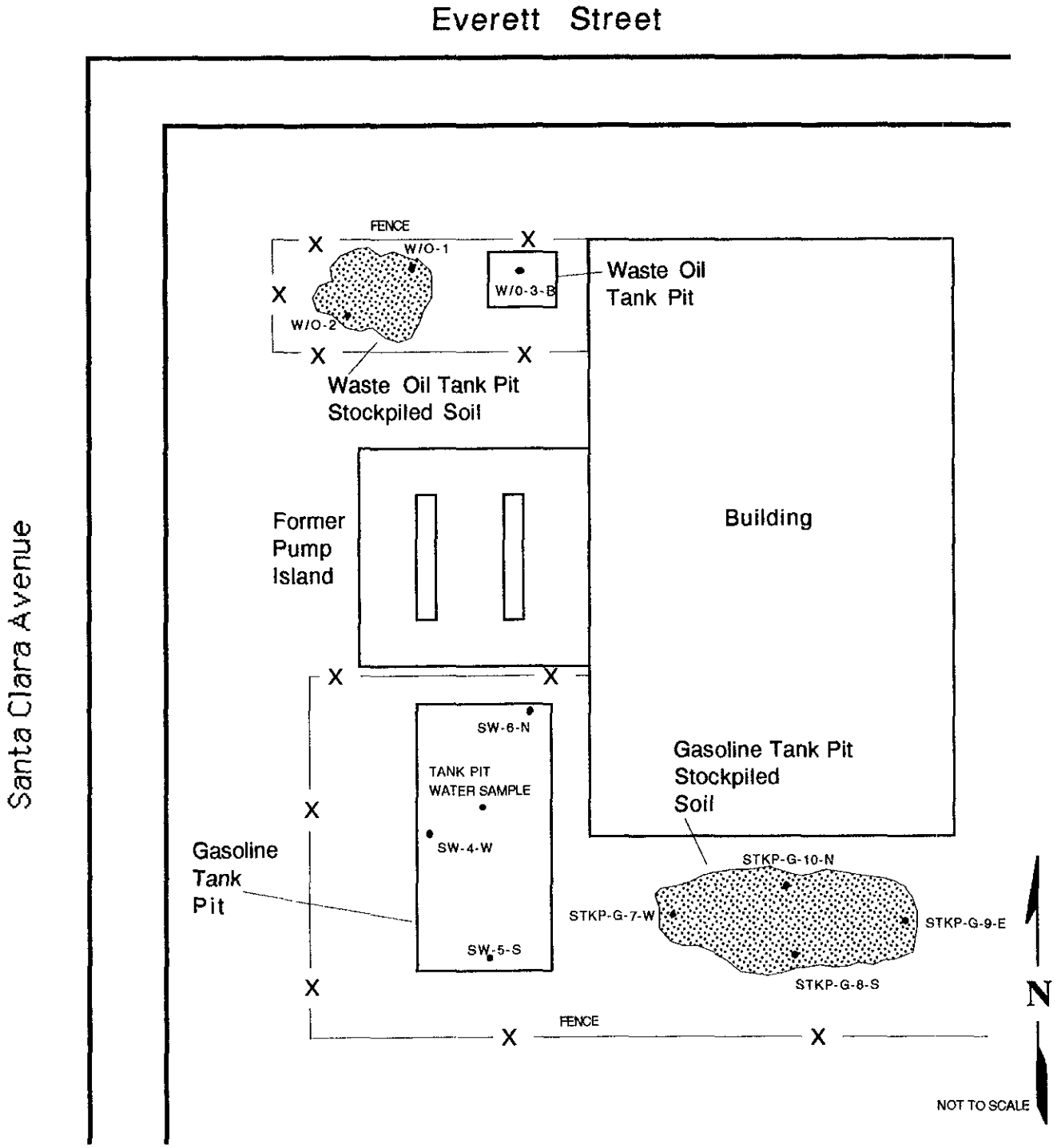
SITE PLAN

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 1



SAMPLING LOCATIONS

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 2

APPENDIX A

HAZARDOUS WASTE MANIFESTS
AND
TANK CERTIFICATES

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 Expires 9-30-94
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 4 of 33

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1	Information in the shaded areas is not required by Federal law.
CAC000181738	04153	of 1	

3. Generator's Name and Mailing Address
MS GOODMAN
9501 SAN LEANDRO
ALAMEDA CA

4. Generator's Phone 510 522-4030

A. State Manifest Document Number

5. Transporter 1 Company Name — 6. US EPA ID Number
ERICKSON INC — CAD009466392

7. Transporter 2 Company Name — 8. US EPA ID Number

9. Designated Facility Name and Site Address — 10. US EPA ID Number
Erickson, Inc.
255 Parr Blvd.
Richmond, Ca. 94801 — CAD009466392

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol
a. Waste Empty Storage Tank NON-RCRA Hazardous Waste Solid	004	T	16250	P
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around U.S.T.'s 24 Hr. Contact Name MS GOODMAN & Phone 510-522-4030

16a. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
Aqua Science Engineers		08	14	92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
JERRY L. HULSEY		08	14	92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
David H. Rosson II		08	17	92

DO NOT WRITE BELOW THIS LINE.

DTSC 8022A (12/91)

White: TSDF SENDS THIS COPY TO DTSC WITHIN 30 DAYS

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

22041199

State of California—Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAC001173814 Manifest Document No. 04115 3

2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
MS GOODMAN
2501 SANTA CLARA

4. Generator's Phone (510) 522-4030

[redacted]

5. Transporter 1 Company Name: ERICKSON INC
6. US EPA ID Number: CAD009466392

7. Transporter 2 Company Name:
8. US EPA ID Number:

9. Designated Facility Name and Site Address
Erickson, Inc.
255 Parr Blvd.
Richmond, Ca. 94801

10. US EPA ID Number: CAD009466392

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Waste Empty Storage Tank Non-RCRA Hazardous Waste Solids	004	TP	16250	P
b.				
c.				
d.				

[redacted]

15. Special Handling Instructions and Additional Information
Keep away from sources of ignition. Always wear hardhats when working around U.S.T.'s 24 Hrs Contact Name MS GOODMAN & Phone 510-522-4030

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month	Day	Year
[illegible]	[signature]	08	14	92

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
JERRY A. HULSEY	[signature]	08	14	92

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

DO NOT WRITE BELOW THIS LINE

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

Form Approved OMB No. 2050—0039 (Expires 9-30-91)
Please print or type. *Form designed for use on elite (12-pitch typewriter).*

and Front of Page 7

Toxic Substances Control Division
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. CAL000177184 Manifest Document No. 5
2. Page 1 of 1

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address [illegible]
7101 SANTA CLARA
ALAMEDA CA 94501
4. Generator's Phone (415) 872-4010

A. State Manifest Document Number [illegible]

5. Transporter 1 Company Name WASTE OIL RECOVERY
6. US EPA ID Number CAD000626515

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address [illegible] 2000 [illegible] ALAMEDA [illegible] CALIF
10. US EPA ID Number CAT080013352

11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. PETROLEUM OIL NOS (WASTE OILS) COMBUSTIBLE LIQUID [illegible]	1	TT	00600	G
b.				
c.				
d.				

15. Special Handling Instructions and Additional Information
WEAR PROTECTIVE CLOTHING

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name [illegible] Signature [illegible] 08/14/92

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name [illegible] Signature [illegible] 08/14/92

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name [illegible]

TELEPHONE
(510) 235-1393

CERTIFICATE NO. 06504

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

CUSTOMER [illegible]

JOB NO. 79212

FOR: Erickson, Inc. TANK NO. 2395

LOCATION: Richmond DATE: 09/03/93 TIME: 08:12:10

TEST METHOD Visual Gastech/1311 SMPN LAST PRODUCT CO

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 250 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

K. Aita — DS

REPRESENTATIVE TITLE INSPECTOR

TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 08285

CUSTOMER [illegible]

JOB NO. [illegible]

FOR: Erickson, Inc. TANK NO. 9301

LOCATION: Richmond DATE: 08/20/92 TIME: 08:33:39

TEST METHOD Visual Gastech/1314 SMPX LAST PRODUCT UG

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 5000 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS: OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

K Hughes

REPRESENTATIVE TITLE INSPECTOR

TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 08161

CUSTOMER	
JOB NO.	7[illegible]

FOR: Erickson, Inc. TANK NO. 2232

LOCATION: Richmond DATE: 08/24/92 TIME: 11:52:13

TEST METHOD Visual Gastech/1314 SMPX LAST PRODUCT UG

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 6000 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

REPRESENTATIVE TITLE INSPECTOR

TELEPHONE
(510) 235-1393

CERTIFICATE

CERTIFIED SERVICES COMPANY

255 Parr Boulevard • Richmond, California 94801

NO. 06161

CUSTOMER

JOB NO.

FOR: [illegible] TANK NO. 4294

LOCATION: Richmond DATE: 08/31/92 TIME: 11:07:11

TEST METHOD Visual Gastech/1311 SNPN LAST PRODUCT UG

This is to certify that I have personally determined that this tank is in accordance with the American Petroleum Institute and have found the condition to be in accordance with its assigned designation. This certificate is based on conditions existing at the time the inspection herein set forth was completed and is issued subject to compliance with all qualifications and instructions.

TANK SIZE 5000 Gallon Tank CONDITION SAFE FOR FIRE

REMARKS OXYGEN 20.9%

LOWER EXPLOSIVE LIMIT LESS THAN 0.1%

"ERICKSON INC. HEREBY CERTIFIES THAT THE ABOVE NUMBERED TANK HAS BEEN CUT OPEN, PROCESSED, AND THEREFORE DESTROYED AT OUR PERMITTED HAZARDOUS WASTE FACILITY."

In the event of any physical or atmospheric changes affecting the gas-free conditions of the above tanks, or if in any doubt, immediately stop all hot work and contact the undersigned. This permit is valid for 24 hours if no physical or atmospheric changes occur.

STANDARD SAFETY DESIGNATION

SAFE FOR MEN: Means that in the compartment or space so designated (a) The oxygen content of the atmosphere is at least 19.5 percent by volume; and that (b) Toxic materials in the atmosphere are within permissable concentrations; and (c) In the judgment of the Inspector, the residues are not capable of producing toxic materials under existing atmospheric conditions while maintained as directed on the Inspector's certificate.

SAFE FOR FIRE: Means that in the compartment so designated (a) The concentration of flammable materials in the atmosphere is below 10 percent of the lower explosive limit; and that (b) In the judgment of the Inspector, the residues are not capable of producing a higher concentration that permitted under existing atmospheric conditions in the presence of fire and while maintained as directed on the Inspector's certificate, and further, (c) All adjacent spaces have either been cleaned sufficiently to prevent the spread of fire, are satisfactorily inerted, or in the case of fuel tanks, have been treated as deemed necessary by the Inspector.

The undersigned representative acknowledges receipt of this certificate and understands the conditions and limitations under which it was issued.

REPRESENTATIVE TITLE INSPECTOR

APPENDIX B

LABORATORY ANALYSIS
and
CHAIN OF CUSTODY SHEETS

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 19, 1992 PEL # 9208033

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve DeHope
Re: One water and six soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Goodman
Project location: 2501 Santa Clara Ave.
Project number: 2558

Date sampled:Aug 14, 1992 Date submitted:Aug 17, 1992
Date extracted:Aug 17-18, 1992 Date analyzed:Aug 17-18, 1992

RESULTS:

SAMPLE I.D.	Gasoline (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
Tank Pit Water	330	1600	2600	1800	6400
Detection Limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030/8015	602	602	602	602

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
W/O-1,2 *	5.2	38	6.7	19	11	130	1800
W/O-3-B	39	250	19	27	43	150	12000
SW-4-W	21	---	24	31	39	190	---
SW-5-S	150	---	370	1000	1400	4200	---
SW-6-N	7200	---	4900	11000	12000	36000	---
STKP-G*	1300	---	500	1400	1700	5200	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	93.1%	97.6%	95.4%	92.9%	89.7%	102.3%	---
Duplicate Spiked Recovery	91.6%	102.5%	87.4%	83.5%	95.2%	94.6%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030 / 8015	3550 / 8015	8020	8020	8020	8020	5520 D & F

* Composited soil samples.

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel: 408.946.9636 Fax: 408.946.9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 24, 1992 PEL # 9208033

AQUA SCIENCE ENGINEERS, INC
Project Name: Goodman

Attn: Steve DeHope
Project Number: 2558
Project location: 2501 Santa Clara Ave.

Sample I.D.: W/O-3-B
Date Sampled: Aug 14, 1992
Date Analyzed: Aug 21, 1992

Date Submitted: Aug 17, 1992

Method of Analysis: EPA 8240

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	89.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	95.5
Trans-1,2-Dichloroethene	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	94.6
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	94.8
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	92.1
Benzene	22	-----
Dibromochloromethane	N.D.	-----
Toluene	31	-----
Chlorobenzene	36	-----
Ethylbenzene	40	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	84.0
Dichlorodifluoromethane	N.D.	-----
Freon 113	N.D.	-----
M & P-Xylenes	110	-----
O-Xylene	50	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel: 408 946 9636 Fax: 408 946 9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 24, 1992 PEL # 9208033

AQUA SCIENCE ENGINEERS, INC
Project Name: Goodman

Attn: Steve DeHope
Project Number: 2558
Project location: 2501 Santa Clara Ave.

Sample I.D.: W/O-1-S & W/O-2-W
Date Sampled: Aug 14, 1992
Date Analyzed: Aug 21, 1992

Date Submitted: Aug 17, 1992

Method of Analysis: EPA 8240

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	89.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	95.5
Trans-1,2-Dichloroethene	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	94.6
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	94.8
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	92.1
Benzene	8.9	-----
Dibromochloromethane	N.D.	-----
Toluene	17	-----
Chlorobenzene	14	-----
Ethylbenzene	16	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	84.0
Dichlorodifluoromethane	N.D.	-----
Freon 113	N.D.	-----
M & P-Xylenes	100	-----
O-Xylene	40	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel: 408 946 9636 Fax: 408 946 9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 20, 1992 PEL # 9208033

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve Dehope
Re: One water and four soil samples for Lead analysis.

Project name: Goodman
Project location: 2501 Santa Clara Ave.
Project number: 2558

Date sampled: Aug 14, 1992 Date submitted: Aug 17, 1992
Date extracted: Aug 18-19, 1992 Date analyzed: Aug 18-19, 1992

RESULTS:

SAMPLE I.D.	Lead (mg/Kg)
SW-4-W	6.0
SW-5-S	6.8
SW-6-N	9.2
STKP-G *	20
Detection Limit	1.0

	Lead (mg/L)
Tank Pit Water	0.2
Blank	N.D.
Detection limit	0.1
Method of Analysis	7420

* Composited soil sample.

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel: 408.946.0636 Fax: 408.946.0663

PEL # 9208033

INV # 23006

Chain of Custody

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA [illegible]
(510) 685-6700

DATE 8-14-92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
(510) 685-6700

PROJECT NAME Goodman NO. 2558
ADDRESS 2501 Santa Clara Ave

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
Composite w/o 1-5 & w/o 7-W
Composite STKP G-7-10-

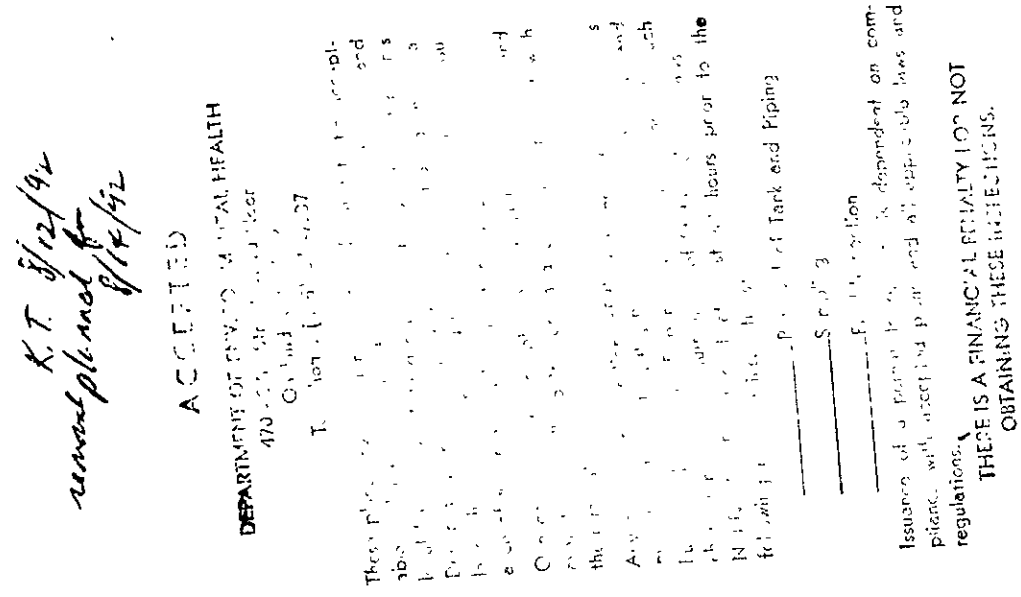
SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS 8240 (EPA [illegible])	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 B&F or B&F)	PCB (EPA 608/8080)	PHENOLS (EPA 604/8040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	LEAD TEL/DMS	
W/o 1-5	8-14		S	1		X	X			X		X										
W/o 2-W	8-14		S	1		X	X			X		X										
W/o 3-6	8-14		S	1		X	X			X		X										
SW-4-W	8-14		S	1		X																X
SW-5-S	8-14		S	1		X																X
SW-6-W	8-14		S	1		X																X
STKP-G-9-E	8-14		S	1		X																X
STKP G-7-W	8-14		S	1		X																X
STKP-G-10-W	8-14		S	1		X																X
STKP G 8-S	8-14		S	1		X																X
TANK PIT WATER	8-14		W	1		X																X

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Diane Schreer			VICTOR DUONG	
(printed name) 8/17/92 (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PEL 8/17/92 1025	

APPENDIX C

PERMITS

DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
80 SWAN WAY, ROOM 200
OAKLAND, CA 94621
PHONE NO. 510/271-4320



UNDERGROUND TANK CLOSURE PLAN
*** * * Complete according to attached instructions * * ***

1. **Business Name** _____

   Business Owner Ms. Goodman

2. **Site Address** 2501 Santa Clara Ave., Alameda, CA. 94501

   City Alameda **Zip** 94501 **Phone** (510) 522-4030

3. **Mailing Address** 3239 Thompson Avenue,

   City Alameda, CA **Zip** 94501 **Phone** (510) 522-4030

4. **Land Owner** Ms. Goodman

   Address 2501 Santa Clara Ave. **City, State** Alameda, CA **Zip** 94501

5. **Generator name under which tank will be manifested** _____

   ~~Mrs.~~ Goodman

   EPA I.D. No. under which tank will be manifested CAC000817384

6. Contractor Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord, CA Phone (510) 685-6700

License Type* A ID# 487000

*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board. Indicate that the certificate has been received, in addition, to holding the appropriate contractors license type.

7. Consultant Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord, CA Phone (510) 685-6700

8. Contact Person for Investigation

Name Steve De Hope Title Construction Supervisor

Phone (510) 685-6700

9. Number of tanks being closed under this plan 4

Length of piping being removed under this plan

Total number of tanks at facility 4

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

** Underground tanks are hazardous waste and must be handled ** as hazardous waste

a) Product/Residual Sludge/Rinsate Transporter

Name Waste Oil Recovery EPA I.D. No. CAD000626515

Hauler License No. DOHS 843 CAl Pud-106399 License Exp. Date 4/92

Address 6401 Leona Street

City Oakland State CA Zip 94605

b) Product/Residual Sludge/Rinsate Disposal Site

Name Demenno Kerdoon EPA I.D. No. CAT080013352

Address 2000 N. Alameda

City Compton State CA Zip 90221

c) Tank and Piping Transporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Hauler License No. 0019 License Exp. Date 5/92

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

d) Tank and Piping Disposal Site

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

11. Experienced Sample Collector

Name Steve De Hope

Company Aqua Science Engineers, Inc.

Address 1041 Shary Circle

City Concord State CA Zip 94518 Phone (510) 685-6700

12. Laboratory

Name Priority Environmental Labs

Address 1764 Houret Ct.

City Milpitas State CA Zip 95035

State Certification No. 1708

13. Have tanks or pipes leaked in the past? Yes [ ] No [X]

If yes, describe.

14. Describe methods to be used for rendering tank inert:

Tank will be inerted introducing dry ice into the tank at a rate of at least 1.5 lbs of dry ice per 100 gallons of tank volume. LEL will be checked prior to actual tank removal.

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be plugged.

The Bay Area Air Quality Management District (771-6000), along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of explosion proof combustible gas meters to verify tank inertness. It is the contractor's responsibility to bring a working combustible gas meter on site to verify tank inertness.

15. Tank History and Sampling Information

Tank		Material to be sampled (tank contents, soil, ground-water, etc.)	Location and Depth of Samples
Capacity	Use History (see instructions)		
(3) 5,000	Gasoline	Soil and/or ground water if present.	Two feet below each end of the tank.
(1) 500	Waste oil	Soil and/or ground water if present.	Two feet below the center of the tank.

One soil sample must be collected for every 20 feet of piping that is removed. A ground water sample must be collected should any ground water be present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (Estimated) 200 Yards	**Sampling Plan** Drive a 6" x 2" brass tube into the soil at each end of the tank, seal ends w/ aluminum foil and plastic caps. Chill in cooler with ice. Transport to the laboratory under chain of custody procedures and sample as previously described.

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

16. Chemical methods and associated detection limits to be used for analyzing samples

The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed. See attached Table 2.

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Method Number	Method Detection Limit
Gasoline	5030	GC-FID	1.0 ppm
BTEX	8020	8240	.005 ppm
Diesel	3510	8015	1.0 ppm
Volatile Organ.	524/2	524/2	
Oil & Grease	5520	E&F	
Lead	TEL / DHS		50 ppb

17. Submit Site Health and Safety Plan (See Instructions)

18. Submit Worker's Compensation Certificate copy

Name of Insurer Ohio Casualty Group

19. Submit Plot Plan (See Instructions)

20. Enclose Deposit (See Instructions)

21. Report any leaks or contamination to this office within 5 days of discovery. The report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report form. (see Instructions)

22. Submit a closure report to this office within 60 days of the tank removal. This report must contain all the information listed in item 22 of the instructions.

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true.

I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

Signature of Contractor

Name (please type) Craig Hertz

Signature Craig Hertz

Date August 5, 1992

Signature of Site Owner or Operator

Name (please type) Helen Goodman

Signature Helen Goodman

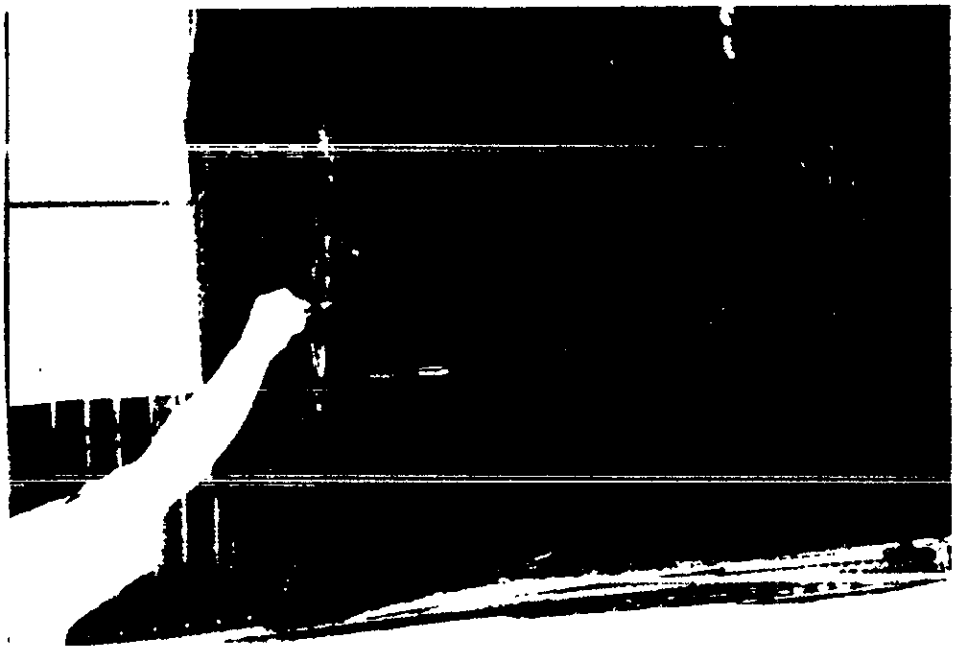
Date August 5, 1992

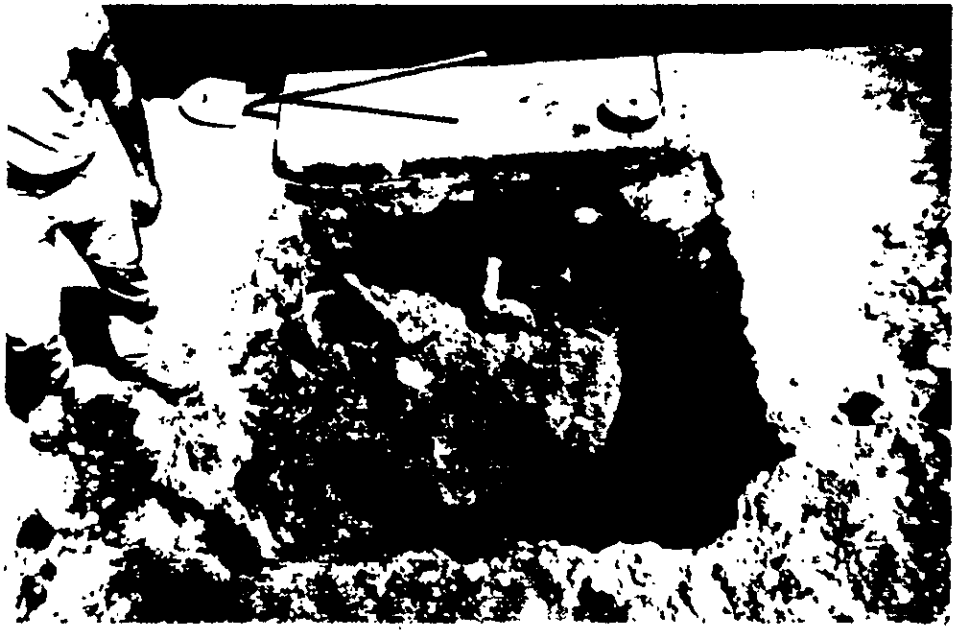
APPENDIX D

PHOTOGRAPHS

"TANK A"
(5,000 gallon gasoline)
Showing various holes
in tank sidewall above
the groundwater interface

"TANK B"
(5,000 gallon gasoline)
Showing crack in
southwest end of tank





"TANK D"
(Waste-Oil)
Prior to being
removed from the pit

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714, 833-3667 • Fax 714, 833-3468

November 18, 1992

PROJECT REPORT
for
FORMER WASTE OIL TANK
OVEREXCAVATION ACTIVITIES AND RESULTS
at
The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Prepared for:
Ms. Helen Goodman
3239 Thompson Avenue
Alameda, California 94501

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-93
CIVIL
STATE OF CALIFORNIA

November 18, 1992

Ms. Helen Goodman
3239 Thompson Avenue
Alameda, California 94501

SUBJECT: Overexcavation of Former Waste Oil Tank Pit
Goodman Property
2501 Santa Clara Avenue
Alameda, CA 94501

INTRODUCTION

On September 25, 1992 Aqua Science Engineers, Inc. (ASE) arrived on site to perform overexcavation activities on the former waste oil tank excavation (see Figure 1, Site Plan). This scope of work was initiated by the property owner, Ms. Helen Goodman, per Alameda County Health Care Services Agency (ACHCSA) requirements. During original tank removal operations, an excavation-bottom soil sample was collected and analyzed for Total Petroleum Hydrocarbons as Gasoline and Diesel, BTEX, and Oil and Grease. Analytical testing resulted in detectable levels of contaminants in the sample submitted (39 ppm TPH-Gas, 250 ppm TPH-Diesel, and 12,000 ppm Oil & Grease).

OVEREXCAVATION

ASE personnel, Steve DeHope - Construction Supervisor, arrived on site on September 25, 1992 and began overexcavation activities by use of a backhoe. Excavated material was stockpiled on site at the edge of the excavation. Shortly after overexcavation activities began, Ms. Juliet Shin, ACHCSA Hazardous Materials Specialist, arrived on site. The excavation pit, which was originally 6' x 6' x 5' deep, was enlarged to the dimensions of 8' x 9' x 11' deep (approximately 30 cubic yards). By use of a hand-held Organic Vapor Meter (OVM) and visual inspection, it was determined that the extent of soil contamination had been excavated and stockpiled.

SAMPLING AND ANALYSIS

Four soil sidewall samples were collected at points requested by Ms. Shin, see Figure 2, Sampling Plan. The following soil samples were collected:

SAMPLE ID.	DEPTH
OE-E	7 1/2' below ground surface
OE-N	8' below ground surface
OE-S	7 1/2' below ground surface
OE-W	8' below ground surface

These soil samples were collected from the backhoe bucket in 2" x 6" sterile, brass tubes, covered on both ends with aluminum foil, capped, and taped. The samples were labeled and stored in an ice chest for cold storage prior to delivery to Priority Laboratory in Milpitas, California, a State of California Certified Laboratory. The samples were submitted for analysis of Total Petroleum Hydrocarbons as Gasoline (EPA 5030/8015), Total Petroleum Hydrocarbons as Diesel (EPA 3550/8015), BTEX (EPA 8020), and Oil & Grease (EPA 5520 D&F). Copies of the analytical report are attached in Appendix A; results are tabulated below in Table One.

TABLE ONE
Overexcavation Soil Sample Results

Sample ID.	TPH Gasoline (ppm)	TPH Diesel (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil and Grease (ppm)
OE-E	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-N	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-S	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-W	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Test Method	5030/ 8015	3550/ 8015	8020	8020	8020	8020	5520 D&F

ND - Non Detectable at analytical method limits
ppm - parts per million
ppb - parts per billion

CONCLUSIONS

It is the opinion of Aqua Science Engineers that any and all soil contamination affecting the area within the former waste oil tank excavation has been removed and stockpiled on site. ASE recommends that backfilling and resurfacing activities commence upon written approval of such tasks by the ACHCSA.

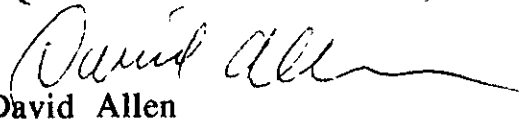
REPORT LIMITATIONS

The results of this investigation represent conditions at the time and specific location at which soil samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the former underground storage tank at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

ASE appreciates having the opportunity to provide our services to you. If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

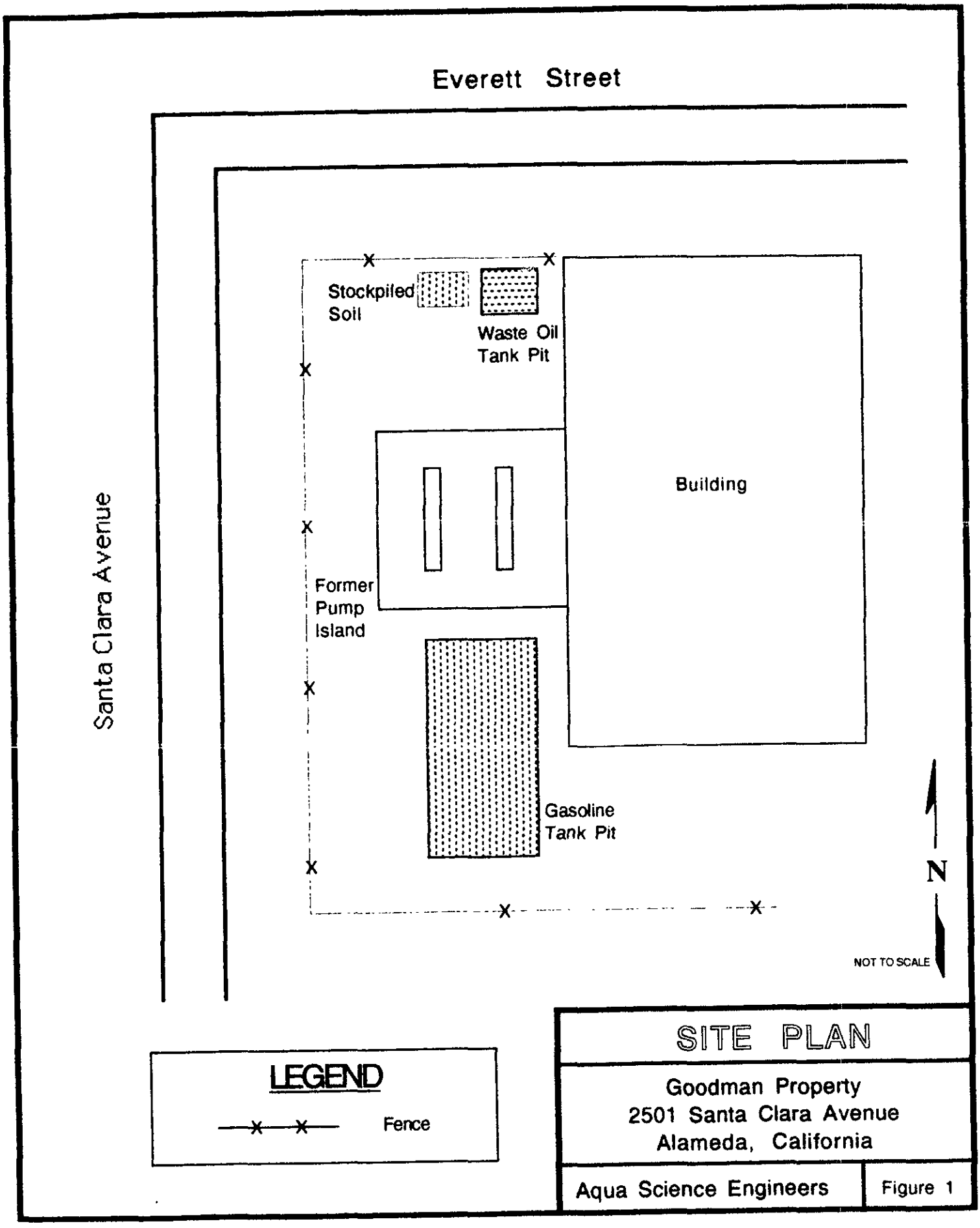
Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



David Allen
Project Manager

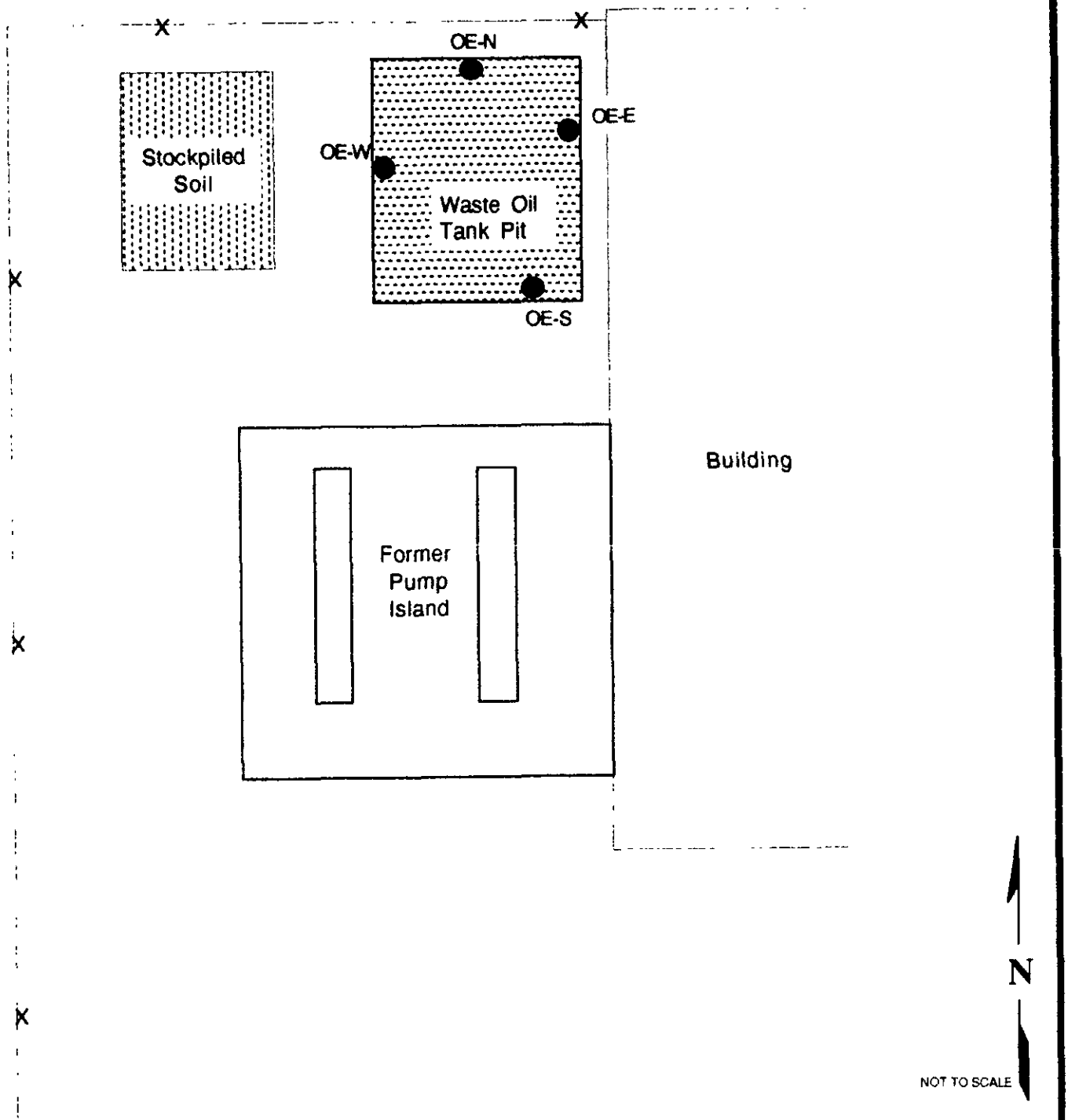
cc: Ms. Juliet Shin, Alameda County Health Care Services Agency
Mr. Rich Hiett, RWQCB, San Francisco Bay Region



SITE PLAN

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 1



LEGEND

Fence

OE-N — Sidewall Soil Sample

SAMPLING PLAN

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 2

APPENDIX A

California EPA Certified
Laboratory Report of Soil Samples

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 30, 1992 PEL # 9209051

AQUA SCIENCE ENGINEERS, INC.

Attn: Dave Allen
Re: Four soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Goodman
Project location: 2501 Santa Clara Ave.
Project number: 2558

Date sampled: Sep 27, 1992 Date submitted: Sep 29, 1992
Date extracted: Sep 29-30, 1992 Date analyzed: Sep 29-30, 1992

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
OE-E	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-N	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-S	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
OE-W	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	95.1%	85.6%	90.5%	86.8%	94.0%	102.5%	---
Duplicate Spiked Recovery	87.4%	83.2%	83.5%	90.0%	89.9%	93.5%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030 / 8015	3550 / 8015	8020	8020	8020	8020	5520 D & F

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel 408 [illegible]

PEL # 9209051

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of Custody

INV # 23096

DATE 9-28-92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
DW DeMore (510) 820-9391

PROJECT NAME Goodman NO. 2558
ADDRESS 2501 Santa Clara Ave

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
Composite STKP-1,2,3,

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH-GASOLINE (EPA 5030/8015)	TPH-GASOLINE/BTEX (EPA 5030/8015-8020)	TPH-DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	PCB (EPA 608/8080)	PHENOLS (EPA 604/8040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY		
STKP-1	9-27		S	4		X																
STKP-2	9-27		S	4		X																
STKP-3	9-27		S	4		X																
OE-W			S	1		X	X					X										
OE-E			S	1		X	X					X										
OE-S			S	1		X	X					X										
OE-N			S	1		X	X					X										

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) 8:00 AM (time)	
DAVID ALLEN 9/28/92			DAVID DUONG 09/29/92	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	PEL Company-	

aqua science engineers inc.

HEALTH & SAFETY PLAN

for the

Helen Goodman Jobsite
2501 Santa Clara Avenue
Alameda, CA 94501

prepared by

Aqua Science Engineers, Inc.
1041 Shary Circle
Concord, CA 94518
1 (800) 678-9391

AQUA SCIENCE ENGINEERS, INC.
HEALTH & SAFETY PLAN
for the
HELEN GOODMAN JOBSITE

A. GENERAL DESCRIPTION

Site: 2501 SANTA CLARA AVENUE, ALAMEDA, CA 94501

Work Scope: AQUA SCIENCE ENGINEERS WILL REMOVE 1-500 GALLON WASTE OIL UNDERGROUND STORAGE TANK, 3-5000 GALLON GASOLINE UNDERGROUND STORAGE TANKS. AQUA SCIENCE ENGINEERS WILL REMOVE AND STOCKPILE ALL SOIL FROM THE EXCAVATION; SAMPLE THE NATIVE MATERIAL BENEATH THE TANK END LOCATIONS IN THE EXCAVATION PIT; HAVE ANALYTICAL RUN ON THE SAMPLES; BACKFILL AND RESURFACE THE EXCAVATION TO MATCH SURROUNDING CONDITIONS; CREATE A REPORT OF FINDINGS AND ACTIVITY INVOLVING THE TANK REMOVAL.

SAFETY POLICY:

This Health and Safety Plan is written specifically for the Helen Goodman jobsite, located at 2501 Santa Clara Avenue in Alameda, California. All persons on site will follow OSHA safe operating practices as outlined in 29 CFR 1910 and 1926, as well as established guidelines from their respective companies or organizations.

Plan Prepared by: Craig Hertz Date: 08/05/92

Plan Approved by: Craig Hertz Date: 08/05/92

Proposed Start Date: August 14, 1992

Background Review Done? Complete:
Preliminary:

Overall Hazard Level: Serious: Low: XXX
Moderate: Unknown:

Project Organization:
Site Manager for A.S.E.: Steve Dehope
A.S.E. Safety Officer: Diane Sobrero
Other A.S.E Personnel: Jerry Sasse

B. SITE/WASTE CHARACTERISTICS

Waste Type(s): SOLID: Tank body is considered hazardous waste
LIQUID: Fuel residuals remain within the tank body

Characteristics: GASOLINE, DIESEL AND WASTE OIL RESIDUALS, COMBUSTIBLE, TOXIC

Site Parameter: THE EXCAVATION PIT AS WELL AS ANY STOCKPILED MATERIAL ARE IDENTIFIED AS EXCLUSION ZONES. A MINIMUM BOUNDARY OF THREE FEET SURROUNDING BOTH IS TO BE MAINTAINED IN AS MUCH AS IS POSSIBLE.

C. HAZARD EVALUATION

CHEMICAL HAZARDS

Potential chemical hazards include skin and eye contact or inhalation exposure to potentially toxic concentrations of hydrocarbon vapors. The potential toxic compounds that may exist at the site are listed below, with descriptions of specific health effects of each. The list includes the primary potential toxic constituents of gasoline.
(excerpted from NIOSH Pocket Guide to Chemical Hazards, June 1990).

1. BENZENE
a. Colorless, clear, highly flammable liquid with characteristic odor.
b. High exposure levels may cause acute restlessness, convulsions, depression, respiratory failure. BENZENE IS A SUSPECTED CARCINOGEN.
c. Permissible exposure level (PEL) for a time weighted average (TWA) over an eight hour period is 1.0 ppm.

2. TOLUENE
a. Colorless liquid with a benzene-like odor.
b. High exposure levels may cause fatigue, euphoria, confusion, dizziness. TOLUENE IS LESS TOXIC THEN BENZENE.
c. PEL for a ten hour TWA is 100 ppm.

3. XYLENE
a. Colorless, flammable liquid with aromatic odors.
b. high exposure levels may case dizziness, drowsiness, narcosis.
c. PEL for a ten hour TWA is 100 ppm.

4. ETHYLBENZENE

a. Clear, colorless, highly flammable liquid with characteristic odor.
b. High exposure levels may cause irritation to skin, nose and throat, dizziness, constriction in chest, loss of consciousness, respiratory failure.
c. PEL for an eight hour TWA is 100 ppm.

5. LEAD
(Lead Arsenate)

a. Odorless, colorless solid with properties that vary depending upon specific compounds.
b. High exposure levels may cause nausea, diarrhea, inflamed mucous membranes, abdominal pains, weakness. LEAD IS A SUSPECTED CARCINOGEN.
c. PEL for an eight hour TWA is .05 milligrams per cubic meter (airborne).

ALL SUBSTANCES AS THEY EXIST ON SITE ARE EXPECTED TO BE STABLE

Site Status: ACTIVE: XXX INACTIVE:

Site History: THE SITE IS CURRENTLY AN ABANDONED GAS STATION

PHYSICAL HAZARDS

Under no circumstances will anyone enter the excavation pit or climb on any excavated material piles. Personnel shall maintain the maximum distance possible from the pit while performing their activities. Other on-site hazards include physical injuries due to the proximity of workers to engine-driven heavy equipment and tools. Heavy equipment used during excavation may include a backhoe or other equipment as part of soil removal and subsequent backfilling operations. Only trained personnel will operate machines, tools and equipment; all will be kept clean and in good repair. Minimum safety apparel required around heavy equipment will include a hardhat and steel-toed boots. The parameter of the excavation may be shored and/or sloped to create acceptable stable walls for personnel entry if needed. ALL WORK WILL BE PERFORMED IN ACCORDANCE WITH OSHA GUIDELINES.

Inspections of the excavation, the adjacent areas, and protective systems are to be made by a qualified person while personnel are on site. Attention will be made to note if any evidence of potential cave-in exists.

HAVE AT LEAST ONE DRY CHEMICAL MODEL PA-200 A-B-C FIRE EXTINGUISHER PRESENT.

LEVEL OF PROTECTION

A Contamination Reduction Zone (CRZ) will be maintained and adjusted as work proceeds and moves around the site. The workers on site will wear level 'D' protective clothing. (This protection level may be upgraded after on-site conclusions of data are completed). THE LEVEL OF PROTECTION FOR PERSONNEL WORKING IN THE AREA WILL BE UPGRADED IF; the organic vapor levels in the operator's breathing zone exceeds 5 ppm above background levels continuously for more then five minutes. In this event, personnel protective equipment will include full face respirators with double-cartridge filters for organic vapors and particulates, in addition to hardhat, steel-toed boots and coveralls. Excavation will cease, equipment shutdown, and personnel will withdraw from the area if either 1.) the organic concentration in the operator's breathing zone exceeds 200 ppm for 5 minutes or 2.) the organic vapor concentration two feet above the excavation exceeds 2,000 ppm or 25% of the lower explosive limit. If work proceeds in an environment where organic vapor concentrations exceed 200 ppm, a self contained breathing apparatus or airline respirator will be utilized by the personnel.

Levels of Protective Clothing are defined on the following pages as described in the "EPA Standard Operating Safety Guidelines":

LEVEL A PROTECTION
Components:

1.) Pressure-demand, supplied air respirator that is MSHA and NIOSH approved. Respirators may be pressure demand, self contained breathing apparatus (SCBA), or pressure demand, airline respirator with an escape bottle for atmospheres with an extreme IDLH.

2.) Fully encapsulating chemical resistant suit.

3.) Inner, chemical resistant gloves.

4.) Disposable gloves and boot covers, worn over the fully encapsulating suit.

5.) 2-way radio communications is highly recommended.

LEVEL B PROTECTION
Components:

1.) Pressure-demand, supplied air respirator that is MSHA and NIOSH approved. Respirators may be pressure demand, self contained breathing apparatus (SCBA), or pressure demand, airline respirator with an escape bottle for atmospheres with an extreme IDLH.

2.) Chemical resistant clothing which includes overalls and long sleeved jacket or, hooded one or two piece chemical splash suit or disposable chemical resistant one piece suit..

3.) Outer chemical resistant gloves.

4.) Inner chemical resistant gloves.

5.) Chemical resistant, steel toed and shank boots.

6.) Disposable chemical resistant boot covers.

7.) Hardhat.

8.) 2-way radio communications is highly recommended.

LEVEL C PROTECTION
Components:

1.) Air purifying respirator, full face, with twin cartridge or cannister equipped filters, that are MSHA and NIOSH approved.

2.) Chemical resistant clothing which includes coveralls or, hooded one-piece or two-piece chemical splash suit or chemical resistant hood and apron; disposable chemical resistant coveralls.

3.) Outer chemical resistant gloves.

4.) Inner chemical resistant gloves.

5.) Chemical resistant, steel toed and shank boots.

6.) Disposable chemical resistant boot covers.

7.) Hardhat.

8.) 2-way radio communications is recommended.

LEVEL D PROTECTION
Components:

1.) Coveralls.

2.) Gloves.

3.) Leather boots, shoes or chemical resistant, with steel toe and shank.

4.) Safety glasses or chemical splash goggles.

5.) Hardhat or face shield.

COMBUSTIBLE GAS AND ORGANIC VAPOR MONITORING

Site personnel will monitor ambient levels of combustible gas vapors using a Thermo Environmental Instruments model 580A or a Gastech model GX-88 OVM. Volatile organic vapor levels greater then 5 ppm above background levels in the hot zone are not anticipated. If the OVM measurements do not decrease below 5 ppm, level 'C' protection will be required. The site Project Manager will be notified if organic vapor levels in the air samples exceed ambient concentrations.

A wetting agent or some form of dust control is recommended to reduce the airborne dust level and subsequent particulate hazard. HEPA respirator cartridges are also recommended as needed.

SITE ENTRY PROCEDURES

Any personnel entering the site will observe all conditions set forth by the owner of the property, including vehicle travel speeds, restricted areas and conduct. Eating, drinking, smoking and other practices which increase the probability of hand-to-mouth transfer of contamination is prohibited in the work zone. All field personnel will be instructed to thoroughly wash their hands and face upon leaving the work area for breaks or cessation of day's activities. A first aid kit and at least one 20 pound A-B-C fire extinguisher will be available at the site.

DECONTAMINATION PROCEDURES

If required, equipment and personnel decontamination areas will be designated by the Project manager at the start of the project. To prevent the transfer of contamination from the work site into clean areas, all tools will be cleaned adequately prior to final removal from the work zone. Protective clothing such as Tyvek coveralls, latex gloves, boot covers, etc. will be changed on a daily basis or at the discretion of the Project Manager on site. All disposable protective clothing will be put into plastic bags and disposed of in a proper manner. All respirator cartridges will be discarded and replaced with fresh units on a daily basis, disposal will be in the same manner as the protective clothing. Excavated soils will be stockpiled in an area designated by the Work Plan, until chemical analysis has been performed on representative samples.

In the event of a medical emergency, the injured party will be taken through decontamination procedures, if possible. However, the procedures may be omitted when it may aggravate or cause further harm to the injured party. member of the work team will accompany the injured party to the medical facility to advise on matters concerning chemical exposure. The injured person will not transport themself to a medical facility under any circumstance.

Personnel Protection Level will be Level 'D'. Protective clothing levels may be upgraded in the event that on site conclusions determine a greater then anticipated danger to personnel.

SPECIAL CONDITIONS

Site Entry: NORMAL, NO SPECIAL CONDITIONS

Personnel and Equipment Decontamination:
IF REQUIRED, PERSONNEL AND EQUIPMENT WILL BE DECONTAMINATED A PER USEPA STANDARD OPERATING SAFETY GUIDELINES A SMALLER MODIFIED DECONTAMINATION LINE MAY BE USED DUE TO SPACE RESTRICTIONS. Work Limitations (time, weather):

NONE ARE ANTICIPATED, HOWEVER, PERSONNEL WORKING ON SITE MAY EXPERIENCE ELEVATED TEMPERATURES DURING THE WORK DAY. IN THE EVENT THAT AMBIENT TEMPERATURES REACH OR EXCEED 80 DEGREES FAHRENHEIT, THE FOLLOWING GUIDELINES ARE RECOMMENDED.

1. Periods of work should be reduced to no less then one hour time frames and separated by breaks intended to reduce personnel stress due to reduced natural ventilation from wearing protective clothing.

2. All personnel wearing level C protective clothing or greater, will be subject to medical monitoring of body temperature after work periods, by the following guidelines;

a. Heart Rate (HR) should be measured by counting the radial pulse rate for 30 seconds and doubling count for the correct pulse rate. This should be done as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats per minute. If the HR is higher, the next work period should be shortened by 10 minutes, while the length of the rest period remains the same. If the HR is 100 beats per minute at the beginning of the next rest period, the following work period should be shortened by an additional 10 minutes.

b. Body temperatures should be measured orally with a clinical thermometer as soon as possible in each resting period. Oral Temperatures (OT) should not exceed 99 degrees Fahrenheit. If it does, the next work period should be reduced by 10 minutes while the length of the resting period remains the same. If the OT exceeds 99 degrees Fahrenheit at the beginning of the next work period, the following work period should be reduced by an additional 10 minutes. OT should be measured at the end of each rest period to ensure that the body's temperature has dropped below 99 degrees Fahrenheit.

Body Water Loss (BWL) from sweating, could result in dehydration and further complications and stress on personnel working in protective clothing under adverse weather conditions. It is strongly recommended that plenty of stress relief beverages be available on site to replace body fluids. Commercial drink mixes that provide electrolyte balancing solutions or water are adequate for replacing body fluids.

Alternate methods of heat stress reduction can be made available such as,

Portable showers or hose-down facilities,
Shelter cover to protect against direct sunlight,
Rotating teams of personnel wearing protective clothing,
Performing extremely arduous tasks early in the workday.

EMERGENCY INFORMATION

In the event of an injury or suspected chemical exposure, the first responsibility of the project Manager will be to prevent any further injury. This objective will normally require an immediate stop to work until the situation is remedied. The Project Manager may order the evacuation of the work party. Other primary responsibilities in the event of an accident will be the first aid and decontamination of the injured team member(s). The injured party will be moved to a designated safe area and initial first aid will be rendered.

Employees are asked to make every effort and take personnel responsibility to prevent accidents involving machinery or any other aspect of the job, either by individual action or by notifying the Project Manager immediately of any unsafe condition that may exist.

In the event of an unexpected hazardous material discovery on site, the following actions will be taken by any employee involved;

1. The person having uncovered the unexpected material will notify the Project Manager and other workers of the danger. The site will be cleared of personnel if deemed necessary by the Project Manager. If site evacuation is required, appropriate local agencies such as the Fire Department or Health Department will be notified as well.

2. Immediate action will be taken to contain the hazardous material, provided the workers involved are properly attired with adequate protective clothing to avoid exposure.

3. Proper containment procedures will be determined for the hazardous material encountered prior to cleanup commencing. All personnel involved in the containment effort will be properly protected to prevent exposure. Backup personnel will be similarly protected while monitoring the work being done for any additional dangers.

4. The container(s) will be staged on site, away from the major activity areas and in such a way that if loss of containment occurs, the material will be withheld from further spread by a secondary containment berm or vessel.

5. The owner or agent controller of the property will be notified promptly of the incident and will be apprised as to the options available for proper disposal.

ACUTE EXPOSURE SYMPTOMS AND FIRST AID

EXPOSURE ROUTE	SYMPTOMS	FIRST AID
Skin	Dermatitis, itching redness, swelling	Wash immediately with soap and water contact ambulance if evacuation is needed.
Eyes	Irritation, watering	Flush with water, transport directly to emergency room, if necessary.
Inhalation	Vertigo, tremors	Move person to fresh air, cover source of exposure.
Ingestion	Nausea, vomiting	Call Poison Control Center, DO NOT INDUCE VOMITING, transport to medical facility.

Local Resources:
HEALTH AND SAFETY CONTACT FOR ASE:

Diane Sobrero
Office: (800) 678-9391

Ambulance
Police : 911
Fire

POISON CONTROL: SF (415) 476-6600
SJ (800) 798-0720

Emergency Route to nearest Medical Facility:

Exit site Northwest on Santa Clara Ave.
LEFT on Willow Street
RIGHT into ALAMEDA Hospital

HOSPITAL IS ON THE CORNER OF CLINTON AVE. & WILLOW AVE.

Hospital: - ALAMEDA HOSPITAL
2070 Clinton Avenue in Alameda

522-3700

AQUA SCIENCE ENGINEERS

signature page for the

Helen Goodman Jobsite

The below signed personnel have read this plan, understand it's content, and agree to follow the guidelines set forth.

Name (print)	Project Assignment	Signature	Date
STEVE DeHope	project manager		8-13-92
STEVE LaBARE	OPERATOR		8-13-92
John J Sabia	operator		8-13-92

State of California

Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code
and the Rules and Regulations of the Contractors State License Board,
the Registrar of Contractors does hereby issue this license to:

AQUA SCIENCE ENGINEERS INC

to engage in the business or act in the capacity of a contractor
in the following classification(s):

A - General Engineering Contractor

DEPARTMENT OF
Consumer Affairs

Witness my hand and seal this day,

January 3, 1991

Issued December 14, 1990

Signature of Licensee

Registrar of Contractors

Signature of License Qualifier

This license is the property of the Registrar of Contractors, is not transferrable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason. It becomes void if not renewed.

608062
License Number

131-24 (REV 1-89)

№ 279807

5 768 6833

ACORD CERTIFICATE OF INSURANCE

ISSUE DATE 06/18/92

PRODUCER
CAL-BAY INSURANCE SERVICES
103 Town & Country Drive
Suite M
Danville, Calif. 94526

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A	Commercial Indemnity Assurance
COMPANY LETTER B	West American Insurance Co.
COMPANY LETTER C	
COMPANY LETTER D	
COMPANY LETTER E	

INSURED
Aqua Science Engineers, Inc
1041 Shary Circle
Concord, CA
94518

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFF. DATE	POLICY EXP. DATE	LIMITS	
A	GENERAL LIABILITY [X] Commercial General Liability [ ] Claims Made [X] Occur. Owner's & Contractor's Prot.	[illegible] 696[illegible]	06/01/92	06/01/93	GENERAL AGGREGATE	$ 1,000,000
					PRODUCTS-COMP/OP AGGREGATE	$ 1,000,000
					PERSONAL & ADV. INJURY	$ 1,000,000
					EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any one fire)	$ 50,000
					MED. EXPENSE (Any one person)	$ 1,000
	AUTOMOBILE LIABILITY [ ] Any Auto [ ] All Owned Autos [ ] Scheduled Autos [ ] Hired Autos [ ] Non-Owned Autos [ ] Garage Liability				COMBINED SINGLE LIMIT	$
					BODILY INJURY (Per person)	$
					BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	EXCESS LIABILITY [ ] UMBRELLA FORM [ ] Other Than Umbrella Form				EACH OCCURRENCE	$
					AGGREGATE	$
B	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY	XWW 53 43 96 08	08/01/91	08/01/92	[X] STATUTORY LIMITS	
					EACH ACCIDENT	$ 1,000,000
					DISEASE-POLICY LIMIT	$ 1,000,000
					DISEASE-EACH EMPLOYEE	$ 1,000,000
	OTHER					

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

Contractors License Number 48700[illegible]

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

X X X X X X X X X X

ACORD 25-S (7/90)

STATE OF CALIFORNIA
STATE AND CONSUMER SERVICES AGENCY CONTRACTORS STATE LICENSE BOARD

Consumer Affairs

Building Quality

HAZARDOUS SUBSTANCES REMOVAL AND REMEDIAL ACTIONS CERTIFICATION

Pursuant to the provisions of Section 7058.7 of the Business and Professions Code, the Registrar of Contractors does hereby certify that the following qualifying person has successfully completed the hazardous substances removal and remedial actions examination.

DEPARTMENT OF CONSUMER AFFAIRS
REGISTRAR OF CONTRACTORS
STATE OF CALIFORNIA

Qualifier: DAVID MARK SCHULTZ

License No: 487000

Business Name: AGUA SCIENCE ENGINEERS, INC.

WITNESS *my hand and official seal the* 13th *day of* MARCH, 1992

David R Phillips
Registrar of Contractors

The certification is the property of the Registrar of Contractors, is not transferable and shall be returned to the Registrar on demand when suspended, revoked or invalidated for any reason

A 4750

CONTRACTORS STATE LICENSE BOARD

License Number: 487000
Entity: CORP
Name/Name Style: AGUA SCIENCE ENGINEERS INC
Classification(s): A C57 HAZ
Expiration Date: 02/28/94

APPENDIX B

Initial Phase II Site Assessment and Related Activities

B-1 Phase II Report of Methods and Findings (dated 11/6/92)

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714/833-3667 • Fax 714/833-3468

November 6, 1992

PROJECT REPORT
for
PHASE II SOIL AND GROUNDWATER ASSESSMENT, NO. 2580
at
The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Prepared for:
Ms. Helen Goodman
3239 Thompson Avenue
Alameda, California 94501

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-93
CIVIL
STATE OF CALIFORNIA

EXECUTIVE SUMMARY

A limited groundwater and subsurface site investigation was conducted at The Goodman Property, 2501 Santa Clara Avenue, Alameda, California as follow up to underground storage tank removals conducted in August 1992 by Aqua Science Engineers, Inc. (ASE). The site assessment activities were initiated by the property owner in accordance with the Alameda County Health Care Services Agency (ACHCSA) requirements (see Appendix A for a copy of the "Direction Letter"). The purpose of this site assessment was to: (1) further define the limits of elevated concentrations of petroleum hydrocarbon and waste-oil contamination which was found in the soil upon excavation of the former underground storage tanks, and (2) to assess the potential for groundwater contamination caused by the leaking tanks or associated product lines. Prior to commencement of field activities, the work plan was approved by the ACHCSA, and well permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7 (see Appendix E for copies of the permit).

The project included the installation of three (3) groundwater monitoring wells and one (1) soil boring (see Figure 2, Site Plan). Soil samples were collected at five foot intervals until saturated material was encountered. Groundwater samples were collected once well installation and well development activities were concluded. Both the soil and groundwater samples were tested at a State of California Certified Laboratory for all or a combination of the following constituents:

Total Petroleum Hydrocarbons as Gasoline (TPH-G) (EPA 5030/8015)
Total Petroleum Hydrocarbons as Diesel (TPH-D) (EPA 3510/8015)
BTEX (EPA 8020)
Purgeable Halocarbons (EPA 8010)
Oil & Grease (EPA 5520)

The above-referenced analytical tests resulted in detectable levels of constituents in both the soil and groundwater samples submitted. Soil samples submitted for analytical testing for the above-referenced constituents resulted primarily in minor to moderate levels of TPH-G, and BTEX contamination in MW-2 and MW-3. Soil samples from the soil boring SB-1 also resulted in moderate levels of TPH-G, and BTEX contamination. Monitoring well MW-1 showed no detectable levels of constituents in the groundwater; however, minor levels of oil and grease were detected in the soil. Groundwater has been impacted at the site, but the levels of contamination are fairly low. Soil contamination still exists on site in the areas near the former gasoline underground tanks.

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1.0 INTRODUCTION

The following is a report on the further soil investigation and initial groundwater assessment conducted at the Goodman Property, 2501 Santa Clara Avenue, Alameda, California. The site investigation/assessment was initiated by Ms. Helen Goodman, the current property owner, in accordance with the Alameda County Health Care Services Agency (ACHCSA) requirements (see the "Direction Letter" dated October 6, 1992 enclosed in Appendix A). This report is intended as a supplement to the "Tank Pull" report performed by Aqua Science Engineers, Inc. (ASE) dated September 15, 1992. The afore-mentioned report details the removal of two (2) 5,000 gallon, underground, steel, gasoline, storage tanks, one (1) 6,000 gallon, underground, steel, gasoline storage tank, and one (1) 250 gallon, underground, steel, waste-oil storage tank and subsequent excavation of petroleum-contamination impacted soil. The purpose of this investigation was to define the direction and gradient of groundwater flow, and to investigate the possible existence and extent of soil and groundwater contamination resulting from the leakage of the underground storage tanks.

2.0 SITE BACKGROUND

2.1 Physical Location Surface Condition

The subject site is located on the east side of Santa Clara Avenue at Everett Street. The site is approximately 1 mile west of interstate 880 and approximately 1 mile east of the San Francisco Bay, within the city limits of Alameda, CA. The site currently contains a building and canopy for a former gasoline station/tire repair shop. The site has been abandoned for several years. The site is primarily covered with asphalt except for the former pump islands and building foundation which are concrete. The topography of the immediate area is generally even and located at approximately 25 feet above mean sea level (AMSL). (See Figure 1: Site Location Map).

2.2 General Geology Hydrogeology

The site rests on unconsolidated sediments primarily composed of sand with some silt (SM). The eastern shoreline of the San Francisco Bay is located approximately one mile west of the site. Shallow groundwater in the area is located approximately 10 feet below grade at the site, and is assumed to be manipulated by tidal fluctuations.

2.3 Review of Preliminary Soil Assessment

In August of 1992 when the four (4) underground storage tanks (UST) were removed, soil samples were collected from below each of the tanks and from sidewalls of the excavation when appropriate. Chemical analytical testing of the soil samples indicated petroleum hydrocarbon contamination in the immediate vicinity of the former UST's. Detectable levels of Total Petroleum Hydrocarbons (TPH) as Gasoline and the fractions BTEX were identified regarding the former gasoline UST's. Detectable levels of TPH as Diesel and Oil & Grease were identified regarding the former waste-oil UST. Overexcavation activities were conducted on the former waste-oil UST excavation. Sampling and analysis after overexcavation activities resulted in Non-Detectable (N.D.) levels of TPH as Gas, Diesel, BTEX, and Oil & Grease.

3.0 SCOPE OF WORK

What follows is the report covering the methods and findings regarding the initial groundwater assessment and additional soil investigation as outlined in the October 1, 1992 workplan.

The scope of work performed for the initial groundwater investigation and further limited soil assessment, included the following tasks:

- Installation of three 25 foot depth groundwater monitoring wells and one hand-augered soil boring.
- Collection of soil samples at five foot intervals during drilling of the wells and within the capillary fringe.
- Surveying of the monitoring wells.
- Collection of groundwater depth measurements from the wells to determine the direction of groundwater flow and gradient at the site.
- Collection of groundwater samples from the wells.
- Chemical analysis of soil and groundwater samples for TPH as Gas and Diesel and the fractions BTEX, Purgeable Halocarbons, and Oil & Grease.

4.0 DRILLING AND GROUNDWATER WELL CONSTRUCTION

A total of three wells were installed at the site on October 20, 1992. The locations of the ground water monitoring wells are indicated on Figure 2, Site Plan. The soil borings for well installation were drilled to 25 feet below ground surface using a Mobil B-61 drill rig equipped with 7 3/4 inch O.D. continuous flight, hollow stem augers. All drilling equipment was steam cleaned before use and between borings. Water saturated soil was first encountered at approximately 10 feet in all borings.

Two-inch diameter schedule-40 PVC well casing with 0.020-inch slots was installed from 25 feet to 5 feet below the surface in each boring. Two-inch diameter schedule-40 PVC blank casing was installed above the slotted casing, to the surface. The well casings were capped on the bottom with a two-inch threaded female plug and on top with a two inch locking security plug. The annular space of the wells was packed with No. 3 Monterey sand from the bottom of the borings to 3.5 feet below the surface. 1.5 feet of bentonite clay was placed above the sand packs. Class "H" Portland Cement was placed above the bentonite seals, to the surface. The well heads were secured with concrete vaulted, water-tight, locking steel street boxes. Well construction details are provided in Appendix B.

The ground water wells were developed on October 21, 1992 using a 2-inch PVC bailer. The wells were initially surged to correct any sand pack bridging which may have occurred, and to remove any "fines" from the sand pack. Approximately 50 gallons of water was bailed from the wells and placed in 55-gallon 17H steel drums for temporary on-site storage.

5.0 SOIL SAMPLE COLLECTION AND CHEMICAL ANALYSIS

Soil samples were collected in groundwater monitoring well MW-1 at 5, and 10 feet. Soil samples from monitoring well MW-2 were collected at 5 and 10 feet. Soil samples were collected from monitoring well MW-3 at 5 and 11 feet. Soil samples were collected from soil boring SB-1 at 9.5 feet. The monitoring well soil samples were collected using a two-inch I.D. California split-spoon sampler holding three pre-cleaned two-inch O.D. by six-inch length sample tubes. The tube nearest the shoe from each sample interval was secured with double thickness aluminum foil, plastic end caps, and tape, then immediately placed in an ice chest containing "blue" ice for cold storage. The next sample tube nearest the shoe was emptied into a zip-loc plastic storage bag and placed in sunlight, to enhance the volatilization of organic carbon from the soil matrix. After approximately 1/2 hour, the sample was screened in the field with a "Gastechtor Super Surveyor" model no. 1314. The Gastechtor is equipped with a combustible gas sensor calibrated with hexane. Needle deflections in ppm were recorded and are included on the soil boring logs, which are provided in Appendix B of this report.

The soil samples were submitted to Priority Environmental Laboratory located in Milpitas, California for definitive chemical analysis. The submitted soil samples were analyzed as follows:

MW-1	TPH as Gasoline (EPA 5030/8015) TPH as Diesel (EPA 3550/8015) BTEX (EPA 8020) Oil and Grease (EPA 5520 D&F) Purgeable Halocarbons (EPA 8010)
MW-2 & MW-3	TPH as Gasoline (EPA 5030/8015) BTEX (EPA 8020)
SB-1	TPH as Gasoline (EPA 5030/8015) BTEX (EPA 8020)

Priority Environmental Laboratory is CSDHS certified for the chemical analyses preformed for this investigation. The chemical analyses provided by Priority Environmental Laboratory regarding soil samples are provided below as Tables 1 & 2. Copies of the laboratory analytical reports and sample chain-of-custody documents are provided in Appendix C.

TABLE 1
Summary of Chemical Analysis of SOIL Samples
TPH Gasoline and Diesel, BTEX, and Oil and Grease

Sample I.D.	TPH Gasoline (ppm)	TPH Diesel (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil & Grease (ppm)
MW1-5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	51
MW1-10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW2-5'	2500	---	1200	1800	2300	6500	---
MW2-10'	1.2	---	6.8	10	10	39	---
MW3-5'	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
MW3-11'	2.5	---	7.1	6.3	25	45	---
SB1-9.5'	740	---	860	1200	1500	4000	
EPA METHOD	5030/ 8015	3550/ 8015	8020	8020	8020	8020	5520 C&F

ND Non Detectable at analytical method limits
ppm parts per million
ppb parts per billion
--- not analyzed

TABLE 2
Summary of Chemical Analysis of SOIL Samples
Purgeable Halocarbons

Sample I.D.	ALL 8010 CONSTITUENTS (ppb)
MW1-5'	N.D.
MW1-10'	N.D.
EPA METHOD	8010

ND Non Detectable at analytical method limits
ppb parts per billion

6.0 GROUND WATER SAMPLE COLLECTION AND ANALYSIS

Ground water measurements and identification of any "free-product" were collected before any water was purged from the wells. No free product was identified, however in MW-2 a petroleum odor was recognized, see Appendix F, Well Sampling Field Logs for sampling criteria. Ground water samples were collected from each of the three groundwater monitoring wells on October 26, 1992, after removal of approximately five well volumes of water and 90% well recharge. The wells were purged using a 2-inch PVC bailer. The well purge water was placed in 55-gallon steel 17H drums, labeled, and left on site for storage. The samples were collected using disposable, sterile, polyethylene, single check valve bailers. The samples were placed in pre-cleaned, sterile, 40 ml. glass VOA and one liter vials, then immediately placed in an ice chest for cold storage. They were later transported to Priority Environmental Laboratory in Milpitas, California using proper Chain-of-Custody procedures, for chemical analysis. The analytical results and chain-of-custody documents are included in Appendix D.

The groundwater samples collected for this project were analyzed as follows:

MW-1	TPH as Gasoline (EPA 5030/8015) TPH as Diesel (EPA 3510/8015) BTEX (EPA 602) Oil and Grease (EPA 5520 C&F) Purgeable Halocarbons (EPA 601) pH (EPA 9045) Conductivity (EPA 120.1)
MW-2 & MW-3	TPH as Gasoline (EPA 5030/8015) BTEX (EPA 8020) pH (EPA 9045) Conductivity (EPA 120.1)

The chemical analyses provided by Priority Environmental Laboratory regarding groundwater samples are provided below as Tables 3, 4, & 5. Copies of the laboratory analytical reports and sample chain-of-custody documents are provided in Appendix D.

TABLE 3
Summary of Chemical Analysis of WATER Samples
TPH as Gasoline and Diesel, BTEX, and Oil & Grease

Sample I.D.	TPH Gasoline (ppb)	TPH Diesel (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil & Grease (ppm)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	32000	---	76	100	77	220	---
MW-3	320	---	2.2	1.7	1.3	9.5	---
EPA METHOD	5030/ 8015	3510/ 8015	602	602	602	602	5520 C&F

ND Non Detectable at analytical method limits
ppb parts per billion
--- Not Analyzed

TABLE 4
Summary of Chemical Analysis of Water Samples
Purgeable Halocarbons

Sample I.D.	ALL 8010 CONSTITUENTS (ppb)
MW-1	N.D.
EPA METHOD	8010

ND Non Detectable at analytical method limits
ppb parts per billion

TABLE 5
Summary of Chemical Analysis of Water Samples
pH and Conductivity

Sample I.D.	pH	Conductivity (uS)
MW-1	6.9	620
MW-2	6.7	660
MW-3	6.7	670
EPA METHOD	9045	120.1

7.0 GEOLOGY AND GROUNDWATER GRADIENT

The native soil types encountered while drilling were primarily composed of sand with slight silt (SM) from below the asphalt base to the bottom of the hole in all boring locations. Water saturated soil was first encountered during drilling at approximately 10 feet in all monitoring wells. A graphical description of the soil types are provided on the well construction logs (see Appendix B).

The elevations of the tops of the well casings were surveyed relative to mean sea level (MSL) on October 26, 1992. The depths to groundwater were measured in each well on the day of the survey using a water level sounder (Solinst). Two measurements were taken in each well to confirm groundwater depth. The depth to water and the top of casing survey data were used to calculate a groundwater flow direction and gradient. A summary of the elevation data is provided below in Table 6.

TABLE 6
Summary of Groundwater Well Survey Data

Well Number	Depth to Water	Top of Casing Elevation	Groundwater Elevation
MW-1	8.40 ft.	24.46 ft. AMSL	16.06 ft. AMSL
MW-2	8.60 ft.	24.42 ft. AMSL	15.82 ft. AMSL
MW-3	9.65 ft.	25.00 ft. AMSL	15.35 ft. AMSL

A three-point problem was solved for well combinations MW-1, MW-2 and MW-3. A graphic representation of the three-point problem indicating groundwater flow direction and gradient is presented in the Groundwater Gradient Map, Figure 3. The current direction of groundwater flow is east at a gradient of 0.008 ft/ft.

8.0 CONCLUSIONS

Based on the results of the chemical analyses, and supplemental investigative work, it is the opinion of Aqua Science Engineers, Inc. that the following conditions are present at the subject site:

1) TPH as Gasoline has impacted the groundwater at the subject site; however, the levels of contamination detected in the groundwater are fairly low (32 ppm in MW-2, and 0.32 ppm in MW-3).

2) Soils testing relative to MW-2 and MW-3 did result in detectable levels of TPH as Gasoline, MW-2 having the highest concentrations (2500 ppm at 5'). The source of this shallow soil contamination (MW-2 at 5') could quite possibly be from previous leaking product lines extending from the tanks to the pump islands. Or perhaps, since the tanks were not retrofitted with overspill protection, the contamination could be caused by spills/overfills when the underground tanks were being filled many years ago.

3) Groundwater analysis results relative to MW-1 show no significant levels of contamination by either petroleum hydrocarbons or oil and grease. Soils testing at the 5 foot depth did result in detectable levels of oil and grease; however, the level was fairly low (51 ppm).

4) The soil boring SB-1 was sampled at a depth of 9.5'. Analytical testing results indicated detectable levels of TPH as Gasoline (740 ppm). This is probably the result of leak from either the pump island piping or a hole found in the 5,000 gallon tank at the west end of the excavation.

5) Groundwater on site has not been significantly impacted due to the leaking of former tanks and/or associated piping. Soil contamination is still present in several localized areas (under pump islands and near MW-2).

9.0 RECOMMENDATIONS

Aqua Science Engineers recommends the monitoring wells be sampled and analyzed on a quarterly basis for a period of one (1) year. After the first year, a review of the quarterly reports will dictate further groundwater action, if necessary. Groundwater samples should be analyzed for TPH as Gasoline and Diesel, BTEX, Oil & Grease, and Purgeable Halocarbons where appropriate.

As for the petroleum impacted soils on site, Aqua Science engineers recommends overexcavation of the suspect areas. Samples should be taken once the assumed extent of contamination is removed. This task will require the demolition of the on-site canopy and the removal of the existing pump islands. Soil samples should be sampled for TPH as Gasoline, and the fractions BTEX.

10.0 REPORT LIMITATIONS

The results of this investigation represent conditions at the time and specific location at which soil and groundwater samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the underground storage tanks at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

Attachments: Figures 1, 2 & 3
Appendices A-F

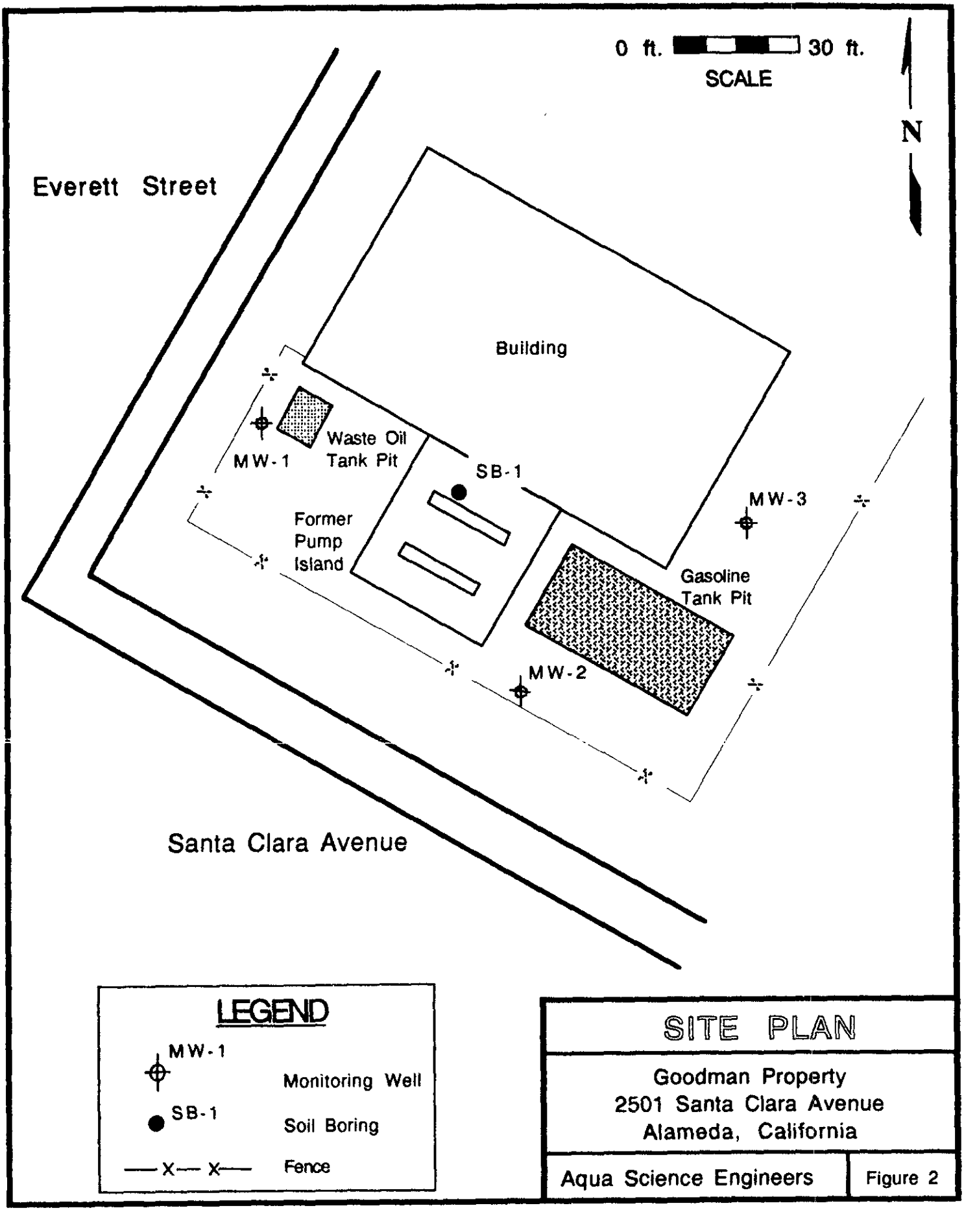
cc: Ms. Juliet Shin, Alameda County Health Care Services Agency
Mr. Rich Hiett, RWQCB, San Francisco Bay Region

SITE LOCATION MAP

Goodman Property
2501 Santa Clara Avenue
Alameda, California

BASE Oakland East and Oakland West 7.5 minute quadrangle topographic map, dated 1980 (scale 1:24,000)

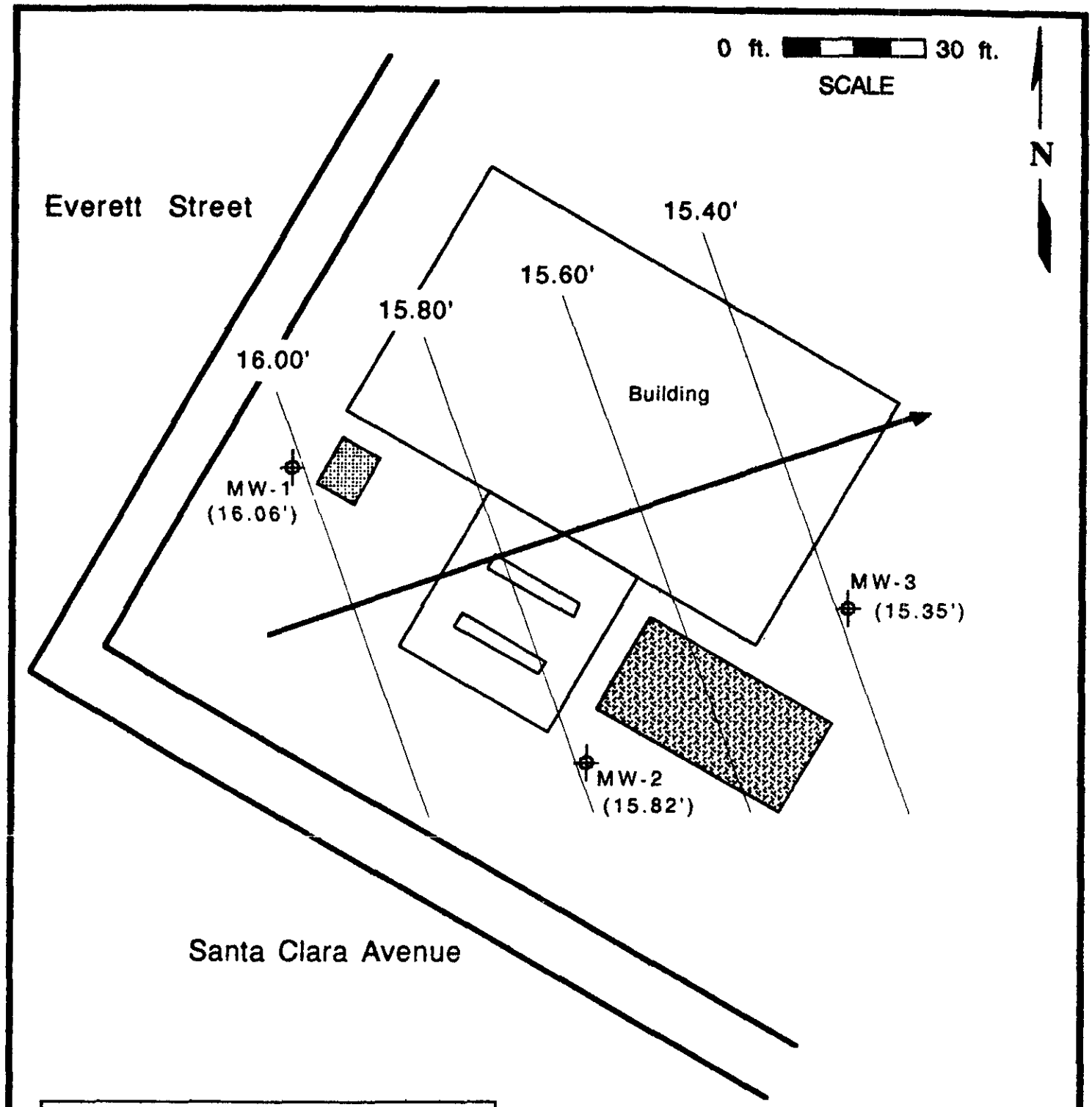
Aqua Science Engineers | Figure 1



SITE PLAN

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 2



LEGEND

MW-1
(16.06')
Monitoring Well with groundwater depth in feet above mean sea level

Groundwater Gradient direction

GROUNDWATER GRADIENT MAP
10/26/92

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 3

APPENDIX A

Alameda County Health Care Services Agency
"Direction Letter"

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

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

October 6, 1992

Helen Goodman
Goodman Property
3239 Thompson Ave.
Alameda, CA 94501

STID 2063

RE: The site located at 2501 Santa Clara Avenue, Alameda, California

Dear Ms. Goodman,

This office has received and reviewed the work plan, dated October 1, 1992, for the above site. The work plan is acceptable to this office with the following changes/additions:

1) In addition to the analysis for Oil and Grease (EPA Method 5520 E & F) and purgeable halocarbons (EPA Method 8010), the ground water samples collected from MW-1, the monitoring well closest to the former waste-oil tank, must be analyzed for gasoline, diesel, and BTEX using acceptable methods, such as EPA Methods 8015 and 8020. EPA Method 418.1 is not acceptable because it does not distinguish which hydrocarbons are identified;

2) In addition to soil samples being collected at depth intervals of 5 feet and at the soil/ground water interface, soil samples should also be collected from changes in lithology. A minimum of one soil sample is required to be analyzed from each boring; and

3) Monitoring wells need to be screened adequately above and below the water table in order to account for seasonal fluctuations of the ground water.

Additionally, during the removal of the gasoline underground storage tanks, up to 7,200 ppm of Total Petroleum Hydrocarbons as gasoline was identified from the north and south walls of the excavation. You are required to determine the extent of soil contamination at the site, and eventually remediate this soil.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

Juliet Shin
Hazardous Materials Specialist

cc: Richard Hiett, RWQCB

Robert La Grone, Alameda Fire Dept.

David Allen
Aqua Science Engineers, Inc.
P.O. Box 535
San Ramon, CA 94583

Edgar Howell-File(JS)

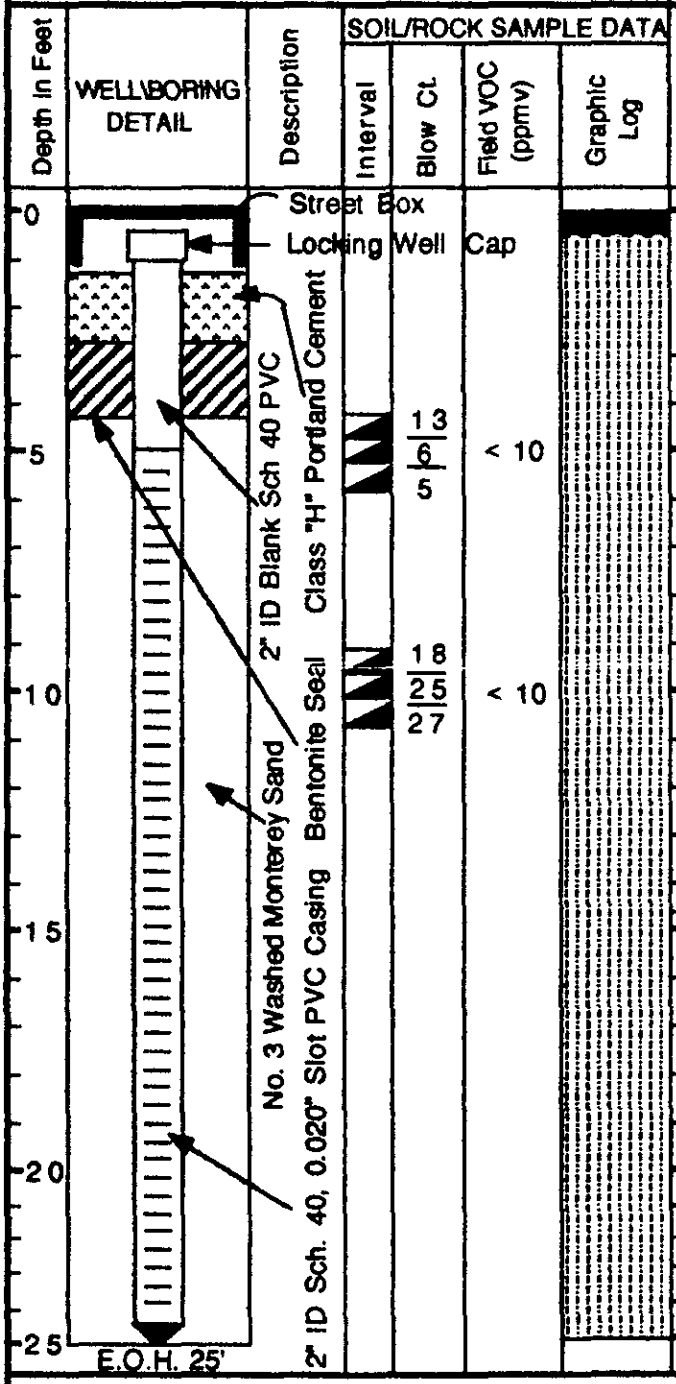
APPENDIX B

Soil Boring Logs and Well Logs

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS		WELL NO. MW1
Project Name: Goodman	Project Location: 2501 Santa Clara Ave., Alameda	Page 1 of 1
Driller: WEST HAZMAT	Type of Rig: Mobil B-61	Type and Size of Auger: 7-3/4 O.D. Hollow / 3-1/4 I.D. Stem
Logged By: DS	Date Drilled: 10/20/92	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: ~ 10'	Total Depth of Well Completed: 25.0'
Static Depth of Water in Well: 8.4' Below T.O.C.	Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC
Total Depth of Boring: 25'	Well Screen Slot Size: 0.020"
	Type and Size of Soil Sampler: 2" I.D., Calif. Split-Spoon



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

And	With	Some	Trace
(40-50%)	(40-25%)	(25-10%)	(10-0%)

Approximately 5" of Asphalt

From 1/2 to 5 feet medium brown Sand with some Silt (SM), dry, no odor.

Static Water Level = 8.4'

Medium brown Sand with some Silt (SM), moist, no odor.

Medium brown Sand with some Silt (SM), moist, no odor.

SAME AS ABOVE

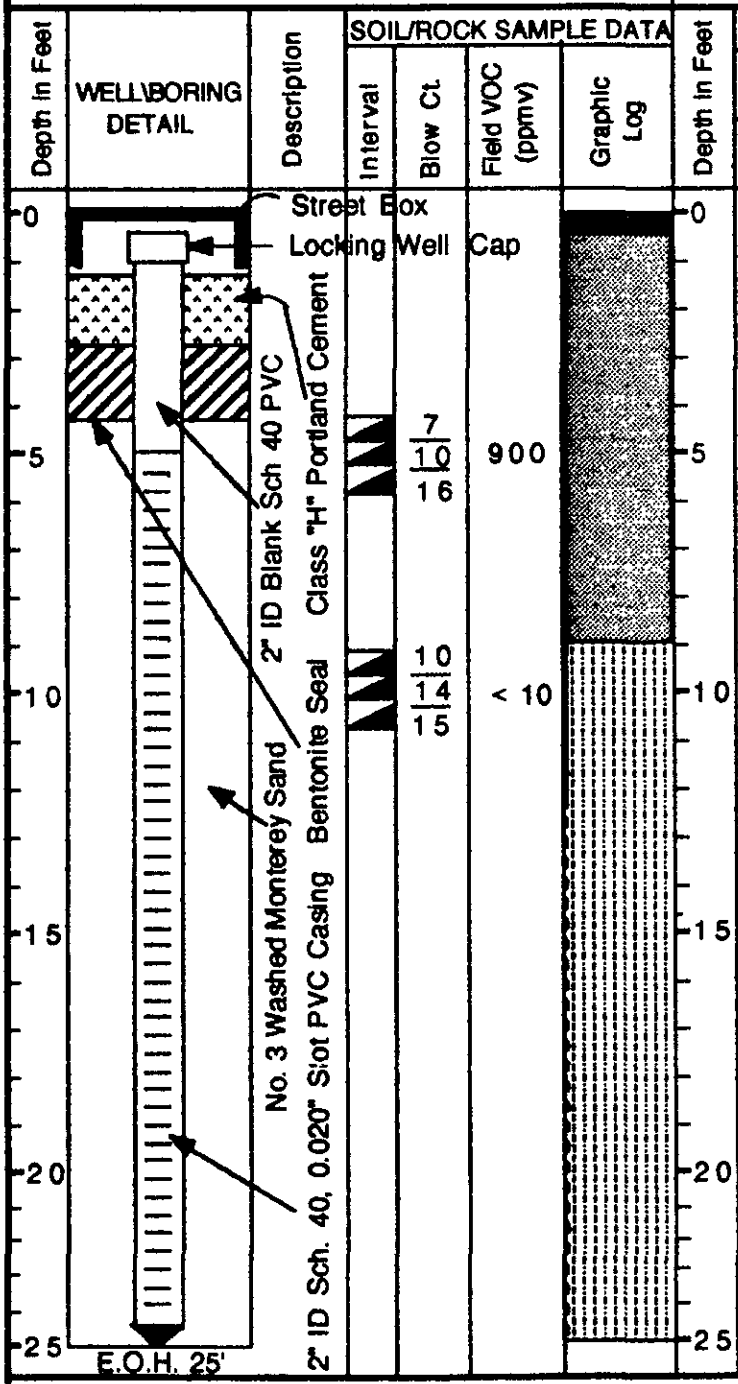
SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS

WELL NO. MW2

Project Name: Goodman	Project Location: 2501 Santa Clara Ave., Alameda	Page 1 of 1
Driller: WEST HAZMAT	Type of Rig: Mobil B-61	Type and Size of Auger: 7-3/4 O.D. Hollow Stem / 3-1/4 I.D.
Logged By: DS	Date Drilled: 10/20/92	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

- Depth of Water First Encountered: ~ 10'
- Static Depth of Water in Well: 8.6' Below T.O.C.
- Total Depth of Boring: 25'
- Total Depth of Well Completed: 25.0'
- Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC
- Well Screen Slot Size: 0.020"
- Type and Size of Soil Sampler: 2" I.D., Calif. Split-Spoon



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

And (40-50%) With (40-25%) Some (25-10%) Trace (10-0%)

Approximately 5" of Asphalt

From 1/2 to 2 feet dark brown Sand (SP) dry, moderate petroleum odor.

From 2 to 9 feet gray-brown Sand (SP) dry, moderate petroleum odor.

Static Water Level = 8.6'

Gray-brown Sand with trace Silt (SM), small brown patches, moist, trace petroleum odor.

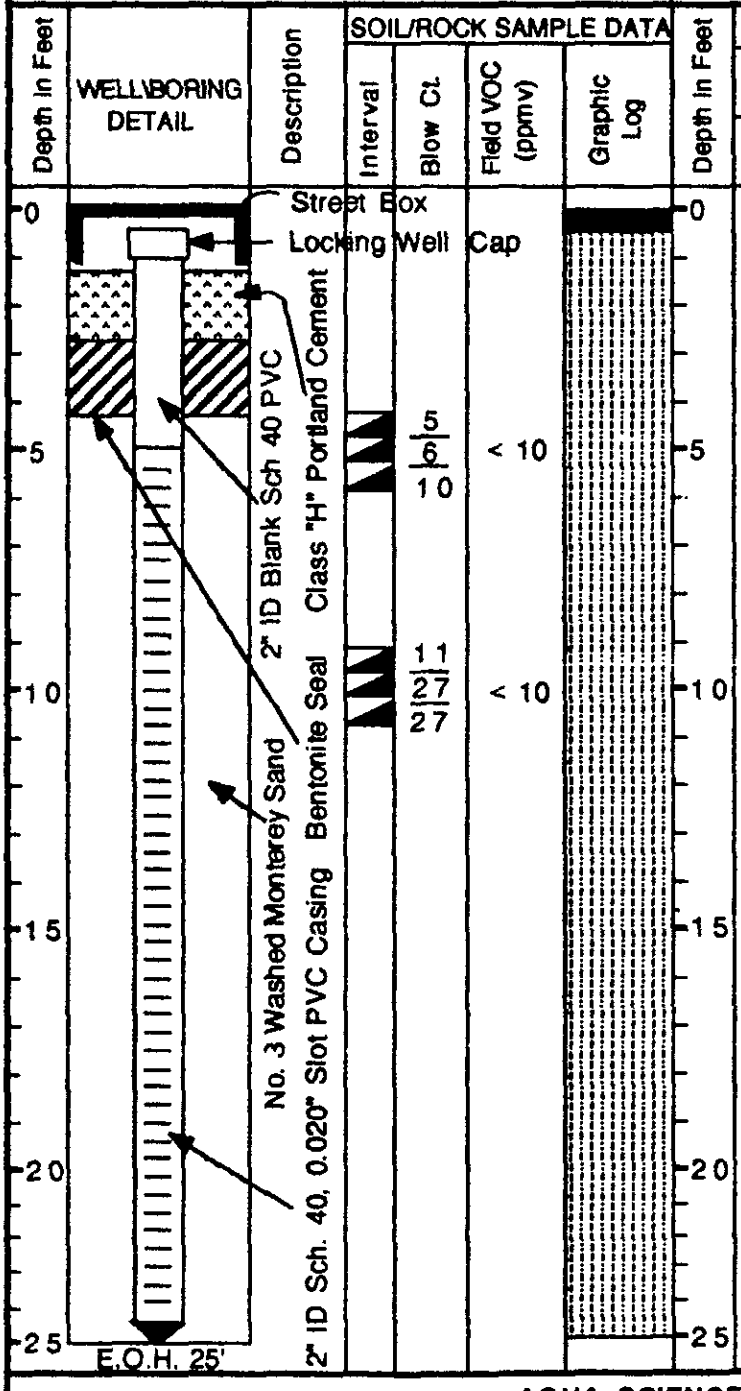
Gray-brown Sand with trace Silt (SM) moist to wet, trace petroleum odor.

SAME AS ABOVE

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS		WELL NO. MW3
Project Name: Goodman	Project Location: 2501 Santa Clara Ave., Alameda	Page 1 of 1
Driller: WEST HAZMAT	Type of Rig: Mobil B-61	Type and Size of Auger: 7-3/4 O.D. / 3-1/4 I.D. Hollow Stem
Logged By: DS	Date Drilled: 10/20/92	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: ~ 10'	Total Depth of Well Completed: 25.0'
Static Depth of Water in Well: 9.65' Below T.O.C.	Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC
Total Depth of Boring: 25'	Well Screen Slot Size: 0.020"
	Type and Size of Soil Sampler: 2" I.D., Calif. Split-Spoon



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

And (40-50%)	With (40-25%)	Some (25-10%)	Trace (10-0%)

Approximately 5" of Asphalt

From 1/2 to 2 feet dark brown Sand with some Silt (SM), slightly moist, no odor.

Medium brown, slightly moist Sand with some Silt (SM), no odor

Static Water Level = 9.65'

Light gray Sand with some Silt (SM) moist to wet, slight petroleum odor.

SAME AS ABOVE

AQUA SCIENCE ENGINEERS, INC.

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS		BORING NO. SB1
Project Name: Goodman	Project Location: 2501 Santa Clara Ave., Alameda	Page 1 of 1
Driller: DA	Type of Rig: Hand Auger	Type and Size of Auger:
Logged By: DS	Date Drilled: 10/20/92	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA	
Depth of Water First Encountered: N/A	Total Depth of Well Completed: N/A
Static Depth of Water in Well: N/A	Well Screen Type and Diameter: N/A
Total Depth of Boring: 10'	Well Screen Slot Size: N/A
	Type and Size of Soil Sampler: N/A

Depth in Feet	WELL/BORING DETAIL	Description	SOIL/ROCK SAMPLE DATA: Interval	Blow Ct.	Field VOC (ppmv)	Graphic Log	Depth in Feet	DESCRIPTION OF LITHOLOGY: standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation. And (40-50%) / With (40-25%) / Some (25-10%) / Trace (10-0%)
0							0	Medium brown, slightly moist Sand with some Silt (SM), no odor.
5							5	
10							10	Light gray Sand with some Silt (SM) moist, moderate petroleum odor. E.O.H. 10'
15							15	
20							20	
25							25	

APPENDIX C

California EPA Certified Laboratory
Report of Soil Samples

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 23, 1992 PEL # 9210041

AQUA SCIENCE ENGINEERS, INC.

Attn: David Allen
Re: Seven soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Goodman Property
Project location: 2501 Santa Clara Ave., -Alameda
Project number: 2580

Date sampled: Oct 20, 1992
Date extracted: Oct 21-22, 1992
Date submitted: Oct 21, 1992
Date analyzed: Oct 21-22, 1992

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Oil & Grease (mg/Kg)
MW-1-5'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	51
MW-1-10'	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2-5'	2500	---	1200	1800	2300	6500	---
MW-2-10'	1.2	---	6.8	10	10	39	---
MW-3-5'	N.D.	---	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3-11'	2.5	---	7.1	6.3	25	45	---
SB 1-9.5'	740	---	860	1200	1500	4000	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	92.0%	97.1%	94.5%	92.3%	98.9%	92.5%	---
Duplicate Spiked Recovery	83.4%	86.3%	100.1%	98.8%	103.2%	99.6%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030 / 8015	3550 / 8015	8020	8020	8020	8020	5520 D & F

David Duong
Laboratory Director

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 23, 1992 PEL # 9210041

AQUA SCIENCE ENGINEERS, INC. Attn: David Allen
Project name: Goodman Property Project location:2501 Santa Clara Ave.Alameda
Project number: 2580

Sample I.D.: MW 1-5'

Date Sampled: Oct 20, 1992 Date Submitted: Oct 21, 1992
Date Analyzed: Oct 21-22, 1992

Method of Analysis: EPA 8010 Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	91.4
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	87.6
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	90.2
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	103.8
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	88.5
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Harbor Court Milpitas CA 95035 Tel: [illegible] Fax: [illegible]

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 23, 1992 PEL # 9210041

AQUA SCIENCE ENGINEERS, INC.
Project name: Goodman Property

Attn: David Allen
Project location:2501 Santa Clara Ave.Alameda
Project number: 2580

Sample I.D.: MW 1-10'

Date Sampled: Oct 20, 1992
Date Analyzed: Oct 21-22, 1992

Date Submitted: Oct 21, 1992

Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	91.4
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	87.6
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	90.2
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	103.8
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	88.5
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 [illegible] Court Milpitas CA 95035 Tel [illegible] Fax [illegible]

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of

PEL # 9210041

INV # 23141

DATE 10/20/92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.)
820-9391

PROJECT NAME GOODMAN PROPERTY NO. 2580

ADDRESS 2501 SANTA CLARA AVE, ALAMEDA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 B&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY					
MW1-5'	10/20	11 a m	Soil	1		X	X		X			X										
MW1-10'	10/20	11 a m	Soil	1		X	X		X			X										
MW2-5'	10/20	12 noon	Soil	1		X																
MW2-10'	10/20	12 noon	Soil	1		X																
MW3-5'	10/20	1 pm	Soil	1		X																
MW3-11'	10/20	1 pm	Soil	1		X																
SB1-95'	10/20	2 pm	Soil	1		X																

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
8:00 AM			8 00 AM	REGULAR TURNAROUND TIMES
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
DAVID ALLEN 10/21			DAVID DUONG 10/21/92	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE, INC.	Company-	Company-	Company- PEL	

APPENDIX D

California EPA Certified Laboratory
Report of Groundwater Samples

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 27, 1992 PEL # 9210056

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve DeHope
Re: Three water samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: Goodman
Project location: 2001 Santa Clara Ave.

Date sampled: Oct 26 1992 Date submitted: Oct 27, 1992
Date extracted: Oct 27, 1992 Date analyzed: Oct 27, 1992

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil & Grease (mg/L)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	32000	---	76	100	77	220	---
MW-3	320	---	2.2	1.7	1.3	9.5	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	101.6%	93.4%	97.6%	102.4%	98.2%	103.5%	---
Duplicate Spiked Recovery	92.0%	88.2%	86.0%	80.3%	89.0%	93.5%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

David Duong
Laboratory Director

RECEIVED

AQUA SCIENCE ENG

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9536 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 27, 1992 PEL #: 9210056

AQUA SCIENCE ENGINEERS, INC. Attn: Steve DeHope
Project name: Goodman Project location: 2001 Santa Clara Ave
Sample I.D.: MW-1

Date Sampled: Oct 26, 1992 Date Submitted: Oct 27, 1992
Date Analyzed: Oct 27, 1992

Method of Analysis: EPA 601 Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	82.1
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	87.8
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	95.2
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	90.3
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	94.8
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA 95035 Tel: 408-946-9636 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 28, 1992 PEL # 9210056

AQUA SCIENCE ENGINEERS, INC.

Attn: Steve DeHope
Re: Three water samples for pH and Conductivity analyses.

Project name: Goodman
Project location: 2001 Santa Clara Ave.

Date sampled: Oct 26 1992 Date submitted: Oct 27, 1992
Date extracted: Oct 28, 1992 Date analyzed: Oct 28, 1992

RESULTS:

SAMPLE I.D.	pH	Conductivity (uS)
MW-1	6.9	620
MW-2	6.7	660
MW-3	6.7	670
Blank	7.0	0.0
Detection limit	0.05	10
Method of Analysis	9045	120.1

David Duong
Laboratory Director

RECEIVED

AQUA SCIENCE ENG.

1764 Houret Court Milpitas CA 95035 Tel: 408-946-9636 Fax: 408-946-9663

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road, #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of

PEL # 9210056

INV # 23157

DATE 10/27 92 PAGE 1 OF 1

SAMPLERS (SIGNATURE) (PHONE NO.) (510) 820-9391

PROJECT NAME Goodman NO.

ADDRESS 201 Santa Clara Ave.

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:
-standard turnaround

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY					
MW-1	10 26	3:00	W	6		X	X		X			X										
MW-2	10 26	3:15	W	2		X																
MW-3	10 26	3:30	W	2		X																

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
Steve DeHope 9:30			Victor Douds 9 30	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company ASE. 10-27-92	Company-	Company-	Company- PEL 10/27/92	

APPENDIX E

Permits

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

CATION OF PROJECT 2501 Santa Clara Avenue
Alameda, CA

NT
Ms. Helen Goodman
dress 3239 Thompson Ave. Phone
Alameda Zip 94501

PLICANT
Aqua Science Engineers, Inc
2411 Old Crow Canyon Road, #4
dress Phone 820-9391
y San Ramon Zip 94583

E OF PROJECT
ell Construction
athodic Protection
Water Supply
Monitoring X
Geotechnical Investigation
General
Contamination X
Well Destruction

POSED WATER SUPPLY WELL USE
omestic Industrial Other
unicipal Irrigation

RILLING METHOD:
ud Rotary Air Rotary Auger X
Other

RILLER'S LICENSE NO. 487000

L PROJECTS
Drill Hole Diameter 8.5 in. Maximum
Casing Diameter 2 in. Depth 30 ft.
Surface Seal Depth 5 ft. Number 3

EOTECHNICAL PROJECTS
Number of Borings Maximum
Hole Diameter in. Depth ft.

IMATED STARTING DATE 10-19-92
IMATED COMPLETION DATE 10-19-92

I agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE [signature] Date 10/14/92

FOR OFFICE USE

PERMIT NUMBER 92512
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 14 Oct 92
Wyman Hong

31992

APPENDIX F

Well Sampling Field Logs

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: Goodman
Project Address: 2501 Santa Clara Avenue
Job # 2580 **Date of sampling:** 10/26/92
Completed by: Dave Allen
Well Number / Designation: MW-1
Top of casing elevation: 24.46'
Total depth of well casing: 25' **Well diameter:** 2"
Depth to water (before sampling): 8.4'
Thickness of floating product if any: 16'
Depth of well casing in water: None
Req'd volume of groundwater to be purged before sampling: 15 Gallons
Approximate volume of groundwater purged: 15 Gallons
Type of seal at grade: Portland
Type of cap on the casing: Expandable, Locking
Is the seal water tight? Yes **Is the cap water tight?** Yes
Number of samples (containers) collected 4-40 ml, 2-1 liters
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19° C
Sample pH: _____ **Test method:** _____

Physical description of water during initial bailing period:
Turbid grey
Physical description of water sample: Clear

Type of analysis requested:
- TPH as Gasoline
- TPH as Diesel
- BTEX
- Oil & Grease
- Purgeable hydrocarbons

PH Conductivity

Type of bailer/sampling equipment used: 2" PVC Bailer
Disposable, sterile, polydthylene sampling bailer.
Equipment decontamination procedures: TSP & H2O

Disposition of bailed water volume:
Drummed and left on site.

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: Goodman
Project Address: 2501 Santa Clara Avenue
Job # 2580 Date of sampling: 10/26/92
Completed by: Dave Allen
Well Number / Designation: MW-2
Top of casing elevation: 24.42'
Total depth of well casing: 25' Well diameter: 2"
Depth to water (before sampling): 8.6'
Thickness of floating product if any: None
Depth of well casing in water: 16'
Req'd volume of groundwater to be purged before sampling: 15 Gallons
Approximate volume of groundwater purged: 15 Gallons
Type of seal at grade: Portland
Type of cap on the casing: Expandable, Locking
Is the seal water tight? Yes Is the cap water tight? Yes
Number of samples (containers) collected 2-40 ml.
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19° C
Sample pH: _____ Test method: _____

Physical description of water during initial bailing period:
Turbid grey
Physical description of water sample: Clear

Type of analysis requested: TPH as Gasoline
BTEX
pH
Conductivity

Type of bailer/sampling equipment used: 2" PVC Bailer
Disposable, sterile, Polythylene sampling bailer
Equipment decontamination procedures: TSP & H2O

Disposition of bailed water volume:
Drummed and left on site.

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: Goodman
Project Address: 2501 Santa Clara Avenue
Job # 2580 **Date of sampling:** 10/26/92
Completed by: Dave Allen
Well Number / Designation: MW-3
Top of casing elevation: 25.00'
Total depth of well casing: 25' **Well diameter:** 2"
Depth to water (before sampling): 9.65
Thickness of floating product if any: None
Depth of well casing in water: 15.45'
Req'd volume of groundwater to be purged before sampling: 15 Gallons
Approximate volume of groundwater purged: 15 Gallons
Type of seal at grade: Portland
Type of cap on the casing: Expandable, Locking
Is the seal water tight? Yes **Is the cap water tight?** Yes
Number of samples (containers) collected 2-40 ml.
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19° C
Sample pH: _____ **Test method:** _____

Physical description of water during initial bailing period:
Turbid grey
Physical description of water sample: Clear, petroleum odor

Type of analysis requested:
TPH as Gasoline
BTEX
pH
Conductivity

Type of bailer/sampling equipment used: 2" PVC Bailer
Disposable, sterile, polyethylene sampling bailer.
Equipment decontamination procedures: TSP & H2O

Disposition of bailed water volume:
Drummed and left on site.

APPENDIX C

Overexcavation and Disposal of Gasoline Contaminated Soil
Backfilling and Resurfacing
Re-installation of Monitoring Well MW-2 and
Current Quarterly Groundwater Monitoring Report

C-1 Report Detailing Disposal of Gas and Waste-oil Contaminated Soil Generated During Tank Removal Operations (dated 2/16/93)

C-2 Report Detailing the Overexcavation of Gasoline-Contaminated Soils Discovered During Phase II Site Assessment Activities. Backfilling and Resurfacing (dated 3/17/93)

C-3 Report Detailing Offhaul and Disposal of Gasoline-Contaminated Soils (dated 5/14/93)

C-4 Report Detailing Methods and Findings of Re-installation of Destroyed Monitoring Well (MW-2A), and the First Quarter's Monitoring Report (dated 5/27/93)

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714.833-3667 • Fax 714 833-3468

February 16, 1993

PROJECT REPORT

detailing

TANK REMOVAL SOILS OFFHAUL AND DISPOSAL ACTIVITIES

The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Submitted by:

Aqua Science Engineers
2411 Old Crow Canyon Road, #4
San Ramon, California 94583
(510) 820-9391

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-93
CIVIL
STATE OF CALIFORNIA

INTRODUCTION

As the September 15, 1992 UST Removal Report details, four (4) underground storage tanks previously containing either gasoline or waste oil were removed and properly disposed of from the subject site on August 13, 1992. During tank removal operations and subsequent overexcavation activities of the waste-oil tank pit, overburden, contaminated soils were removed from the excavation and stockpiled/covered to remain on site for future disposal. Two separate stockpiles were generated at the site, one containing gasoline contaminated soils, the other containing waste-oil contaminated soil.

After proper sampling and profiling activities were completed, the two stockpiles were accepted for disposal as follows:

Material	Quantity	Disposal Facility
Gasoline Contaminated Soil	198 cu. yds.	Durham Road Landfill
Waste-oil Contaminated Soil	24.5 tons	Port Costa Materials

Sent it 42.41 tons? (Refers to last page in this section)

The Durham Road Landfill, located in Fremont, California (also known as the Tri-Cities Recycling and Disposal Facility) is a permitted Class III Facility per the California RWQCB. The Port Costa Materials facility, located in Port Costa, California is permitted by the BAAQMD to accept Class II materials.

On December 17, 1992 and January 5, 1993, ASE mobilized on site to load, offhaul, and dispose of the afore-mentioned material. Please find attached in Appendix A the following: (1) copies of the weight tags from the appropriate disposal facilities, and (2) a Certificate of Remediation of waste-oil contaminated soil from Port Costa Materials, Inc.

If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

cc: Ms. Juliet Shin, ACHCSA
Mr. Rich Hiett, RWQCB, San Francisco Bay Region

APPENDIX A

Disposal Facility Weight Tags
and
Certificate of Remediation of Soil

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92 215753

NAME Aqua Science

CUSTOMER'S ACCT. NO. Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

18 dirt 12/17/92

YARDAGE

TDEX-5

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB #

DURHAM ROAD LANDFILL
7019 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92 215754

NAME Aqua Science

CUSTOMER'S ACCT. NO. Pre Paid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

18 dirt

YARDAGE

3P08693

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB #

DURHAM ROAD LANDFILL
7019 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17 92

215713

NAME Ugua Scionce

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT 12/17/92

NET WEIGHT 18 Dirt

YARDAGE

1CVRL06

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053665

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17 92

215721

NAME Ugana Scuance

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

12/17/92

TARE WEIGHT

.95A

NET WEIGHT

189 Dirt

YARDAGE

1CVRL06

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # WMA 053665

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92

215719

NAME Aqua Science

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

12/17/92

TARE WEIGHT

NET WEIGHT

18 Dirt

VEHICLE LICENSE NO. [illegible]

DRIVER X Thomas C [illegible]

P.O./JOB # AWA 05365-

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92

215710

NAME Aqua Science

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

12/17/92

TARE WEIGHT

NET WEIGHT

18 Dirt

3P[illegible]3

VEHICLE LICENSE NO.

DRIVER X [illegible]

P.O./JOB # AWA 05365

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92 215704

NAME [redacted]

CUSTOMER'S ACCT. NO. [redacted]

[redacted]

GROSS WEIGHT [redacted]

12/17/92

TARE WEIGHT [redacted]

NET WEIGHT [redacted]

16 Dirt

VARDAGE

TDEXC4

VEHICLE LICENSE NO.

DRIVER X [redacted]

P.O./JOB # 053665

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

[redacted]

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92 215708

NAME [redacted]

CUSTOMER'S ACCT. NO. [redacted]

GROSS WEIGHT

12/17/92

TARE WEIGHT

NET WEIGHT

16 Dirt

VARDAGE

TDEXC-5

VEHICLE LICENSE NO.

DRIVER X [redacted]

P.O./JOB # 053665

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92

215702

NAME [illegible]

P.O./JOB # WMA # 053665

DURHAM ROAD LANDFILL
Durham Road, Fremont, CA 94538

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/17/92

215701

NAME [illegible]

CUSTOMER'S ACCT. NO.
prepaid

GROSS WEIGHT

12-17-92

TARE WEIGHT

NET WEIGHT
18 Dirt

YARDAGE
JCURLEG

VEHICLE LICENSE NO.

DRIVER X [illegible]

P.O./JOB # WMA # 053665

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 12/18/92

215700

NAME Aqua Science

CUSTOMER'S ACCT. NO.
prepaid

GROSS WEIGHT

12/17/92

TARE WEIGHT

NET WEIGHT
1/8 dirt

YARDAGE
3PD8643

VEHICLE LICENSE NO.

DRIVER

P.O./JOB # A 053665

JMB

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94539
657-2425

A Waste Management Company

3-085 (9-90)

CUSTOMER'S COPY

PORT COSTA MATERIALS

P.O. BOX 50 • 9000 Carquinez Scenic Drive • Port Costa, CA 94569
415/228-7266

DATE 1-5-93

RECEIVED
JAN 13 1993
AQUA SCIENCE ENG.

CONTRACTOR: AQUA SCIENCE

TAG-BILL OF LADING No. 05211 CS

SOURCE: GOODMAN

LOT # 271

CONTAINMENT TYPE	WEIGHT	CASH SALE DATE PRICE	UNIT	AMOUNT
GROSS	77,310 LBS.			
TARE	31,970 LBS.			
TRUCK:				
NET LBS.				
WEIGHT PER C/F				
TONS				
	22.73			
TARE:		SUB TOTAL		
		% SALES TAX		
		TOTAL		

TIME ON SCALE 0949

TIME OFF SCALE 1028

DRIVER'S NAME

PL4 TRUCK NO. 144750 TRAILER NO. TRAILER NO

DRIVER ON ☐ OFF ☐ GROSS & TARE

☐ CONTAINER
☐ BULK
☐ OTHER

SEAL # _____

SIGN

CARRIER: PAK
BY: [signature]
DATE: 1-5-93

PORT COSTA MATERIALS, INC. WEIGHMASTI

BY [signature] DEPUTY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, w is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Coc administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

No. 05211 CS

PORT COSTA MATERIALS

P.O. BOX 50 • 8000 Carquinez Scenic Drive • Port Costa, CA 94569
415/228-7266

DATE: 1-5-93

CONTRACTOR: Agua Science II

SOURCE: Goodman

TAG-BILL OF LADING No. 05212 CS

LOT #: 271

	WEIGHT	PRICE	UNITS	AMOUNT
GROSS	70,740 LBS			
TARE	31,3[illegible]0 LBS			
NET				
WEIGHT PER C/F				
TONS				
	4.1-4			
	SUB TOTAL			
	______ % SALES TAX			
	TOTAL			

CASH SALE DATE

TRUCK

TIME ON SCALE: 0948

TIME OFF SCALE: 1025

DRIVER'S NAME: ______

UC-2 (TRUCK NO.) XL 8303 (TRAILER NO.) ______ (TRAILER NO.)

DRIVER ON ☑ OFF ☐ GROSS & TARE

RANGE

☐ CONTAINER

☐ BULK

☐ OTHER

SEAL #: ______

SIGN ▶

CARRIER: Crockett

BY: [signature]

DATE: 1-5-93

PORT COSTA MATERIALS, INC. WEIGHMASTER

BY: [signature]

DEPUTY

WEIGHMASTER CERTIFICATE

THIS IS TO CERTIFY that the following described commodity was weighed, measured, or counted by a weighmaster, whose signature is on this certificate, who is a recognized authority of accuracy, as prescribed by Chapter 7 (commencing with Section 12700) of Division 5 of the California Business and Professions Code, administered by the Division of Measurement Standards of the California Department of Food and Agriculture.

No. 05212 CS

Certificate Number

159

CERTIFICATE

Remediation of Hydrocarbon Contaminated Soils

Certificate Number: 000159
Dated: February 23, 1993

Supplier :

Aqua Science Engineering
2411 Old Crow Canyon Rd.
Suite 4
San Ramon, California 94583

Generator:

Helen Goodman
2501 Santa Clara Avenue
Alameda, California

PORT COSTA MATERIALS, INC., a California corporation ("Company"), located at and the operator of the above "Facility" hereby certifies as follows:

1. The Company has received from the above "Generator" **Helen Goodman**, 42.41 tons of hydrocarbon contaminated soil ("HC \Soil") as transported by or on behalf of Generator by **Aqua Sciences**, contracted through **Crockett Trucking** to such facility, and referred to as lot number 000271, which HC Soil was received at the Facility on **January** 5, 1993, (as part of a shipment consisting of 42.41 tons in total). The Company operates its Facility and processes such HC Soil pursuant to permits issued by applicable governmental authorities.

2. In receiving and processing the HC Soil and in providing this Certificate, the Company has relied upon and is relying on (a) the representation of the Generator that the HC Soil does not contain any materials classified as, and is not classified as, "hazardous waste" under the applicable provisions of the Federal and California law and has been managed and may be treated as other than "hazardous waste" and (b) the Generator has independent written certifications from applicable governmental agencies or certified independent testing laboratories that the HC Soil does not contain any materials classified as, and is not classified as, "hazardous waste" under said applicable law.

3. The HC Soil has been treated by being introduced into the manufacturing process at the Facility (in which it may be blended with a mixture of natural shale) feeding into a rotary kiln in which at high temperature the contaminants are consumed by thermal processing and inert materials are produced. The HC Soil was processed in this manner during the period of February 7 and 8, 1993, and all of the HC Soil covered by this Certificate was completely processed on February 8, 1993. In the treatment of the HC Soil, releases and emissions have been in accordance with the requirements of the applicable operating permits of the Facility.

4. Upon completion of the treatment, the HC Soil has been remediated, and the end product is an inert substance which does not constitute a "hazardous waste" under the applicable provisions of the Federal and California law.

5. The Company shall indemnify, defend and hold harmless the Generator from and against any enforcement actions by any governmental authority in the event that any of the representations by the Company set forth in this Certificate are materially inaccurate.

This Certificate is executed on this 1st day of March, 1993

PORT COSTA MATERIALS, INC.

Robert Stewart
V.P. Operations

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714 833-3667 • Fax 714 833-3468

March 17, 1993

PROJECT REPORT

detailing

OVEREXCAVATION, SOIL SAMPLING, BACKFILLING AND RESURFACING ACTIVITIES

The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Submitted by:

Aqua Science Engineers
2411 Old Crow Canyon Road, #4
San Ramon, California 94583
(510) 820-9391

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-93
CIVIL
STATE OF CALIFORNIA

INTRODUCTION

In an effort to remediate gasoline impacted soils at the subject site, Aqua Science Engineers (ASE) mobilized on site on January 21, 1993 to perform overexcavation and stockpiling activities. The elevated levels of gasoline-impacted soils were identified during the Phase II Site Assessment activities conducted at the subject site late October, 1992 (for details regarding the Phase II assessment report, please see the ASE report dated November 6, 1992).

The activities conducted on site during January 21 and 22, 1993 included the following: (1) removal and disposal of the existing canopy and dispenser islands; (2) overexcavation and stockpiling of gasoline-contaminated soils; (3) collection of soil samples of excavation-boundary sidewalls for definitive chemical analysis; and (4) backfilling and resurfacing of the entire excavation. These activities are described in full detail in the following sections. Prior to field activities each day, a tailgate safety meeting was held and the site-specific health and safety plan was reviewed. Project personnel included David Allen and Steve DeHope of ASE, and Tom Daniels of TD Excavating.

TASK I - CANOPY AND DISPENSER ISLANDS REMOVAL

On January 21, 1993, ASE mobilized on site to remove and dispose of the existing canopy and pump islands to allow for access of the subsurface soils. Prior to field activities, a permit was obtained from the City of Alameda Building Department. The canopy was separated from the building (by use of a torch), then systematically lowered to the ground. It was then demolished (by use of an excavator) and loaded onto trucks for subsequent disposal at a local recycling facility. The pump island's concrete pads were demolished then loaded onto trucks for subsequent disposal at a local disposal facility.

TASK II - OVEREXCAVATION OF GAS-CONTAMINATED SOILS

Beginning from the original excavation boundaries (August, 1992), ASE began overexcavation activities on January 21, 1993, and ended on January 22, 1993. The use of a hand-held organic vapor meter (OVM) assisted in tracking the plume of soil contamination. During overexcavation activities, the OVM was also used to monitor the breathing zones near the excavation limits. Action levels were never encountered.

As depicted on the attached drawing (Figure 1), the excavation boundaries included areas surrounding the former gasoline UST's and beneath the dispenser islands.

At approximately 6 feet below ground surface (bgs), groundwater was encountered in the excavation. This groundwater limited the vertical extent of overexcavation activities. The east side of the excavation was limited due to the proximity of the building. The west side of the excavation was limited due to the proximity of Santa Clara Avenue.

Excavated soil was stockpiled on site away from the excavation boundaries to allow for a safe working area. At the point where it appeared that the soil-contamination plume had been removed as effectively as possible, overexcavation activities ceased. Calculations of the excavation determined that approximately 535 cubic yards of material were removed.

During the overexcavation activities, monitoring well MW-2 was destroyed. A replacement well will be installed in the very near future.

TASK III - SOIL SAMPLE COLLECTION AND ANALYSIS

On January 22, 1993, ASE personnel began collecting sidewall soil samples of the new excavation boundaries. All sampling activities were witnessed by Ms. Juliet Shin of the Alameda County Health Care Services Agency (ACHCSA). Several of the sidewall soil samples were collected on January 21 because access to that location would not be available any longer due to the size of the excavation pit. As depicted on Figure 1, 9 sidewall soil samples were collected from various locations surrounding the excavation pit. Bottom of excavation pit samples were impossible due to the groundwater within the pit. Samples were collected as follows:

TABLE ONE
SAMPLE LOCATIONS - EXCAVATION PIT

Sample Identification	Location	Depth (bgs)
SWS-1	South Sidewall, east end	6.0'
SWS-2	South Sidewall, west end	5.5'
SWN-1	North Sidewall, east end	6.0'
SWN-2	North Sidewall, west end	5.5'
SWE-1	East Sidewall, south end	5.5'
SWE-2	East Sidewall, middle	5.5'
SWE-3	East Sidewall, north end	6.0'
SWW-1	West Sidewall, south end	5.5'
SWW-2	West Sidewall, north end	5.5'

The samples were collected from the the excavator bucket in stainless steel sample tubes. The samples were covered on each end with double-thickness aluminum foil, capped, and sealed with tape. Each sample was discretely labeled, then immediately stored in an ice chest containing wet ice. The proper chain of custody documents were prepared prior to shipment to Priority Environmental Labs in Milpitas, California. Priority Environmental Labs is a CAL-EPA certified environmental laboratory (DHS No. 1708).

The samples were subject to the following analytical tests: Total Petroleum Hydrocarbons (TPH) as Gasoline (EPA method 5030/8015), and the fractions BTEX (EPA method 8020). Results of the analytical tests are tabulated below as Table Two; copies of the analytical report are contained in Appendix A.

TABLE TWO
Summary of Chemical Analysis of **SOIL SIDEWALL** Samples
TPH as Gasoline, and BTEX

Sample I.D.	TPH Gas (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)
SWS-1	N.D.	N.D.	N.D.	N.D.	N.D.
SWS-2	N.D.	N.D.	N.D.	N.D.	N.D.
SWN-1	N.D.	N.D.	N.D.	N.D.	N.D.
SWN-2	N.D.	N.D.	N.D.	N.D.	N.D.
SWE-1	N.D.	N.D.	N.D.	N.D.	N.D.
SWE-2	N.D.	N.D.	N.D.	N.D.	N.D.
SWE-3	3000	440	630	950	3700
SWW-1	N.D.	N.D.	N.D.	N.D.	N.D.
SWW-2	N.D.	N.D.	N.D.	N.D.	N.D.
EPA METHOD	3510/ 8015	602 8015	602	602	602

ND Non Detectable at analytical method limits
ppm parts per million
ppb parts per billion

As detailed, only one sample (taken from the sidewall nearest the north end of the building) detected petroleum-hydrocarbon contamination. All of the other samples resulted in N.D. levels of contamination. Due to the proximity of the building in relation to the pocket of soil contamination that appeared to be identified, further overexcavation/remediation was not recommended.

TASK IV - BACKFILLING AND RESURFACING

Since the sidewalls of the excavation were determined as being free of petroleum-hydrocarbon contamination (except for the sidewall fronting the building) it was determined that backfilling and resurfacing of the excavation was appropriate. Verbal authorization from Ms. Shin was granted prior to project initiation. Beginning on February 4, 1993, the on-site excavations were backfilled and compacted with clean, imported fill material. All removed water, and sewer lines were replaced and inspected for integrity prior to being covered. The line exiting the sump/oil-water separator was cut and capped at the edge of the excavation (rendering it no longer useful). Soon thereafter (while waiting for favorable weather conditions) the excavations were capped with 4" of asphaltic material.

CONCLUSIONS

Overexcavation/remediation activities appeared to be successful in removing the vast majority of soil contamination due to leaking tank(s) and/or product lines. The pocket of gasoline-impacted soil near and below the building has not been fully assessed. However, it is quite possible that the volume of gasoline-impacted material underneath the building could be fairly small.

The stockpiled material will be sampled and profiled for off-site disposal in the very near future (pending favorable weather conditions). A report detailing the offhaul and disposal activities will be made available to all the appropriate agencies upon completion of the task.

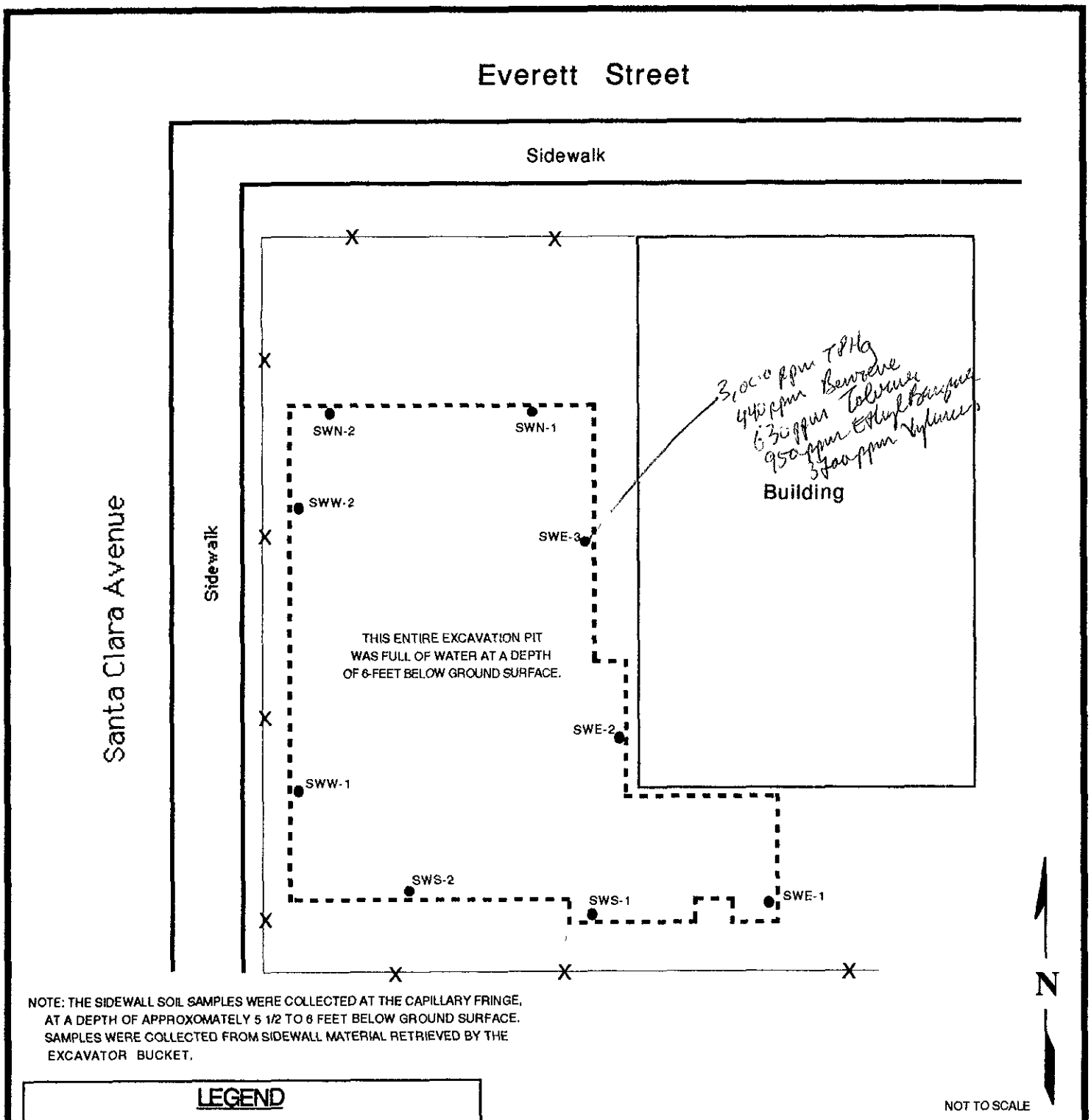
The destroyed monitoring well will be replaced after permits and approvals are granted from the appropriate regulatory agencies.

If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

cc: Ms. Juliet Shin, ACHCSA
Mr. Rich Hiett, RWQCB, San Francisco Bay Region



NOTE: THE SIDEWALL SOIL SAMPLES WERE COLLECTED AT THE CAPILLARY FRINGE, AT A DEPTH OF APPROXOMATELY 5 1/2 TO 6 FEET BELOW GROUND SURFACE. SAMPLES WERE COLLECTED FROM SIDEWALL MATERIAL RETRIEVED BY THE EXCAVATOR BUCKET.

NOT TO SCALE

LEGEND

- Boundaries of Overexcavation Pit (excavated 1/21/93 and 1/22/93)
- SWS-2 — Sidewall Soil Sample collected after overexcavation activities
- Fence

SIDEWALL SOIL SAMPLE PLAN (COLLECTED AFTER OVEREXCAVATION ON 1-22-93)

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 1

APPENDIX A

CAL-EPA Certified
Analytical Report

PRIORITY ENVIRONMENTAL LABS

Priority Environmental Analytical Laboratory

January 27, 1993 PEL # 9301032

AQUA SCIENCE ENGINEERS, INC.

Attn: David Allen
Re: Nine soil samples for Gasoline/BTEX analysis.

Project name: Goodman Phase III B
Project location: 2501 Santa Clara Ave.,-Alameda, CA.
Project number: 2596

Date sampled: Jan 22, 1993 Date submitted: Jan 25, 1993
Date extracted: Jan 26-27, 1993 Date analyzed: Jan 26-27, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
SWS 1	N.D.	N.D.	N.D.	N.D.	N.D.
SWS 2	N.D.	N.D.	N.D.	N.D.	N.D.
SWN 1	N.D.	N.D.	N.D.	N.D.	N.D.
SWN 2	N.D.	N.D.	N.D.	N.D.	N.D.
SWE 1	N.D.	N.D.	N.D.	N.D.	N.D.
SWE 2	N.D.	N.D.	N.D.	N.D.	N.D.
SWE 3	3000	440	630	950	3700
SWW 1	N.D.	N.D.	N.D.	N.D.	N.D.
SWW 2	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	92.5%	90.7%	84.4%	92.0%	97.3%
Duplicate Spiked Recovery	87.2%	102.3%	94.5%	98.2%	104.9%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

1764 Houret Court Milpitas CA 95035 Tel 408-946-9636 Fax 408-946-9003

PEL 9[illegible]32

Aqua Science Engineers, Inc.
2411 Old Crow Canyon Road #4,
San Ramon, CA 94583
(510) 820-9391 - FAX (510) 837-4853

Chain of Custod

INV # 23330

DATE 1/25/93 PAGE 1 OF 1

SAMPLERS (SIGNATURE) C. Allen (PHONE NO.) 520 939[illegible]

PROJECT NAME GOODMAN PHASE III B NO. 2[illegible]

ADDRESS 2501 SANTA CLARA AVE. ALAMEDA, CA

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

HOLD SAMPLE "S".

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	LUFT METALS (5) (EPA 6010+7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY					
S	1/22	4pm	S	1														H	O	L	D	
SWS 1	"	"	"	"		X																
SWS 2	"	"	"	"		X																
SWN 1	"	"	"	"		X																
SWN 2	"	"	"	"		X																
SWE 1	"	"	"	"		X																
SWE2	"	"	"	"		X																
SWE3	"	"	"	"		X																
SWW1	"	"	"	"		X																
SWW2	"	"	"	"		X																

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY LABORATORY:	COMMENTS:
C. Allen 5:30pm			David Duong 5:20 PM	REGULAR TURNAROUND TIMES
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
DAVID ALLEN 1/25/93			DAVID DUONG	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PEL 01/25/93	

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714 823 3667 • Fax 714 833-3483

May 14, 1993

PROJECT REPORT

detailing

OVEREXCAVTION SOILS OFFHAUL AND DISPOSAL ACTIVITIES

The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Submitted by:

Aqua Science Engineers
2411 Old Crow Canyon Road, #4
San Ramon, California 94583
(510) 820-9391

REGISTERED PROFESSIONAL ENGINEER
DAVID M. SCHULTZ
No. 38738
Exp 4-93
CIVIL
STATE OF CALIFORNIA

INTRODUCTION

As the March 17, 1993 Aqua Science Engineers (ASE) report details, ASE overexcavated and stockpiled approximately 536 cubic yards of gasoline-impacted soil from the Goodman Property at 2501 Santa Clara Avenue, in Alameda, California. The gasoline impacted soils are the result of leaking fuel tank(s) and/or product lines/dispensers. See ASE's Tank Removal Report, dated September 15, 1992, for details. During overexcavation activities conducted in mid-January 1993, contaminated soils were removed from the excavation and stockpiled/covered to remain on site for future disposal.

After proper sampling and profiling activities were completed, the stockpile was accepted for disposal as follows:

Material	Quantity	Disposal Facility
Gasoline Contaminated Soil	536 cu. yds.	Durham Road Landfill

The Durham Road Landfill, located in Fremont, California (also known as the Tri-Cities Recycling and Disposal Facility) is a permitted Class III Facility per the California RWQCB.

On March 23, 1993 and April 7, 1993, ASE mobilized on site to load, offhaul, and dispose of the afore-mentioned material. Please find attached in Appendix A copies of the weight tags from the Durham Road Landfill.

If you have any questions or comments, please feel free to give us a call at (510) 820-9391.

Respectfully submitted,
AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

cc: Ms. Juliet Shin, ACHCSA
Mr. Rich Hiett, RWQCB, San Francisco Bay Region

APPENDIX A

Disposal Facility Weight Tags

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-23-93

207145

NAME Helen Good man

CUSTOMER'S ACCT. NO.
Prepay

GROSS WEIGHT

TARE WEIGHT

03/23/93

2 - Dirt

NET WEIGHT

2H06210

YARDAGE

VEHICLE LICENSE NO.

DRIVER x

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-23-93

207410

NAME Helen Goodman

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

03/23/93

14 Dirt

YARDAGE

2H06210

VEHICLE LICENSE NO.

DRIVER x

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207496

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

16 DIRT

YARDAGE

2H06210

VEHICLE LICENSE NO.

DRIVER X Roman Martinez

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) **CUSTOMER'S COPY**

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-27-93 207424

NAME Helen Goodman

CUSTOMER'S ACCT NO. Prepaid.

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

16 DIRT

YARDAGE

2H03210

VEHICLE LICENSE NO.

DRIVER X Roman Martinez

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207552

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

16 Dirt

YARDAGE

4A76078

VEHICLE LICENSE NO.

DRIVER X Ken Krull

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-23-93 207412

NAME Helen Goodman

CUSTOMER'S ACCT. NO prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT 03/23/93

16 Dirt

YARDAGE

4A76078

VEHICLE LICENSE NO

DRIVER X Ken Krull

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23 93 207519

NAME Helen Goodman

CUSTOMER'S ACCT. NO.
free yard

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

YARDAGE 16 Dirt

VEHICLE LICENSE NO. 4 A76078

DRIVER X Ken Krull

P.O./JOB # 053707

F

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) **CUSTOMER'S COPY**

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207495

NAME Helen Goodman

CUSTOMER'S ACCT. NO.
free yard

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE 16 DIRT

VEHICLE LICENSE NO. 4A76078

DRIVER X Ken Krull

P.O./JOB # H 053707

+

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) **CUSTOMER'S COPY**

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207546

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT 03/23/93

YARDAGE 16 Dirt

VEHICLE LICENSE NO. 3Z 45337

DRIVER X

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
857-2425

A Waste Management Company

3-003 (9-90) **CUSTOMER'S COPY**

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-23-93 207405

NAME Helen Goodman

CUSTOMER'S ACCT. NO Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE 16 Dirt 03/23/93

VEHICLE LICENSE NO. 3Z45337

DRIVER X

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
857-2425

A Waste Management Company

3-003 (9-90) **CUSTOMER'S COPY**

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23 93 207512

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT 3/23/93

NET WEIGHT

7 16 Dirt
YARDAGE

3245337
VEHICLE LICENSE NO.

DRIVER X

053707
P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

3-003 (9-90)

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23 93 207494

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

1/2 16 Dirt
YARDAGE

3245337
VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

3-003 (9-90)

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93

207548

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

Shepard

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

YARDAGE 16 Dirt

VEHICLE LICENSE NO. 3US 7087

DRIVER

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3-23-93

207406

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

Shepard

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE 16 DIRT 03/23/93

VEHICLE LICENSE NO. 3U87087

DRIVER X

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207516

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE 16 Dirt

VEHICLE LICENSE NO. 3U87087

DRIVER

PRO/JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207493

NAME Helen Goodman

CUSTOMER'S ACCT. NO. Personal

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE 16 Dirt

VEHICLE LICENSE NO. 3U87087

DRIVER Daniel

PRO/JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207499

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT 03/23/93

YARDAGE 16 DIRT

VEHICLE LICENSE NO. 4A29110

DRIVER X Helen Goodman

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207522

NAME Helen Goodman

CUSTOMER'S ACCT. NO. prepaid

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

YARDAGE 16 DIRT

VEHICLE LICENSE NO. 4A29110

DRIVER X Helen Goodman

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93

207535

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

prepaid

GROSS WEIGHT

03/23/93

TARE WEIGHT

NET WEIGHT

16 Dirt

4A29410

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053747

DURHAM ROAD LANDFILL
Durham Road, Fremont, CA 94538
657-2425

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93

207536

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

prepaid

GROSS WEIGHT

03/23/93

TARE WEIGHT

NET WEIGHT

16 Dirt

3Y85822

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053702

DURHAM ROAD LANDFILL
2610 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23 93 207560

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

prepaid

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

6 Ont

YARDAGE

3X 85823

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-608 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23 93 207524

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

prepaid

GROSS WEIGHT

TARE WEIGHT 03/23/93

NET WEIGHT

6 Ont

YARDAGE

3X 85823

VEHICLE LICENSE NO.

DRIVER X

P.O./JOB # 053707

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-608 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 3/23/93 207501

NAME Helen Goodman

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT

03/23/93

NET WEIGHT

16 Dirt

YARDAGE

3X 8582

VEHICLE LICENSE NO.

DRIVER X

 # 05707

DURHAM ROAD LANDFILL
2010 Durham Road, Fremont, CA 94538
657-2426

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93

219418

NAME Helen Goodman

Prepaid

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93

220168

NAME Helen Boodman

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT
18 DIRT

2R-B426
VEHICLE LICENSE NO.

DRIVER X

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-608 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

4-7-93

219405

Helen Goodman

ACCT. NO.

Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

16 Dirt

YARDAGE

9C32067

VEHICLE LICENSE NO.

DRIVER X

P.O. NUMBER

EN

DURHAM ROAD LANDFILL
7910 Durham Road, Fremont, CA 94536
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4.7.93

220156

NAME Helen Goodman

CUSTOMER'S ACCT. NO.

Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

16 Dirt

YARDAGE

9C32067

VEHICLE LICENSE NO.

DRIVER X

P.O. NUMBER

EN

DURHAM ROAD LANDFILL
7910 Durham Road, Fremont, CA 94536
657-2425

A Waste Management Company

3-003 (9-90)

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93 219441

NAME Helen Goodman

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

16-DIRT
YARDAGE

9C32067
VEHICLE LICENSE NO.

DRIVER X

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93 220198

NAME Helen Boadman

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT 11/16/93

NET WEIGHT

16-DIRT
YARDAGE

9C32066
VEHICLE LICENSE NO.

DRIVER X Ron Krull

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93

220158

NAME Helen Goodman

CUSTOMER'S ACCT. NO. Prepaid

GROSS WEIGHT

TARE WEIGHT 04/06/93

NET WEIGHT

YARDAGE 18 - DIRT

VEHICLE LICENSE NO. 9C32066

DRIVER X Ron Rull

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93

220233

NAME Helen Goodman

CUSTOMER'S ACCT. NO. Prepaid

GROSS WEIGHT

TARE WEIGHT 04/06/93

NET WEIGHT

YARDAGE 14 - DIRT

VEHICLE LICENSE NO. 9C32066

DRIVER X Ron Rull

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93 220163

NAME Ha Goodman

CUSTOMER'S ACCT. NO.

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT

YARDAGE

4A2911U
VEHICLE LICENSE NO.

DRIVER X Myles

P.O./JOB #

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

DURHAM ROAD LANDFILL
FOOT OF DURHAM ROAD — FREMONT

DATE 4-7-93 220202

NAME Helen Burdick

CUSTOMER'S ACCT. NO.
Prepaid

GROSS WEIGHT

TARE WEIGHT

NET WEIGHT
16 DIRT
YARDAGE

4A2911U
VEHICLE LICENSE NO.

DRIVER X Myles

P.O./JOB #

EN

DURHAM ROAD LANDFILL
7010 Durham Road, Fremont, CA 94538
657-2425

A Waste Management Company

3-003 (9-90) CUSTOMER'S COPY

aqua science engineers inc.

17895 Sky Park Circle, Suite E, Irvine, CA 92714
Tel 714/833-3667 • Fax 714/833-3468

May 27, 1993

"PROJECT REPORT"
ADDITIONAL SOIL AND GROUNDWATER ASSESSMENT, NO. 2596
and
FIRST QUARTER'S MONITORING REPORT

at
The Goodman Property
2501 Santa Clara Avenue
Alameda, California 94501

Prepared for:
Ms. Helen Goodman
3239 Thompson Avenue
Alameda, California 94501

Prepared by:
AQUA SCIENCE ENGINEERS, INC.
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
(510) 820-9391

1.0 INTRODUCTION

Site Location (Site), See Figure 1, Site Location Map
The Goodman Property
2501 Santa Clara Avenue
Alameda, CA 94501

Property Owner
Ms. Helen Goodman
3239 Thompson Avenue
Alameda, CA 94501

Environmental Consulting Firm
Aqua Science Engineers, Inc. (ASE)
2411 Old Crow Canyon Road, #4
San Ramon, CA 94583
Contact: David Allen, Project Manager
(510) 820-9391

Agency Review
Alameda County Health Care Services Agency (ACHCSA)
80 Swan Way, Room 350
Oakland, CA 94621
Contact: Ms. Juliet Shin
(510) 271-4530

RWQCB, San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland, CA 94612
Contact: Mr. Rich Hiett
(510) 286-4359

As detailed in the ASE report regarding overexcavation activities of gasoline-impacted soils (dated March 17, 1993), one of the original monitoring wells (MW-2) that was installed in October 1992 was destroyed. The following is a report detailing: (1) the re-installation of the destroyed monitoring well (now labeled MW-2A), and (2) the first quarter's results of a four quarter groundwater monitoring program, as required by the RWQCB and the ACHCSA. ASE has prepared this report on behalf of the property owner, Ms. Helen Goodman. This report is intended as a supplement to the following reports: "Project Report - Phase II Soil

and Groundwater Assessment, No. 2580", produced by ASE in November, 1992 where three monitoring wells were installed and the "Tank Removal" report by ASE dated September 15, 1992.

2.0 SITE BACKGROUND

2.1 Physical Location Surface Condition

The subject site is located on the east side of Santa Clara Avenue at Everett Street. The site is approximately 1 mile west of interstate 880 and approximately 1 mile east of the San Francisco Bay, within the city limits of Alameda, CA. The site currently contains a building for a former gasoline station/tire repair shop. The site has been abandoned for several years. The site is primarily covered with asphalt. The topography of the immediate area is generally even and located at approximately 25 feet above mean sea level (AMSL). (See Figure 1: Site Location Map).

2.2 General Geology Hydrogeology

The site rests on unconsolidated sediments primarily composed of sand with some silt (SM). The eastern shoreline of the San Francisco Bay is located approximately one mile west of the site. Shallow groundwater in the area is located approximately 6-8 feet below grade at the site, and is assumed to be manipulated by tidal fluctuations.

2.3 Review of Preliminary Soil and Groundwater Assessment

In October of 1992, three groundwater monitoring wells were installed (see ASE November 6, 1992 report).

3.0 SCOPE OF WORK

What follows is the report covering the methods and findings regarding the groundwater assessment and additional soil investigation.

The scope of work performed for this investigation included the following tasks:

- The re-installation of one 25 foot depth groundwater monitoring well, now labeled as MW-2A. See Appendix A for a copy of the permit.

- Collection of soil samples at five foot intervals during drilling of the well and within the capillary fringe.

- Surveying of the monitoring well.

- Collection of groundwater depth measurements from the new well and existing wells (MW-1 and MW-3...installed in October, 1992) to determine the direction of groundwater flow and gradient at the site.

- Collection of groundwater samples from all three wells.

- Chemical analysis of the soil samples for TPH as Gas, and the fractions BTEX.

- Chemical analysis of the three groundwater samples for all or a combination of the following: TPH as Gas, TPH as Diesel, Oil and Grease, Purgeable Halocarbons, the fractions BTEX, pH, and Conductivity.

- Preparation of a report detailing the methods and findings of the investigation.

4.0 DRILLING AND GROUNDWATER WELL CONSTRUCTION

One well (MW-2A) was installed at the site on April 23, 1993. The location of the ground water monitoring well is indicated on Figure 2, Site Plan. The soil boring for well installation was drilled to 25 feet below ground surface (bgs) using a Mobil B-61 drill rig equipped with 7 3/4 inch O.D. continuous flight, hollow stem augers. All drilling equipment was pre-cleaned prior to use. Water saturated soil was first encountered at approximately 10 feet in the boring.

Two-inch diameter, schedule-40 PVC well casing with 0.020-inch slots was installed from 25 feet to 5 feet below the surface in the boring. Two-inch diameter schedule-40 PVC blank casing was installed above the slotted casing, to the surface. The well casing was capped on the bottom with a two-inch threaded female plug and on top with a two-inch locking security plug. The annular space of the well was packed with No. 3 Monterey sand from the bottom of the boring to 4.0 feet below the surface. 1.5 feet of bentonite clay was placed above the sand pack. Class "H" Portland Cement was placed above the bentonite seal, to the surface. The well head was

secured with a concrete vaulted, water-tight, locking steel street box. Well construction details are provided in Appendix B.

The ground water well MW-2A was developed on April 26, 1993 using a 2-inch PVC bailer. The well was initially surged to correct any sand pack bridging which may have occurred, and to remove any "fines" from the sand pack. Approximately 30 gallons of water was bailed from the well and placed in 55-gallon, 17H steel drum for temporary on-site storage.

5.0 SOIL SAMPLE COLLECTION AND CHEMICAL ANALYSIS

Soil samples were collected from groundwater monitoring well MW-2A at 5, and 10 feet. The monitoring well soil samples were collected using a two-inch I.D., California split-spoon sampler holding three pre-cleaned two-inch O.D. by six-inch length sample tubes. The tube nearest the shoe from each sample interval was secured with double-thickness aluminum foil, plastic end caps, and tape, discretely labeled, then immediately placed in an ice chest containing "wet" ice for cold storage. The next sample tube nearest the shoe was emptied into a zip-loc plastic storage bag and placed in sunlight, to enhance the volatilization of organic carbon from the soil matrix. After approximately 1/2 hour, the sample was screened in the field with a "Gastechtor Super Surveyor" model no. 1314. The Gastechtor is equipped with a combustible gas sensor calibrated with hexane. Needle deflections in ppm were recorded and are included on the soil boring logs, which are provided in Appendix B of this report.

The soil samples were submitted to Priority Environmental Labs located in Milpitas, California for definitive chemical analysis. The submitted soil samples were analyzed for the following: TPH as Gasoline (EPA 5030/8015), and the fractions BTEX (EPA 8020). Priority Environmental Labs is CSDHS certified for the chemical analyses preformed for this investigation (DHS No. 1708). The chemical analyses provided by Priority Environmental Labs regarding soil samples is provided below as Table One. Copies of the laboratory analytical reports and sample chain-of-custody documents are provided in Appendix C.

TABLE ONE
Summary of Chemical Analysis of SOIL Samples
TPH Gasoline, and the fraction BTEX

Sample I.D.	TPH Gasoline (ppm)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)
MW-2A,5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2A,10'	N.D.	N.D.	N.D.	N.D.	N.D.
EPA METHOD	5030/ 8015	8020	8020	8020	8020

ND Non Detectable at analytical method limits
ppm parts per million
ppb parts per billion

6.0 GROUND WATER SAMPLE COLLECTION AND ANALYSIS

Ground water measurements and identification of any "free-product" were collected before any water was purged from the wells. No free product was identified (see Appendix E, Well Sampling Field Logs for sampling criteria). Groundwater samples were collected from each of the three groundwater monitoring wells on April 26, 1993, after removal of approximately five well volumes of water and 90% well recharge. The wells were purged using a 2-inch PVC bailer. The well purge water was placed in 55-gallon steel 17H drums, labeled, and left on site for temporary storage. The samples were collected using disposable, pre-cleaned, polyethylene, single check valve bailers. The samples were placed in pre-cleaned, 40 ml. glass VOA and one liter bottles, then labeled, and immediately placed in an ice chest for cold storage. They were later transported to Priority Environmental Labs using proper Chain-of-Custody procedures, for chemical analysis. The analytical results and chain-of-custody documents are included in Appendix D. The groundwater samples collected for this project were analyzed as follows:

MW-1
- TPH as Gasoline (EPA 5030/8015)
- TPH as Diesel (EPA 3510/8015)
- BTEX (EPA 602)
- Oil and Grease (EPA 5520 C&F)
- Purgeable Halocarbons (EPA 601)
- pH (EPA 9045)
- Conductivity (EPA 120.1)

MW-2A & MW-3	TPH as Gasoline (EPA 5030/8015) BTEX (EPA 8020) pH (EPA 9045) Conductivity (EPA 120.1)

The chemical analyses provided by Priority Environmental Labs regarding groundwater samples is provided below as Tables Two, Three, and Four. Copies of the laboratory analytical reports and sample chain-of-custody documents are provided in Appendix D.

TABLE TWO

Summary of Chemical Analysis of **WATER** Samples
TPH as Gasoline and Diesel, BTEX, and Oil & Grease

Sample I.D.	TPH Gasoline (ppb)	TPH Diesel (ppb)	Benzene (ppb)	Toluene (ppb)	Ethyl Benzene (ppb)	Total Xylenes (ppb)	Oil & Grease (ppm)
SAMPLE DATE (4-26-93)							
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2A	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
MW-3	2200	---	3.5	4.6	8.0	28	---
EPA METHOD	5030/ 8015	3510/ 8015	602	602	602	602	5520 C&F

ND Non Detectable at analytical method limits
ppb parts per billion
--- Not Analyzed

TABLE THREE

Summary of Chemical Analysis of **WATER** Samples
Purgeable Halocarbons

Sample I.D.	ALL 8010 CONSTITUENTS (ppb)
SAMPLE DATE (4-26-93)	
MW-1	N.D.
EPA METHOD	8010

ND Non Detectable at analytical method limits
ppb parts per billion

TABLE FOUR
Summary of Chemical Analysis of **WATER** Samples
pH and Conductivity

Sample I.D.	pH	Conductivity (uS)
SAMPLE DATE (4-26-93)		
MW-1	5.9	610
MW-2	6.3	860
MW-3	6.4	630
EPA METHOD	9045	120.1

7.0 GEOLOGY AND GROUNDWATER GRADIENT

The native soil types encountered while drilling were primarily composed of sand with slight silt (SM) from below the asphalt base to the bottom of the hole in the boring. Water saturated soil was first encountered during drilling at approximately 10 feet. A graphical description of the soil types are provided on the well construction log (see Appendix B).

The elevation of the top of the well casing for MW-2A was surveyed relative to the mean sea level (MSL) on April 23, 1992. The depths to groundwater were measured in each well on the day of the sample collection using a water level sounder (Solinst). Two measurements were taken in each well to confirm groundwater depth. The depth to water and the top of casing survey data were used to calculate a groundwater flow direction and gradient. A summary of the elevation data is provided below in Table Five.

TABLE FIVE
Summary of Groundwater Well Survey Data

Well ID.	Depth to Water	Top of Casing Elevation	Groundwater Elevation
MW-1	5.68 ft.	24.46 ft. AMSL	18.78 ft. AMSL
MW-2A	4.90 ft.	24.38 ft. AMSL	19.48 ft. AMSL
MW-3	6.65 ft.	25.00 ft. AMSL	18.35 ft. AMSL

A three-point problem was solved for well combinations MW-1, MW-2 and MW-3. A graphic representation of the three-point problem indicating groundwater flow direction and gradient is presented in the Groundwater Gradient Map, Figure 3. The current direction of groundwater flow is northeast at a gradient of 0.015 ft/ft.

8.0 CONCLUSIONS

Based on the results of the chemical analyses, and supplemental investigative work, it is the opinion of Aqua Science Engineers, Inc. that the following conditions are present at the subject site:

1) TPH as Gasoline has impacted the groundwater at the subject site in one of the three groundwater monitoring wells; however, the levels of contamination detected in the groundwater are fairly insignificant at this time (2.2 ppm TPH-G in MW-3).

2) Soils testing relative to the new well (MW-2A) resulted in N.D. levels of the contaminants tested. Equally, during the original monitoring well installation operation in October of 1992, both MW-1 and MW-3 had either N.D. levels or fairly insignificant levels of contamination detected.

9.0 RECOMMENDATIONS

Aqua Science Engineers recommends the monitoring wells be sampled and analyzed on a quarterly basis for a period of one (1) year. After the first year, a review of the quarterly reports will dictate further groundwater action, if necessary. Groundwater samples should be analyzed for TPH as Gasoline and Diesel, BTEX, Oil & Grease, and Purgeable Halocarbons where appropriate.

Monthly groundwater elevation readings should be taken for a period of three months to establish a "known" flow direction and gradient at the site.

10.0 REPORT LIMITATIONS

The results of this investigation represent conditions at the time and specific location at which soil and groundwater samples were collected, and for the specific parameters analyzed for by the laboratory. It does not fully characterize the site for contamination resulting from sources other than the underground storage tanks and associated plumbing at the site, or for parameters not analyzed for by the laboratory. All of the laboratory work cited in this report was prepared under the direction of independent CSDHS certified laboratory. The independent laboratory is solely responsible for the contents and conclusions of the chemical analysis data.

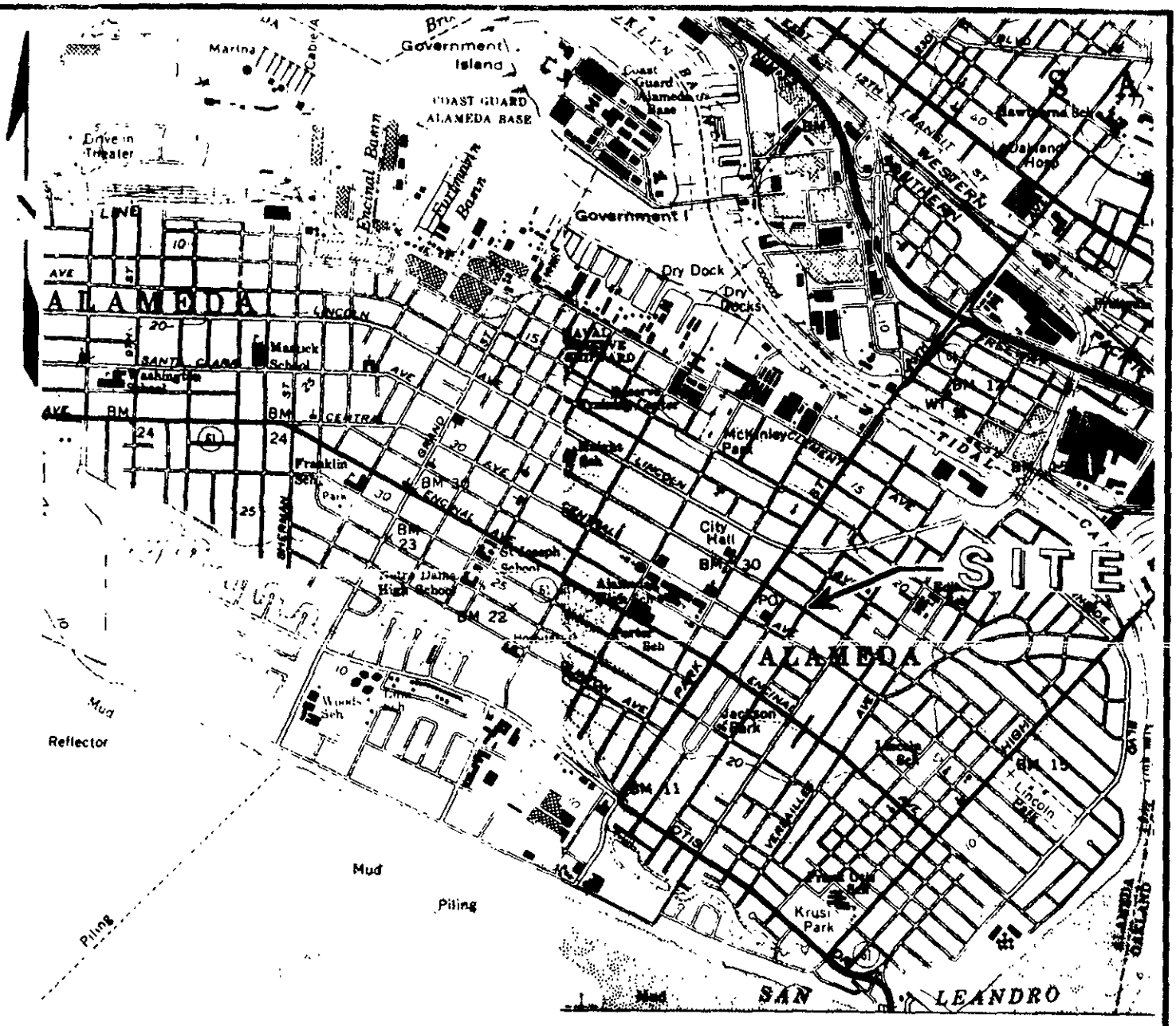
Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

David Allen
Project Manager

Attachments: Figures 1, 2 & 3
Appendices A-E

cc: Ms. Juliet Shin, Alameda County Health Care Services Agency
Mr. Rich Hiett, RWQCB, San Francisco Bay Region

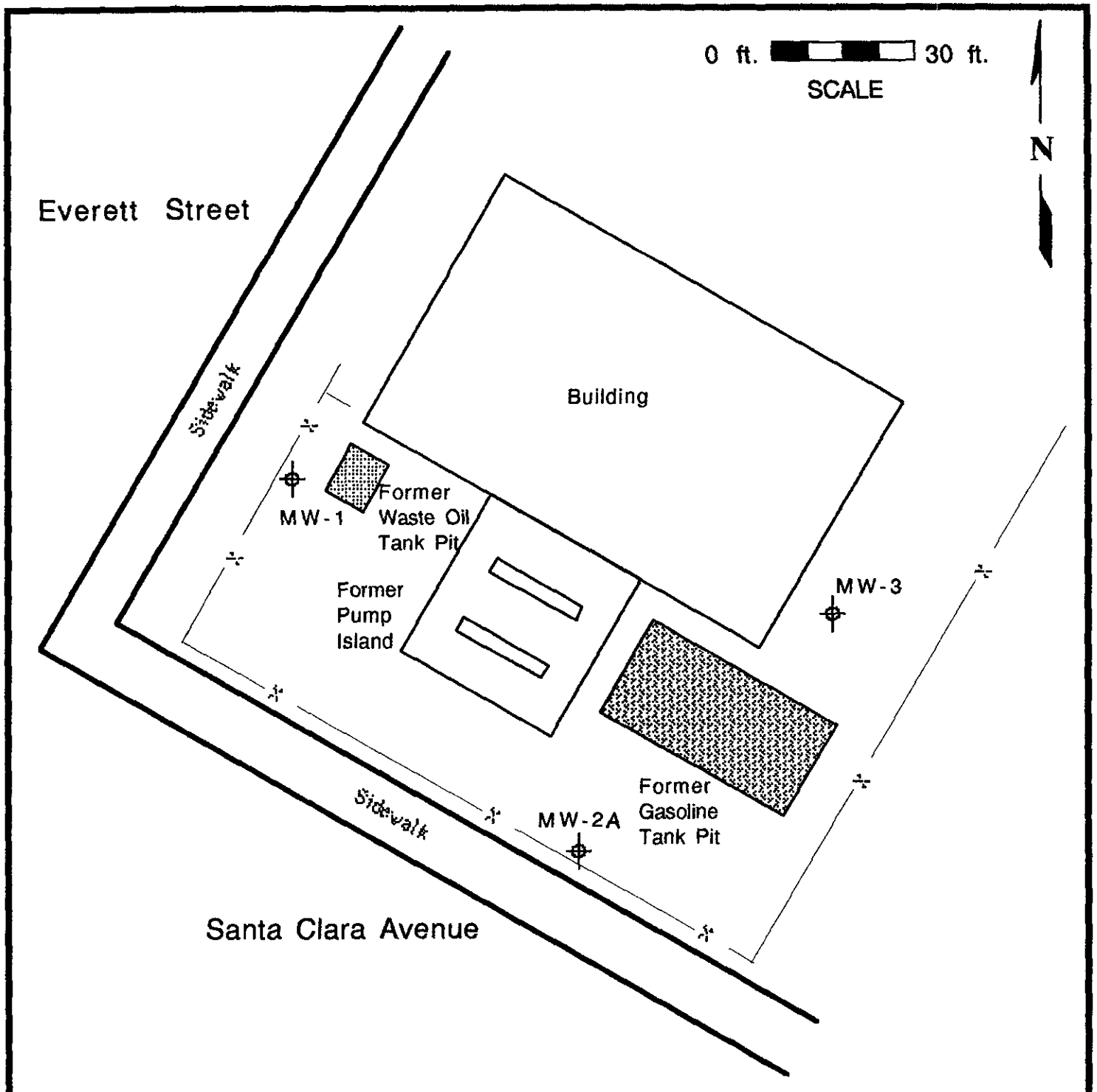


SITE LOCATION MAP

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 1

BASE Oakland East and Oakland West 7.5 minute quadrangle topographic map dated 1980 scale 1:24,000



LEGEND

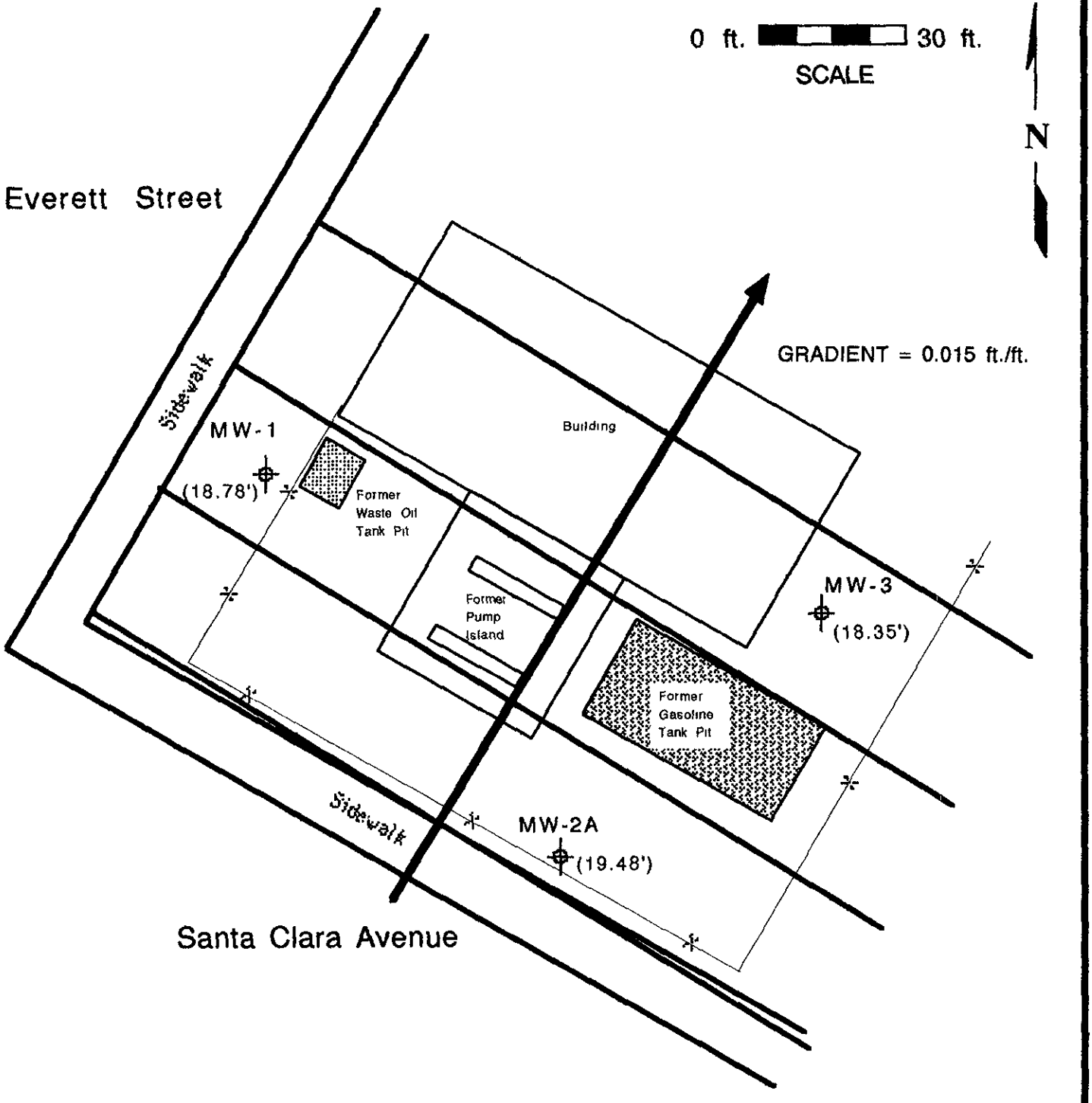
MW-1 — Monitoring Well

—X—X— Fence

SITE PLAN

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 2



LEGEND

MW-1
(116.78') Monitoring Well with groundwater depth in feet above mean sea level

Groundwater Gradient direction

GROUNDWATER GRADIENT MAP
(AS OF 4/26/93)

Goodman Property
2501 Santa Clara Avenue
Alameda, California

Aqua Science Engineers | Figure 3

APPENDIX A

Permits

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94588 ♦ (510) 484-2600

20 April 1993

Aqua Science Engineers
2411 Old Crow Canyon Road, Suite 4
San Ramon, CA 94583

Gentlemen:

Enclosed is drilling permit 93195 for a monitoring well construction project at 2501 Santa Clara Avenue in Alameda for Helen Goodman.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch, and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer III

WH:mm
Enc.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2501 Santa Clara Avenue
Alameda, CA 94501

CLIENT
Name Ms. Helen Goodman
Address 3239 Thompson Ave Voice
City Alameda, CA Zip 94501

APPLICANT
Name Aqua Science Engineers, Inc.
2411 Old Crow Canyon R Fax 837-4853
Address Number 4 Voice 820-9391
City San Ramon, CA Zip 94583

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection		General	
Water Supply		Contamination	X
Monitoring	X	Well Destruction	

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger X
Cable ___ Other ___

DRILLER'S LICENSE NO. 487000

WELL PROJECTS

Drill Hole Diameter	8.5	in.	Maximum		
Casing Diameter	2	in.	Depth	30	ft.
Surface Seal Depth	5	ft.	Number	1	

GEOTECHNICAL PROJECTS

Number of Borings			Maximum		
Hole Diameter		in.	Depth		ft.

ESTIMATED STARTING DATE 4-23-93
ESTIMATED COMPLETION DATE 4-23-93

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68

APPLICANT'S SIGNATURE David Allen Date 4-14-93

FOR OFFICE USE

PERMIT NUMBER 93195
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 19 Apr 9
Wyman Hong

91995

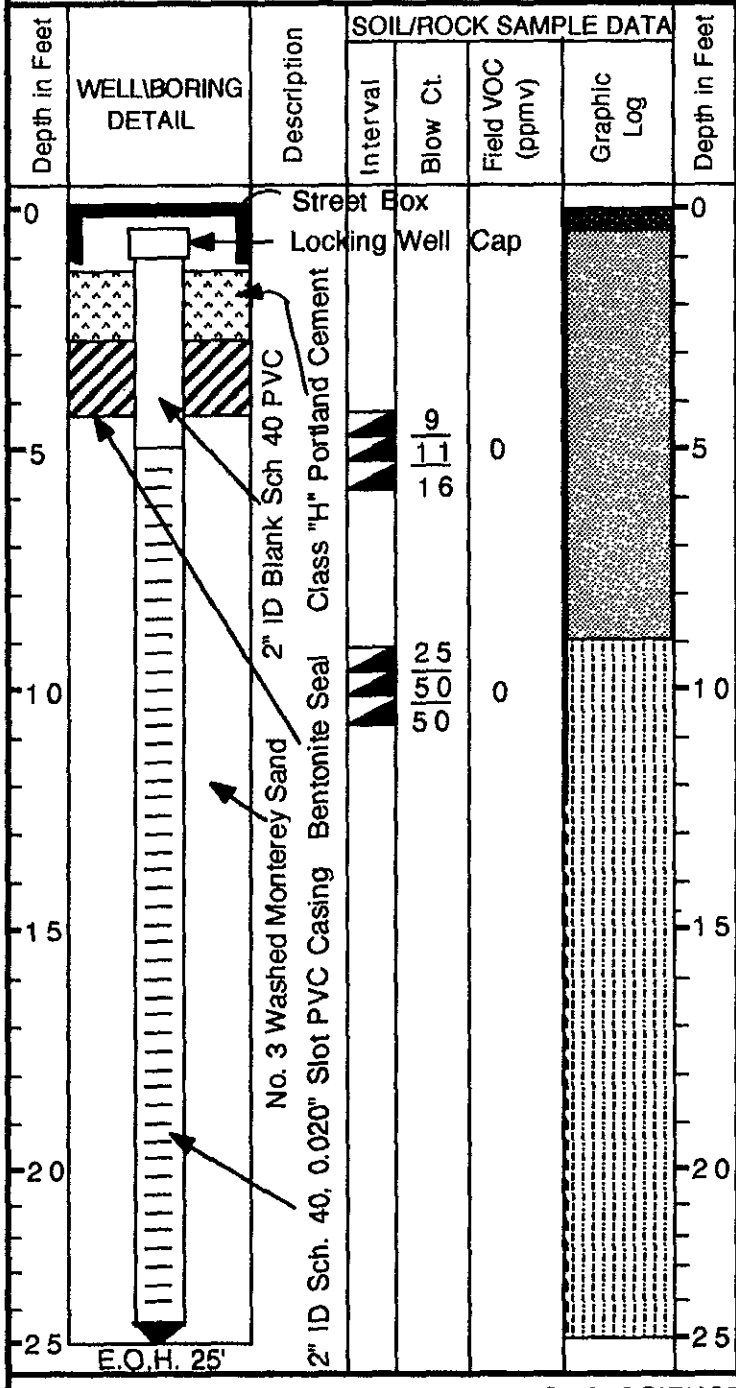
APPENDIX B

Soil Boring Log and Well Log

SOIL BORING LOG AND MONITORING WELL CONSTRUCTION DETAILS		WELL NO. MW-2A
Project Name: GOODMAN	Project Location: 2501 Santa Clara Ave., Alameda	Page 1 of 1
Driller: GREGG DRILLING	Type of Rig: Mobil B-61	Type and Size of Auger: 7-3/4 O.D. Hollow 3-1/4 I.D. Stem
Logged By: WL	Date Drilled: 4/23/93	Checked By: David M. Schultz, P.E.

WATER AND WELL DATA

Depth of Water First Encountered: ≈ 10'	Total Depth of Well Completed: 25.0'
Static Depth of Water in Well: 4.9' Below T.O.C.	Well Screen Type and Diameter: 2" Diameter Schedule 40 PVC
Total Depth of Boring: 25'	Well Screen Slot Size: 0.020"
	Type and Size of Soil Sampler: 2" I.D., Calif. Split-Spoon



DESCRIPTION OF LITHOLOGY

standard classification, texture, relative moisture, density, stiffness, odor-staining, USCS designation.

And (40-50%) With (40-25%) Some (25-10%) Trace (10-0%)

Approximately 5" of Asphalt

From 1/2 to 2 feet dark brown Sand (SP) dry, no petroleum odor.

Static Water Level = 4.9'

From 2 to 9 feet gray-brown Sand (SP) dry, no petroleum odor.

Gray-brown Sand with trace Silt (SM), small brown patches, moist, no petroleum odor.

Gray-brown Sand with trace Silt (SM) moist to wet, no petroleum odor.

SAME AS ABOVE

APPENDIX C

California EPA Certified Laboratory
Report of Soil Samples

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

PEL # 9304066

April 28, 1993

AQUA SCIENCE ENGINEERS, INC. Attn: David Allen
Re: Two soil and three water samples for pH, Gasoline/BTEX, Diesel, Oil & Grease, and Conductivity analyses.

Project name: Goodman Phase II
Project location: 2501 Santa Clara Ave.
Project number: 2596

Date sampled: Apr 23-26, 1993
Date extracted: Apr 27-28, 1993
Date submitted: Apr 27, 1993
Date analyzed: Apr 27-28, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
MW-2A, 5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2A, 10'	N.D.	N.D.	N.D.	N.D.	N.D.
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030/ 8015	8020	8020	8020	8020

SAMPLE I.D.	pH	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil Grease (mg/L)	Conductivit (uS)
MW 1	5.9	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	610
MW-2A	6.3	N.D.	---	N.D.	N.D.	N.D.	N.D.	---	860
MW-3	6.4	2200	---	3.5	4.6	8.0	28	---	630
Blank	7.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0
Spiked Recovery	---	90.1%	89.3%	93.2%	94.7%	92.1%	102.4%	---	---
Duplicate Spiked Recovery	---	87.6%	95.5%	83.5%	87.8%	82.0%	93.0%	---	---
Detection limit	0.05	50	50	0.5	0.5	0.5	0.5	0.5	10
Method of Analysis	9045	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F	120.1

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL # 9304066

INV # 23559

hain of Custody

DATE 4-26-93 PAGE 1 OF 1

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA
(510) 685-6700

SAMPLERS (SIGNATURE) (PHONE NO.)
820-9371

PROJECT NAME GOODMAN PHASE II NO. 2596

ADDRESS 2501 SANTA CLARA AVE

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH GASOLINE (EPA 5030/8015)	TPH GASOLINE/BTEX (EPA 5030/8015-8020)	TPH DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NEUTRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	PCB (EPA 608/8080)	PHENOLS (EPA 604/8040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	pH	Soil Analysis
MW-2A,5'	4/23	11am	SOIL	1		X																
MW-2A,10'	"	"	"	"		X																
MW-1	4/26	2pm	H_2O	4		X	X		X			X									X	X
MW-2A	"	2:30p	"	1		X															X	X
MW-3	"	2:45p	"	1		X															X	X

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
David Allen 5:15			Don Duong 9:28 Am	
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
DAVID ALLEN 4/27/93			DAVID DUONG	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PEL 04/27/93	

APPENDIX D

California EPA Certified Laboratory
Report of Groundwater Samples

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

April 28, 1993 PEL # 9304066

AQUA SCIENCE ENGINEERS, INC. Attn: David Allen
Re: Two soil and three water samples for pH, Gasoline/BTEX, Diesel, Oil & Grease, and Conductivity analyses.

Project name: Goodman Phase II
Project location: 2501 Santa Clara Ave.
Project number: 2596

Date sampled: Apr 23-26, 1993 Date submitted: Apr 27, 1993
Date extracted: Apr 27-28, 1993 Date analyzed: Apr 27-28, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
MW-2A, 5'	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2A, 10'	N.D.	N.D.	N.D.	N.D.	N.D.
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030/ 8015	8020	8020	8020	8020

SAMPLE I.D.	pH	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil Grease (mg/L)	Conductivity (uS)
MW 1	5.9	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	610
MW-2A	6.3	N.D.	---	N.D.	N.D.	N.D.	N.D.	---	860
MW-3	6.4	2200	---	3.5	4.6	8.0	28	---	630
Blank	7.0	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	0
Spiked Recovery	---	90.1%	89.3%	93.2%	94.7%	92.1%	102.4%	---	---
Duplicate Spiked Recovery	---	87.6%	95.5%	83.5%	87.8%	82.0%	93.0%	---	---
Detection limit	0.05	50	50	0.5	0.5	0.5	0.5	0.5	10
Method of Analysis	9045	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F	120.1

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

April 28, 1993 PEL #: 9304066

AQUA SCIENCE ENGINEERS, INC. Attn: David Allen

Project name: Goodman Phase II Projecr number: 2596
Project location: 2501 Santa Clara Ave.

Sample I.D.: MW-1

Date Sampled: Apr 26, 1993 Date Submitted: Apr 27, 1993
Date Analyzed: Apr 27, 1993

Method of Analysis: EPA 601 Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	83.1
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	90.6
Methylene Chloride	N.D.	87.8
1,2-Dichloroethene (TOTAL)	N.D.	85.4
1,1-Dichloroethane	N.D.	92.0
Chloroform	N.D.	-----
1,1,1-Trichloroethane	N.D.	98.2
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	96.4
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	102.7
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
Bromoform	N.D.	-----
1,1,2,2-Tetrachloroethane	N.D.	-----
1,3-Dichlorobenzene	N.D.	-----
1,4-Dichlorobenzene	N.D.	-----
1,2-Dichlorobenzene	N.D.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, Ca 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL # 9304066

INV # 23559

hain of Custody

DATE 4-26-93 PAGE 1 OF 1

Aqua Science Engineers, Inc.
1041 Shary Circle, Concord, CA
(510) 685-6700

SAMPLERS (SIGNATURE) (PHONE NO.) 510-9391

PROJECT NAME GOODMAN PHASE II NO. 2596

ADDRESS 2501 SANTA CLARA AVE

ANALYSIS REQUEST

SPECIAL INSTRUCTIONS:

SAMPLE ID.	DATE	TIME	MATRIX	NO. OF SAMPLES	TPH- GASOLINE (EPA 5030/8015)	TPH- GASOLINE/BTEX (EPA 5030/8015-8020)	TPH- DIESEL (EPA 3510/8015)	PURGABLE AROMATICS (EPA 602/8020)	PURGABLE HALOCARBONS (EPA 601/8010)	VOLATILE ORGANICS (EPA 624/8240)	BASE/NUETRALS, ACIDS (EPA 625/8270)	OIL & GREASE (EPA 5520 E&F or B&F)	PCB (EPA 608/8080)	PHENOLS (EPA 604/8040)	LUFT METALS (5) (EPA 6010+7000)	PRIORITY POLLUT. (13) (EPA 6010 ICP + 7000)	TITLE 22 (CAM 17) (EPA 6010+7000)	TCLP (EPA 1311/1310)	STLC- CAM WET (EPA 1311/1310)	REACTIVITY CORROSIVITY IGNITABILITY	pH	Conductivity
MW-2A, 5'	4/23	11am	SOIL	1		X																
MW-2A, 10'	"	"	"	"		X																
MW-1	4/26	2pm	H_2O	4		X	X		X			X									X	X
MW-2A	"	2:30p	"	1		X															X	X
MW-3	"	2:45p	"	1		X															X	X

1. RELINQUISHED BY:	1. RECEIVED BY:	2. RELINQUISHED BY:	2. RECEIVED BY LABORATORY:	COMMENTS:
(signature) (time)	(signature) (time)	(signature) (time)	(signature) (time)	
DAVID ALLEN 4/27/93			DAVID DUONG	
(printed name) (date)	(printed name) (date)	(printed name) (date)	(printed name) (date)	
Company- ASE	Company-	Company-	Company- PEL 04/27/93	

1. RELINQUISHED BY: (signature) 8:15

APPENDIX E

Well Sampling Field Logs

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: GOODMAN
Project Address: 2501 SANTA CLARA AVENUE, ALAMEDA
Job # 2596 Date of sampling: 4-26-93
Completed by: DA
Well Number / Designation: MW-1
Top of casing elevation: 24.46'
Total depth of well casing: 25.00' Well diameter: 2"
Depth to water (before sampling): 6.28'
Thickness of floating product if any: Ø
Depth of well casing in water: 18.72'
Req'd volume of groundwater to be purged before sampling: 16 gallons
Approximate volume of groundwater purged: 16 gallons
Type of seal at grade: Portland Cement
Type of cap on the casing: Locking expandable
Is the seal water tight? YES Is the cap water tight? YES
Number of samples (containers) collected 4
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19 degrees C
Sample pH: 5.9 Test method: 9045
Conductivity: 610 Test method: 120.1
Physical description of water during initial bailing period:
Cloudy, grey, turbid
Physical description of water sample: Clear

Type of analysis requested:
TPH-G
TPH-D
BTEX
601
Oil & grease, pH conductivity

Type of bailer/sampling equipment used: PVC bailer, disposable bailer,

Equipment decontamination procedures: TSP/water wash, water rinse (2x)

Disposition of bailed water volume:
Drummed, stored on site.

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: GOODMAN
Project Address: 2501 SANTA CLARA AVENUE, ALAMEDA
Job # 2596 Date of sampling: 4-26-93
Completed by: DA
Well Number / Designation: MW-2A
Top of casing elevation: 23.78
Total depth of well casing: 25.00 Well diameter: 2"
Depth to water (before sampling): 4.9'
Thickness of floating product if any: 0
Depth of well casing in water: 20.1'
Req'd volume of groundwater to be purged before sampling: 34 Gallons
Approximate volume of groundwater purged: 35 Gallons
Type of seal at grade: Portland Cement
Type of cap on the casing: Locking expandable
Is the seal water tight? Yes Is the cap water tight? Yes
Number of samples (containers) collected 2 40ml VOA's
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19° C
Sample pH: 6.3 Test method: 9045
Conductivity: 860 Test method: 120.1
Physical description of water during initial bailing period:
Cloudy, grey, turbid
Physical description of water sample: Clear

Type of analysis requested: TPH-G
BTEX
pH
Conductivity

Type of bailer/sampling equipment used: PVC bailer, disposable bailer.

Equipment decontamination procedures: TSP/water wash, water rinse (2x)

Disposition of bailed water volume:
Drummed, stored on site.

aqua science engineers inc.

WELL SAMPLING FIELD LOG

Aqua Science Engineers, Inc. San Ramon, CA 94583

Project Name: GOODMAN
Project Address: 2501 SANTA CLARA AVENUE, ALAMEDA
Job # 2596 Date of sampling: 4-26-93
Completed by: DA
Well Number / Designation: MW-3
Top of casing elevation: 25.00'
Total depth of well casing: 25.00' Well diameter: 2"
Depth to water (before sampling): 6.65'
Thickness of floating product if any: Ø
Depth of well casing in water: 18.35'
Req'd volume of groundwater to be purged before sampling: 16 gallons
Approximate volume of groundwater purged: 16 gallons
Type of seal at grade: Portland Cement
Type of cap on the casing: Locking expandable
Is the seal water tight? Yes Is the cap water tight? Yes
Number of samples (containers) collected 2
Did 40 ml VOA vials have headspace: No
Were sample containers chilled after sampling & for delivery ? Yes
Are Chain of Custody documents accompanying the samples: Yes
Sample temperature: 19 C
Sample pH: 6.4 Test method: 9045
Conductivity: 630 Test method: 120.1
Physical description of water during initial bailing period:
Cloudy, grey, turbid
Physical description of water sample: Clear

Type of analysis requested:
TPH-G
BTEX
pH
Conductivity

Type of bailer/sampling equipment used: PVC bailer, disposable bailer

Equipment decontamination procedures: TSP/water wash, water rinse (2x)

Disposition of bailed water volume:
Drummed, stored on site